Quality Care Outcomes in Nursing Homes: The Effects of a Nurse's Country of Origin and Education

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The purpose of this article is to describe differences in nursing home quality outcomes among nurses who are foreign born and foreign educated, nurses who are foreign born and U.S. educated, and nurses who are U.S. born and U.S. educated. This cross-sectional study took place in 91 nursing homes across the United States. Full- and part-time licensed practical and registered nurses were asked to complete a survey, and data on their personal characteristics were linked to facility-level quality indicators. A total of 1,476 nurses were included. The findings indicate that facilities with more responding foreign-born, foreign-educated Filipino nurses exhibit lower quality of care in pain management, prevention of pressure ulcers, and catheter use, but higher quality of care regarding physical restraint use when compared with U.S.-born, U.S-educated and non-Filipino foreign-born and foreign-educated nurses. In facilities with more responding non-Filipino foreign-born, foreign-educated nurses, care quality was better than that of other groups in pain management and physical restraint use.

An ongoing shortfall of available American nurses and the rising care demands for the nation's aging population lead many nursing homes to hire foreign-born nurses in greater numbers (Redfoot & Houser, 2008). Whether educated in their home countries or in U.S. nursing programs, foreign-born nurses make up a significant percentage of the nurses in nursing homes (Polsky, Ross, Brush, & Sochalski, 2007). Little is known, however, about how their care compares with the care provided by U.S.-born, U.S.-educated nurses. Therefore, the authors compared quality care outcomes in three groups of nurses working in nursing home settings: foreign-born, foreign-educated (FBFE) nurses; foreign-born, U.S.-educated (FBUSE) nurses; and U.S.-born, U.S.-educated (USBUSE) nurses. Because of the prevalence of foreign-born nurses from the Philippines, the authors further analyzed the nurses born in the Philippines and those born in other foreign countries.

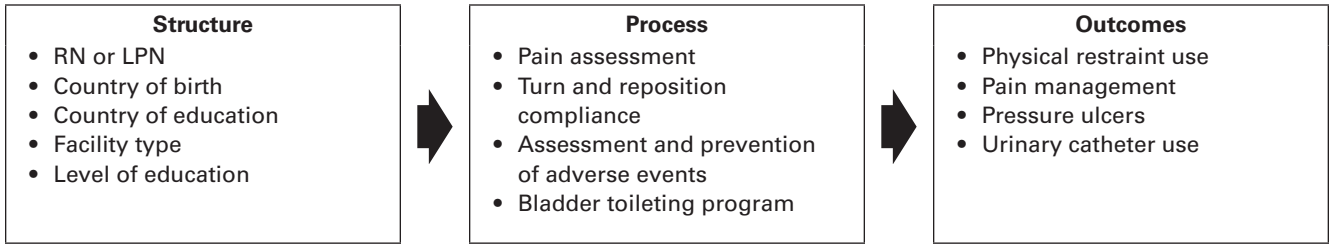
Registered nurses (RNs), licensed practical/vocational nurses (LPN/VNs), and certified nursing assistants are critical to the management of the complex care needs of the 1.4 million older adults in the nation's 16,000 nursing homes (Centers for Medicare & Medicaid Services [CSM], 2013). However, nursing homes consistently struggle to secure adequate numbers and types of nurses to provide that care. As a result, many nursing homes look abroad (Redfoot & Houser, 2008). Of the 59,000 foreign-educated RNs and 6,000 LPN/VNs recruited to the United States in 2003, for example, 31% (18,290) and 88% (5,280), respectively, worked in nursing homes or other long-term care facilities (Smith & Crawford, 2004). Despite evidence of this staffing trend, the use of foreign-educated nurses is unmentioned in most studies of nursing home quality, even though an educated and stable nursing staff is viewed as the sine qua non of nursing home quality (Mor, Caswell, Littlehale, Niemi, & Fogel, 2009).

There is some evidence that among foreign-born nurses, lapses in patient safety are linked to breakdowns in communication (Martin, Lowell, Gozdziak, Bump, & Breeding, 2009). How foreign-nurse characteristics relate to quality outcomes and whether care outcomes and safety differ between U.S.-educated nurses and foreign-educated nurses remain largely unknown (Brush, Sochalski, & Berger, 2004; Polsky et al., 2007). One study found that foreign-educated nurses perceived themselves as being less proficient in the management of cardiac patients and medication administration and less skilled in documentation and physical assessment (Edwards & Davis, 2006). Other studies have identified no differences between foreign-educated U.S. nurses in measures such as job effectiveness (McCloskey & Aquino, 1988) and nurse practice environment values (Flynn & Aiken, 2002).

Though several research studies have examined the negative impact of staffing characteristics (i.e., professional nurse staffing levels, turnover, intent to stay, and high use of agency staffing mix) in nursing homes (Castle & Anderson, 2011; Castle & Engberg, 2007), none specifically measures the association of nurses' birthplace and education and quality care outcomes in nursing homes. The purpose of this study was to explore the relationships between the concentration of foreign- and U.S.-educated nurses employed in U.S. nursing homes and nursing home quality outcomes. Specifically, the authors sought to de-

FIGURE 1

Donabedian's Quality of Care Model for Nurses Working in Nursing Homes



termine whether there were differences in nursing home quality outcomes among nursing homes employing high versus low proportions of responding foreign-educated nurses.

The authors also sought to understand how the concentration of Filipino nurses, who report high levels of respect for older people and value physical comfort (Spangler, 1992), rated with the outcome measures. Filipino nurses represent the largest group of foreign-born nurses in the United States (Lin, 2013) because of aggressive recruitment efforts, an explicit foreign export nursing policy, and prelicensure programs for exporting Filipino nurses (Brush, 2010; Brush & Sochalski, 2007). Thus, the authors can make some assumptions that their prelicensure training is similar to that of U.S. nurses.

To determine differences in the quality of care provided by foreign and U.S. nurses, the authors evaluated performance, using four long-stay quality indicators (QIs) described by Castle and Engberg (2007) as sensitive to nursing care processes and staffing characteristics, controlling for facility and nurse characteristics. Guiding this research was Donabedian's Quality of Care Model. (See Figure 1.) The most widely used framework employed in quality improvement and health outcomes research, the model includes the concepts of structure, process, and outcome. *Structure* refers to the attributes of the organizational setting where care occurs and includes material resources (e.g., available equipment and design of facility), human resources (e.g., number of qualified personnel), and organizational structure (e.g., methods of documentation). *Process* refers to the activities performed when giving and receiving care and the effects of care on the patient's condition. Donabedian hypothesized that a good or an adverse organizational structure promotes a good or an adverse process and, in turn, that a good or an adverse process promotes a good or an adverse outcome. In our adaptation of this theoretical model, the QIs are used as outcomes and contextual factors, such as facility and nurse characteristics, are included as structure variables.

Methods

The authors used a cross-sectional, descriptive, comparative design and multivariate quantitative techniques for analysis. Primary data were collected from surveys of RNs and LPN/VNs employed in nursing homes in five U.S. states. Inclusion criteria included that nursing homes were Centers for Medicare & Medicaid Services (CMS)–certified facilities located in New York, Illinois, California, Florida, and Texas. These states were selected because they have a higher concentration of foreign-educated nurses (Martin et al., 2009) and because they provide geographical diversity across regions (e.g., Northeast, Midwest, West, South, and Southwest). New Jersey, which has the fourth largest population of foreign-educated nurses, was not included because of its proximity to New York. Instead, Illinois, which has the sixth largest population of foreign-educated nurses, was selected. Because less than 10% of foreign-educated nurses are located in nonmetropolitan areas (Redfoot & Houser, 2008), the authors selected nursing homes based on an urban code from CMS' Online Survey Certification and Reporting (OSCAR). The authors then selected a randomized sample of 849 urban nursing homes from these five states. The study received approval from the New York University Committee on Activities Involving Human Subjects. Nurses' return of the anonymous completed survey indicated their consent.

To recruit study participants, the authors sent letters of introduction about the study to the director of nursing (DON) at each eligible nursing home. The DON was asked if he or she would be willing to distribute surveys to all full- and part-time employed nurses (RNs and LPN/VNs). Each DON also received an agreement form that included staffing information (to determine how many surveys to send as well as a postage-paid return envelope. Two follow-up reminder mailings and two phone calls were used, as recommended by the Dillman survey methods to increase response rate. Of the 849 nursing homes contacted, 98 (11.5%) agreed to participate (20 in California, 13 in Florida, 19 in Illinois, 25 in New York, and 21 in Texas), a good geographic distribution. The remaining 734 DONs declined to participate or were unresponsive despite multiple attempts via phone and mailings.

Upon receiving the signed agreement form from the DON, the authors mailed survey packets for distribution to all full- and part-time (> 0.5 FTE [full-time equivalent]) nurses identified as

part of the nursing home staff. Thus, for example, if the DON identified 10 nurses working in the nursing home, the authors sent 10 sealed survey packets containing a $5 cash incentive, a letter explaining the study, the survey, and a self-addressed return envelope. Though the survey itself was anonymous, a facility identification code was included to gauge facility response rate. Two weeks after participants received the packets, reminder postcards were sent to the DON for distribution. A total of 3,539 surveys were sent to the 98 participating facilities. The study data collection period was between January and August 2012.

Survey Development

The survey was pilot tested for feasibility by a sample of 45 diverse foreign-born and U.S.-born and educated nurses in a large nonprofit urban nursing home in New York City. The survey consisted of 77 total items with 5 sections of survey items tested in prior studies. The five sections were as follows:

- Nurse characteristics
- Nursing home patient safety culture (Agency for Healthcare Research and Quality, 2011)
- Adverse event disclosure (Wagner, Harkness, Hebert, & Gallagher, 2012)
- Language, accent, and comprehensibility (Tjia et al., 2009)
- Intent to stay.

In the nurse characteristics section, nurses' demographic information (age, sex, country of birth, primary languages) and professional characteristics (educational preparation, nurse position and type, years of experience, origin of license, hours worked per week, and years in the respective nursing home) were collected. Participants were encouraged to complete this section even if they did not complete the remainder of the survey to increase response rate.

To describe the facility characteristics, the authors used data from the most recent OSCAR assessment before the end of 2011. The OSCAR system contains data collected as part of state and federal nursing home inspections. Facilities that accept residents with Medicare or Medicaid payments are surveyed annually. This includes 97% of nursing homes in the United States. The annual survey process includes documentation of many characteristics of the nursing home (e.g., the number of beds) and aggregate characteristics of residents (e.g., the number of residents with dementia). These data are commonly used as a secondary source of nursing home characteristics.

The primary outcomes were QIs obtained from Nursing Home Compare (NHC), a Web-based report card providing information for all CMS-certified nursing homes. As quality measures for the analyses, QIs reported on the NHC website were used (CMS, 2013). Based on the time period of data collection from respondents, NHC data from 2012 (2nd quarter) were used for this analysis. The QIs reported are advantageous in several respects: They were subject to extensive testing, are derived from the minimum data set (MDS), are readily available, represent measures relevant to both consumers and providers, and are commonly used in empirical research. The reliability of the MDS has been rated good or excellent for most items, and the MDS 3.0 has increased validity, clinical relevance, and efficiency compared with the MDS 2.0 (Saliba & Buchanan, 2012).

The four nurse-sensitive QIs examined in this study were defined as follows:

- *Pain management* is defined as the percentage of residents who self-report moderate to severe pain.
- *Pressure ulcers* are defined as the percentage of high-risk residents with pressure ulcers.
- *Urinary catheter use* is defined as the percentage of residents who have/had a catheter inserted and left in place.
- *Physical restraint use* is defined as the percentage of residents who were physically restrained.

Prior research showed that these QIs are time sensitive: They can change quickly, whereas other QIs, such as the need for help with daily activities, may develop over a longer period of time (Castle & Engberg, 2007). Three of the four measures (physical restraint use, pain management, and pressure ulcers) are also targets for quality improvement in the national Advancing Excellence in America's Nursing Homes campaign (www.nhqualitycampaign.org) because of their potential for significant harm to residents (Castle, Wagner, Perera, Ferguson, & Handler, 2010).

Data Analysis

Primary survey data were linked to the OSCAR, using the facility's Medicare provider number for the nurse respondent. Descriptive statistics for the independent variable nurse and facility characteristics as well as quality of care dependent variables are presented. In addition to individual nurse characteristics, such as RN versus LPN/VN and country of nurse training, facility characteristics from the OSCAR, such as operating characteristics of the facility, were used as independent covariables. The variables were derived from prior research in this area (Castle et al., 2010). These variables have been well established as influential in examination of measures of resident safety outcomes (Castle, Engberg, Anderson, & Men, 2007). Although the MDS QI does vary based on location, the MDS documentation is standardized by CMS to ensure a high degree of reliability (CMS, 2008).

For this analysis, the dependent variable (one of the four QIs) is the same for all nurses in the same nursing home. Therefore, the models were computed at the nursing home level rather than the nurse level. To do this, the authors calculated the average values of the nurse-level covariates for each nursing home. However, the authors did not have responses from all nurses in each nursing home. Therefore, the averages and percentages from the survey are for the nurses responding, not the entire staff.

QIs are reported as percentages of residents with specified conditions. The authors multiplied the number of beds reported in the OSCAR by the percentage reported in a QI, divided by 100, and rounded to the nearest integer to create a count vari-

TABLE 1

Descriptive Statistics of the Dependent Variables used in the Analysis

	N Facilities	Percentage	Standard Deviation
Quality indicator			
Pain management	84	9.32	8.99
Pressure ulcers	79	7.13	4.34
Urinary catheter use	87	3.27	2.59
Physical restraint use	87	2.09	3.43

Note. Although the study included 91 facilities, not all facilities reported all of the quality indicators.

able. Next, the authors ran a Poisson regression of each QI on the covariates. The multivariate models were estimated with the Poisson regression procedure in Stata/SE 13.1 (64-bit). Each count variable was used as the outcome, and the number of beds was used as the exposure variable. Each observation was weighted by the number of survey respondents from the facility using Stata's i-weight function to account for varying sample sizes of respondents per facility. (Unweighted analyses yield qualitatively similar findings and are available from the authors upon request.) The coefficients are reported in incident-rate ratio (irr) form, which is similar to odds ratios; that is, estimates greater than 1 represent a positive association between the explanatory variable and the outcome. High values of the QIs are associated with lower quality because they indicate a high percentage of residents with the negative outcome; thus, coefficients less than 1 represent better quality.

Results

A total of 1,629 nurses responded (46.03% response rate), and 1,476 were included in the analysis. The authors were unable to include 153 respondents because of incomplete OSCAR or QI data. Of the 98 participating nursing homes, 91 had at least one reported QI. (See Table 1.) The mean number of respondents per facility was 14.2 (range 1–75; median 14). Two-thirds of the sample (n = 990) were U.S. born, and the remaining third were from the Philippines (n = 171; 11.59%), India (n = 55; 3.73%), Jamaica and Haiti (n = 37, 36; 2.51%, 2.44%, respectively), and others. Because of the high prevalence of Filipino nurses in the foreign-nurse population and the aggressive recruitment and training to export Filipino nurses to the United States, the authors analyzed them separately from other foreign nurses. The five independent variables of interest became percentage of FBUSE nurses, percentage of FBFE nurses, percentage of Filipino-born U.S.-educated nurses, percentage of Filipino-born foreign-educated nurses, and percentage of USBUSE nurses.

Table 2 lists the mean (SD) facility-level averages of respondent survey covariates and OSCAR (facility-level) covariates. Although the nurses in the sample were primarily USBUSE (71.5%), almost 30% were either FBUSE nurses (16.3%) or FBFE nurses (12.2%). In addition, 60.4% of respondents were LPN/VNs, and 45.5% were in a staff nursing position. The mean number of beds in the participating nursing homes was 140, and two-thirds of the homes were for-profit.

Table 3 shows the results of the Poisson regression analyses. The model was estimated with each of the QIs as the dependent variable: pain management (residents who self-report moderate to severe pain), pressure ulcers, urinary catheter use, and physical restraint use. All variables in Table 2 were included as covariates in each regression.

The regression analysis showed noticeable differences between responding Filipino nurses (both FBFE and FBUSE) and other responding foreign nurses. The irr associated with FBUSE (non-Filipino) nurses of .994 and FBFE (non-Filipino) nurses of 0.964 in the pain management regression is significant at the 0.001 level. This association indicates that facilities with 1% more responding FBUSE (non-Filipino) nurses and 1% fewer responding USBUSE nurses have a 0.6% lower percentage of residents in pain. Similarly, a 1% increase in FBFE non-Filipino nurses is associated with a 3.6% lower percentage of residents with pain (3.6% = 100 × [1–0.964]). Conversely, the irr associated with FBUSE (Filipino) nurses of 1.006 ($p < 0.05$) and FBFE (Filipino) nurses of 1.008 ($p < 0.001$) shows that facilities with more responding Filipino nurses and fewer USBUSE nurses have significantly more residents with pain management issues—more than 0.5% for each percent increase in Filipino nurses.

With respect to pressure ulcers, the results varied across the groups and showed that in facilities with responding FBUSE (non-Filipino) and FBFE (Filipino) nurses, the percentage of pressure ulcers increased by 1.0% to 1.6% ($p < 0.001$), respectively. There was significantly higher catheter use among facilities with higher concentrations of responding FBFE and FBUSE Filipino nurses ($p < 0.001$). Finally, physical restraint use varied across the groups. Facilities with more responding FBUSE Filipino nurses and fewer responding USBUSE nurses had more restraint use ($p < 0.001$), but the percentage of FBUSE (non-Filipino) nurses was not significantly associated with restraint use ($p = .907$). Higher percentages of FBFE (both non-Filipino and Filipino) were associated with less use of physical restraints (irr = 0.950, 0.976, respectively; $p < .001$).

Discussion

To the authors' knowledge, this is the first study to examine the relationships between nurses' country of origin and education and quality outcomes in nursing homes. The study provides a foundation for further exploration regarding whether a nurse who is born abroad brings a unique ethnic and cultural perspective

TABLE 2

Descriptive Statistics of the Independent Variables Used in the Analysis

N = 91 Facilities	Mean (or %)	SD
SURVEY (Nurse) COVARIATES		
U.S.-born, U.S.-educated	71.56%	30.06
Foreign-born, U.S.-educated (non-Filipino)	13.3%	15.5%
Foreign-born, foreign-educated (non-Filipino)	5.2%	10.2%
Filipino-born, U.S.-educated	3.0%	7.5%
Filipino-born, foreign-educated	7.0%	14.5%
< 25 years old	4.1%	7.4
25–39 years old	34.6%	19.1
40–54 years old	35.9%	16.8
55 and older	25.4%	19.8
Male	11.7%	11.9
Female	88.3%	11.9
Percentage RNs	38.9%	23.3
Percentage LPN/VNs	60.4%	23.3
Percentage APNs	0.8%	2.5
High school diploma	2.2%	4.2
Associate degree	74.8%	22.3
Baccalaureate degree	20.5%	21.8
Graduate degree	2.5%	4.8
Nurse manager/supervisor	36.9%	20.7
Staff nurse	45.5%	22.9
MDS/treatment/administrative support nurses	17.1%	14.1
Other	0.5%	2.7
< 1 year' experience	20.1%	18.1
1–2 years' experience	22.6%	17.3
3–5 years' experience	19.0%	13.4
5–10 years' experience	19.3%	13.9
> 10 years' experience	19.1%	19.2
Has additional outside employment	20.2%	17.4
No additional outside employment	79.8%	17.4
Mean weekly hours	37.8	3.7

N = 91 Facilities	Mean (or %)	SD
OSCAR (Facility) COVARIATES		
FTE nurse aides per 100 residents	38.9	14.4
FTE LPN/VNs per 100 residents	12.4	5.3
FTE RNs per 100 residents	5.3	4.1
Beds	140.0	57.4
For-profit	65.9%	47.7%
Chain	45.1%	50.0%
Percentage occupancy	86.3%	12.3%
Percentage private	20.4%	15.1%
Percentage Medicaid	15.2%	10.6%
Percentage psychotic	29.7%	22.8%
Percentage intellectual disabilities	1.4%	2.0%
Percentage demented	49.3%	18.5%
Percentage bathing dependent	33.1%	18.6%
Percentage toilet dependent	29.6%	16.0%
Percentage dressing dependent	23.6%	14.9%
Percentage mobility dependent	2.5%	3.3%
Percentage transfer dependent	25.4%	13.7%
Percentage eating dependent	16.3%	10.4%

Note. RN = registered nurse; LPN/VN = licensed practical/vocational nurse; APN = advanced practice nurse; MDS = medical data set; FTE = full-time equivalent.

that shapes the quality of care. In addition, the study provides support for further exploration regarding whether prelicensure nursing education in another country affects geriatric nursing practice and ultimately quality of care outcomes.

The results indicate that facilities with more responding FBFE Filipino nurses exhibit lower quality of care with regard to pain management, pressure ulcers, and catheter use, but higher quality of care with respect to physical restraint use. In nursing homes with higher percentages of responding FBUSE Filipino nurses, the percentage of residents requiring pain management, catheterization, and physical restraints was higher. Conversely, in facilities with more non-Filipino FBFE nurses, quality of care was better with regard to pain management and physical restraint use. The use of non-Filipino FBUSE nurses is also associated with slightly higher quality of care with respect to pain but a slight decrease in quality of care with respect to pressure ulcers.

The authors did not expect to find lower pressure ulcer QIs associated with foreign-born nurses, particularly Filipino nurses, because foreign-born nurses self-report being more proficient in wound and skin care (Edwards & Davis, 2006). Perhaps the locus of training may be key. Lin (2013) noted that because of practice environments and the availability and presence of physicians in Filipino hospitals, for example, Filipino nurses serve in technical roles with limited decision-making autonomy. Transitioning to the U.S. nursing home environment, where physicians are less available than in an acute-care setting (Wagner et al., 2012), may

TABLE 3

Regression Coefficients for the Effects of Nurse Origins on Nursing Home Quality Indicators

Incident-Rate Ratios (Covariates Expressed as Percentages: 1–100)	Pain Management			Pressure Ulcers			Catheter Use			Physical Restraint Use		
	b	se	*p*	b	se	*p*	b	se	*p*	b	se	*p*
Foreign-born, U.S.-educated (non-Filipino)	0.994	0.001	0.001[c]	1.010	0.001	0.001[b]	1.001	0.002	0.484	1.000	0.003	0.907
Foreign-born, foreign-educated (non-Filipino)	0.964	0.002	0.001[c]	0.997	0.002	0.143	0.995	0.003	0.123	0.950	0.005	0.001[c]
Filipino-born, U.S.-educated	1.006	0.003	0.030[a]	0.995	0.003	0.093	1.037	0.004	0.001[c]	1.046	0.006	0.001[c]
Filipino-born, foreign-educated	1.008	0.002	0.001[c]	1.016	0.002	0.001[b]	1.011	0.003	0.001[c]	0.976	0.005	0.001[c]

Note: In columns 1 to 4, the incident-rate ratios for negative binomial regressions are presented. Regression coefficients for foreign-born nurse variables are presented for parsimony with U.S.-born, U.S.-educated nurses as the reference group for the analysis. All covariates (facility-level and nurse-level) in Table 2 were included in each of the four models above weighted by the number of responses in each facility. Results for all variables in the models are available from the authors.

[a] $p < .05$.

[b] $p < .01$.

[c] $p < .001$.

demand a level of autonomy not previously taught, valued, or practiced. Given evidence that U.S. nurses place a higher value on autonomous practice (Flynn & Aiken, 2002), the difference in QIs may be more pronounced.

The challenges many foreign-educated nurses from developing countries face when obtaining licensure in the United States may have influenced the findings—and may increase the risk of nurses practicing below their knowledge and skill level (Bruyneel et al., 2013). The time needed to meet these challenges causes employment delays that result in nurses working in lower-level positions (Salami & Nelson, 2013). Foreign-educated nurses who have difficulty gaining initial employment may seek employment in less desirable settings. Ultimately, delays in receiving licensure can have a detrimental effect on the care provided.

Although the certification process for foreign-educated nurses practicing in the United States assesses competency in educational training and language proficiency, the differential quality of clinical care between respondent foreign-educated nurses and U.S. nurses warrants further investigation. Concerns have been raised about the role language and cultural differences may play in how foreign-educated nurses deliver care (Buerhaus, Auerbach, & Staiger, 2009), but there needs to be greater focus on how culture influences the meaning of pain management and physical restraint use across global communities (Feng et al., 2009; World Health Organization, 2014). Measuring QIs through a U.S. culturally specific lens may disadvantage the outcomes of foreign-educated nurses on the nurse-sensitive clinical measures used in this and other studies (Free, 2002; Lovering, 2006). Thus, further understanding of cultural perceptions of care between different groups of foreign-educated nurses is needed.

Limitations

This study has several limitations. First, it employed a cross-sectional design. Thus, it provides only a snapshot of the relationships between FBFE and FBUSE nurses and quality outcomes. Future longitudinal analyses could help determine if poorer quality nursing homes recruit more foreign-born nurses or poorer quality outcomes arise from the presence of more foreign-born nurses. There may be regulatory implications with respect to providing additional support to a migrant nursing workforce who end up in a position of least choice—for example, a position in a poor-quality nursing home—if this is true.

The sample size of 91 facilities limits the generalizability of the findings to all nursing homes in the United States, although descriptive findings suggest that the participant nursing homes on average are similar to U.S. nursing homes with respect to bed size and profit status (CMS, 2013). Given the voluntary nature of the study, there was likely a selection effect of participating nursing homes (and nurses in them) as more willing to participate in research and therefore to provide a better quality of care.

In addition, the authors targeted nursing homes across five geographically diverse states in urban settings; thus, the authors cannot compare the findings to nursing homes in rural and suburban settings or to nursing homes in other states. The authors also did not examine country of origin as part of the analysis plan, so some foreign-born nurses may have had varying levels of experience caring for older adults in long-term care settings. Though the percentage of participation in each facility ranged from 8% to 100% (mean, 51%), the results do not represent all nurses in the participating nursing homes. Further, given that licensure requirements for foreign-educated nurses differ from state to state

(Commission on Graduates of Foreign Nursing Schools, 2014), future examination is warranted.

Finally, the quality of care and patient outcomes did not include an appraisal of the cultural sensitivity foreign nurses bring to providing care to nursing home residents. Replication of this study using mixed-methods analyses on care outcomes is needed, including measuring the impact of cultural issues and the impact of culture on the quality of care. Additionally, the authors only examined four of the available QIs, so future researchers may want to explore other outcomes.

Implications for Regulation

Despite the limitations of the study, there are numerous implications for future nursing regulation. Given the differences in care outcomes among facilities hiring FBUSE nurses, research is needed to explore educational preparation and readiness for the nursing profession among these nurses. There are transition, onboarding, or bridge programs for FBFE nurses to help overcome education deficiencies and improve language skills (Xu & He, 2012) as well as increased opportunities for distance nursing education courses in developing countries (Mutea & Cullen, 2012), but the authors are unaware of these programs for FBUSE nurses or the supports to ensure the success of FBUSE nurses. Regulators may consider requirements for admission to nursing school that include language proficiency and educational competency and capacity.

An understanding of the strengths of and challenges for foreign-educated nurses is needed. In-depth research could help identify cultural differences in the care of older adults, especially regarding quality outcomes in pain management, the prevention and treatment of pressure ulcers, and the use of physical restraints, for example. There are recommended baccalaureate care competencies related to nursing care of older adults in U.S. nursing schools (American Association of Colleges of Nursing & Hartford Institute for Geriatric Nursing at New York University College of Nursing, 2010), but there may be no such requirement in the countries of FBFE nurses who responded to this survey. Given that U.S. programs offer limited attention to geriatrics and long-term care in their curricula (Berman et al., 2005), understanding the content foreign countries provide in these areas is a necessary next step for nurse regulators. This is especially important since boards of nursing require specific training hours in the care of certain populations, such as children and pregnant women, yet do not require specific training hours in the care of older adults.

Conclusion

This study provides regulators, educators, and employers with an increased understanding of the impact of foreign nurses on the quality and safety of patient care. Future research should focus on nurses who are foreign born and U.S. educated, given the lack of data regarding their learning needs, career trajectories, language abilities, and educational background. Nurse regulators, educators, and practitioners should convene and identify ways to ensure there is sufficient content in prelicensure programs both abroad and domestically.

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