Nurse Engagement in Shared Governance and Patient and Nurse Outcomes

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Abstract

Objective—The objective of this study was to examine differences in nurse engagement in shared governance across hospitals and to determine the relationship between nurse engagement and patient and nurse outcomes.

Background—There is little empirical evidence examining the relationship between shared governance and patient outcomes.

Methods—A secondary analysis of linked cross-sectional data was conducted using nurse, hospital, and Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey data.

Results—Engagement varied widely across hospitals. In hospitals with greater levels of engagement, nurses were significantly less likely to report unfavorable job outcomes and poor ratings of quality and safety. Higher levels of nurse engagement were associated with higher HCAHPS scores.

Conclusions—A professional practice environment that incorporates shared governance may serve as a valuable intervention for organizations to promote optimal patient and nurse outcomes.

Organizations that foster employee engagement outperform their counterparts in terms of job satisfaction and retention, profitability, and performance (1). Facing a competitive, value-based purchasing (VBP) environment and potential staffing shortages (2), hospitals

have a vested interest in promoting a culture of engagement among nurses, who comprise the largest share of the hospital workforce. One strategy to increase nurse engagement is shared governance (SG) , in which front-line care providers are active and empowered participants in institutional decision-making (3, 4).

Shared governance has conceptual foundations in Kanter's theory of structural empowerment (5). Kanter, a sociologist and management strategist, proposed that the level of employee engagement within an organization was inherently linked to the level of decision-making authority held by employees, especially related to issues surrounding daily work (5). One of the earliest descriptions of SG in nursing was provided by Porter O'Grady & Finnigan who emphasized the importance of a flat organizational structure, where front-line staff nurses held positions on organizational committees with the power to influence institutional policies and decisions that had implications for patient care (4, 6). Since that time, SG has emerged as a key component of efforts to improve nurse practice environments. For example, the Institute of Medicine identified the importance of nonhierarchical decision-making as a key element of patient safety (7), while SG is a critical element of the American Nurse's Credentialing Center (ANCC®) Magnet Recognition Program® under the principle of structural empowerment (8). Hospitals applying for Magnet® must provide examples and supporting evidence of nurses' level of participation in institutional governance and decision-making (9).

There is little empirical evidence of the effects of SG on patient outcomes. The broader concept of structural empowerment in nursing, however, has been linked to a range of outcomes, including job satisfaction (10, 11), burnout (12), intentions to leave (13), nurse-reported patient safety climate (14, 15), and quality of care (16). In one of the few studies to focus on SG, Stumpf (17) surveyed patients and nurses in 16 units across 5 hospitals and found that SG units had higher nurse and patient satisfaction scores compared to traditionally governed units. The purpose of this cross-sectional study is to examine differences in nurses' levels of engagement in SG across 425 hospitals in 4 U.S. states and to study its associations with nurse job outcomes related to retention, nurse-reported quality of care and patient safety, and the patient experience as measured by the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey.

Methods

Design and Data

This cross-sectional observational study used 3 secondary data sources: 1) the Penn Multi-State Nursing Care and Patient Safety Survey of registered nurses from 4 states (California, New Jersey, Pennsylvania, and Florida) conducted in 2006-2007; 2) the 2007 American Hospital Association (AHA)'s Annual Survey of Hospitals; and 3) HCAHPS patient survey data from the reporting period of October 2006–June 2007. Datasets were linked using a common hospital identifier. This study was considered IRB exempt as a secondary analysis of de-identified data.

The nurse survey was collected by mail from large, random samples of registered nurses (RNs) derived from state licensure lists. Nurses provided the name of their employing

hospital and demographic information, and gave assessments of quality and safety, job-related outcomes, staffing levels and the work environment. Further methodological details of the nurse survey are described elsewhere (18). Hospital characteristics, such as size and teaching status, were obtained from the AHA survey. HCAHPS data are publicly available on the Hospital Compare website sponsored by the Centers for Medicare & Medicaid Services (CMS) and the Hospital Quality Alliance (HQA). Data for HCAHPS are generated through random sampling of patients after hospital discharge and are reported as risk-adjusted, hospital-level measures of specific and overall patient experiences during a recent hospitalization (19).

Sample

To be included in the sample, hospitals: 1) had at least 10 nurse survey respondents to ensure the reliability of hospital-level measures of staffing and the work environment (20); 2) participated in the HCAHPS survey during the study time period; and 3) had structural characteristics reported in the 2007 AHA Annual Survey. Nurses included the sample were staff nurses working in direct patient care. The average number of nurse respondents per hospital was 49 and ranged between 10 and 282. Our analytic sample consisted of 20,674 registered nurses working in 425 non-federal acute care hospitals.

Measures

Nurse Measures

Engagement in Shared Governance: Engagement in SG, the primary independent variable of interest, was measured using 3 items from the "Participation in Hospital Affairs" subscale of the Practice Environment Scale of the Nursing Work Index (PES-NWI), a valid and reliable instrument (21) endorsed by the National Quality Forum (22). "Least engaged" nurses reported not having the opportunity to serve on hospital committees; "somewhat engaged" nurses reported having the opportunity to serve on hospital committees; "moderately engaged" nurses reported involvement in hospital governance; and "most engaged" nurses reported having the opportunity to participate in policy decisions. Item response theory guided the construction of the engagement categories. The magnitude of the discrimination coefficient (a=2.70; p<0.001) suggested sound difference in categories. For hospital-level analyses, hospitals were grouped into least, somewhat, moderately, and most engaged categories based on the median engagement score reported by nurses within each hospital.

Nurse Job Outcomes and Quality of Care: Nurse job outcomes and nurse-reported quality of care were measured using items in the nurse survey. Burnout was measured using the emotional exhaustion subscale of the Maslach Burnout Inventory (23), an instrument with established reliability and validity. Following previous work, respondents who scored greater than the norm for healthcare workers (i.e. 27) on the subscale were classified as having high burnout (23, 24). Intent to leave was measured by asking respondents whether or not they intended to be with their current employer in 1 year. Job dissatisfaction was measured by a single item that asked respondents to rate how satisfied they were with their jobs on a 4-point Likert scale. Nurses were considered to be "dissatisfied" if they reported being "very

dissatisfied" or "moderately dissatisfied". Nurses were asked to rate the quality of care on their unit using a 4-point Likert-type scale ranging from "excellent" to "poor." Responses of "fair" or "poor" were contrasted with "good" or "excellent." Similarly, nurses provided a unit safety grade – grades of C, D, or F were considered a poor or failing safety grade. Nurses were asked to report their level of confidence in management acting to resolve problems in patient care and in the ability of patients to manage their care after discharge. Nurses who were "not at all confident" were contrasted with nurses who were "somewhat confident", "confident", or "very confident."

Other nursing characteristics: Additional nursing characteristics derived from the nurse survey were used as control variables in the analysis and included: demographic characteristics (i.e. age, sex, years of nursing experience, and highest level of education) and employment information (i.e. employment status [e.g. full-time] and primary unit type) (25). A measure of nurse staffing (i.e. patient-to-nurse ratio) was also estimated from nurses' reports of how many RNs and patients were on their unit on their last shift (18). The ratio was calculated as the average number of patients cared for by all RNs in each hospital on their last shift.

Patient Measures—We considered six HCAHPS items in our analysis — 2 global measures, including overall rating of the hospital and willingness to recommend the hospital to friends and family, and four summary measures related to specific aspects of care including communication with nurses, pain management, communication about medicines, and responsiveness of staff.

Hospital measures—A set of hospital characteristics were derived from the AHA Annual Survey and were used as controls in our analyses based on literature suggesting that these characteristics are associated with quality of care and HCAHPS scores (26,27). Measured hospital characteristics included state (California, Florida, New Jersey, or Pennsylvania), population density (rural or urban), size (number of beds), teaching status (presence of medical fellows/residents), ownership (for-profit or not-for-profit), and technology status (ability to perform open-heart surgery and/or major organ transplantation). Magnet recognition status during the study period was obtained from the ANCC website (28) and was used to describe hospitals.

Data Analysis

Hospital characteristics were compared based on their nurse engagement category (least, somewhat, moderately, and most engaged) using χ^2 tests (for categorical variables) and F-tests from analysis of variance (for continuous variables). Mean HCAHPS outcomes were compared across hospitals (hospital-level) categorized by different levels of engagement. Nurse job outcomes and quality of care outcomes were compared across groups of nurses (nurse-level) categorized by different levels of engagement.

Ordinary least-squares regression models were used to determine the effect of engagement status on HCAHPS outcomes, before and after controlling for hospital characteristics. Logistic regression models accounting for clustering within hospitals were used to determine

the effect of engagement status on nurse job and quality of care outcomes, before and after adjusting for hospital and nursing characteristics. STATA (version 14.1; College Station, TX) was used for the analysis. Statistical significance was set at $P<0.05$ and all tests were two-tailed.

Results

Forty-two percent of hospitals (n=177) were classified as having the "most engaged" nurses; 36% (n=155) had "moderately engaged" nurses; 19% (n=80) had "somewhat engaged" nurses; and 3% (n=13) were classified as "least engaged" (**Figure, Supplemental Digital Content 1**). Across these categories, hospitals significantly differed in terms of staffing, and teaching, high-technology, non-profit, and Magnet status. For example, with regard to staffing, "most engaged" hospitals had significantly lower patient-to-nurse ratios than the "least engaged" hospitals (4.8 vs. 6.3, respectively; $P<0.001$). Hospitals did not significantly differ in size and urban/rural location across engagement categories (**Table 1**).

Table 2 displays the unadjusted percentages for the HCAHPS scores, nurse job outcomes, and nurse-reported quality of care items for all hospitals in the sample and by engagement level. Across HCAHPS outcomes, the percentage of patients who provided a favorable response to each item was significantly higher in "most engaged" compared to "least engaged" hospitals. The largest differences were noted on the global items. The percentage of patients reporting that they would definitely recommend the hospital was over 14 percentage-points higher in "most engaged" compared to "least engaged" hospitals and over 13 percentage-points higher for patients giving a high rating.

Across engagement categories, nurses differed significantly in their reports of job outcomes and quality of care. Compared to the "most engaged" nurses, significantly higher proportions of "least engaged" nurses reported: being very dissatisfied with their job (13% vs. 43%, respectively; $P<0.001$); high burnout (23% vs. 52%; $P<0.001$); and planning to leave their employer within 1 year (8% vs. 24%; $P<0.001$). Similarly, with regard to quality of care, greater proportions of "least engaged" nurses than "most engaged" nurses: described quality of care on their unit as fair or poor (33% vs. 8%, respectively; $P<0.001$), graded patient safety as poor or failing (15% vs. 2%; $P<0.001$), and reported not being confident patients can manage their care when they are discharged (63% vs. 34%; $P<0.001$), and that management will resolve problems in patient care (77% vs. 39%; $P<0.001$).

Table 3 displays the results of unadjusted and adjusted linear regression models that examined the relationship between nurse engagement and HCAHPS scores. Across all six outcomes, engagement had a significant effect before and after controlling for potential confounding variables. The largest effect of a one-unit change in engagement status (i.e. from "moderate" to "most engaged") was a 3.14 percentage point increase in the proportion of patients definitely recommending the hospital. This finding implies that the percentage of patients in the "most engaged" hospitals that would definitely recommend the hospital would be 9.42 points (i.e. 3.14×3) higher than "least engaged" hospitals.

Table 4 displays the results of the unadjusted and adjusted logistic regression models that were used to examine the relationship between nurse engagement level and nurse-reported job and quality of care outcomes. After controlling for potential confounders, nurse engagement level was significantly associated with both sets of outcomes. Among the nurse job outcomes, the odds of a nurse reporting high burnout were 36% (i.e. [1-0.64] × 100; *P* <0.001) lower for nurses working in the "most engaged" compared to "moderately engaged" hospitals. Similarly, the odds of nurses reporting job dissatisfaction and intention to leave in hospitals with the "most engaged" nurses were 42% and 34% lower, respectively, compared to hospitals with "moderately engaged" nurses. By extension, these estimates indicate that the odds of job dissatisfaction and intention to leave are 80% (i.e. [1-0.58^3] × 100) and 71% lower, respectively, in hospitals with the "most engaged" nurses compared to the least. Similar relationships were observed among the nurse-reported quality of care outcomes. In the fully adjusted models, nurses employed in the "most engaged" hospitals were 44% less likely to report that overall quality of care was fair or poor, 50% less likely to assign a poor/failing overall safety grade to their unit, 34% less likely to report poor confidence in the ability of patients to manage their care after discharge and 48% less likely to report a lack of confidence that hospital management will resolve problems related to patient care.

Discussion

Hospitals that provide nurses with the greatest opportunities to be engaged in SG are more likely to provide better patient experiences, superior quality of care, and have more favorable nurse job outcomes compared to hospitals where nurses are not engaged in institutional decision-making. Staff nurses hold invaluable knowledge of the needs of a hospital's patient population and can readily identify facilitators and barriers to the care delivery process. These insights are critical to hospital administrators to optimize efficiency and resources to promote safe, quality care that meets patient needs.

Our results suggest that there is a business case for the involvement of nurses in institutional decision-making especially because of the current focus on VBP and cost-containment. Through at least Fiscal Year 2018, HCAHPS will constitute 25% of CMS's value-based payment to hospitals (29). We estimated over a 9 point difference in the percentage of patients who would definitely recommend the hospital between hospitals with the highest and lowest levels of nurse engagement. A significant component of the CMS VBP program also relates to quality of care and patient safety, while the CMS Readmissions Reduction Program penalizes hospitals for higher than expected readmission rates for specific conditions (29, 30). Our findings suggest that when nurses are involved in institutional decision-making, nurses are less likely to report poor quality of care and patient safety, poor confidence in patients' ability to manage their care following discharge, and unresponsive hospital management when patient care problems are raised. Increased nurse engagement in SG may help hospitals to avoid costly penalties and maximize reimbursement for quality care.

Improving nurse engagement has implications for nurse retention. Nurses working in hospitals with higher levels of engagement are less likely to report job dissatisfaction, burnout and intent to leave, which have implications for nurse turnover. Although the costs

of nurse turnover are difficult to quantify, a recent report estimated that nurse turnover may cost the average hospital as much as $8.1 million (31). Investing in the development of a SG professional practice environment may serve as a cost-friendly way to combat the financial impact of turnover. Additionally, our findings confirm previous studies both inside and outside of nursing that have identified engagement as a key facet of job satisfaction (1, 11, 12, 16).

Our findings suggest that increasing nurse engagement is a system-level approach to improving patient and nurse outcomes. To promote SG, nurse leaders can implement formal structures and processes that allow nurses to be involved in organizational decision-making. Administrators who are seeking to increase staff engagement might also consider the Magnet recognition/ Pathways to Excellence Program® as an intervention (32). Our study provides empirical evidence that Magnet® hospitals demonstrate higher levels of nurse engagement in organizational decision-making. All Magnet hospitals in our sample were in the top 2 levels of engagement (i.e. "moderate" to "most engaged").

Limitations

We use an observational, cross-sectional design, which limits causal inferences about the relationship between nurse engagement and outcomes. Submission of HCAHPS scores during this time period was voluntary; therefore, hospitals included in our analysis of patient experience may have been higher quality institutions.

Conclusion

Improving nurse engagement in SG may serve as a transformational leadership strategy to improve the patient experience—an outcome directly tied to reimbursement. Of additional financial interest to hospital administrators, greater involvement of nurses in SG is also associated with outcomes related to nurse retention and nurse-reported quality and safety of patient care. These findings are useful in informing evidence-based, organizational-level interventions aimed at improving patient outcomes by promoting nurse engagement.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Characteristics of Study Hospitals by Nurse Engagement Level (N=425 hospitals)

Characteristic, n (%)*	Overall	Least Engaged n=13	Somewhat engaged n=80	Moderately engaged n=155	Most engaged n=177	P[a]
Large (>250 beds)	202 (48%)	4 (31%)	29 (36%)	79 (51%)	90 (51%)	0.184
Non-teaching	219 (52%)	5 (38%)	36 (45%)	80 (52%)	98 (55%)	<0.05
High technology	208 (49%)	2 (15%)	41 (51%)	71 (46%)	94 (53%)	<0.05
Rural location	35 (8%)	2 (15%)	8 (10%)	9 (6%)	16 (9%)	0.463
Nonprofit	344 (81%)	8 (62%)	50 (63%)	118 (76%)	168 (95%)	<0.001
Magnet®-recognized[b]	46 (11%)	0	0	10 (22%)	36 (78%)	<0.001
State[b]						<0.001
California	180 (42%)	1 (0.6%)	28 (16%)	57 (32%)	94 (52%)	
Florida	109 (26%)	9 (8%)	32 (29%)	41 (38%)	27 (25%)	
New Jersey	40 (9%)	1 (2%)	1 (2%)	21 (53%)	17 (43%)	
Pennsylvania	96 (23%)	2 (2%)	19 (20%)	36 (38%)	39 (41%)	
Nurse staffing, mean (SD)	5.3 (1.4)	6.3 (1.8)	5.6 (1.5)	5.5 (1.3)	4.8 (1.2)	<0.001

[a]P values generated from χ^2 for categorical variables, and from F-test (analysis of variance) for the continuous staffing variable.

[b]Row percentages

Table 2

Patient and Nurse Outcomes by Nurse Engagement Level

HCAHPS Outcomes (Mean,[b] [SD])	Overall (N=425)	Least engaged (n=13)	Somewhat engaged (n=80)	Moderately engaged (n=155)	Most engaged (n=177)	P[a]
Patients would definitely recommend the hospital	64.3 (9.9)	53.7 (10.3)	59.5 (9.4)	63.6 (8.7)	68.0 (9.4)	<0.001
Patients gave a rating of 9 or 10 (high)	59.3 (8.9)	49.1 (10.3)	54.9 (8.3)	58.8 (7.7)	62.4 (8.5)	<0.001
Nurses always communicated well	68.6 (6.9)	63 (8.1)	66.1 (6.8)	68.8 (6.9)	70.0 (6.3)	<0.001
Patients always received help as soon as they wanted	55.0 (7.7)	49.6 (10.1)	53.2 (7.7)	54.8 (7.9)	56.3 (6.9)	<0.01
Staff always explained medications	53.5 (6.1)	47.5 (6.9)	50.9 (6.5)	53.5 (6.0)	55.2 (5.3)	<0.001
Pain was always well controlled	64.3 (5.8)	59.1 (6.5)	62.8 (6.5)	64.5 (5.8)	65.2 (5.2)	<0.001

Nurse Job Outcomes (n, %)[c]	Overall (N=20,674)	Least engaged (n=3,193)	Somewhat engaged (n=3,536)	Moderately engaged (n=3,496)	Most engaged (n=10,449)	P[a]
Very dissatisfied with job	4959 (24%)	1326 (43%)	1280 (37%)	1024 (30%)	1329 (13%)	<0.001
High burnout	6832 (33%)	1604 (52%)	1583 (45%)	1311 (38%)	2334 (23%)	<0.001
Do not plan to be with employer in a year	2738 (13%)	769 (24%)	624 (18%)	490 (14%)	855 (8%)	<0.001

Nurse-Reported Quality of Care (n,%)[c]						
Describe quality of care on unit as fair or poor	3030 (15%)	974 (33%)	799 (23%)	500 (15%)	757 (8%)	<0.001
Overall grade on patient safety is poor or failing	1184 (6%)	463 (15%)	347 (10%)	173 (5%)	201 (2%)	<0.001
Not at all confident patient can manage care when discharged	8471 (45%)	1775 (63%)	1893 (58%)	1539 (48%)	3264 (34%)	<0.001
Not confident management will resolve problems in patient care	11296 (55%)	2463 (77%)	2646 (75%)	2153 (62%)	4034 (39%)	<0.001

Notes:

[*] P values generated from $\chi 2$ for categorical variables, and *F*-test (analysis of variance) for continuous variables

Abbreviation: SD, standard deviation.

[b] Mean represents hospital-level percentage of patients reporting the given outcome.

[c] Percentages represent percent of nurses in each category reporting the given outcome.

Table 3

Effect of Nurse Engagement Level on HCAHPS Outcomes (N=425 hospitals)

Outcome	Unadjusted Model (95% CI)	Fully adjusted Model (95% CI)
Patients would definitely recommend the hospital	3.95[c] (2.87 to 5.02)	3.14[c] (2.06 to 4.23)
Patients gave a rating of 9 or 10 (high)	3.64[c] (2.67 to 4.61)	2.79[c] (1.81 to 3.76)
Nurses always communicated well	2.16[c] (1.37 to 2.95)	1.29[c] (0.56 to 2.02)
Patients always received help as soon as they wanted	1.88[c] (0.99 to 2.77)	1.15[b] (0.32 to 1.97)
Staff always explained medications	2.19[c] (1.50 to 2.88)	1.57[c] (0.88 to 2.26)
Pain was always well controlled	1.41[c] (0.73 to 2.09)	0.75[a] (0.07 to 1.42)

Notes: Regression coefficients are from linear regression models and represent the effect of a one-unit increase in engagement level on HCAHPS outcomes. Fully adjusted model controls for staffing and hospital characteristics (bed size, urban/rural location, teaching status, technology status, ownership type, and state). Abbreviation: CI, confidence interval.

[a]$P < .05$;

[b]$P < .01$;

[c]$P < .001$.

Table 4

Effect of Nurse Engagement Level on Nurse Job and Quality of Care Outcomes (N=20,674 nurses)

	Unadjusted Model			Fully adjusted Model		
	B	SE *B*	OR (95% CI)	*B*	SE *B*	OR (95% CI)
Nurse Job Outcomes						
Very dissatisfied with job	−0.53	0.02	0.59[c] (0.57 to 0.60)	−0.54	0.02	0.58[c] (0.56 to 0.60)
High burnout	−0.44	0.01	0.64[c] (0.63 to 0.66)	−0.45	0.02	0.64[c] (0.62 to 0.66)
Do not plan to be with employer in a year	−0.41	0.02	0.66[c] (0.64 to 0.69)	−0.42	0.02	0.66[c] (0.63 to 0.68)
Nurse-Reported Quality of Care						
Describe quality of care on unit as fair or poor	−0.58	0.01	0.56[c] (0.54 to 0.58)	−0.58	0.02	0.56[c] (0.54 to 0.58)
Overall grade on patient safety is poor or failing	−0.7	0.03	0.50[c] (0.47 to 0.52)	−0.7	0.03	0.50[c] (0.47 to 0.53)
Not at all confident patient can manage care when discharged	−0.41	0.02	0.66[c] (0.64 to 0.68)	−0.42	0.02	0.66[c] (0.64 to 0.68)
Not confident management will resolve problems in patient care	−0.63	0.02	0.53[c] (0.51 to 0.55)	−0.66	0.02	0.52[c] (0.50 to 0.54)

Notes.

Coefficients come from logistic regression models and represent the effect of a one-unit increase in engagement on nurse job and nurse-reported quality of care outcomes. Fully adjusted models control for nursing characteristics (staffing, age, number of years working as a nurse, medical surgical or ICU nurse specialty, BSN education, sex, and fulltime status) and hospital characteristics (bed size, urban/rural location, teaching status, technology status, ownership type, and state), and account for clustering of nurses within hospitals. Abbreviations: *B*, beta coefficient; SE, standard error; OR, odds ratio; CI, confidence interval.

[a] $P < .05$;

[b] $P < .01$;

[c] $P < .001$.