A Survey of Nurse Employers on Professional and Practice Issues Affecting Nursing

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During 2009 and 2010, a survey was administered to hospital, home health, and nursing home nurse employers in the United States to capture insights into the professional and practice issues affecting nursing. These key issues were identified: workforce, educational preparation, transition, and patient safety. The majority of respondents indicated a need for experienced nurses, and 68% of home health, 16% of nursing home, and 14% of hospital employers preferred not hiring newly licensed nurses. Professional autonomy, transition-to-practice programs, and collegial nurse-physician relationships were revealed as potentially important strategies for reducing turnover and increasing retention of newly licensed nurses. Patient-safety results showed that in the past 5 years, 14% of hospitals, 5% of home health agencies, and 6% of nursing homes found a nurse practicing without a license. The implications for regulators, researchers, educators, and employers are discussed.

Employers of nurses have a unique, valuable perspective on the professional and practice issues that affect the nursing profession. This perspective can aid nurse regulators in their mission to assure patient safety. Therefore, the research department at the National Council of State Boards of Nursing (NCSBN) designed a survey to capture nurse employers' insights into these issues.

Survey Development

The first step in developing the survey was identifying key professional and practice issues: workforce, educational preparation, transition, and patient safety. Next, subissues were identified to aid in survey-item development.

Workforce

Issues in the literature on nurse staffing levels and workforce were identified as vacancies, recruitment, hiring, and retention. The current study aimed to investigate these issues by asking questions regarding (a) licensed practical nurse/vocational nurse (LPN/VN) and registered nurse (RN) vacancies; (b) negative consequences of an inadequate supply of nurses; (c) the need for nurses with specialized skills, experience, or educational preparation who were not currently available; (d) preferences for hiring newly licensed nurses; (e) length of time newly licensed, experienced, and foreign-educated nurses typically stay employed in facilities; (f) turnover perceptions; and (g) steps facilities were taking to reduce nurse turnover.

Educational Preparation

Clinical education, degree preferences, and preparation to practice were identified as issues related to educational preparation. The current study aimed to investigate educational preparation issues by asking questions regarding (a) the importance of clinical experience when evaluating a newly licensed nurse for hire; (b) perceptions about whether newly licensed nurses would be better prepared to provide safe, effective care if they had more clinical experience in school; (c) preferences for baccalaureate-prepared RNs; and (d) perceptions about newly hired nurses and their preparation before being hired to provide save, effective care.

Transition

Employers' transition programs for nurses were investigated by asking questions about the types and lengths of the programs. The definitions of the types of programs were as follows:

- *Orientation.* The process of introducing staff to the philosophy, goals, policies, procedures, role expectations, and other factors needed to function in a specific work setting. Orientation takes place when nurses are hired and when changes in nurses' roles, responsibilities, and practice settings occur.
- *Mentorship.* A developmental, empowering, and nurturing relationship between a mentor and protégé that extends over time with growth occurring in an atmosphere of respect, collegiality, and affirmation.
- *Transition-to-practice program.* A formal, time-limited program that incorporates active learning to support newly licensed nurses in their progression from education to practice.

TABLE 1

Titles and Credentials of Respondent Nurse Administrators

Titles	Overall (n = 1,707)	Hospital (n = 539)	Home health (n = 544)	Nursing home (n = 624)
Chief Nursing Officer	426 (25%)	307 (57%)	88 (16%)	31 (5%)
Vice President of Nursing or equivalent	73 (4%)	48 (9%)	17 (3%)	8 (1%)
Director of Nursing or equivalent	955 (56%)	149 (28%)	263 (48%)	543 (87%)
Manager of Nursing or equivalent	66 (4%)	14 (3%)	50 (9%)	2 (0%)
Assistant Manager of Nursing or equivalent	11 (1%)	2 (0%)	4 (1%)	5 (1%)
Supervisor of Nursing or equivalent	25 (1%)	4 (1%)	20 (4%)	1 (0%)
Other	151 (9%)	15 (3%)	102 (19%)	34 (5%)
Credentials	Overall (n = 1,642)	Hospital (n = 515)	Home health (n = 532)	Nursing home (n = 595)
LPN/VN	19 (1%)	0 (0%)	8 (2%)	11 (2%)
RN	1,541 (94%)	488 (95%)	486 (91%)	567 (95%)
APRN	54 (3%)	27 (5%)	20 (4%)	7 (1%)
Not a nurse	28 (2%)	0 (0%)	18 (3%)	10 (2%)

Patient Safety

Though the first three sections of the survey—workforce, educational preparation, and transition—are related to patient safety, the last section took a step further, grouping topics that were more generally related to patient safety: licensure, errors, discipline, shift length and scheduling, communication, and organizational characteristics. The current study aimed to investigate patient-safety issues by asking questions regarding (a) nurse license renewal checks; (b) shifts, hours, and time of week when errors were most likely to occur; (c) perceptions that newly licensed nurses were more likely to make errors than more experienced nurses; (d) the number of nurses reported to the board of nursing (BON) for disciplinary action in the past year; (e) overtime; (f) written checklists and protocols for patient handoffs; (g) read-back systems for verbal orders; (h) computerized order entry; and (i) electronic medical records.

Method

Respondents

A list of 7,348 hospitals was obtained from the American Hospital Association's 2009 mailing list (American Hospital Association, 2009). A list of 9,475 home health agencies and a list of 15,731 nursing homes were obtained from the U.S. Department of Health and Human Services' 2009 Medicare data (U.S. Department of Health and Human Services, 2009).

With 4% error and 95% confidence and an estimated 20% response rate, the randomly selected survey mailings were as follows:

- 2,775 hospitals
- 2,820 home health agencies
- 2,890 nursing homes.

Table 1 presents the sample sizes and participant demographics. The majority of respondents across facility types indicated they were either the director of nursing or equivalent (56%) or the chief nursing officer (25%).

Procedure

From the total sample of 8,485, 35 were randomly selected and sent a pretest version of the survey. After the remaining 8,450 were run through an address cleaning software program, 8,128 addresses remained for the main survey mailing.

Before the 8,128 surveys were mailed, a preletter addressed to a "nurse administrator" was sent, announcing that the survey would arrive in about a week. Another letter addressed to a nurse administrator accompanied the survey. This letter asked the administrator to complete the survey or pass it along to someone in the organization who was closely involved with the supervision of nurses. Respondents were told that all responses would be kept confidential, all data would be reported only in the aggregate, and the identification number printed on each survey was used only for tracking purposes.

Two sets of follow-up postcards were sent to survey nonresponders. The postcards indicated that if the survey had not been received or had been misplaced, the nonresponder should contact the NCSBN for a replacement.

Out of 8,128 surveys, 377 were returned with invalid addresses, and 1,733 completed surveys were returned, resulting in an overall response rate of 22.36%. Response rates by facility type were as follows: hospital (22.21%), home health agency (22.26%), and nursing home (22.47%).

Materials

The survey contained five sections: respondent demographics, workforce, educational preparation, transition, and patient safety. For the purposes of this survey, a *newly licensed nurse* was defined as a nurse who had been licensed for 12 months or less, and *an experienced nurse* was defined as a nurse who had been licensed for more than 12 months.

Results

A subset of results from the survey of nurse employers is presented. The majority of the data were analyzed using descriptive statistics; however, a few analyses used ANOVA (analysis of variance) and regression techniques. In most cases, analyses were grouped by facility type. In some cases, comparisons of means and percentages were made; however, if no inferential statistics were used, any differences discussed should not be assumed to be statistically significant.

Workforce

The workforce analyses involved the following categories: vacancies, recruitment, hiring, and retention.

Vacancies

Respondents were asked how many nursing positions were currently filled and vacant at their facilities. These data were used to calculate the average percentage of vacant positions. Results indicated that overall, slightly more RN positions were vacant (M = 7%, SD = 12%, Mdn = 1%) than LPN/VN positions (M = 5%, SD = 12%, Mdn = 0%). Overall, results revealed relatively low nurse vacancies across facility types, where the median vacancy rates across facility and nurse types were either at or near 0%.

In a further examination of the effects of nurse vacancies, respondents were asked which negative consequences (if any) their facilities experienced as a result of an inadequate supply of nurses in the past year. Results coincided with low nurse vacancies across facility types; specifically, the negative consequences with the highest response rates were increased voluntary overtime (49%), increased workloads (39%), and no negative consequences (30%). This pattern was similar for hospitals and nursing homes. For home health agencies, the negative consequences with the highest response rates were increased workloads (52%), inability to expand services (30%), and admissions delayed (29%).

Recruitment

Respondents were asked if their facilities needed nurses with specialized skills, experience, or educational preparation who were not currently available. Overall, the majority of respondents (53%) indicated a need for nurses with experience. However, this number was skewed by home health agencies, 67% of which indicated a need for nurses with experience; only 53% of hospitals and 40% of nursing homes indicated the same need.

Hiring

Respondents were asked if their facilities had a preference for not hiring newly licensed nurses. Overall, 32% had this preference. However, the overall average was skewed by home health respondents, 68% of which indicated their facilities preferred not to hire newly licensed nurses; only 14% of hospital respondents and 16% of nursing home respondents indicated this preference. The respondents who indicated a preference for not hiring newly licensed nurses were prompted to more fully describe why. Open-ended comments were coded for key themes, and percentages of key themes were tabulated by facility type. Among facilities that elaborated on their preference for not hiring newly licensed nurses, hospitals (36%) and nursing homes (37%) reported transition-program roadblocks, whereas home health agencies (72%) reported their preference was because of regulations, requirements, or a preference or need for experience.

Respondents also were asked the approximate number of foreign-educated nurses hired by their facilities in the last 12 months. Results indicated that a relatively small percentage of facilities hired such nurses in the preceding 12 months (about 11%, n = 192). Respondents who did hire foreign-educated nurses in the past 12 months were prompted to indicate the nurses' countries of origin. Overall, 685 foreign-educated nurses were hired; 53% were from the Philippines, followed by 9% from India.

Retention

Respondents were asked how long newly licensed, experienced, and foreign-educated nurses typically stay employed in their facilities; 37% indicated that newly licensed nurses typically stayed more than 4 years, 70% indicated that experienced nurses typically stayed more than 4 years, and 45% indicated that foreign-educated nurses typically stayed more than 4 years.

When asked their perceptions regarding the turnover of newly licensed and experienced LPN/VNs and RNs at their facilities, respondents tended to "strongly disagree" or "disagree" that turnover was a problem. Among hospital respondents, for example, 30% strongly disagreed and 31% disagreed that turnover was a problem for newly licensed RNs.

Respondents were asked which steps their facilities were taking to reduce nurse turnover. The top three turnover-reduction strategies were consistent across facility types. Overall, 72% selected "continually developing the work environment/climate/culture"; 66% selected "flexible scheduling"; and 64% selected "participation in decision making." The least selected option (7%) was "transition-to-practice programs." A series of ANOVAs was conducted examining facilities that did versus did not indicate they were engaging in the turnover reduction strategies listed in Table 2.

TABLE 2

Steps Facilities were taking to Reduce Nurse Turnover

	Overall (n = 1,700)	Hospital (n = 532)	Home health (n = 550)	Nursing home (n = 618)
Continual development of the work environment/climate/culture	**1,225 (72%)**	**431 (81%)**	**357 (65%)**	**437 (71%)**
Flexible scheduling	**1129 (66%)**	**370 (70%)**	**371 (67%)**	**388 (63%)**
Participation in decision making	**1,094 (64%)**	**391 (73%)**	**313 (57%)**	**390 (63%)**
Training opportunities	950 (56%)	348 (65%)	270 (49%)	332 (54%)
Adequate nurse-patient ratios (reduced workload)	907 (53%)	366 (69%)	231 (42%)	310 (50%)
Professional development opportunities	833 (49%)	326 (61%)	225 (41%)	282 (46%)
Access to information and resources	795 (47%)	272 (51%)	265 (48%)	258 (42%)
Recognition programs	800 (47%)	298 (56%)	210 (38%)	292 (47%)
Professional autonomy	694 (41%)	204 (38%)	291 (53%)	199 (32%)
Increased compensation	417 (25%)	133 (25%)	156 (28%)	128 (21%)
Collegial nurse–physician relationships	405 (24%)	212 (40%)	71 (13%)	122 (20%)
Enhanced fringe benefits packages	218 (13%)	59 (11%)	92 (17%)	67 (11%)
Transition-to-practice programs	115 (7%)	76 (14%)	13 (2%)	26 (4%)
Other	98 (6%)	40 (8%)	30 (5%)	28 (5%)
None	72 (4%)	8 (2%)	40 (7%)	24 (4%)

Note. The three highest percentages by facility type are in bold.

Results revealed a number of significant relationships between turnover reduction strategies and outcome variables. While all of the turnover reduction strategies may positively influence nurse turnover and retention, these results suggest that if an employer implements a new turnover reduction strategy, some strategies may be better than others. The analyses revealed that the top turnover reduction strategies (i.e., comparing significant differences between facilities that did versus did not utilize certain turnover reduction strategies on outcomes) were professional autonomy and collegial nurse–physician relationships. See Table 3 for all significant and nonsignificant relationships.

Educational Preparation

The educational preparation analyses involved the following categories: clinical education, degree preference, and general preparation to practice.

Clinical Education

Respondents were asked the importance of clinical experience when evaluating a newly licensed nurse for hire. Across facility types, 25% indicated clinical experience was "very unimportant," and 38% indicated it was "very important." Overall, the response trend was more heavily weighted toward clinical experience being important when evaluating a newly licensed nurse for hire.

Respondents were also asked how strongly they agreed or disagreed that newly licensed nurses would be better prepared to practice if they had more clinical experience in school. Overall, 29% agreed, and 52% strongly agreed. This response pattern held true across facility types.

Degree Preference

The survey asked respondents if their facilities preferred baccalaureate-prepared RNs when hiring newly licensed RNs. Results indicated that 37% of hospitals, 27% of home health agencies, and 6% of nursing homes preferred baccalaureate-prepared RNs.

General Preparation to Practice

Respondents were asked the extent to which they agreed or disagreed that nurses hired in the last 12 months were prepared before hire to provide safe, effective care. Overall, respondents generally agreed. For instance, among hospital respondents, 2% strongly disagreed; 15% disagreed; 53% agreed; and 14% strongly agreed.

Transition

The transition analyses investigated the types and lengths of transition programs for nurses. Respondents were asked to indicate the transition programs offered to newly licensed LPN/VNs, newly licensed RNs, experienced LPN/VNs, experienced RNs, and foreign-educated nurses. Across facility and nurse types, the majority of respondents indicated the existence of an orientation program (84%–97%); fewer indicated the existence of a mentorship program (33%–60%); and even fewer indicated the existence of a transition-to-practice program (9%–31%). Very few indicated no program (1%–8%).

TABLE 3

Relationships Between Turnover Reduction Strategies and Turnover/Retention/Vacancies

Turnover Reduction Strategies	Outcome Variables: Turnover of newly licensed LPN/VNs	Turnover of newly licensed RNs	Turnover of experienced LPN/VNs	Turnover of experienced RNs	Retention of newly licensed nurses	Retention of experienced nurses	Retention of foreign-educated nurses	% of LPN/VN positions vacant	% of RN positions vacant
Continual development of the work environment/ climate/culture	–				+	+	+		
Participation in decision making	–				+	+		–	
Professional development opportunities					+	+	+		
Training opportunities					+	+	+		
Professional autonomy	–	–	–	–	+	+	+		
Access to information and resources			–		+	+			
Recognition programs	–					+	+		
Flexible scheduling					+				
Collegial nurse–physician relationships		–	–		+	+		–	–
Adequate nurse-patient ratios (reduced workload)					+	+			
Increased compensation									
Enhanced fringe benefits packages									
Transition-to-practice programs			–		+	+	+		–
None								–	

"+" = significant positive relationship between variables ($p < .05$). "–" = significant negative relationship between variables (e.g., respondents who selected "participation in decision making" turnover was lower versus respondents who did not select "participation is decision making") ($p < .05$). "Professional autonomy" and "collegial nurse–physician relationships" had the highest number of significant relationships; "increased compensation" and "enhanced fringe benefits packages" had no significant relationships.

Respondents indicated that for newly licensed RNs, the median lengths of transition programs were 6 weeks for orientation, 10 weeks for mentorship, and 12 weeks for transition-to-practice. Across nurse and facility types, the median orientation length was 2 to 6 weeks; the median mentorship length was 2 to 10 weeks; and the median transition-to-practice program length was less than 1 week to 12 weeks. In general, newly licensed nurses had longer transition programs than experienced nurses, and RNs had longer transition programs than LPNs. These differences appeared to be stronger in hospitals. Importantly, the range in length across all programs was large—from 0 to 76 weeks across nurse and facility types.

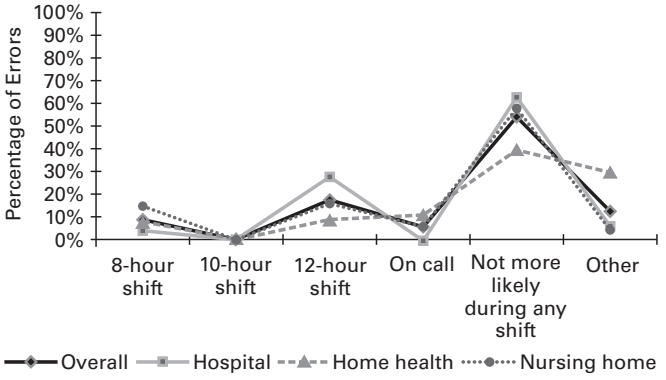
A series of exploratory regression analyses was conducted to examine the relationships between the length of orientation, mentorship, and transition-to-practice programs and turnover, retention, and the percentage of vacant positions. Results revealed a number of significant relationships. For example, as length of newly licensed LPN/VN mentorship increased, turnover of newly licensed LPN/VN decreased (ß = -.18, $p = .034$), and retention of newly licensed nurses increased (ß = .19, $p = .000$). Similarly, as length of newly licensed RN mentorship increased, turnover of newly licensed RNs decreased (ß = -.19, $p = .011$), and retention of newly licensed nurses increased (ß = .23, $p = .000$).

Patient Safety

The patient safety analyses involved these categories: licensure, errors, discipline, shift length and scheduling, communication, and organizational characteristics.

FIGURE 1

The Shift on Which Errors Were Most Likely to Occur



Licensure

Respondents were asked if in the past 5 years their facilities found a nurse practicing without a license or a nurse imposter practicing. Results indicated 14% of hospitals, 5% of home health agencies, and 6% of nursing homes found a nurse practicing without a license. Only 2% of hospitals, 1% of home health agencies, and 1% of nursing homes found a nurse imposter practicing.

Errors

Respondents were asked to identify the shift on which errors were most likely to occur. Overall, 54% reported errors were not more likely during any shift. However, hospitals (28%) were much more likely to report 12-hour shifts than home health agencies (9%) and nursing homes (16%) (see Figure 1). Respondents were also asked to indicate when most errors occur. Overall, 57% indicated that errors were equally distributed throughout the day. When respondents were asked if errors were more likely to occur during weekdays or weekends, 60% indicated that "errors were not more likely during weekdays or weekends." For the rest of the respondents, the pattern differed by facility. Specifically, hospitals were more likely to report weekdays (22%) versus weekends (15%); home health agencies were less likely to report weekdays (18%) versus weekends (28%); and nursing homes were less likely to report weekdays (17%) versus weekends (22%).

The survey also asked how strongly respondents agreed or disagreed that newly licensed nurses were more likely to make errors than experienced nurses. Results revealed a somewhat normal distribution of responses across facilities that trended toward slightly more agreement that newly licensed nurses were more likely to make errors. Specifically, 4% strongly disagreed; 21% disagreed; 35% neither agreed nor disagreed; 31% agreed; and 9% strongly agreed.

Discipline

Respondents were asked the number of nurses their facilities reported to the BON for disciplinary action in the past year. The majority (71%) did not report any nurses. However, differences by facility type were revealed: 54% of hospitals, 87% of home health agencies, and 71% of nursing homes did not report a nurse to their BON.

Shift Length and Scheduling

Respondents were asked if their facilities limited shift length to no more than 12 consecutive hours in a 24-hour period. Results showed a near even split: 49% did limit shift length, and 51% did not.

Communication

The survey asked respondents if their facilities had a written checklist or protocol for patient handoffs. About 69% of facilities (77% of hospitals, 65% of home health agencies, and 64% of nursing homes) reported having a written checklist or protocol. When asked if their facilities used a read-back system for verbal orders, respondents reported that 82% do. Specifically, 95% of hospitals, 83% of home health agencies, and 71% of nursing homes reported using a read-back system.

Organizational Characteristics

Respondents were asked if their facilities had computerized order entry and electronic medical records. A majority (51%) reported having computerized order entry. Specifically, 50% of hospitals, 62% of home health agencies, and 41% of nursing homes have computerized order entry. Also, 42% of facilities (52% of hospitals, 50% of home health agencies, and 26% of nursing homes) reported having electronic medical records.

Discussion

A survey was developed and administered to capture nurse employers' insights into the professional and practice issues affecting the nursing profession today. The identified issues were workforce, educational preparation, transition, and patient safety.

Workforce

Workforce results revealed relatively low nurse vacancies. Results on the negative consequences of an inadequate supply of nurses coincided with low nurse vacancies; specifically, the negative consequences with the highest response rates were increased voluntary overtime, increased workloads, and no negative consequences. Arguably, increased voluntary overtime and increased workloads could be considered strategies by facilities to get the most out of their current workforce without hiring more nurses (i.e., keeping nurse vacancies low) while keeping other negative consequences—for example, turnover, errors, absenteeism, and quality of care—in check.

On the other hand, the majority of respondents indicated a need for nurses with experience, and many preferred to not hire newly licensed nurses. The hospital and nursing home respon-

dents who reported a preference for not hiring newly licensed nurses indicated that the preference stemmed from transition-program roadblocks; home health agencies reported their preference was because of regulations, requirements, or a preference or need for experience.

Experienced nurses tended to stay on the job the longest, followed by foreign-educated nurses, and lastly, newly licensed nurses. Many employers may want to target turnover reduction strategies toward newly licensed nurses. Study results suggested that professional autonomy, collegial nurse–physician relationships, and transition-to-practice programs may be important for reducing turnover and increasing retention of newly licensed nurses.

Educational Preparation

According to Aiken, Clarke, Cheung, Sloane, and Silber (2003), lower patient-to-nurse ratios and a majority of RNs with BSNs appear to be jointly associated with substantially lower mortality and failure-to-rescue rates for patients undergoing common surgical procedures. These results suggest that a higher level of nursing education produces greater patient safety.

Goode et al. (2001) found that nurse executives in university teaching hospitals preferred a nurse workforce with about 70% prepared at the BSN level and that community hospital nurse executives preferred to have 55% of their RNs educated at the BSN level. The current study's results were different, possibly because of different question wording. Specifically, respondents were asked if their facilities had a preference for baccalaureate-prepared RNs when hiring newly licensed RNs. Results indicated that 37% of hospitals, 27% of home health agencies, and 6% of nursing homes had this preference.

Transition

In nursing, the first few years of employment are critical learning periods. Research suggests that one factor associated with reduced turnover rates among newly licensed RNs is having comprehensive orientations (Boswell, Lowry, & Wilhoit, 2004; Marcum & West, 2004; Roche, Lamoureux, & Teehan, 2004). However, these programs vary in intensity and dimension. Based on the reports of newly licensed nurses, the lengths of orientation programs range from one-half week to 1 year, and 59% felt their orientation did not meet their needs. The length of orientation for new graduate nurses who left their first nursing job averaged almost 2 weeks less than the length of orientation for those who did not leave their first job (Scott, Engelke, & Swanson, 2008).

In the current study, across types of facilities and nurses, the majority of respondents indicated the existence of an orientation program; fewer indicated the existence of a mentorship program; and even fewer indicated the existence of a transition-to-practice program. Very few respondents indicated their facilities had no program.

Study results indicated a number of significant relationships between the length of orientation, mentorship, and transition-to-practice program and turnover, retention, and the percentage of vacant positions, indicating that increasing transition program length may help reduce turnover and increase retention.

Patient Safety

This final section was designed to collect more broad information on topics related to patient safety, including licensure, errors, discipline, shift length and scheduling, communication, and organizational characteristics.

Licensure

Results indicated that 14% of hospitals, 5% of home health agencies, and 6% of nursing homes found a nurse practicing without a license in the past 5 years. Far fewer facilities found a nurse imposter practicing at their facility. To ensure patient safety, institutions must periodically check that all staff nurses have a valid license for the state.

Errors

Research suggests that particular shifts—for example, night shifts and shifts lasting more than 8 hours—may lead to sleep deprivation, which can jeopardize a nurse's health and patients' safety (Hughes & Rogers, 2004). For instance, nurses reported fatigue as a primary reason for medication errors (Jha, Duncan, & Bates, 2001). For most respondents in the current study, (a) errors were not more likely during any particular shift, (b) the numbers of errors were equally distributed throughout the day, and (c) errors were not more likely during weekdays or weekends. However, hospitals were much more likely to report errors occurring on 12-hour shifts than home health agencies and nursing homes. Facilities should monitor these error rates and take steps to minimize potential adverse effects of particular work schedules.

Research suggests that the length of nursing experience is related to the likelihood of making medication errors (O'Shea, 1999). In the current study, respondents were asked how strongly they agreed or disagreed that newly licensed nurses were more likely than experienced nurses to make errors. The results showed a somewhat normal distribution of responses across facilities that trended toward slightly more agreement that newly licensed nurses were more likely to make errors. In contrast, past research found that (a) nurses who had more than 10 years of professional experience were more likely than those with less experience to make one or more errors in rounding calculations and (b) the number of morphine infusions with a concentration error of 10% or greater was positively associated with number of years of professional experience (Parshuram et al., 2008). However, in another study, mean years of experience did not predict mortality or failure to rescue (Aiken, Clarke, Cheung, Sloane, & Silber, 2003).

Discipline

Results from the one survey item on discipline revealed that the majority of facilities did not report any nurse to the BON for disciplinary action in the past year. However, differences existed by facility type: 54% of hospitals, 87% of home health agencies, and 71% of nursing homes did not report a nurse. A study should be conducted to examine why these large disparities exist among the types of facilities. For instance, are home health agencies and nursing homes appropriately reporting nurses to the BON? Facility size may be one explanation, but which other aspects of the work environment might explain the disparities?

Shift Length and Scheduling

Results from the shift length and scheduling survey items revealed that 53% of hospitals, 67% of home health agencies, and 40% of nursing homes limited shift length to no more than 12 consecutive hours in a 24-hour period. Respondents also indicated that 37% of hospitals, 25% of home health agencies, and 24% of nursing homes had no limit on overtime and that 4% of hospitals, 35% of home health agencies, and 11% of nursing homes did not allow overtime. These results suggest that a number of facilities are properly restricting the number of consecutive hours worked and overtime; however, a sizable number of facilities are not.

Research suggests that the number of hours nurses work consecutively is related to an increased frequency of errors. Specifically, Rogers, Hwang, Scott, Aiken, and Dinges (2004) found that the likelihood of making an error increased with longer work hours. Specifically, the likelihood of errors was three times higher when nurses worked shifts of 12.5 hours or more.

Research suggests that working even 1 hour beyond an 8-hour shift can have negative consequences (Josten, Ng-A-Tham, & Thierry, 2003) and that supplementing long shifts with breaks does not necessarily reduce the risk of errors (Rogers, Hwang, & Scott, 2004). Hence, the best shift length may be the standard 8 hours per day.

Communication

Nurses have reported that communication among health-care providers is a contributing factor in both the causation and prevention of errors and near errors (Balas, Scott, & Rogers, 2004). Every time a patient moves from one caregiver to another, there is a risk that essential information will not be communicated because of time constraints and nurses' different communication styles (i.e., the amount and type of information communicated) (Hardey, Payne, & Coleman, 2000; Hays, 2003).

Results from the communication survey items revealed that the majority of facilities had a checklist or protocol for patient handoffs, used a read-back system for verbal orders, and instructed nurses to verify questionable orders that do not make sense given the procedure, patient's condition, or indication for use. However, efforts should be made to increase the percentage of facilities that have checklist protocols for patient handoffs and use a read-back system for verbal orders.

Organizational Characteristics

Results from the organizational characteristics survey items suggested a near even split between facilities that do and do not have computerized order entry. Fewer than half of the facilities reported having electronic medical records; nursing homes were the least likely to have them.

A computerized order-entry system has the potential to improve decision making and communication within multidisciplinary health-care teams and improve patient safety. Efforts need to be made to increase the percentage of facilities that use these systems, particularly nursing homes.

Implications

The survey results have implications for regulators, researchers, educators, and employers:

- Nurse vacancies were low, but overtime was prevalent. Increased overtime could be considered a strategy to get the job done without hiring more nurses, but it's a potential threat to patient safety.
- A number of facilities are properly restricting the number of consecutive hours worked and overtime; however, a sizable number of facilities are not. The best shift length may be the standard 8 hours per day. In general, minimizing the use of 12-hour shifts, limiting nurses to no more than 12 consecutive hours in a 24-hour period and no more than 60 hours in a 7-day period, and limiting mandatory and voluntary overtime may have a direct impact on reducing the number of nursing errors.
- Employers are missing an opportunity to hold on to their new nurses by not increasing the quantity and quality of their transition programs.
- Professional autonomy, transition programs, and collegial nurse–physician relationships may be especially important for reducing turnover and increasing retention of newly licensed nurses.
- The employers' preference for experienced nurses and their agreement that newly licensed nurses would be better prepared if they had more clinical experience in school indicate that clinical education quality and length have the potential to improve newly licensed nurses' preparation to practice and increase employers' desire to hire newly licensed nurses.
- To ensure patient safety, institutions must periodically check that all staff nurses have a valid license for the state.
- Research is needed to learn why the percentages of facilities reporting a nurse to the BON vary among hospitals, nursing homes, and home health agencies.
- Efforts should be made to increase the proportion of facilities that have computerized order entry and electronic medical records.

Limitations

The current study had three main limitations. First, the survey mailing did not include health clinics or other types of small facilities where nurses may be employed; hence, generalizability is limited to hospitals, home health agencies, and nursing homes. Second, although the response rate was acceptable, a higher rate would have been desirable to obtain greater assurance the results were representative of the population. And third, the survey of employers was limited by the knowledge and the biases of the individuals (the directors of nursing or equivalents and the chief nursing officers) who completed the survey.

Overall, because of the inherent limitations of survey methodologies, results should not be interpreted as true or 100% correct, but rather as a snapshot or estimate that can provide insights into the professional and practice issues facing nursing.

The full results of this study can be accessed at www.ncsbn.org.

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