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Perceptions of Hospital Patient Safety Culture in Department of Veterans Affairs Station 593 Southern Nevada

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PERCEPTIONS OF HOSPITAL PATIENT SAFETY CULTURE IN DEPARTMENT OF VETERANS AFFAIRS STATION 593 SOUTHERN NEVADA

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ABSTRACT

PERCEPTIONS OF HOSPITAL PATIENT SAFETY CULTURE IN

DEPARTMENT OF VETERANS AFFAIRS

STATION 593 SOUTHERN NEVADA

by

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Opportunities for error exist, adverse events occur, and challenges endure. However, patients will continue to experience preventable adverse events unless steps are taken. Efforts to improve patient safety are critical to today's healthcare environment. The Department of Veterans Affairs (VA) believes that the identification of adverse events allows for creation of system improvements to increase patient safety.

Implementing safety culture requires a proper assessment of existing barriers and potential challenges. Patient safety culture assessments start by evaluating the current patient care environment. This assists the organization in identifying barriers to patient safety and in working toward creating a culture of patient safety with improved patient outcomes.

Development of an organizational safety culture improves patient outcomes by opening communication, enhancing teamwork and providing a more supportive environment. This project assesses staff's perceptions of patient safety based on scores from the Hospital Survey on Patient Safety Culture (HSOPS). The data gathered in this

project assists in benchmarking performance and quality improvement projects within the VA Southern Nevada. The survey gathered information on general demographics, outcome measures and safety culture dimensions that are unit specific and hospital-wide. Responses were analyzed utilizing specific software created for the HSOPS.

The HSOPS results were calculated based on the percent of positive responses to the 42 items, which are categorized in patient safety dimensions. Of the 12 composite dimensions handoffs and transitions was identified as the area needing the most improvement, with a positive response rate of only 13%, suggesting that 87% of the respondents felt this area was problematic. Teamwork across units, and feedback and communication regarding errors, were the next lowest scoring segments, at 15% and 18%, respectively.

The information gathered from the survey offers a unique opportunity to address deficiencies in patient safety culture. Composite level database comparisons to the data collected demonstrated a strong need for patient safety process improvements. The results are not the end point in this process; it has simply laid the foundation for process improvement. This project has outlined the necessary information and process for planning a continuous quality improvement initiative. The survey itself is not the intervention. Systematic action on an organizational level, including planning and follow-up, is necessary for a sustainable change to occur. The completion of this project represents only the beginning of a continuous quality improvement cycle, to improve the culture of patient safety.

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As Alice through the rabbit hole I have completed a long and precarious journey. I thank those who had tea with me, and to my friend Tomas the caterpillar that offered his wisdom and support along the journey. The Red Queen often screamed "off with her head" however with the help of the Cherisher Cat and Madd Hatter I was able to make it back to my family. Let the Red Queen live forever in the checkerboard realm ~ in exile. I welcome my return to humanity.

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CHAPTER 1: BACKGROUND AND SIGNIFICANCE

Patient safety culture is the overarching theme involving organization's individual and group values. It incorporates beliefs, behaviors, perceptions and attitudes that determine the organization's commitment to safety (Agency for Healthcare Research and Quality [AHRQ], 2011). There is growing evidence that an effective patient safety culture is related to decreased incidence and increased reporting of adverse events. Successful safety culture improves bidirectional communication between leadership and staff, focusing efforts on staff recognizing safety as a necessity (Singer et al., 2009). "Safety… depends on achieving a culture of trust, reporting, transparency and discipline" (Leape et al., 2009, p. 429). Organizations with an effective integrated safety culture are characterized by communication founded on mutual trust. Mutually shared perceptions on the importance of safety build confidence in preventative measures and improve their efficacy (AHRQ).

Flawed systems foster an environment in which people are prone to make mistakes or fail to prevent them – causing adverse events (Singla, Kitch, Weissman, & Campbell, 2006). Colla, Bracken, Kinney, and Weeks (2005) described healthcare as a "high hazard industry" because of the inherent risk for morbidity and mortality. This understanding has led to expanded interest beyond technical failures and into organizational processes, managerial, and human factors, which are the primary causes of adverse events (Colla et al.). This has encouraged organizations to concentrate on predictive safety measures, including the use of surveys measuring safety culture (Colla et al.).

Classen et al. (2011) reported findings stating adverse events occurred in one-third of hospital admissions. Communication and awareness are key elements in the culture of patient safety, with documented benefits. However, creating an organizational environment where staff supports a culture of safety remains a challenge (Groszek, 2010). Challenges with promoting a culture of safety are numerous. Discrepancies have been documented in medical records reviews, inconsistencies are noted on walking rounds, and incident and injury reports raise additional concerns.

Scope

The Department of Veterans Affairs (VA) is the nation's largest integrated health system (Singer et al., 2009). The VA has emphasized moving from a punitive local-hospital system of safety and risk reduction, to a system-integrated patient safety climate (Hartmann et al., 2008). Efforts to improve patient safety have included defining a common language and establishing baseline parameters and systems of measurement. Assessing the current safety culture is essential for understanding potential areas for improvement (Hartmann et al.). Specifically, identifying qualities related to patient safety, such as teamwork and communication, allows planning for process changes directed at improving the quality of care (Singla et al., 2006)

In 2008, Rivard et al. estimated the impact of preventable patient safety events, as identified by Agency for Healthcare Research and Quality (AHRQ). This study reviewed 7.5 million patient records for occurrences of potentially preventable adverse events and concluded VA findings are similar to previously published non-VA hospitals (Rivard et al.). Despite the system differences between VA and non-VA organizations, AHRQ indicators were determined to be applicable within the VA system (Rivard et al.). The

findings of Singer et al. (2009) further supported this conclusion. The VA nationally integrated hospital network does not possess a stronger safety culture than non-VA organizations.

The VA believes the identification of adverse events will allow for creation of system improvements to increase patient safety (West, Weeks, & Bagian, 2008). Although uncommon, severe adverse events can be devastating. West et al. (2008) identified one specific adverse event "Failure to Rescue" as representing more than 3,000 deaths within the VA system per year (p. 262). That is, health care providers failed to identify and prevent clinical deterioration of a patient resulting in death or permanent disability (AHRQ, 2011).

Patient safety is a complex issue, which defies simple explanations due to its inherent complexity. It can, however, be broken down into the types of occurrences and outcomes. Table 1 shows the annual averages of actual cases of adverse events and medical errors throughout the VA system over a nine-year period of time and illustrates the effect and significance of adverse events.

Table 1

VA Average Annual Adverse Medical Events and Errors for 1997–2005.

Adverse Event/Error	Average Number of Cases Annually
Failure to Rescue	22,090
Decubitus Ulcer	209,838
Accidental Puncture or Laceration	453,532
Postoperative Pulmonary Embolism or Deep Vein Thrombosis	98,100
Selected Infections Due to Medical Care	336,662
Postoperative Respiratory Failure	34,844
Iatrogenic Pneumothorax	427,209
Postoperative Hemorrhage or Hematoma	98,321
Postoperative Wound Dehiscence	19,889
Postoperative Sepsis	18,834
Postoperative Physiologic or Metabolic Derangement	46,265
Complications of Anesthesia	98,881
Postoperative Hip Fracture	71,293

Note. (Adapted from West et al., 2008)

Hartmann et al. (2009) suggest there are numerous opportunities for improvement in patient safety culture within the VA hospitals. Numerous measures and longitudinal examinations of patient safety and outcomes have been undertaken. From 1997 to 2005, the rate for Failure to Rescue steadily declined within the VA system. However, West et al. (2008) reported that the number of decubitus ulcers, postoperative DVTs and accidental punctures or lacerations have shown significant increases (all $p<.001$).

Changing organizational culture presents challenges (Colla, et al., 2005). The Patient Safety and Quality Improvement Act of 2005, as well as The Joint Commission's Sentinel Event Policy of 1996, encourage ongoing organizational improvements and system changes to improve patient safety. This is further supported by The Joint Commission requirements for new and ongoing patient safety goals (Leape et al., 2009).

Classen and colleagues (2011) have reported that adverse events occurred in one-third of hospital admissions, with varying degrees of severity. Driven by increasing amounts of evidence and publicity, numerous health care organizations have initiated programs to develop and implement safety practices and to support patient safety initiatives (Leape et al., 2009). To improve patient safety, AHRQ (2004) has identified and defined 29 specific indicators of patient safety. Supporting a culture of safety and quality improvement in our Nation's healthcare system remains a top priority for the AHRQ. For that reason AHRQ (2004) continues to support and underwrites the Hospital Survey on Patient Safety Culture (HSOPS). Safety culture surveys assess and measure organizational conditions that potentially lead to adverse events and patient harm (Leape et al.). Organizations desiring to assess their existing patient safety culture should consider conducting a survey (AHRQ, 2011). The HSOPS survey emphasizes management and institutional commitment to safety, handoffs and transitions, and teamwork (Singla et al., 2006).

Problem Statement

Adverse events and medical errors are occurring within the VA Southern Nevada Medical Center at Mike O'Callaghan Federal Medical Center (MOFMC) and patients are at risk, with sometimes-fatal consequences. Reduction of adverse events within the VA

system is a Federal mandate. Based on this, an assessment of the safety culture underlying these conditions was warranted.

Purpose of the Study

This project examined staff's perceptions of patient safety culture. This assisted in identifying deficiencies to allow for performance improvement and raise organizational awareness in building a culture of safety. Identifying these deficiencies allows the organization to:

- Raise staff awareness about patient safety
- Diagnose and assess the current status of patient safety culture
- Identify strengths and areas for patient safety culture improvement
- Examine trends in patient safety culture change over time
- Evaluate the cultural impact of patient safety initiatives and interventions
- Conduct internal and external comparisons

(AHRQ, 2011)

Research Question

What is the staff's perception of patient safety culture, based on scores using the Hospital Survey on Patient Safety Culture, in Mike O'Callaghan Federal Medical Center?

Definition of Terms

Study terms are defined as the following:

- Patient safety culture: the aggregate product of an organization's individual and group values, beliefs, behaviors, perceptions and attitudes that embody the organization's commitment to safety.

- Adverse event: An untoward and usually unanticipated outcome that occurs in association with health care.
- Error: Mistakes made in the process of care that result in, or have the potential to result in, harm to patients. Mistakes include the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Can be the result of an action that is taken (error of commission) or an action that is not taken (error of omission).
- Staff: Facility Employees who meet one of the following criteria:
    - Directly or indirectly contact or interact with patients but whose work directly affects patient care
        - Such as nursing, physical therapy, nutrition services, pharmacy, laboratory, and unit clerks
    - Provide patient care, who spend most of their work hours in the hospital
        - Emergency department physicians, hospitalists, and pathologists
    - Supervise, manage, or lead the facility
- Perception: an individual's personal awareness, feelings, or understanding. For the duration of this project it will be defined in relation to the scores derived from the Hospital Survey on Patient Safety Culture

  (AHRQ, 2004; AHRQ, 2011)

CHAPTER 2: REVIEW OF LITERATURE

Introduction

Over ten years ago, alarming data on the scope and impact of medical errors in the United States called for nationwide efforts to address this problem (Groszek, 2010). Efforts to improve patient safety have increased during the past decade. However, progress toward improvement has been unacceptably slow (Leape et al., 2009). The Institute of Medicine's (IOM) report *To Err is Human* was instrumental in bringing forth system perspective within the health care environment. System perspective provides a method of recognizing situations or processes that contribute to errors and adverse events (Groszek). Driven by public concern in 2001, the federal government initiated an evaluation of the health care delivery system and its outcomes.

In 2005 Congress passed The Patient Safety and Quality Improvement Act to support the health care industry's continued commitment to improve the quality of care, reducing errors and adverse events. This statute includes privilege and confidentiality protections associated with data collected, shared, and analyzed by covered entities. The final rule outlined the development of patient safety organizations to encourage error reporting, data analysis, and facilitate sharing of knowledge (Groszek, 2010). In the current health care market, a culture of patient safety plays a critical role in the success and the delivery of quality health care services (Bellou & Thanopoulos, 2006). The effects of quality health care should be understood and developed as a continuum. Health care organizations need to manage operations with a goal towards continuous quality improvement and a culture of patient safety (Scott, Mannion, Davies, & Marshall, 2003).

Public awareness of the prevalence of medical errors and adverse events is palpable. Patients continue to be concerned that they may be harmed when they enter a hospital (Leape et al., 2009). Landrigan et al. (2010) studied 10 North Carolina hospitals and concluded adverse events and errors remain common with one-fourth of all patients being exposed to a potential harmful event.

Despite the significant investment and efforts to improve patient safety by government agencies and regulators the dissemination and implementation of evidence-based safety practices has been meager at best (Landrigan et al., 2010). Hartmann et al. (2008) concluded it is important to understand the level of safety culture in hospitals to measure success and plan for improvement. At minimum, high-quality health care should not harm patients, particularly through preventable medical errors. The first step in reducing the large number of harmful medical events that occur is to analyze both the errors themselves and the culture behind them (Hartmann et al.)

History and Background

Medical care's potential to cause harm, has been discussed throughout history. The Hippocratic Oath written in late 5th century BC includes abstinence from doing harm (Smith, 2005). The term *primum non nocere* translated to "first, do no harm" was introduced to English medical culture by W. Hooker in 1847 along with the principle of non-malfeasance (Ilan & Fowler, 2005; Smith, 2005). In 1863 Florence Nightingale stated, "It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm" (as cited in Smith, C., 2005, p. 373).

The catalyst for the patient safety movement in health care was the report by the IOM - *To Err is Human* (Groszek, 2010). Although it is not the first publication to

systematically address patient safety in healthcare, it stirred immense public attention. Health care is a high pace environment. The Institute of Medicine (2001) has examined this type of environment and the importance of improving the delivery of health care services by identifying the gaps between ideal care and actual care. The report was significant in bringing a systems perspective to the health care environment, recognizing that humans are fallible and errors will occur. That beyond the individual involved, a situation and/or current process has contributed and created the framework causing the individual to fail (Groszek).

The findings by the IOM had a significant impact on health policy debates, medical malpractice policy debates, and the decision that patient safety needed to be improved in America. Along with summarizing the causes of the problem, the report provided recommendations to address interventions on several levels (Ilan & Fowler, 2005). Congress advised creation of a Center for Patient Safety, which would set goals, track progress, develop knowledge, and facilitate legislation. Congress allocated $50 million in 2001, to the Agency for Healthcare Research and Quality (AHRQ), an agency within the Department of Health and Human Services, to develop patient safety and improvement programs (Groszek, 2010).

As Congress passed The Patient Safety and Quality Improvement Act of 2005, health care organizations worked at improving the quality of care and reducing errors and patient harm. Some of the main advantages within this statute are privilege and confidentiality protections associated with information collected, shared, and analyzed by covered entities. A standardized reporting system was created nationally to organize and analyze events that may compromise patient safety. Federal regulations authorized the

development of patient safety organizations to encourage error reporting, data analysis, and facilitate learning (Groszek, 2010). Recommendations for health care organizations and professionals were to established performance standards focused on patient safety and the establishment of patient safety programs (Ilan & Fowler, 2005). Final guidelines were released in 2008. Healthcare entities continue to develop strategies for implementation (Groszek).

Hospital Administration

Rivard et al. (2008) found statistically significant associations on the negative impact of poor patient safety on outcomes in the VA on mortality, length of stay, and cost. The effects of patient safety improvement are clearly evident. There is a recognized need for executive leadership to support patient safety (McFadden, Stock, & Gowen, 2006). Challenges with the cultural aspect of patient safety remain as the health care industry struggles to embrace a "no-blame" culture and a system failure perspective (Groszek, 2010). It is recognized that full disclosure of adverse events and medical errors is required in an open patient safety culture and for systems improvement (Rivard et al.).

Despite promising efforts, challenges in regards to patient safety still remain (Groszek, 2010). Perceptions of safety climate differ by workgroup and management level (Singer et al., 2009). Clear direction is necessary to communicate organizational commitment. To achieve a successful patient safety culture, leadership should foster an environment where:

- Perceptions and attitudes regarding safety are constant
- Organizational procedures, policies, and resources are in place to support safety culture

- Adequate education and training are available for personnel
- Auditing and evaluation of processes and standards occur regularly (Hartmann et al., 2008)

Economic Implications

One of the main barriers to improving overall care and quality is the lack of financial motivation for doing so within the VA system. The VA is a self-funded federal system covering all patient costs including those due to error or neglect; reimbursement for claims and financial penalties for adverse events are not present within the system. Currently there is not a universal standard with demands (fines) and incentives from payers, purchasers, and regulatory bodies (Groszek, 2010). Mello, Studdert, Thomas, Yoon, and Brennan (2007) reviewed almost 15,000 medical records from over 20 hospitals where they uncovered 465 adverse events, including 127 negligent injuries. The estimated total cost of adverse events was about $439 million. The average cost per injury was $58,766 for all adverse events and $113,280 for the negligent injuries (Mello et al.). In 2007 hospitals absorbed approximately $238 of injury-related costs for every patient treated that year; they externalized (billed) $1,775 in injury-related costs per admission. Among the hospitals in the study, malpractice premiums averaged $123 per patient (Mello et al.).

Van et al. (2011) used an analysis of comparative rates to measure the frequency and costs of measurable medical errors nationally. This method used mathematical models to assess the risk of occurrence and to project costs to the total population. The estimated annual cost of measurable medical errors that harm patients was $17.1 billion with an additional $37.6 billion for adverse events. Pressure ulcers were the most

common measurable medical error, followed by postoperative infections (Van et al.). More than half of the estimated total medical cost of medical errors comes from the types of medical injuries most likely to be caused by error.

When looking at the financial impact of patient safety, one can compare hospitalization cost with the cost of hospitalization that has been accompanied by complications and adverse events. West et al. (2008) reported that the instances of decubitus ulcer, postoperative DVT and accidental puncture or laceration were increasing significantly within the VA (decubitus ulcer, $p< .001$; postoperative DVT, $p< .001$; and accidental puncture or laceration, $p<.0001$). Rivard et al. (2008) applied cost estimates and increases in length of stay for common adverse events in the VA, with assistance from the Health Economics Research Center. Calculations combined pseudo-bill methods and cost regression to allocate actual VA expenditures, including providers but excluding malpractice insurance (Rivard et al.). Length of stay was increased along with costs ranging from 1.34 days and $8,271 for accidental puncture or laceration to 10.89 days and $57,727 for postoperative sepsis. The outcomes yielded significantly higher costs ($p < .0001$) for hospitalizations with the adverse events (Rivard et al.).

Legal system

The United States medical liability system is currently entangled in a malpractice crisis. Plaintiff lawyers and some advocates for patient safety believe malpractice lawsuits will make physicians take responsibility for their actions. Hence a reduction in malpractice litigation will occur when physicians focus on patient safety and make fewer errors (Dalton, Samaropoulos, & Dalton, 2008). This has caused patient safety and healthcare quality to become mainstream health care policy issues.

Traditionally, healthcare organizations are comprised of steep authority hierarchies that are reluctant to admit mistakes. Excessive workloads and inadequate teamwork often lead to adverse events. Historically health care organizations were tolerant of inconsistency in patient care and focused on punitive actions for errors (Groszek, 2010). Errors that occur in health care are multi-facetted, often requiring system improvements with organizational change to prevent adverse events. However, improvements in patient safety can reduce preventable medical errors and bring relief from the medical malpractice crisis. The variables involved in adverse events have increased debates over tort reform and the current malpractice system creates ongoing challenges (Groszek).

Only 2.5 percent of the 27 percent of patients injured by negligence filed a malpractice claim (Mello et al., 2007). After reviewing almost 15,000 medical records from over 20 hospitals, Mello and colleagues estimated the cost of malpractice insurance premiums averaged $238 per admission. Injured patients, their families, and their health insurers shoulder approximately 78 percent of costs associated with injuries, and 70 percent of the negligent injuries (Mello et al.).

Adverse events could potentially be alleviated through safety system improvements. This will necessitate a cultural shift toward patient safety with organizational commitment (Lynch, 2010). Adoption and change of our existing health care system is needed to remain viable. Including a culture oriented toward patient safety will be crucial to this. Health care organizations need to adopt new ways of viewing safety, advancing the industry, and preventing errors.

Organizational Culture and Patient Safety

Changing organizational culture presents its own challenges (Colla, et al., 2005). Despite significant investment and efforts to attract attention to patient safety, the dissemination and implementation of evidence-based safety practices has been meager at best (Landrigan et al., 2010). Evidence lies in current practice; nationally only 1.5 percent of hospitals have implemented electronic medical records, 9.1 percent have basic electronic record keeping, and only 17 percent have computerized provider order entry. Routinely residents and nurses work more hours than recommended for safe patient care. Even simple interventions, such as hand washing, have poor compliance in health care organizations (Landrigan et al.).

Quality of care has become a focal point, as health care organizations have become tolerant of inconsistencies in patient care (Woodard, 2005). Patient safety indicators provide a method of measuring quality improvement. Measurements of quality improvement are critical to be able to demonstrate effective change. Administration must provide ongoing support to direct corrective actions and improve inconsistencies (Teruya, 2004).

Interactions of organizational structures and control systems produce shared beliefs, values and behavioral norms, all of which are necessary to support a patient-centric safety culture (Hellings, Schrooten, Klazinga, & Vleugels, 2007). Transforming organizational culture is a vital element in quality improvement (Mohr, 2005). Developing a patient safety culture affects multiply aspects of health care.

Since 2002, the Joint Commission's performance improvement standards have encouraged hospitals to formally assess staff perceptions of safety risks and improvement

opportunities and to compare these data with those of similar external sources (Singer et al., 2009). Benchmarking patient safety culture survey results by participation in collaboratives is an effective way for hospitals to target quality improvement efforts. The Agency for Healthcare Research and Quality established the Hospital Survey on Patient Safety Culture Comparative Database for this purpose in 2006 (Singer et al.).

Conclusion

Opportunities for error exist, adverse events occur, and challenges exist. However, patients will continue to experience preventable adverse events unless steps are taken (Rivard at el., 2008). Development of an organizational safety culture improves patient outcomes by opening communication, enhancing teamwork and providing a more supportive environment (McFadden et al., 2006). Health care organizations, administration, and health care providers must work toward the ultimate goal of creating a culture of patient safety and better health care outcomes.

CHAPTER 3: THEORETICAL FRAMEWORK

The theoretical foundation of Deming's quality approach stresses the constancy of a purpose, goal setting, employee empowerment, continuous quality improvement and teamwork. This framework is currently used by both Station 593 as their quality improvement theory and AHRQ in their Comparative Database Report (Sorra & Dyer, 2012). The theory of Total Quality Management (TQM), based on systems theory, is used to explain and reduce the risk of errors. W. Edwards Deming first developed and introduced TQM to Japanese industry (W. Edwards Deming Institute, n.d.). The framework is based on a systems approach with the intent of decreasing deficiencies in an organization. TQM focused on eliminating or minimizing underlying errors in an organization. Historically this approach has been adopted by high-risk industries such as aviation, before it was acknowledged as a method to improve health care processes (Deming, 1986).

The use of Deming's framework supports TQM in health care by constructing a management system built on sustaining process improvements in a way to provide measureable, obtainable change. Deming's contributions within health care have provided theoretical support for numerous projects at Station 593 and are part of the organization's current process improvement system. The integration of Deming's framework for this project supports use of the Hospital Survey on Patient Safety Culture (HSOPS) to identify deficiencies, enhance communication, and set goals for process and quality improvement in a language that is familiar to both administration and staff.

Enhancing awareness and supporting a culture of patient safety requires looking at the problem from numerous viewpoints at Station 593. The HSOPS assisted in identify

deficiencies and included staff from various units and occupations. This approach allows employees equal participation in the improvement process. The HSOPS results allow for benchmarking continuous performance and quality improvement processes. The four key points of Deming's framework used in this project are:

- Adoption of new philosophy/viewpoint
- Involve everyone in the transformation
- Break down barriers between departments
- Improve all systems continually

(Deming, 1986)

The core of the Deming framework is the creation of an organizational system of continuous quality improvement. The principles of safety culture align with the concepts and dimensions described by Deming. Taking action requires the provision of necessary resources and support. Deficiencies must be clearly identified and measurable goals established for monitoring progress (Deming, 1986). Sorra and Dyer (2012) concluded tracking measures of progress is critical to realizing patient safety culture improvement.

Spigener and Angelo (2001) refer to the emergence of a new paradigm for quality improvement that is behavior based. Deming's framework supports holistic thinking. Creating a holistic organization is important in developing an organizational culture that emphasizes employee involvement. Deming (1986) addressed behavior based quality management for managers that focus on: data based fact-finding versus faultfinding; promotion of pride in work; and systems improvement (Spigener & Angelo, 2001). Designing a health care system to increase a patient safety culture requires an organization to implement a behavioral and cultural change (Scott et al., 2003).

The dimensions of the Deming framework foster communication, which is a key component of patient safety culture, and understanding of quality practices that leads to TQM. Deming's framework supports the role leadership plays as critical in establishing a pathway to the success of quality improvement (Anderson, Rungtusanatham, & Schroeder, 1994). This is then reflected in the perceptions of patient safety culture.

Implementing action plans is one of the hardest challenges an organization can face (Sorra & Dyer, 2012). Deming's framework provides an organizational perspective based on quality improvement. The essence of Deming's management philosophy is to improve quality by reducing deficiencies and eliminating preventable errors (Miyagawa & Yoshida, 2005). This framework supports using a nonpunitive approach, focused on understanding the built-in weakness within the systems that lead to errors (Deming, 1986). A nonpunitive approach is a key component in facilitating a patient safety culture (Sorra & Dyer). In order for interventions to decrease errors, errors must be analyzed and system problems must be identified (Deming).

CHAPTER 4: METHODOLOGY

The purpose of this project was to assess staff perceptions on Agency for Healthcare Research and Quality's (AHRQ) core dimensions of patient safety culture at the Department of Veterans Affairs (VA) Southern Nevada inpatient facility – Mike O'Callaghan Federal Medical Center (MOFMC).

Ethical Concerns

The research involved minimal risk to the participants. The probability and magnitude of harm or discomfort anticipated in the research was not greater than that encountered in their normal work assignment. An informed consent form was used to explain the purpose of the study, the risks, and benefits to the participants. Contact information for the primary investigator and the site-specific co-investigator was included. Each participant was provided the time necessary to read the informed consent form and was provided a contact telephone number to call to ask questions regarding the study and their participation.

IRB Approval and Informed Consent.

Approval of the project proposal was obtained from the University Graduate Committee. Additionally, a request for institutional review board (IRB) approval was obtained from the VA Southern Nevada, as well as to the University of Nevada, Las Vegas (UNLV) IRB. To protect identities of study participants, completing the survey indicated consent. Request for waiver of signature for Informed Consent was obtained.

Informed consent to participate was obtained from each participant per the VA policy. Informed consent included necessary information as required by the United States Government for VA facility research including:

- Participation is voluntary, and refusal to participate or withdrawal from the study will involve no penalty or loss of benefits to which the employee is otherwise entitled
- The purpose of the research, including the duration and procedures to be followed
- Descriptions of any prospective research benefits to the participants or others
- Statement of minimal risk rating and factors that may influence willingness to participate
- Limits of confidentiality, including identifying how the data will be shared and maintained
- Contact information to answer pertinent questions about the research
- Research participants' rights

Sample

The sample consisted of consenting patient care staff that are employed by the VA in the inpatient setting at MOFMC. The total number of VA staff in the facility that met this qualification was approximately 150. The goal for participation was a minimum of 50% of the 150 possible staff. Targeted participants directly or indirectly contact or interact with patients. This includes administration and staff such as physicians, nurses, pharmacists, and unit clerks whose work directly affects patient care.

Inclusion Criteria

- Currently employed by the VA
- Assigned to the MOFMC
- Hold a position that impacts patient care
- Must be 21 or older

- Willing to complete survey

Marketing Plan

Prior to data collection an email announcement regarding the survey was sent to all inpatient staff involved in patient care, endorsed by leadership and the local Research Compliance Officer. Staff was informed of the upcoming survey and Leadership's support of the survey effort. Thereafter blanket reminder emails were sent to all potential participants.

Links to the survey were sent via the email system for staff to complete online, via the Internet using survey monkey. Approximately two weeks after sending the original survey, a blanket reminder email was sent thanking those who had responded and asking the remainder to please complete the survey. Then approximately two weeks after sending the reminder email, a final request for participation email was sent.

Procedure for Recruitment and Data Collection

Participants were recruited through emails, presentations at staff meetings, at daily report, team meetings, and by an advertisement/flyer posted in staff break areas. Staff participation was voluntary. All data were self-reported and collected online through survey monkey. Surveys could be completed within 10 – 15 minutes and were completed anonymously at the participants' convenience.

Financial Plan

The proposed budget for the HSOPC project was minimal. There was no anticipated cost for items such as printer supplies and general office supplies as they were covered within the normal operating budget of the VA.

Scope and Settings

The research setting was the VA of Southern Nevada inpatient facility, Mike O'Callaghan Federal Medical Center (MOFMC). The medical center is located on Nellis Air Force Base, in southern Nevada, and is staffed by active duty Air Force personnel and VA employees. The Joint VA portion of the facility includes a 14-bed critical care unit and 14-bed emergency room. The VA specific areas include a 34-bed medical/surgical unit and a 12-bed inpatient mental health unit. Joint leadership, clinical, and ancillary staff, support this facility.

Project Objectives

This project assessed the staffs' perceptions based on responses to the HSOPS of patient safety culture within MOFMC. The survey gathered information on general demographics, outcome measures and safety culture dimensions that are unit specific and hospital-wide. Table 2 outlines the specific dimensions on the HSOPS by category and the number of questions that measure that dimension.

Table 2

Survey Items Categorized Across HSOPS Dimensions.

Dimensions	Items/ Number of Questions
Management/supervision	
Management and institutional commitment to safety	7
Institutional responses	1
Non-punitive response to error	3
Safety System	
Handoffs and transitions and coordination of care	6
Adequacy of staffing	2
Adequacy of equipment, information, and processes	1
Reporting infrastructure	1
Work pressure	3
Procedures/rules	
What should be reported and to whom	3
Teamwork	6
Communication openness	3
Organizational learning	3
Feedback and communication	2
Overall perception of safety	3

Note. (Adapted from Singla et al., 2006)

Reliability and Validity of the Assessment Tool

The AHRQ Hospital Survey on Patient Safety consists of 42 questions measuring 14 dimensions using 5-point Likert scales (Appendix A). The survey measures respondents' attitudes on various dimensions of patient safety:

- Supervisor/manager expectations and actions promoting patient safety
- Organizational learning and continuous improvement
- Teamwork within units
- Open communication

- Feedback and communication about errors
- Non-punitive response to error
- Staffing
- Hospital management support for patient safety
- Teamwork across hospital units
- Hospital handoffs and transitions

(AHRQ, 2011)

The HSOPS instrument was piloted in 20 hospitals, and the results were used to generate a list of 14 factors, all of which have displayed high internal consistency with a Chronbach's alpha-α of 0.63 to 0.84 (Appendix B) (AHRQ; Singla et al., 2006). Secondary analysis by Colla et al. (2005) concluded the quantity and quality of psychometric testing were comprehensive and sound. Currently the HSOPS is used nationally in over 1,128 hospitals with comparative database supported by AHRQ. The database serves as a resource for benchmarking in support of patient safety culture improvement.

Evaluation Plan

Responses were analyzed utilizing specific AHRQ created software, Hospital Survey on Patient Safety Culture Data Entry and Analysis Tool (HSPSC-DEAT). Demographic data were summarized to provide a description of the participants. The data collected were both nominal and ordinal level data requiring non-parametric statistics. The following statistical analysis techniques were used in this study.

1. Descriptive statistics were used to address frequencies and means.
2. Chi-square was used to compare the frequencies, and the distribution of differences

among work areas (units) and employee's profession (nurse, physician) was analyzed using HSPSC-DEAT.

3. Data that were evaluated with HSPSC-DEAT one-way analysis of variance were coded to assist with the statistical analysis. For example, measurement variables were assigned a numerical value with 5=Always/Strongly agree, 4= Often/Agree, 3= Sometimes/Neither agree nor disagree, 2= Seldom/Disagree, and 1= Never/Strongly disagree.

Treatment of Data

All raw data were secured under lock and key at the study site until data collection was completed, whereafter aggregated data were transferred to the office of the Principal Investigator, Dr. Carolyn Yucha, in compliance with UNLV IRB policies. Any information stored on computer was behind a locked door and password protected. Data that were stored on computer systems is stored indefinitely per VA policy at the conclusion of the study. As per policy, information was shared thorough secured channels with IRB approved sources.

Table 3

Project Timeline.

May to July 2012	August/ September	September / October	October - November	December to January 2013	February 2013
VA IRB submission	Market study for participation	Coordinator survey start date	Compile Data	Complete draft of project	Complete final written report
Submission to UNLV IRB	Confirm start dates based on IRB approval	Completion of survey	Complete statistical analysis		

CHAPTER 5: FINDINGS OF THE STUDY

Sample Description

The sample consisted of 78 inpatient care staff, of the 150 personnel invited to participate, with a response rate of 52%. The Department of Department of Veterans Affairs (VA) employed the study participants at the Mike O'Callaghan Federal Medical Center (MOFMC). The first email soliciting interested participants was sent December 4, 2012; the final study survey was completed on January 14, 2013.

Sample respondents represented a variety of clinical areas as shown in Table 4. The majority of the sample, 87%, responded they typically have direct contact with patients, versus 13% who have no patient contact. Registered Nurses represented the most common respondent staff position as noted in Table 5. Time worked in current specialty or profession ranged from; less than one year (9%), one to five years (31%), six to ten years (24%), 11 to 15 years (17%), 16 to 20 years (4%), and those with over 21 years of experience (15%).

Table 4

Respondent Demographics – Work Area/Unit

Work Area/Unit	n	Percent of total
Many different units	9	12%
Medicine/surgical	32	41%
Intensive care unit	18	23%
Mental health	8	10%
Emergency department	6	8%
Other	5	6%
Total	78	100%

Note. 'Many different units' includes positions such as coordinators, respiratory therapy, and case managers whom are assigned to multiple units; 'other' includes biomedical, quality management, nursing education, and patient safety personnel.

Table 5

Respondent Demographics - Staff Position

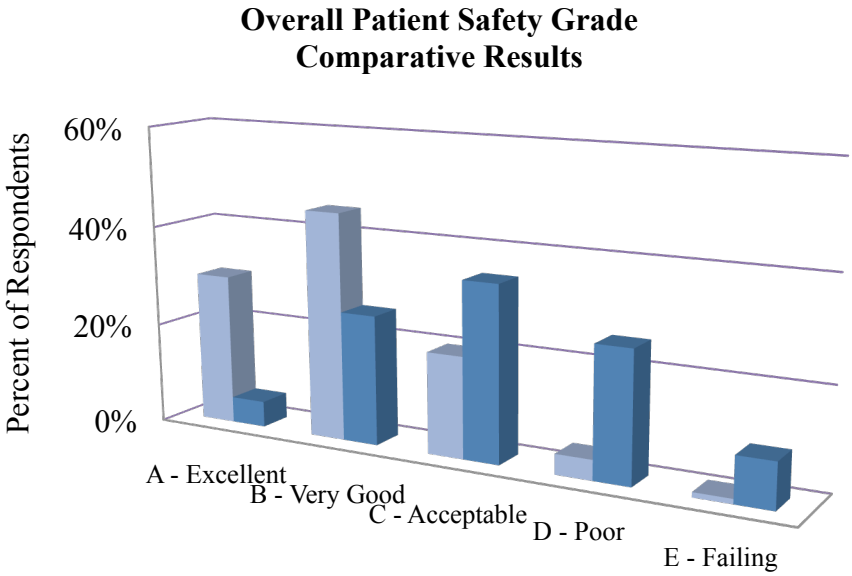
Staff Position	n	Percent of total
Registered nurse	63	81%
LVN / LPN	1	1%
Patient care aide / care partner	2	3%
Respiratory therapist	1	1%
Administration / management	5	6%
Other	6	8%
Total	78	100%

Primary Findings

Data were analyzed with tool specific software created by AHRQ. The Hospital Survey on Patient Safety Culture Data Entry and Analysis Tool (HSPSC-DEAT) calculated the hospital's percent of positive responses. This included two non-composite questions on patient safety grade and number of events reported. Results were compared to the AHRQ database averages, allowing percentile scores comparison and placement of the MOFMC's results relative to the distribution of database hospitals.

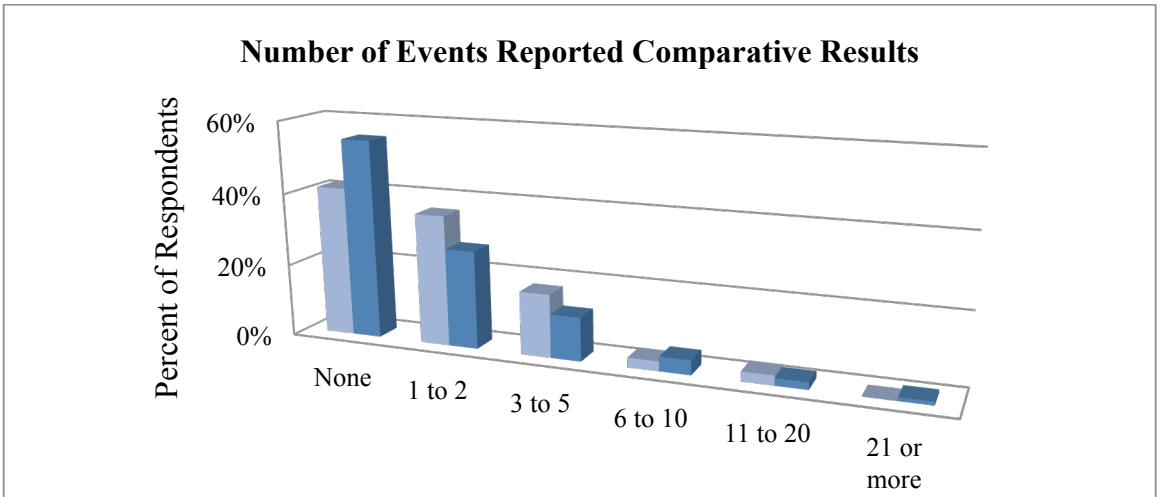
Non-Composite Scores – Comparative Results.

Two questions are not combined in the HSOPS. The first question is on staff's perception regarding patient safety; the second asks staff members how many incident reports they have completed in the last 12 months (Figure 1, Figure 2). Results were compared to the AHRQ database average, allowing percentile score comparison of survey results in relation to the AHRQ hospital database. Key items in this section are the variation in the overall score Grade A and B. The database average for A was 30% versus 5% MOFMC; for B it was 45% versus 26% for the MOFMC.



	A - Excellent	B - Very Good	C - Acceptable	D - Poor	E - Failing
Database Hospitals	30%	45%	20%	4%	1%
MOFMC	5%	26%	35%	26%	9%

Figure 1. Overall Patient Safety Grade.



	None	1 to 2	3 to 5	6 to 10	11 to 20	21 or more
Database	41%	36%	17%	3%	3%	0%
MOFMC	55%	27%	12%	4%	2%	1%

Figure 2. Number of Events Reported.

Composite Scores.

Areas of strength are identified as those in which 75% of the respondents answered as strongly agree/agree, or always/most of the time, if asked in a positive manner. Items that scored 50% or less positive responses are areas for improvement. This represents questions answered positively strongly agree/agree and disagree/strongly disagree on reverse/negatively worded questions. These responses are identified as requiring process improvement, suggesting that greater than half of those responding are expressing a concern for patient safety.

Scores on the HOPSH survey are calculated for each hospital by averaging the percent positive response on the items within the composite, regardless if they are positively or negatively worded. For example, for a four-item composite, if the item-level percent positive responses were 50 percent, 45 percent, 50 percent, and 55 percent, the hospital's composite-level percent positive response would be the average of these four

percentages, or 50 percent positive. Following data entry into HSPSC-DEAT, a calculated percent positive response for each safety culture composites was returned. This allowed for a comparison with pooled data from the 1,128 database hospitals.

In Figure 3 the composite for handoffs and transitions is identified as the area needing the most improvement, with a positive response rate of only 13%, suggesting that 87% of the respondents felt this area was problematic. Teamwork across units, and feedback and communication regarding errors, were the next lowest scoring segments, at 15% and 18%, respectively. The strongest composite section was staffing, with a 54% positive reply, suggesting this to be an area of strength for the hospital.

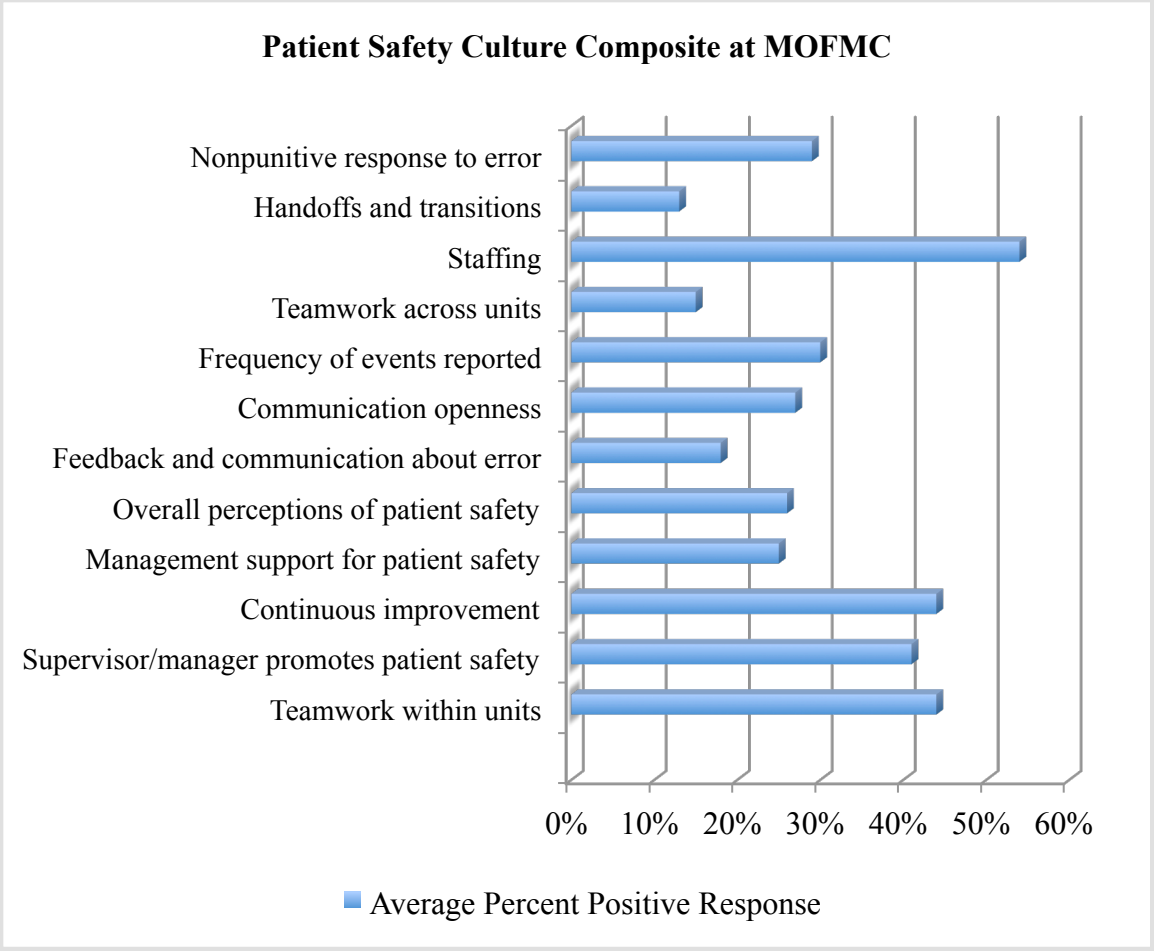


Figure 3. Composite-Level Results for MOFMC.

Handoffs and Transitions Unit Level – Composite Level Comparative Results.

This area was identified as most in need of improvement, with a positive response rate of only 13%. This composite score consists of four negatively worded questions. In Table 6 the results from the MOFMC are compared to AHRQ database. The score range of maximum and minimum scores is provided for reference.

The hospital level composite data for handoffs and transitions can be further broken down into unit level data. Figure 4 shows the percent positive response on the

four main units responding to the survey. These results show the Medical/Surgical Unit with the largest difference between the database scores, at 46%, and their unit scores at 7%. The Emergency Department had the highest positive response rate within the hospital at 25% compared to AHRQ database at 48%. However, that suggests that 75% of the respondents from the Emergency Department still felt that handoff and transitions are a concern for patient safety.

Table 6

Handoffs and Transitions: Item-Level Comparative Results.

Questions	Survey Item % Positive Response		Database Hospitals Range of % Positive	
	MOFMC	Database Average	Minimum	Maximum
Things "fall between the cracks" when transferring patients from one unit to another	8%	41%	8%	89%
Important patient care information is often lost during shift changes	20%	51%	16%	89%
Problems often occur in the exchange of information across hospital units	8%	44%	6%	88%
Shift changes are problematic for patients in this hospital	15%	45%	15%	92%

Note. Questions in this composite are reverse worded: positive responses are noted as strongly disagree/disagree or never/rarely.

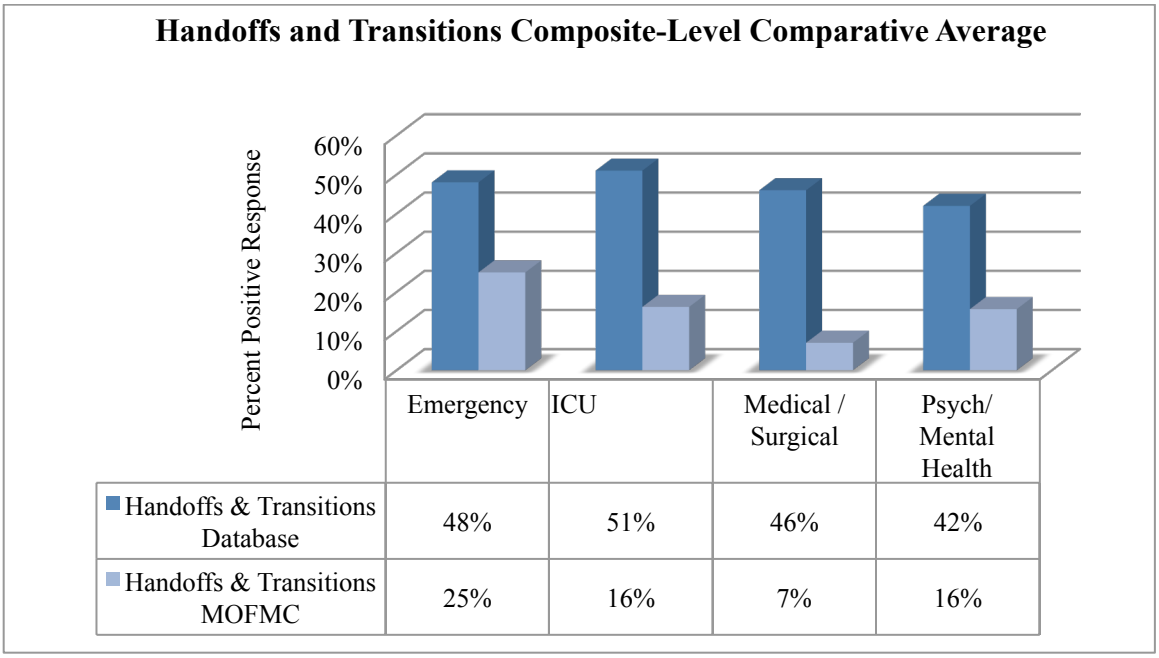


Figure 4. Handoff and Transition Composite Level Results by Unit.

For the question: *Things "fall between the cracks" when transferring patients from one unit to another* (Figure 5). The Medical/Surgical Unit demonstrated the largest difference between the database score of 41% and their unit score of 3%. Mental Health had the highest positive response rate within the hospital at 13% compared to AHRQ database at 35%.

For the question: *Important patient care information is often lost during shift changes* (Figure 6). The Medical/Surgical Unit presented the largest difference between the database score of 51% and their unit score of 9%. Mental Health and the Emergency Department had positive response rates within a 25% range of the AHRQ comparative database. Mental Health was at 25% compared to AHRQ database at 50%, while the Emergency Department was at 33% compared to AHRQ database at 58%.

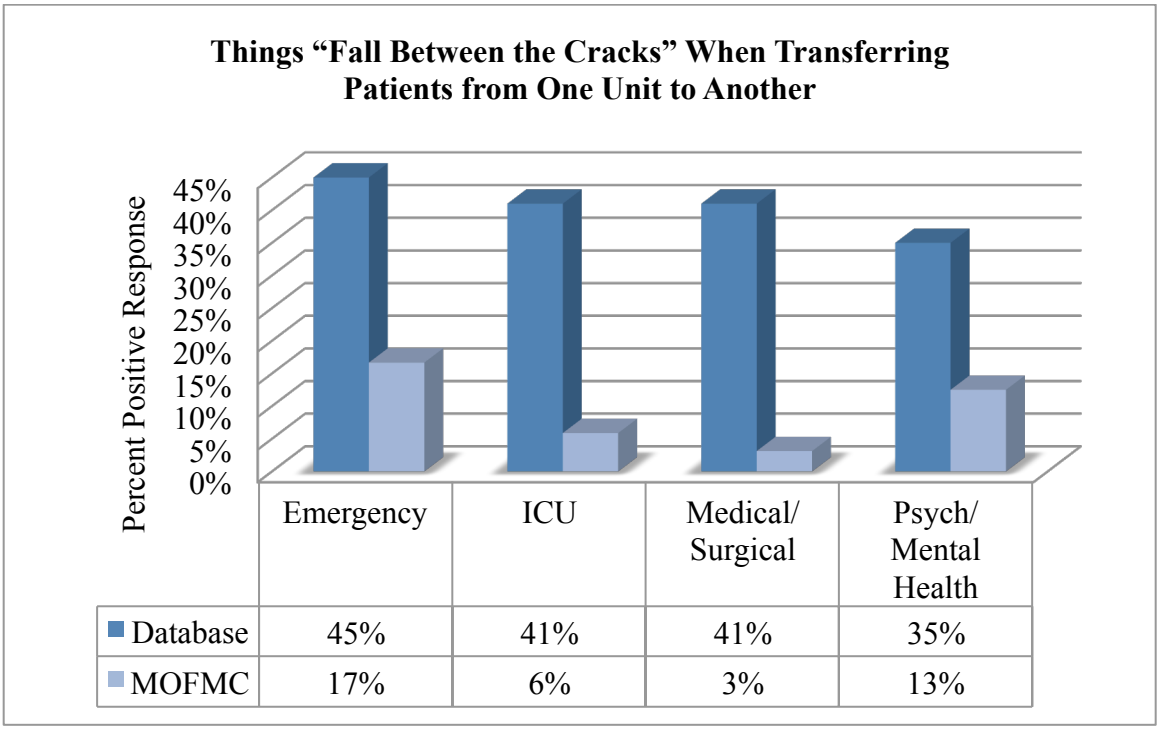


Figure 5. Handoff and Transition Question 1 Composite Level Results by Unit.

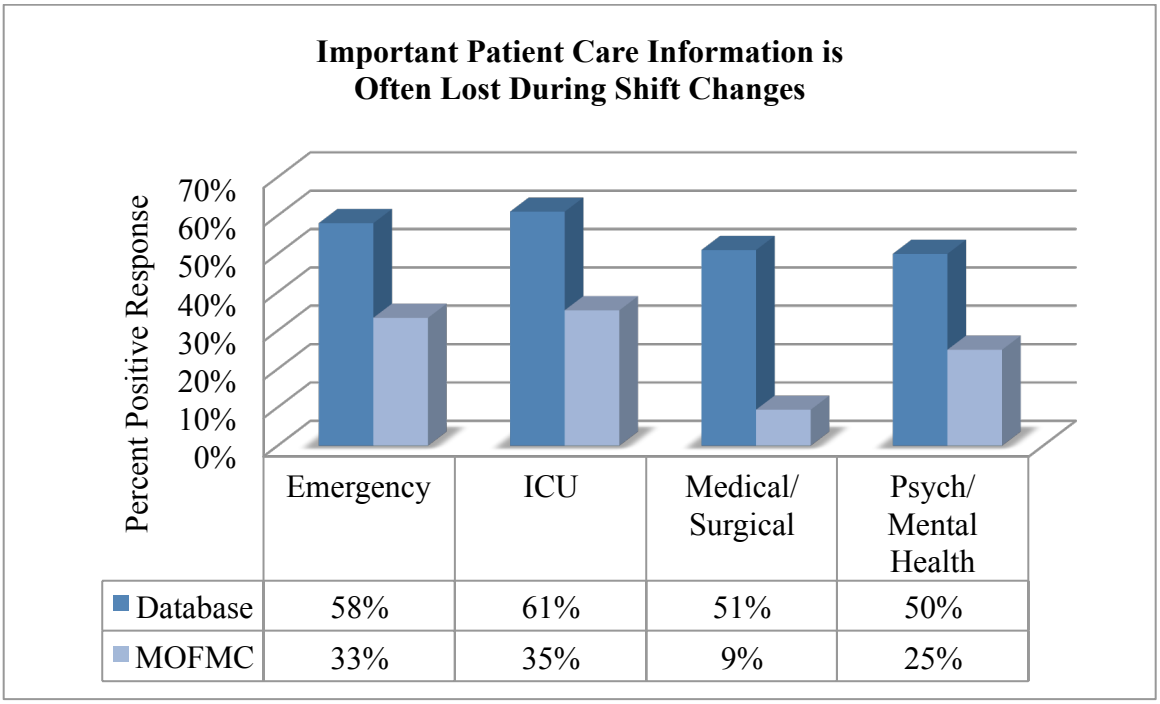


Figure 6. Handoff and Transition Question 2 Composite Level Results by Unit.

For the question: *Problems often occur in the exchange of information across hospital units* (Figure 7). Mental Health had the largest difference between the database score of 39% and their unit score of 0% (there were no positive responses). The Emergency Department had the highest positive response rate within the hospital at 33% compared to the AHRQ database at 45%.

For the question: *Shift changes are problematic for patients in this hospital* (Figure 8). The intensive care unit presented the largest difference between the database score of 58% and their unit score of 18%. Mental Health had the highest positive response rate within the hospital, at 25%, compared to AHRQ database at 43%.

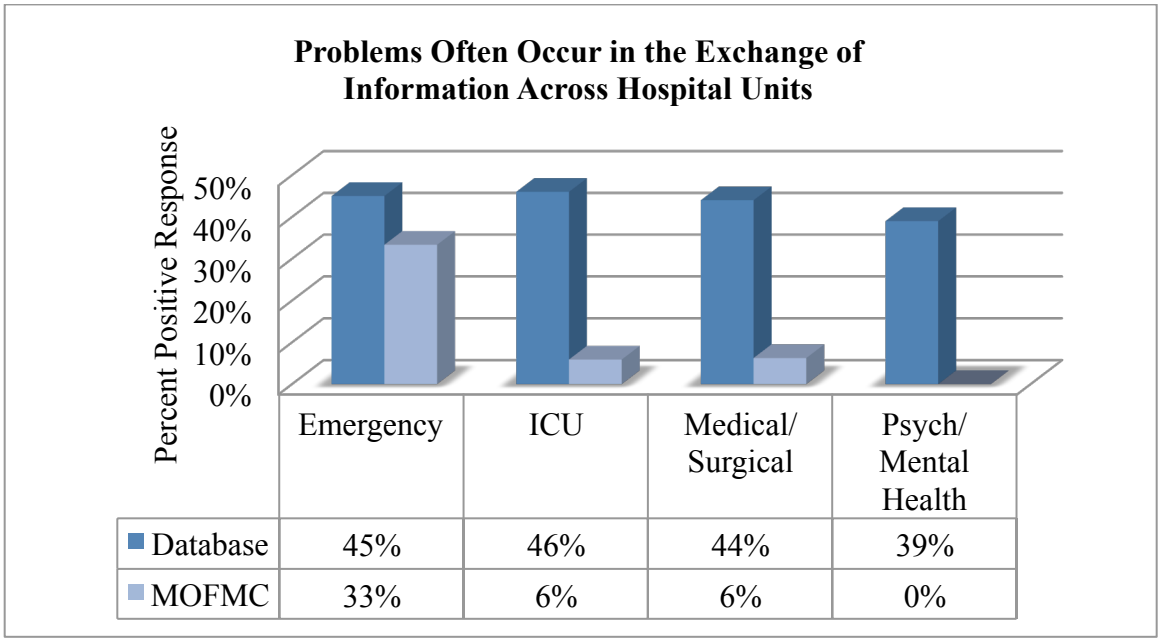


Figure 7. Handoff and Transition Question 3 Composite Level Results by Unit.

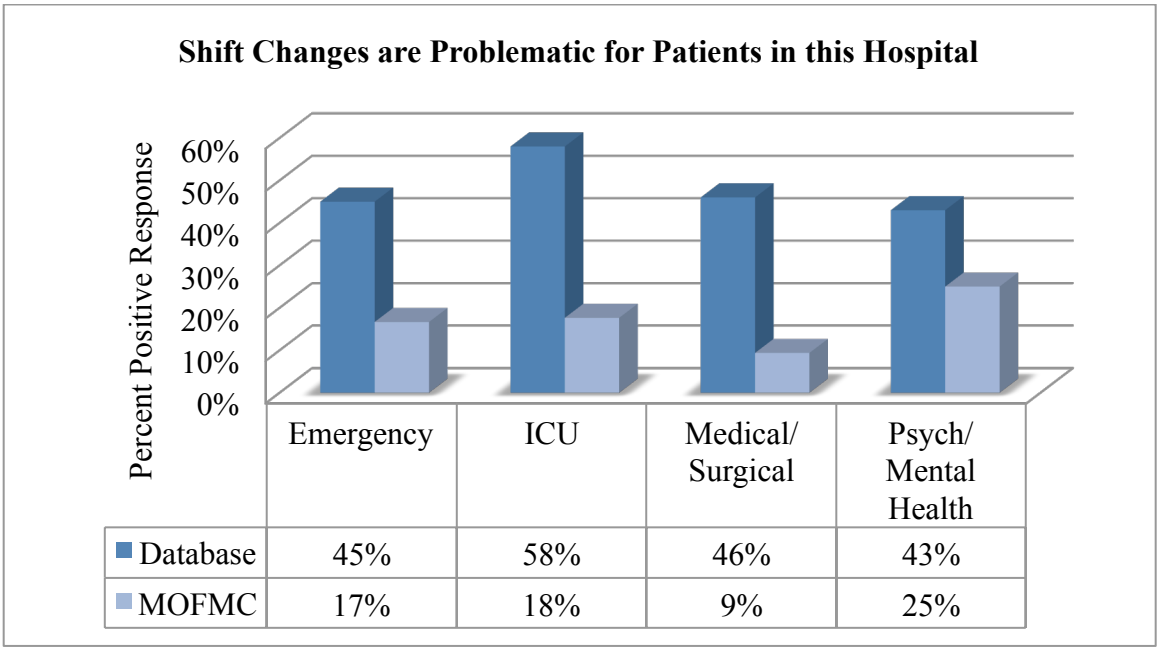


Figure 8. Handoff and Transition Question 4 Composite Level Results by Unit.

Teamwork Across Units – Composite Level Comparative Results.

Composite data on teamwork across units suggested this area as second most in need of improvement. This composite score consists of two negatively worded questions and two positively worded questions. In Table 7 the results from the MOFMC are compared to AHRQ database. The score range of maximum and minimum scores is provided for reference.

Table 7

Teamwork Across Units: Item-Level Comparative Results.

Questions	Survey Item % Positive Response		Database Hospitals Range of % Positive	
	MOFMC	Database Average	Minimum	Maximum
Hospital units do not coordinate well with each other	12%	46%	12%	93%
There is good cooperation among hospital units that need to work together	13%	60%	21%	95%
It is often unpleasant to work with staff from other hospital units	17%	59%	29%	93%
Hospital units work well together to provide the best care for patients	19%	68%	19%	100%

Note. Two questions in this composite are reverse worded: positive responses are noted as strongly disagree/disagree or never/rarely.

Figure 9 shows the percent positive response on the four main units responding to the survey. These results show the Medical/Surgical Unit with the largest difference between the database scores, at 57%, and their unit scores at 8%. The Emergency Department had the highest positive response rate within the hospital at 25% compared to AHRQ database at 48%.

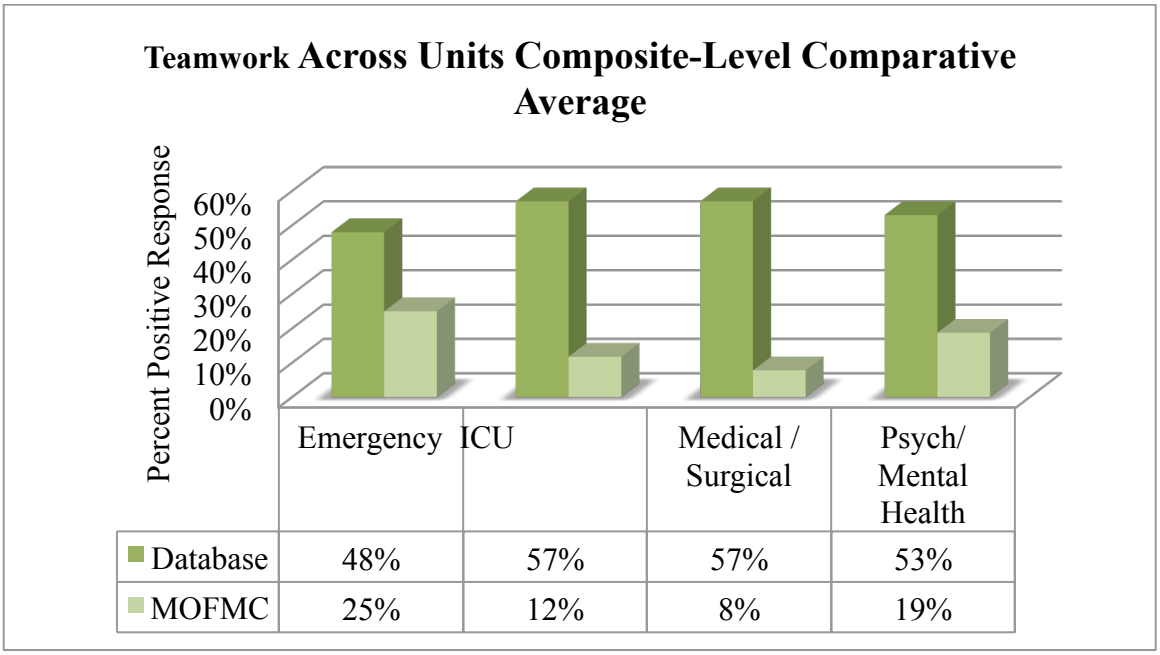


Figure 9. Teamwork Across Units Composite-Level Comparative Average.

For the question: *Hospital units do not coordinate well with each other* (Figure 10). The Medical/Surgical Unit demonstrated the largest difference between the database score of 44% and their unit score of 3%. Emergency Department had the highest positive response rate within the hospital at 17% compared to AHRQ database at 36%.

For the question: *There is good cooperation among hospital units that need to work together* (Figure 11). The Intensive Care Unit presented the largest difference between the database score of 57% and their unit score of 6%. The Emergency Department had the highest positive response rates at 17% compared to AHRQ database at 48%.

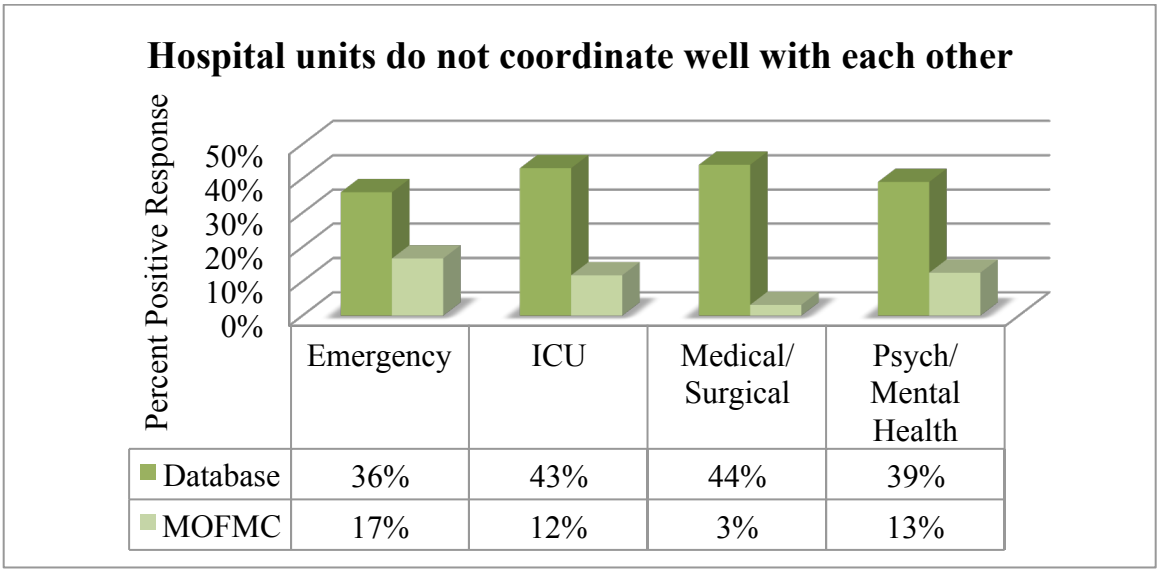


Figure 10. Teamwork Across Units Question 1 Composite Level Results by Unit.

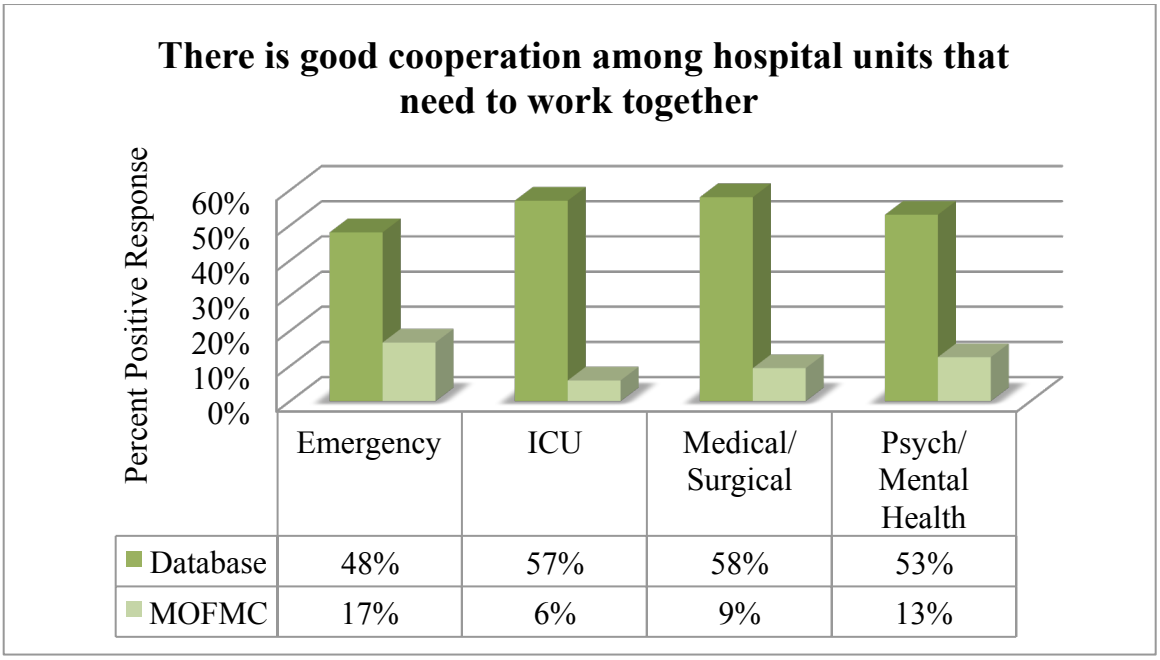


Figure 11. Teamwork Across Units Question 2 Composite Level Results by Unit.

For the question: *It is often unpleasant to work with staff from other hospital units* (Figure 12). Medical/Surgical Unit had the largest difference between the database score

of 61% and their unit score of 13%. The Emergency Department had the highest positive response rate within the hospital at 33% compared to the AHRQ database at 50%.

For the question: *Hospital units work well together to provide the best care for patients* (Figure 13). The Medical/Surgical Unit presented the largest difference between the database score of 66% and their unit score of 6%. Mental Health had the highest positive response rate within the hospital, at 38%, compared to AHRQ database at 61%.

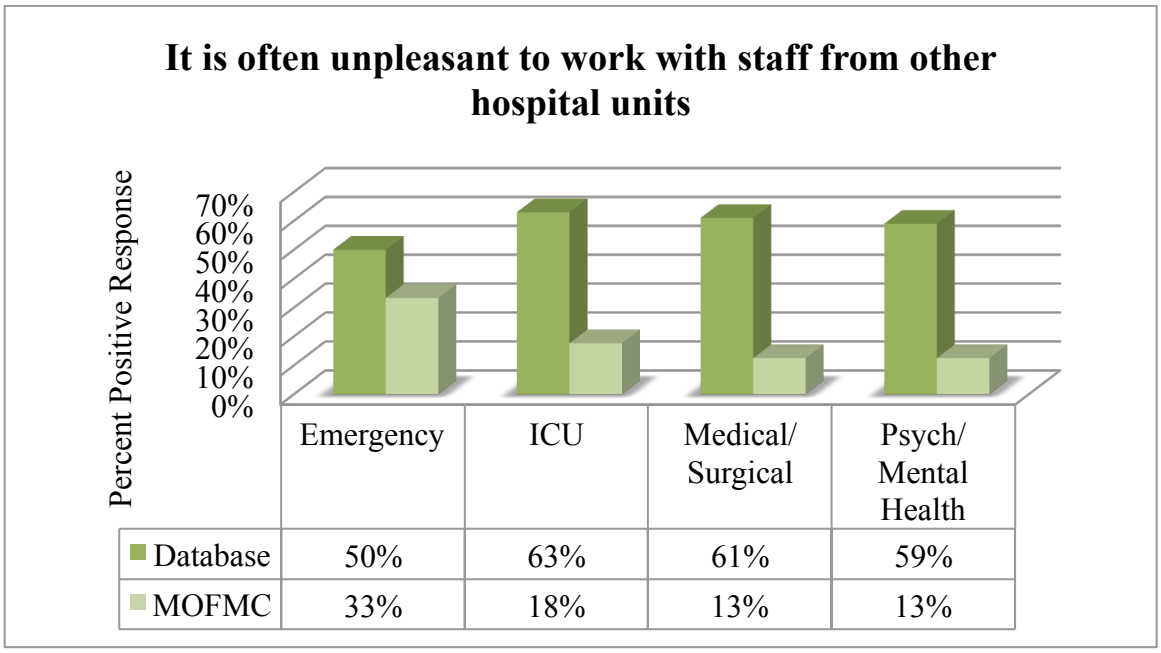


Figure 12. Teamwork Across Units Question 3 Composite Level Results by Unit.

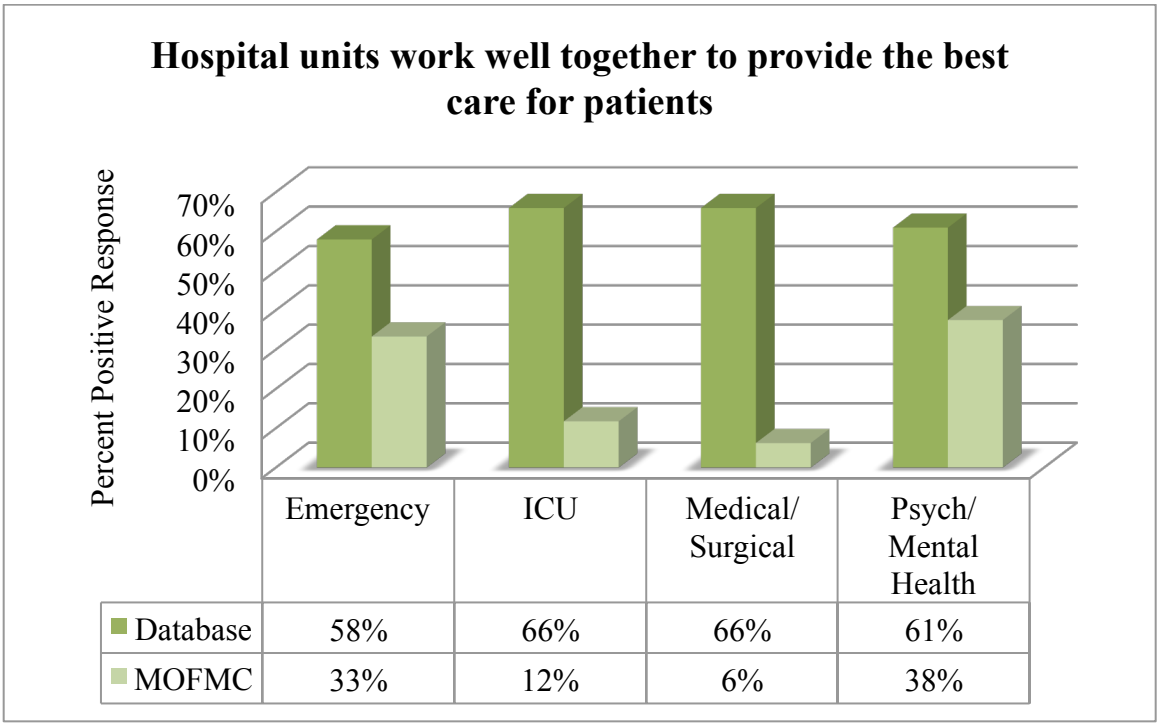


Figure 13. Teamwork Across Units Question 4 Composite Level Results by Unit.

Feedback and Communication About Error – Composite Level Comparative Results.

Composite data on feedback and communication about error is ranked third most in need of improvement. This composite score consists of three positively worded questions. In Table 8 the results from the MOFMC are compared to AHRQ database. The score range of maximum and minimum scores is provided for reference.

Table 8

Feedback and Communication About Error: Item-Level Comparative Results

Questions	Survey Item % Positive Response		Database Hospitals Range of % Positive	
	MOFMC	Database Average	Minimum	Maximum
We are given feedback about changes put into place based on event reports	13%	56%	6%	88%
We are informed about errors that happen in this unit	19%	65%	26%	93%
In this unit, we discuss ways to prevent errors from happening again	22%	72%	43%	93%

The hospital level composite data for feedback and communication about error can be further broken down into unit level data. Figure 14 shows the percent positive response on the four main units responding to the survey. These results show the Medical/Surgical Unit with the largest difference between the database scores, at 60%, and their unit scores at 13%. The Mental Health had the highest positive response rate within the hospital at 29% compared to AHRQ database at 65%.

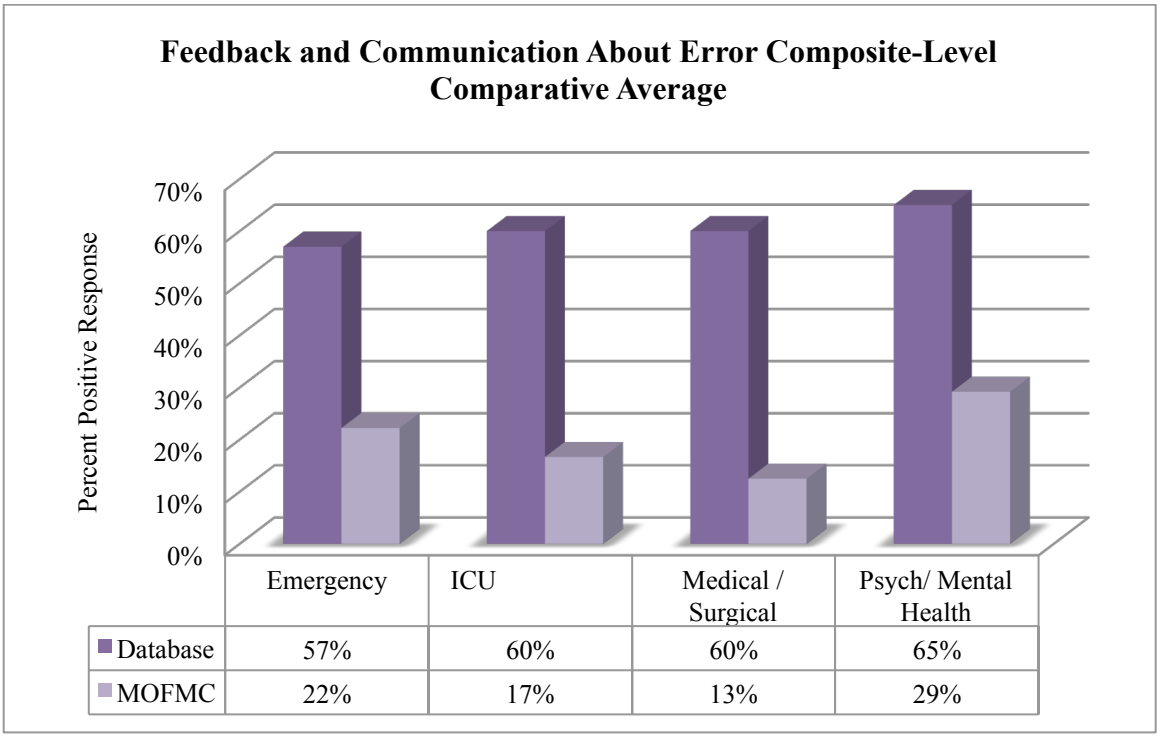


Figure 14. Feedback and Communication About Error Composite Level Comparative Average.

For the question: *We are given feedback about changes put into place based on event reports* (Figure 15). The Medical/Surgical Unit demonstrated the largest difference between the database score of 54% and their unit score of 9%. The Emergency Department had the highest positive response rate within the hospital at 17% compared to AHRQ database at 51%.

For the question: *We are informed about errors that happen in this unit* (Figure 16). The Intensive Care Unit presented the largest difference between the database score of 58% and their unit score of 11%. Mental Health had the highest positive response rate at 25% compared to AHRQ database at 65%.

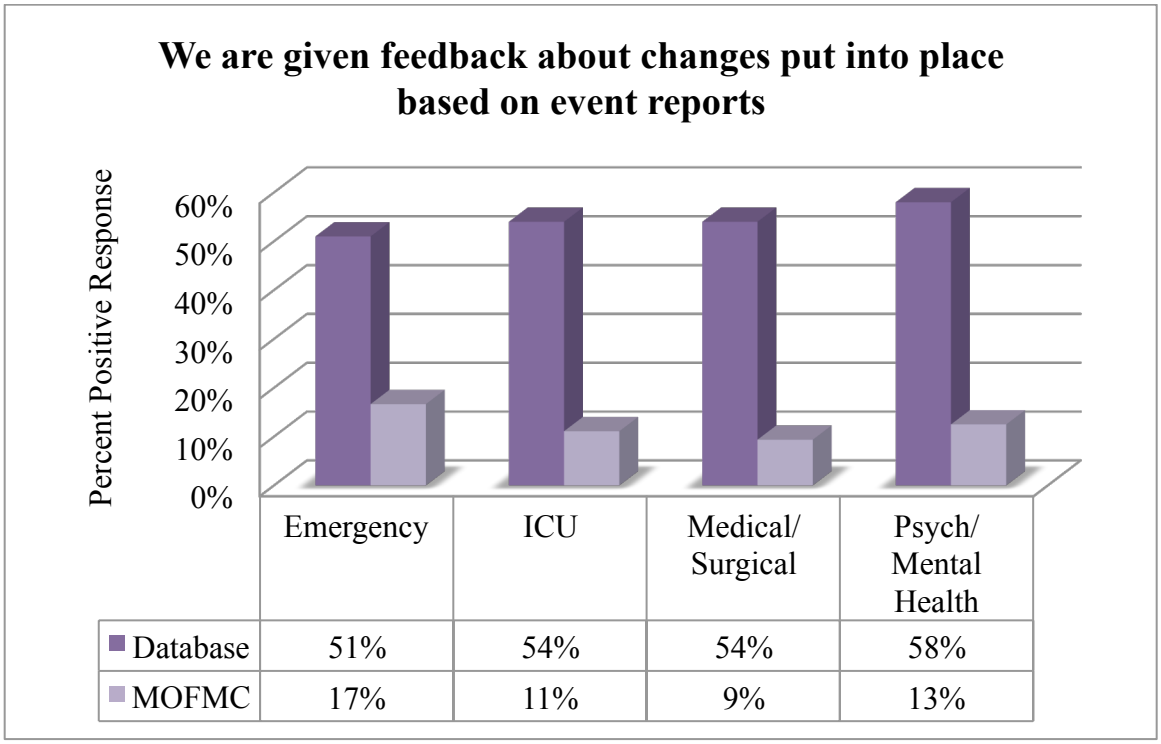


Figure 15. Feedback and Communication About Error Question 1 Composite Level Results by Unit.

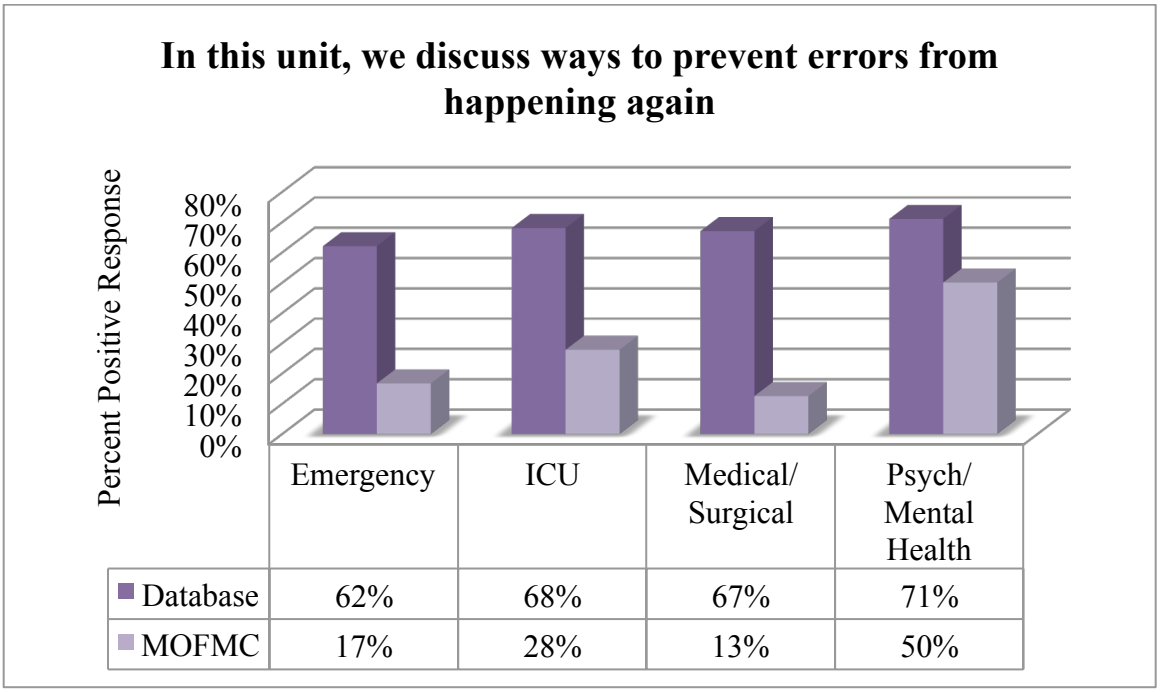


Figure 16. Feedback and Communication About Error Question 2 Composite Level Results by Unit.

For the question: *In this unit, we discuss ways to prevent errors from happening again* (Figure 17). Medical/Surgical Unit had the largest difference between the database score of 67% and their unit score of 13%. Mental Health had the highest positive response rate within the hospital at 50% compared to the AHRQ database at 71%.

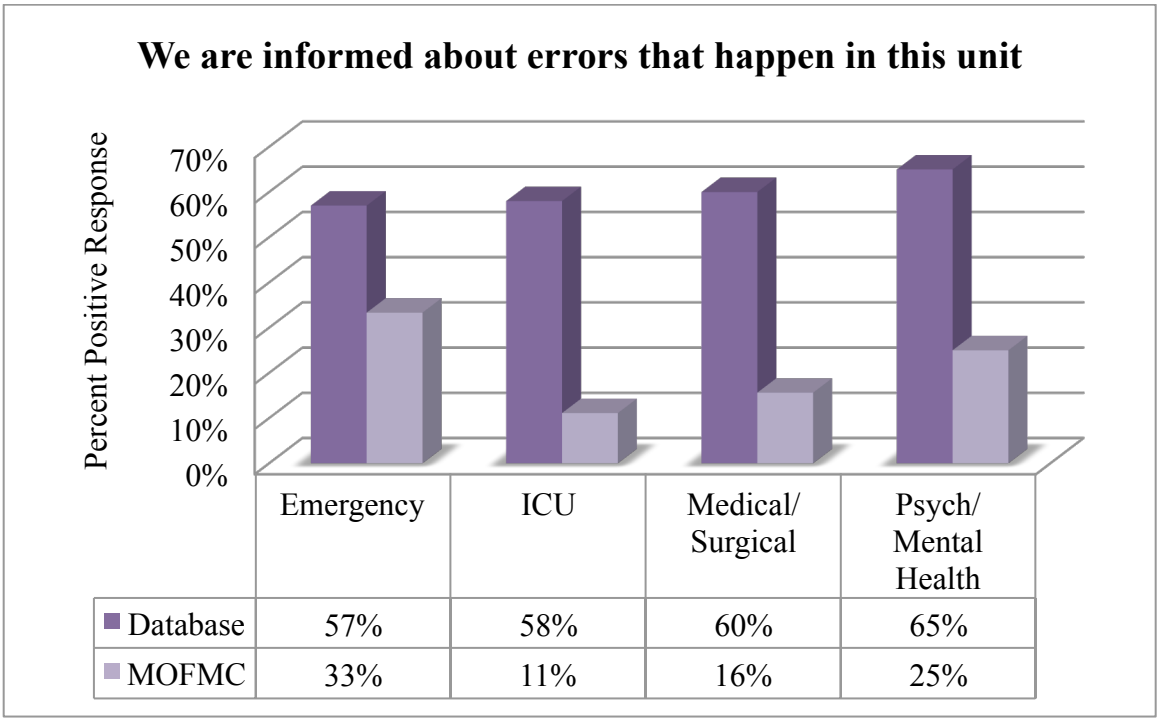


Figure 17. Feedback and Communication About Error Question 3 Composite Level Results by Unit.

CHAPTER 6: DISCUSSION, INTERPRETATION, AND PLAN

This chapter includes a discussion of the study findings and reviews the limitations of this project. The purpose of this project was to gain a better understanding on patient safety culture among hospital-based staff. Study design involved collecting responses to a descriptive survey on the perceptions of patient safety culture within the targeted organization. Use of a descriptive survey allowed quantification of the hospital staffs' perceptions of and towards their current patient safety culture.

These collected surveys provided suggestions for continuous quality improvement (CQI) initiatives, which include areas for improvement as identified in the previous chapter. Additionally, potential future areas for process improvements and impact from this project will be discussed.

Discussion on Analysis

The main goal of this study was to assess the staff's perception of patient safety culture. This perception was based on the scores determined by the Agency for Healthcare Research and Quality (AHRQ) Hospital Survey on Patient Safety Culture (HSOPS). Among the key purposes of the AHRQ survey are the development and support tools to assess patient safety culture (AHRQ, 2004). Study project results are based on the following categories:

- Comparison – allows a comparison of results with other hospitals or across units
- Assessment and Learning – provides initial and comparison data, facilitates staff exposure in the patient safety improvement process
- Information – data identifies strengths and areas with potential for improvement in patient safety culture

- Trending – depicts changes in patient safety culture over time

The 2012 AHRQ Hospital Database consists of an aggregated data set from 1,128 hospitals. Hospitals that submitted information to the database were not a statistically selected sample of all U.S. hospitals, rather they represented hospitals that administered the survey and were willing to submit their data for inclusion. However, Sorra and Dyer (2012) state the characteristics of the database hospitals are consistent with the American Hospital Associations distribution of hospitals. The average hospital response rate for the database was 53 percent; with Medical/Surgical units were the largest respondents. The majority of respondents in the database had direct interaction with patients. All consistent with the MOFMC results.

Hospitals that administered the survey are not required to undergo any training. The survey has been administered in a variety of different ways; paper-only survey, web-only surveys, and combinations of these two methods. It is possible different modes could lead to differences in survey responses. In addition, some hospitals survey all hospital staff, while others administer the survey to a representative sample of staff.

The Hospital Survey on Patient Safety Culture Data Entry and Analysis Tool (HSPSC-DEAT) was created to provide comparisons between the study population and the database. The database shows the average percentage of positive responses across participating hospitals on each of the survey's items and composites. Comparisons can be completed at the hospitals or unit level. This is accomplished by reporting the average across hospitals in an effort to ensure that each hospital receives an equal contribution to the overall average.

AHRQ (2004) supports the reporting of data at the hospital level in this way as organizational culture is considered to be a group characteristic, not an individual characteristic. When comparing results with the database, it is important to keep in mind that the database provides relative comparisons (Sorra & Dyer, 2012). The comparative data provided in this report should be used to supplement the MOFMC's internal efforts toward identifying areas of strength as well as those needing patient safety culture improvements.

Due to the nature of pooled scoring the AHRQ (2004) recommends using a minimum 5-percentage point difference when comparing results with database averages. For example, if the MOFMC's percent positive score is greater than 5 percentage points higher then the database average it can be considered above average. Conversely, if the score is below 5 percentage points or more then it may be considered below average. This information can then be used to identify of areas of strength as well as those requiring improvement processes.

Outcomes Discussion

The research question asked for this project was: *What is the staff's perception of patient safety culture, based on scores using the Hospital Survey on Patient Safety Culture, in Mike O'Callaghan Federal Medical Center?*

Examination of the composite level data (Figure 3) is an appropriate beginning to this discussion. Table 7 shows the reorganized composite level data prioritized by positive response rates to identify the categories in need for patient safety improvement processes. By identifying the lowest scoring areas we allow for communication, planning and focused interventions to address the needs in an organized manner. A common theme

elicited in the three lowest scoring composites is problems related to communication. Continuous quality improvement is dependent upon communication activities that support and create a work environment conducive to this.

Table 9

Composite-Level Results for the MOFMC.

Patient Safety Culture Composites	Average Percent Positive Response
Handoffs and transitions	13%
Teamwork across units	15%
Feedback and communication about error	18%
Management support for patient safety	25%
Overall perceptions of patient safety	26%
Communication openness	27%
Nonpunitive response to error	29%
Frequency of events reported	30%
Supervisor/manager promotes patient safety	41%
Teamwork within units	44%
Continuous improvement	44%
Staffing	54%

Note. The table has been reorganized in ascending order of average percent positive results.

The delivery of care among health-care staff involves continuous bidirectional interactions. The relationship between feedback and communications regarding errors is strongest with event reporting (El-Jardali, Dimassi, Jamal, Jaafar, & Hemadeh, 2011). This highlights the importance of open communication regarding errors and allowing

feedback about the effects of implemented changes. This is a crucial part of enhancing the culture of patient safety.

The lack of continuity is an unfortunate reality of hospital care. Nurses and other providers cannot be present in the hospital around the clock; hence many different providers will inevitably care for patients. Composite measures of handoffs and transitions assess the patient care information that is shared across hospital units and during shift changes. Hospital realities with nurses shift changes and multiple physicians responsible for a patient's care creates numerous opportunities for error. Data from this study indicated respondents felt information is not accurately transferred between units or care providers; suggesting critical information is lost or not communicated when transferring patients across hospital units.

Providing safe care depends on highly trained individuals with different roles and responsibilities acting together in the best interests of the patient. Teamwork represents the integration of different units into the organizational structure of the hospital. Hospital unit coordination and cooperation with one another is critical to provide the best care for patients. Teamwork is a fundamental aspect of CQI and necessary for daily continuous improvement activities. A majority of respondents had a negative perception of teamwork across hospital units. This suggests a lack of cooperation among hospital units that need to work together. Hospital units are not coordinating well with each other and staff find it difficult to work with other hospital units.

Feedback and communication regarding errors that have occurred is identified as a problem area. El-Jardali, Dimassi, Jamal, Jaafar, and Hemadeh (2011) reported the number of event reports filed is significantly associated with the composite questions

measuring communication openness. Feedback and communication about errors, problems associated with hospital handoffs, transitions, and teamwork across hospital units all fall into this broad category of measuring communication openness. Only 15% of respondents felt adequate feedback and communication regarding errors is given. Consequently, 85% of the respondents felt they were not informed about errors that happen at the unit level. Additionally, discussions regarding future error prevention were not taking place. It was also felt there was a lack of feedback given related to changes put into place based on event reports.

Action Planning for Improvement

Stock, McFadden, and Gowen (2010) suggest that linking staffs' perceptions toward patient safety culture in the delivery of and improvement in quality of care may result in the development of a work environment based continuous quality improvement. Designing models of quality improvement through the active participation of employees may enhance quality initiatives. This study addressed the notion that key components within patient safety culture are the building blocks to quality improvement. Moreover, the lack of quality may be the result of the lack of a cultural commitment to safety.

The nation's current health-care system lacks the culture needed to ensure that services are safe, effective, patient-centered, timely, efficient and equitable (Institute of Medicine, 2001). The significance of this study is in the assumption that perceptions of patient safety culture among hospital staff can provide additional understanding of quality in the delivery of care. Organizational culture can act as a means for improving quality within healthcare. However, there is evidence that successful implementation of

quality care initiatives requires emphasis on employee empowerment, autonomy, professional values, and knowledge management (Rabanni, Jafri Abbas, & Jaham, 2009).

Health-care organizations are being pressured to improve patient safety (Stock, McFadden, & Gowen, 2010). Simply conducting a survey is not the end point of this process; rather they are actually just the beginning. Surveys in and of themselves, are not a means for creating lasting change; organizational actions, planning and follow-up, are necessary for a sustainable change to occur.

Sorra and Dyer (2012) offer seven step action plan based on survey data. This process gives guidance on the process to turn survey results into actual patient safety culture improvement: (1) understand your survey results; (2) communicate and discuss the survey results; (3) develop focused action plans; (4) communicate action plans and deliverables; (5) implement action plans; (6) track progress and evaluate impact; and (7) share what works.

1. Understanding of survey results. It is important to review the survey results and interpret them before looking to develop action plans. For the MOFMC we have identified the weakest traits and ranked the remaining sections noting potential strengths through this survey.

   Based on these results there is substantial room for improvement at MOFMC. However, it is important to focus improvements, recognizing that not everything can be addressed at once. Utilizing our understanding of key strengths and areas for improvement will help develop a sound plan for improvement. Overall, the results from the MOFMC fall on the low side when compared to the other hospitals within the database. Many of the scores fall close to the minimum listed

within the AHRQ database. Following the guidance offered by AHRQ tools in targeting problem areas this study identifies the areas with the highest needs for intervention.

2. Another important part of this process is communicating and sharing survey results with affected parties. Survey respondents gave low scores on feedback and communication about error; sharing this information will assist in building an organizational commitment to improve patient safety. Feedback from this study will be shared with the Veterans Affairs Research and Development department. A formal presentation will be given to the Patient Safety Committee, and the American Federation of Government Employees (AFGE) Union will be briefed. Results will be shared at staff meetings to reach the direct care providers. By sharing this information we achieve several goals. These data are offered as direct feedback to participants of the survey and we bring attention to patient safety and current perceived risks. This can also be used as an opportunity to invite participation in follow-up activities, such as focus groups or interviews with staff to find out more about particular issues and why they remain problematic while soliciting suggestions for improvement.
3. Develop a formal written action plan. This will help guide progress toward change as well as document the steps to be used to achieve that change. Action plans can include department, unit based, or hospital wide goals. Crucial to this will be fostering an environment where staff are encouraged and empowered to develop action plans at the unit level. The AHRQ (2004) and Sorra and Dyer

(2012) suggest using the SMART plan when developing goals: Specific, Measurable, Achievable, Relevant, and Time bound.

4. Once an action plan has been developed, the implementation, goals, and expected outcomes need to be communicated. Similarly, roles, responsibilities, and timeframe for implementation, with those directly involved or affected should be specified. Encouraging the development of actions plans and further accountability should be used to demonstrate an organizational commitment to the survey results.
5. Implementing an action plan can present a challenging task. Taking action requires the necessary resources and organizational support. Deficiencies must be clearly identified and measurable goals established for monitoring progress (Deming, 1986). There needs to be a consistent understanding of purpose, goal setting, employee empowerment, CQI and teamwork. Appropriate measures to track changes and monitor program success must be developed and deployed. All of these need to be accomplished in such a way that the action plan can evolve and adapt to the environment/unit where the change process is taking place.
6. Track progress and evaluate impact while implementing change. This ensures a timely communication of progress toward goals and increases awareness of potential problems. It is important that staff we kept aware of potential impacts when changes are being implemented.

Deming's framework provides an organizational perspective on quality improvement. Deming's management philosophy is to reduce deficiencies and eliminate preventable errors during the process to improve outcome quality

(Miyagawa & Yoshida, 2005). Integrating Deming's framework supports the use of the HSOPS to identify deficiencies, enhance communication, and set goals for process and quality improvement in a language that is familiar to both administration and staff. The PDSA (Plan-Do-Study-Act) cycle is the quality improvement model approved by the Department of Veterans Affairs (VA).

7. Sharing the potential affect of the changes, positive or negative, will assist them in future management of change projects and allow them to provide valuable feedback to the change process. Collaborating and sharing of successes or failures, with regional and national facilities allows for discussion and future planning potential impact on continuous quality improvement throughout the healthcare system.

Recommendations for Improvement.

This section address recommendations for the previously identified three areas for process improvement. The processes, tool development, education, and information provide practical resources Leadership can use to implement changes to improve patient safety culture and patient safety. The recommendations below are not all-inclusive, but provide a resource and guidance to Leadership and Patient Safety personnel about patient safety initiatives and process implementation.

In 2010, AHRQ created a document identifying potential resources for organizations that would like to improve processes as identified in the HSOPS survey. Resources that could potentially assist the MOFMC are identified by composite area, resource or action, and potential process improvement. Table 8 contains suggestions for process improvements at MOFMC.

Table 10

Suggestions for Process Improvement at MOFMC - by Composite Area.

Composite Area	Resource/ Action	Process Improvement Plan
Handoffs and transitions	Education, Tool Development	Implement the IDEAL strategy: Identify patient, Diagnosis, recent Events, Anticipated changes, Leave time for questions
	Education, Tool Development	Improve the handoff process by standardizing handoffs, mapping the handoff process, and implementing six principles of error-free handoffs
	Checklist Development	A transition of care list that provides a detailed description of effective patient transfer between practice settings
Teamwork across units	Education	Outline tactics to improve communication, including resource management, chain-of-command policies, and teamwork training
	Teamwork and Communication Tools	Develop tools for; multidisciplinary rounding, huddles, rapid response and escalation, and structured communication
	Teamwork Training	Teamwork training based on roles and responsibilities of individuals acting together in the best interests of the patient
Feedback and communication about error	Conduct Safety Briefings	Regular scheduled safety briefings in patient care units to increase safety awareness among frontline staff and foster a culture of safety
	Provide Feedback to Frontline Staff	Demonstrate leadership commitment to safety, ensuring staff members continue to report patient safety issues in a nonpunitive environment

Note. These are the authors' suggestions and have not been discussed or implemented by MOFMC Leadership.

Limitations.

This project had a number of limitations. One is that the results cannot be generalized; it gives a "snapshot" of the studied facility at one point in time. The sample size (N = 78) represented a 52% response rate. Although that response rate is on target with the database response rate of 53% it remains a noted limitation. An additional limitation was the poor response rate in ancillary areas, by non-nursing personnel. This limitation might be related to the fact the facility has limited VA staff outside of nursing.

Finally, the data are presented as submitted. The database has been cleaned for out-of-range values and blank records. No attempts have been made to verify or audit the accuracy of the data submitted to the database.

Conclusion and Future Plans

The purpose of this project was to gain a better understanding of hospital staffs' perceptions of patient safety culture as a strategy to improve quality within Veterans Administration Station 593. While this project provided insight into one hospital, the design acquired information regarding hospital staff perceptions related to components of patient safety.

In conclusion, the information gathered from the survey offers a unique opportunity to address deficiencies in patient safety culture. Composite level database comparisons to the data collected at MOFMC demonstrated a strong need for patient safety process improvements. This project has outlined the necessary information and process for planning a continuous quality improvement initiative following Deming's PDSA model.

The results of the survey will be presented on a report template to Research and Development within the VA. Formal presentations will be given to committees; the AFGE will be briefed, and an effort will be made to communicate with the direct care providers.

The goal of this project was to determine the staff's perception of patient safety culture based on the HSOPS tool. This survey has assisted in identifying patient safety areas in need of improvement. However, the project results are not the end point in this process; it has simply laid the foundation for process improvement. The survey itself is not the intervention and surveys do not create lasting change. Systematic action on an organizational level, including planning and follow-up, is necessary for a sustainable change to occur. The completion of this project represents only the beginning of a continuous quality improvement cycle, to improve the culture of patient safety.

APPENDIX A. HOSPITAL SURVEY ON PATIENT SAFETY

Hospital Survey on Patient Safety

Instructions

This survey asks for your opinions about patient safety issues, medical error, and event reporting in your hospital and will take about 10 to 15 minutes to complete.

If you do not wish to answer a question, or if a question does not apply to you, you may leave your answer blank.

- *An **"event"** is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm.*
- ***"Patient safety"** is defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery.*

SECTION A: Your Work Area/Unit

In this survey, think of your "unit" as the work area, department, or clinical area of the hospital where you spend *most* of your work time or provide *most* of your clinical services.

What is your primary work area or unit in this hospital? Select ONE answer.

a. Many different hospital units/No specific unit

b. Medicine (non-surgical)
c. Surgery
d. Obstetrics
e. Pediatrics
f. Emergency department
g. Intensive care unit (any type)
h. Psychiatry/mental health
i. Rehabilitation
j. Pharmacy
k. Laboratory
l. Radiology
m. Anesthesiology
n. Other, please specify: ☐

Please indicate your agreement or disagreement with the following statements about your work area/unit.

Think about your hospital work area/unit…	**Strongly Disagree** ▼	**Disagree** ▼	**Neither** ▼	**Agree** ▼	**Strongly Agree** ▼
1. People support one another in this unit	☐1	☐2	3	☐4	5
2. We have enough staff to handle the workload	☐1	☐2	3	☐4	5
3. When a lot of work needs to be done quickly, we work together as a team to get the work done	☐1	☐2	3	☐4	5
4. In this unit, people treat each other with respect	☐1	☐2	3	☐4	5
5. Staff in this unit work longer hours than is best for patient care	☐1	☐2	3	☐4	5

SECTION A: Your Work Area/Unit (continued)

Think about your hospital work area/unit…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
6. We are actively doing things to improve patient safety	☐1	☐2	3	☐4	5
7. We use more agency/temporary staff than is best for patient care	☐1	☐2	3	☐4	5
8. Staff feel like their mistakes are held against them	☐1	☐2	3	☐4	5
9. Mistakes have led to positive changes here	☐1	☐2	3	☐4	5
10. It is just by chance that more serious mistakes don't happen around here	☐1	☐2	3	☐4	5
11. When one area in this unit gets really busy, others help out	☐1	☐2	3	☐4	5
12. When an event is reported, it feels like the person is being written up, not the problem	☐1	☐2	3	☐4	5
13. After we make changes to improve patient safety, we evaluate their effectiveness	☐1	☐2	3	☐4	5
14. We work in "crisis mode" trying to do too much, too quickly	☐1	☐2	3	☐4	5
15. Patient safety is never sacrificed to get more work done	☐1	☐2	3	☐4	5
16. Staff worry that mistakes they make are kept in their personnel file	☐1	☐2	3	☐4	5
17. We have patient safety problems in this unit	☐1	☐2	3	☐4	5
18. Our procedures and systems are good at preventing errors from happening	☐1	☐2	3	☐4	5

SECTION B: Your Supervisor/Manager

Please indicate your agreement or disagreement with the following statements about your immediate supervisor/manager or person to whom you directly report.

	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures	☐1	☐2	3	☐4	5
2. My supervisor/manager seriously considers staff suggestions for improving patient safety	☐1	☐2	3	☐4	5
3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts	☐1	☐2	3	☐4	5
4. My supervisor/manager overlooks patient safety problems that happen over and over	☐1	☐2	3	☐4	5

SECTION C: Communications

How often do the following things happen in your work area/unit?

Think about your hospital work area/unit…	Never	Rarely	Some-times	Most of the time	Always
1. We are given feedback about changes put into place based on event reports	☐ 1	☐ 2	3	☐ 4	5
2. Staff will freely speak up if they see something that may negatively affect patient care	☐ 1	☐ 2	3	☐ 4	5
3. We are informed about errors that happen in this unit	☐ 1	☐ 2	3	☐ 4	5
4. Staff feel free to question the decisions or actions of those with more authority	☐ 1	☐ 2	3	☐ 4	5
5. In this unit, we discuss ways to prevent errors from happening again	☐ 1	☐ 2	3	☐ 4	5
6. Staff are afraid to ask questions when something does not seem right	☐ 1	☐ 2	3	☐ 4	5

SECTION D: Frequency of Events Reported

In your hospital work area/unit, when the following mistakes happen, *how often are they reported?*

	Never	Rarely	Some-times	Most of the time	Always
1. When a mistake is made, but is *caught and corrected before affecting the patient*, how often is this reported?	☐ 1	☐ 2	3	☐ 4	5
2. When a mistake is made, but has *no potential to harm the patient*, how often is this reported?	☐ 1	☐ 2	3	☐ 4	5
3. When a mistake is made that *could harm the patient*, but does not, how often is this reported?	☐ 1	☐ 2	3	☐ 4	5

SECTION E: Patient Safety Grade

Please give your work area/unit in this hospital an overall grade on patient safety.

☐	☐	☐	☐	☐
A Excellent	**B** Very Good	**C** Acceptable	**D** Poor	**E** Failing

SECTION F: Your Hospital

Please indicate your agreement or disagreement with the following statements about your hospital.

Think about your hospital…	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Hospital management provides a work climate that promotes patient safety	☐ 1	☐ 2	3	☐ 4	5
2. Hospital units do not coordinate well with each other	☐ 1	☐ 2	3	☐ 4	5
3. Things “fall between the cracks” when transferring patients from one unit to another	☐ 1	☐ 2	3	☐ 4	5
4. There is good cooperation among hospital units that need to work together	☐ 1	☐ 2	3	☐ 4	5

SECTION F: Your Hospital (continued)

Think about your hospital…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
5. Important patient care information is often lost during shift changes	☐ 1	☐ 2	3	☐ 4	5
6. It is often unpleasant to work with staff from other hospital units	☐ 1	☐ 2	3	☐ 4	5
7. Problems often occur in the exchange of information across hospital units	☐ 1	☐ 2	3	☐ 4	5
8. The actions of hospital management show that patient safety is a top priority	☐ 1	☐ 2	3	☐ 4	5
9. Hospital management seems interested in patient safety only after an adverse event happens	☐ 1	☐ 2	3	☐ 4	5
10. Hospital units work well together to provide the best care for patients	☐ 1	☐ 2	3	☐ 4	5
11. Shift changes are problematic for patients in this hospital	☐ 1	☐ 2	3	☐ 4	5

SECTION G: Number of Events Reported

In the past 12 months, how many event reports have you filled out and submitted?

☐ a. No event reports
☐ b. 1 to 2 event reports
☐ c. 3 to 5 event reports
☐ d. 6 to 10 event reports
☐ e. 11 to 20 event reports
☐ f. 21 event reports or more

SECTION H: Background Information (continued)

4. What is your staff position in this hospital? Select ONE answer that best describes your staff position.

- ☐ a. Registered Nurse
- ☐ b. Physician Assistant/Nurse Practitioner
- ☐ c. LVN/LPN
- ☐ d. Patient Care Asst/Hospital Aide/Care Partner
- ☐ e. Attending/Staff Physician
- ☐ f. Resident Physician/Physician in Training
- ☐ g. Pharmacist
- ☐ h. Dietician
- ☐ i. Unit Assistant/Clerk/Secretary
- ☐ j. Respiratory Therapist
- ☐ k. Physical, Occupational, or Speech Therapist
- ☐ l. Technician (e.g., EKG, Lab, Radiology)
- ☐ m. Administration/Management
- ☐ n. Other, please specify:

5. In your staff position, do you typically have direct interaction or contact with patients?

- ☐ a. YES, I typically have direct interaction or contact with patients.
- ☐ b. NO, I typically do NOT have direct interaction or contact with patients.

6. How long have you worked in your current specialty or profession?

- ☐ a. Less than 1 year
- ☐ b. 1 to 5 years
- ☐ c. 6 to 10 years
- ☐ d. 11 to 15 years
- ☐ e. 16 to 20 years
- ☐ f. 21 years or more

SECTION I: Your Comments

Please feel free to write any comments about patient safety, error, or event reporting in your hospital.

THANK YOU FOR COMPLETING THIS SURVEY.

APPENDIX B. HOSPITAL SURVEY ON PATIENT SAFETY CULTURE: ITEMS AND DIMENSIONS

Hospital Survey on Patient Safety Culture: Items and Dimensions

In this document, the items in the Hospital Survey on Patient Safety Culture are grouped according to the safety culture dimensions they are intended to measure. The item's survey location is shown to the left of each item. Negatively worded items are indicated. Reliability statistics based on the pilot test data from 21 hospitals and more than 1,400 staff are provided for the dimensions.

1. Teamwork Within Units

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A1. People support one another in this unit.
A3. When a lot of work needs to be done quickly, we work together as a team to get the work done.
A4. In this unit, people treat each other with respect.
A11. When one area in this unit gets really busy, others help out.

Reliability of this dimension--Cronbach's alpha (4 items) = .83

2. Supervisor/Manager Expectations & Actions Promoting Patient Safety[1]

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

B1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures.
B2. My supervisor/manager seriously considers staff suggestions for improving patient safety.
B3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts. (negatively worded)
B4. My supervisor/manager overlooks patient safety problems that happen over and over. (negatively worded)

Reliability of this dimension--Cronbach's alpha (4 items) = .75

3. Organizational Learning—Continuous Improvement

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A6. We are actively doing things to improve patient safety.
A9. Mistakes have led to positive changes here.
A13. After we make changes to improve patient safety, we evaluate their effectiveness.

Reliability of this dimension--Cronbach's alpha (3 items) = .76

4. Management Support for Patient Safety

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

F1. Hospital management provides a work climate that promotes patient safety.
F8. The actions of hospital management show that patient safety is a top priority.
F9. Hospital management seems interested in patient safety only after an adverse event happens. (negatively worded)

Reliability of this dimension--Cronbach's alpha (3 items) = .83

5. Overall Perceptions of Patient Safety

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A15. Patient safety is never sacrificed to get more work done.
A18. Our procedures and systems are good at preventing errors from happening.
A10. It is just by chance that more serious mistakes don't happen around here. (negatively worded)
A17. We have patient safety problems in this unit. (negatively worded)

Reliability of this dimension--Cronbach's alpha (4 items) = .74

6. Feedback & Communication About Error

(Never, Rarely, Sometimes, Most of the time, Always)

C1. We are given feedback about changes put into place based on event reports.
C3. We are informed about errors that happen in this unit.
C5. In this unit, we discuss ways to prevent errors from happening again.

Reliability of this dimension--Cronbach's alpha (3 items) = .78

7. Communication Openness

(Never, Rarely, Sometimes, Most of the time, Always)

C2. Staff will freely speak up if they see something that may negatively affect patient care.
C4. Staff feel free to question the decisions or actions of those with more authority.
C6. Staff are afraid to ask questions when something does not seem right. (negatively worded)

Reliability of this dimension--Cronbach's alpha (3 items) = .72

8. Frequency of Events Reported

(Never, Rarely, Sometimes, Most of the time, Always)

D1. When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?
D2. When a mistake is made, but has no potential to harm the patient, how often is this reported?
D3. When a mistake is made that could harm the patient, but does not, how often is this reported?

Reliability of this dimension--Cronbach's alpha (3 items) = .84

9. Teamwork Across Units

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

F4. There is good cooperation among hospital units that need to work together.
F10. Hospital units work well together to provide the best care for patients.
F2. Hospital units do not coordinate well with each other. (negatively worded)
F6. It is often unpleasant to work with staff from other hospital units. (negatively worded)

Reliability of this dimension--Cronbach's alpha (4 items) = .80

10. Staffing

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A2. We have enough staff to handle the workload.
A5. Staff in this unit work longer hours than is best for patient care. (negatively worded)
A7. We use more agency/temporary staff than is best for patient care. (negatively worded)
A14. We work in "crisis mode" trying to do too much, too quickly. (negatively worded)

Reliability of this dimension--Cronbach's alpha (4 items) = .63

11. Handoffs & Transitions

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

F3. Things "fall between the cracks" when transferring patients from one unit to another. (negatively worded)
F5. Important patient care information is often lost during shift changes. (negatively worded)
F7. Problems often occur in the exchange of information across hospital units. (negatively worded)
F11. Shift changes are problematic for patients in this hospital. (negatively worded)

Reliability of this dimension--Cronbach's alpha (4 items) = .80

12. Nonpunitive Response to Errors

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A8. Staff feel like their mistakes are held against them. (negatively worded)
A12. When an event is reported, it feels like the person is being written up, not the problem. (negatively worded)
A16. Staff worry that mistakes they make are kept in their personnel file. (negatively worded)

Reliability of this dimension--Cronbach's alpha (3 items) = .79

Patient Safety Grade

(Excellent, Very Good, Acceptable, Poor, Failing)

E1. Please give your work area/unit in this hospital an overall grade on patient safety.

Number of Events Reported

(No event reports, 1 to 2 event reports, 3 to 5 event report, 6 to 10 event reports, 11 to 20 event reports, 21 event reports or more)

G1. In the past 12 months, how many event reports have you filled out and submitted?

Note: Negatively worded questions should be reverse coded when calculating percent "positive" response, means, and composites.

APPENDIX C. HOSPITAL SURVEY ON PATIENT SAFETY CULTURE:

PERMISSION FOR USE

Managed and prepared by: Westat, Rockville, MD under Contract No. HHSA 290200710024C.

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