Safety Culture

Relationship Between Nursing Home Safety Culture and Joint Commission Accreditation

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Nursing home residents, by virtue of their pervasive cognitive deficits and complex health conditions, are at increased risk for adverse events and medical errors.[1] Residents often take multiple medications for various medical conditions, and studies have shown that adverse events are common in this setting.[2] Similarly, transfer of important resident information is frequently neglected during transitions between shifts or institutions, increasing the potential for serious errors.[3,4] The fragility of this population makes nursing home residents extremely vulnerable to the consequences of such errors.[1] Contributing to the increased propensity for safety problems in this setting is an organizational culture of blame and distrust.[4,5] The Institute of Medicine has emphasized the necessity of advancing beyond a culture that blames individuals to one that promotes safety by viewing errors as learning opportunities.[6]

Organizational culture is a multidimensional concept that encompasses shared assumptions among groups that provide meaning to their perceptions and actions.[7] The term *safety culture* was originally conceptualized by the International Nuclear Safety Advisory Group to denote the dysfunctional conditions and decision processes that contributed to the Chernobyl nuclear disaster in 1986.[8] Since then, the concept of safety culture has been adapted to describe the patterns of attitudes and behaviors observed in health care.

In general, it is believed that safety culture reflects performance potential more directly than it does actual outcomes. The preconditions set in place by an advanced safety culture actualize in a way that is dependent on many task- and situation-specific variables.[9] Nevertheless, recent studies have found various safety culture interventions in hospitals to be associated with improved safety practices and outcomes.[10–15] Studies in nursing homes generally report a poorly developed safety culture,[16–22] yet no interventional studies to improve safety culture have been reported to date.

The Joint Commission, an independent, not-for-profit organization,[23] is known for promoting advancement in patient

Article-at-a-Glance

Background: Safety culture interventions in hospitals have been found to be associated with improved safety practices and outcomes. Studies in nursing homes generally report a poorly developed safety culture. Voluntary accreditation provides a structure for organizing care processes and is known to stimulate continuous quality improvement and thereby has the potential to stimulate improvements in organizational safety culture. The impact of Joint Commission accreditation on patient safety culture perceptions among senior managers in nursing homes in the United States was assessed.

Methods: A random sample of 6,000 nursing homes was selected from all 50 states. The Nursing Home Survey on Resident Safety Culture was sent to these facilities, and nursing home administrators and directors of nursing were instructed to complete the survey. Scores were computed using the instrument agreement scale, in which the percentage of positive responses represented the summary score. Students' paired sample *t*-tests were used to compare differences in scores between respondents from accredited nursing homes and those from nonaccredited nursing homes. Multivariate analyses were then used to examine the association between accreditation and each resident safety culture (RSC) subscale, controlling for facility and market characteristics.

Results: The analytic response rate for the sample was 67%. After facility and market characteristics were controlled for, senior managers in accredited nursing homes rated 8 of the 11 RSC domains significantly higher.

Conclusion: Joint Commission accreditation appeared to be associated with a more favorable RSC in nursing homes. Assessing a nursing home's RSC is an organization's first step toward improving the culture of safety. These findings support the need for further discussion and facilitation of voluntary accreditation in nursing homes.

safety,[24] as reflected, for example, in not only its accreditation standards but also initiatives such as its National Patient Safety Goals, its Speak Up™ initiatives, and its *Sentinel Event Alert*s. The impact of Joint Commission accreditation has been studied in hospitals, where it was associated with more highly developed safety initiatives and improved safety outcomes.[25–27] However, few studies have examined the impact of Joint Commission accreditation in nursing homes. Two studies by Lau et al. noted that nursing homes accredited by The Joint Commission had fewer inappropriate medication prescriptions.[28,29] Another study showed that such nursing homes had fewer medication errors and lower use of restraints.[30]

Institutions with a dedicated focus on organizational processes and the development of quality management systems have been shown to have greater potential for improving patient safety culture.[7] Voluntary accreditation provides a structure for organizing care processes and is known to stimulate continuous quality improvement[30–32] and thereby has the potential to stimulate improvements in organizational safety culture. Therefore, we hypothesize that accreditation, by stimulating change in organizational structure and unit-level process domains, will be associated with a more favorable resident safety culture (RSC) in nursing homes. This rationale is consistent with the theoretical framework for RSC first advanced by Stone et al.[33] and modified by others, including Castle et al.[16]

In this article, we describe a study in which we, using a safety culture survey specifically designed for nursing homes, explored the impact of Joint Commission accreditation on RSC perceptions among senior managers in nursing homes in the United States.

Methods

Design

Comparisons of safely culture ratings were made between respondents from Joint Commission–accredited nursing homes and nonaccredited nursing homes in the sample. Similarities and differences between the characteristics of senior managers in accredited and nonaccredited nursing homes were also identified.

Data

The Joint Commission. A list of currently accredited nursing homes was identified through a Web search of the Joint Commission Quality Check® website[34] in July 2010. Accreditation status during the period of interest (2002–2010) was compiled and coded separately by year. Identifying information for all facilities was checked against a complete list of nursing homes in the United States and all entries that corresponded to other types of facilities (for example, Department of Veterans Affairs medical centers, children's convalescent centers) were removed. A total of 874 Joint Commission–accredited nursing homes were identified.

Resident Safety Culture. The Nursing Home Survey on Resident Safety Culture[35] (NHSRSC; described further below) was used to collect information on RSC from senior managers—nursing home administrators (NHAs) and directors of nursing (DONs). First, a random sample of 6,000 nursing homes was selected from all 50 states. Only nursing homes participating in Medicare and/or Medicaid certification were included in the sample; they were present in the Online Survey, Certification, and Reporting system (OSCAR),[36] which was used to identify facility mailing addresses. Approximately 97% of all nursing homes are certified by Medicare and/or Medicaid. Hospital-based nursing homes were excluded from the sample (N = 2,210) because they tend to staff differently than other nursing homes, and it may be more appropriate to use the hospital survey[37] for these facilities. At the time of this study (fall 2010), eligible facilities included approximately 15,000 nursing homes.

As part of the data collection strategy, follow-up reminder postcards were mailed two and four weeks after the survey mailing, and a repeat survey was sent after two months. An author's [N.G.C.] telephone number and e-mail address were also included in the mailings, and senior managers were directed to call if they had questions or needed clarification. No follow-up telephone calls were made.

Nursing Home Survey on Resident Safety Culture. The NHSRSC instrument[35] was developed by Westat, under contract to Agency for Healthcare Research and Quality (AHRQ), to measure the culture of resident safety in nursing homes. As part of the instrument development process, the Westat research team discussed patient safety with researchers and senior nursing home managers and conducted a review of the safety literature. The NHSRSC instrument was piloted, revised, and released in September 2008. The development process is extensively described in a technical report, which includes findings from the pilot testing in 40 nursing homes with 3,698 nursing home staff.[35] Briefly, results of the pilot testing conducted by Westat showed that confirmatory factor analyses model-fit statistics, reliability analyses, and validity analysis of the RSC domains of the NHSRSC all met acceptable criteria for good conformance.[35] Cronbach's alpha for the domains were shown to have acceptable levels of reliability, with the lowest value of 0.71 and the highest of 0.86; moreover, 9 of the 12 domains of the instrument had Cronbach's alphas of greater than 0.80. The NHSRSC was also further described by Castle and associates,[19] who included details of the

nursing home sample and scores for each item included in the questionnaire. The NHSRSC consists of 62 items, with 12 domains of resident safety. Table 1 (page 210) excludes data for one domain—Supervisor expectations and actions promoting resident safety—because it generally does not apply to most senior managers.

Data Analyses

Agreement Scale. An agreement scale ("Strongly Agree," "Agree," "Neither," "Disagree," and "Strongly Disagree") is used as part of the NHSRSC[36] and was used to compute scores for the data analyses. As a summary score of the RSC items, the percentage of positive responses was computed—that is, "Agree/Strongly Agree" for positively worded items and "Disagree/Strongly Disagree" responses for negatively worded items, which were treated as positive responses (disagreeing with a negatively worded item indicates a positive response). For example, if the distribution of responses for a positively worded item was 20% "Strongly Agree," 20% "Agree," 20% "Neither," 20% "Disagree," and 20% "Strongly Disagree," then the computed score would be 40 (representing 20% "Strongly Agree" and 20% "Agree"). Thus, the summary scores ranged from 0 to 100. In calculating all results, the mean NHA and DON scores for each facility were used.

This approach of using the agreement scale is consistent with the method recommended by AHRQ for use with this data and has been used in most research studies in this area.[35] However, one limitation of calculating scores in this way is that some bias may occur if the full range of responses is not normally distributed. In preliminary sensitivity analyses, we found the responses to most items had a small positive skew. However, when the full range of responses was used (for example, assigning a score of 2 for "Strongly Agree," 1 for "Agree," 0 for "Neither," –1 for "Disagree," and –2 for "Strongly Disagree"), the findings were almost identical to those presented.

Differences in RSC Scores. To compare RSC ratings between respondents from Joint Commission–accredited and nonaccredited facilities, difference scores were used to measure the directional difference between the scores. Positive values indicate that accredited nursing homes gave higher scores than nonaccredited facilities, and, conversely, negative values indicate that nonaccredited facilities gave higher scores. Student's paired sample *t*-tests were used to determine whether the differences were significantly different from zero, with significant *t*-tests indicating that systematic differences were present.[18]

Multivariate Analysis of Safety Culture Subscales. We examined the level of collinearity among the predictor variables and multicollinearity by using the variance inflation factor (VIF) test. We then used multivariate analyses to analyze the association of each RSC subscale with facility and market characteristics. Using ordinary least squares regression, we estimated that the relationship because the distribution of the subscales was approximately normal. To account for possible correlation of outcomes within markets, which can bias the standard errors of the estimates, the Huber-White sandwich estimator clustered by county was used for all the analyses.

Independent Variables. The independent variables in these multivariate analyses included the facility characteristics of staffing levels, bed size, ownership, chain membership, private-pay occupancy, overall resident census, and case mix (using activities of daily living [ADLs]), and market characteristics included rural location and number of nursing homes in the county. The number of beds in the facility was used as a measure of facility size. Two classes of facility ownership were used—for-profit and not-for-profit. Two classes of chain membership were also used–chain and non-chain. Private-pay occupancy represented the proportion of resident paying out-of-pocket for care. Average resident census represented the total number of residents divided by the total number of beds (multiplied by 100 to create a percentage). For each of three ADL questions (eating, toileting, and transferring) in the OSCAR, we assigned a score from 0 to 3 (using no assistance, moderate need for assistance, and high degree of need for assistance, respectively). We then summed these scores. Increasing scores indicate a greater average ADL impairment within a facility. Rural location was determined using the Urban Influence Code, and the number of nursing homes in the county was a count. The number of nursing homes in the county was used as a measure of competition. In preliminary analyses, other measures of competition were used (such as the Herfindahl Index*), but these findings were similar.

Results

Respondents

Of the 6,000 facilities included in the sample, 4,008 questionnaires were returned from both the NHAs and DONs, yielding an analytic response rate of 67%. Of these 4,008 questionnaires, 523 were from Joint Commission–accredited nursing homes and 3,485 were from nonaccredited nursing homes. In general, most items on the questionnaire were answered. Missing data occurred in fewer than 5% of the cases and

* The sum of each facility's squared percentage share of beds in the county for all facilities in the county (0–1). Higher values indicate a less competitive market.

Table 1. Nursing Home Survey of Resident Safety Culture (NHSRSC) Instrument Domain Scores for Nursing Home Administrators (NHAs) and Directors of Nursing (DONs) Comparing the Joint Commission–Accredited Facilities with Nonaccredited Facilities

Domains and NHSRSC Items	1. NHA and DON Non–Joint Commission–Accredited Mean (Standard Deviation) *N* = 3,485	2. NHA and DON Joint Commission–Accredited Mean (Standard Deviation) *N* = 523	3. Mean Directional Difference
Teamwork			
Resident safety is never sacrificed to get more work done.	66 (13)	71 (13)	+5*
Our procedures and systems are good at preventing errors from happening.	62 (14)	69 (14)	+7*
It is just by chance that more serious mistakes don't happen around here.	60 (17)	65 (17)	+5*
When someone gets really busy in this nursing home, other staff help out.	58 (15)	66 (17)	+8*
Staffing			
We have enough staff to handle the workload.	57 (10)	60 (11)	+3
Staff have to hurry because they have too much work to do.†	50 (12)	52 (12)	+2
Residents' needs are met during shift changes.	57 (14)	68 (13)	+11*
It is hard to keep residents safe here because so many staff quit their jobs.†	43 (15)	53 (14)	+10*
Compliance with Procedures			
Staff follow standard procedures to care for residents.	56 (16)	68 (14)	+12*
Staff use shortcuts to get their work done faster.†	69 (12)	71 (14)	+2
To make work easier, staff often ignore procedures.†	61 (16)	66 (15)	+5*
Training and Skills			
Staff get the training they need in this nursing home.	58 (15)	65 (16)	+7*
Staff have enough training on how to handle difficult residents.	48 (16)	58 (12)	+10*
Staff understand the training they get in this nursing home.	68 (15)	59 (15)	–9*
Nonpunitive Response to Mistakes			
Staff are blamed when a resident is harmed.†	60 (13)	66 (12)	+6*
Staff are afraid to report their mistakes.†	62 (13)	62 (12)	0
Staff are treated fairly when they make mistakes.	67 (11)	72 (10)	+5*
Staff feel safe reporting their mistakes.	60 (14)	65 (13)	+5*
Handoffs			
Staff are told what they need to know before taking care of a resident for the first time.	67 (16)	65 (16)	–2
Staff are told right away when there is a change in a resident's care plan.	62 (14)	63 (14)	+1
We have all the information we need when residents are transferred from the hospital.	60 (15)	65 (15)	+5*
Staff are given all the information they need to care for residents.	61 (15)	64 (15)	+3
Feedback and Communication About Incidents			
When staff report something that could harm a resident, someone takes care of it.	69 (11)	80 (12)	+11*
In this nursing home, we talk about ways to keep incidents from happening again.	56 (12)	61 (13)	+5*
Staff tell someone if they see something that might harm a resident.	62 (15)	71 (14)	+9*
In this nursing home, we discuss ways to keep residents safe from harm.	64 (12)	66 (10)	+2
Communication Openness			
Staff ideas and suggestions are valued in this nursing home.	50 (14)	63 (16)	+13*
Staff opinions are ignored in this nursing home.†	61 (15)	63 (14)	+2
It is easy for staff to speak up about problems in this nursing home.	55 (15)	59 (15)	+4*
Overall Perceptions of Resident Safety			
Residents are well cared for in this nursing home.	65 (15)	70 (19)	+5*
This nursing home does a good job keeping residents safe.	65 (16)	67 (13)	+2
This nursing home is a safe place for residents.	62 (12)	68 (14)	+6*
Management Support for Resident Safety			
Management asks staff how the nursing home can improve resident safety.	62 (12)	63 (17)	+1
Management listens to staff ideas and suggestions to improve resident safety.	65 (12)	76 (13)	+11*
Management often walks around the nursing home to check on resident care.	63 (14)	72 (15)	+9*
Organizational Learning			
This nursing home lets the same mistakes happen again and again.†	67 (14)	70 (13)	+3
It is easy to make changes to improve resident safety in this nursing home.	65 (13)	64 (14)	–1
This nursing home is always doing things to improve resident safety.	66 (13)	67 (14)	+1

* Differences between the RSC rating was significant at $p \leq .05$; paired sample *t*-test.

† Negatively worded item was transposed to use positive responses.

Table 2. Characteristics of Administrators and Directors of Nursing at Joint Commission–Accredited and Nonaccredited Nursing Homes*

	Nonaccredited (*N* = 3,485)		Accredited (*N* = 523)	
	Mean	(SE)	Mean	(SE)
Tenure (in months)†	30.7	(2.3)	39.4§	(1.65)
Nursing home administrator education (%)†				
High school or associate degree	17.2	(–)	12.1§	(–)
Baccalaureate degree	52.4	(–)	55.2	(–)
Master's or higher degree	30.2	(–)	32.6	(–)
Director of nursing education (%)†				
Diploma or associate degree	57.0	(–)	42.4§	(–)
Baccalaureate or higher degree	42.9	(–)	58.2§	(–)
Age (in years)†	54	(8.2)	51	(9.4)
Race (% Caucasian)†	67	—	73§	—
Sex (% Male)†	69	—	75§	—
Member of professional society†	83	—	96§	—
For-profit (%)‡	61.30	(–)	71.3§	(–)
Chain (%)‡	52.1	(–)	55.1	(–)
Occupancy (%)‡	83.3	(10)	88.6§	(9)
Bed size (number of beds)‡	112.5	(61)	133.2§	(43)
RN hours/patient-day‡	10.3	(9.1)	10.4	(9.0)
LPN hours/patient-day‡	13.8	(8.2)	14.9	(8.4)
Nurse aide hours/patient-day‡	30.2	(9.1)	33.5§	(9.3)

* SE, standard error; RN, registered nurse; LPN, licensed practical nurse.

† Source: Primary data (*N* = 4,008 nursing home administrators and directors of nursing).

‡ Source: Online Survey, Certification, and Reporting System (OSCAR) data (*N* = 4,008).

§ $p \leq .05$.

were evenly distributed across items. Most (71%) of the questionnaires were returned by mail within one month. Because we were able to link facilities with OSCAR data, we determined that no significant differences in facility characteristics (that is, bed size, ownership, chain membership, and private-pay census) existed for respondent compared with nonrespondent facilities (results not shown).

Characteristics of Respondents

Variables describing the respondent nursing home sample are displayed in Table 2 (above). The average tenure for senior managers in nonaccredited nursing homes was 30.7 months, while the average tenure for these managers in accredited homes was somewhat more, at 39.4 months. Staffing levels for registered nurses (RNs) were similar between the two categories of nursing homes (10.3 RN hours per resident-day for nonaccredited nursing homes and 10.4 RN hours per resident-day for accredited nursing homes).

Differences in RSC Scores

Table 1 presents results regarding the differences in RSC scores between respondents in Joint Commission–accredited nursing homes and nonaccredited nursing homes. Average scores for nonaccredited nursing homes ranged from 43 to 69 with " It is hard to keep residents safe here because so many staff quit their jobs" scoring lowest and both "Staff use shortcuts to get their work done faster" and "When staff report something that could harm a resident, someone takes care of it" scoring highest. The average scores for accredited nursing homes ranged from 52 to 80, with "Staff have to hurry because they have too much work to do" scoring lowest and "When staff report something that could harm a resident, someone takes care of it" scoring highest. The distributions were slightly skewed to the higher/positive safety culture end of the scale.

The third column of results in Table 1 presents the first measure of comparison (the absolute difference between average scores from nonaccredited and accredited nursing homes). Values ranged from 0 to 13. Most—34 of 38 items—of the differ-

ence scores—indicated that accredited nursing homes rated the RSC items more positively than did nonaccredited homes. The results of Student's paired sample *t*-tests indicate that statistically significant differences between RSC ratings in accredited and nonaccredited nursing homes existed on 24 of the 38 survey items. RSC ratings were more positive for accredited nursing homes in all but one of these instances, namely, the item "Staff understand the training they get in this nursing home."

Table 3 (page 213) reports the results of the multivariate analysis. After controlling for staffing variables, bed size, profit status, occupancy levels, resident case-mix, and location of the nursing home, we found that senior managers in Joint Commission–accredited nursing homes scored significantly higher (more favorably) on 8 of the 11 RSC domains. The remaining domains—"Handoffs," "Communication Openness," and "Organizational Learning"—were not significantly different between accredited and nonaccredited nursing homes.

Discussion

Our findings demonstrate that senior managers in Joint Commission–accredited nursing homes report a more favorable RSC (resident safety culture) than do managers in nonaccredited homes. Because senior managers such as NHAs and DONs can greatly influence the culture of an organization,[38] this research is both timely and of great importance. To our knowledge, this is the first study to compare RSC perceptions between accredited and nonaccredited nursing homes.

Similar to findings from previous research,[16,20] NHSRSC survey scores fell within the 43–67 range for the nonaccredited nursing homes (which represented the majority of nursing homes in our sample) versus scores within the 53–76 range for the Joint Commission–accredited nursing homes. Interpreting these scores represents a value judgment; nonetheless, scores in the accredited nursing homes represented a somewhat "positive" outlook regarding the RSC in these institutions. Furthermore, when various organizational factors, such as profit status and staffing, that may affect RSC were controlled for, respondents in the accredited nursing homes still scored RSC more favorably. It has been suggested that the process of sustaining the level of standards compliance required for accreditation can create a safety-oriented culture within a facility.[30] Our results appear to support this contention.

With respect to the more positive "management support for resident safety" scores observed in respondents at accredited nursing homes, we note that The Joint Commission emphasizes the importance of leadership commitment to patient safety.[39] Joint Commission standards require leaders in accredited nursing homes, as in all health care organizations, to consistently make safety a top priority in their institutions and to allocate the resources necessary to support this priority. In addition, leaders are expected to use the expertise and feedback of frontline staff in safety-related decision making.[39]* These elements are all included in the "management support for resident safety" domain of the NHSRSC instrument. Our findings with respect to the use of staff input in managerial decision making were somewhat contradictory, however. The use of safety-related input from staff was scored more strongly in accredited nursing homes, while no significant differences existed between accredited and nonaccredited nursing homes in the communication openness domain. It is possible that accreditation may only encourage the use of staff input with regard to resident safety without having an overall impact on communication openness in other operational areas. Also, if nursing home environments tend to be based on rigid hierarchies, as Rosen et al. have noted,[40] this may challenge more widespread uses of participative decision making.

The finding that Joint Commission–accredited nursing home respondents scored the NHSRSC "staffing" domain more favorably than respondents in nonaccredited nursing homes may reflect The Joint Commission's recent direction of attention toward health care worker fatigue and patient safety.[41] Fatigue has been associated with excessive workloads and insufficient staffing,[41] items that are assessed under the staffing domain of the NHSRSC instrument. Although our analysis did not demonstrate any differences in RN and licensed practical nurse (LPN) staffing between accredited and nonaccredited nursing homes, the accredited nursing homes in our sample did have higher levels of nurse aide staffing than the nonaccredited nursing homes. It is possible that accredited nursing homes may be able to reduce excessive staff workloads by increasing nurse aide staffing, if not through other efficiencies that we were unable to account for in this study.

We found that respondents in accredited nursing homes scored more favorably than did respondents in nonaccredited nursing homes on the "feedback and communication about incidents" domain of the NHSRSC. This may relate to the fact that The Joint Commission has well-established standards on the reporting of adverse events that are deemed *sentinel events*.[42] Following a sentinel event, accredited institutions are required to conduct a thorough root cause analysis, develop an action plan to reduce future risk, and monitor the effectiveness of this action

* Leadership (LD) Standard LD.03.01.01. Leaders create and maintain a culture of safety and quality throughout the organization.
Source: The Joint Commission. *2012 Comprehensive Accreditation Manual for Long Term Care*. Oak Brook, IL: Joint Commission Resources, 2011.

Table 3. Multivariate Results Examining Nursing Home Survey of Resident Safety Culture (NHSRSC) Instrument Overall Scores for Administrators and Directors of Nursing for Joint Commission–Accredited and Nonaccredited Nursing Homes*

	Teamwork	Staffing	Compliance with Procedures	Training and Skills	Nonpunitive Response to Mistakes	Handoffs	Feedback and Communication About Incidents	Communication Openness	Overall Perceptions of Resident Safety	Management Support for Resident Safety	Organizational Learning
Joint Commission Accreditation	.077‡	.049‡	.045‡	.064‡	.060‡	–.007	.053‡	.037	0.055‡	.035†	.053
	(.006)	(.005)	(.013)	(.006)	(.005)	(.018)	(.011)	(.021)	(0.005)	(.009)	(.029)

* Controls: FTE RNs / 100 residents, FTE LPNs/100 residents, FTE NAs/100 residents, bed size, for-profit, chain member, average occupancy, private-pay occupancy, case-mix, rural location, unemployment rate, number of nursing homes in county. Robust standard errors in parentheses. RN, registered nurse; LPN, licensed practical nurse; FTE, full-time-equivalent; NA, nursing assistant.

† Statistically significant at $p \leq .01$.

‡ Statistically significant at $p \leq .001$.

plan to ensure that objectives have been met. These practices are directed at enabling nursing homes to understand underlying causes and failures in defense systems so that future sentinel events can be avoided. The Joint Commission requires such analyses to focus primarily on systems and processes rather than on failures related to the performance of individuals.[42] Moreover, Joint Commission standards require leaders in accredited organizations to create an atmosphere that promotes trust and fairness, where it is safe for staff to discuss vulnerabilities and failures without fear of reprisal.[39] These practices relate to the NHSRSC domain "nonpunitive response to mistakes" and may explain why respondents in accredited nursing homes scored more highly on this domain. Because creating a blame-free environment is an important determinant in providing high-quality and safe care, measuring this domain is critical. Nursing homes identifying perceptions of punitive environments can implement programs such as safety briefings, in which information about potential safety problems in particular resident units is shared; or walk-arounds, in which informal conversations are conducted with frontline staff about safety issues to positively affect the care environment),[43] for example.

The lack of a significant difference between respondents of Joint Commission–accredited and nonaccredited homes on the "handoffs" domain of the NHSRSC instrument may reflect the fact that handoffs and transitions are a particular challenge for improving patient safety.[44,45] In the nursing home setting, where hospitalizations and rehospitalizations are common and costly, successful handoff of information from nursing staff to medical care providers is critical. Although our study did not detect an association between Joint Commission accreditation and respondent scores for handoffs, other interventions have demonstrated improved handoff outcomes between nursing homes and hospitals. For example, the INTERACT (Interventions to Reduce Acute Care Transfers) project was able to demonstrate substantial reductions in hospitalizations of nursing home residents through facilitating communication about changes in the care of nursing home residents.[46] Exploration of how such programs might be able to affect RSC in the nursing home setting are needed.

One recent study found that efficiency, work climate, and goal clarity were organizational determinants of resident safety culture in nursing homes.[47] These factors have all shown some potential to be strengthened through accreditation.[32] Our research, as reported elsewhere, has also shown that Joint Commission accreditation leads to reductions in deficiency citations and in improved quality of care outcomes in nursing home settings.[48,49] These findings, coupled with the results of the present study, further support the need for more nursing homes to consider voluntary accreditation as a means of improving care processes and outcomes. Currently, unlike in acute care settings, very few nursing homes in the United States seek accreditation beyond what is required to receive payment under the Medicare

and Medicaid programs. Numerous reasons could account for the fact that fewer than 15% of nursing homes are accredited by The Joint Commission or other independent accreditation organizations.[50] First, with respect to The Joint Commission, the fees associated with a three-year accreditation (ranging from $6,100 to $9,700),[51] can be cost prohibitive to a cash-strapped nursing home system. Second, nursing homes spend a considerable amount of time and resources just to comply with federal requirements under the annual state survey process.

However, the benefits of voluntary accreditation may ultimately outweigh the cost, given reduced liability insurance costs and increased marketing potential.[32,51] As the current study has suggested, improvements in RSC through the Joint Commission accreditation process may ultimately result in safer care.

One limitation of this study is that we were able to control only a limited number of variables in our analysis. Enrollment of nursing homes in other accreditation programs, such as CARF-CCAC,[52] was not included because those programs do not include explicit national resident safety goals for long term care. Another limitation is that turnover data, a key variable that could affect RSC in an organization with regard to nursing senior management, were not included in our multivariate model. Because senior managers have been shown to be critical players in improving RSC[53,54] and are actively engaged in activities such as resident safety walk-arounds to improve RSC,[43] further consideration of the tenure of nursing home top managers and its influence on RSC is needed. Although previous research in nursing home settings has identified a disconnect of RSC perceptions between managers and frontline staff (with managers reporting more favorable RSC),[22,55] such a comparison has not been made between Joint Commission–accredited and nonaccredited nursing homes. An area for further study also includes examining whether leaders who pursue Joint Commission accreditation intrinsically have a greater commitment to improving the quality and safety of care provided to residents, which is what might have motivated them to pursue accreditation in the first place.

Assessing RSC in health care organizations provides a foundation to identify areas for improvement. However, improving RSC can take time. For example, in hospital settings, 512 facilities attempting to achieve culture change achieved an average increase in the scores of only 2 percentage points after 20 months.[45] Taking this into consideration, health care organizations can set more realistic goals on the time it takes to change their organizational culture. Clearly, assessing a nursing home's RSC is an organization's first step toward improving the culture of safety in this setting.

Examining the impact of accreditation on RSC in nursing homes is important, given The Joint Commission's focus on safety in its standards, National Patient Safety Goals, and other initiatives. Further discussion is needed on how best to support nursing homes in the voluntary accreditation process. J

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