

Patient Safety Culture in Nephrology Nurse Practice Settings: Initial Findings



Beth Ulrich
Tamara Kear

Patient safety and patient safety culture form the foundation of excellent health care delivery, but achieving patient safety and creating positive patient safety cultures requires ongoing, focused efforts of every member of the healthcare team (Ulrich & Kear, 2014). The concept of patient safety is very basic. It means keeping patients safe from harm when they are being cared for by a healthcare organization – avoiding and preventing patient injuries or adverse events resulting from the processes of health care delivery. Patient safety culture is the organizational culture that creates a positive environment in which patient safety is most likely to occur. It has been associated with the occurrence of fewer adverse events (Mardon, Khanna, Sorra, Dyer, & Famolaro, 2010; Singer, Lin, Falwell, Gaba, & Baker, 2009), decreased patient mortality in intensive care units (Huang et al., 2010), better reporting of adverse incidents (Braithwaite, Westbrook, Travaglia, & Hughes, 2010), and positive assessments of care by patients (Sorra, Khanna, Dyer, Mardon, & Famolaro, 2012). Patient

Beth Ulrich, EdD, RN, FACHE, FAAN, is Editor, the Nephrology Nursing Journal, and a Professor, the University of Texas Health Science Center at Houston School of Nursing. She is a Past President of ANNA and a member of ANNA's Sand Dollar Chapter. She may be contacted directly via email at BethUlrich@aol.com.

Tamara Kear, PhD, RN, CNS, CNN, is an Assistant Professor of Nursing, Villanova University, Villanova, PA, and a Nephrology Nurse, Liberty Dialysis. She is on the Editorial Board for the Nephrology Nursing Journal, serves as the ANNA Research Committee chairperson, and is a member of ANNA's Keystone Chapter.

Statements of Disclosure: Please refer to page 476.

Note: Additional statements of disclosure and instructions for CNE evaluation can be found on page 476.

Copyright 2014 American Nephrology Nurses' Association

Ulrich, B., & Kear, T. (2014). Patient safety culture in nephrology nurse practice settings: Initial findings. *Nephrology Nursing Journal*, 41(5), 459-475. Retrieved from <http://www.prolibraries.com/anna/?select=session&sessionID=3102>

Patient safety culture has been studied in many practice settings, but there is a dearth of information on the culture of safety in nephrology nurse practice settings. This research study employed the use of an online survey to assess patient safety cultures in nephrology nurse practice settings. The survey was created using items from two Agency for Healthcare Research and Quality (AHRQ) survey assessment tools – the Hospital Survey on Patient Safety Culture and the Medical Office Survey on Patient Safety Culture. Select items from these tools were combined to address the safety of care delivered in hospital and outpatient nephrology nurse practice settings. Almost 1,000 nephrology nurses responded to the survey. Analysis of results and comparison with AHRQ comparative data found high ratings for teamwork, but indicted a continued need for additional education and attention related to hand hygiene, medication administration safety, communication, and prioritization in nephrology practice settings. Nurses in all nephrology nurse practice settings need to routinely assess and positively contribute to the culture of patient safety in their practice settings, and lead and engage in efforts to ensure that patients are safe.

Key Words: Patient safety, patient safety culture, nephrology, nursing.

Goal

To describe the results of the first national study of patient safety culture in nephrology nurse practice settings.

Objectives

1. Describe the first national study of patient safety culture in nephrology nurse practices settings.
2. Compare patient safety culture data from nephrology nurses with published AHRQ data.
3. Discuss the results of the study in the context of nephrology nursing practice.

safety culture has been defined as “the values shared among organization members about what is important, their beliefs about how things operate in the organization, and the interaction of these within work unit and organizational structures and systems, which

together produce behavioral norms in the organization that promote safety” (Singer et al., 2009, p. 400).

The first major report of patient safety and patient harm in the modern era was released by the Institute of Medicine (IOM) in 1999. The IOM's

This offering for 1.4 contact hours is provided by the American Nephrology Nurses' Association (ANNA).

American Nephrology Nurses' Association is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center Commission on Accreditation.

ANNA is a provider approved by the California Board of Registered Nursing, provider number CEP 00910.

This CNE article meets the Nephrology Nursing Certification Commission's (NNCC's) continuing nursing education requirements for certification and recertification.

Patient Safety Culture in Nephrology Nurse Practice Settings: Initial Findings

report, *To Err is Human: Building a Safer Health System*, placed the topic of safety at the forefront of healthcare practice, research, and education (IOM, 2000). The report estimated that in the United States, each year, up to one million people were harmed, and 98,000 died as the result of preventable adverse events (medical errors). Beyond the cost of human lives, the report estimated the cost of medical errors is between \$17 billion and \$29 billion per year in hospitals. The IOM report generated a media storm as individuals realized patient safety in healthcare organizations was not a given. Safety initiatives, funding, media attention, education programs, and guidelines were developed and continue to be generated as a result of this initial study and others that have followed. In 2013, James updated the annual estimates of outcomes of preventable adverse events to 400,000 deaths and 4 to 8 million occurrences of serious harm (James, 2013).

Patient safety culture has been studied in many practice settings, but there is a dearth of information on the culture of safety in nephrology nurse practice settings. To the best of the researchers' knowledge, this study is the first national study investigating patient safety culture in nephrology nurse practice settings. This article discusses the initial study findings. Future publications will explore in-depth qualitative findings and comparisons of responses from various groups surveyed, such as managers and direct care nurses, and for-profit and not-for-profit organizations.

In preparation for the study, the researchers conducted a literature review on patient safety and patient safety culture. The results of that review can be found in the article, "Patient Safety and Patient Safety Culture: Foundations of Excellent Health Care Delivery" by Ulrich and Kear in the September/October 2014 issue of the *Nephrology Nursing Journal* (pp. 447-456, 505).

Methodology

This research study employed the

use of an online survey to assess patient safety cultures in nephrology nurse practice settings. Inclusion criteria for this study were registered nurses working in nephrology patient care. Completion of the survey implied consent. All responses were confidential with no name identifiers for the respondents or their employing organizations. The researchers received Internal Review Board approval prior to conducting the study.

Instrument

The survey was created using items from two Agency for Healthcare Research and Quality (AHRQ) patient safety survey assessment tools. Select items from the Hospital Survey on Patient Safety Culture (HSPSC) and the Medical Office Survey on Patient Safety Culture (MOSPSC) were combined to address care delivered in the hospital and outpatient nephrology practice settings. These two surveys have been used extensively. The dimensions of the surveys are shown in Table 1 (AHRQ, 2014a, b). Dimension reliabilities have been shown to range from 0.63 to 0.90. In addition, the survey contained several demographic items on the participants and their employing organizations. Participants in the study were also asked to respond to two open-ended questions. The questions allowed the participants to share information and comments about patient safety, errors, solutions, and event reporting issues in nephrology nurse practice settings or related to nephrology nursing in general. All participants were asked a core set of questions that were applicable to all nephrology nurse practice settings. Additional questions were asked specific to the respondents' primary work setting – hospital, outpatient hemodialysis (OP HD) unit, and peritoneal dialysis (PD) unit. The groups are referred to as Nephrology Nurse Practice Setting – All (NNPS-All) for responses from all respondents, Nephrology Nurse Practice Setting – Hospital for respondents whose primary work setting was a hospital, Nephrology Nurse Practice Setting – OP HD (NNPS-OPHD) for

respondents whose primary work unit was an OP HD unit, and Nephrology Nurse Practice Setting – PD (NNPS-PD) for respondents working in peritoneal dialysis units. The AHRQ Comparative Databases were used as a comparison for the AHRQ items (AHRQ, 2014a, c). The AHRQ HSPSC data are referred to as the AHRQ – Hospital group and the AHRQ MOSPSC data are referred to as the AHRQ-Outpatient (AHRQ-OP) group.

For this study, an "event" was defined as any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm. "Patient safety" was defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of healthcare delivery, and "work unit" or "unit" was defined as the work area, department, or practice setting in which the respondent spends most of his or her work time or provided the most clinical services.

Data Collection and Analysis

In April 2014, an email was sent to all ANNA members inviting them to participate in the online study. Electronic data collection occurred over a one-month period.

Frequencies and means were calculated for all quantitative items. The qualitative data were reviewed by both researchers and mined for themes. In addition, for the AHRQ items, a percent positive score was calculated in order to compare the results of this study with the data in the AHRQ Comparative Databases. For positively worded items, the percent positive response is the combined percentage of respondents who answered "Strongly agree" or "Agree," or "Always" or "Most of the time," depending upon the response categories for the item. For negatively worded items, the percent positive response is the combined percentage of respondents within a hospital who answered "Strongly disagree" or "Disagree," or "Never" or "Rarely;" a negative answer on a negative item equals a positive response.



Table 1
Patient Safety Culture Dimensions and Definitions

| Patient Safety Culture Composite | Cronbach's α | Definition: <i>The extent to which...</i> |
|--|---------------------|--|
| Hospital Survey | | |
| Communication openness | 0.72 | Staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority. |
| Feedback and communication about error | 0.78 | Staff are informed about errors that happen, given feedback about changes implemented, and discuss ways to prevent errors. |
| Frequency of events reported | 0.84 | Mistakes of the following types are reported: 1) mistakes caught and corrected before affecting the patient, 2) mistakes with no potential to harm the patient, and 3) mistakes that could harm the patient but do not. |
| Handoffs and transitions | 0.80 | Important patient care information is transferred across hospital units and during shift changes. |
| Management support for patient safety | 0.83 | Hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority. |
| Nonpunitive response to error | 0.79 | Staff feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file. |
| Organizational learning – Continuous improvement | 0.76 | Mistakes have led to positive changes and changes are evaluated for effectiveness. |
| Overall perceptions of patient safety | 0.74 | Procedures and systems are good at preventing errors and there is a lack of patient safety problems. |
| Staffing | 0.63 | There are enough staff to handle the workload and work hours are appropriate to provide the best care for patients. |
| Supervisor/manager expectations and actions promoting safety | 0.75 | Supervisors/managers consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems. |
| Teamwork across units | 0.80 | Hospital units cooperate and coordinate with one another to provide the best care for patients. |
| Teamwork within units | 0.83 | Staff support each other, treat each other with respect, and work together as a team. |
| Medical Office Survey – Additional Components | | |
| Office processes and standardization | 0.77 | The office is organized, has an effective workflow, has standardized processes for completing tasks, and has good procedures for checking the accuracy of the work performed. |
| Patient care tracking/follow up | 0.78 | The office reminds patients about appointments, documents how well patients follow treatment plans, follows up with patients who need monitoring, and follows up when reports from an outside provider are not received. |
| Staff training | 0.80 | The office provides staff with effective on-the-job training, trains staff on new processes, and does not assign staff tasks they have not been trained to perform. |
| Work pressure and pace | 0.76 | There are enough staff and providers to handle the patient load, and the office work pace is not hectic. |
| Organizational leadership | 0.76 | Organizational leadership actively supports quality and patient safety, places a high priority on improving patient care processes, does not overlook mistakes, and makes decisions based on what is best for patients. |
| Information exchange with other settings | 0.90 | Accurate and complete information is exchanged in a timely manner. |

Sources: AHRQ, 2014a, b.

Results

A total of 979 individuals responded to the survey. Of those, 50 indicated that they did not work in nephrology patient care and were excluded from the data analysis.

With regards to primary role, 487 (52.4%) identified their primary role as RN – Direct Care (Staff Nurse), 249 (26.7%) Manager/Administrator, 84 (9.0%) Educator, and 50 (5.4%) APRN/NP. For primary work unit, 480 (51.7%) selected Hemodialysis Unit – Chronic, 211 (22.7%) Hemodialysis – Acute, and 80 (8.6%) Peritoneal Dialysis Clinic. Of the respondents who provided organization status information, 52.2% worked in for-profit organizations and 47.8% worked in not-for-profit organizations. Detailed demographic data can be found in Table 2.

Overall Patient Safety

Participants were asked to give their unit an overall grade on patient safety using a 5-point Likert scale with the anchors failing and excellent (see Table 3). Twenty-six percent (26%) of the respondents rated their unit excellent, and 51% rated it very good. In addition, participants were asked to give an overall rating to the systems and processes their work unit has in place to prevent, catch, and correct problems that have the potential to affect patients. The ratings were 16% excellent, 42% very good, 28% good, 11% fair, and 3% poor.

Respondents working in outpatient hemodialysis units and peritoneal dialysis units were asked if they would recommend their unit as safe. When asked to indicate their agreement with the statement “I would tell my friends that this is a safe hemodialysis/peritoneal dialysis unit for their family,” 34% of the nurses working in OP HD units and 62% of the nurses working in PD units strongly agreed, and 45% in OP HD units and 29% in PD units agreed (see Table 4).

Four additional items related to overall perceptions of patient safety (see Figure 1). There was strong agreement (19%) and agreement (39%) to the statement “Patient safety is never

Table 2
Demographic Information

| Total Respondents | 979 |
|--|-------------|
| Respondents who are not RNs working in nephrology patient care | 50 |
| Total respondents in final sample | 929 |
| Primary Role | |
| Manager/administrator | 249 (26.8%) |
| RN – Direct care (staff nurse) | 487 (52.4%) |
| APRN/NP | 50 (5.4%) |
| Educator | 84 (9.0%) |
| Other | 46 (5.0%) |
| No response | 13 (1.4%) |
| Primary Work Unit | |
| Hemodialysis unit – Chronic | 480 (51.7%) |
| Hemodialysis – Acute | 211 (22.7%) |
| Nephrology inpatient unit/transplant unit | 15 (1.6%) |
| Peritoneal dialysis clinic | 80 (8.6%) |
| Outpatient clinic | 37 (4.0%) |
| Medical office | 13 (1.4%) |
| Other | 79 (8.5%) |
| No response | 13 (1.4%) |
| Organization Status | |
| For profit | 52.2% |
| Not for profit | 47.8% |
| Experience | |
| Years as a registered nurse | 24.53 |
| Years as a nephrology nurse | 18.22 |

Table 3
Overall Grades: Patient Safety, Systems and Processes

| | Excellent | Very Good | Acceptable | Poor | Failing |
|---|-----------|-----------|------------|------|---------|
| Please give your unit an overall grade on patient safety. | | | | | |
| NNPS – All | 26% | 51% | 20% | 3% | 0% |
| AHRQ Hospital 2014 | 33% | 43% | 19% | 4% | 1% |
| Overall, how would you rate the systems and processes your unit has in place to prevent, catch, and correct problems that have the potential to affect patients. | | | | | |
| | Excellent | Very Good | Good | Fair | Poor |
| NNPS – All | 16% | 42% | 28% | 11% | 3% |

Note: NNPS – All includes respondents working in all nephrology nurse practice settings. AHRQ Hospital 2014 includes data from the AHRQ HSPSC Comparative Database.

Table 4
Recommending Their Unit

| | Strongly Agree (%) | Agree (%) | Neither (%) | Disagree (%) | Strongly Disagree (%) |
|--|--------------------|-----------|-------------|--------------|-----------------------|
| I would tell my friends that this is a safe hemodialysis for their family. | 34 | 45 | 12 | 7 | 2 |
| I would tell my friends that this is a safe peritoneal dialysis unit for their family. | 62 | 29 | 9 | 0 | 0 |

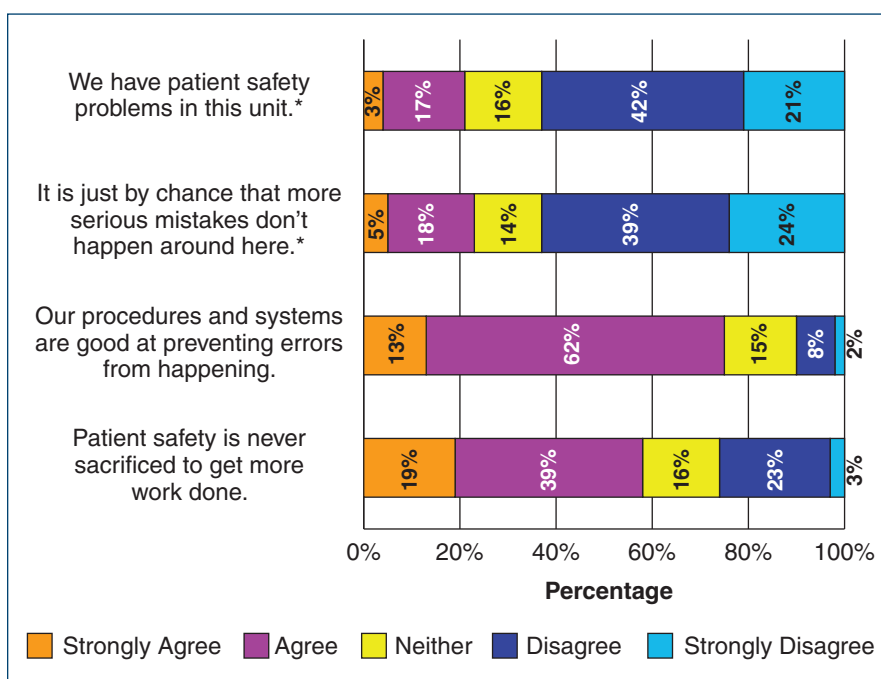
sacrificed to get more work done,” resulting in a positive response of 58%. This is a lower positive score than that of the AHRQ – Hospital group (64%). There was strong agreement (13%) and agreement (62%) to the statement “Our procedures and systems are good at preventing errors from happening,” a 75% positive score (compared to the AHRQ – Hospital score of 73%). However, 3% strongly agreed, and 18% agreed with the statement “It is just by chance that more serious mistakes don’t happen around here.”

The open-ended questions yielded many positive comments about the general safety culture of the work environment. Many nephrology nurses described working in an environment that had a strong focus on patient safety and sound systems in place. A nurse reported, “We have a program in place to identify potential risks and try to prevent errors before they happen, and we have quarterly safety meetings.” Other nurses reported having daily safety huddles and existing safety zones on the unit.

Communication, Feedback, And Error Reporting and Response

Several questions focused on feedback and communication about errors, response to errors, and communication openness (see Figures 2, 3, and 4). To the statement “Staff will freely speak up if they see something that may negatively affect patient care,” 23% said always, and 44% said most of the time (67% positive res-

Figure 1
Overall Perception of Patient Safety



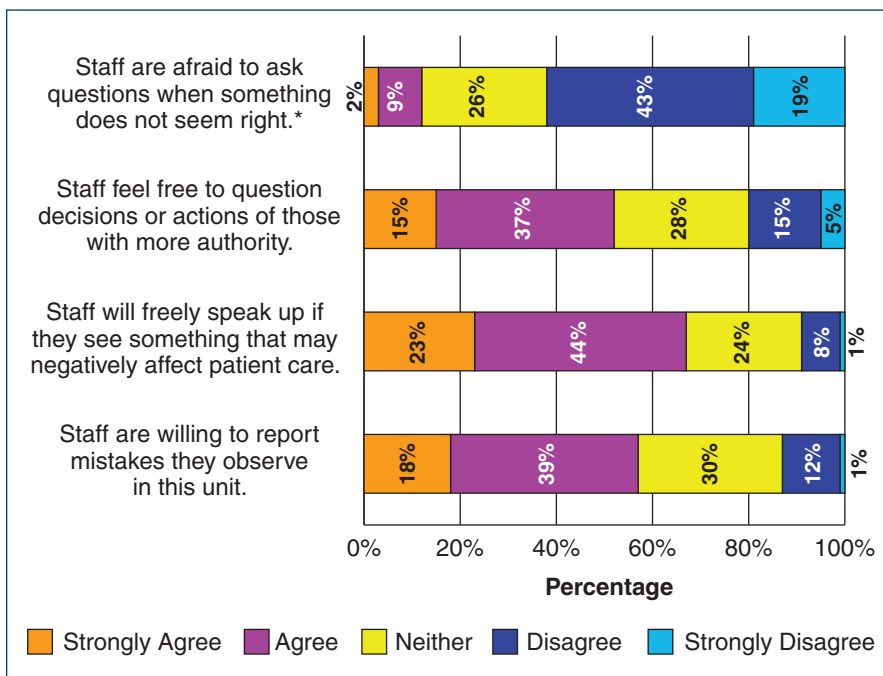
*Negatively worded item.

ponse). This is less than the AHRQ – Hospital positive response of 76%. Regarding feedback and communication about errors, 60% responded positively to the statement “We are informed about errors that happen on this unit.” This was less than the 67% positive AHRQ 2014 Hospital data. Further, 51% responded positively to the statement “We are given feedback about changes put into place based on event reports.” This again is a lower rating than the 59% positive response in the AHRQ comparative data. When asked if staff members feel free

to question the decisions or actions of those with more authority, there was a large difference in the responses of the nephrology nurse managers/administrators (75% positive responses) and RNs who are direct care providers (42% positive responses).

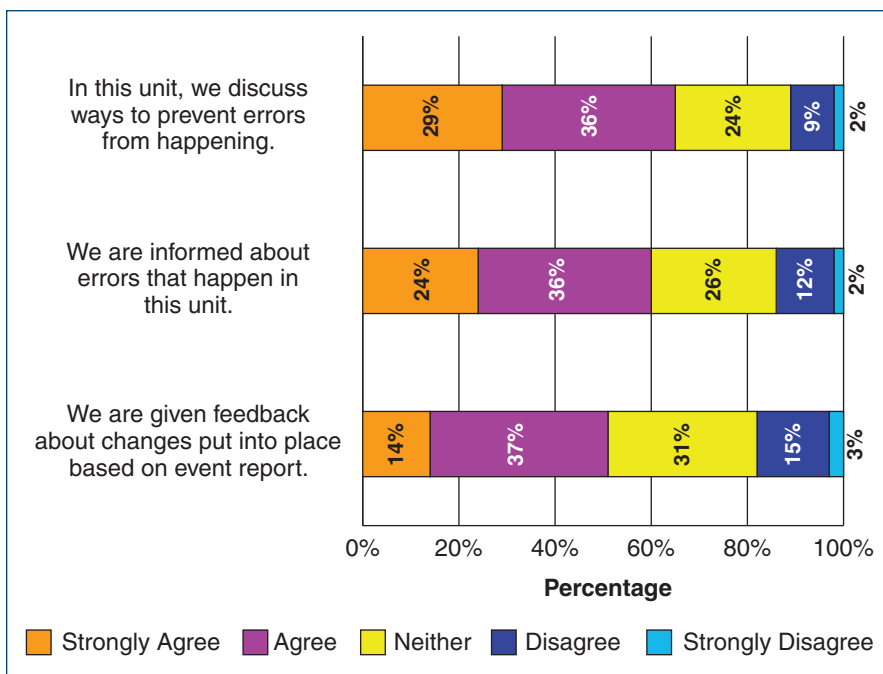
Event reporting is critical to recognizing safety issues and preventing and mitigating patient harm in the future. When asked how often they had filled out and submitted reports in the past 12 months, 24% said none, and 30% said they had submitted one to two events. However, the reporting

Figure 2
Communication Openness



*Negatively worded item.

Figure 3
Feedback and Communication About Error



*Negatively worded item.

varies by type of event (see Figure 4). Mistakes that are caught and corrected before affecting the patient (near misses) or that have no potential harm to the patient are reported less often.

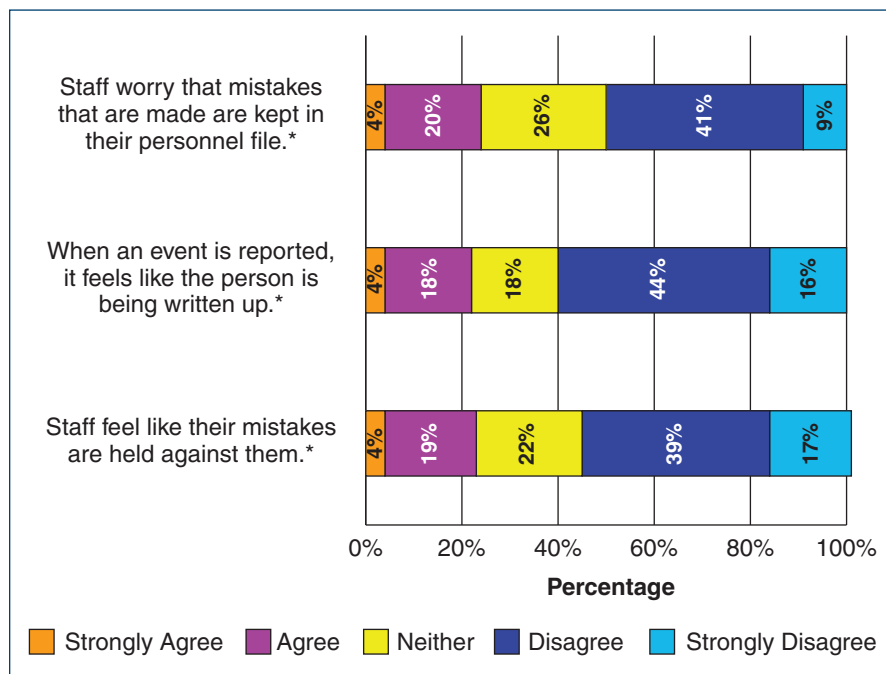
The response to errors influences how often errors are reported. Just over 20% of the respondents either agreed or strongly agreed that they felt like their mistakes were held against them, and felt like when an event was reported, the person was being written up rather than the event (see Figure 5).

In addition to this quantitative data, the most common concern related to patient safety reported in the open-ended questions overwhelmingly stemmed from a perceived under-reporting of events and near misses. There were several rationales provided for this perceived under-reporting by nurses and patient care technicians, including lack of time, cumbersome documentation systems, lack of managerial support or follow up to a reported event, and actual or perceived punishment toward the employee reporting an event. One participant shared, "Documentation of adverse events is cumbersome and difficult, leading the staff to not complete all properly." Another nurse stated, "We have event reporting sites available, but it is difficult to get the time to enter events or near misses." While another participant said, "I feel near misses are under-reported, and there should be more emphasis and education regarding reporting." Many nurses shared experiences with a punitive system after reporting an event or near miss, and other nurses described fear of a punitive system based upon a toxic work environment.

Teamwork

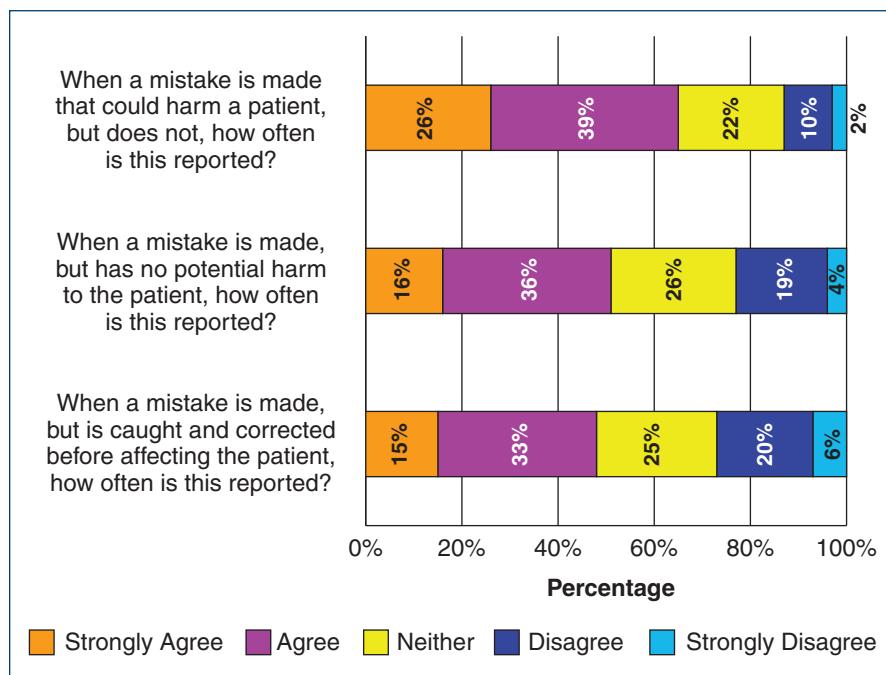
Teamwork within units was highly rated (see Figure 6). In fact, the three highest rated items in the survey were teamwork-related: "There is a good working relationship between staff and providers," "People support one another in this unit," and "When a lot of work needs to get done quickly, we

Figure 4
Nonpunitive Response to Errors



*Negatively worded item.

Figure 5
Frequency of Events Reported



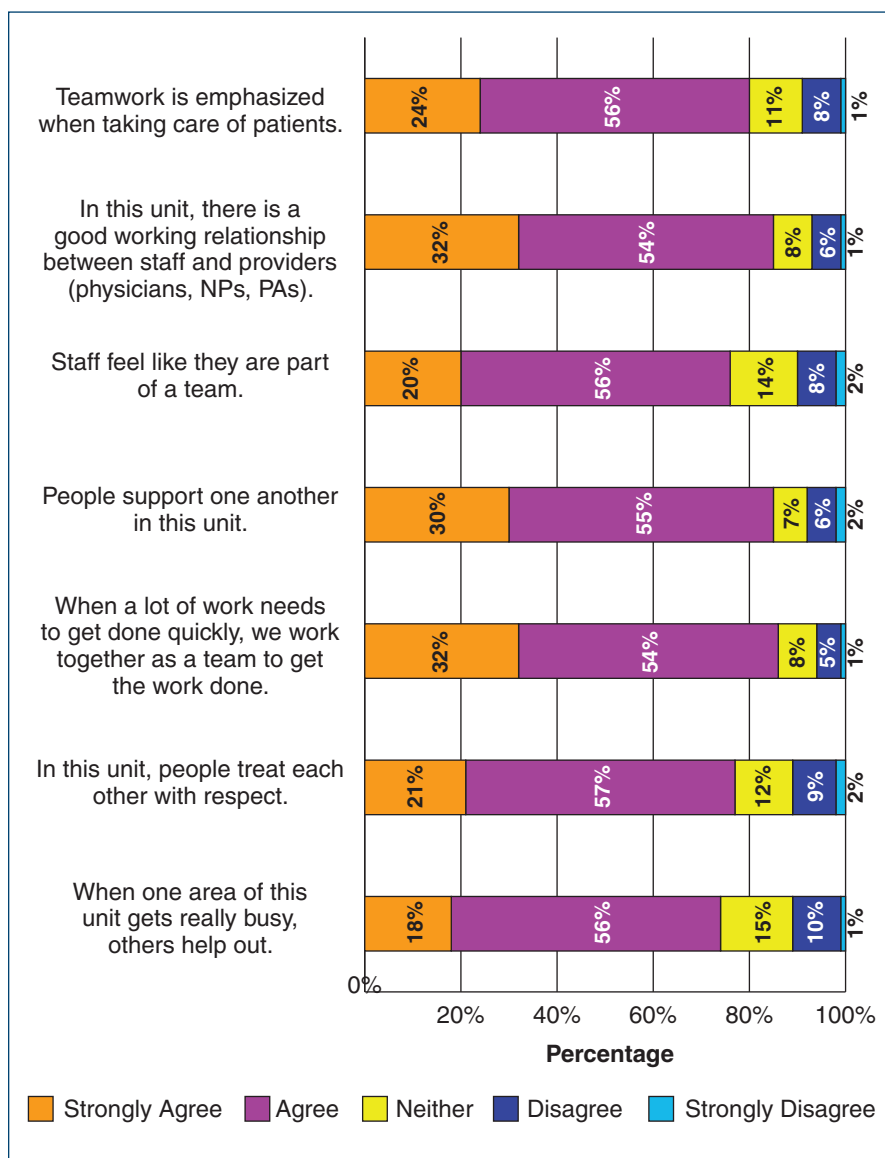
*Negatively worded item.

work together as a team to get the work done.” When asked about people supporting one another on the unit, 85% of nephrology nurses agreed or strongly agreed, similar to the AHRQ result of 86%. Teamwork across units in hospitals is rated slightly lower, but higher than the AHRQ-Hospital comparative data (see Figure 7).

Staffing

Regarding staffing, only 61% of the respondents agreed or strongly agreed that their unit has enough staff members to handle the workload (see Figure 8). In another item, 12% of the respondents strongly agreed, and 34% agreed with the statement “I often feel rushed when taking care of patients.” The overuse of agency/temporary personnel is much less of an issue in nephrology nurse practice settings than in hospitals in general. Many nurses shared concerns about staffing numbers and trends in their practice setting. The identified themes included lack of registered nurses in the outpatient hemodialysis settings, long hours of the acute dialysis nurse, and management of patients with multiple health problems. Nurses reported concerns about decreasing staffing numbers in the nephrology practice settings and the impact on the quality of care delivered and patient safety. A nurse shared, “We are working too long with not enough staff, and we are so busy.” Another nurse said that there needs to be a nurse-to-patient ratio law for hemodialysis because she is concerned about the unsafe environment caring for 20 patients and the potential impact this may have on her license if she makes a mistake. A nurse working in an acute hemodialysis unit reported that being responsible for two patients on dialysis with no backup staff was too much, as there was no one to answer phone calls, make calls to the physicians, assist with computer charting, or allow time for a bathroom break. Regarding patient acuity and staffing, a nurse stated, “Often the patients in outpatient clinics are older and have multiple health problems;

Figure 6
Teamwork within Units



*Negatively worded item.

lower staff/patient ratios does not help with patient safety in my opinion.”

Processes and Standardization

The results indicated an overall positive rating for staff members following standardized processes and for units having good procedures for checking that work is done correctly (see Figure 9). There do appear to be

some issues with workflow and organization. In the open-ended questions, nurses reported having many responsibilities and not enough time to deliver care and check the work of the patient care technicians in the outpatient settings. Issues identified included incorrect weights, incorrect dialysate, blood pressures being missed, and poor communication with the registered nurses. A respondent sug-

gested that focus should be placed on low frequency and high-risk procedures more often than annually. The most common issue described was staff taking short cuts to complete a task within a desired timeframe. Many nurses, however, reported working in an environment with excellent safety programs and policies and procedures in place.

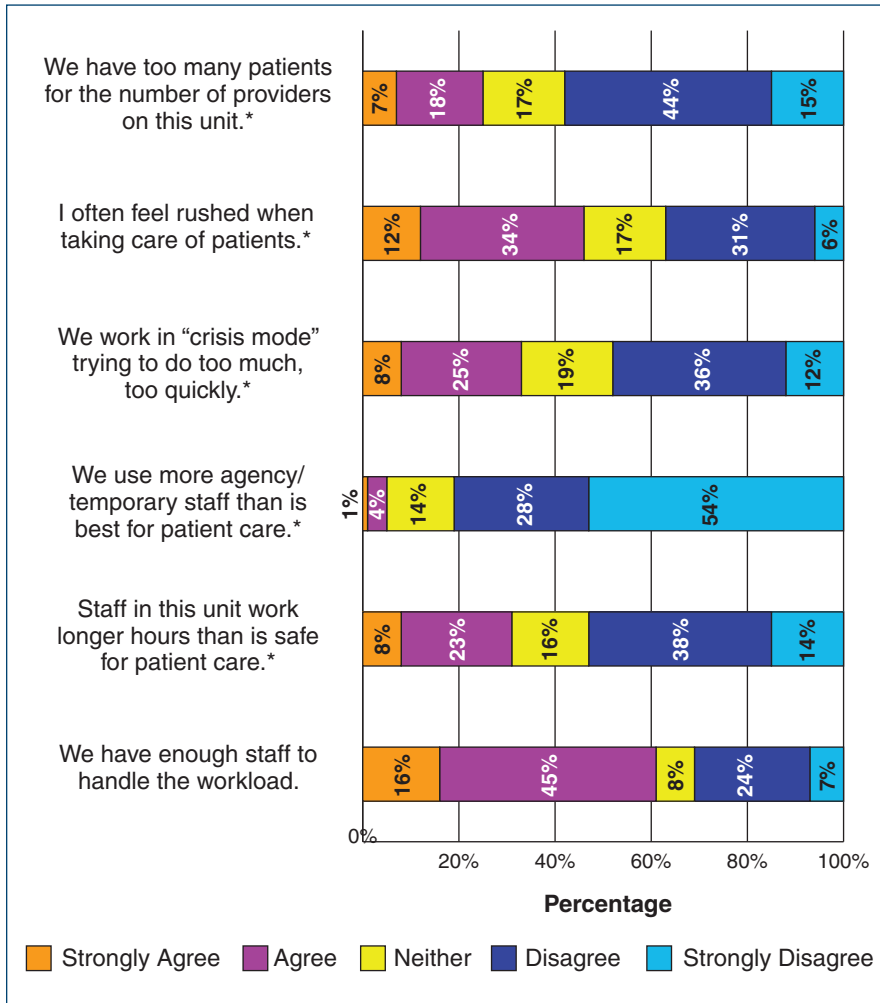
Organizational Learning And Staff Training

On the whole, organizational learning was rated positively, including mistakes leading to positive change (see Figure 10). Staff being trained when new processes are put into place was also rated high (see Figure 11). There were several comments regarding training and education of new and existing staff members in general, and also related to safety protocols and practices. One nurse stated that education at her unit was ongoing. This was a common theme found in many narratives, in addition to the insight by many respondents that education pertaining to safety needs to be ongoing.

Handoffs and Transitions

Handoffs in nephrology nurse practice settings were a major concern just as they are in other health-care settings (see Figures 12 and 13). Forty-nine percent (49%) agreed or strongly agreed that things “fall through the cracks” when patients are admitted to the hospital, and 61% agreed or strongly agreed that things fall through the cracks when patients are discharged from the hospital to the hemodialysis unit. Finally, 52% agreed or strongly agreed there is an issue with the exchange of information between the hospital and the dialysis unit. There were also many issues related to transfer of information, including the exchange and availability of accurate, complete, and timely information (see Tables 5, 6, and 7). In the area of communication, nurses working in the hospital setting were asked to answer questions regarding handoffs. These data indicate handoffs between hospital and

**Figure 8
Staffing**



*Negatively worded item.

dialysis facilities are areas that require further investigation.

Management and Leadership Support for Patient Safety

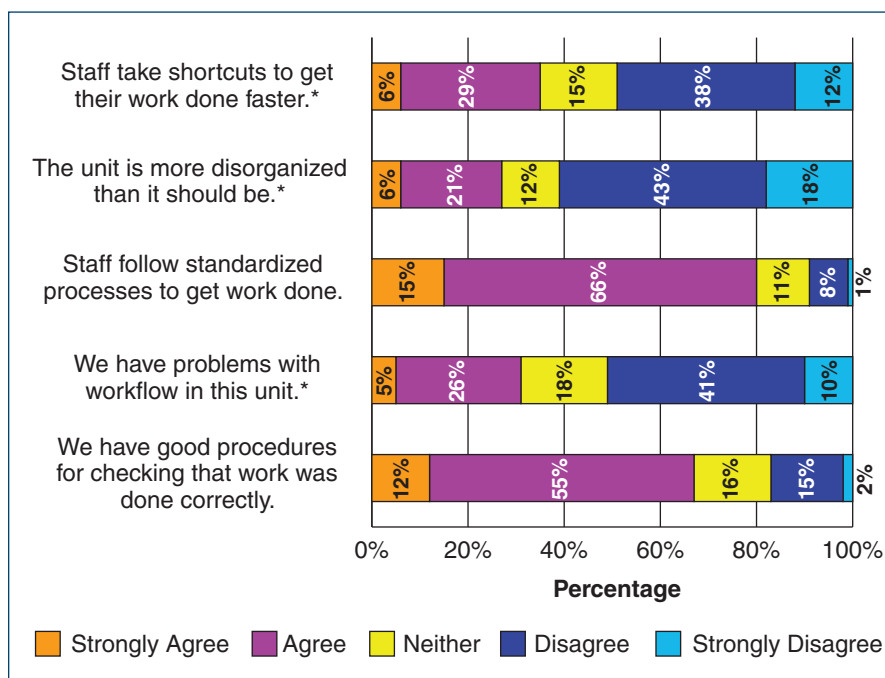
Across the board, supervisor and manager expectations and actions promoting and supporting patient safety and support for patient safety by organizational leadership were rated lower than comparative data from AHRQ (see Figures 14, 15, and 16). For example, when asked if management/leadership provides a work climate that promotes safety, direct patient care nephrology nurses reported a 66% positive response, while the AHRQ positive response was 81%. Moreover, 35% agreed or strongly agreed with the statement "My organization's management/leadership makes decisions based on what is best for the organization rather than what is best for patients." This was the second lowest-rated item in the entire survey. A commonly mentioned issue in the open-ended questions was a strengthening focus on productivity and weakening focus on patient centered care. Many nurses commented that the dialysis organization and management focus on a bottom line that pushes the staff to get the patients on and off the hemodialysis machine as quickly as possible, so the equipment can be turned over for the next patient to use. It was clearly described by one nurse as "get them in, on, and gone," and this leads to rushing and incomplete work.

**Table 5
Information Exchange with other Settings**

| Over the past 12 months, how often has your hemodialysis unit had problems exchanging accurate, complete, and timely information with | Daily (%) | Weekly (%) | Monthly (%) | Several Times in the Past 12 Months (%) | Once or Twice in the Last 12 Months (%) | None in the Past 12 Months (%) |
|---|-----------|------------|-------------|---|---|--------------------------------|
| Outside labs/imaging center? | 1 | 2 | 5 | 21 | 29 | 42 |
| Other medical offices/outside physicians? | 1 | 4 | 5 | 24 | 33 | 34 |
| Pharmacies? | 1 | 3 | 6 | 16 | 28 | 46 |
| Hospitals? | 2 | 8 | 10 | 21 | 28 | 32 |
| Emergency departments? | 1 | 4 | 6 | 15 | 26 | 47 |

Note: Totals may not equal to 100% due to rounding.

Figure 9
Processes and Standardization



*Negatively worded item.

Specific Patient Safety Issues

There were several items pertaining to specific patient safety issues. When asked how often in the last 12 months a wrong drug or wrong dose (including wrong dialysate dose) was administered, 1% said daily, 6% said weekly, and 6% said monthly. Nurses shared several stories about medication errors occurring on the unit or upon discharge from the hospital. Some issues were grounded in obtaining the wrong orders related to poor handoff procedures, lack of a medication reconciliation during hospitalization and upon discharge to an outpatient setting, or an error due to other system procedures or documentation programs. Some nurses shared the enforcement of new policies related to timing of medication reconciliation and new electronic medical record systems that decreased the incidence of medication errors. Other nurses reported medication reconciliation and administration errors remain unresolved.

When asked to indicate their agreement with the statement “Staff in the hemodialysis unit/peritoneal dialysis unit wash their hands immediately after removing gloves,” only 14% of the nurses working in OP HD units strongly agreed, and 54% agreed (see Figure 17). For nurses working in PD units, 53% strongly agreed and 35% agreed. Infection control was a common concern among participants in the narratives, and it was often attributed to lack of knowledge, time, and attention to protocols. It was reported in one unit that patient safety was good overall, but staff were not following infection guidelines and failed to wear gloves when resetting machine alarms. Another nurse reported observing coworkers skipping infection control practices when they think they would not get caught. Yet another nurse recounted staff not wearing personal protective equipment in a hepatitis B positive isolation room

Many respondents identified falls in nephrology nurse practice settings as an issue. Several nurses recounted stories of changes in policies that required a staff member to accompany a patient to the bathroom or scale, and keeping patients at risk for falling in the dialysis unit until transportation arrives. A nurse working in a hospital nephrology unit reported that hourly rounding and use of call bells decreased patient falls.

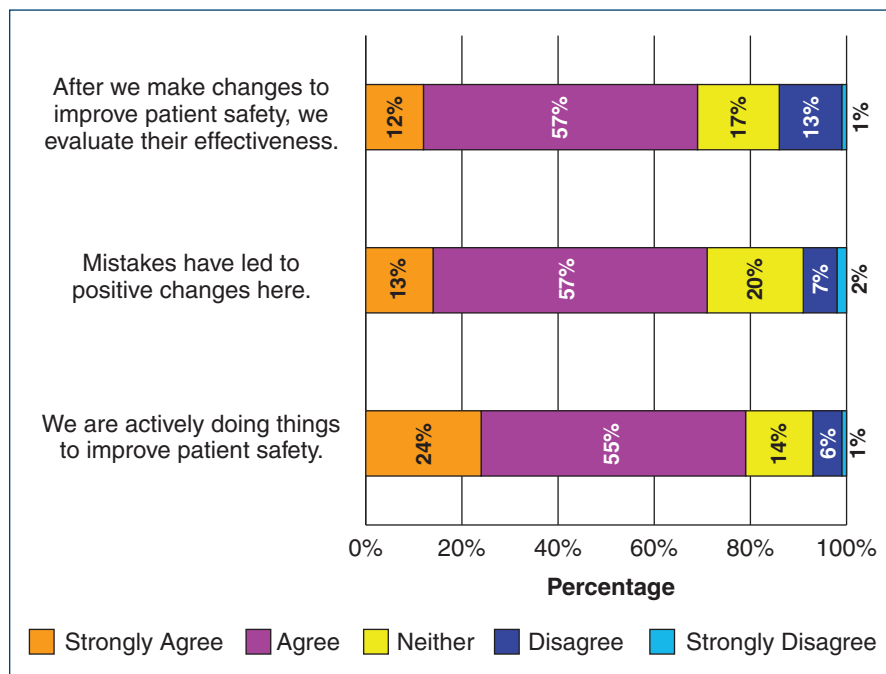
Best Practices

On the positive side, many nurses reported working in an environment with a strong focus on patient safety and sound safety systems in place. A nurse reported, “We have a program in place to identify potential risks and try to prevent them before they happen, and we have quarterly safety meetings.” Another nurse shared, “We have a Just Culture team that encourages reporting of near misses or problems before they can become an issue or event, and this has brought to light many things.” Nurses reported holding safety huddles daily or having safety zones on the unit. Nurses also reported openness to errors and follow-through by managers when issues are reported in the presence of a non-punitive system. Many nurses reported that safety was the number one priority on the unit. Finally, there were reports of effective documentation systems that collected data on events and near misses and sent the data to managers and administrators for analysis and follow-up action.

Limitations

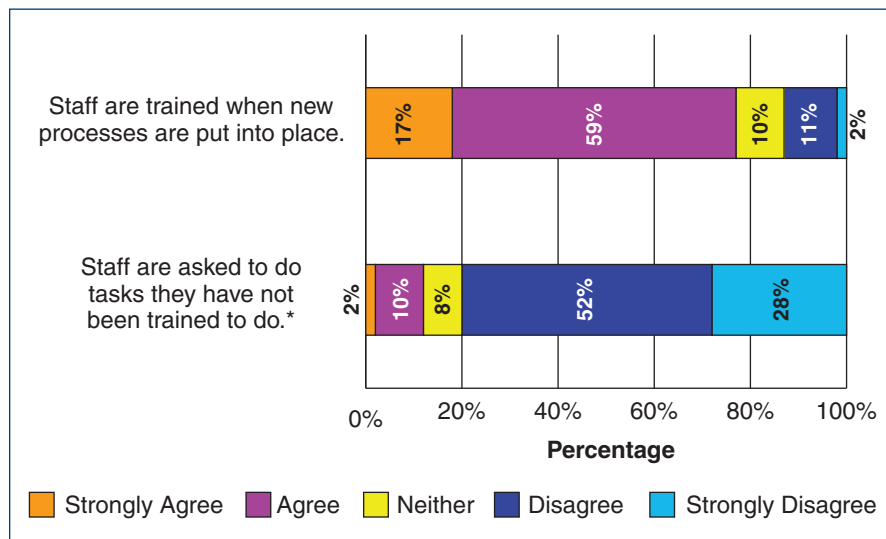
There are several limitations to this study. Likely the greatest limitation is the self-selected nature of the respondents to this survey. Because of the volunteer nature, it is possible these individuals had more exposure to safety in the practice setting or a stronger than usual interest in safety practices and culture. Respondents to the study may have completed the survey after completing a particularly challenging or simple day at work.

Figure 10
Organizational Learning – Continuous Improvement



*Negatively worded item.

Figure 11
Staff Training



*Negatively worded item.

This may have resulted in responses that reflected the recent level of challenge or simplicity in the work environment. Further, there is no way to ascertain if the respondents truly understood the content of the question. Misinterpretation of the posed question may have led to an inaccurate response.

Discussion

The overall response rate to this survey indicates nephrology nurses have an interest in patient safety practices and culture. This noted interest was also evidenced by the numerous and sometimes lengthy narratives provided by the respondents. Upon initial review of the data, it appeared many items received ratings that were comparable to the AHRQ ratings. Yet, upon further investigation of the percentage of positive responses for individual items, safety issues were present. Such issues include handoffs, infection control, medication errors, communication, prioritization, staffing, and workload. These data indicate a continued need for additional fundamental education related to hand hygiene, medication administration safety, communication, and prioritization in practice settings. In fact, these are areas open to research and education in nephrology nurse practice settings because these principals are core elements in nursing education programs and safe practice. Additional investigation needs to occur to determine the factors that are contributing to the underperformance of basic nursing skills. The respondents indicated a perceived need to rush to complete tasks in the dialysis unit resulting in incomplete work. These perceptions may play a key role in this under-performance of basic nursing skills. Investigation is needed to determine whether the systems in place encourage rushing or if it self-directed by the nephrology staff.

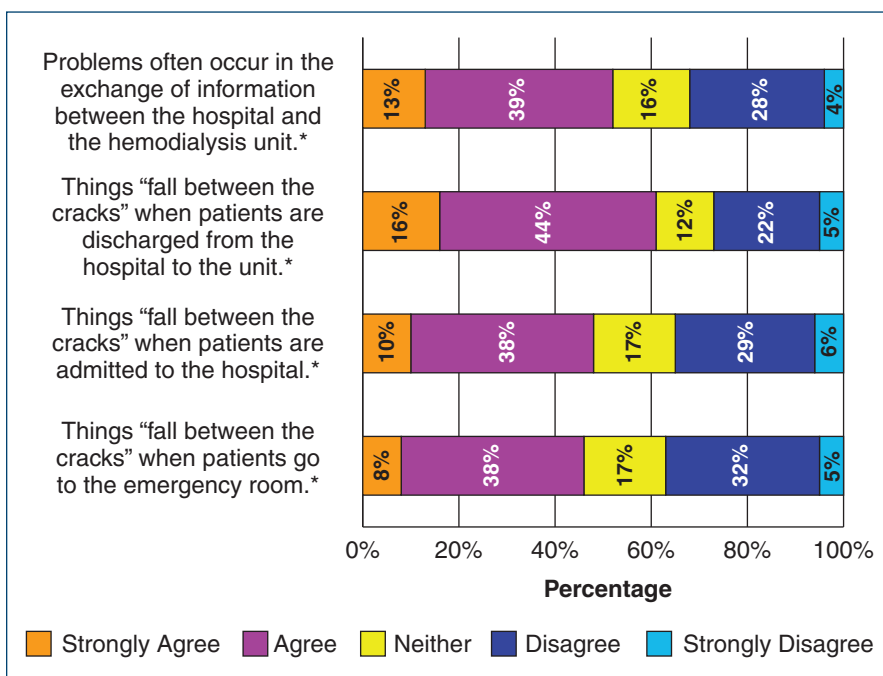
Teamwork items received a high percentage of positive scores from respondents. The nature of the work performed in nephrology practice settings has long required teamwork and

Table 6
The following items describe things that can happen in healthcare settings that affect patient safety and quality of care. In your best estimate, how often did the following things happen in your unit over the past 12 months?

| | Daily (%) | Weekly (%) | Monthly (%) | Several Times in the Past 12 Months (%) | Once or Twice in the Last 12 Months (%) | None in the Past 12 Months (%) |
|---|-----------|------------|-------------|---|---|--------------------------------|
| A patient was unable to get an appointment/care within 48 hours for an acute/serious problem. | 1 | 2 | 3 | 13 | 23 | 58 |
| A wrong chart/medical record was used for a patient. | 0 | 0 | 0 | 4 | 20 | 76 |
| A patient's chart/medical record was not available when needed. | 1 | 1 | 1 | 8 | 14 | 74 |
| Medical information was filed, scanned, or entered into the wrong patient's medical record. | 0 | 1 | 2 | 12 | 36 | 49 |
| Medical equipment was not working properly or was in need of repair or replacement. | 5 | 12 | 10 | 24 | 26 | 24 |
| A wrong drug or wrong dose was administered to a patient (including dialysate solutions). | 1 | 6 | 6 | 17 | 36 | 35 |

Note: Totals may not equal to 100% due to rounding.

Figure 12
Handoffs and Transitions – Nephrology Nurse Practice Setting – Hospital



*Negatively worded item.

interprofessional collaboration for successful delivery of holistic patient care to patients with complicated disease processes and care needs.

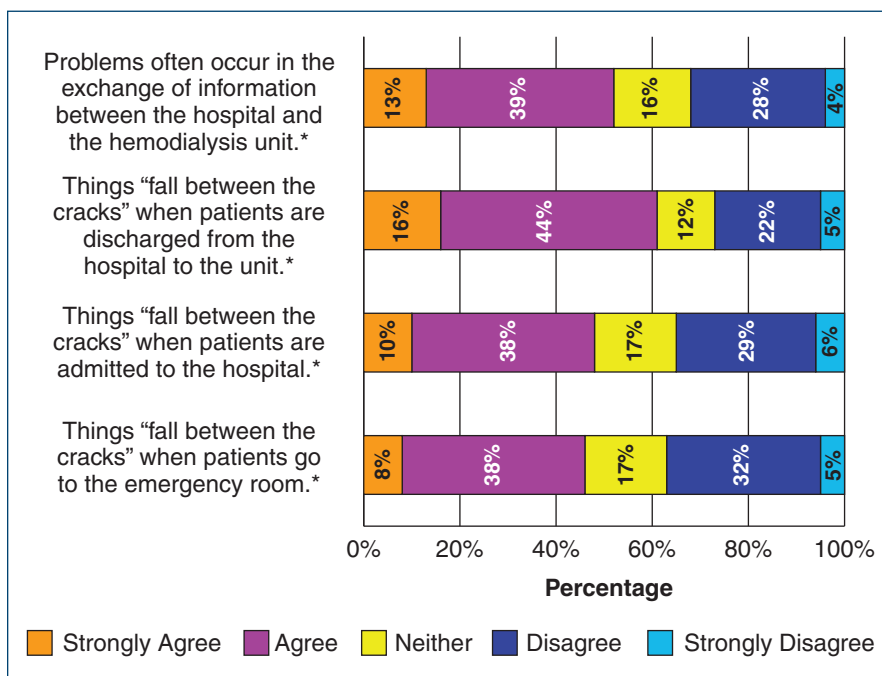
Two areas were recognized in which there were differences in ratings. It was noted that managers/administrators consistently rated the patient safety culture higher than direct care nephrology nurses. These findings are consistent with findings reported by Singer and colleagues (2009). They studied the relationship between patient safety culture and patient safety indicators in 91 hospitals. Singer and colleagues (2009) observed that senior management might not fully appreciate the safety hazards of their organization. In this study, respondents in not-for-profit organizations rated the patient safety culture higher than respondents in for-profit organizations. Data from not-for-profit and for-profit organizations and the differences in responses of direct care nurses and managers/administrators will be published in future articles.

Table 7
How often did the following things happen in your hemodialysis unit over the past 12 months?

| | Daily (%) | Weekly (%) | Monthly (%) | Several Times in the Past 12 Months (%) | Once or Twice in the Last 12 Months (%) | None in the Past 12 Months (%) |
|--|-----------|------------|-------------|---|---|--------------------------------|
| A pharmacy contacted our unit to clarify or correct a prescription. | 6 | 7 | 7 | 28 | 30 | 21 |
| A patient's medication list was not updated during his or her visit. | 2 | 5 | 19 | 29 | 26 | 20 |
| The results from a lab test or imaging text were not available when needed. | 1 | 5 | 8 | 27 | 28 | 31 |
| A critical abnormal result from a lab or imaging test was not followed up within one business day. | 1 | 4 | 8 | 12 | 27 | 49 |
| The patient's dialysis prescription used for the treatment was different than that ordered by the primary care provider. | 2 | 4 | 6 | 18 | 26 | 45 |
| Patients developed infections related to poor practices by staff. | 1 | 2 | 4 | 11 | 26 | 56 |

Note: Totals may not equal to 100% due to rounding.

Figure 13
Handoff and Transition Issues – Nephrology Nurse Practice Setting – Outpatient Hemodialysis Unit



*Negatively worded item.

Analysis of the qualitative data resulted in the identification of several themes, including under-reporting of events, poor staffing ratios, long work hours, cumbersome documentation systems, infection control failures, compliance issues with policies and procedures, inadequate training, and communication breakdown. A full analysis of the qualitative data will be discussed in a future publication.

There were many reports of best practices in creating and maintaining patient safety culture. These success stories need to be studied and shared with the nephrology community.

It is clear that nurses in all areas of nephrology practice need to start routinely assessing the culture of safety in their practice setting. Use of the entire tool employed by the researchers may be time-consuming as an initial step, so a short tool with selected AHRQ items is provided in Table 8. It is suggested that nephrology nurses use this tool to collect data to initially assess the patient safety culture in their practice settings and hold interprofessional meetings to discuss the findings. In facilities that may be using a safety data collection tool, these items may be integrated into the tool or substituted for similar items.

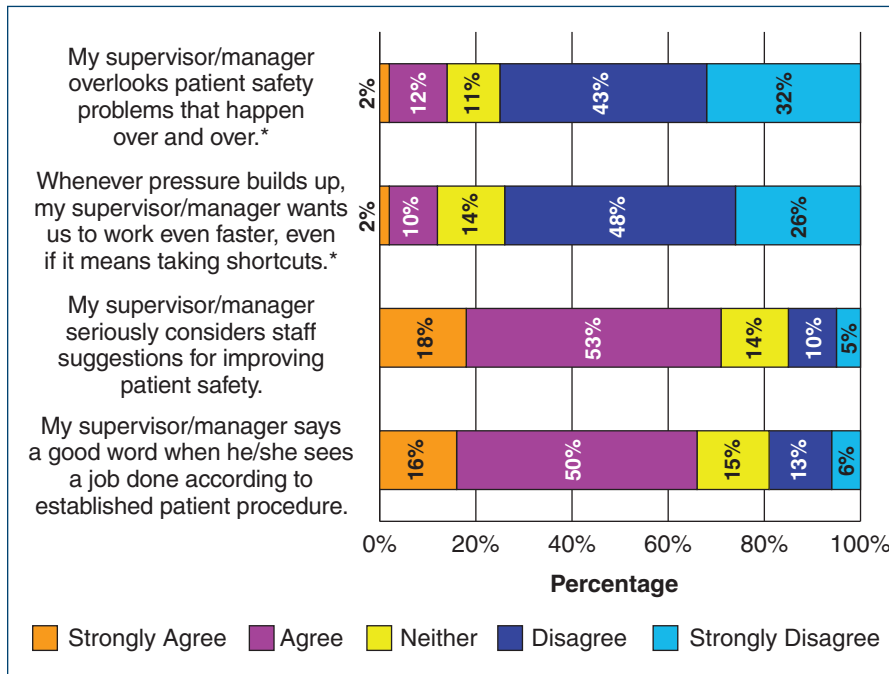
Patient Safety Culture in Nephrology Nurse Practice Settings: Initial Findings

Table 8
Patient Safety Culture – Mini Assessment – Summary Sheet

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | Percent Positive Score | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|------------------------|-----------------|------------------|
| | | | | | | Your Unit Score | AHRQ 2014 Score | NNPS All Score |
| 1. When a lot of work needs to be done quickly, we work together as a team to get the work done. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 86% | 83% |
| 2. My supervisor/manager seriously considers staff suggestions for improving patient safety. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 77% | 71% |
| 3. Mistakes have led to positive changes here. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 64% | 70% |
| 4. After we make changes to improve patient safety, we evaluate their effectiveness. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 71% | 69% |
| 5. Management/leadership provides a work climate that promotes patient safety. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 81% | 72% |
| 6. Patient safety is never sacrificed to get more work done. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 64% | 58% |
| 7. We have enough staff to handle the workload. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 54% | 60% |
| 8. Staff will freely speak up if they see something that may negatively affect patient care. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 76% | 67% |
| 9. Staff are trained when new procedures are put into place | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 78% | 59% |
| 10. Things “fall between the cracks” when transferring patients from one unit/facility to another. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 43% | 44% |
| 11. We have good procedures for checking what work was done correctly. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 73% | 67% |
| 12. Staff in the unit wash their hands immediately after removing gloves. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | | 67% HD 88% PD |
| 13. My organization's management/ leadership places a high priority pm improving patient care processes. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 82% | 70% |
| | Poor | Fair | Good | Very Good | Excellent | | | |
| 14. Overall, how would you rate the systems and processes your work unit has in place to prevent, catch, and correct problems that have the potential to affect patients | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 68% | 58% |
| | Excellent | Very Good | Acceptable | Poor | Failing | | | |
| Please give your unit an overall grade on patient safety. | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | <i>N</i> = % = | 76% | 77% |

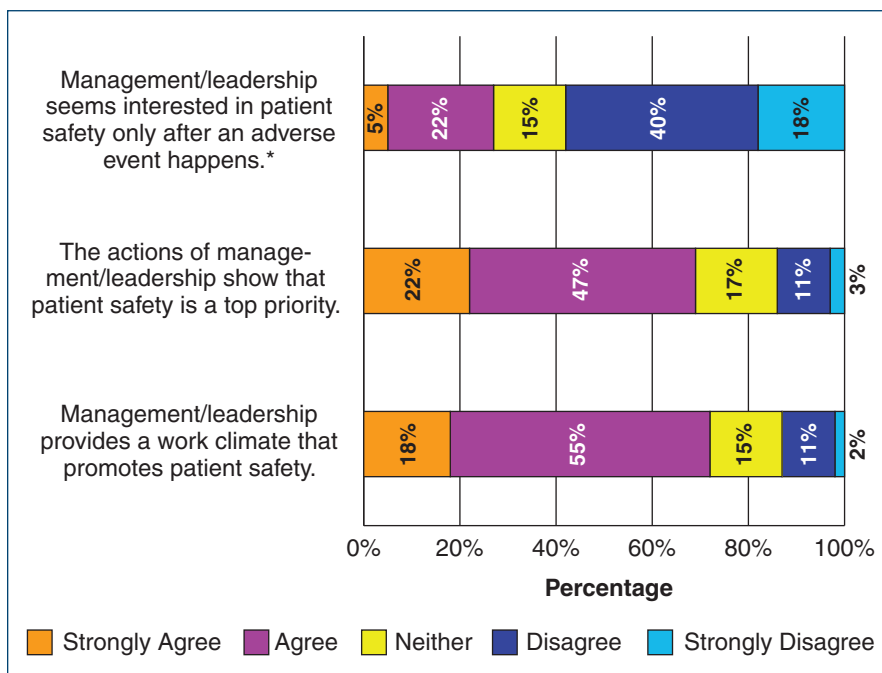
Notes: This mini-assessment is designed to be used as a high level initial assessment of patient safety culture in nephrology nurse practice settings in order to begin to identify the safety culture issues in the unit. To use this mini-assessment, create a hard copy or online copy of the tool's first six columns, removing the “*N* =” and “% =” from each cell. Have staff members fill out the forms. Count the number of ratings for each response option in each question. Determine the percent of the total responses for each response option. To obtain a percent of positive scores number that will be comparable to AHRQ results and results from this study (NNPS – All), add the two percent scores in the blue-shaded cells. Enter that information in the green cells. Compare your results (green-shaded cells) to the AHRQ and NNPS-All results. Prioritize the issues identified. Create and implement a plan to prevent and/or mitigate safety issues.

Figure 14
Supervisor/Manager Expectations and Actions
Promoting Patient Safety



*Negatively worded item.

Figure 15
Management Support for Patient Safety



*Negatively worded item.

Conclusions and Implications For Nursing

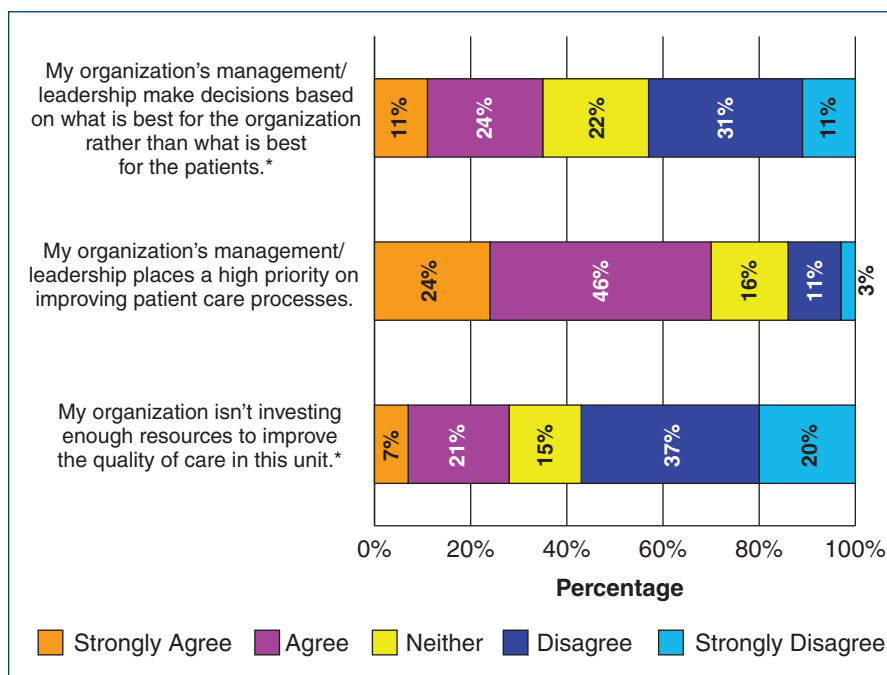
In summary, this inaugural investigation of patient safety culture in nephrology nurse practice settings has yielded a voluminous quantity of rich data. The number of respondents to the study far exceeded the expectations of the researchers, and may indicate the importance of this issue to nephrology nurses. Further, the nurses provided detailed stories and examples of positive and negative safety issues occurring in various practice settings, again exemplifying the significance of this topic.

Patient safety culture needs to remain central to quality initiatives in the hospital and outpatient settings. Nephrology nurses are in a unique position to champion patient safety culture initiatives in the practice setting. Nephrology nurses often have the opportunity to interact with their patients several times a week, thus providing a level of patient familiarity unparalleled in many other specialties. Nephrology nurses need to listen to the safety concerns and fears of the patients entrusted to their care. While patient-reported outcomes were beyond the scope of this study, it is an important area to consider when evaluating the patient safety culture.

Open lines of communication from administration to direct care staff and vice versa are essential elements in the development of a culture of patient safety that encourages event reporting. If such a culture does not exist, this needs to be the first step addressed. Evidence of this approach is supported by research conducted by Reason and Hobbs (2003). Reason and Hobbs identified three main components of a safety culture: learning culture, just culture, and reporting culture. "The three components are intertwined – without a just culture, you have minimal reporting; without reporting, you have no opportunities to learn and improve." (Ulrich & Kear, 2014, p. 450). Interprofessional collaboration and quality improvement meetings provide a vehicle to opening lines of communication to discuss the culture of patient safety.

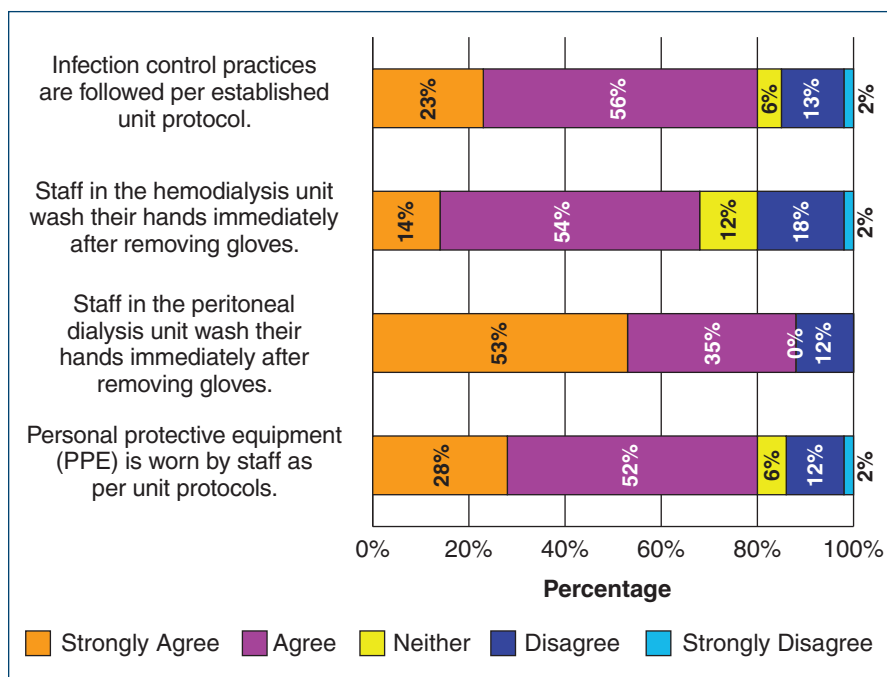
Patient Safety Culture in Nephrology Nurse Practice Settings: Initial Findings

Figure 16
Organizational Leadership Support for Patient Safety



*Negatively worded item.

Figure 17
Infection Control



*Negatively worded item.

Direct care staff should be invited to quality improvement meetings as well as any other meetings in which decisions about care delivery or care for specific patients are being discussed.

Processes and documentation systems for reporting events and near misses need to be assessed for efficiency and ease of use. Management/administration must analyze the documented safety data, share findings with staff, and make changes in processes that address the identified safety issue. Lack of timely feedback was a frustration verbalized by numerous respondents to this survey. Direct care staff must take the time to share challenges experienced with reporting systems with healthcare managers in an objective manner.

Each AHRQ dimension requires further study. Direct care nurses and management/administration should become familiar with the dimensions of patient safety as an initial step in evaluating the safety culture of the setting. If safety culture measures are not being used in a specific setting, the nephrology nurse may wish to consider using the tool included in this article for initial data collection. Nephrology nurse leaders may also consider contacting a dialysis unit, transplant center, or office setting that has established a successful patient safety program. Programs with positive safety culture environments need to share their successes with colleagues via publications and presentations. This study revealed many success stories and much work yet to be accomplished. Nephrology nurses are well poised to carry this work forward to meet the most basic of needs, which is maintaining and protecting the safety of our patients.

References

Agency for Healthcare Research and Quality (AHRQ). (2014a). *Hospital survey on patient safety culture: 2014 user comparative database report*. Rockville, MD: Author. Retrieved from <http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/hospital/index.html>

- Agency for Healthcare Research and Quality (AHRQ). (2014b). *Medical office survey on patient safety culture*. Rockville, MD: Author. Retrieved from <http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/medical-office/>
- Agency for Healthcare Research and Quality (AHRQ). (2014c). *Medical office survey on patient safety culture: 2014 user comparative database report*. Rockville, MD: Author.
- Braithwaite, J., Westbrook, M.T., Travaglia, J.F., & Hughes, C. (2010). Cultural and associated enablers of, and barriers to, adverse incident reporting. *Quality and Safety in Health Care, 19*, 229-233.
- Huang, D.T., Clermont, G., Kong, L., Weissfeld, L.A., Sexton, J.B., Rowan, K.M., & Angus, D.C. (2010). Intensive care unit safety culture and outcomes: A US multicenter study. *International Journal for Quality in Health Care, 22*(3), 151-161.
- Institute of Medicine (IOM). (2000). *To err is human: Building a safer health system*. Washington, DC: National Academy Press. Retrieved from <http://www.iom.edu/Reports/1999/To-Err-is-Human-Building-A-Safer-Health-System.aspx>
- James, J.T. (2013). A new, evidence-based estimate of patient harms associated with hospital care. *Journal of Patient Safety, 9*(3), 122-128.
- Mardon, R.E., Khanna, K., Sorra, J., Dyer, N., & Famolaro, T. (2010). Exploring relationships between hospital safety culture and adverse events. *Journal of Patient Safety, 5*, 226-232.
- Reason, J., & Hobbs, A. (2003). *Managing maintenance error*. Farnham, Surrey, England: Ashgate.
- Singer, S., Lin, S., Falwell, A., Gaba, D., & Baker, L. (2009). Relationship of safety climate and safety performance in hospitals. *Health Services Research, 44*(2), 399-421. doi:10.1111/j.1475-6773.2008.00918.x
- Sorra, J., Khanna, K., Dyer, N., Mardon, R., & Famolaro, T. (2012). Exploring relationships between patient safety culture and patients' assessment of hospital care. *Journal of Patient Safety, 8*(3), 131-139.
- Ulrich, B., & Kear, T. (2014). Patient safety and patient safety culture: Foundations of excellent health care delivery. *Nephrology Nursing Journal, 41*(5), 447-456, 505.