

Texas Board of Nursing

TERCAP Pilot Project

Taxonomy of Error Root Cause Analysis of Practice-responsibility

July 2018

ABSTRACT

Identifying factors surrounding nursing practice errors, also called nursing practice breakdown, supports a comprehensive, just pathway to error resolution and provides a proactive approach in the assurance of patient safety: an approach the Texas Board of Nursing believes is important in fulfilling its mission of public protection. The Texas TERCAP Pilot Program was a four-year pilot implemented in September 2012 and completed in August 2016 that allowed the Board to receive and compile nursing practice breakdown incidents evaluated by Nursing Peer Review Committees from selected Texas hospitals utilizing a 44 item online instrument. This Texas TERCAP Pilot Program Report reviews key findings and discusses policy implications.

Purpose of the Pilot

The TERCAP© (Taxonomy of Error, Root Cause Analysis and Practice-responsibility) is a national nursing adverse event database created by the National Council of State Boards of Nursing (NCSBN) designed to collect nursing practice breakdown (NPB) data from boards of nursing. The TERCAP© intake instrument provides a multi-focal approach to investigating nursing practice breakdown by providing a template to categorize the type of nursing practice breakdown as well as identifying individual nurse, patient, healthcare team and system contributing factors surrounding the event. The NCSBN's online database is available to all participating boards and provides a national report for analysis and trending utilizing a standardized approach.

In 2011, the 82nd Legislature passed SB 193 allowing the Texas Board of Nursing (BON) to adopt a standardized error classification system for utilization by nursing peer review committees (NPRC). Consequently, the BON implemented a pilot program that allowed peer review committees to use a modified version of the TERCAP© intake instrument. The pilot allowed representatives from participating sites to enter anonymous NPB incidents into the Texas TERCAP Statewide Online Database for classification and analysis. The type of incidents appropriate for the pilot included NPB events that had been reported to a NPRC and deemed not reportable to the Board. (See 22 TAC §217.16, *Minor Incidents*). These cases involved minor incidents defined as events that indicate the nurse's continued practice did not pose a risk of harm to patients or other persons; or when remediation is reasonably expected to adequately mitigate any risk and the nurse successfully completes the remediation (Nursing Practice Act, TOC §301.401(2); 22 TAC §217.16(b)). Peer review cases meeting the following criteria were included in the Texas TERCAP Pilot Program:

1. the event concerned a nurse who was involved in a nursing practice breakdown;
2. the event involved one or more identifiable patients (if more than one patient was involved, data was gathered and submitted on the patient with the most harm or risk of harm);
3. the event allowed for all or almost all of the data collection instrument fields to be completed; and
4. the event was reviewed by the institution's nursing peer review committee and deemed not reportable to the BON.

Objectives of the Pilot

The Texas TERCAP Pilot Program was developed to promote the fundamental mission of the Board in the assurance of patient safety and public protection. As such, the following objectives were developed for the Texas TERCAP Pilot Program:

1. advance patient safety by analyzing incidents of nursing practice breakdown;
2. evaluate factors surrounding error events to facilitate an understanding of the etiology of nursing errors;
3. promote the development of methods to mitigate those errors; and

4. create a peer review environment that is transparent, positive and supportive of this error analysis effort.

Methods

Background and Recruitment

The Board's TERCAP Pilot Program's online database became functional on September 1, 2012. The online database captured confidential error events that had been reported to a NPRC and deemed not reportable to the Board. This report contains the analysis of the events entered from the beginning of the pilot on September 1, 2012 through the conclusion of the pilot on August 31, 2016.

Submission of NPB events in the Texas TERCAP Pilot Program was voluntary and confidential. Letters inviting participation in the pilot were distributed to hospitals around the state.

Responses were favorable with 163 nurses, representing NPRCs from 52 hospital systems and 92 individual hospitals, participating in training workshops during the summer of 2012 in Austin, Houston, and the Dallas/Ft. Worth area.

Data Collection and Instrument

A 44 item online instrument, based on the NCSBN's TERCAP© instrument, was utilized for data collection. While the national instrument captures practice breakdown events that are required to be reported to a board of nursing, the Texas TERCAP Pilot instrument collects practice breakdown events that are reviewed by NPRCs and determined to be a minor incident. The NCSBN defines NPB as "the disruption or absence by individuals, teams or systems that do not attend to the central aspects of nursing practice that contribute to patient safety or quality improvement" (National Council of State Boards of Nursing, 2009b, p. 16). Minor incidents are outlined in *22 TAC §217.16, Minor Incidents*, and defined as "conduct by a nurse that may be a violation of the Nursing Practice Act of a Board rule but does not indicate the nurse's continued practice poses a risk of harm to a patient or another person" (22 TAC §217.16(b)). The review and analysis of the more common incidents in nursing practice breakdown events can facilitate a proactive approach to preventing more serious practice breakdown events.

The Texas instrument mirrors the NCSBN instrument by identifying nurse, patient, system, and healthcare team factors involved in the error event. Specific items were modified to ensure appropriateness for the Texas population. The instrument also provides a taxonomy of nursing practice breakdown. The development of the categories in the taxonomy were based on the breakdown in standards of nursing practice contained in patient safety work (National Council of State Boards of Nursing, 2009b).

- Safe Medication Administration
- Documentation
- Attentiveness/Surveillance
- Clinical Reasoning
- Prevention

- Intervention
- Interpretation of Authorized Provider's Orders
- Professional Responsibility/Patient Advocacy

In addition to the items found in the NCSBN instrument, the Texas instrument also captures remediation strategies for both the nurse and the institution. The Texas TERCAP instrument was piloted by a workgroup comprised of nursing leaders in Texas hospitals and found to be user-friendly and understandable.

The NCSBN TERCAP© Protocol was also modified for the Texas TERCAP Pilot and provides detailed instructions and examples for each item in the instrument. Dr. Elizabeth Zhong, PhD, with the NCSBN, provided consultation and support during the pilot.

Enhancement of the Online Intake Instrument

During the Pilot, Board staff reviewed the online intake instrument to facilitate reliability and validity. Actions taken included:

- reviewing and revising specific items in the instrument;
- adding more drop down boxes to expedite data entry for participants;
- developing forced entry of critical responses to avoid "missing" data;
- ensuring the current data base and future data base were aligned after the refinement of the intake instrument; and
- updating the TERCAP Protocol once the instrument had been updated.

Participants

Thirty-five out of 92 hospitals who had contracted to participate in the pilot, actually entered events into the online database. For those hospitals that did not enter events, there were several reasons given for non-inclusion. Some hospitals indicated they had not entered events because there were no NPB events that warranted a formal nursing peer review since implementation of the pilot. One participant indicated that their hospital system had implemented a quality improvement program that was very proactive and had eliminated the need for nursing peer review hearings. Some participants indicated that all of their nursing peer review cases had been reported to the Board and were not appropriate for the pilot. One participant indicated that the incident was reported to the Risk Management or Quality Improvement Departments and that this process often excluded the nursing peer review process.

Communication, Support and Feedback

Beginning with the pilot's inception, the BON's ongoing communication, support and feedback with participants was a priority that resulted in several initiatives including webinars, telephone conferences, surveys, and e-mail exchanges.

Webinars

Webinars were conducted during the four years of the pilot, to inform participants of the details needed for implementation and continuation. Topics included an explanation of the instrument and other methodological issues as well as an examination of the Board's Peer Review rules and regulations. In both June of 2013 and June of 2014 webinars were conducted to provide participants with information about the Texas TERCAP findings. In addition, a recorded webinar on nursing peer review was offered to the peer review committees of participating institutions.

Telephone Conferences

Scheduled conference calls with pilot participants gave staff the opportunity to share informational updates and provided a forum for the participants to ask questions. Throughout the pilot program, phone conferences were conducted with pilot participants as a group or on an individual basis as needed.

Surveys

Two surveys were conducted during the pilot. The first was in May of 2013 and was designed to solicit input and comments about the project from all participants. The second survey was conducted in June of 2015 in order to evaluate training needs of participants.

E-mail Communications

E-mail correspondence with participants was an essential pipeline for communication, support and feedback. These communications included an updated instrument and protocol; Board reports about the pilot; notifications of conference calls and webinars and any new information concerning the pilot. Additionally, e-mails were utilized to update the names and contact information for participants throughout the course of the pilot. E-mail communications from participants to Board staff also provided a means for support and feedback.

Findings

This summary report includes findings that are considered pertinent to the objectives of the pilot and excludes findings that are valid but less relevant. Data collection for the TERCAP dataset began on September 1, 2012 and was terminated on August 31, 2016. The final dataset downloaded from SurveyMonkey contained 371 records. After data cleaning and elimination of erroneous records, the result is a dataset with 318 records that form the basis of all quantitative analyses presented in the report.

Facility Characteristics

Of the 318 events, 317 were from hospital settings. 314 of the hospitals were located in urban areas.

Distribution of Hospital Based Events by Bed Size Category:

Of the 318 hospital based events, the 351 – 599 bed size category comprised the majority of submissions. **See Figure 1.**

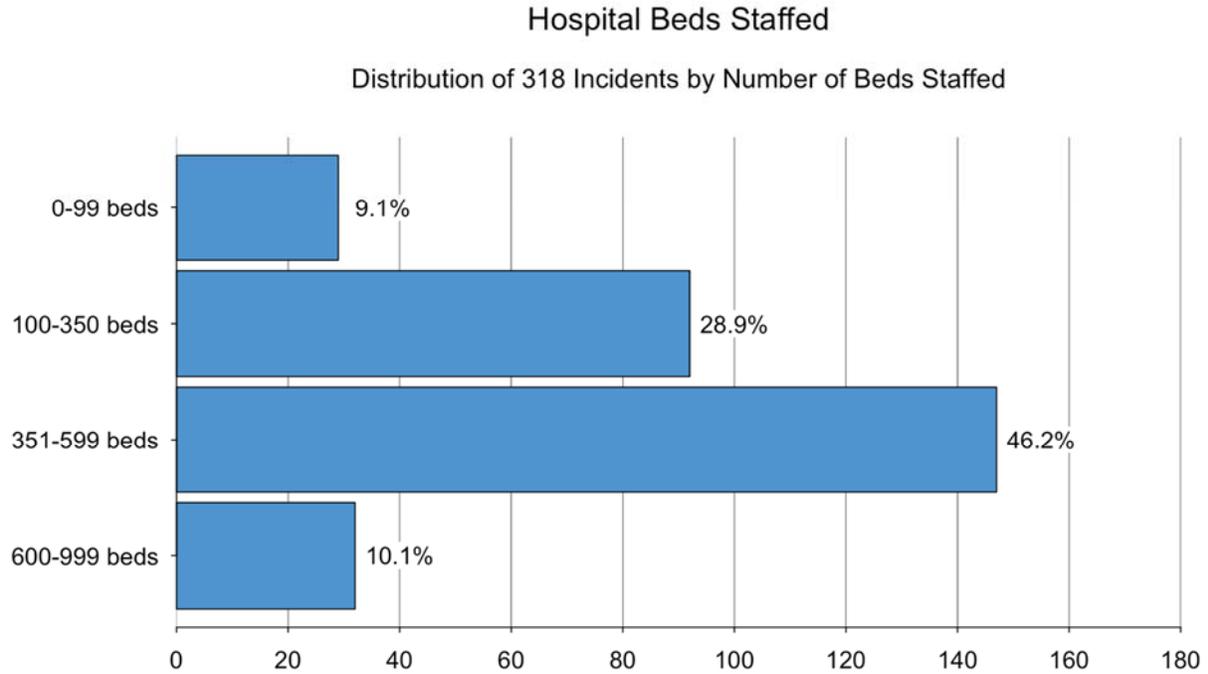


Figure 1

Nurse Characteristics

Nurse’s Gender:

Figure 2 reflects the gender of the nurses involved in the practice breakdown.

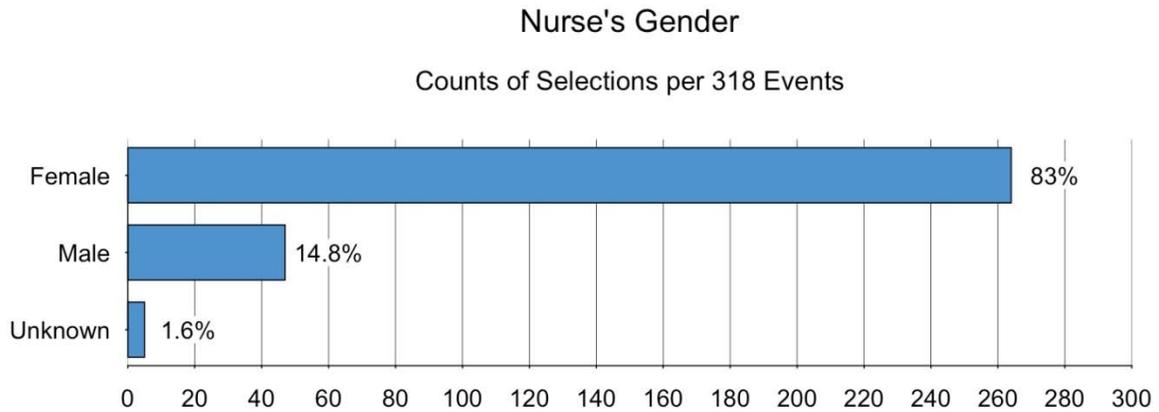


Figure 2

Year of the Nurse's Initial Licensure:

Figure 3 reflects the largest group of nurses involved in nursing practice breakdown was initially licensed between the years 2000 and 2009.

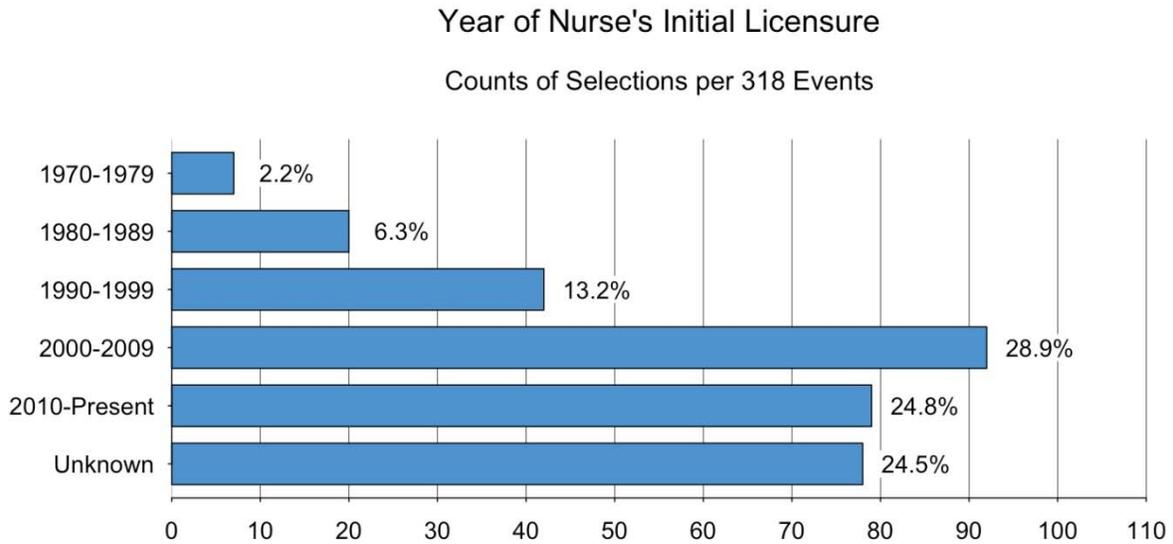


Figure 3

Professional Work History Characteristics

Length of time in Patient Care Area:

Figure 4 shows that 30.8% of nurses involved in nursing practice breakdown had worked in the location/unit/department where the practice breakdown occurred for more than 5 years.

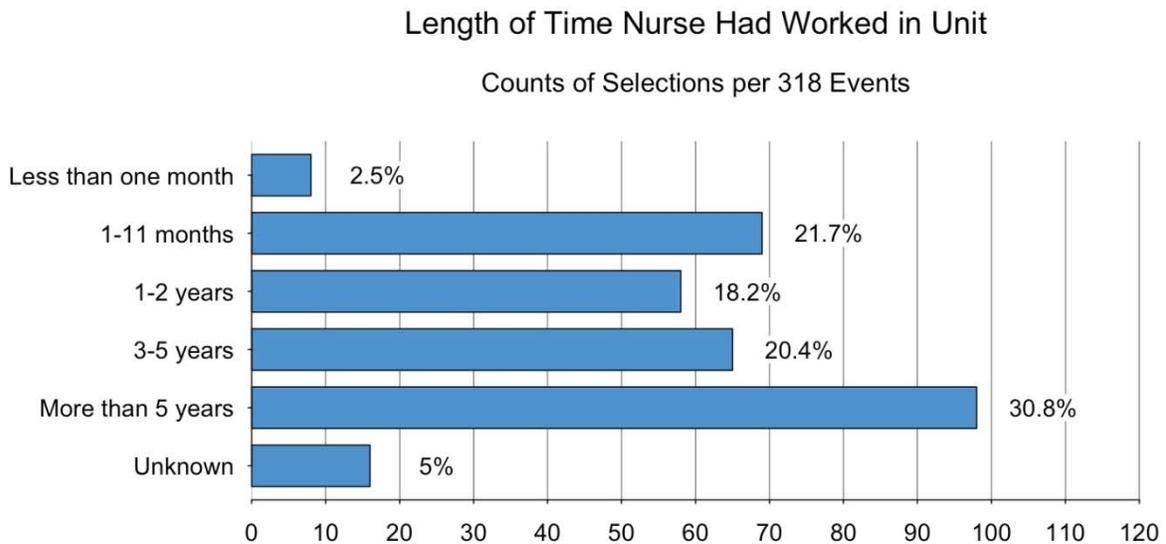


Figure 4

Working in a Temporary Capacity:

Figure 5 reflects that the majority (86.8%) of the nurses involved in NPB did not work in a temporary capacity.

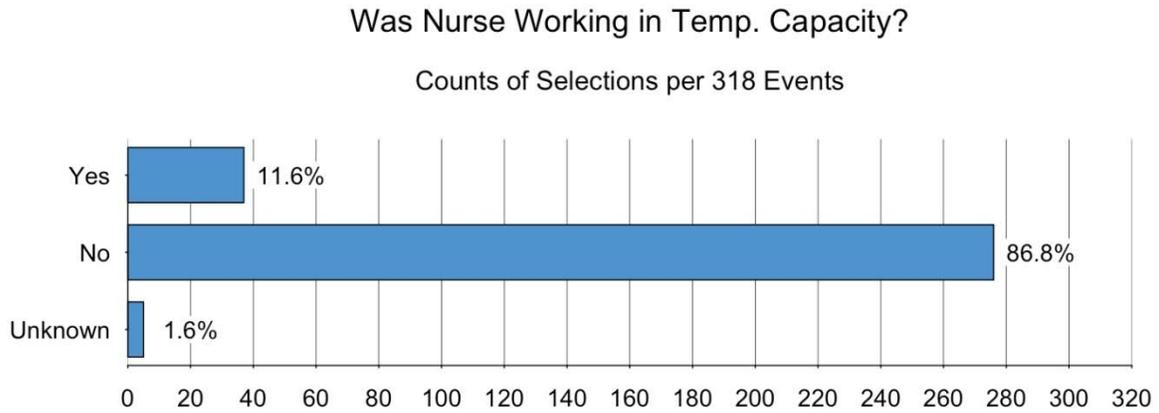


Figure 5

History and/or Pattern of Nursing Practice Breakdown:

Figure 6 reveals that the majority (75.5%) of the nurses involved in the nursing practice breakdown event did not have a history and/or pattern of nursing practice breakdown.

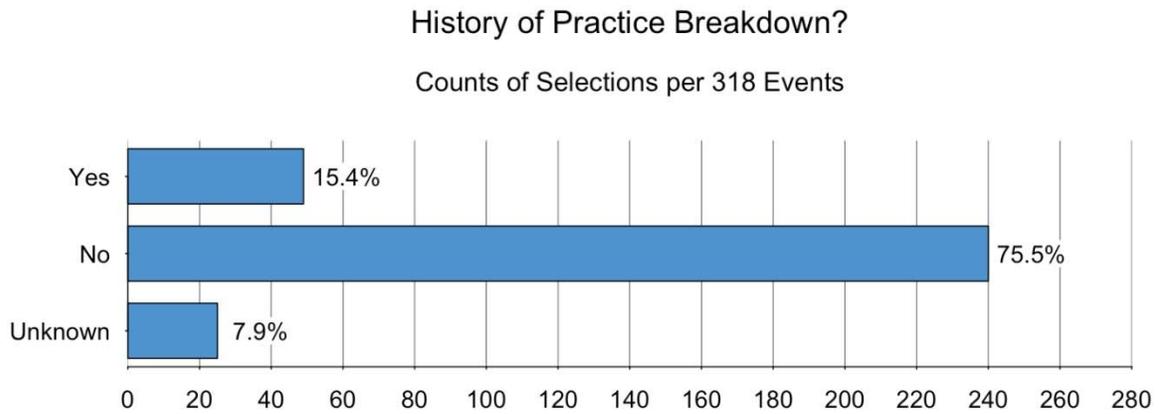


Figure 6

Employment Outcome as a Result of the Nursing Practice Breakdown:

Figure 7 demonstrates that 89.3% of employers retained the nurse after the nursing practice breakdown incident.

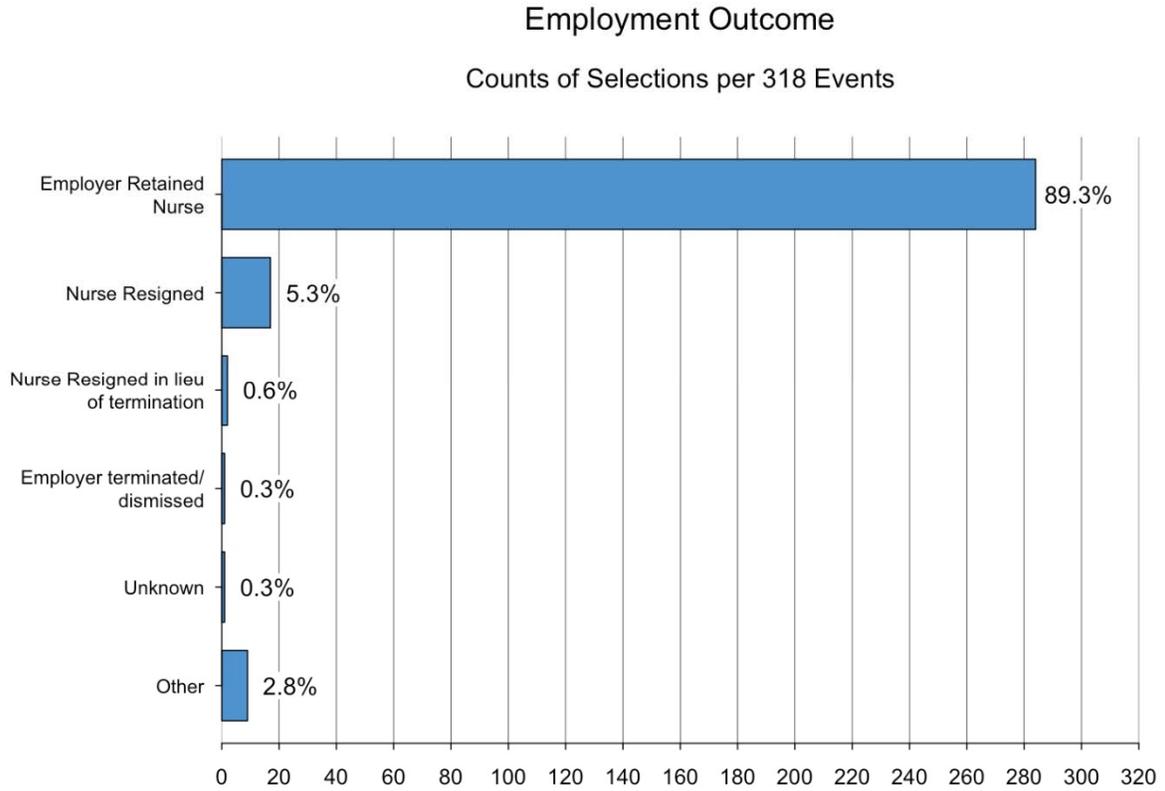


Figure 7

Patient Outcome from the NPB

Harm Level:

Figure 8 reflects that the majority of NPB events did not harm the patient.

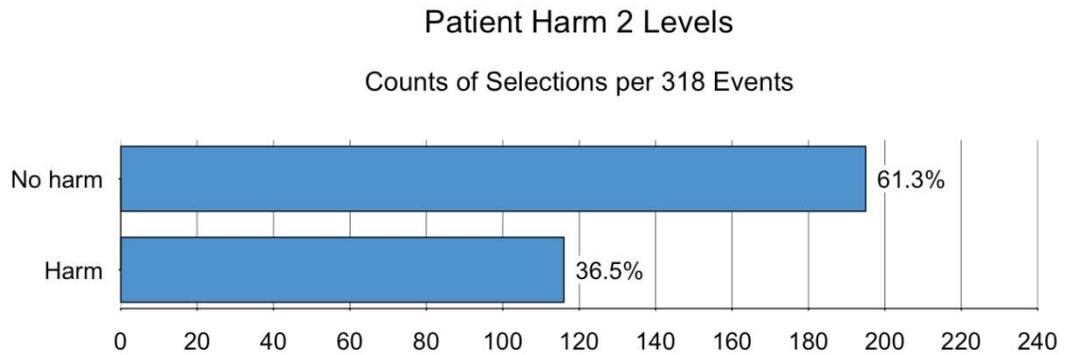


Figure 8

Intentional Misconduct by the Nurse

Intentional Misconduct Subject to Reporting:

Figure 9 reflects that 90.9% of the events were solely nursing practice breakdown without intentional misconduct or criminal events.

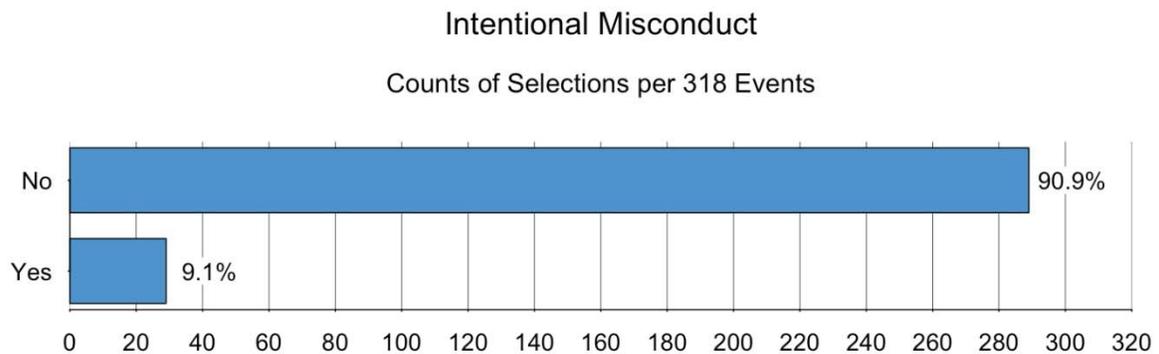


Figure 9

System Factor Trends

Contributing System Factor Counts:

System Issues includes those factors found in the workplace that impact the actual work environment of nurses involved in nursing practice breakdown. Participants were asked to select items from various system factor categories perceived to contribute to the NPB event. Examples of these categories are *Communication System* and *Leadership* as listed in **Figure 10**. Each of the system factors categories listed in **Figure 10** reflect the percentage of events in which each broad category of system factors contributed to the NPB. These categories represent the aggregate of more detailed subcategories selected by the participants. Of interest to this study was the frequency by which the category *Other Team Members* was selected. Consequently, a detailed analysis of this contributing system factor was conducted and is presented in **Figure 11**.

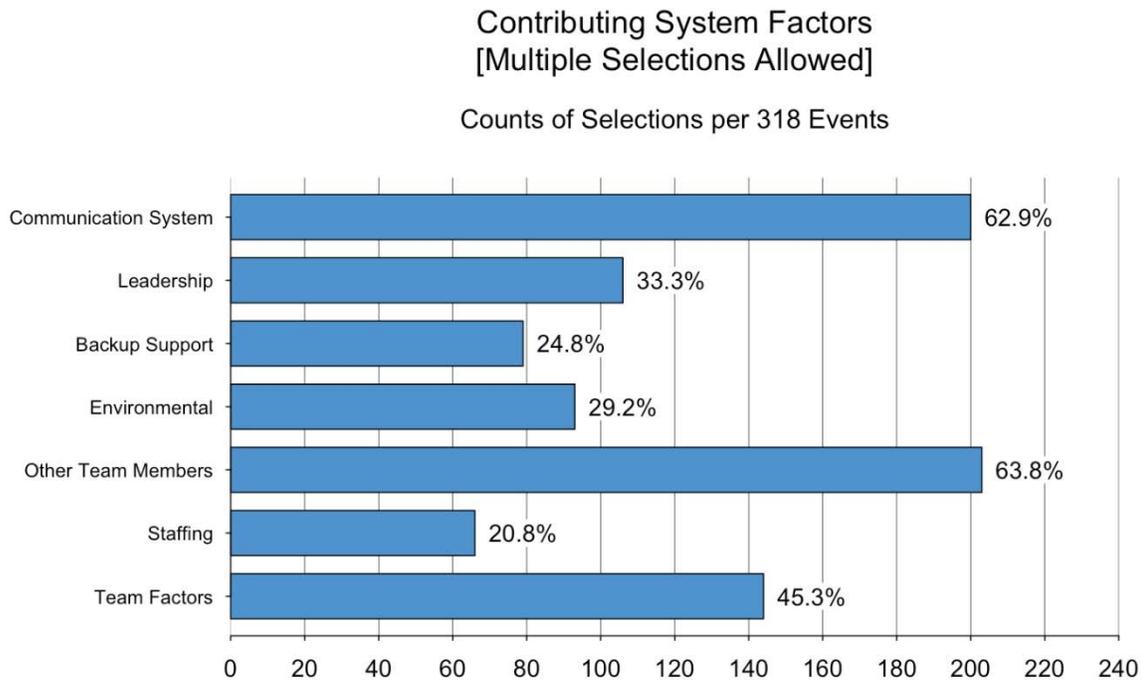


Figure 10

Other Health Care Team Members Involved in the Nursing Practice Breakdown:
Figure 11 reflects the frequencies of other health team members also involved in the nursing practice breakdown.

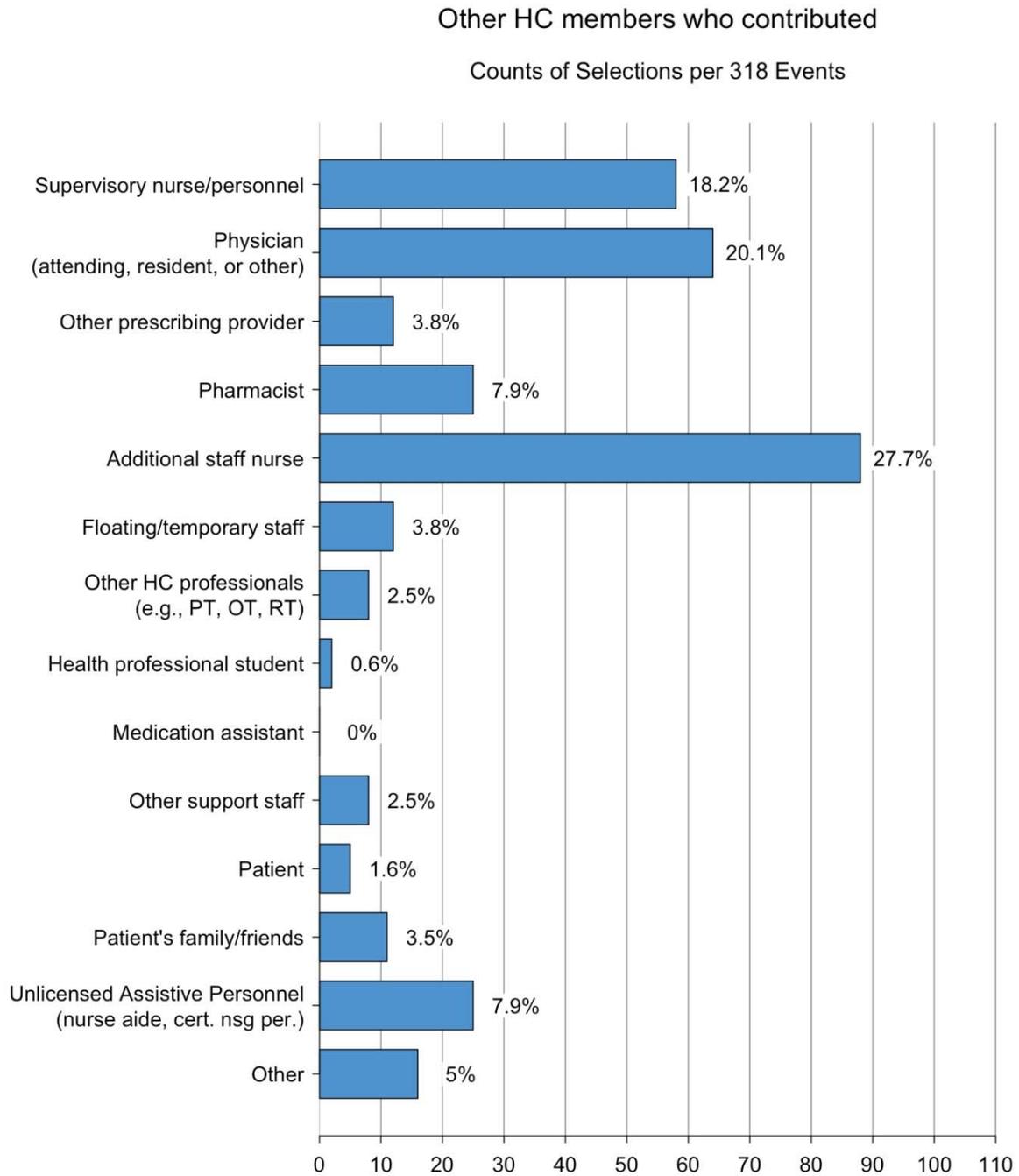


Figure 11

Details of Chi Square Analysis

System Factors Compared to the Level of Patient Harm:

In addition to an evaluation of the frequencies of the different types of System Factors that contributed to NPB, the level of Patient Harm related to each of the System Factor categories was explored. To do this, a Chi Square Analysis was conducted for each group of System Factor categories. A Chi Square Analysis attempts to determine if there is any difference between groups. In the case of this study, the System Factor groups such as *Communication* and *Leadership* were explored for whether or not there was harm to the patient associated with the event. For example, Chi Square asks, “Was there any difference between the number of *Communication* events that were said to cause harm to the patient versus the number of *Leadership* events that were said to cause harm to the patient?”

To answer this question, the rates of *Harm* versus *No Harm* for each System Factor are shown in **Figure 12**. The results of the Chi Square analysis were not significant based on a Chi Square p -value of 0.906. In other words, there was no difference between the categories of System Factors (only p values less than 0.05 are considered significant). The p value indicated that regardless of the number of events that occurred in each System Factor category, the proportion of events associated with *Harm* versus *No Harm* did not vary per category.

As outlined in **Figure 11**, the category *Other Team Members* was frequently selected as being a factor in an individual nurse’s NPB. A chi square analysis was conducted to evaluate trends related to levels of harm for each personnel type involved in the nursing practice breakdown event. **Figure 13** represents the differences between the proportions of *Harm* versus *No Harm* as grouped by the type of personnel involved. Although the results indicate there is no statistical difference among the personnel groups for *Harm* versus *No Harm*, the individual results are of interest. It appears from the bar graphs, that the *Additional Nurse* events illustrate a greater proportion of harm to patients as compared to the other categories of personnel. Though not significant statistically, it bears future consideration.

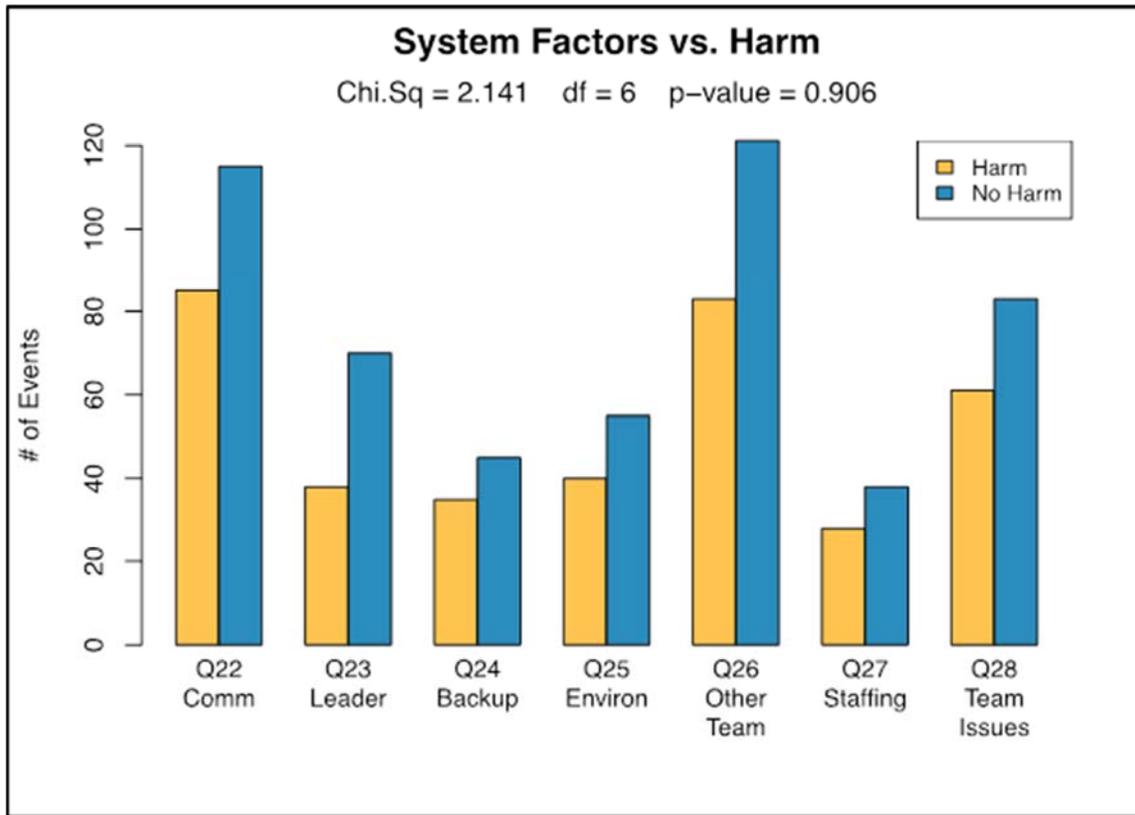


Figure 12

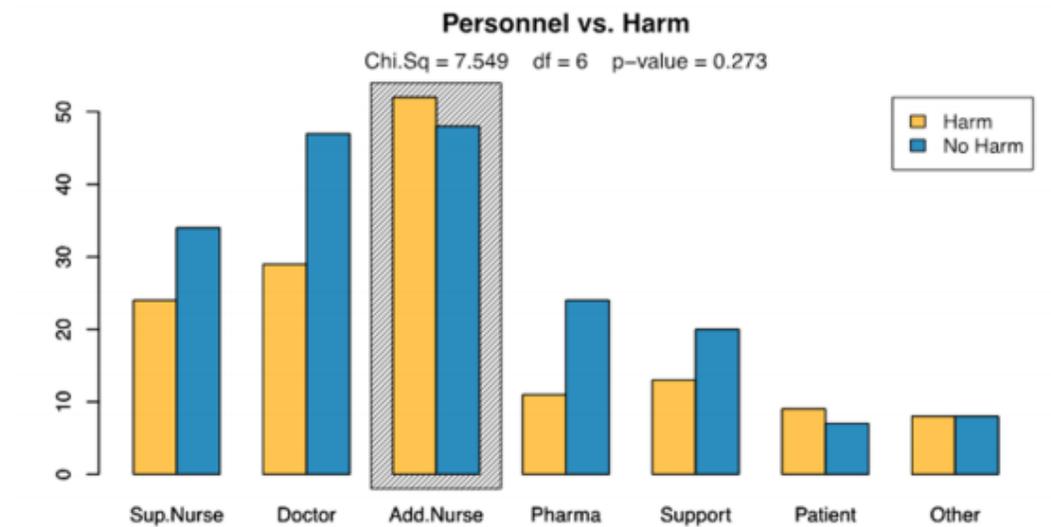


Figure 13

Nursing Practice Breakdown Categories

Participants could categorize the nursing practice breakdown into eight categories. Medication errors and issues with documentation of nursing care are two nursing practice breakdown categories that are separately reviewed.

Medication Errors:

Figure 14 reflects that the majority (60.4%) of the events did not involve a medication error.

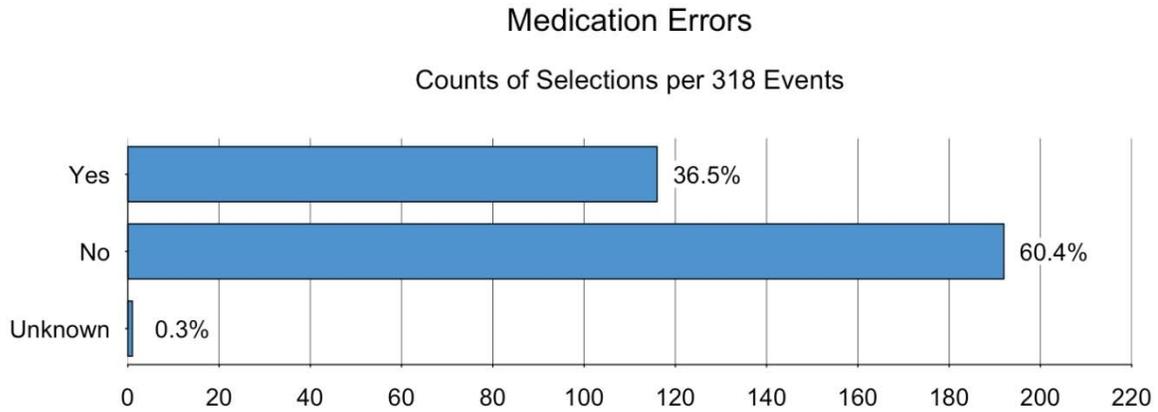


Figure 14

Documentation Errors:

Figure 15 shows the majority (57.5%) of the NPB events did not involve documentation errors.

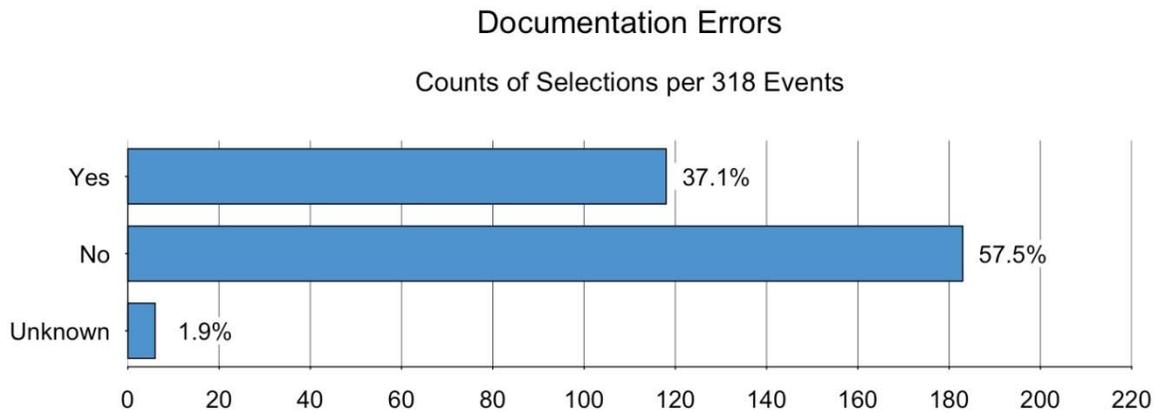


Figure 15

Type of Documentation Error:

Figure 16 shows that when there was a documentation error, incomplete or lack of charting was the most frequent type of documentation error (61%).

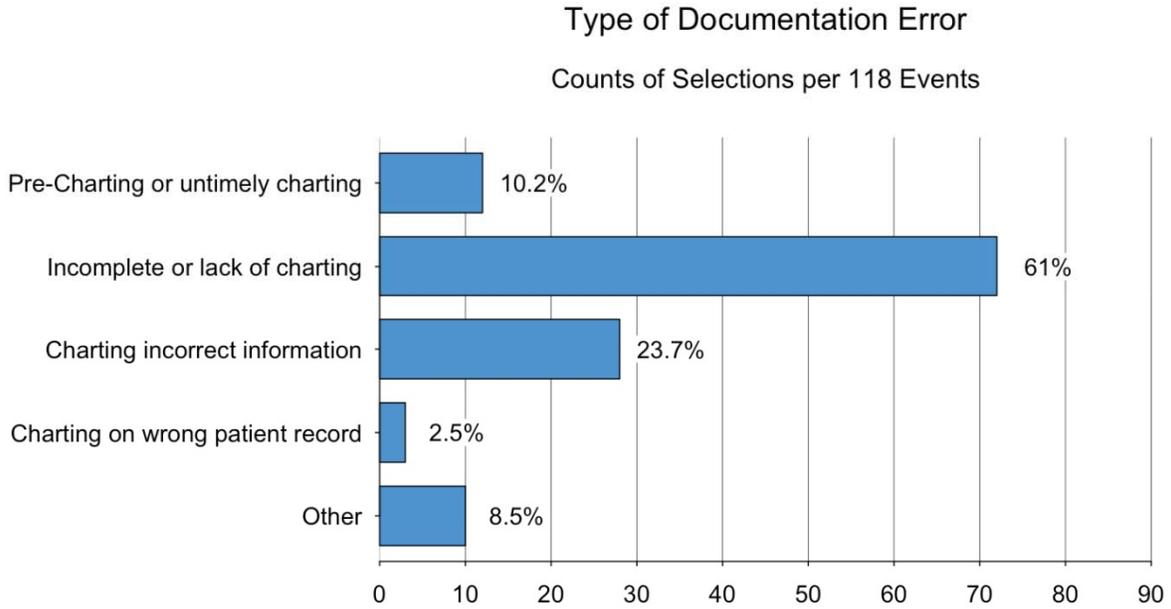


Figure 16

Documentation Errors Leading to the Nursing Practice Breakdown:

Figure 17 reflects the percentage of the documentation errors that led to the NPB (40.7%).

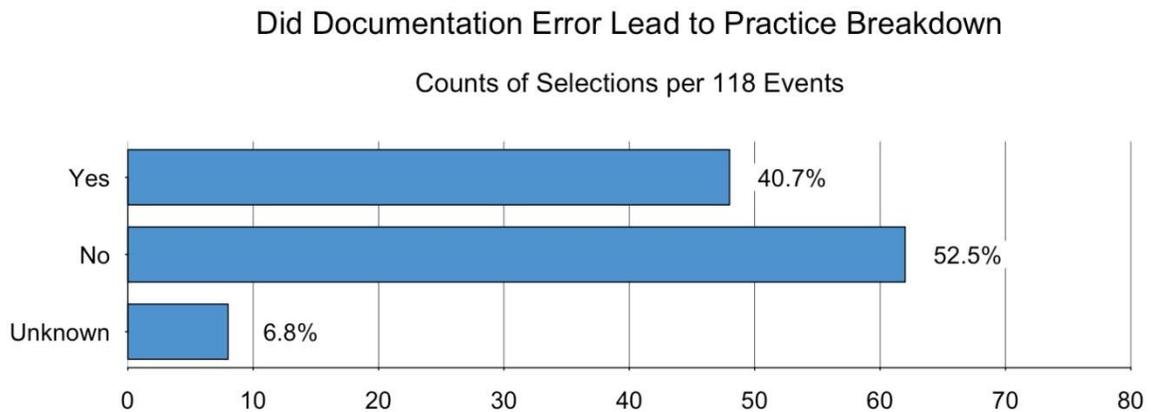


Figure 17

Nursing Practice Breakdown Frequency Counts:

Figure 18 outlines the number of times each NPB category was selected by the participant. Of interest is that the categories *Clinical Reasoning* and *Professional Responsibility* are also the most frequently selected practice breakdown categories being involved in the event.

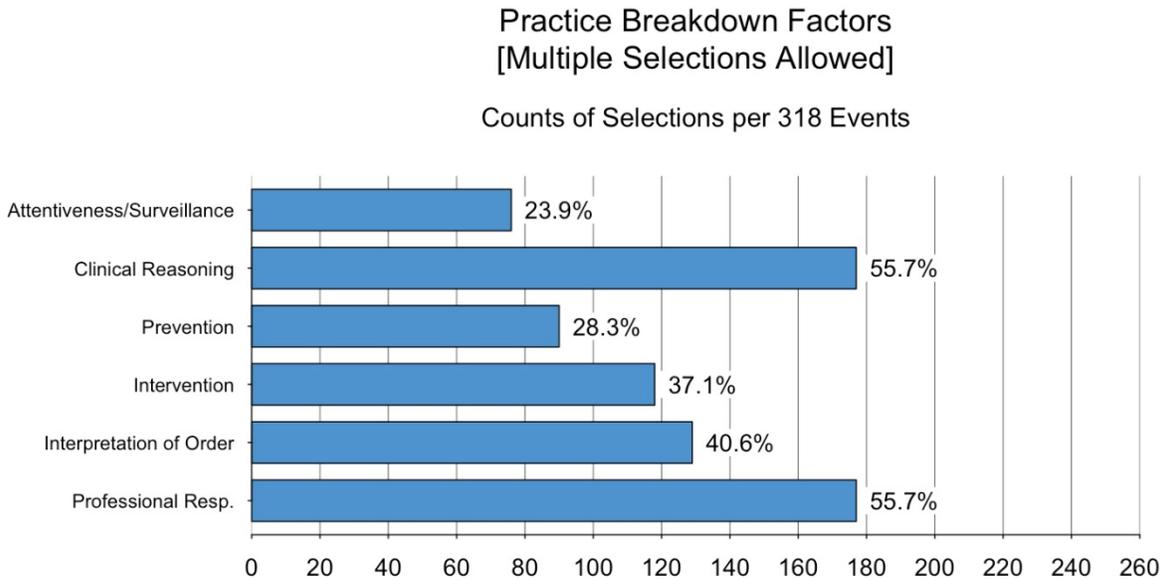


Figure 18

Most Significant Nursing Practice Breakdown:

Figure 19 reflects the participants' selection of the breakdown category that was the "most significant" or primary cause for the NPB event. *Clinical Reasoning* and *Professional Responsibility* were selected as the most significant.

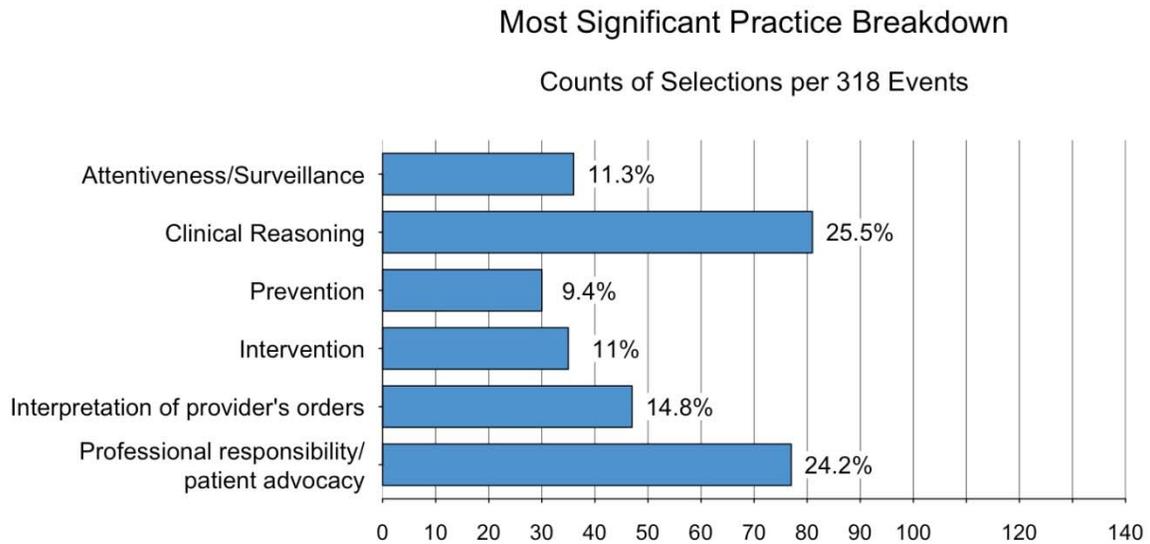


Figure 19

Types of Nursing Practice Breakdown Compared to the Level of Patient Harm:

In addition to comparing the level of patient harm to the different system factors outlined in **Figure 12**, the level of patient harm related to each category of practice breakdown was also explored. In the summary of the Key Nursing Practice Breakdown Survey Items Chi Square analysis outlined in Table 1, it appears that two factors begin to have significance; *Clinical Reasoning* and *Intervention* tend to be associated with harm, more so than the other NPB categories.

Table 1

Summary of Chi Square Results for Key Practice Breakdown Survey Items

Survey Item	Chi Square Value	P Value (df=1)	N	Phi Effect Size ^{1 2}	Power ³
Q30 Med	0.023	0.879	295	0.016 very small	0.06
Q33 Doc	3.439	0.064	288	0.117 small	0.51
Q36 Atten	0.709	0.400	261	-0.064 very small	0.19
Q37 Clin Reason	10.286	0.001	275	-0.201 small-medium	0.92
Q38 Prev	5.816	0.016	285	-0.151 small	0.72
Q39 Interv	9.986	0.002	290	-0.193 small-medium	0.91
Q40 Auth Prov Order	1.046	0.307	279	0.069 very small	0.21
Q41 Prof Resp	2.889	0.089	282	-0.109 small	0.45

¹ Cohen (1988) suggested an effect size criteria of .10 for small, .3 for medium and .5 for large.

² Negative effect size is reflective of Harm count that is higher than “Expected” count

³ Cohen (1988) suggested that statistical Power (generalizability of a given study findings) of .70 is appropriate in behavioral research

Employer Remediation

Employer Remediation for the Nurse:

Figure 20 reflects the types of actions an employer utilized to remediate the nurse involved in the NPB.

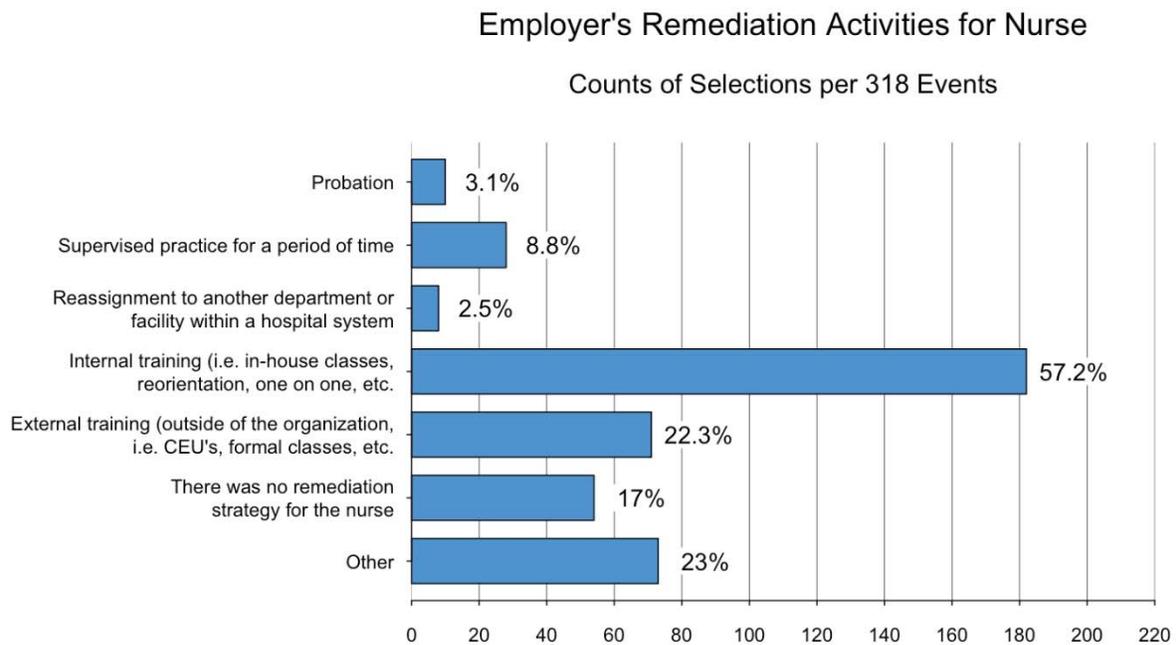


Figure 20

The participants were able to enter text related to the *Other* remediation strategy. The free text from the *Other* category showed that employers engaged in variety of remediation activities for these nurses involved in the NPB. Some examples follow.

- Followed an internal disciplinary process including counseling, suspension, reassignment, and various types of monitoring of the nurses practice such as audits or mentoring (25 entries out of 74 clearly indicated these types of actions).
- Additional remediation strategies including developing and/or delivery of presentation, in-service, paper or poster (21 entries of the 74 written responses).
- In a few instances, the nurse involved in the NPB self-remediated (5 of the 74 text entry responses were clearly self-remediation).
- System improvement efforts, such as having the nurse involved with standard or policy development/revision or working on or with the patient safety team (4 entries out of 74 indicated nurse involvement with these activities; an additional 4 entries indicated “policy review” without clearly indicating the reviewed nurse’s role).

Discussion

The four-year pilot project provided the Board with invaluable information regarding nursing practice breakdown. Key findings include the:

1. Identification of nurse, system and nursing practice breakdown factors
2. Evidence of the successful implementation of a common language between a board of nursing and the practice environment to review and discuss NPBD as well as the system's contribution to the breakdown event
3. identification of issues regarding PRCs' understanding of nursing practice breakdown events included in the Board's mandatory reporting requirements versus those events which may be considered a minor incident and internally remediated
4. importance of established and functional nursing peer review committee to ensure a balanced and comprehensive review of nursing practice breakdown

Further explanation of each finding from the pilot is described below.

1. Identification of Nurse, System and Nursing Practice Break Down Factors

Demographics and Professional Work History

Demographics and personal characteristics of nurses involved in NPB events have been studied extensively (National Council of State Boards of Nursing, 2009a; National Council of State Boards of Nursing, 2009c; Smiley & McCarthy, 2016; Zhong & Thomas, 2012).

Although some trends in gender and work history were found within the literature review, predictive studies have not been noted. Similarly, the pilot evaluated gender and/or work history associated with NPB and found no statistically significant relationship between these variables as indicated by the Chi Square analysis of these variables.

The Texas TERCAP Pilot data indicated that 75.5% of the nurses in the study did not have a history or pattern of NPB and that 89.3% were retained by their employer after the event. As data from the TERCAP Pilot Study involved NPB that was reviewed by a NPRC and deemed not reportable to the BON, the NPB incidents are largely reflective of the less serious nature of the NPB event. Of interest is the very large percentage of employers who retained the nurse after the NPB. Why employers did or did not retain nurses after nursing practice breakdown events was not an objective of this study. Future studies to understand employer retention of nurses with nursing practice breakdown may be of benefit.

Level of Harm

Just over one third (36.5%) of the NPB in the pilot resulted in harm to the patient. As the pilot's events involved minor incidents reviewed by NPRC, it was anticipated that the level of harm

would be less than error events that are required to be reported to the Board because reporting to the Board involves error events that contribute to serious injury or death of a patient (Nursing Practice Act, TOC §301.401(1)(A)). Consequently, the pilot data was compared with the national TERCAP© data base comprised of NPB events resulting in an order with the Texas Board. NPB events in the latter sample reflected that 62% of the events resulted in harm to the patient supporting the assumption that the Board ordered cases reflect the more serious nature of the NPB events.

Intentional Misconduct Subject to Reporting

Intentional misconduct involves behaviors that fall outside of nursing practice breakdown and includes deliberate acts. The data reflects that 90.9% of the events were solely practice breakdown without intentional misconduct or criminal behavior. Of the 9.2% that did involve intentional misconduct, a little over half indicated that there were some deliberate changes in documentation or covering up of errors. There also may have been an issue with the clarity of the item in the instrument seeking this information as there were written comments in the comment section that did not consistently reflect whether or not these events were intentional.

System Factors Trends

System Issues includes those factors found in the workplace that impact the actual work environment of nurses involved in nursing practice breakdown. System factors that contributed to nursing practice breakdown events were grouped into seven broad categories of workplace characteristics. The categories most frequently selected by the participants as contributing to the nursing practice breakdown event include *Communication Systems*, *Other Team Members* and *Team Factors*. This finding emphasizes the importance of a workplace culture where team members have well established, collaborative processes to ensure expedient and open communication amongst all the members.

Did any particular category of the Systems Factors differ in the rate of harm to the patient? The chi square analysis outlined in **Figure 13**, indicate that the category of *Additional Staff Nurse* had elevated rates of harm as compared to other team members. Did the presence of an additional staff nurse significantly impact the rate of harm? Results indicate that though the *Additional Staff Nurse* category was not statistically different from the others, there was a greater level of difference in the rates of harm in that category than was comparatively expected. One might also consider that events with additional staff nurses tend to involve more complex care delivery situations and, thereby more opportunities for potential harm to the patient. However, these results may be influenced by the sample size and suggest the need for further study.

Employer Remediation as an Outcome of Peer Review

Based on the text entry responses related to the employer's remediation of the nurse, in some cases the NPRC identified factors beyond the nurse's control and suggested the nurse help develop system wide processes to improve nursing practice within the employment setting.

As indicated earlier in the report, the vast majority of employers retained nurses involved in nursing practice breakdown that were reported in the Texas TERCAP Pilot. Remediation as a mechanism to address deficits in nursing practice and system operations is a critical component in the delivery of safe patient care. The data reflected that training for the nurse involved in the NPB was the most frequent type of remediation utilizing both internal and external sources. There were also comments from the participants indicating that the nurse received counseling by management and/or the Human Resources Department inclusive of verbal and written workplace discipline.

Participants were also requested to describe any system changes that were made after the incident. Changes to the system included:

- a revision to the blood policy/procedure
- unit-wide education
- the development of float guidelines
- all staff involved in the incident developing pertinent policies and educational updates
- the establishment a unit specific safety committee
- implementation of a standard work flow
- developing a "time out" procedure prior to extubating the patient
- a review of staffing effectiveness

Though not feasible for this study, it would be of interest to ascertain if the types of remedial strategies outlined for nurses and the organization were successful in mitigating NPB events.

Nursing Practice Breakdown Trends

Types of Nursing Practice Breakdown

The NCSBN's national TERCAP© classification of nursing errors was created within the context of commonly accepted nursing practice standards. The distinct categories were developed with the acknowledgment that nursing practice is complex, and errors are often not isolated events and may occur in conjunction with other types of breakdown (National Council of State Boards of Nursing, 2009b). However, the types of nursing practice breakdown, though inter-related, still provide a comparable framework for differentiating nursing practice error events.

Medication administration and documentation of nursing care comprise much of the work of nurses. Somewhat surprisingly, the majority of NPB events in the Texas Pilot Project did not involve the administration of medication nor an error in documentation. This finding may reflect the preponderance of other types of NPB in the work environment that are not visible until highlighted by an instrument such as the TERCAP. Or it could be that medication and

documentation errors in themselves do not rise to the level of an incident needing review by a NPRC. If a documentation error was involved in the NPB, the most frequently selected type of documentation error was incomplete or lack of charting.

The other six NPB categories also reflect aspects of nursing practice inherent in safe care practices. The TERCAP instrument required the participants to consider which NPB category was the most relevant and was identified as the most direct cause of the nursing practice breakdown event. The NPB categories most often selected and deemed “most significant” by the participants were *Clinical Reasoning* and *Professional Responsibility*. The category *Clinical Reasoning* relates to the importance of perceptual acuity and the ability to determine the appropriate course of action for the patient including adjustment and titration of therapies (National Council of State Boards of Nursing, 2009b). The category of *Professional Responsibility* relates to the understanding of the nature of the nurse-patient relationship which centers on advocacy and protection of vulnerable patients and their families (National Council of State Boards of Nursing, 2009b). Together, the categories *Clinical Reasoning* and *Professional Responsibility* broadly affect all nursing standards, leading to a more global perspective of NPB that could lead to an error event. Staff questioned the possibility that these two categories were more frequently selected due to all of the events undergoing a formal peer review process utilizing the Board’s Nursing Peer Review Rules that contain clear direction on both the nurse’s duty to a patient and compliance with the standards of practice. More research is needed to evaluate this supposition.

The frequency of the identification of a breakdown in these two categories raised questions during the pilot about the statistical significance of the observed data. For instance, were the frequencies of these data points somehow associated with higher rates of the occurrence of patient harm? The Chi Square Analysis indicated that the rate of patient harm was not the same for all the nursing practice breakdown categories. In other words, there were statistically significant differences between the types of practice breakdown categories indicating that some categories could result in greater rates of harm than others. The two nursing practice breakdown categories *Clinical Reasoning* and *Intervention* were associated with higher rates of patient harm.

These findings are of interest. It has been noted that a breakdown in a nurse’s clinical reasoning, where the discernment of the appropriate course of action is not realized, and a breakdown in intervention, where the prioritized course of action/s is not implemented often overlap in patient care (National Council of State Boards of Nursing, 2009b). This overlap exhibits the complexities of nursing practice, especially when there is potential for higher rates of patient harm. Further studies would need to be conducted to determine the relationship between these two variables and their impact on patient harm.

One NPB category that was persistent throughout much of the data analysis was *Clinical Reasoning*. This category was most often selected as “the most significant” category, deemed “most significant” by participants, and was associated with higher rates of patient harm. The impact of this category could be associated with clinical reasoning requiring the nurse to

continuously interpret changes in the patient's condition and response to therapies (National Council of State Boards of Nursing, 2009b). The attributes of this category have an underlying tone that is perpetual in nature. It is possible that the enduring quality of this category revolves around its foundation in the nursing process and lends to its significance and association to higher rates of harm.

2. Establishment of a Common Language for Nursing Practice Break Down

The TERCAP methodology provided NPRCs with a template and standardized language for assessing and evaluating NPB. Participants were surveyed about their satisfaction with the pilot. Responses indicated a very positive view of the instrument for assisting in the evaluation of nursing practice breakdown. Eighty percent indicated they were satisfied with the project and of this percentage, 57% were very satisfied. Ninety percent indicated that the pilot had helped or had the potential to help with the resolution and mitigation of nursing practice breakdown. This positive response was also reflected through ongoing conversations with the participants. Common statements included: "love the instrument"; "provides structure and supports the evaluation of practice breakdown"; and "promotes open discussion of practice breakdown." One observer said that with the implementation of the Texas TERCAP Pilot, there was much more discussion and activity around nursing practice breakdown and "allowed for consistency and transparency" in the nursing peer review process.

3. Identification of Issues Regarding Board Reporting versus Internal Remediation of Nursing Practice Break Down

During the first phase of the pilot, an incidental finding occurred when staff realized that some of the error events entered into the pilot had contributed to significant patient harm or death, meeting the requirement for conduct subject to reporting to the Board (Nursing Practice Act, TOC §301.401(1)(A)). As the pilot was designed to collect nursing practice breakdown events that were not reportable to the Board, this finding was of concern. Staff reviewed the instrument and protocol and determined that the wording may not have been clear to the participants. Revisions to promote clarity were made to the instrument and protocol. In addition, a webinar was conducted with the participants to review the Nursing Practice Act and Board's rules related to reporting certain conduct and to discuss the changes made to the instrument that clarify the reporting issue. Even after these clarifications, nursing practice breakdown events, involving significant harm or death, continued to be entered into the database.

Subsequently, staff, adhering to confidentiality requirements, contacted some participants to ascertain the rationale for entering the event into the pilot. When discussions took place about the details of the event, some participants clarified that the outcome they entered as *Significant Harm* or *Death* was the ultimate outcome for the patient rather than the result of the nursing practice breakdown. Other comments indicated the inability of the participants to determine the actual outcome for the patient involved in the nursing practice breakdown. Staff also spoke to one participant who was very familiar with the Board's rule on minor incidents but misunderstood the intent of the rules. Upon review of the rule, staff noted issues with formatting

and word choice in 22 TAC §217.16, *Reporting of Minor Incidents* that may have led to confusion about the NPB events required to be reported for review by the Board. Consequently, this issue was brought to the Board who called for a review of the rule by the Nursing Practice Advisory Committee.

To support NPRC in their evaluation of NPB and referrals to the Board, staff also developed a reporting form based on the TERCAP instrument and placed it on the Board's website.

As noted, there was frequent correspondence with participants throughout the pilot. In addition to the initial lack of clarity in the instrument, there were also other issues that were raised by the participants. The following is an overview of some of the comments regarding the nursing peer review process.

- Some participants had a lack of knowledge of the Board's reporting requirements.
- Beyond questioning what nursing practice breakdown events should be reported to the Board, some participants also voiced an uncertainty about what should be reported to the nursing peer review committee
- The lack of a well-established and tenured chair appeared to impact the functionality of the nursing peer review process
- Several participants indicated that there was under-reporting in their institution
- One participant indicated that during the nursing peer review process, nurses on the NPRC put themselves in the nurse's shoes so they did not want to report a nurse to the Board
- One participant indicated that if the NPRC felt that a nurse was "a good nurse" they shouldn't be reported to the Board

These observations may reflect common issues found in nursing workplace environments such as:

- the complexity inherent in evaluating nursing practice breakdown
- organizational cultures that do not fully embrace the objective reporting and review of nursing practice breakdown
- not prioritizing the nursing peer review process to ensure that appropriate training, oversight and evaluation is ongoing and
- the lack of knowledge and training about the Board's Nursing Peer Review rules and mandatory reporting requirements

4. Importance of the Role of an Established and Functional Nursing Peer Review Committee

Nursing peer review is a mechanism to review the NPB in close time proximity to the event. NPRCs are in a unique position to evaluate the conduct of a nurse and examine the influence of factors that are beyond the nurse's control, commonly known as system issues (Nursing Practice Act, TOC §303.011).

When reviewing the nurse's conduct, the NPRC is responsible to determine if there is a deficiency in the nurse's practice, if there is a pattern of practice breakdown, and whether the conduct of the nurse was a minor incident and can be remediated internally or should be reported to the Board for further investigation of the incident/s (22 TAC §217.19(i)).

If the NPRC uncovers factors beyond the nurse's control, they are required to communicate these to a patient safety committee to improve nursing practice within the facility. This provides potentially greater insight into the identification of system factors that impact the nurse's practice and are beyond the nurse's control with the ability to make adjustments to those factors at the facility level thereby preventing further breakdown and improving patient safety.

Participation in the pilot was very dependent on existing nursing peer review processes. These processes varied by hospital with some of the large multi-system organizations having very standardized and structured processes in their nursing peer review approach across the system while other large systems delegated the process to individual hospitals. In talking with participants, organizations with standardized processes appeared to have a more fully integrated approach to the evaluation of NPB.

Many participants indicated that the pilot had strengthened their nursing peer review processes. Several communicated to Board staff that they used the TERCAP instrument for fact finding and investigations. Some participants used the instrument during the nursing peer review hearing with committee members utilizing the instrument to evaluate the event. One participant indicated that their nursing peer review committee had changed from simply an ad-hoc committee that only met to evaluate individual nursing practice to a committee where members were well trained, met regularly to discuss quality issues related to nursing practice, and focused on the prevention of nursing practice breakdown.

Conclusion

The pilot provided opportunities for the Board to engage in a shared review of nursing practice breakdown with nurses actively involved in promoting safe patient care in their organizations. As the vast majority of pilot participants appeared to be strongly motivated to learn more about nursing practice breakdown and complying with the Board's rules and regulations, the Board's initiatives were geared to providing several avenues for sharing data, best practices and problem solving. The data collected through the TERCAP online data base, though limited, provides a framework for future research and study. Of equal importance are the pilot findings that identify areas to implement more immediate action.

Organizational Recommendations

Organizations that employ eight or more nurses, are required by law to have a NPRC in place (Nursing Practice Act, TOC §303.0015). Nursing leaders should develop organizational policies to verify compliance with Board rules in addition to ensuring that NPRC are fully functional. The nursing peer review chair and committee members must be adequately trained to effectively

evaluate all of the possible contributions to nursing practice breakdown including individual nurse and system factors.

Utilizing the Nursing Practice Breakdown Categories as a taxonomy to evaluate the types of error events could provide a template for developing specific strategies to mitigate the occurrence of defined types of nursing errors. Though there are many available taxonomies that provide a system perspective for analysis, participants in the pilot indicated that the System Section in the TERCAP instrument was very helpful.

As a method to improve performance and promote patient safety, the importance of data collection and evaluation cannot be overstated. It is likely that all large healthcare organizations have their own method for conducting this analysis however, it may be that the TERCAP instrument can provide more of a “drill down” approach when evaluating nursing practice breakdown.

Board Follow-up

The Board also has plans to address findings from the pilot. At their January, 2018 meeting, the Board adopted revisions to the *22 TAC §217.16, Reporting of Minor Incidents* based on information gleaned from the TERCAP Pilot. As a tool for reviewing nursing practice breakdown, the revisions provide further clarification and guidance to nurses and nurse managers on how to discern an incident that may be remediated by the employer as compared to those that require a review by the Board.

A revised version of the TERCAP methodology, aligning with Texas Statute and Board rules, will be made available to all Texas Nursing Peer Review Committees. To facilitate this endeavor, the Board is undertaking several activities including:

- implementation of an updated TERCAP website to provide general information about TERCAP as well as related links to national and state resources
- development of a webinar to share important information from the pilot
- revision of the TERCAP Instrument and Protocol for utilization by nursing peer review committees. Educational opportunities, including an enduring webinar, will be available to provide direction and guidance on how to utilize these tools in implementing the TERCAP methodology.

Limitations

There are some limitations to the Texas TERCAP Pilot Project. For example, the sample may be considered biased in that, the majority of participating hospitals were metro or urban hospitals and participants volunteered to be a part of the study. In addition, the total sample size of 318 events limited the types of analyses. For example, having five or six answers for a given question response yielded small cell sizes, limiting the statistical analysis options.

Some additional challenges throughout the four-year pilot included the turnover in staff at participating facilities and the reported investment of time to train staff as well as enter data into the online database.

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Author Information

Mary Beth Thomas PhD, RN, FAAN

Mary Beth Thomas is an independent consultant providing expertise and support to government and private entities pertaining to the complex issues in nursing regulation, administration and patient safety. In 2007, she received a PhD from the University of Texas at Austin School of Nursing where she was the co-recipient of the Outstanding Graduate Student Award for her doctoral work in investigating nursing practice errors. She worked for Texas Board of Nursing as the Director of Nursing Practice and Education from 2004 - 2012 where she provided leadership in championing patient safety and strengthening professional competency.

Denise Benbow, MSN, RN

Denise Benbow earned a BSN in 1983 at the University of Florida and a MSN from the University of Phoenix in 2004. She has worked for the Texas Board of Nursing since 2007 and has provided expertise in nursing practice and enforcement cases.

She has practiced direct patient care predominately on a cardiac telemetry floor in various roles including staff nurse, unit educator, and relief charge nurse. She was involved in various teams, committees, and was elected to leadership roles in the shared governance council. She was an adjunct faculty member for associate degree nursing students at Austin Community College for two years. In 2014 she was a member of the Bylaws Committee for the National Council of State Boards of Nursing.

Mari F. Tietze, PhD, RN-BC, FHIMSS

Obtained a BS in Nursing in 1977. Completed a MS in Nursing in 1986 from Kansas University, Kansas City, Kansas. In 2002, was awarded a PhD from the College of Nursing, Texas Woman's University, Denton, Texas. Dissertation focused on the impact of managed care on healthcare delivery practices as perceived by administrators versus clinicians. In 2016, became Professor at Texas Woman's University, College of Nursing, Dallas Center. Is serving a two-year term as Co-Chair of the Texas Nurses Association/Texas Organization of Nurse Executives committee on Health Information Technology. Is Board certified by the American Nurses Credentialing Center in Informatics Nursing. Is FHIMSS Certified by the Health Information Management Systems Society.

Elise McDermott, BS, BSN, RN

Elise McDermott has been a Nursing Consultant for Practice with the Texas Board of Nursing since January 2017, providing expertise to nurses and the public regarding the rules and regulations related to nursing practice through various outlets and educational offerings. In 2006, she obtained a Bachelor of Science in Biomedical Science from Texas A&M University

and attended Texas A&M University- Corpus Christi where she graduated in December 2007 with a Bachelor of Science in Nursing. She has practiced in labor and delivery, the operating room, anesthesia perioperative services, and as a clinical hospital services coordinator, taking on leadership roles throughout the course of her nursing practice.

Kristin K. Benton, DNP, RN

Kristin K. Benton has worked as the Director of Nursing with the Texas Board of Nursing since 2013. In 1993 she earned a Bachelor of Science degree in Psychology from the University of Florida, then a Bachelor of Science in Nursing from Louisiana State University Health Sciences Center School of Nursing in New Orleans, LA in 1996. She completed a Master of Science degree in Nursing from the University of Texas Health Science Center at San Antonio in 2005 and a Doctor of Nursing Practice degree from Texas Tech University Health Sciences Center College of Nursing in 2017. She practiced direct patient care in several areas including medical-surgical, oncology, infectious disease, and emergency nursing. She taught vocational nursing at Austin Community College for 13 years and served on the Texas Board of Nursing from 2008-2012, serving as Board President from 2011-2012. During her Board term, she served four years on the National Council of State Boards of Nursing (NCSBN) NCLEX-Item Review Panel subcommittee and currently serves on the NCSBN Awards committee.