

Texas -Taxonomy of Error Root Cause Analysis of Practice – Responsibility (TERCAP) Pilot Program Report

Summary of Request:

This report is the 3rd review and summary of data from the Texas TERCAP Pilot Program. As such, it provides an interim report on data collected from September 2012 to September 2015. This report also includes a summary of key findings, mid pilot observations and other updates since the last 2014 TERCAP Pilot Report.

Historical Perspective:

In 2011, the 82nd Legislature passed SB 193 allowing the Texas Board of Nursing to adopt a standardized error classification system for utilization by nursing peer review committees. After passage of the bill, a workgroup was formed to advise the Board on implementation of the project. Following instrument, protocol, and data collection survey development, letters inviting participation in the Pilot were sent to hospital systems all across the state followed by training workshops in the summer of 2012 in Austin, Houston and the Dallas/Ft. Worth area. Approximately 163 nurses, representing peer review committees from 52 hospital systems, attended the training workshops. Participants learned how to utilize the Texas TERCAP Protocol and Instrument for practice breakdown incidents reviewed by Peer Review Committees, but not deemed board-reportable.

Data collection through the Texas TERCAP Online Database from participating hospitals began on September 1, 2012 and continues through August 31, 2016.

In order to assist Board Staff with implementation and data analysis, Dr. Mary Beth Thomas and Dr. Mari Tietze were hired to provide consultation on implementation strategies and an analysis of the data to identify any important trends. Dr. Tietze also assisted Board Staff in ensuring the methodologic review of data met appropriate standards for statistical analysis and review. Statisticians Dr. Ben Domingue and Christian Jackson were also hired in June, 2014 to support Board Staff by conducting the statistical analysis of all of the data.

Attachment A contains the mid-Pilot report. Mary Beth Thomas served as lead author for this report with significant contributions from Mari Tietze, Christian Jackson and Board Staff Denise Benbow, Kristin Benton, and Ciara Williamson.

Staff Recommendations:

This report is for information only. Board Staff will continue to keep the Board apprised of ongoing Texas TERCAP Pilot Program activities.

**TERCAP
Taxonomy of Error Root Cause Analysis of Practice-responsibility**

**Texas TERCAP Pilot Project
Report to the Texas Board of Nursing**

January 21, 2016

ABSTRACT

Identifying factors surrounding nursing practice errors, also called 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 is in year three of a four year pilot that allows the Board to receive and compile practice breakdown incidents utilizing a 44 item online instrument from nursing peer review committees in selected Texas hospitals. This Texas TERCAP Pilot Program Report is the 3rd edition and reviews data collected during the pilot as well as summary findings and updates.

Purpose of the Pilot

In 2011, the 82nd Legislature passed SB 193 allowing the Texas Board of Nursing (Board) to adopt a standardized error classification system for utilization by Texas nursing peer review committees. Consequently, the Board implemented a pilot with selected peer review committees from hospitals around the state. The Taxonomy of Error Root Cause Analysis of Practice-responsibility (TERCAP) online instrument was utilized to identify practice issues, including practice breakdown, normally investigated during the peer review process. A practice breakdown is defined broadly as the disruption or absence of any of the aspects of good practice. Often these cases involve errors or near misses.

The pilot allows representatives from participating sites to enter nursing practice breakdown incidents into the TERCAP state-wide online data base. The practice breakdown incidents appropriate for the pilot include cases that a nursing peer review committee has reviewed and determined were not required to be reported to the Board (See *Texas Administrative Code Rule 217.16, Reporting of Minor Incidents*). These cases involve minor incidents which are events that indicate the nurse's continued practice does 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. Peer review cases meeting the following criteria may be included in the Texas TERCAP Pilot Program:

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

Objectives of the Pilot

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

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.

These objectives provide a proactive approach in the assurance of patient safety: an approach the Board believes is important in fulfilling its mission of public protection.

Methods

Background and Recruitment

The pilot program's online data base became functional on September 1, 2012. The online data base collects confidential error events that have been reported to a nursing peer review committee and deemed not reportable to the Board. Analyses presented in this report include cases from the beginning of the pilot in September 2012 to August 31, 2015.

Submission of the practice breakdown cases in the Texas TERCAP Pilot Program is voluntary and confidential. Letters inviting participation in the pilot were distributed to hospitals around the state. Responses were favorable with 163 nurses, representing peer review committees from 52 hospital systems and 92 individual hospitals, who participated in training workshops during the summer of 2012 in Austin, Houston, and the Dallas/Ft. Worth area.

Data Collection and Instrument

Data collection for the Texas TERCAP Pilot Program is through a 44 item online instrument which is based on the National Council of State Boards of Nursing (NCSBN) TERCAP© instrument. The national initiative was developed to provide a method for capturing nursing practice errors reported to boards of nursing. This national online data base is available to all participating boards and provides a standardized approach for analysis and trending.

While the national instrument captures practice breakdown cases that are required to be reported to a board of nursing, the Texas TERCAP Pilot instrument collects practice breakdown cases that are reviewed by nursing peer review committees and determined to be a minor incident as outlined in *Texas Administrative Code Rule 217.16, Reporting of Minor Incidents*, thus deeming the case not reportable to the Board.

The Texas instrument mirrors the national instrument by identifying nurse, patient, system, and healthcare team factors involved in the error event. The items were reviewed to ensure appropriateness for the Texas population. 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 NCSBN TERCAP© Protocol was modified for the Texas TERCAP Pilot and provides detailed instructions and examples for each item in the instrument. Dr. Elizabeth Zhong, with the NCSBN, has provided consultation and support during the pilot.

The Texas TERCAP instrument was piloted by a workgroup comprised of nursing leaders in Texas hospitals and found to be user-friendly and understandable. At the time of this report, the instrument items are being reviewed for continued relevancy and dependability.

Sample Size and Statistical Power

The initial study sample size of 191 usable events was encouraging and reflective of the efforts put forth by the study team members to engage the participants in the process. This report is based upon a sample size of 260 events and has allowed for a better understanding of the nature of the relationship between characteristics of the event and harm to the patient. In this phase of the study we conducted an in-depth statistical analysis using the chi square for independent samples.¹ Chi Square identifies possible relationships between the TERCAP study

¹ Source: Pallant, J (2010). SPSS Survival Manual (4th ed.). New York: McGraw-Hill.

variables that are worthy of consideration. For example, it highlights the relationship between “Harm” events and the type of “Practice Breakdown” that was statistically associated with it. For this study, all likely variables were explored using chi square for independent samples and reported.

Additionally, in this phase of the study, we have learned more about the differences or, *effect size*, for the TERCAP variables such as “System Factors” and “Practice Break Down.” Differences, or *effect size*, among these system factors and events that cause harm to the patient, are characterized as being small, medium or large ² Initially, we had estimated that this *effect size* would be medium and so determined that 260 events would be needed to conduct the analysis with 80% power, or confidence that is was true. In fact, we have learned that the difference between characteristics of events that cause harm to the patient and those that do not cause harm to the patient is quite small. We had anticipated that these differences were in the medium range such as centimeters, when, based on this phase of the study, the differences were in the small range such as millimeters. As such, to identify the nature of this difference with statistical confidence, we would need to continue collecting events and monitoring the results for several more quarters. This will allow for more associations between system factors and/or practice breakdown factors to be identified and appropriately utilized in the study.

From previous TERCAP reports, it has been stated that:

The *power* of a statistical test is the probability that the test will demonstrate a difference, when in fact, a difference truly exists.³ For example, is there a difference in the location of the hospital being rural or urban (two-category levels) and the number of error events reported? To answer that statistical question with 80% power, a minimum of 155 events should be included in the analysis. With the final sample count of 260 events and a medium to small effect size, as was discovered, the power analysis for two-category level statistical question yields a power of 89.7%. So one would be 89.7% confident that differences in two-category level research questions, is in fact *true*. This is actually above the standard of 80% for medium to small effect size, and therefore, two-category level analysis does not warrants further gathering of data, in this case events.

At the other extreme, is there a difference in the length of time a nurse works in a patient care area (five-category levels) and the number of error events reported? To answer that statistical question with 80% power, 260 events should be included in the analysis. The pilot should have a minimum of 260 events so that the more complex questions (five-category levels) can be answered with 80% power confidence. With the final sample count of 260 events and a medium to small effect size as was discovered, the power analysis for five-category level research question yields a power of 73.5%. There is almost 74% power, or confidence, the differences in five-category level research questions is in fact true, which is below the standard of 80%, therefore we are not confident in that result. As such, we would like to continue to study these characteristics as the sample size grows.

Communication, Support and Feedback

Since the pilot’s inception, ongoing communication with the participants has been a priority

² Source: Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey: Lawrence Erlbaum.

³ Source: Post hoc power analysis* was conducted using *G*Power Analysis* software available at <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/download-and-register>

which has resulted in several initiatives to provide ongoing communication and feedback between the Board and pilot participants. As outlined in previous Board reports, several e-mail notifications have been distributed, providing updates and other important information aimed at encouraging ongoing participation. Most recently, in spring of 2015, an audit of the participant contact list was conducted. Board Staff reached out via telephone and/or email to each individual listed on the pilot contact list. If the individual could not be reached or no longer worked for the facility, a new contact was identified and updates to the contact list were made accordingly.

On March 26, 2015, Board Staff held a conference call with the pilot participants. During the call the participants were given a historical perspective related to the pilot, and were updated on Texas TERCAP and the national TERCAP data. Additionally, Board Staff discussed the upcoming instrument and protocol changes in regards to question #21 related to significant harm. The participants were also given the opportunity for a question and answer session.

During the month of June 2015 a survey was created to evaluate the training needs of participants in regards to the protocol, instrument, and how to enter data into the database. The survey addressed multiple training needs. For example, does the participant need a face-to-face, full-day training? Or would a refresher webinar suffice? After the analysis of the survey was complete, Board Staff determined a refresher webinar presented in 2016 would best address the training needs identified.

In an effort to ensure the contact list is the most up to date, in fall of 2015 Board Staff used a color coded spreadsheet to contact individuals/ facilities that had not responded to the Board outreach in spring of 2015. Additionally, in order to reach out to organizations with the most participants, Board Staff set up telephone calls with three major health care systems to help ensure future correspondence.

On November 18, 2015, Board Staff held a conference call with the pilot participants. Similar to the conference call in March 2015, participants were given historical perspective related to the pilot, and were updated on Texas TERCAP and national TERCAP data. Participants were also reminded of the developing refresher webinar and additional changes to the instrument and protocol to take effect in 2016. The participants were also given the opportunity for a question and answer session.

General Results and Demographics

This report is based on the results of 260 events collected from three rural and 32 urban-based acute care facilities/hospitals between September 1, 2012 and August 31, 2015. Key findings of interest are provided.

The present report contains 260 events (see Table 1), of which 259 are from acute care facilities.

Facility Type: Acute care hospitals are participating in this pilot.

Question 2. Type of facility or environment (select ONLY one)

Type of Facility	Frequency	Percent	Valid Percent	Cumulative Percent
Critical Access	1	0.004	0.004	0.004
Hospital	259	0.996	0.996	1
Missing	0	0	0	
Total	260	1	1	

Table 1

Metro (Urban) Compared to Non-Metro (Rural) Status

The classification of metro and non-metro was based upon the definition provided by the Healthcare Resources and Services Administration (HRSA) department. HRSA classifies a county as urban if it is in one of the 381 Metropolitan Statistical Areas (MSAs) delineated by the federal Office of Management and Budget (OMB).⁴ In other words, all counties that are not part of a Metropolitan Statistical Area (MSA) are considered rural.

The United States Office of Management and Budget (OMB) has defined 381 Metropolitan Statistical Areas (MSAs) for the United States and seven for Puerto Rico. The OMB defines a Metropolitan Statistical Area as one or more adjacent counties or county equivalents that have at least one urban core area of at least 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.⁵ Texas contains 25 MSAs as designated by the OMB 2010. As noted, three of the 35 hospitals included in this report were rural-based. See Figure 1.

⁴ All counties that are not part of a Metropolitan Statistical Area (MSA) are considered rural. Source: HRSA Defining Rural Population. Retrieved from

http://www.hrsa.gov/ruralhealth/policy/definition_of_rural.html

⁵ Source: http://en.wikipedia.org/wiki/List_of_Metropolitan_Statistical_Areas

Distribution of Hospital Based Events by Bed Size Category: Of the 260 hospital based events, the 351 – 599 bed size category comprised the majority of submissions. See Figure 2.

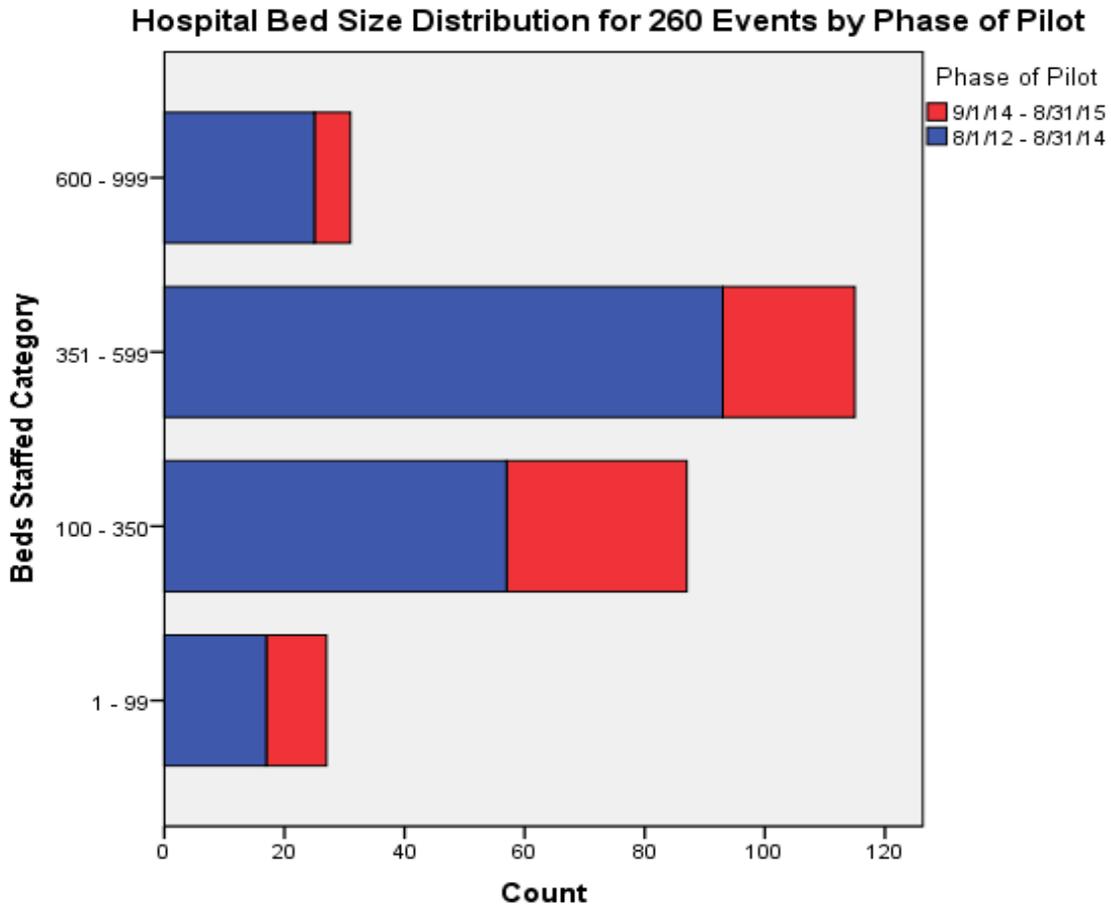


Figure 2

Distribution of the Number of Events per Quarter: As noted in Figure 2 (A), even though the fourth quarter is not included in the 2015 data, it is predicted that the number of events will be lower than 2014.

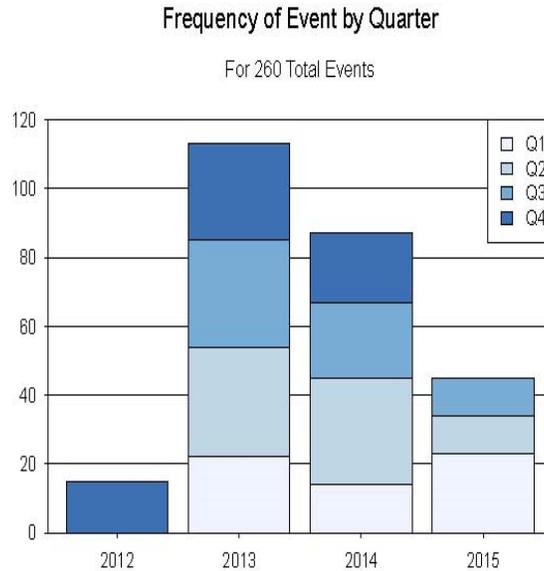


Figure 2 (A)

Nurse's Birth Year: Figure 3 reflects the birth year of the nurses involved in the practice breakdown.

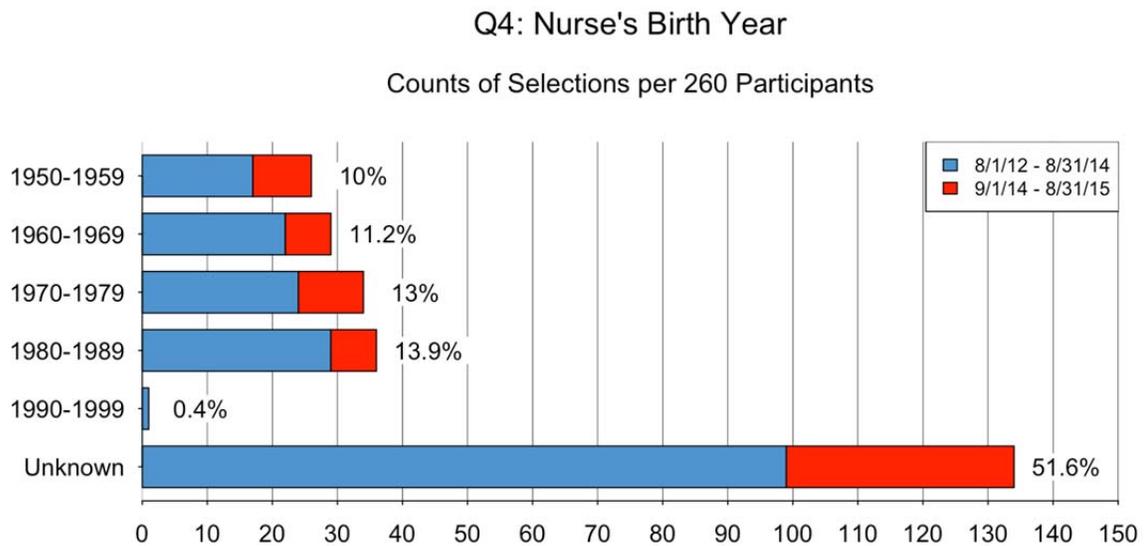


Figure 3

Where Nurse Received Education: Figure 4 indicates the overwhelming majority of nurses involved in practice breakdown were educated in the U.S.

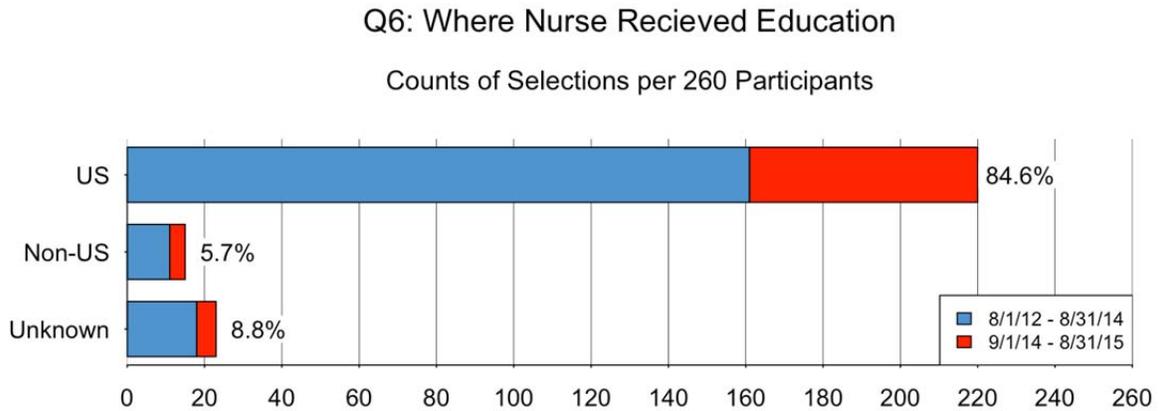


Figure 4

Is English the Nurse's Primary Language: Figure 5 reflects that 84.6% of the nurses involved in practice breakdown have English as their primary language.

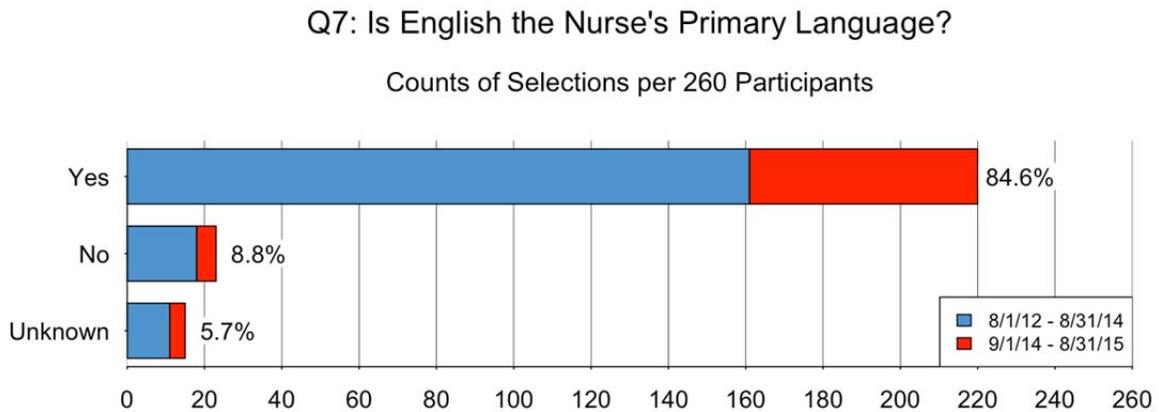


Figure 5

Year of Nurse's Initial Licensure: Figure 6 reflects that the majority of nurses involved in practice breakdown were licensed between the years 2000 – 2009.

Q9: Year of Nurse's Initial Licensure

Counts of Selections per 260 Participants

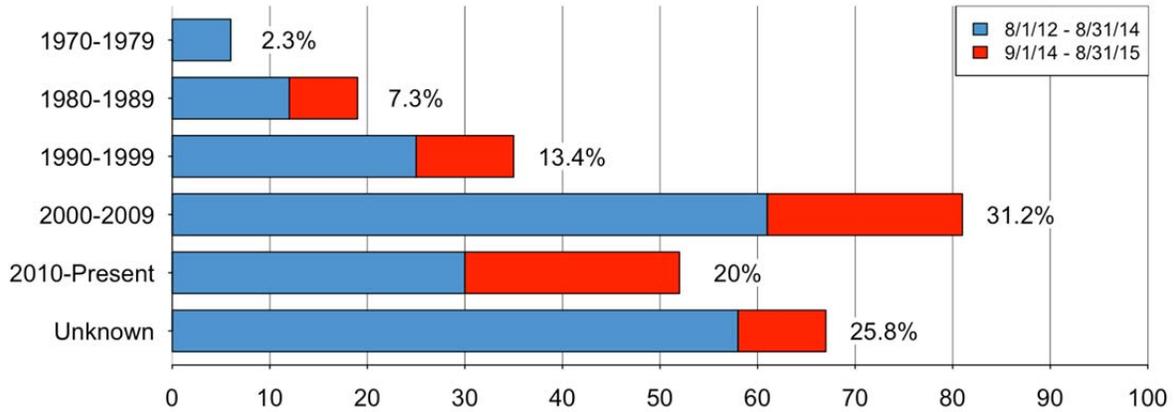


Figure 6

Professional Work History: Figure 7 shows that the majority of nurses involved in practice breakdown had worked in the location/unit/department where the practice breakdown occurred for more than 5 years.

Q11: Length of Time Nurse Had Worked in Unit

Counts of Selections per 260 Participants

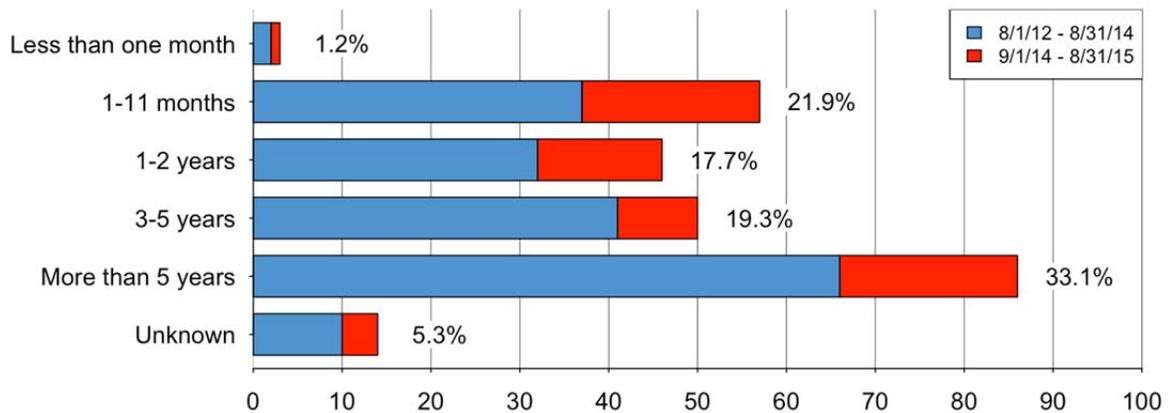


Figure 7

Working in a Temporary Capacity: Figure 8 reflects that 86.2% of the nurses involved in practice breakdown did not work in a temporary capacity.

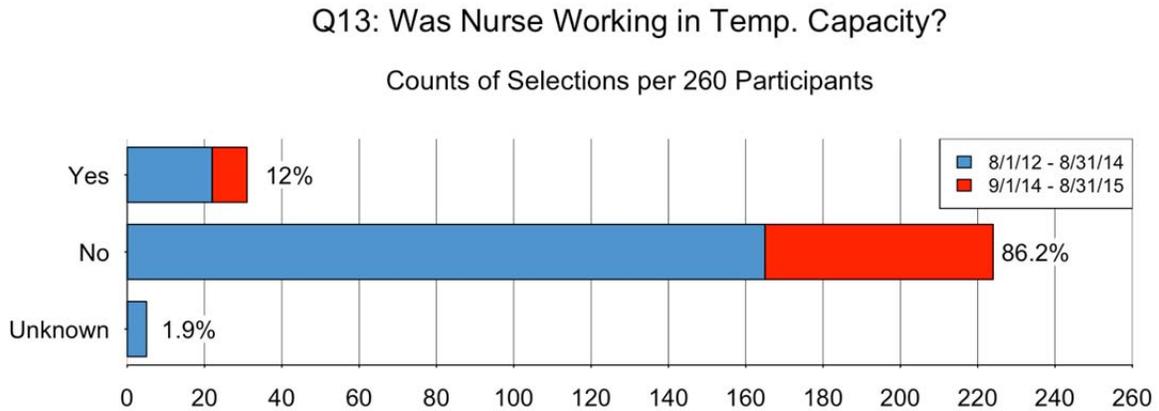


Figure 8

History and/or Pattern of Practice Breakdown: Figure 9 reveals that 75.8% of the nurses involved in the practice breakdown event did not have a history and/or pattern of practice breakdown.

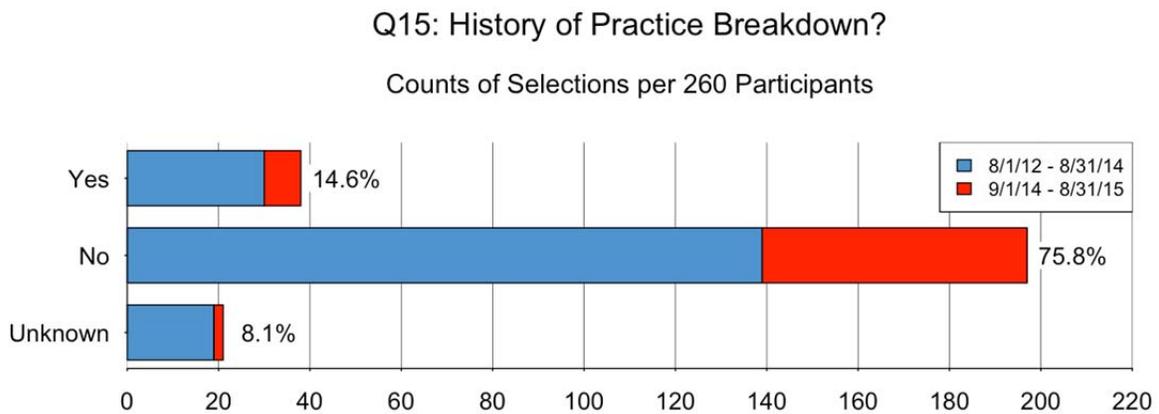


Figure 9

Employment Outcome as a Result of Practice Breakdown: Figure 10 demonstrates that 90.8% of employers retained the nurse after the practice breakdown incident.

Q16: Employment Outcome

Counts of Selections per 260 Participants

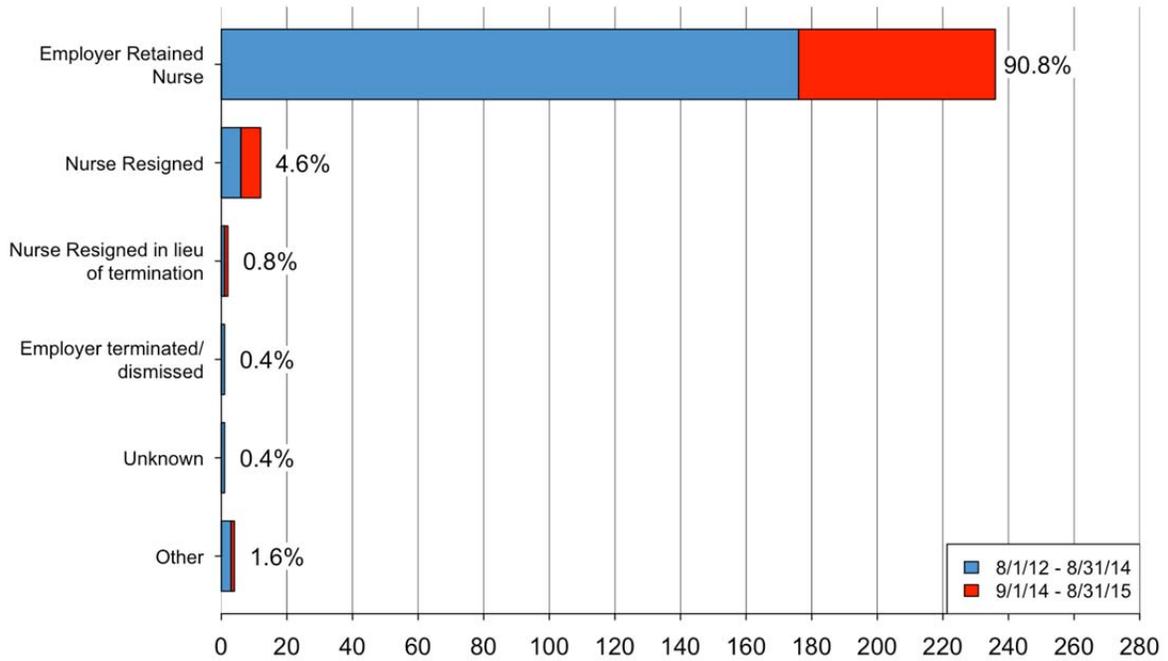


Figure 10

Contributing System Factors: Figure 11 is a compilation of the frequencies of all of the broad categories of System Factors.

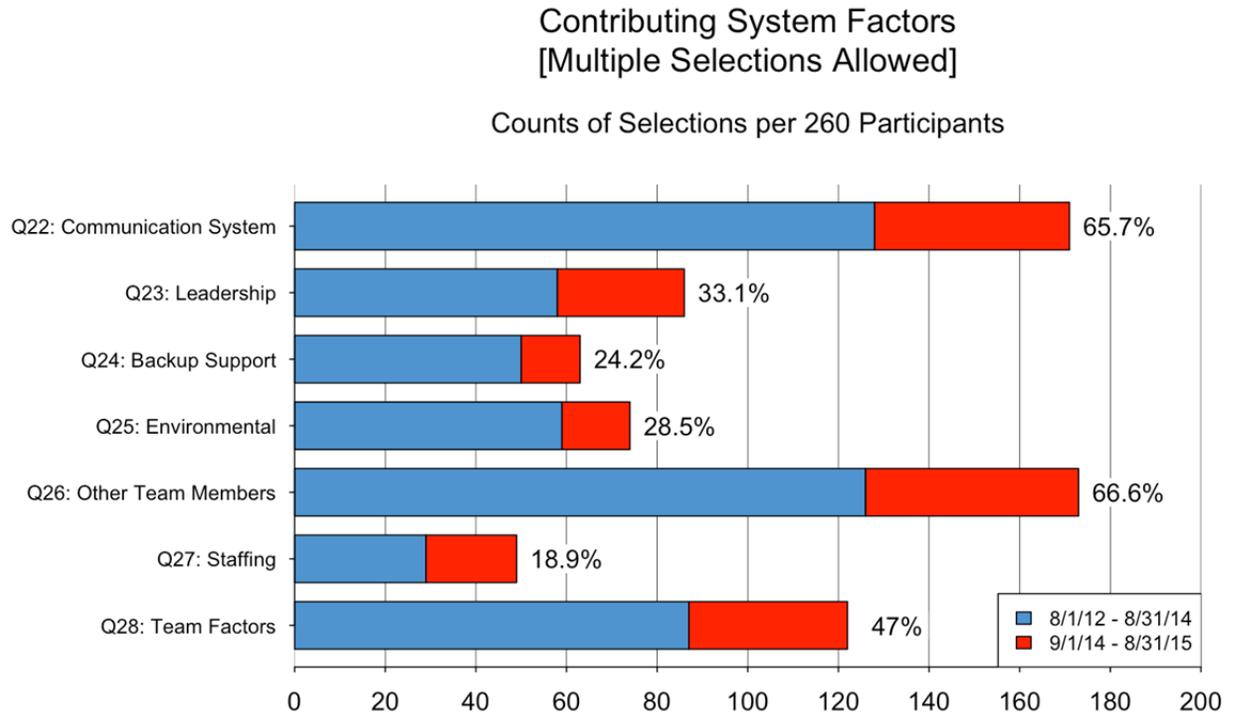


Figure 11

Other HC Team Members Involved in the Practice Breakdown: Figure 12 reflects the frequencies of other health team members also involved in the practice breakdown.

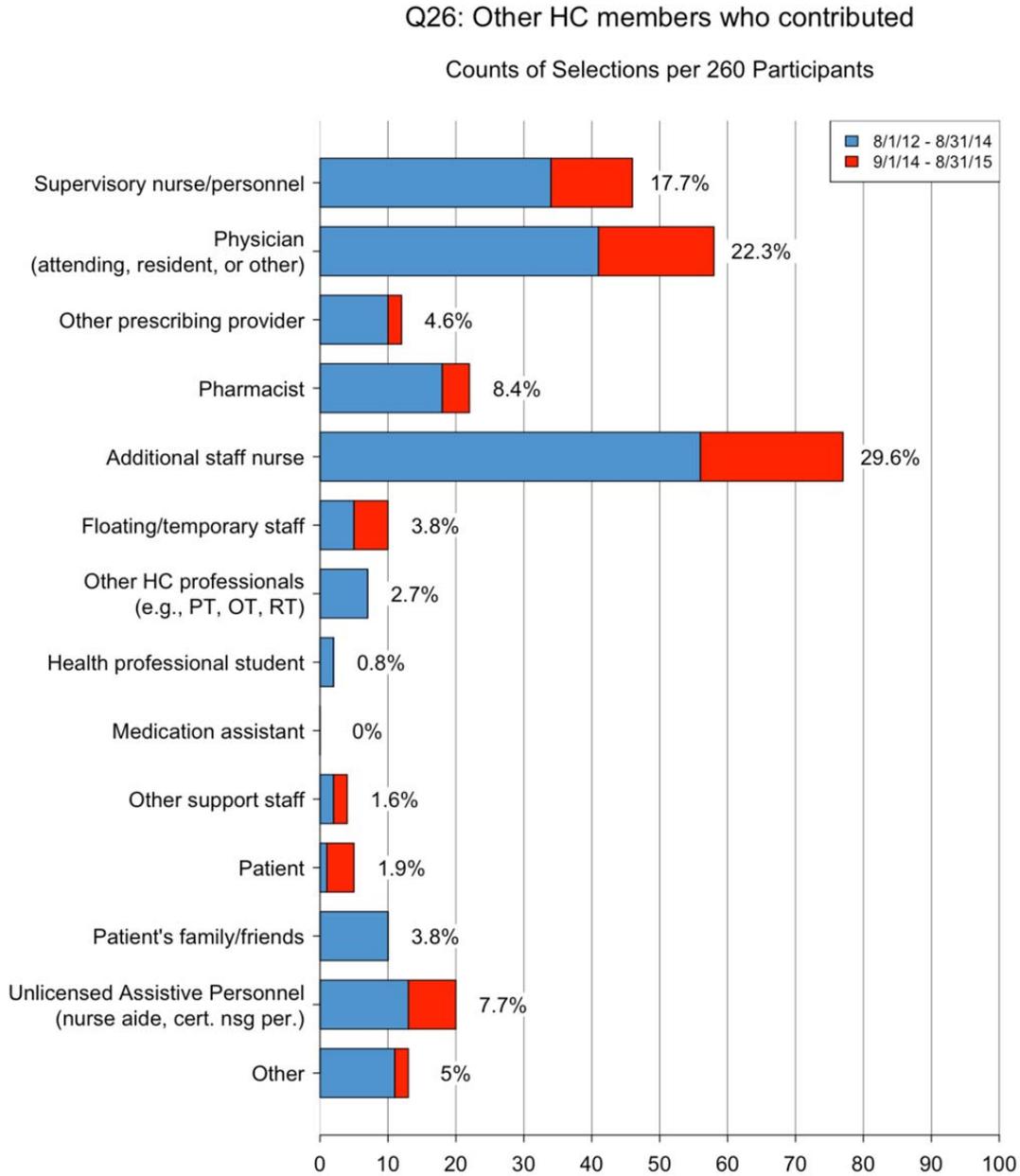


Figure 12

System Factors vs. Harm: Figure 13 reflects the chi square analysis between System Factors and Patient Harm.

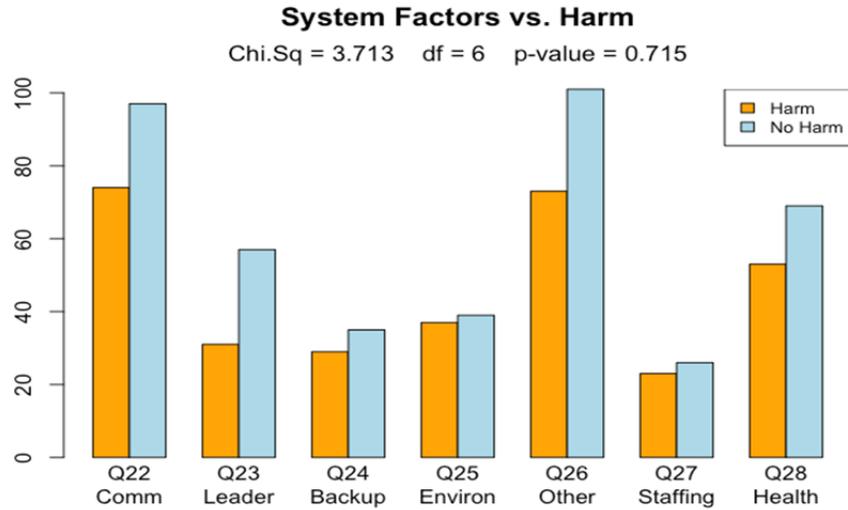


Figure 13

Personnel vs. System Factors: Figure 14 shows the chi square analysis of the other team members in relations to the categories of System Factors.

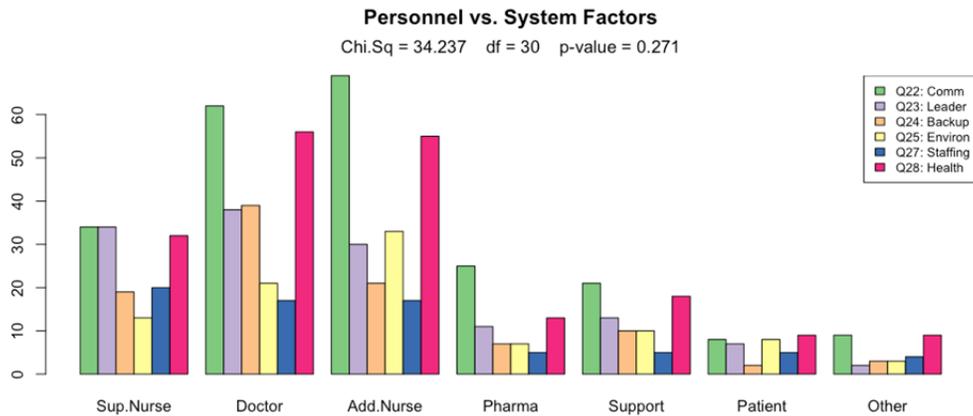


Figure 14

Personnel vs. Harm: Figure 15 reflects a chi square analysis of the Other Health Team Members in relations to patient harm.

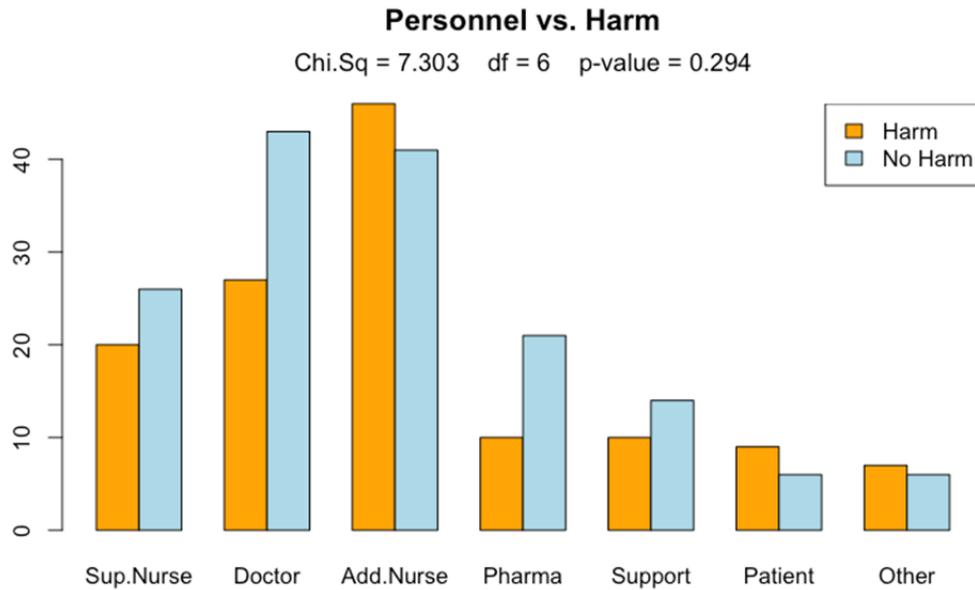


Figure 15

Medication Errors: Figure 16 reflects the frequencies of medication errors as a component of the practice breakdown event.

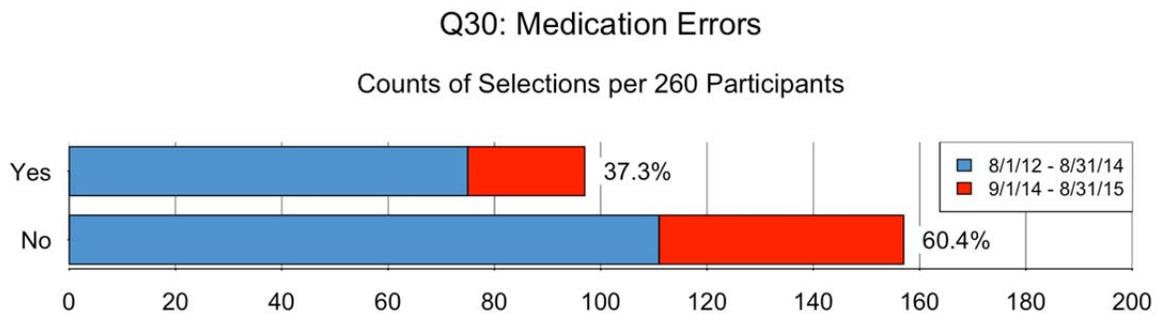


Figure 16

Documentation Errors: Figure 17 reflects the frequencies of documentation errors as a component of the practice breakdown event.

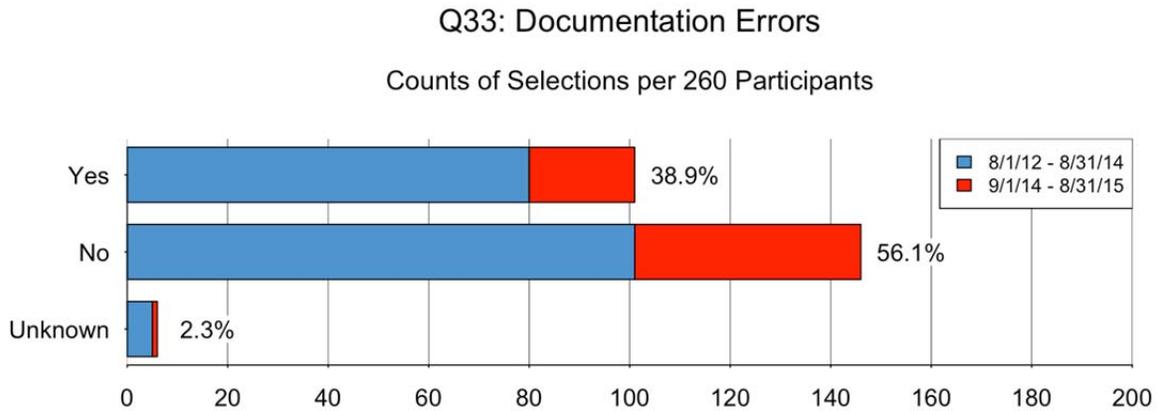


Figure 17

Type of Documentation Error: Figure 18 outlines the types of documentation errors in the practice breakdown event.

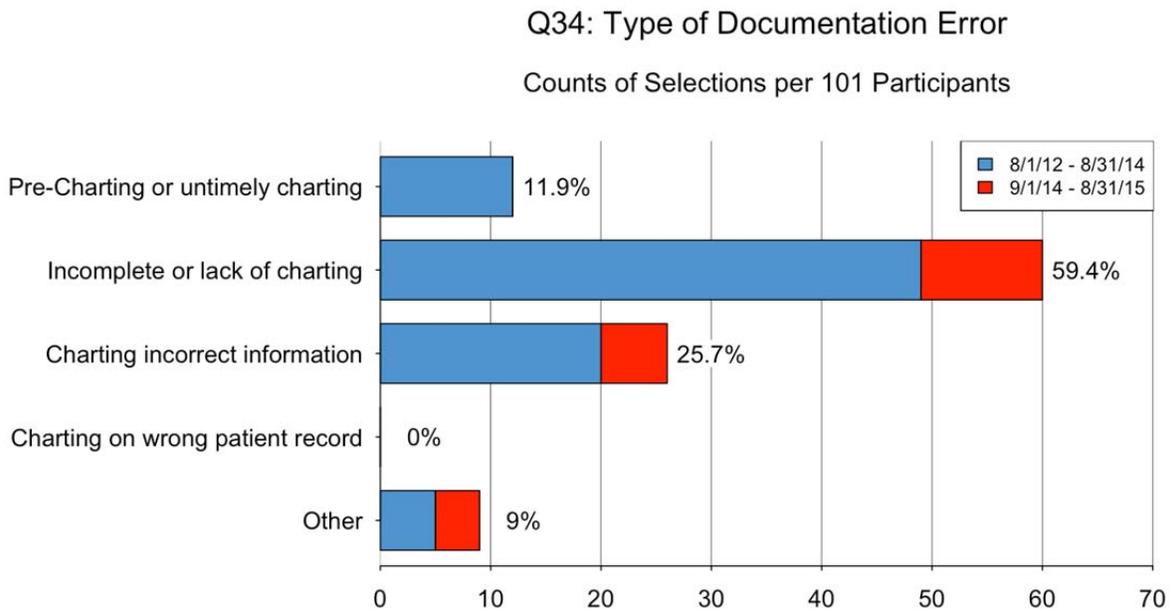


Figure 18

Documentation Errors Leading to the Practice Breakdown: Figure 19 reflects the percentages of the documentation errors that led to the practice breakdown.

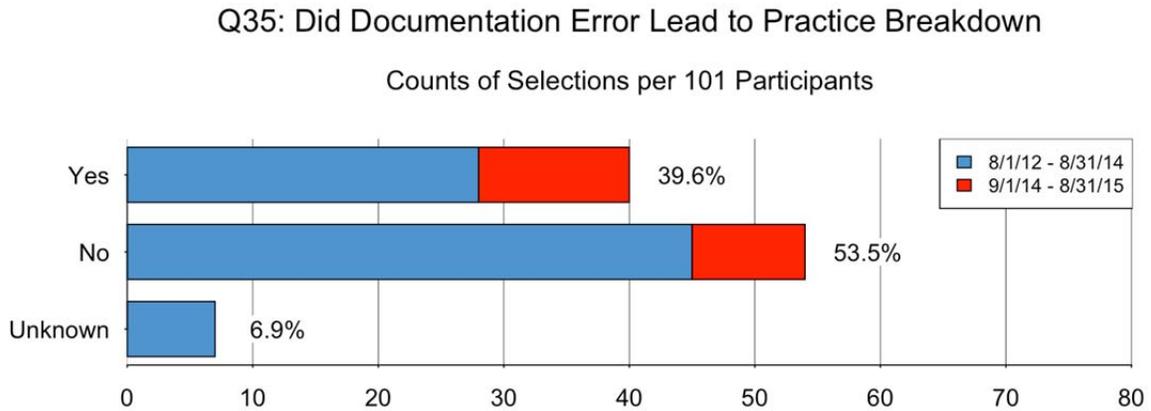


Figure 19

Most Significant Practice Breakdowns: Figure 20 reflects the participants' selection of the most significant or primary type of practice breakdown that occurred.

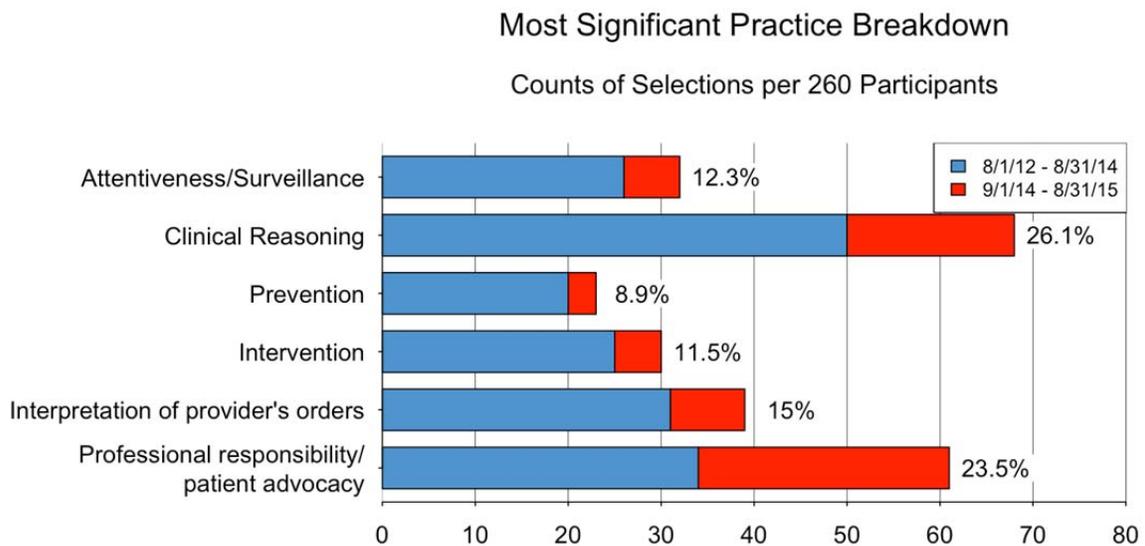


Figure 20

Practice Breakdown Frequency Counts: Figure 21 reflects the number of times a participant selected a particular category of practice breakdown.

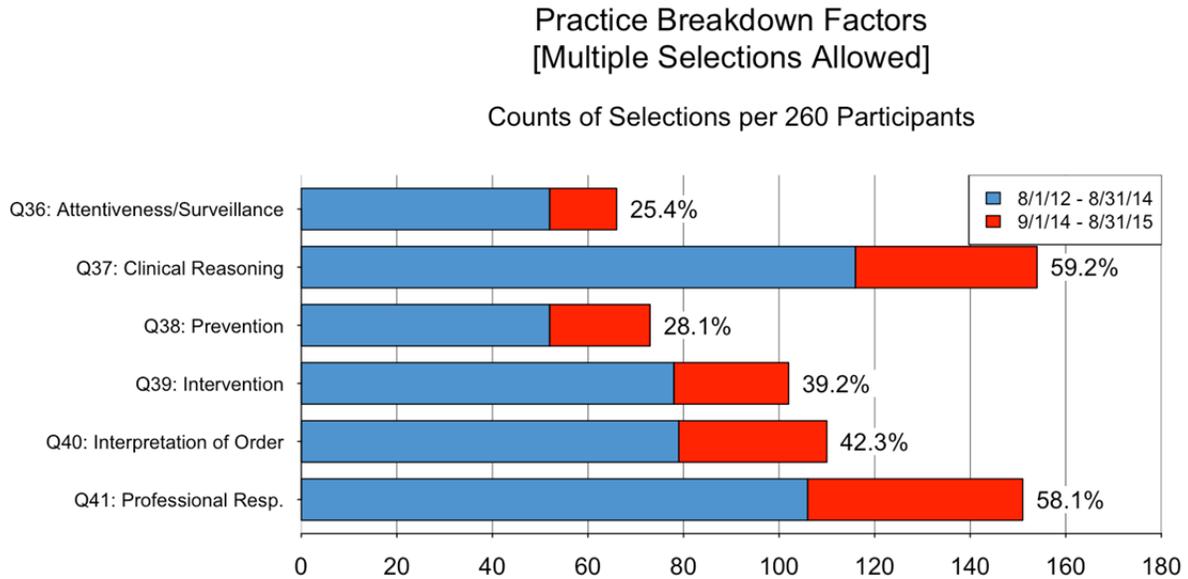


Figure 21

Category of Practice Breakdown vs. Harm: Figure 22 reflects the chi square analysis of the category of practice breakdown and its relationship to patient harm. The results reflect that the practice breakdown category “Intervention” is statistically associated with patient harm.

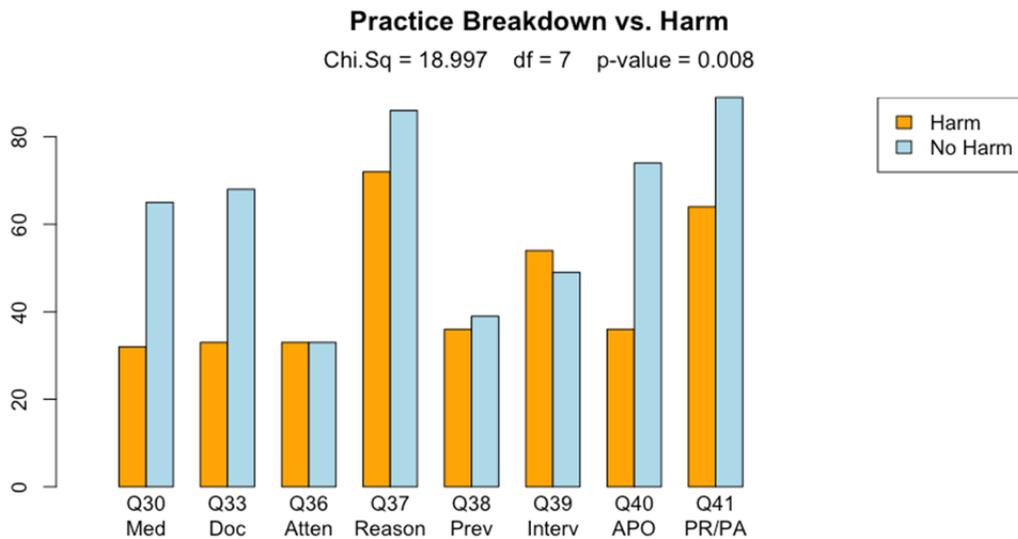


Figure 22

Employer Remediation for the Nurse: Figure 23 reflects the employer’s remediation strategy as an outcome of the peer review.

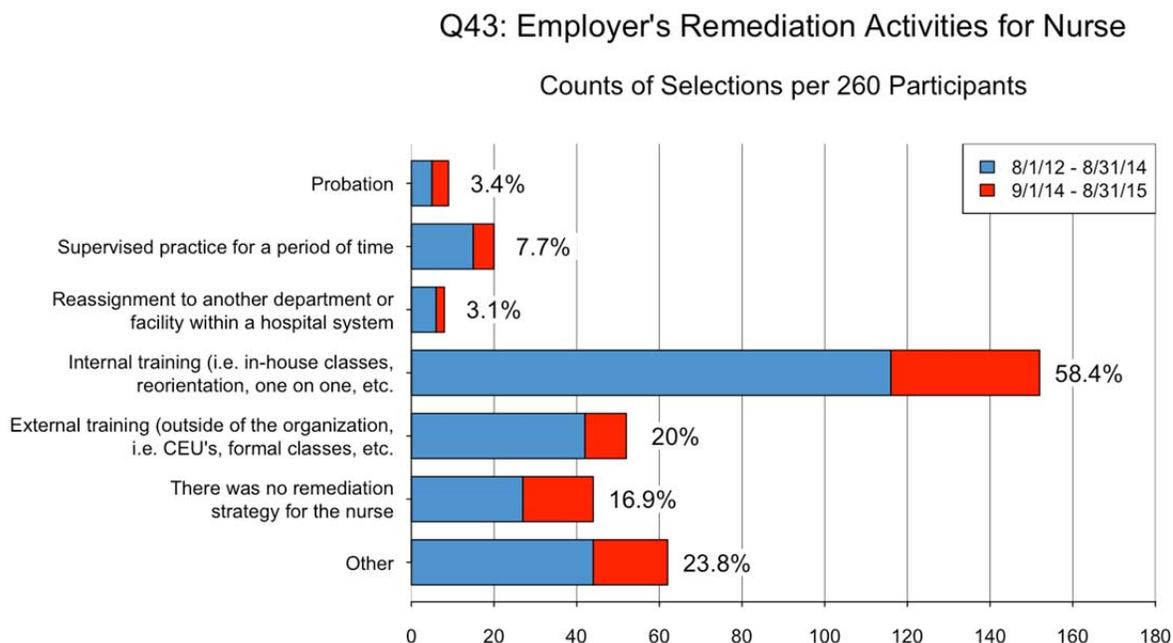


Figure 23

Summary of Key Findings

2016 Discussion of Bar Graphs and Chi Square Analysis

As outlined in the **Sample Size and Statistical Power** section of this report, the increased sample size since the January 2014 Board report enabled Board Staff to review and conduct additional analysis on the data. Consequently, this report contains supplemental graphs providing descriptive information about the findings as well as a discussion of the results of a chi square analysis that was conducted on key items from the survey. The chi square analysis supports the identification of any possible relationships between the TERCAP study variables.

Of particular importance in the relationships between the variables in this study, is the determination of whether or not there are any variables that impact patient harm more than others. Important findings such as these have the capacity to guide the content and approach for interventions. To begin evaluating this finding, the data within the Patient Harm Category were modified to ensure appropriate testing. The actual intake instrument allows the participant to select one of four different levels of patient harm including “No Harm”, “Harm”, “Significant Harm” and “Death”. Because there were not enough data in each of the cells to conduct a chi square analysis for the four levels of harm, Board Staff collapsed the harm data into two categories of harm comprised of “Harm” and “No Harm”. The results of these analyses are explained in the **System Factors Trends** and **Practice Breakdown Trends** below.

As discussed in the **Methods** section, the Texas TERCAP intake instrument was based on and closely mirrors the instrument utilized by the NCSBN. However, the sample for the national

study captures practice breakdown data that required an investigation by a Board of Nursing which is quite different than the Texas sample which collects practice breakdown data that was reviewed by a Peer Review Committee and deemed **not** reportable to a Board of Nursing. Comparing the differences between the two data sets may provide insight into the factors that contribute to both levels of practice breakdown. As such, there is a discussion of the descriptive data that is collected by similar items within the Texas and NCSBN instruments in the following section of this report.

Demographics, Professional Work History Trends

Overall, the descriptive data outlined in the graphs reflect the same trends as outlined in previous Board reports. With the increase in the sample size, three additional items were more closely evaluated. Question 4 in the instrument solicits “Year of Birth” in order to evaluate the age of the nurse at the time of the practice breakdown. As **Figure 3** reflects, participants appear to have difficulty in entering this data because over 50% of them entered “unknown” responses for the nurse’s age.

Figures 4 and 5 reflect that in this study, the overwhelming majority of nurses involved in practice breakdown are educated in the U.S. (84.6%) and report English as their primary language (84.6%). Of interest was a comparison of the Texas data set with the national data set for this item. The national data indicated that overwhelming majority (93%) of NCSBN’s sample were educated in the U.S. and most (74%) reported English as their primary language thus closely mirroring the results found in the Texas data.

Figure 6 reflects that the largest percentages of Texas nurses with practice breakdown were licensed between the years of “2000-2009”. However, as compared with the findings in the January 2014 Texas TERCAP Report, it appears that the percentages of nurses in the “2010 – Present” cohort are increasing as the Board is now into the third year of the Pilot study and more newly licensed nurses are entering the workplace.

Figure 8 reflects that the majority of nurses involved in a PBD (86.2%) were not working in a temporary capacity. The national data mirrors this finding (91%). The consistency of these data in all of the reports may suggest that organizations have protocols/policies in place for float staff and other staff not normally assigned to the patient care location/unit/department.

The Texas TERCAP data reflect in **Figure 9** that the greater part of nurses in the study (75.8%) do not have a history or pattern of practice breakdown. The national data reflect that slightly over half (58%) have not had previous discipline by their employer. Related to action by an employer, the Texas TERCAP data also reflect that the overwhelming majority of employers (90.8%) retrained the nurse after the practice breakdown incident and that only 0.4% terminated or dismissed the nurse. In contrast, the national data reflect that only 28% of nurses involved in practice breakdown were retained by their employer and 54% were terminated or dismissed by their employer.

The results of the employer’s reaction to the practice breakdown are quite interesting and may be reflective of the differences in the “level” of practice breakdown that are or are not reported to a board of nursing. For example, the Texas TERCAP practice breakdown incidents are most likely “minor” in nature whereas practice breakdown incidents reported to a board of nursing may reflect behavior that is more egregious and more likely to be of danger to the public. Having a history or pattern of practice breakdown may be a potential indicator of future practice breakdown and thus of interest to Boards of Nursing. In terms of the retention of the nurse after

the practice breakdown, it is possible that an organization may perceive some nurses as more “valuable” to the organization and retain them as opposed to viewing those nurses that have been reported to a board of nursing as not being compatible with facility policies and/or culture.

System Factors Trends

“Systems Issues” includes those factors found in the workplace that impact the actual work environment of nurses involved in practice breakdown. **Figure 11** reflects a compilation of all of the identified factors and groups them into seven broad categories of workplace characteristics. The most frequent areas that contributed to the practice breakdown incident include issues with the “Communication Systems”, “Other Team Members” and “Team Factors”. These selections may reflect the importance that factors involving communication and the systems that support communication play within teams and events of practice breakdown.

Did any particular category of the Systems Factors differ in the rate of harm to the patient? **Figure 13** reflects that the chi square analysis revealed **no** statistically significant differences between any of the System Factors categories’ impact on patient harm. In other words, there is no indication that the pattern of “Harm” versus “No Harm” differs significantly across any of the System Factors Categories. While no differences were noted in this particular test, the ability to detect any differences that do exist will improve as the sample size increases further.

“Other Health Team Members” is a category that reflects those members who also contributed to the practice breakdown in conjunction with the involved nurse. Because of the large number of categories representing the different types of health team members, these categories were condensed into seven groups including:

- **Sup Nurse** = Supervisory Nursing Personnel
- **Doctor** = Physician and Other Prescribing Personnel
- **Add. Nurse** = Additional Staff Nurse and Floating/Temporary Staff
- **Pharma** = Pharmacist and Other HC Professional (e.g. PT, OT, RT) and Health Professional Student
- **Support** = Medication Assistant, Other Support Staff, Unlicensed Assistive Personnel (nurse aide, certified nursing assistant, other titles of non-nurses who assist in performing nursing tasks).
- **Patient** = Patient and Patient’s Family/friends
- **Other** = Other

Figure 14 reflects that there is **not** a significant difference of the proportions for “Other Health Team Members” across the ranges of Systems Factors. A significant result for this test would indicate that the rates at which System Factors appear within each group are different. For example, a significant result could imply that the rate of Communication Factors for supervising nurses was different than the rate of Communication Factors that involve doctors or pharmacists.

The “Other Health Team Members” were also compared with the level of harm to the patient. **Figure 15** reflects that the rate of harm was **not** statistically significant for any of the categories of health team members. However, the groups **Add. Nurse** and **Pharma** appeared to have elevated rates of harm when compared to the other health team members. As such, additional testing was done to learn how much influence a particular category had on the final chi square result. The results indicated that though these two groups were not significantly different than

the others, there was a bigger gap between the rates of harm and no harm than was expected. However, if indeed there is a difference in the rate of harm within these two groups, this trend will be more evident with a larger sample size in the future.

Practice Breakdown Trends

All of the trends concerning the types and frequencies of the practice breakdown categories have remained fairly consistent throughout the Pilot. Minor changes are common. For example, **Figure 16** reflects that the percentages of medication errors (37.3%) as a component of the practice breakdown event have slightly decreased since the January 2014 Board report (41.9%).

However, with the addition of chi square analysis of the data there are some differences to be noted. For instance, **Figure 22** reflects a chi square analysis of the types of practice breakdown and this analysis reflects that the rate of patient harm is not the same for all practice breakdown categories. In other words, there **are** statistically significant differences between the types of practice breakdown categories indicating that some types of the categories could result in greater rates of harm than others. During testing, the practice breakdown category of "Intervention" emerged as most likely associated with higher rates of patient harm than the other categories.

Again, it should be noted that with an increase in sample size Board Staff will be able to conduct additional analysis to further evaluate this finding.

Employer Remediation as an Outcome of Peer Review

As reported above, a vast majority of employers are retaining nurses involved in nursing practice breakdown reported in the Texas TERCAP database. The Texas TERCAP database collects broad categories of remediation for the nurse as well as providing the ability for the remediation strategy to be described.

The broad categories of remediation for the nurse include: probation, supervised practice, reassignment, internal training, external training, no remediation, and a selection of *other* where the participants can enter text related to the remediation strategy. Over half of the events entered indicated that internal training was the method of remediation chosen for the nurse involved in the practice breakdown.

Several themes emerged from the text entered related to the remediation strategies for the nurse. In alignment with the categories that could be selected related to internal or external training, many nurses were directed to develop educational materials. At times, the nurse was directed to also present education to others such as through an in-service or poster presentation. There were also entries aligning the remediation strategy with an employment discipline process such as counseling or warnings. There were some entries indicating a level of required supervision such as working with a mentor or having an orientation type process. Of note, there were several entries indicating the employer remediation strategy for the nurse had impact beyond the individual nurse. These entries related to policy changes, policy review and revision, and development of guidelines and standards.

Nursing peer review committees are in a unique position to evaluate the conduct of a nurse and to also examine the influence of factors that are beyond the nurse's control or systems issues [Tex. Occ. Code, Sec. 303.011 (a)]. When the nursing peer review committee uncovers factors

beyond the nurse's control, or systems issues, they are required to communicate to a patient safety committee to improve the nursing practice within the facility [Tex. Occ. Code, Sec. 303.001 (b)]. Based on the text entry responses related to the employer remediation of the nurse, in some cases the NPRC is identifying factors beyond the nurse's control and directing the nurse involved in the nursing practice breakdown to be involved in the process of improving nursing practice within the employment setting.

Observations and Plans for Completion in 2016

Results of the Study

Establishing a significant finding is a notable objective in the study. This finding suggests that the practice breakdown category of "Intervention" is associated with higher rates of patient harm than the other categories of practice breakdown and is important information to share. Though continued analysis will be conducted to understand the importance of all of the factors in practice breakdown, Board Staff will particularly focus on the concept of intervention and how this is important in the safe delivery of patient care.

Is the Texas TERCAP Pilot Program making a difference over time? Though quantifying the effects of how the pilot is impacting the incidences of patient harm is not possible at this stage of the study, Board Staff has previously queried the participants about the importance of the pilot and the responses were very favorable. Board Staff will query participants again in the last year of the pilot and compare these findings to the previous responses.

Texas TERCAP Pilot Participation and Education

Since the Board's approval to continue the pilot in October, 2014, Board Staff has been involved in activities to ensure the ongoing implementation and development of the pilot. For example, as the pilot program continues, employees within participating organizations have had increased turnover rates necessitating frequent updates to the contact list. Between the months of March and May of 2015 Board Staff audited the participant contact list in order to ensure the appropriate individuals continue receiving pertinent information and updates. Over the course of three months, 178 contacts were called and/or emailed. About half of the participants contacted were able to confirm they are still the contact for their facility, or they were able to provide contact information for the new point of contact. As of December 2015, 2/3 of the participants have confirmed their contact information for the Texas TERCAP Pilot. This outreach continues and early in 2016, the participant list will be revised and updated.

Communication with the participants has been and will continue to be on a quarterly basis. Various outreach efforts will be utilized including conference calls, emails, surveys and training opportunities. In addition to communication with pilot participants, informing the public about the Texas TERCAP Pilot Program has been implemented through the Board's newsletter. An article in the April, 2014 newsletter reviewed the results of the mid pilot report and an article reviewing this Board report is slated for the April 2016 edition.

Throughout the pilot program, Board Staff has received inquiries from non-participating organizations about joining the pilot as a participant. Due to the extensive training that is needed for participants to successfully understand and engage in the pilot, adding additional organizations has been postponed until a comprehensive training schedule has been developed. Plans are being made to conduct this training sometime in 2016.

Enhancement of the Online Intake Instrument

Over the past two years, the team has gathered observations of how the online intake instrument and data base could be enhanced to benefit the experience of the participants and the data coming from the survey. These observations have been discussed and plans are being made to implement the following activities:

- continue work on promoting the validity and reliability of the instrument;
- add more drop down boxes to expedite data entry for participants;
- develop forced entry of critical responses so that there is less “missing” data;
- ensure the current data base and future data base are aligned after the refinement of the intake instrument; and
- make updates to the TERCAP Protocol once the instrument has been updated.

NCSBN National TERCAP Project Updates and Comparisons

As mentioned in the **Data Collection and Instrument** section of this report, NCSBN has been collecting practice breakdown information from practice cases reported to Boards of Nursing and to date, 26 BONs have submitted over 3,700 TERCAP cases. NCSBN will have its fourth report on the data when they reach 4,000 cases which should be sometime in 2016. NCSBN has also developed a platform for participating Boards to exchange TERCAP related information. The Texas BON has participated in this national initiative since its inception and provides consistent, timely data for the study.

Board Staff will continue to be systematic in the investigation of comparisons between the national and Texas data sets. As stated earlier in the report, the sample of practice breakdown events is different between the two studies as the national study is comprised of practice breakdown events that have been investigated by a Board of Nursing while the Texas sample consists of practice breakdown events that have been reviewed by a Peer Review Committee and deemed **not** reportable to a Board of Nursing. Consequently, factors surrounding practice breakdown may be more evident in the national data set and less obvious in the Texas data making it more difficult to ascertain significant results for the Texas study. Board Staff will continue to seek guidance from the Pilot’s statisticians.

Author Information

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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.

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. Worked as Senior Manager, Center for Research and Innovation, VHA Inc., Irving, Texas.

Between 2007 and 2010, was Director of Nursing Research and Informatics, Dallas-Fort Worth Hospital Council – Education and Research Foundation. In that role, was responsible for deployment of the Council's 3-year technology implementation project on behalf of the *Small Community, Rural Hospitals Research Grant*, a National Institute of Health grant funded by the Agency for Healthcare Research and Quality. Was principal investigator on a team that was awarded an \$8.4 million grant from the Office of National Coordinator for Health IT for a Regional Extension Center in North Texas. Directed Workforce Center nursing research and Data Initiative informatics projects.

In 2010, became Associate 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.

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 is currently a Nursing Consultant for Practice at the Board of Nursing and has held this position since August of 2007.

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.

Kristin Benton, MSN, RN

Kristin 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. 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 NCLEX-Item Review Panel subcommittee.