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Avoiding Hospital-Acquired Conditions: A Qualitative Analysis of Early Top Performers

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DOCTOR OF PHILOSOPHY IN NURSING

AVOIDING HOSPITAL-ACQUIRED CONDITIONS: A QUALITATIVE ANALYSIS

OF EARLY TOP PERFORMERS

By

Tammy Doolittle

A dissertation presented to the

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TITLE OF
DISSERTATION: Avoiding Hospital-Acquired Conditions: A Qualitative
                             Analysis of Early Top Performers

DISSERTATION
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Abstract

Preventable medical errors in hospitals cost our nation an estimated 180,000 annual deaths and tens of billions of dollars. The Patient Protection and Affordable Care Act mandated improvements in quality and patient safety. The Centers for Medicare and Medicaid Services, acting on these imperatives initiated legislation-mandated programs halting reimbursement to hospitals for specific hospital-acquired conditions (HAC) coined as Never Events. To date, studies have focused on quantifying incidence of specific HAC and assessing policy impact without correlating findings to actual outcome performance. The purpose of this study was to develop an understanding of organizational, contextual, process, and other factors occurring in hospitals performing in the top decile on HAC measures.

Top decile performing hospitals in California were strategically targeted after analysis and sorting of HAC data publicly reported on the Medicare's Hospital Compare website. From this group, three hospitals were targeted based on characteristics accounting for potential differences in systems factors. Key informants identified by the Chief Nursing Officer were interviewed and data constantly compared and analyzed using and open, focused, and theoretical coding. Grounded Theory tenets further provided the basis for development an emergent theoretical model enlightening factors related to best outcomes.

The model revealed three major interacting themes of Getting on Board with Why, Coming Together for How, and Getting Consistent with What to assist in understanding what happened in hospitals keeping patients most safe from HAC. Circumstances of defining *the Why*, championing *the Why,* and selling *the Why,* produced

a dynamic state of *Getting on Board with Why* to focus on patient safety and quality. What happened in *Coming Together for How* to get there from here was identified as uniting, identifying and unlocking key drivers, and mobilizing resources. Participants also described standardizing, ensuring compliance, managing data and messages, and continuing as leading to *Getting Consistent with What* needed to happen. Implications for nursing practice and education included improving quality of patient outcomes, care coordination, and innovative partnerships. The findings potentially present a new road map for strategically covering performance improvement in HAC avoidance including what should be happening and what processes can assist.

Copyright

Preface

Both Sides, Now

"I've looked at clouds from both sides now
From up and down, and still somehow
It's cloud illusions I recall
I really don't know clouds at all…

But now old friends are acting strange
They shake their heads, they say I've changed
Well something's lost, but something's gained
In living every day

I've looked at life from both sides now
From win and lose and still somehow
It's life's illusions I recall I really don't know life at all"

Joni Mitchell

Mitchell, J. (1967). Both Sides, Now. On *Clouds*. Hollywood, CA: A&M Records. (May, 1969). Reproduced with permission received from Michael Worden, Copyright Resource Administrator, Alfred Music, Van Nuys, California.

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Without the support and mentoring of many special people, this journey would have been more arduous, more lonely, and quite impossible. Many thanks to the following people:

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Chapter 1

Introduction

Problem

In direct contrast to the basic tenet of Doing No Harm, preventable medical errors in hospitals cost our nation a recently estimated 210,000 to 400,000 annual deaths and tens of billions of dollars (James, 2013; Stone et al., 2011).   Any successes in healthcare safety and quality have been small, short-lived, and insufficient to address these complex, enduring, and deeply rooted problems (Chassin & Loeb, 2011). Historically, hospitals have relied on great physicians and nurses to compensate for organizational and patient care delivery failures (Tucker & Edmondson, 2003).

One current legislative effort to drive improvement involves Hospital-Acquired Condition (HAC) reduction or preventing conditions that should never happen in hospitals such as pressure ulcers, central line associated blood stream infections (CLABSI), and catheter associated urinary tract infections (CAUTI).   These conditions prove most often to be preventable, expensive, and contribute substantially to morbidity and mortality (Stone et al., 2010). Recent research has focused on examining policy change impacts on environmental and organizational factors and changes in outcomes, without associating findings with actual outcome performance. As healthcare organizations strive to improve efforts to keep patients safe, a need exists to understand what happens differently in hospitals achieving the best outcomes.

Purpose

The purpose of this study was to explain participants' understanding of organizational, contextual, process, and other factors occurring in hospitals performing in the top decile on HAC measures.

Aims

The aims of the study were two fold.

1. Generate emergent conceptual categories related to high performance in HAC avoidance.

2. Begin developing a top-performing model for further research, dissemination, and testing.

Background

The Patient Protection and Affordable Care Act (ACA) (2010) requires quality improvement and patient safety to be addressed in Title III, part I, section 3001. The Centers for Medicare and Medicaid Services (CMS), acting on these imperatives initiated legislation-mandated programs to halt reimbursement to hospitals for specific HAC coined as Never Events beginning in 2008. Additionally, CMS implemented a HAC Reduction Program as part of the Hospital Value-Based Purchasing program imposing financial penalties of 1% of all Medicare billings for individual hospitals performing in the bottom quartile beginning in 2015 based on 2011 to 2013 HAC performance (Brooks, 2014). Patients, payers, and regulatory bodies have been consistent in demanding improvements rendering hospital care more reliable and safe.

Conceptual Underpinnings

Grounded theory tenets provided the basis for this design seeking to develop a top-performing model grounded in data acquired in the field.   While current research describes constructs for all outcomes, grounded theory assisted in developing a model delineating factors related to best outcomes/outliers on the curve. Many studies have attempted to analyze hospital safety performance as described below.

In 2009, an expert panel of clinicians and researchers in the United States developed a conceptual framework and outlined a research agenda for addressing the impact of the CMS payment policy and improving prevention of HAC. In this framework, Stone and colleagues (2010) identified organizational factors of leader behavior, organizational culture, and staff behavior as mediating variables in the relationship between the CMS change in reimbursement and changes in outcomes. Preliminary explorations have supported the framework (Hoff et al., 2011).

The Joint Commission, one of the drivers of the current quality improvement focus, has adopted the principle of "high-reliability" utilized by nuclear power, air travel, and other industries (Chassin & Loeb, 2011). While the authors represent the Joint Commission's stance that no healthcare organizations have achieved high-reliability, they do posit a model for doing so based on their learning from other industries coupled with their extensive knowledge resulting from examinations of many hospitals (Chassin & Loeb, 2013).

Several efforts have attempted to explain errors conceptually in healthcare without a specific connection to a model or theory. Burnett, Norris and Flin (2012) suggested, after performing an in-depth analysis of nine surgical "Never Events" in

England, that root causes present a reflection of the organizational culture of safety, illuminating underlying cultural and systems issues. A different team, drawing on management research in an effort to explain difficulties in improving quality of care, postulated that poor innovation implementation lies at the heart of organizational failures (Nembhard, Alexander, Hoff & Ramanujam, 2009). Well before the current legislative imperatives, Tucker and Edmondson (2003) linked the lack of organizational learning in healthcare to predominantly first-order problem solving ("band-aid fixes") on the front lines with limited second-order problem solving addressing underlying issues. Additionally, a team in England utilizing a human factors science consultant, related some of the risk in healthcare occurring as a result of long, complex, inaccessible, and voluminous policies and standards across organizations and professions (Carthey, Walker, Deelchand, Vincent, & Griffiths, 2011).

Amalberti, Vincent, Auroy, & de Saint Maurice (2006) proposed a three-phase model based on Rasmussen's theory of migration (1997) to boundaries to explain violations and migrations in healthcare that can progress to harm. These developers had previously studied human factors in aviation safety and extended their model to assist with factors unique to the hospital setting. They attempted to bridge the gap between industry and healthcare by including the complexities of socio-technical work and as a result, suggested the need to manage versus attempt to eliminate deviations from rules and procedures in the complex environment of healthcare.

Question

This research will answer the question: What factors do stakeholders at highest performing healthcare organizations attribute to success?

Methods

A grounded theoretical method was utilized for this qualitative research study. Stratified sampling occurred after identifying the top 10% of performers in one state. The sample was limited to one state in order to limit differences in legislation and local factors. From this starting point, three sites were targeted with strategic inclusion to cover differences in patient population and system factors. Before recruitment, institutional review board (IRB) level of oversight was determined. Prior to data collection, access to all sites was gained through contact with the Chief Nursing Officer. Key informant and personnel interviews ensued using a semi-structured process and open-ended questions. Constant comparison and layers of coding occurred adhering with constructivist grounded theory to develop emergent categories and early stages of theoretical modeling.

Significance

Countless lives, needless suffering, and valuable resources can be saved and healthcare changed by understanding the differences in organizations approaching high reliability in avoiding HAC. Providers who enter healthcare professions value nonmaleficence. Improvements in safety should have potential positive effects on their satisfaction and retention as well as the public's trust.

Summary

While no hospital has achieved high reliability in multiple outcomes over extended time frames, examining pockets of high reliability in HAC performance has illuminated factors associated with highly safe environments. Developing theory

grounded from the qualitative data benefits the organizations being studied by identifying what to continue doing and what may need further change. Even in light of some excellent performance, no stakeholder should ever rest on current outcomes as healthcare promises conditions with high stakes and ever changing needs. Knowing more about what has worked in the pursuit of safety has the potential to enlighten efforts toward other outcomes and in other organizations.

Chapter 2

Review of Literature

A review of literature on HAC illuminated the state of current research, the

models proposed for addressing this topic, and concepts used. This section begins with a

review of three models proposed and significantly examined to address HAC, followed

by exploring concepts linked by both management and healthcare researchers to HAC

occurrence. Next, six studies conducted since the initiation of current HAC reduction

legislation over the past four years were reviewed to enlighten the state of current

research. Due to the significant push from the Joint Commission to utilize high reliability

science to address medical errors, a review of the high reliability organization (HRO)

phenomenon outside of healthcare concluded the literature review by examining four

reports.

Quality and Safety Frameworks

In 2009, an expert panel convened to set the research agenda related to upcoming

HAC legislation changes imposing penalties for all Medicare billings based on HAC

performance (Stone et al., 2010). The driving purpose of this group funded by the

Agency for Healthcare Research and Quality (AHRQ) and National Institute of Nursing

Research (NINR) included setting the framework for studies prior to legislation

implementation in order to assist with evaluation afterwards. The team developed a

conceptual framework (See Figure 1) to organize current issues related to HAC built

upon an integration of Andersen's Behavioral Model (1995), organizational theory, and

management research. Long-term goals of this project aimed to assist with identification

of organizational structures that facilitate process and behavior change, and assist in

enlightening how to best engage the workforce in efforts to reduce HAC.
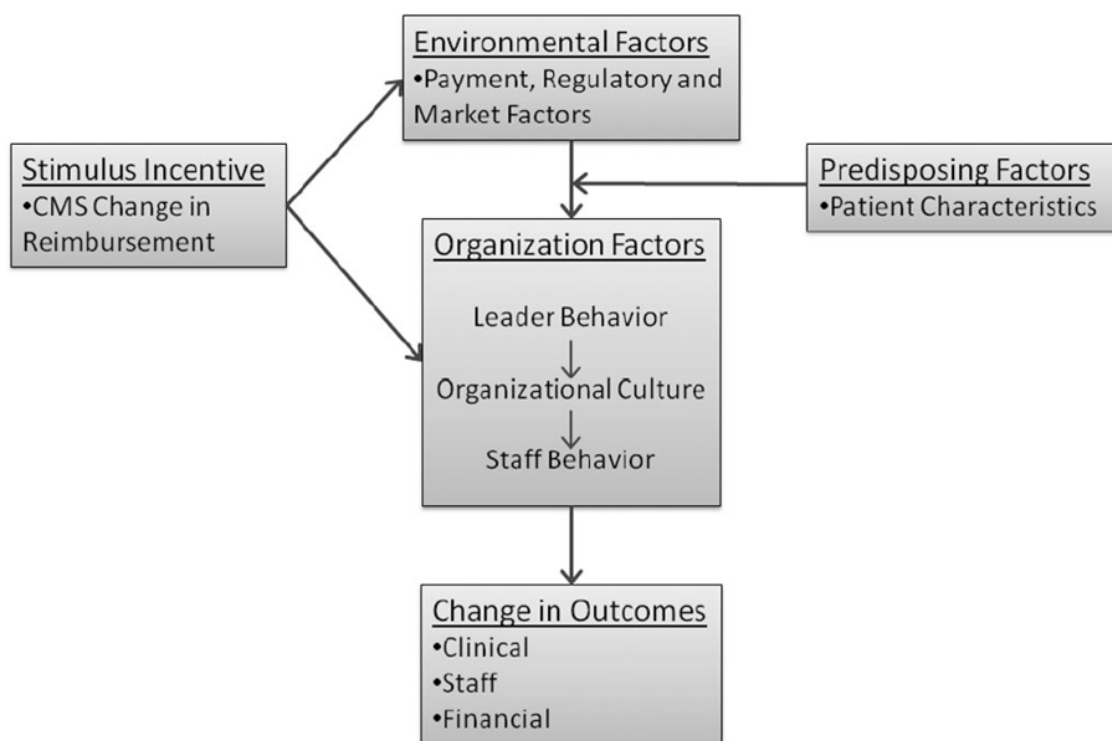
Figure 1. "Conceptual Framework for CMS Change in Reimbursement."
Note. From "CMS Changes in Reimbursement for HAIs: Setting a Research Agenda," by P.W. Stone, S.A. Glied, P.D. McNair, N. Matthes, B. Cohen, T.F. Landers, and E.L. Larson, 2010, *Medical Care* 48(5), p. 10. Copyright Patricia Stone, PhD, FAAN. Reproduced with permission.

In 2011, the top two executives of the Joint Commission, Chassin and Loeb,

proposed applying high reliability science to assist with changing the existing pattern in

healthcare of small and short-lived safety successes. Their assessment called to light that

while pockets of excellence in outcomes exist, no hospital had been able to achieve high

reliability across multiple measures for extended timeframes. The authors applied their

collective expertise from many years of examining a broad multitude of hospitals across

the United States to high reliability science, developing a conceptual framework. Model

refinement occurred through iterative testing with hospital leaders. In 2013, Chassin and

Loeb recommended that to achieve zero harm in hospital settings, incremental changes

needed to happen in 14 parts of their framework across the domains of leadership, safety culture, and robust process improvement. This revised iteration of the model replaced a domain of "collective mindfulness" with "leadership." They proposed that assessments could be made on the progress in these 14 efforts by assessing characteristics described in the advancing stages of maturity from *beginning* to *developing* then *advancing* and *approaching* high reliability. Of note, the organizations called out as having made significant efforts toward high reliability were found to have unremarkable results in the publically reported HAC database utilized for this dissertation.

Amalberti et al. (2006) used Rasmussen's theory of migration to boundaries (1997) to propose a model explaining deviance occurrence, stabilization, regression, or progression to harm. Violations were described as deliberate deviations from standards. They observed that in hospital settings violations occurred frequently, were often tolerated with limited safety consequences, and had potential to lead to real harm. These deviations from standards actually increased system performance and individual or group satisfaction at times. At the basis of this model, an assumption that violations in healthcare cannot be eliminated underlies the tenet that they must be managed instead. Solutions for violations differed depending on placement in the model and included relaxing constraints, increasing peer control, and constraining dangerous individuals (See figure 2).

The primary author of this model, Rene Amalberti, MD, PhD, holds backgrounds in psychiatry and aviation medicine. He has been involved in many major European research programs on human error and risk management and pioneered many concepts, including Crew Resource Management and ecological safety (The International Society

for Quality in Health Care, 2012). He has studied safety from a background of cognitive science across many fields beginning with human factors in aviation safety and has extended his expertise to other arenas such as healthcare. His expertise has been used to research medical errors, patient safety, and systems management. Dr. Amalberti remains a prolific author and internationally sought after speaker on human factors and safety (The International Society for Quality in Health Care, 2012).

The model developed by Amalberti as depicted below shows three phases in which a system migrates in safety. Phase one represents the ideally designed operating conditions with room for some migration for pressures on production. The second phase happens with continued migration towards the boundaries of safety occurring as a result of pressure for greater performance (horizontal axis) and individual reward (vertical axis). Violations in the designed rules occur and rarely lead to harm and are thus tolerated. Over time this leads to a "new normal" considered by management and individuals as producing the maximum benefit for an acceptable amount of harm. If error occurs resulting in an attempt to recalibrate the system, communications reminding workers of the "old" designed rule prove to have minimal impact as the new normal has become socially allowed. Phase three includes the new normal with regular violations that may no longer be recognizable and additional deviation from standard easily leading to harm. These further migrations can be labeled as reckless or negligent behavior and action must be taken to constrain the danger or others will follow and levels of harm increase.
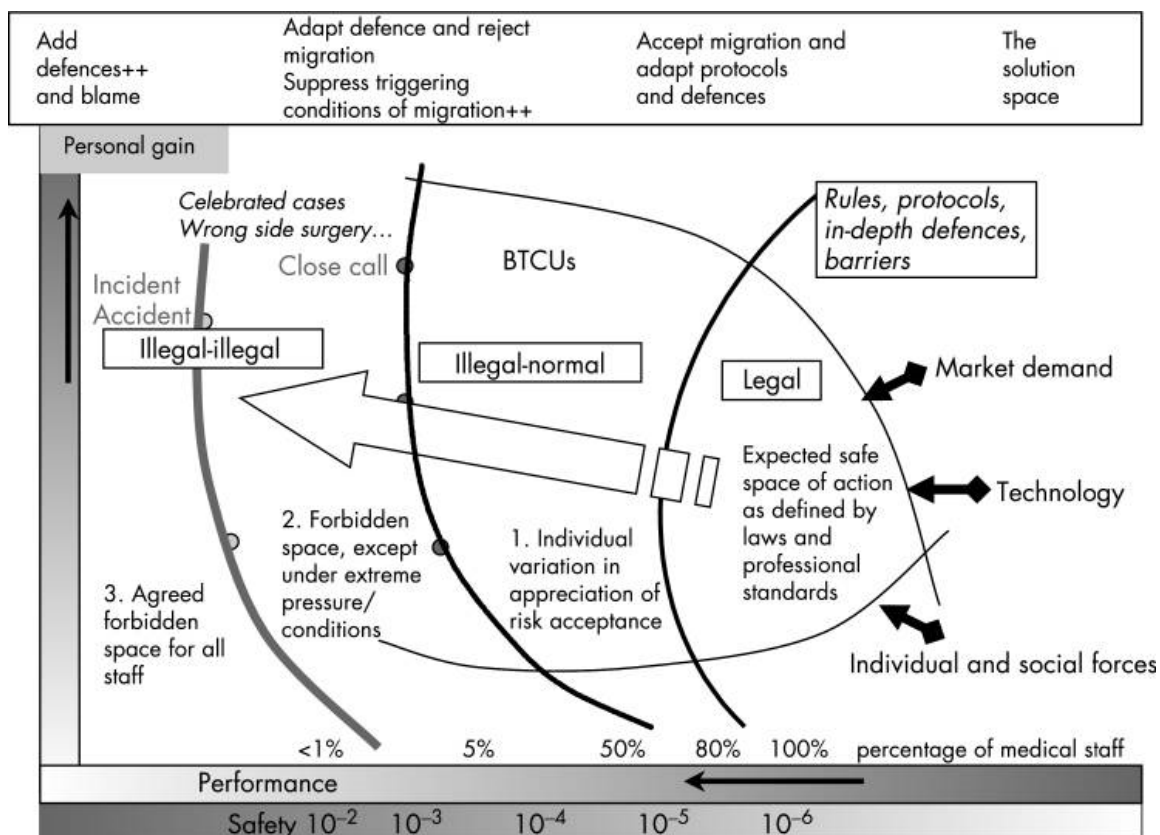
Figure 2. "Reference model of migration and transgression of practices" proposed by Amalberti. The initial safe space of action, as defined at the design stage, is usually much narrower than the range of operation in actual practice. External pressures on performance, from the organization or from individuals make migration of the system almost unavoidable. Normally, migration is limited to borderline tolerate conditions of use (BTCUs) in which staff tacitly accept routine minor violations. However, some individuals commit more extreme violations, either because of personal characteristics or because of exceptional circumstances, whether real or imagined. The behavior of these people may encourage further extreme violations in other staff."
Note. Reproduced from [Violations and Migrations in Health Care: A Framework for Understanding and Management, R. Amalberti, C. Vincent, Y. Auray, and G. de Saint Maurice, 2006, *Quality and Safety in Health Care* 15(Suppl 1), p. i68, 2006] with permission from BMJ Publishing Group Ltd.

Concepts Used

First-order problem solving. In 2003, Tucker and Edmondson brought a management research focus to qualitatively examine organizational and psychological dynamics that inhibit organizational learning in hospitals. They proposed that two types of failures occur; errors and problems. Both are valuable sources of information and require action for patient care to continue. Observations of 26 nurses in nine hospitals for

239 hours and 12 in-depth interviews occurred, finding 166 problems and 28 errors. The resulting analysis showed a counterproductive psychological dynamic. Nurses solved the majority of problems with first-order problem solving allowing care to resume, resulting in gratification at successful navigation of the obstacle, but no organizational learning. When considering organizational dynamics, the study identified the following factors inhibiting learning in hospitals: emphasis on individual vigilance, unit efficiency concerns, and empowerment (professionals function without direct managerial assistance).

Innovation implementation failure. Again coming from a management research focus Nembhard et al. (2009) looked at difficulty in improving quality of healthcare from a primary cause of innovation implementation failure. Four contributing factors unique to healthcare contributed to this phenomenon. First, the nature of the work leads to risk aversion, work norms, and clinical discretion that each served as barriers to innovation implementation. Next, workforce characteristics of specialization and professional hierarchy and identification play a part. Additionally, leader-workforce relations consisted of largely transactional exchanges in which parties may have differing or even conflicting goals. Lastly, performance measurement and control systems in healthcare were largely underdeveloped and resented.

Clinical Human Factors. Recently, a clinical human factors group reviewed nine wrong site or procedure events in England (Burnett et al., 2012). Findings showed these events often occurred due to lack of non-technical skills, situational awareness, decision-making, teamwork, leadership, and effective coping with stress. At times noncompliance with policies happened and when delving into *the Why*s behind this

finding many factors emerged. Policies in these organizations appeared to be too voluminous, without version control, inaccessible when needed, and lengthy and complex. The conclusion drawn claimed root causes of Never Events couldn't be addressed by action plans. Rather they claim the basis for these occurrences should be seen as a reflection of organizational and systems issues.

Rules. With funding from the National Institute for Health Research, Carthey et al. (2011) (additionally funded by The Health Foundation), investigated sources of policies and guidelines on three trust intranet sites in the United Kingdom. They found clinicians were required to juggle multiple and often competing or unknown policies and guidelines from organizational and local, professional and government bodies for each task performed. Human factors research in other industries has shown more rules to be associated with less likely compliance. In addition to the volume, accessibility, length and complexity, and version control issues described by Burnett et al. (2012) (above), additional unintended consequences of too many rules were described as multiple rules on the same topic, naming and retrieving barriers, and existence of trivial policies.

Recent Research

In 2011, Stone et al. conducted web surveys (n>200) and interviews with infection preventionists (IP)(n=25) in California to examine structure, process, and outcome changes with the recent legislation implementation. The study occurred in collaboration with the Association for Professionals in Infection Control and Epidemiology and with funding provided by Blue Shield Foundation of California with the purpose of exploring the model put forth by Stone et al. in 2010. The surveys happened pre and post legislation ending payment for HAC implementation. Findings

indicated that IP workflow changed post implementation with additional time spent on surveillance and less on education. The IPs also reported increased evidence based practice (EBP) adherence with CLABSI and CAUTI at their institutions. A limitation in studying HAC involves self-reported data collection from individual entities. Any suspected pressure to misrepresent data was not found, and data from other states' findings validated the data. No attempts to link findings with clinical outcomes took place.

With funding support from the National Institute of Allergy and Infectious Diseases, Hoff et al. (2011) also set out to explore organizational factors from the same proposed model qualitatively using grounded theory. Interviews with lead IPs from 36 hospitals in 24 states ensued after efforts at purposive sampling to stratify hospitals on the basis of bed size, region, and registered nurse staffing. IPs reported factors supporting quality improvements to be a proactive infection control (IC) department, leadership attention to IC, and staff participation in IC activities. The data uncovered potential mediating factors of resource issues, coding discrepancies, and existing surveillance requirements. These findings were not linked with actual clinical outcomes.

In a similar vein of inquiry to studies 1 and 2, Nelson et al. (2011) compared patient safety perceptions between IPs and Quality Directors (QDs), and identified setting and role characteristics associated with any differences and predictive of positive perceptions. Aided by funding from Blue Shield of California Foundation and NINR, a secondary analysis took place of two independent surveys conducted in 2008 using the Senior Management Engagement Scale and the Leadership on Patient Safety scale. No link to actual clinical outcomes was attempted in the research. The sole predictor of positive

perception of patient safety for both IPs and QDs was having an independent budget for the infection prevention department.

The most recent effort found explored the effects of the recent HAC policy change on hospitals, patients, coders, and payers (Sorensen, Jarrett, Tant, Bernard, & McCall, 2014). Interviews were conducted with 106 individuals from 56 organizations in three phases, from September 2009 to September 2012 with funding acquired from CMS. Purposive sampling encompassed using no more than one hospital per system and stratification for equal representation based on payment impact (good and poor clinical outcome results). Key changes included a culture change in support of patient safety, hiring to manage reporting and oversight of HAC, software needs, increased time burden for clinicians, and increased need for interdepartmental collaboration.

In 2012, Wald, Richard, Vaughn Dickson, and Capezuti performed a qualitative study, interviewing 13 Chief Nursing Officers (CNO) and three other staff members identified by their CNO as the primary contact for HAC at their facility. Sites were chosen with Nurses Improving the Care of Health System Elders (NICHE) membership with funding of the primary investigator from an Atlantic Philanthropies Health and Aging Policy Fellowship award and NINR. The model put forth by Stone et al. (2010) guided grouping of interview questions. Utilizing a translational research paradigm, hospital efforts in addressing CLABSI and CAUTI pre and post legislation were categorized into one of five progressive phases. Findings show many motivators for addressing HAC. Primarily, the policy changes were credited with assisting in focusing attention on nursing leadership in patient safety and in redirecting efforts to some HAC that had fewer dedicated resources (example: CAUTI efforts pre-legislation were in a less mature phase

than CLABSI). The interviewees also described the challenges with determining "hospital-acquired" at times.

In 2013, James asserted the data used for the landmark 2000 Institute of Medicine report *To Err is Human—Building a Safer Health System* report estimating deaths from medical errors at 98,000 annually, should be revisited. Secondary analysis of data from four studies using the Global Trigger Tool as a pointer to an adverse event resulted in an estimate of 210,000 to 400,000 deaths annually from preventable harm in hospitals. Serious harm was indicated to be 10-20 times more common than death.

High Reliability

The High Reliability Organization Project set out to explore and identify conditions associated with extraordinarily safe, large operating systems managing complex, hazardous and demanding technologies while avoiding failure and maintaining capacity for very high peak production (La Porte, 1996). Theoretical and empirical explanations were only available for such conditions being associated with degradation. United States air traffic control systems, an electric power generation and distribution system, and two nuclear aircraft carriers were studied as unusual high performing outliers. Provisional findings described the following: organizationally defined intention; reliability enhancing operations including extraordinary technical competence, high operational performance, structural flexibility and redundancy, collegial and dispersed decision making authority, and seeking continual improvement; a culture of reliability; and external relationships. Sociopolitical discussion of these findings stated that while these conditions were found to be necessary in these organizations, they were not sufficient; application of the findings from these top three performers to aspiring HROs

would be unwarranted. An additional warning stated these conditions might not be attainable without severe hazards and social costs.

Haunschild and Sullivan (2002) used organizational learning and organizational ecology as the theoretical framework to examine all commercial airline errors (accidents and incidents) from 1983-1997 reported in the United States. Qualitative and quantitative methods were utilized to examine 1,346 errors across 310 airlines. Nine models were generated controlling for various factors using random effects regression with a primary dependent variable of error rate and independent variables of prior accident heterogeneity and generalist versus specialist focus. Results indicated specialist airlines learn from heterogeneity in prior errors. Generalist airlines appeared to learn from their own accumulated experience as well as outside factors, especially accumulated industry experience. The authors suggested a potential new learning theory; complex forms may benefit from simple information and simple forms from complex information.

Of note for this dissertation research, the previous article generated potential correlates. Namely, in the airline industry complexity of errors has increased over time. Discussion illuminated similarities when pursuing understanding of healthcare errors. One explanation provided was that simple factors have been fixed, leaving only more complex interactions in the system. Also, increasing technological complexity has been integrated into both systems. During the same period as HAC legislation focus, The Health Information Technology for Economic and Clinical Health (HITECH) act of 2009 began providing financial incentives for improving "meaningful use" in the transition from paper charting to electronic medical records (EMR), spurring rapid adoption of newly developing software to capture clinical data (DesRoches, 2013). This brought

about significant change in workflow with the potential to improve or jeopardize patient safety depending on EMR design, implementation, and usage in each setting (Maxwell-Downing, 2013).   Additionally, error analysis has resulted in the creation of new rules, increasing regulation, and EBP standardization in effort to avoid future errors from known causes. The EMRs, while in their infancy in development, have struggled to build support for EBP implementation with emerging standardized clinical content and clinical decision support (Weldon, 2013). As in aviation, proliferation and complexity of rules could have relocated errors to other more opaque parts of the system that are difficult to uncover and analyze. An alternative explanation could be that increased perception of complexity may simply be a consequence of increased reporting and analysis complexity, not complexity of the problem itself.

In 2003, Hudson wanted to examine industry exemplars of high reliability to find lessons for applying to healthcare. Industry exemplar exploration occurred from a historical viewpoint. Both aviation and the oil and gas industries produced outcomes with much less error than others though their routes toward this end were dissimilar. Aviation began as reactive with progress in outcomes attributed to good attitudes toward safety. Oil and gas incorporated systemic and calculated safety management systems. Safety culture attributes were adapted from theoretical and practical analyses by Reason (1998) and described as being wary, just, flexible, and learning. Descriptions of maturity in safety culture adapted from Westrum (1993) were identified as ranging from pathological to reactive, calculative, proactive and finally generative. The HRO traits identified follow: 1. handling external pressure by balancing production and safety, 2. staying well informed, 3. performing intense investigation and analysis, 4. exhibiting robust incident

reporting without penalties, 5. incorporating safety management systems, and

6. managing organizational culture power relationship gradients.

Harris and Thomas (2005) described airline safety as a top industry performer

with rates relatively constant for more than a decade at around one accident per million

departures. With reliability and structural integrity improvements leading to less

engineering failures, the majority of errors shifted to being related to human error. Thus,

current efforts in commercial aircraft safety have been focused on industrial/organ-

izational psychology (human factors) from a socio-technical viewpoint. Causes of human

error were described as multifactorial and interrelated between systems. In a model

adapted from Miller, the authors described the safety systems as 5 Ms: huMan, machine,

mission, medium, and management. The universal mission across the industry has

remained to deliver passengers at the greatest possible speed and comfort while

maintaining the highest possible safety and economy. Human factors of stress, selection

and training have been significantly addressed and have remained top priorities with

continual improvement efforts. Line Oriented Flight Training and Crew Resource

Management evolved to include all levels of staff, and have worked toward more realistic

emergency situations with extensive time and money spent on training as teams.

Machine efforts focused on ergonomics of the flight deck and cabin. Physical and social

mediums have played significant roles in airline safety, especially related to weather and

culture. This discussion of lessons learned and continued work focus in aviation

appeared to have many potential applications to healthcare safety.

Summary

Research on HACs was found to have limitations. With legislation pushing for improvements, funding for HAC research was available for several recent studies. Data collected from IPs, QDs, and CNOs were mostly qualitative and linked recent HAC performance with changes in workflow, having a proactive infection control department, increasing leadership attention to infection control, and having staff participation in infection control activities. In addition to culture change in support of patient safety, other factors identified included the following: hiring to manage reporting and oversight of HAC, addressing software needs, facing increased time burden for clinicians, and finding an increased need for interdepartmental collaboration. These studies attempted to illuminate factors related to outcomes, yet none attempted to correlate those factors with actual findings. Additionally, an updated study revisited statistics on deaths from medical errors, highlighting the lack of significant improvement over the past few decades.

Several frameworks and concepts have been utilized to dissect analysis of HAC. Experts on HAC put forth a model to direct research efforts with preliminary support found in several of the above studies. Management research identified first-order problem solving as actually detrimental to improvements in error reduction, and innovation implementation failure to be another hindrance to healthcare safety improvements. Clinical human factors analysis has suggested organizational and systems factors at the root of failures and have implicated problems with volume, accessibility, length, and complexity of policies and guidelines as contributing factors. One view from experts in aviation proposed that violations in healthcare cannot be eliminated and produced a model to assist with managing these deviations. Leaders from The Joint

Commission proposed a model combining high reliability science with expert inside knowledge of problems in healthcare safety environments to drive improvements.

High reliability research started by recognizing and analyzing unusually high safety outcomes in complex, hazardous, and demanding systems and attempting to uncover the factors leading to this success. Previous explanations were only available for such conditions being associated with degradation. Only a handful of exemplars have been identified and studied. Warnings have been given on attempts at generalizability to other industries. Experts from HROs have been sought to assess and consult with healthcare safety.

No studies have been found in healthcare identifying factors associated with excellence in HAC outcomes. The proposed study would begin exploring this gap. Since organizations in healthcare have not achieved high reliability over multiple outcomes for extended periods of time, exemplars will need to begin from more short-lived and single outcomes. The HAC performance, while a single outcome, encompasses many safety measures including CLABSI, CAUTI, and AHRQ Patient Safety Index (PSI) 90 composite results. Examining best results in avoiding events that should never happen in hospitals poses a worthwhile effort.

See Appendix A, Table A1 for synthesis of articles presented in the preceding section.

Chapter 3

Methodology

In this chapter, methods for uncovering success factors attributed by stakeholders to success in avoiding hospital acquired conditions are described. This chapter begins with a discussion regarding research design, sample, setting, and sample access. Data collection, management, and analysis methods are then delineated.   Lastly, steps taken to ensure rigor and ethical considerations complete this chapter.

Research Design

For this research seeking to improve efforts to keep patients safe, a need existed to understand what happens in hospitals achieving the best outcomes. Bridging this void required a qualitative approach, assisting to gain insights into the emic perspective of those immersed in and responsible for this social setting (Holloway & Wheeler, 2010). Grounded theory served the purpose of inductively developing a theoretical understanding of what happened and the social and psychosocial processes occurring in the environments keeping patients most safe (Charmaz, 2014).

Grounded theory originated in the sociological framework of symbolic interactionism (SI) (Holloway & Wheeler, 2010). The foundation of SI holds three premises. One, people act toward other people and objects in the environment according to the meaning each holds for them. Two, these meanings come about through social interactions between and among these people and objects and are communicated in the form of language and other symbols. Three, each individual interprets these interactions, establishing and adjusting their own meaning. Actions of individuals in the environment are guided by these meanings. Thus, a researcher can only understand social actions in

context after being familiar with the situation and how the individual defines, assesses and interprets information (Schwandt, 2007). By understanding the meanings behind actions in HAC avoidance and how environmental interactions developed these meanings, this research assisted in illuminating social backdrops producing the safest environments in HAC avoidance. Implementing "best practice" in healthcare has often involved prescribing actions. Alternately, this additional theoretical understanding could assist in creating best practice environments by working on the meanings and interactions that create these meanings behind the actions.

Glazer and Strauss used SI as a backdrop to develop a means of qualitative inquiry that could explain or conceptualize understanding rather than describe phenomena (Charmaz, 2014). These efforts resulted in grounded theory, allowing a method for researchers to adopt new perspectives emerging from the data to develop new explanations or modify existing theory (Holloway & Wheeler, 2010). Another main feature in addition to data grounded theory generation involves the use of constant comparison in the analysis phase. In this process, the researcher codes each piece of data obtained from interviews, field notes, observations, and other methods and compares each piece to emerging categories and other pieces of data, determining relevance. New categories emerge and ideally integrate into emergent theory (Schwandt, 2007). This iterative process with systematic and comparative methods proved useful in addressing the proposed aims of generating emergent conceptual categories related to high performance and proposing a top-performing model for further dissemination and testing.

Sample

Stratified sampling occurred to target only sites emblematic of extremely high safety outcomes (Schwandt, 2007). Sites were selected from one state, California, to limit the variability in state and local legislation and other environmental factors. The HAC data publicly reported for the period of 7/1/11 to 6/30/13 on the Medicare's Hospital Compare website was downloaded onto a spreadsheet and sorted to limit for California locations and then filtered for the top ten percent (n=33) of performers based on having the lowest Total HAC score (Hospital Compare, 2015; QualityNet, 2015).

Specifically, Total HAC scores deriving from two domains (1. AHRQ PSI 90 scores submitted to the AHRQ and 2. Central line associated blood stream infection and catheter associated urinary tract infection scores submitted to the Centers for Disease Control National Healthcare Safety Network from 7/1/11 to 6/30/13) were sorted to identify hospitals for selection performing in the top decile (lowest Total HAC score). The AHRQ PSI 90 composite measure included pressure ulcers, iatrogenic pneumothorax, CLABSI, postoperative hip fracture, perioperative pulmonary embolism or deep vein thrombosis, postoperative sepsis, postoperative wound dehiscence, and accidental puncture or laceration. Studying hospitals with top decile performance provided a critical design element, as understanding what goes on in these facilities assisted in shedding light on environmental and organizational factors related with actual best safety outcomes.

From this top 10%, three top performing hospitals in California were targeted based on characteristics accounting for differing systems factors of trauma center designation and level, independent standing or inclusion in a small local system versus

affiliation with a large, national healthcare organization, full integration of physicians, and control (for-profit, not-for-profit, or government control status) (Appendix B). Once a hospital agreed to participate and was included in the study, no other facilities from the same organization were contacted or included. Choosing multiple cases of top performance facilitated finding contrasts or similarities in social actions and interactions comprising the environmental and organizational milieu (Schwandt, 2007).

Setting

The hospitals studied represented urban or suburban settings across several cities in California. Populations served appear to represent a cross section of the area inhabitants. Data were collected from the California Office of State Health Planning and Development (OSHPD) website from 2015(b) on facility characteristics for descriptive purposes for consideration with targeting choices.

Sample Access

Prior to contacting each facility, the primary researcher gained familiarity with public information and obtainable online documents to facilitate beginning data collection and become conversant about each organization. Of additional preparatory importance was staying informed of HAC legislation language, details, and updates (Charmaz, 2014). All potential sites were determined prior to recruitment to protect against potential bias in choosing sites that supported the developing account (Schwandt, 2007). After IRB application submission and oversight had been determined from the University of San Diego, CNOs from each facility were contacted to elicit their participation using a scripted email (See Appendix C) by the primary investigator.

Procedure

Recruitment emails were sent beginning in December of 2015, with ensuing data collection and analysis ending in June of 2016. Within the iterative grounded theory approach, each of the following goals occurred over approximately 3-4 month overlapping intervals: identification, targeting and gaining access to sites; individual in person and telephone interviews; and open, focused, and theoretical coding.

Participants

Purposive sampling of top performing hospital CNOs as well as key informants (person or persons most responsible for HAC outcomes) identified by the CNOs or other identified main contact occurred. While ideal sample size for this theoretical strategy could not be quantified, requests occurred and attempts were made to include 4-5 participants from each site (Schwandt, 2007). Multiple requests and attempts resulted in 1-3 interviews occurring at each site for a total sample size of 7 interviews.

Of the initial three targeted facilities, two CNOs responded, each after a second email solicitation was sent. Additional facilities from these two organizations were then excluded from targeting. Since both responses came from members of large, national corporations, other similar facilities were not contacted. This excluded 14 of the 30 remaining facilities. Further delimiting the remaining potential sites were findings that two were currently closed, six of the remaining hospitals had no current CNO to contact, and two were deemed too small or offered extremely limited services such as no emergency services. Of the six remaining potential sites for inclusion, all were emailed with the IRB approved message with no response from four sites after three attempts one week apart. One reply indicated potential interest but unavailability of the CNO for a

long time period, extending past need to close data collection. The CNO from the third

and final site to be included responded on the third email request for consideration.

All of the CNOs set up email contact between the primary investigator and an

administrative level key informant who then participated directly in the initial interview

and identified the other key personnel for inclusion. One CNO participated directly in

the initial interview and was the source for identification of other key personnel to

participate.

Key personnel influencing HAC outcomes from 2011 to 2013 on HAC measures

from three targeted high performing hospitals were individually interviewed. Each

facility provided 3-7 key individuals able to inform the study question. The first facility

provided three contacts and each were interviewed individually, one in person and two by

telephone on separate dates. Facility #2 provided four contacts and three were

interviewed in person, individually and again on separate dates and according to their

availability. The fourth person was not available due to extended leave of absence. The

third facility provided one main contact interviewed by telephone. At the end of this

interview, six additional contacts were given and zero responses were received from the

six potential participants after weekly attempts to contact by email and two voice

messages to the main contact to attempt to elicit assistance over one month.

Data Collection

Individual semi-structured interviews were conducted with key informants after

they agreed to participate and signed the informed consent (Appendix D). In-person

interviews were attempted and if not feasible, the interview was conducted by telephone

with the interviewer serving as the main instrument in data collection. Each interview

occurred over approximately 30-50 minutes, was digitally recorded, then transcribed by third party professional services. Field notes taken in the moment, assisted with capturing non-verbal data.

Semi-structured interviews with open-ended questions and sensitizing subjects assisted with initiating discussion and exploring participants' perspectives, meanings, and experiences with HAC avoidance (Appendix E). The paper interview guide was also used to take brief notes to identify issues and ideas needing follow up so that the researcher could continue listening and also not lose the topic requiring return. The role of the interviewer included encouraging, listening, and creating an interactional space (Charmaz, 2014).

To facilitate easy access to potentially needed information, last minute interview time requests, and assist the novice researcher to cover all important areas, a lockable attaché was prepared with packets that included the research participant consent form, interview guide, and demographic data form. Additionally, hand written on each interview guide were prompts to ask for additional contacts and documents that could inform the study, not forget to request filling out the demographic data form, and request not to discuss their interview in any detail with potential additional informants. Also included in the attaché was a quick glance sheet with reminders including to keep a neutral regard to avoid influencing answers to questions and to reflect back in the interviewees', not interviewer's, words to elicit further explanations. A 2015 HAC Reduction Program Fact Sheet was included to remind participants of the eight Patient Safety Indicators included in the PSI 90 since not all would know these in detail, as revealed in practice interviews. In case someone questioned IRB issues, a copy of the

University of San Diego IRB approval was kept at hand (See Appendix H). Lastly, an

updated version of a database made to keep track of the schedule of interviews

including names, dates and times, location, associated facility, contact information,

areas to track receipt of consent, demographic form, and any informative documents

given, was included. Having this attaché ready for the start of every day during data

collection facilitated switching gears from job duties to research quickly and seamlessly,

and preparing for interviews well.

Demographic Data

  Informants. A basic demographic form was requested from each informant to

gather information on role, educational requirements for current job description and

education achieved, professional status, and position in organizational structure

(Appendix F). Six of seven returned the demographic data form on the spot if the

interview occurred in person or, if interviewed telephonically, by scanned email

document. Despite several requests, one form was not returned.

  Organization. Data collection from the California Office of Statewide Health

Planning and Development (2015b) included bed size; type of control; emergency

services level; affiliation; average length of stay; annual discharges; percent of visits

scheduled, unscheduled, and infant; percent of Medicare and Medi-Cal patients; race and

percentages of top three races served; ethnicity identification percent; and top two

primary languages spoken by patients, with percentages. Data from 2014 was used to

reflect the last year of the reporting period for Total HAC score analyzed. These data

points were used for descriptive purposes.

Data from organizational sources were requested at the interview and obtained from the organization's website. These documents assisted in analyzing how the hospital represents itself in content and form to the internal and external stakeholders, how processes were designed to work and who designed them, how language was used and interpreted, and how written documents compare with other data. Prior to, during, and after sessions, the researcher performed reflection to facilitate good listening and avoid overlaying her own thoughts, ideas, or values on the participant.

Data Management

Interview, survey, and other data were collected and managed via encrypted hardware (digital recorder and laptop) and kept in primary investigator's personal possession or a locked area accessible only to the primary investigator and committee members as appropriate. Any forms or field notes captured on paper will be transferred to electronic version as soon as reasonable and the paper version shredded.

Ethical Considerations

Institutional Review Board (IRB) application was submitted through the University of San Diego for provision of human subjects protection. Additional IRB requirements of individual facilities were solicited in the recruitment email message and met if indicated. Participants received informed consent, including risks and benefits, and were informed of their right to confidentiality and to refuse to answer any questions or stop the interview at any time. For interviews conducted by phone, consent forms were emailed ahead of time and sent back by email before the interview occurred or immediately afterwards. Verbal recognition of consent occurred prior to proceeding with the interview and questions were sought and answered.

Data Analysis

Data analysis occurred throughout the data collection period informally during interviews and formally through examining the transcripts of interviews and other forms of data word by word and line by line to construct open codes (Charmaz, 2014). Constant comparison was used, allowing for individual pieces of data collected in interviews, observations, documents reviewed, and field notes to be compared to each other, revealing categories and relationships to further explore in subsequent data collection. Initial or open coding named the data provisionally, assisting with identifying gaps or holes to further explore in subsequent interviews and rereads of data (Charmaz, 2014). These codes were reviewed and revised for fit to ensure they captured, condensed, and preserved action in the data and assisted in revealing underlying assumptions and meanings (Charmaz, 2014).

This study aimed to generate emergent conceptual categories related to high performance in HAC avoidance and begin developing a top-performing model for further research, dissemination, and testing, saturation occurred with the conclusion of interviews from the third facility. New data were not triggering new theoretical insights toward these aims (Charmaz, 2014). Subsequent coding ensued over 2 months with multiple layers of analysis allowing for development and refinement of focused codes and emergence of more abstract codes from connections observed using codes with the most meaning and frequency.

As no pre-conceived or pre-existing frame was applied to the data, axial coding did not occur. Rather, consistent with constructivist grounded theory, the author attempted to make sense of the studied world by listening to themes emerging from the

data to build theoretical categories (Charmaz, 2014). In comparison to objectivist grounded theory, this author leans toward constructivist assumptions of multiple realities and impossibility of observer impartiality. Thus, consistent with constructivist grounded theory, any generalizations drawn were to be contextual and historically situated, data analysis was subjective, and priority was given to participant voices over that of the researcher (Charmaz, 2014).

Care was taken throughout each step of data collection and analysis to reflect on the researcher's prior experience to account for the lens through which data analysis occurred. This awareness assisted in hearing the participant's voice and letting go of pre-conceptions to the extent possible when listening (Holloway & Wheeler, 2010).

Rigor

All potential sites were determined prior to initial data collection to protect against potential bias in choosing sites that support the developing account (Schwandt, 2007). By sampling within each setting using multiple informants, assurance increased that what was being described or observed actually happened (Schwandt, 2007). Sufficiency of data was evaluated by considering if the context of participants was understood and if the data represented a wide range of views and actions that led to deeper understanding and analytic categories conducive to creating comparisons (Charmaz, 2014).

Summary

The basic aim of data collection and analysis methods was to explain what happened and what basic social and psychosocial processes occurred during the time frame (Charmaz, 2014). With the state of research in the area of HAC avoidance in

patient safety in early stages, understanding needed to increase in relation to what was working for the best performing outliers. By using grounded theory design, this study purposed to begin generating categories and early modeling for factors associated with the best safety outcomes. The propositions within this information could be further expanded with subsequent studies to build a model that can be subjected to quantitative testing. Grounded theory further met this aim by going beyond description (a limitation of other qualitative methods) in the effort to gain an understanding of concepts and statements inter-relating those concepts critical to a future line of inquiry.

Chapter 4

Study Results

The results of data collection and analysis for this grounded theory study investigating factors related to avoiding HAC were compiled for this chapter. Areas covered include a description of participants and organizations collected from demographic forms, facility webpages, OSHPD data, and observations. As a qualitative inquiry, the majority of the chapter discusses the thematic findings of multiple layers of open, focused, and theoretical coding.

Participants

Individual participants. Of the seven participants, four interviews took place in person and three by telephone at their convenience of time, location, and method. While two participants did not return a demographic form, information on professional background and highest degree obtained was included in the email correspondence from both and were included. Six interviewees had nursing backgrounds and one held no professional affiliation. Stated years in the current profession ranged from 14-36 with a mean of 22 years (n=5). Six participants were educated at a Master's degree level and one did not answer definitively. Roles included one nurse executive; four directors overseeing areas of operations, quality and risk management, and infection prevention; and two managers, one overseeing inpatient units and the other managing the infection prevention department. Years in the current role ranged from 1-6 with a mean of 3 (n=5). Two stated that their role required a master's degree; two required being a registered nurse; and one required a bachelor's degree and to be a Certified Professional in Healthcare Quality and Certified Professional in Healthcare Risk Management. Two

responses indicated reporting to the Chief Executive Officer, three to operational directors and one to the quality director. When looking at the person at their facility reporting safety and quality outcomes to the Board of Directors and what professional affiliation that responsibility requires, the answers differed even by facility indicating uncertainty or lack of knowledge of this responsibility. One participant indicated that the responsibility belonged to him/her.

Facilities. Three facilities were examined and found to be of diverse characteristics. One facility offered Level I or II trauma services (the only facility with such designation performing in the top decile) and the other two offered basic emergency provisions. (Appendix G). Ownership, integration, and profit status differed. One facility studied was a member of a large not-for-profit national healthcare system; another operated in a small, local government-controlled healthcare system; and the other was part of a large not-for-profit national healthcare system with full physician integration. One hospital had smaller bed capacity of approximately 100-149 and the other two operated at 300-499 capacity. Average length of stay ranged from 3.7 to 12.9 days and annual discharges between 3,000 to over 27,000. Greater than 90% of services from each reporting facility involved acute care. Scheduled services represented 8%-16% of cases. Racial and ethnic groups and primary language of populations served differed across sites.

Two facilities included interviews that occurred on site per participant preference. The first site visited appeared to be moderately outdated in décor and equipment while also appearing very clean and uncluttered. All persons encountered were very hospitable, and both staff and clients appeared to be of multiple cultural backgrounds. All three

interviews took place on site at the second facility. Décor was simple and appearance clean. Many quality awards for the facility and individuals were publicly displayed in the administrative waiting area, as were brochures related to quality initiatives and flyers with specific information on new products. Staff and clients encountered also appeared to be multi-culturally representative of the area as known to researcher.

Websites from all three facilities produced easy to find mission, vision, and values information as well as quality program data. The two facilities belonging to large national organizations, had articles and pages describing the particular facilities' high performance within the organization praising results and efforts. Findings were constantly compared to the interview data collected.

Thematic Results

After spending much time steeped in the individual open codes and sorting and resorting into different focused codes, themes emerged that suddenly assisted a cumbersome process into one where the data slipped into categories quite easily. Three major themes condensed the explanation of what happened and what basic social and psychosocial processes occurred during the time frame when these facilities showed top performance in HAC safety outcomes (Charmaz, 2014). The following labels described these thematic categories: Getting on Board with Why, Coming Together for How, and Getting Consistent with What. The processes overlapped in some areas and appeared to be iterative, not linear in nature, with no particular order. Moreover, the hospitals already had pre-existing processes addressing HAC avoidance thus most were not developed from scratch, but were often re-defined, refined, or repeated from other efforts.

Getting on Board with Why

Three focused codes emerged from the data that suggested processes for getting people on board with why. These categories were labeled "Defining The Why," "Championing The Why," and "Champions Leading." Together the categories informed what happened and what basic social and psychosocial processes occurred during the time frame in regard to garnering focus on keeping patients safe from HAC. One participant mentioned the importance of explaining to people *the Why* when addressing initiatives. While no other explicit references occurred, the open codes suggested that *the Why* requires getting people on board.

Defining The Why. This category included two categories. The first one "Safety and Quality: It's who we are/I am" showed up in mission, vision, and value statements for two of the facilities. The same two identified their CEOs as championing quality and safety initiatives. The other facility described having a quality director at the time, who was "all about the zero." Data describing this category included wanting to eliminate harm to everyone, changing from cleaning up to keeping clean, and instilling in employees a personal and patient safety vision.

Another descriptive category of data was labeled "Safety and Quality: It's a top priority." Focusing and prioritizing quality and safety were frequently found data points. Proactive and reactive strategies were depicted and safety and quality was "the right thing to do," in line with financial incentives (other priorities), and needed to be kept at the forefront of the frontline. The overarching healthcare system for one of the participating facilities had not yet implemented an EMR. While not stated, the consequence of that choice by legislative imperatives meant losing meaningful use dollars from the federal

government. Also, when examining the individual facilities associated with that system, they incurred less than expected performers in the bottom quartile. While losing money to one Value Based Purchasing (VBP) area, they incurred less HAC penalty for low performance than expected. This facility was also the only Level I or II trauma center in California to perform in the top decile for HAC outcomes, further solidifying a description of safety and quality being a top priority in comparison to its peer group.

   Championing the Why.   In effort to get on board with *why* to focus on safety and quality, many descriptions were found related to championing *the Why* by "Selecting champions," "Supporting champions," and "Champions leading." Champions were selected by either choosing *me* (executive self-selection) or appointing *you* to a key role or engaging and holding accountable key medical and nursing leaders. Selecting champions also entailed addressing who's driving the frontline and if this is a marathon or a relay race. Some descriptions involved using teams or individuals by recruiting or redirecting passionate and diligent people to key roles or teams. Discussion also occurred regarding consistency with the experience of gaining and keeping strong champions or of losing key players to turnover. Descriptions included lack of longevity effecting knowledge from past learning and understanding issues. One participant stated preparing for the future by acknowledging that the current leader and quality personnel "won't be doing this forever" with a suggested key process of building leadership at the frontline.

   Supporting champions included backing them up with layers of people in support roles and breaking down barriers to "help make their great ideas happen" including using directors to change the system when able, and advise when unable. Coaching or training gained mention as being necessary to support champions. Support could also be seen in

the depictions of championing being a team sport of many disciplines and departments

working together, and of seeing leaders working side by side and in person on the units.

Champions were noted as leading with their voice by explaining *the Why,*

explaining and getting through to physicians, capitalizing on previous positive

relationships, and the CEO's "voice echoing profoundly" with staff and physicians.

Champions led with their hands by doing the right thing; working hard and not resting;

keeping moving; showing up to assist, audit, intervene, respond; not delegating critical

tasks to others; and being a change agent. Leading with their head, champions were

portrayed as using extensive experience and previous learning, and as listening for

employee opinions during interactions and by surveying them. With their hearts,

champions were described as leading by caring, helping, owning, having "skin in the

game," rekindling enthusiasm, turning the hospital around, being firm but friendly, never

threatening, dropping judgment, participating eagerly, and having staff wanting to please

them.

Selling the Why. "Connecting the dots/explaining," "Integrating," and

"Experiencing success and competition" made up the ideas contributing to the category

of *Selling the Why*. Many participant statements informed connecting the dots being easy

to do with people in caring professions who already want to do the right thing for the

patient including caring about using proper techniques and risk factor reduction, and not

taking shortcuts. Others described using data to start a dialogue and make meaning.

The idea of integrating for selling *the Why* contains the topics of juggling

competing priorities, dealing with mandated reporting requirements, and cultural

integration. Juggling competing priorities was explained in stories of weighing quality

and risk reduction with cost constraints, of the financial burdens of other initiatives such as retrofitting and handling the major transition from paper to EMR, and the effects of the change to EMR on workflow and the ability to find information. Another significant competing priority brought forward was patient care needs. This was revealed with accounts of resources being pulled to assist with staffing, patient risk factors sometimes being at odds with each other, and frontline nurses experiencing "so much to the everyday." Additionally, informants described integrating as dealing with and aligning multiple, changing, legislatively-mandated reporting requirements. Lastly, cultural integration came into play for Selling *the Why* in descriptions of getting physicians and other hospitals in the system on board with quality and safety goals.

Experiencing success and competition appeared in the data in terms of realizing success, recognizing success, and celebrating and competing. Narratives of making tremendous reductions in harm, integrating best practices, removing barriers, and a system changing under a new CEO's vision, were ways people realized or recognized efforts as successful. Internal recognition occurred with positive reinforcement, posting of plaques, and advertising results in newsletters. External sources were also cited as recognizing success with report card scores and top performance awards. Twice, one key individual was attributed to successful outcomes while another draws success to team effort; not the person reporting the results, but rather people caring for patients at the frontline and doing the right thing. Participants spoke to constantly competing with each other internally and comparing results, and of being proud to work for their organization and of their success. Celebrating a top award in the organization for safety outcomes related to CLABSI and CAUTI was described with an acknowledgement of also realizing

the temporality of success. One participant said, "every day is a new day. You don't know what can happen in Infection Control. You have to keep on moving." The success and competition seemed to further fuel efforts to sell *the Why*.

Coming Together for How

The second major theme in factors associated with avoiding HAC found in this study was labeled Coming Together for How and described activities and social processes of "Uniting," "Identifying and Unlocking Key Drivers," and "Mobilizing Resources." The data related to How to address safety and quality highlighted the following needs: 1. To come together or convene, work together, and relate safely. 2. To know the key drivers of success, unlock new keys, stop and address people keys, and improve process keys/change practice. 3. To distribute human resources; add, build, and deploy tools; receive funding assistance; and seek and share expertise.

Uniting. Several concepts pulled together the process of uniting. The first concept of "Coming together/convening" starts with including stakeholders and/or creating a workgroup of stakeholders. Players included many disciplines, experts, frontline staff, quality and infection control personnel, nursing leaders, schools, facilitators, outside consultants, and for one organization their labor union. Additional convening happened at organizational, local, regional, and national collaboratives. Uniting required providing time and space for regular meetings, conference calls, and summits. Having a purpose, goals and responsibilities furthered uniting. Purposes included planning for and addressing clinical care outcomes, message information contents, individual quality goals, and "whatever seems to be the big area of opportunity."

Uniting also happened as "Working together/collaborating" by showing up and getting together. Showing up emerged from reports of people participating in meetings eagerly, loving huddle, physician leaders making an effort to attend meetings, and working hard together. Getting together or on the same page occurred through receiving information; examining and analyzing prevention strategies, incidents, and how to do things differently to reduce risks; deciding or agreeing; and providing assistance to each other.

The third way uniting was revealed in many accounts of "Creating a safe culture/relating safely" in psychosocial processes. A multitude of data points expressed respect by asking, speaking, listening, and including. Respectfully seeking input and new ideas took place transparently and openly and care was taken not to shut people down. Punishing mistakes changed to learning from them. In addition to respect, relating safely turned up as committing to a team approach by working together closely and in concert, collaborating, aligning goals across disciplines, and carrying out initiatives as a team.

Identifying and Unlocking Key Drivers. Imbedded in the theme of Getting Together for How, and most often associated with uniting or coming together, was the category of identifying and unlocking key drivers (vital, essential, crucial, basic, or fundamental). This came across in the four focused ways of "Knowing certain keys," "Unlocking new keys," "Stopping and addressing people keys," and "Improving process keys/changing practice."   When asked the interview question, "How could others achieve better outcomes?" the terms "key" and "drivers" came up frequently as direct responses and indirectly through the use of similar adverbs and verbs to describe social and psychosocial processes.

Responses often clearly defined or inferred knowing certain keys. These known keys came from two processes, 1. people leading and 2. following standard processes. Participants often described individuals or groups leading as known keys to outcomes. These data were captured in the area above on champions leading. Another fundamental and essential key to avoiding HAC grounded in the data collected was following standard process such as hand hygiene, sterile technique, insertion and maintenance of lines, removing lines as soon as indicated, adhering to set policies and procedures, avoiding human factors, and educating.

While these known keys were described as vital, they were often not sufficient in improvement efforts. Many descriptions occurred of looking for new drivers by looking at, investigating, comparing and critiquing data, timelines, medical records, practice, and techniques in simulated and actual settings. This looking was described as happening differently, with "new eyes," from start to finish, at targeted risk or volume areas, against EBP, and by not assuming, based on experience, that all keys were known or the same in each work area.

Unlocking new keys also entailed finding and catching poor practices, drivers of outcomes, new solutions, near misses, workarounds, inefficiencies, and over-reporting. When listening to one interviewee, a paradigm switch came through clearly, though not explicitly stated. She described moving from a mindset of cleaning up (dealing with constant contamination of central line ports) to keeping clean (avoiding contamination) with the discovery and implementation of a new product. The paradigm switch could be seen in other areas such as focusing on avoiding catheter insertion (setting clear guidelines for when indicated) versus dealing with the risk of catheter contamination.

Upon discovering new keys, there were two subsequent processes found. Stopping, correcting, preventing, and correcting people keys often took concerted efforts of doctors, nurses, and leaders. Knowing when to not follow doctors' orders, suggesting alternatives, and decreasing task orientation resulted from finding and catching individual poor practices. A flyer widely distributed titled "Leave Out—Get Out in the OR" exemplifies stopping (insertion of urinary catheters) and correcting (lists criteria for catheter stating if not met to "leave out" or "get out" of the patient). The other subsequent process involved addressing offending or outlier clinicians and regulatory bodies by bringing practices or behaviors to their attention, giving feedback, using peer review, and implementing consequences such as holding credentialing in jeopardy for continued issues. Addressing occurred in verbal and written formats and from varied people including executive sponsors and physician leaders.

When keys were discovered in processes, efforts were described to improve the process and change practice. Diving deep, tearing cases apart, asking why the risk was needed, and asking why five times, depicted what often happened first when improving process keys. Efforts to improve accuracy in results and processes were illustrated in stories of avoiding false positive results and subsequent over-reporting, changing products, and improving specifics of processes and techniques such as using a peripheral stick (not from central line) to determine CLABSI and using ultrasound to assist with visualization when inserting central lines. Improvements in consistency of expectations, implementation of processes, and documentation emerged as part of improving key process drivers and changing practice. Efforts depicted included building action plans, bundles, and protocols. One facility described internally building bundles based on

producing a high performer profile compiled after looking at practices across many areas, while another used best practice bundles based on recommendations from outside experts. Redundancies were seen as needing to be added at times to ensure prevention with disposable physical barriers, a second nurse observing and assessing, and extra layers of processes being added to bundles to address fixing new problems. Redundancies were at other times seen as waste and projected as needing to be eliminated to increase efficiency. A negative case could be seen as one participant described not changing the practice when results are good; don't fix it if it's not broken.

  Mobilizing Resources. In coming together for how to avoid HAC, mobilizing resources as a category took shape from processes described around "Distributing human resources," "Adding, building, and deploying tools," "Receiving funding assistance," and "Seeking and sharing expertise." Distributing human resources took the shape of both using the pre-existing model of care delivery and changing the structure or model. Staff, managers, and teams were described as staying, not leaving or wanting to rotate off. Departments already in place were utilized to focus or concentrate efforts. At other times, team players were added, built, dedicated, and developed around strategic initiatives and safety vision or priorities. Often, these came in the form of extra eyes, people watching, and surveillance. One interview describes in depth an unraveling of processes and outcomes in HAC avoidance as a consequence of subtracting or decreasing people due to competing priorities, changing responsibilities and losing key players to retirement or other jobs.

 Adding, building, and deploying tools transpired through training and adding technology and products. Training occurred from internal and external sources on

clinical subjects and simulation scenarios. Performance improvement training such as Lean and Six Sigma were deployed across all levels of the organization, focusing on key leaders and frontline staff needed to carry the work forward. Technological and product additions and changes were sought, influenced, and recommended in an effort to decrease risk, manage data, assist in clinical decision making, and to increase accuracy and/or efficiency.

Interviews from all of the facilities indicated one area of resource mobilization that proved important, receiving funding assistance. By partnering with schools and vendors for auditing assistance, receiving scholarships for attendance at conferences, and utilizing expertise and training from a philanthropic organization, free help was used. Exemplars included using students for auditing and setting up a visit from the "sepsis bus," which brought clinical experts and simulation to the hospital parking lot as part of a philanthropic effort to improve EBP and dissemination on sepsis treatment in the local area. In addition to free help, these two hospitals also received payments to improve by participating in federally funded programs for reform, namely California Hospital Engagement Network (CALHEN) and Delivery System Reform Incentive Payment Program (DSRIP). Interestingly, no discussion occurred of the potential impact of the federally imposed HAC penalty associated with bottom quartile performance and the implications of losing 1% of all reimbursement from government payers.

Lastly, resource mobilization happened through seeking and sharing expertise. External expertise was sought through participation in local and national collaboratives and networks providing EBP information and technical assistance. In addition, expertise was sought and shared internally through participation of key personnel in work groups

with expert knowledge or skills. In conjunction with going to experts for knowledge, the participants also relayed processes of finding, listening to, and using advice from experts in person at the frontline and at meetings and conferences. Experts were also utilized for education and to perform high-risk procedures.

Getting Consistent with What

The third theme participants recounted was the happenings and processes of getting consistent in what was needed to successfully avoid HAC within the top performing facilities. Major concepts encompassing this theme included *Standardizing, Ensuring Compliance, Managing Data and Messages*, and *Continuing. Standardizing* entailed setting and disseminating standard tools, bundles, goals, habits, messages, and education as well as a contrary case of not standardizing or needing to specialize. In the category of *Ensuring Compliance*, auditing and reminding were required. *Managing Data and Messages* took place in the described processes of tracking and measuring data; looking at and sharing data and priorities including mistakes; and accounting for results. *Continuing* consisted of improving or sustaining standards and outcomes or regressing.

Standardizing. The focused codes of "Setting and disseminating standards" and "Specializing or not standardizing" comprised this conceptual category. *Setting and disseminating standards* occurred with tools, best practice bundles, goals, routines or habits, messages and channels for information sharing, and education. Standard tools included products, order sets, rating scales, data measurement and submission criterions, and performance improvement methodologies. A noted exception in standardizing tools described differing physician and nurse views in the EMR and resulting difficulties locating the same information for discussion and collaboration. Setting standard process

bundles for best practice involved creating, integrating, and channeling best practices. This happened at the facility or organizational level and included populating the EMR and creating pop up bundles in the EMR when indicated by risk level being met. Barriers to setting standards were differing opinions of medical staff, taking a long time to realize changes in the EMR to correctly follow new protocols, and locating information and order sets. Educating to standard tools and bundles happened from internal and external sources and included ensuring competency through more opportunities to perform procedures with patients or through simulation.

Standardizing also entailed setting standard goals described as setting the bar high, setting specific percentage improvement or percentile performance targets, setting consistent national and regional standards across the organization, and setting physician thresholds for acceptable practice. In an effort to standardize habits and routines of daily practice, participants told of wanting processes completed automatically, proactively and without options. Much of the data also illustrated processes in place to set standard messages and channels for those messages. This happened through message oversight by a leader or group, flyers with standard messages posted on every unit, expectations for daily huddling of staff with approved and consistent messages, as well as norms for groups to go to constituents with messages, spread the message, and bring back information to the group.

Contrary to standardizing, specializing was depicted in all facilities as local differences and special cases. In one system, while the organization decided and standardized EBP and education, implementation strategies happened at the facility level. Furthermore, facilities followed local and varied processes if no corporate policy existed

or while it was being developed. Another system described local differences as a result of being newly integrated from separate entities into a healthcare system with one of those hospitals being a teaching facility. This organization used the site with the best outcomes to perform specialty services, requiring seamless transfers throughout the system. Special cases were portrayed in descriptions of needing to use critical thinking, accepting deviation from standards if a "really good case" was presented, having only experts perform high risk and low volume procedures like central line dressing changes, and having individual Unit Practice Councils (UPC) working on different goals specific to their areas.

Ensuring Compliance. "Auditing" and "Reminding/Giving Feedback" showed up often and usually together to ensure compliance with auditing as an antecedent to reminding, yet not always resulting in reminding. Who was watching? Participants described "many eyes" watching including quality and infection prevention personnel, charge nurses, educators, students, vendors, and the EMR. What were they watching? Auditing occurred for protocol adherence or slips, for potential fallouts and completeness of charting, and on high risk or all patients. When and where? Auditing happened from distant offices, on the unit with rounding and record review (paper medical record), daily or weekly, or as needed. One facility cited not having a second set of eyes watching when experiencing no failures and starting to watch after failures. Why watch? Auditing was explained as being completed in order to ensure nothing was missed and to increase reliability.

The second aspect of *Ensuring Compliance* came through reminding or giving feedback as a result of audit findings. Reminding sometimes occurred by using tools

such as acronyms, flags in the medical record, reminders and alerts in the EMR, and repeating alerts. Reminding and giving feedback also happened using dialogue and contained three components. The first component was content which involved describing the missing bundle elements or documentation, questioning if the risk was still needed (line or tube), and being resourceful by observing and providing expert teaching in real time. The second component of feedback dialogue was consistency or vigilance. Descriptions of vigilance included giving constant feedback, repeating feedback ("If you have to talk to the same nurse ten times, you have to do it."), and wondering if staff members perform differently on Tuesday (routine leader and infection prevention rounding day). The last piece of the dialogue was the psychosocial process of relating. Data on this topic included relating as peers, not penalizing, and pushing hard on charge nurses and directors. Several people relayed a complex relationship pattern as a result of staff feeling like they were being watched all the time, sometimes getting feedback from people they had never met and feeling bothered and nagged. This transformed over time to feelings of ambivalence and getting used to the surveillance; feeling upset by the call, and glad nothing fell through the cracks. This type of relating from auditing and giving feedback also alluded to take on a positive relationship over time on occasion in descriptions of, "they would never let us fail," and scoring high on teamwork in an annual survey.

Managing Data and Messages. "Tracking and measuring," "Sharing and looking openly, and "Accounting for results," were ways of managing data and messages found in the interviews. Data were tracked using the EMR, software, databases, outside networks, and people. This occurred in real time and/or over prolong periods to keep a

pulse on, track, trend, and submit data on the following: bundle element compliance, International Classification of Diseases (ICD) indicators of HAC, progress toward goals, adverse event information, and near misses. Measuring included observed to expected ratios and weighted averages.

Sharing and looking openly occurred through two social mechanisms: sharing and learning from mistakes, and looking at and sharing data and priorities. Participants voiced the need to not hide from or be afraid to admit mistakes and to transparently share stories and learnings internally and externally from adverse events to assist in preventing future patient harm. Frequent descriptions described looking at and sharing data and priorities regularly by building combined databases and by sharing with the hospital down the street or throughout their system, from frontline staff to the board of directors. The accounts continued with descriptions of sharing the good and bad data; using experts, leaders, or third party auditors; giving data in consistent messages and venues and specific to the group being addressed; and prioritizing what to share in order to avoid overload.

The final way to *Manage Data and Messages* was in accounting for results. Individual accountability occurred often through several modes including speaking one-on-one one with individual leaders whose areas were not meeting expectations and ensuring responsibility, communicating when the last adverse event occurred, using a key player for education efforts and communicating with leadership, and presenting adverse event analysis results to oversight groups. Accounting for results also took place in the form of reporting. Reporting was required and submitted to governing bodies, with associations, and in annual reports. Several descriptions were similar in a funneling up

and down reporting structure to and from the frontline, executives, and boards of directors.

Continuing. The final component of *Managing Data and Messages* revolved around continuing by either "Sustaining and improving" or "Regressing." In processes describing improving or sustaining results, one component involved realizing improved compliance with standard processes and outcomes both in internal efforts and in regulatory requirements based on feedback given. One respondent referred to her hospital as revving up from changes led by the new CEO right around the start of the reporting period and experiencing a snowball effect from success. Another factor described in *Continuing* was remaining vigilant as change takes time, especially in big systems. Specific descriptions included finding improvements still needed, taking it step by step, not being able to fix the problem completely right out of the box, and continuing to work despite already realizing tremendous improvements. The last factor was described as sustaining and continuing to improve on success year after year.

One account had much data related to regressing as a result of losing focus and resources as competing demands drew resources to new problem areas and away from stable areas. Focus was also lost on adherence to best practices. Resource availability and dedication was linked with stability and regaining stability. A circling back occurred with experiencing recurring problems, failures, and decline in results. As a contrary account to regressing, another participant clearly delineated a model to remain on a linear track with improving outcomes versus circling back by building in accountability and sustainability in the process improvement phase.

Summary

The three major themes of *Getting on Board with Why, Coming Together for How,* and *Getting Consistent with What* revealed themselves to assist in understanding the data and refining focused codes. The bulk of the data informed what happened and what basic social and psychosocial processes occurred just before and during the reporting time frame in regard to keeping patients safe from HAC by garnering focus on *the Why,* addressing how to improve areas of concern, and ensuring what was needed to achieve success happened. The areas overlapped at times as the hospital setting, players, and interactions were fluid and complex in the imperative of decreasing harm to patients. A basic outline of the thematic categories and their associated focused categories follows below.

- **Getting on Board with Why**
    - Defining *The Why*
        - Safety and quality: It's who we are/I am
        - Safety and quality: It's a top priority
    - Championing *The Why*
        - Selecting champions
        - Supporting champions
        - Champions leading
    - Selling *The Why*
        - Connecting the dots/explaining
        - Integrating
        - Experiencing success and competition
- **Coming Together for How**
    - Uniting
        - Coming together/convening
        - Working together/collaborating
        - Creating a safe culture/relating safely
    - Identifying and unlocking key drivers
        - Knowing certain keys
        - Unlocking new keys
        - Stopping and addressing people keys

- Improving process keys/changing practice
    - o Mobilizing resources
        - Distributing human resources
        - Adding, building and deploying tools
        - Receiving funding assistance
        - Seeking and sharing expertise
- **Getting Consistent with What**
    - o Standardizing
        - Setting and disseminating standards
        - Specializing or not standardizing
    - o Ensuring compliance
        - Auditing
        - Reminding/giving feedback
    - o Managing data and messages
        - Tracking and measuring
        - Sharing and looking openly
        - Accounting for results
    - o Continuing
        - Sustaining and improving
        - Regressing

Chapter 5

Discussion of Findings

This chapter covers discussion of the findings by themes. Subsequently, a look into potential integration with other literature reviewed ensues. An analysis of the findings as they fit together for the beginning components of a model follows. A critique of the strengths and limitations of the study; implications for nursing practice, education, and administration; recommendations for further research; and conclusions, complete the discussion of findings section.

Thematic findings

Overall, the study findings depict the emic perspective of seven key players factors in avoiding HAC top performing hospitals. No pre-existing frame was imposed on the data to organize the individual components into focused categories and themes. What emerged from the data, using the constructivist grounded theory strategy of listening for themes, was a construct with a definite organizational sequence. The smaller areas of focused codes described and compartmentalized social and psychosocial processes. These categories came together into larger focused codes that described what happened as a result of the social and psychosocial processes. These focused codes describing what happened fit quite naturally into larger processes informing what happened on a theoretical level. The resulting three theoretical categories of *Getting on Board with Why, Coming Together for How*, and *Getting Together for What* described what happened in broad categorical terms. By dissecting further what happened in smaller segments and the social and psychosocial processes generating what happened,

the following discussion of findings by theoretical category will assist painting a picture of the environments keeping patients most safe from HAC in California.

Getting on Board with Why. One of the basic occurrences at top performing hospitals for keeping patients safe from things that should never happen in hospitals concerned getting on board with why. What happened in smaller ways to roll up into this theme included defining, championing, and selling *the Why*. There were multiple, interplaying social and psychosocial processes contributing to these occurrences.

Defining *the Why* happened two ways; safety and quality was a top priority, and defining personal or organizational characteristic. From a strategic management perspective, safety and quality was a directional strategy when *the Why* was defined as who we are and what we want to accomplish. When safety and quality were defined as a top priority, this would indicate either an adaptive or competitive strategy. Looking from this lens, a directional strategy by definition would never lose being the focus and forefront of efforts, while adaptive and competitive strategies expand, contract, and change with time (Longest & Darr, 2008). The choice by which *the Why* was defined seemed to play an integral part in subsequent social and psychosocial processes and seemed to effect on the processes underlying all other components uncovered in this study.

Championing *the Why* happened as a result of selecting and supporting champions and champions leading. For the two hospitals in which directional strategy involved safety and quality, their CEOs were depicted as the driving captain of the efforts. Key player selection appeared strategic due to position in the organization and personal qualities or traits. Supporting champions happened through providing people in support

roles, assisting with breaking down barriers, and key leaders working together. This support seemed highly intertwined with selection, as champions and support were described as either staying for long periods of time or leaving. One organization selected and supported frontline staff to co-lead with quality and risk management personnel across disciplines to ensure succession planning in efforts.

Champions led safety and quality efforts to avoid HAC with their voices, their hands, their heads, and their hearts. No championing efforts were described without providing one or more of these strong physical connections. Their voices echoed, they consistently showed up, they listened, and they cared. Through these strong social skills, they rekindled enthusiasm, garnered eager participation, and turned hospitals around. Champions leading in these ways appeared to have a strong personal, if not organizational, direction; an internal compass driving the passion that then sparked the same in others.

These three processes of selecting and supporting champions and champions leading, do not appear to be linear processes. Rather they appear very interdependent and could begin from any point. Champions could be leading from any position when selected to lead from a position of increased influence. That same champion might not have been leading without receiving support. The categories seem to feed into each other for a dynamic cycle.

Selling *the Why* rounds out the focused categories of what happened in an effort to get on board with *why*. It was not sufficient to define and champion *the Why,* more people needed to be on board to achieve outcomes; better sell some tickets. Selling took place through processes of explaining, integrating, and experiencing success and

competition. Explaining happened through connecting with clinicians' basic professional imperative to cause no harm to patients, and at times, through using data to begin a dialogue and create shared meanings. In the complex environment of hospitals, integration needed to take place to help sell *the Why* in the context of competing priorities, complicated and changing regulatory requirements, and cultural integration of multiple sites and physicians. Organizational efforts to integrate safety and quality efforts with physician concerns, across a system with varying hospital cultures and services, and in the face of patient care and financial concerns, brought about a picture of taking barriers and trying to make them part of the solution.

Experiencing success and competition added to selling *the Why*. Receiving recognition and positive feedback and results encouraged staff members. Seeing others succeed also encouraged competition. While awards and report cards rewarded and encouraged individuals, interviewees also described displaying results in ways to keep everyone encouraged. People interviewed openly displayed and verbalized pride in their work and their workplace. These seemed to be positive feedback loops assisting with sustainability and further improvements, in addition to keeping people on board with why.

Overall, the theoretical finding of *Getting on Board with Why* was grounded in the data describing the social and psychosocial processes at play. Having a directional versus adaptive or competitive strategy resulted in defining *the Why*. The interdependent interactions involved in selecting and supporting champions and champions leading, brought about championing *the Why*. By connecting the dots and explaining *the Why*, integrating quality and safety concerns to convert barriers into solutions, and keeping

people on board with why using the positive feedback loops of experiencing success and competition selling *the Why* took place.   These circumstances of defining *the Why,* championing *the Why*, and selling *the Why*, produced a dynamic state of getting on board with why in the efforts to keep patients safe from events that should never happen in the studied hospitals.

Coming Together for How. One of the other main themes described by those immersed in the social setting of hospitals keeping patients safe in avoiding HAC inferred that what happened was *Coming Together for How*. Efforts to get on board with *why* to work toward achieving excellence in safety and quality outcomes would be in vain if an organization did not address *how* to get there from here. What happened in *Coming Together for How* was identified as uniting, identifying and unlocking key drivers, and mobilizing resources.

Uniting involved the processes of people coming together or convening, working together or collaborating, and relating safely or creating a safe culture. Convening or coming together illuminated the social process tenet for these groups that no one person or organization completely understood or had the solutions for addressing HAC. A very closely tied process was labeled working together or collaborating. In addition to coming together, internal and external stakeholder groups needed to show up eager to work and get on the same page by receiving the same information, analyzing, making informed decisions, and assisting each other.

Creating a safe culture, or relating safely, was a social process described as assistive in uniting. Convening and working together happened in environments conducive to uniting when they were safe cultures. A basis of respect seemed to underlie

descriptions of asking, listening, speaking, including, not shutting people down, learning from mistakes, openness, transparency, committing to a team approach, working closely and in concert, and aligning goals. Some participants described times in the history of the organization where the culture was punitive and closed off. Creating and/or relating in a safe culture seemed to be a requisite need for improving efforts to keep patients and employees safe. Convening and working together were necessary but not sufficient.

In addition to *Uniting*, *Identifying and Unlocking Key Drivers* happened in each case studied. Known keys to outcomes voiced in the interviews included the people who were leading the efforts and following standard practices. To improve efforts to eliminate harm, other unknown keys needed to be found through investigation and critiquing with new eyes and in individual areas, and finding and catching poor practices, drivers of outcomes, new solutions, near misses, workarounds, inefficiencies, and over-reporting. If what was found involved a person as the key, the subsequent processes included stopping and correcting the behavior. Looking under the surface, stopping and correcting in the safe cultures described would have very different consequences and implications than stopping and correcting in a less safe culture.

If a process key was found, efforts were taken to improve the process and change practice. At times, this took place by taking a deep dive and tearing cases apart, even with near misses for some. Next came efforts to improve accuracy in results and processes and improve consistency of expectations, implementation, and documentation of processes. What was important here was the discussion of two very different processes to come up with best practices. Two organizations describe methods to build "home grown" best practice bundles through extensive efforts, while the third describes

going to external resources who had already come up with best practice recommendations. These two processes seemed to have very disparate amounts of resource usage on development, with potential repercussions to how much effort would be devoted to implementation of best practice strategies.

Another category of what was happening that led to *Coming Together for How* focused on mobilizing resources by distributing human resources; adding, building, and deploying tools; receiving funding assistance; and seeking and sharing expertise. Using either the pre-existing care delivery model or by adding or changing the model, these organizations concentrated efforts on safety and quality by distributing human resources. This most often entailed adding more eyes to surveillance. One participant described an unraveling of processes and outcomes when the extra eyes were taken away or mobilized to another priority, consistent with the adaptive and competitive strategy of safety and quality being a top priority and resultant expansion and contraction over time.

In addition to human resources, tools were needed and mobilized by adding, building and deploying technology and products and training to decrease risk, manage data, assist in clinical decision making, increase accuracy and efficiency, and add skills. Each facility also used the process of receiving funding assistance to mobilize resources. Partnerships with schools, vendors, philanthropic foundations, and federally funded programs brought free and objective eyes for surveillance, free access to expertise and training, and financial incentives for improving quality and safety outcomes. Additionally, expertise was sought and shared by finding, listening to, and using advice from frontline or external experts either in person or through participation in meetings and conferences.

The theoretical finding that these organizations performing best at keeping patients safe from HAC were *Coming Together for How* was grounded in the social and psychosocial processes found in the data. By coming together inclusively, working together collaboratively, and creating a safe culture founded in respectful relationships, these organizations experienced uniting. Additionally, by identifying known keys, searching for unknown keys, stopping and addressing people keys found, and changing practice to improve process keys identified, these hospitals experienced the identification and unlocking of key drivers to improve outcomes. Lastly, through the processes of distributing people; adding, building, and deploying technological tools and training; receiving free help and financial incentives for improvement efforts; and seeking and sharing expertise resources were mobilized. Together these occurrences of uniting, identifying and unlocking key drivers, and mobilizing resources resulted in the experience of *Coming Together for How* to improve safety and quality outcomes.

Getting consistent with What. The third main theme revealing what happened in these facilities emerged as *Getting Consistent with What*. Together with getting on board with *why* to focus efforts on quality and safety and *Coming Together for How* to get there from here, participants described *Getting Consistent with What* needed to happen. By standardizing, ensuring compliance, managing data and messages, and continuing, they were able to get consistent with what needed to happen.

The experience of standardizing came from the processes of setting and disseminating standard tools, best practice bundles, goals, habits and routines, messages, channels for information sharing, and education. Barriers to setting and disseminating standards happened with differing physician opinions, taking a long time to change the

EMR in line with new protocols, and being able to locate order sets in the EMR. A contrary process of specializing also occurred in each facility in stories of local differences and special cases such as using critical thinking, accepting deviation for a "really good case," and having experts perform high-risk procedures. The different descriptions of using critical thinking and accepting deviations from standards produced a potential conundrum of when to follow standards and when to use leadership to not follow.

Ensuring Compliance happened through the processes of auditing and reminding. Auditing happened from many different eyes to ensure nothing was missed in protocol adherence and documentation, increasing reliability. Tools such as alerts were used for reminding as was giving verbal feedback. This constant watching and dialogue seemed to have implications for the safe culture as staff feelings in response were varied. The general portrayal exhibited a change over time from questioning if this culture was safe as a staff member to one of feeling safer to have someone making sure you did not fail the patient.

In *Getting Consistent with What*, *Managing Data and Messages* also occurred. The processes by which this was accomplished included tracking and measuring for immediate and long term awareness, sharing and learning from mistakes and looking openly at outcomes with internal and external stakeholders, and accounting for results through individual accountability and reporting. Again, the safe culture came into play with sharing and looking, as well as reporting. The descriptions included an evolution over time from hiding failures and poor outcome rates to being open and transparent as the culture grew in safety.

Another experience that happened was *Continuing*. Quality and safety outcomes associated with HAC were described as either sustaining and improving or regressing. The interviews indicated their results were continuing by improving in outcomes as a result of patience, vigilance and continuing to look for ways to improve despite tremendous gains. In addition, some outcomes at one facility were regressing as a result of resources being mobilized to other priorities and a loss of focus. This recounting of circling back and addressing the same problem repeatedly stood in direct contrast to the linear track outlined by another participant. How an organization defines *the Why* of safety and quality, as a directional strategy or as a priority, seems to factor into regressing.

The theoretical finding of *Getting Consistent with What* originated in the data describing the social and psychosocial processes. Namely, by setting and disseminating standards and specializing, the organizations experienced standardizing. As a result of auditing and reminding, *Ensuring Compliance* occurred. And by either sustaining and improving or regressing, *Continuing* happened. By experiencing standardizing, ensuring compliance, managing data and messages, and continuing the collective experience sums up to getting consistent with what needed to happen.

In summary, what happened in the studied hospitals were efforts to 1. *Get on Board with Why* to work toward achieving excellence in safety and quality outcomes, 2. *Come Together for How* to get there from here, and 3. *Get Consistent with What* needed to happen. These themes interact and affect each other. The strategy used to define *the Why* and creating a safe culture appears to have a large impact on the other processes and long term success.

Integration with Other Literature

In looking back at the literature reviewed in Chapter 2 prior to beginning data collection, the findings show fit with aspects of the models and concepts used to address HAC. The findings also add to the state of current research in healthcare safety and quality. These associations as well as connections with other literature, follow.

The conceptual model put forth by Stone et. al. in 2010 as depicted on page 10, aimed to assist with identification of organizational factors facilitating process and behavior change. If the data from the current study had been imposed on this pre-existing model, it would have corroborated that the organizational factors of leader behavior, organizational culture, and staff behavior contribute to changes in outcomes. Yet the data has more complexity, suggesting the need for different or additional organizational factors. The 2013 model by Chassin and Loeb proposed that hospitals needed to make incremental changes from beginning to developing then advancing and approaching high reliability in domains of leadership, safety culture, and robust process improvement. When looking at these measures in greater detail, the current study confirmed mostly the robust process improvement component. The safety culture domain would seem to need further development in terms of the ways people relate safely.

The model proposed by Amalberti et. al. in 2006 appeared supported by the findings of the current study. Their model focused mostly on the designing standards and managing violations and deviations from standards in the context of pressure for greater performance and personal reward. The data from the current study in the focused areas of identifying and unlocking key drivers and standardizing seem to confirm their model

most directly and the rest more indirectly as a means to manage violations or deviations from standards.

Several management concepts were used to look at safety and quality in hospitals that were reviewed in Chapter 2. First-order problem solving as a barrier to learning did not emerge from the interviews. The concept of innovation implementation failure could be linked partially to the findings in that innovative protocols needed to be standardized and automatic, and yet clinical discretion was also expected. Clinical human factors of teamwork and leadership in avoiding HAC were found, though most others did not show up such as stress, situational awareness, and lack of non-technical skills. Problems with volume, access, length, complexity, and version control of rules did not come through as contributing to HAC avoidance with the exception of volume and at times lack of regulatory mandates being evidence based.

Several articles were reviewed prior to data collection that looked at the impact of the current legislation regarding HAC, mostly from a qualitative perspective. The findings of distributing human resources and standardizing processes from this study support the survey conducted in 2011 by Stone et al. They found IP employees spent increased time on surveillance and decreased time on education, as well as increased EBP adherence after legislation implementation. Of additional support to their findings was the recounting by participants that intentional misrepresentation of the data towards a more positive light did not occur. Rather over-reporting and having data appear worse than it actually was did happen. Similar soft support could be lent to all of the studies. The strongest support from these findings showed up with the 2014 study by Sorensen et al. They stated keys found post legislation included culture change in support of patient

safety, hiring to manage reporting oversight, software needs, increased time burden for clinicians and increased need for interdepartmental collaboration.

The literature reviewed on high reliability had several findings quite consistent with the findings from this study on factors associated in keeping patients safe from HAC. In 1996, La Porte reported findings from studying high reliability exemplars in air traffic control, electric power generation and distribution, and nuclear aircraft carriers. Findings described these systems as having organizationally defined intention, reliability enhancing operations, a culture of reliability, and external relationships. The current study found organizationally defined intention in the category defining *the Why* to be a critical component, having a large impact on other processes and long-term success. External relationships also emerged frequently as processes contributing to mobilizing resources, standardizing, ensuring compliance, and managing data and messages. Reliability enhancing operations included extraordinary technical competence, structural flexibility and redundancy, collegial and dispersed decision making authority, and seeking continual improvement. The thematic areas of *Coming Together for How* and *Getting Consistent with What* show similar findings.

Studies by Hudson in 2003 and Harris and Thomas in 2005 also looked at high reliability performance in aviation and the oil and gas industry with findings quite consistent with the current study in healthcare. Hudson described HRO traits as 1. handling external pressure by balancing production and safety, 2. staying well informed, 3. performing intense investigation and analysis, 4. exhibiting robust incident reporting without penalties, 5. incorporating safety management systems, and 6. managing organizational culture power relationship gradients.

Harris and Thomas (2005) describe the safety systems as the 5 Ms: huMan, machine, mission, medium, and management. Both study findings connect with findings of what happened in the top performing hospitals under current study. These three studies on highly reliable organizations outside of healthcare best fit the current findings.

Emerging Model

The above findings in highly reliable organizations outside of healthcare having such close connection with the findings of the current study indicated that a new model might be realistic to generate in order to subject to further testing and refinement. The emerging top performing model describes what happened in hospitals keeping patients safe from events that should never happen during the reporting period. Understanding what happened provides the foundation as displayed in the model below.   Applying the tenets of symbolic interactionism and grounded theory to the model, one would be hesitant to try to recreate what happened without taking into account that what happens results from social and psychosocial interactions and the underlying meanings held in the environment. Thus, beginning work to create a similar environment of patient safety in avoiding HAC would need to be at the process level. The processes leading to what happened in the hospitals in this study can be found in the outline at the end of Chapter 4.
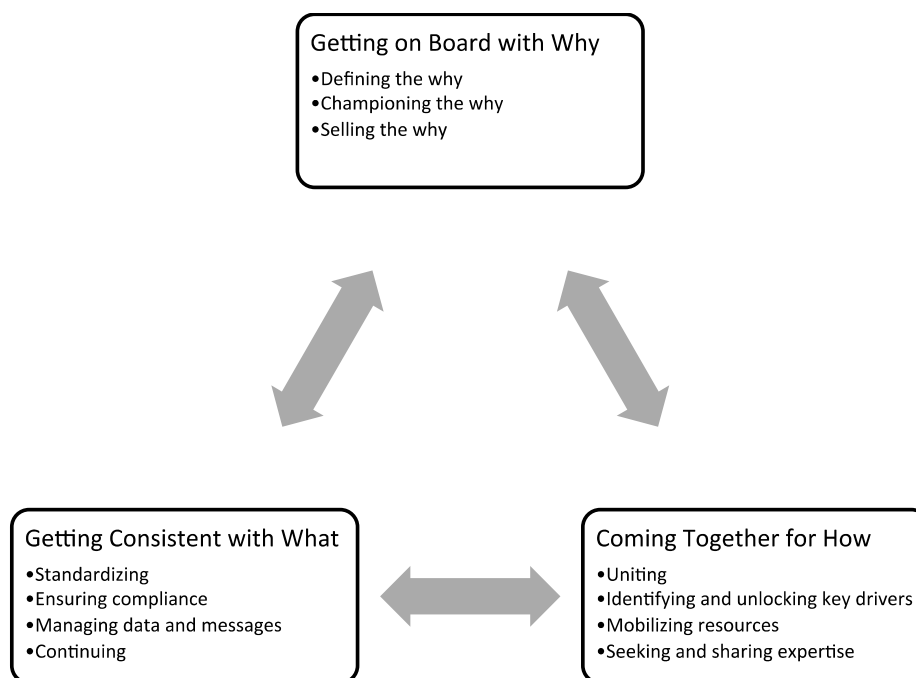
Figure 3. Top Performing Model in Avoiding Hospital-Acquired Conditions

Researcher Reflections

Interpretations of all data occurred through the post-modern critical feminist lens of the researcher and thus had limits in impartiality. Care was taken throughout each step of data collection and analysis to reflect on the researcher's experience to account for the lens through which data analysis occurred. This awareness assisted in hearing the participant's voice and letting go of preconceptions to the extent possible when listening (Holloway & Wheeler, 2010).

Accounting for the above reflections and focusing on the participants' voices, some thoughts follow as to what the researcher would do differently in hindsight or add if continuing this line of research. After wondering, as described above, if integrating to sell *the Why* transformed barriers into solutions, then seeing the barriers in standardizing, a follow up question might have inquired about a need to also sell the *What* in order to

transform these barriers into solutions. Another point that could have benefitted from additional inquiry would have been to ask; did the consequences of a failure differ when following the standard process versus deciding to not follow the standard process (as in critical thinking) in a safe culture? While first-order problem solving as a barrier to learning did not emerge from the interviews, this concept makes much sense to the author with extensive bedside and frontline management experience, indicating that nurses solving problems in the moment may be contributing to lack of organizational learning in a chronic blind spot.

Limitations and Strengths

The proposed study has limitations related to the novice level of the principal investigator. This factored into several areas including the interview process. While the researcher had previous experience in other types of interviewing, this presented the first attempt to do so utilizing grounded theory processes and techniques. Efforts to minimize effects of this limitation included practice interview sessions with non-participants from other organizations, performance of planned reflective learning after each interview, debriefing with the dissertation team, and incorporating learning into progressive interviews.

The emic perspective of the seven study participants represented a limiting factor related to design. Other participants may have described what happened and under what social and psychosocial processes from multiple realities. Only one interview transpired from one of the sites, limiting the corroboration of multiple informants assisting to ensure the description represented what truly happened. This limitation may be minimal in light of all sites and multiple interviews informing each section with the exception of

"regressing" which was described only by one participant at one facility. Data from the other sites shows sustaining and improving only in HAC outcomes the following year. The site describing regressing showed regression the following year in outcomes and this might explain the lack of corroborating stories from the other facilities. One participant at another site very explicitly spoke of avoiding regressing or circling back, giving additional credence to this section and potentially lending possibilities from further studies, illuminating the differences between high performers sustaining or improving versus regressing and circling back to address problems again.

As a constructivist grounded theory design, there were associated limitations. Any generalizations should be limited, as these findings were contextually and historically situated. Data analysis occurred subjectively. The design also provided strength through using inductive processes to understand the meaning and allow new perspectives to emerge that were grounded in the data. Stratifying for and choosing multiple cases of top performance facilitated finding contrasts or similarities in social actions and interactions in the environments keeping patients most safe (Schwandt, 2007). Additionally, all potential sites were determined prior to initial data collection to protect against potential bias in choosing sites that support the developing account (Schwandt, 2007). By sampling within each setting using multiple informants, assurance increased that what was being described or observed actually happened (Schwandt, 2007). Constant comparison facilitated data saturation in seven interviews. Sufficiency of data was evaluated by considering if the context of participants was understood and if the data represented a wide range of views and actions that led to deeper understanding and analytic categories conducive to creating comparisons (Charmaz, 2014).

Study Implications

The study findings showed several implications for nursing practice. With an underlying tenet of nonmaleficence, nursing practice and delivery of safe patient care can be elevated with improving HAC avoidance as these measures partially reflect quality of nursing care. In addition, performing well and experiencing success and competition resulted in pride and a snowball effect of generating energy for other projects needing improvement. Coming together, involving many disciplines, working together, and relating safely resulted in uniting in efforts at how to improve. These processes can be attempted for a wide range of issues that arise and seem to have implications for improving care coordination.

Nursing education could benefit from the findings of the current study. Nursing education efforts were portrayed in several accounts to be integrated and consistent with physician education, assisting in auditing and giving feedback in the moment between professionals. Mobilizing resources occurred through seeking and sharing expertise and receiving funding assistance for educational efforts occurred in innovative ways such as partnering with local, regional, or national collaboratives. From a different perspective, nursing educators in scholarly settings could partner with facilities, as described in one account, to assist with auditing thus giving back to the hospital in a mutually beneficial relationship while students learn from the auditing process.

Nursing administration implications abound. The findings present a road map for strategically covering performance improvement in HAC outcomes including what should be happening and what processes can assist, enlightening what to continue doing and what may need to change. In seeing the impact of defining *the Why*, nursing

administrators can advocate for safety and quality to be directional strategies. In addition, work can be focused to create a safe culture. These two specific areas appeared to impact the other processes and longevity of results greatly.

Potential conceptual utility of this study's findings include changing the way people see HAC avoidance. Usefulness can occur in promoting understanding or provoking feelings that move the users of the research to act (Sandelowski, 2004). By changing the way people see and word this problem there exists a potential to change or heal the damaging ways that have defined it in the past (Sandelowski, 2004).

In the end, the main reason to work to decrease HAC lies in decreasing patient morbidity, mortality, and suffering related to avoiding conditions that should never happen in hospitals. Additionally, substantial financial impact could be realized for a healthcare system by avoiding direct costs related to care of HAC, avoiding financial penalties for poor performance, and participating in programs offering financial incentives to improve. By studying only those hospitals performing best in keeping patients safe from HAC, potential exists to end the cycle of small, short-lived, and insufficient success in healthcare safety and quality (Chassin & Loeb, 2011). Improvements in patient safety also have the potential to positively impact clinician satisfaction and retention as well as the public's trust.

Recommendations for Research

Research efforts to further refine the emerging top performer model should be undertaken with qualitative studies and then quantitative testing. Of considerable note, when comparing the California Office of State Health Planning and Development's (2015a) 48 level I or II designated trauma centers in California with the Hospital

Compare publicly reported data (2015), only 10 facilities fell above the median Total HAC score for this first reporting period. In addition, all four state-operated residential centers for the developmentally and intellectually disabled fell in the lowest 30% of performance with three of those in the bottom decile. With hospitals falling in the bottom quartile facing HAC penalty of 1% of all Medicare reimbursement, there appears to be a disproportionate percentage of these facilities providing critical life-saving services and treatment of the state's very vulnerable, dependent population producing poor patient outcomes and facing significant financial consequences. These settings could benefit from additional qualitative inquiry to assist in uncovering unique contributing factors.

The current study examined facilities performing at a top level for a relatively short time frame. By reexamining the same group for sustainability with subsequent reporting periods, the model could be further refined. One of the three facilities examined showed signs of regressing while the other two were sustaining or improving performance. A future study might take the model and attempt to correlate which components led to sustainability versus regression, or dig deeper into the nuances of each area to assist with changing social and psychosocial processes.

Surveys exist to examine environments in hospitals in terms of culture of safety, professional practice, and employee and physician satisfaction. The results of this study could be used for tool refinement or revision. The Potential also exists for assisting with creating surveys of the current social and psychosocial processes behind what is happening. This could be one large survey, yet might be more pertinent and less burdensome if short surveys for specific groups were created targeting areas such as

selecting champions, supporting champions, relating safely, and so forth. Such inquiries could assist in finding what's already working and what areas need focus.

Conclusion

The aims of this study included generating emergent conceptual categories related to high performance in HAC avoidance and beginning to develop a top-performing model for further research, dissemination, and testing. Major themes of what happened at hospitals included the conceptual categories of *Getting on Board with Why, Coming Together for How*, and *Getting Consistent with What*. An emerging top-performing model was outlined and visually represented. Implications for nursing practice and education included improving quality of outcomes, care coordination, and innovative partnerships. The findings potentially present a new road map for strategically covering performance improvement in HAC avoidance including what should be happening and what processes can assist. Defining *the Why* and creating a safe culture appear to have a large impact on the other processes and long term success. By examining these pockets of high reliability in HAC performance, this study has illuminated factors associated with highly safe environments.

References

Amalberti, R., Vincent, C., Auroy, Y., & de Saint Maurice, G. (2006). Violations and

migrations in health care: A framework for understanding and management.

Quality & Safety in Health Care, 15(Suppl. 1). doi: 10.1136/qshc.2005.015982

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care:

Does it matter? *Journal of Health & Social Behavior*, *36*(1), 1-10.

Brooks, J. A. (2014). The new world of health care quality and measurement. *American*

Journal of Nursing, 114(7), 57-59.

Burnett, S. Norris, B., & Flin, R. (2012). Never events: The cultural and systems issues

that cannot be addressed by individual action plans. *Clinical Risk, 18*(6), 213-

216.

California Office of Statewide Health Planning and Development. (2015a). *About:*

Trauma Centers in California. Retrieved from:

http://gis.oshpd.ca.gov/atlas/topics/tc_dashboard

California Office of Statewide Health Planning and Development. (2015b). *Report*

Center. Retrieved from:

http://report.oshpd.ca.gov/?DID=PID&RID=Facility_Summary_Report_Hospital

_Inpatient

Carthey, J., Walker, S., Deelchand, V., Vincent, C., & Griffiths, W.H. (2011). Breaking

the rules: Understanding non-compliance with policies and guidelines. *British*

Medical Journal, 343(d5283*),* 1-5. doi: 10.1136/bmj.d5283

Charmaz, K. (2014). *Constructing grounded theory*. Thousand Oaks, CA: Sage

Publications.

Chassin, M.R., & Loeb, J.M. (2011). The ongoing quality improvement journey: Next stop, high reliability. *Health Affairs, 30*(4) 559-68.

Chassin, M.R., & Loeb, J.M. (2013). High-Reliability health care: Getting there from here. *The Milbank Quarterly, 91(*3), 459-490.

DesRoches, C. M., Charles, D., Furukawa, M. F., Joshi, M. S., Kralovec, P., Mostashari, F. … Jha, A.K. (2013). Adoption of electronic health records grows rapidly, but fewer than half of US hospitals. *Health Affairs, 32*(8), 1478-1485. doi: 10.1377/hlthaff.2013.0308

Harris, D., & Thomas, L. (2005). Contributions of industrial/organizational psychology to safety in commercial aircraft. In: Hodgkinson, G.P., & Ford, J.K. (Eds.), *International Review of Industrial and Organizational Psychology Volume 20* (pp. 177-219). Chichester, West Sussex, England: John Wiley and Sons, Ltd.

Haunschild, P.R., & Sullivan, B.N. (2002). Learning from complexity: Effects of prior accidents and incidents on airlines' learning. *Administrative Science Quarterly, 47*, 609-643.

Hoff, T., Hartmann, C.W., Soerensen, C., Wroe, P., Dutta-Linn, M., & Lee, G. (2011). Making the CMS payment policy for healthcare-associated infections work: Organizational factors that matter. *Journal of Healthcare Management, 56*(5), 319-35.

Holloway, I. & Wheeler, S. (2010). *Qualitative research in nursing and healthcare.* Chichester, West Sussex, UK: John Wiley & Sons.

Hospital Compare. (2015). *Hospital-acquired Condition Reduction Program.* Retrieved from: https://www.medicare.gov/hospitalcompare/HAC-reduction-program.html

Hudson, P. (2003). Applying the lessons of high risk industries to health care. *Quality and Safety in Health Care, 12*(Suppl. 1), i7-i12. doi: 10.1136/qhc.12suppl_1.i7

James, J.T. (2013). A new, evidence-based estimate of patient harms associated with hospital care. *Journal of Patient Safety, 9*(3), 122-128.

LaPorte, T.R. (1996). High reliability organizations: Unlikely, demanding and at risk. *Journal of Contingencies and Crisis Management,* 4(2), 60-71.

Longest, B.B. & Darr, K. (2008). *Managing health services organizations and systems.* Baltimore, MD: Health Professions Press, Inc.

Maxwell-Downing, D. (2013). Clinical issues- January 2013. *AORN, 97*(1), 140-148. doi: 10.1016/j.aorn.2012.10.005

Miller, C.O. (1988). System safety. In: E.L. Weiner & D.C. Nagel (Eds), *Human factors in aviation* (pp. 53-80). San Diego, CA: Academic Press.

Nelson, S., Stone, P.W., Jordan, S., Pogorzelska, M., Halpin, H., Vanneman, M., & Larson, E. (2011). Patient safety climate: Variation in perceptions by infection preventionists and quality directors. *Interdisciplinary Perspectives on Infectious Diseases, 2011,*1-7. doi: 10.1155/2011/357121

Nembhard, I.M., Alexander, J.A., Hoff, T.J., & Ramanujam, R. (2009). Why does the quality of health care continue to lag? Insights from management research. *Academy of Management Executives, 23*(1), 24-42.

Patient Protection and Affordable Care Act, Pub. L. No. 111-148, Title III, part I, § 3001 (2010).

QualityNet. (2015). Scoring methodology hospital-acquired condition reduction program. Retrieved from: https://www.qualitynet.org/dcs/

Rasmussen, J. (1997). Risk management in a dynamic society: A modelling problem. *Safety Science*, *27*(2-3), 183-213. doi:10.1016/S0925-7535(97)00052-0

Reason, J. (1998). Achieving a safe culture: Theory and practice. *Work & Stress*, *12*(3), 293-306.

Sandelowski, M. (2004). Using qualitative research. *Qualitative health research,* *14*(10), 1366-1386. doi: 10.1177/1049732304269672

Schwandt, T. A. (2007). *The sage dictionary of qualitative inquiry.* Thousand Oaks, CA: Sage Publications.

Sorensen, A., Jarrett, N., Tant, E., Bernard, S., & McCall, N. (2014). HAC-POA policy effects on hospitals, other payers, and patients. *Medicare & Medicaid Research Review, 4*(3), E1-13. doi: http://dx.doi.org/10.5600/mmrr.004.03.a07

Stone, P.W., Glied, S.A., McNair, P.D., Matthes, N., Cohen, B., Landers, T.F., & Larson, E.L. (2010). CMS changes in reimbursement for HAIs: Setting a research agenda. *Medical Care, 48*(5), 433-439.

Stone, P.W., Pogorzelska, M., Graham, D., Jia, H., Uchida, M.U., & Larson, E.L. (2011). California hospitals' response to state and federal policies related to health care-associated infections. *Policy, Politics, & Nursing Practice, 12*(2), 73-81.

The International Society for Quality in Health Care. (2012). *Professor Rene Amalberti.* Retrieved from http://www.isqua.org/who-we-are/our-people/current-board/professor-rené-amalberti: Who we are: Our People

Tucker, A.L., & Edmondson, A.C. (2003). Why hospitals don't learn from failures: Organizational and psychological dynamics that inhibit system change. *California Management Review, 45*(2), 55-72.

Wald, H., Richard, A., Vaughan Dickson, V., & Capezuti, E. (2012). Chief nursing officers' perspectives on Medicare's hospital-acquired conditions non-payment policy: Implications for policy design and implementation. *Implementation Science, 7*, 78-88. doi: 10.1186/1748-5908-7-78

Weldon, L. M. (2013). Electronic health record: Driving evidence-based catheter-associated urinary tract infections (CAUTI) care practices. *The Online Journal of Issues in Nursing,* 18(3). Retrieved from http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol-18-2013/No3-Sept-2013/Articles-Previous-Topics/Electronic-Health-Record-CAUTI-Care-Practices.html

Westrum, R. (1993). Cultures with requisite imagination. In J.A. Wise, V.D. Hopkin, & P. Stager (Eds.), *Verification and validation of complex systems: Human factors issues* (pp. 401-416). Springer Berlin Heidelberg.

Appendix A

Table A1.

Review of the Literature

Current Research on Hospital Acquired Conditions

Author/Year	Key Concepts	Significance	Methods	Comments
Stone, P.W. et al./2011	Examine structure, process and outcome changes with legislation implementation. Exploratory testing of model put forth by Stone et al. in 2010.	HAC study in California. Infection Preventionist (IP) time ∧ for surveillance, ∨ for education. ∧ EBP adherence CLABSI, CAUTI.	**Mixed**: **Quant.** Web survey >200 hospital IPs pre and post legislation ending payment for HAC. **Qual.** Interviews with 25 IPs. Self report survey.	Findings not linked with clinical outcomes. Pressure to misrepresent data not found. Other states findings validate data.
Hoff, T. et al./2011	Exploratory testing of model put forth by Stone et al. in 2010. Organizational factors supporting quality change: Proactive Infection Control (IC) dept., Leadership Attention to IC, Staff Participation in IC activities.	Purposive sampling: hospitals stratified on bed size, region, RN staffing. Additional mediating factors found: Resource Issues, Coding Discrepancies, and Existing Surveillance Requirements	**Qual.** Interviews with lead IPs from 36 hospitals in 24 states.	Findings not linked with clinical outcomes. **Sample interview questions** **Grounded Theory** used and process described though not specified.
Nelson, S. et al./2011	Aim: Compare patient safety perceptions between IPs and Quality Directors (QD), identify setting and role characteristics associated with differences, and predictive of positive perceptions.	Having an independent budget for IP was the only significant predictor of positive perception of patient safety for both IPs and QDs.	**Quant**. Secondary analysis of two independent surveys in 2008 using the Senior Management Engagement scale and the Leadership on Patient Safety scale.	Findings not linked with clinical outcomes. Add question about independent budget for IP? Or generally on HAC prevention financing?

Author/Year	Key Concepts	Significance	Methods	Comments
Sorensen, A. et al./ 2014	Explore effects of HAC policy change on hospitals, patients, coders and payors.	Key changes found: Culture shift in support of patient safety, hiring to manage reporting and oversight, software needs, ∧ time burden for clinicians, ∧ need for interdepartmental collaboration.	**Qual.** Interviews with 106 individuals from 56 organizations in 3 phases from 9/09 to 9/12 using purposive sampling.	Used no more than 1 hospital from a system. Stratified for equal representation based on payment impact (good and poor outcomes).
Wald, H. et al./ 2012	Utilize **translational research paradigm** to assist with characterizing which of 5 progressive phases a hospital is performing in relation to CLABSI and CAUTI pre and post legislation.	Findings show many motivators for addressing HAC. Policy assisted with focusing attention on nursing leadership in patient safety and some HAC that had fewer dedicated resources (ex. CAUTI efforts less mature than CLABSI). Determining "hospital acquired" proves challenging.	**Qual.** Interviews with 13 CNOs and 3 other staff identified from CNO as primary contact for HAC from NICHE hospitals. Address consistency, rigor and fidelity of interview process.	Stated exempt from IRB oversight as not human subjects research. Good description of areas of questioning and probing efforts.
James, J./2013	Data from IOM report estimating deaths from medical errors at 98,000 is 3 decades old.	Estimates 210,000 – over 400,000 deaths annually from preventable harm in hospitals	Secondary analysis of data from 4 studies using the Global Trigger Tool as pointer to adverse event.	Serious harm 10-20 times more common than deaths.

Models Proposed to Address Hospital Acquired Conditions

Author/Year	Key Concepts	Significance	Methods	Comments
Stone P.W. et al./ 2010	Experts convened in April 2009 to set research agenda related to new HAC legislation.	Development of a conceptual framework to organize issues related to HAC.	Expert opinion. Framework built upon Andersen's Behavioral Model, organizational theory and management research.	Set up framework for studies prior to implementation, assisting with evaluation afterwards.
Chassin, M.R. & Loeb, J.M./2013	No hospital has achieved high reliability across multiple measures. Applicable stages of maturity: beginning, developing, advancing and approaching.	Incremental changes applied toward hospitals in 14 parts of the framework should lead to zero harm. 3 domains: leadership, safety culture, robust process improvement.	Expert opinion of Joint Commission (JC) applied to **High Reliability** (HR) science used to develop a conceptual framework refined by iterative testing with hospital leaders.	3 hospitals called out in article as exemplars of commitment to safety. HAC scores looked up on database show 2 with mediocre results and 1 no data.
Chassin, M.R. & Loeb, J.M./2011	Earlier work on efforts synthesized above.	Safety successes in health care small and short-lived so far.	Expert opinion of JC beginning to apply high reliability science.	Domains above used except "leadership" exchanged for "collective mindfulness".
Amalberti, R. et al./ 2006	**Violations**: deliberate deviations from standards. Violations occur frequently, increase system performance and satisfaction, are often tolerated with limited safety consequences, can lead to real harm.	Violations are unavoidable and cannot be eliminated. Manage them instead.	Uses **Rasmussen's theory of migration to boundaries** to propose a model explaining deviance occurrence, stabilization, regression or progression to harm.	Solutions are posited for violations dependent on place in model: relax constraints, increase peer control, constrain dangerous individuals.

Concepts Used to Address Hospital Acquired Conditions

Author/Year	Key Concepts	Significance	Methods	Comments
Tucker, A.L. & Edmondson, A.C./ 2003	Management research focus. **2 types of Failure: Error and Problem.** Both are valuable sources of information and require action for patient care to continue.	Nurses solve the majority of problems with **first-order problem solving**. Care resumes, nurse gratified with successful navigation of obstacle, no organizational learning happens. Counterproductive.	**Qual.** 239 hours of observation of 26 nurses at 9 hospitals. Found 194 failures (166 problems in 5 categories. 28 errors in 3 categories). Interviews of 12 nurses	Why the lack of organizational learning: emphasis on individual vigilance, unit efficiency concerns, and empowerment (professionals function w/o direct managerial assistance).
Nembhard, I.M. et al./2009	Management research focus. Difficulty improving quality of care primary cause: **Innovation Implementation Failure.**	4 contributing features of healthcare organizations: 1. Nature of the work, 2. Workforce characteristics, 3. Leader-workforce relations, 4. Performance measurement and control systems.	Expert opinion overlaid on management research concept of innovation implementation.	Specifics: 1. Risk aversion, work norms, clinical discretion. 2. Specialization, professional hierarchy and identification. 3. Transactional leadership. 4. Underdeveloped and resented systems.
Burnett, S. et al./ 2012	Root causes of Never Events cannot be addressed by action plans. Should be seen as a reflection of organizational culture and systems issues.	Never Events often occur due to lack of non-technical skills: situational awareness, decision-making, teamwork, leadership and coping with stress.	Clinical Human Factors Group in England reviewed 9 wrong site or procedure events.	Noncompliance with policies investigation found: too many policies, no version control, inaccessibility when needed, lengthy and complex.
Carthey, J. et al./2011	Clinicians have to juggle multiple and often competing or unknown policies and guidelines from organizational and local, professional and governmental bodies for each task.	Unintended consequences of too many rules: volume, multiple rules on same topic, accessibility and naming, length and complexity, trivial policies, version control.	Expert Opinion and investigation into sources of policies and guidelines on three trust intranet sites in the UK.	Human factors research in other industries has shown more rules means less likely compliance.

Examining High-Reliability Outside of Healthcare

Author/Year	Key Concepts	Significance	Methods	Comments
Hudson, P./2003	Safety culture attributes adapted from **Reason**: Informed, wary, just, flexible, learning.

Cultural maturity adapted from **Westrum**: Pathological, reactive, calculative, proactive, generative. | Industry exemplars: **Aviation** began as reactive with progress in outcomes attributed to good attitudes toward safety. **Oil and gas** incorporated systemic and calculated safety management systems (SMS). | Historical post-hoc analysis. No theory connection or description of methods. □ | HRO traits: Handle external pressure by balancing production and safety; well informed; intense investigation and analysis; robust incident reporting w/o penalties; SMSs; organizational culture manages power gradients |
| La Porte, T.R./1996 | **HRO Project** to **explore/identify conditions associated with extraordinarily safe** large operating systems managing complex, hazardous and demanding technologies while avoiding failure and maintaining capacity for very high peak production (a state unusual, difficult to sustain and associated with degradation). | No theoretical or empirical explanations known. **Study conducted of the high performing outliers** with discussion of socio/political implications.

Meeting criteria for exploration: US air traffic control systems, an electric power generation and distribution system, and two nuclear aircraft carriers. | Provisional findings: organizationally defined intention, reliability enhancing operations (extraordinary technical competence, high operational performance, structural flexibility and redundancy, collegial and dispersed decision making authority, seek continual improvement), culture of reliability, external relationships. | **Warnings**: These conditions may be necessary, not sufficient.

Not warranted to apply findings from 3 top performers to aspiring HROs.

These conditions may not be attainable without severe hazards and social costs. |

Author/Year	Key Concepts	Significance	Methods Quant and Qual.	Comments
Haunschild, P.R., & Sullivan, B.N./2002	**Organizational Learning and (OL) Organizational Ecology (OE)** used as theoretical framework examining all US commercial airline errors (accidents and incidents) from 1983-1997 reported in the NTSB database. (310 airlines, 1346 errors).	Specialists appear to learn from heterogeneity in prior errors. Generalist airlines learn from their own accumulated experience and outside factors/accumulated industry experience.	Strong design elements. Primary dependent variable: accident and incident rate for each airline. Independent variables: Prior accident heterogeneity (OL), generalist versus specialist (OE measure of complexity as opposed to size). Random effects regression. 9 models controlling for various factors. Framework: 5 Ms safety systems model adapted from Miller.	Complexity of errors has increased over time. Many potential causes. New learning theory suggested: complex forms benefit from simple information, simple forms from complex information.
Harris, D., & Thomas, L./2005	Socio-technical viewpoint: root causes of human error often many and interrelated and between systems (not within one). **Crew Resource Management** evolution well described. LOFT simulation (Line Oriented Flight Training).	Airline safety already top performer. Rate relatively constant for more than a decade at 1 accident per million departures. Reliability and structural integrity improvements = less engineering failures. Majority now human error. Efforts now focused on Industrial/Organizational psychology (human factors) contributions in commercial aircraft safety described.	**5 Ms= huMan** (stressors, selection, training), **Machine**, **Mission**, **Medium** (physical and societal), **Management**.	**Simple universal Mission**: deliver passengers at the greatest possible speed and comfort while maintaining highest possible safety and economy.

Appendix B

California Top Performers Hospital-Acquired Conditions (HAC) Hospital Compare Data from Reporting Period 7/1/11 to 6/30/13

Rank N= 300	Total HAC (1-9)	Current Magnet	Affiliation/ Full Integration	Control	County	Distance in miles	Bed Size	ED services
1	1.000	No	Dignity/No	NP	Tehama	631	76	Trauma Level III
1	1.000	No	Govt. District (GD)/No	Govt. Control (GC)	Santa Barbara	269	60	Basic
1	1.000	No	Dignity/No	NP	Nevada	563	104	Basic
1	1.000	No	Prime/No	Investor Control (IC)	San Bernardino	112	126	Basic
5	1.350	No	Closed	closed	Los Angeles (LA)	Closed	170	Closed
5	1.350	No	Alameda Hospital System/No	GC	Alameda	487	135	Basic
5	1.350	No	AHMC Inc./No	IC	LA	120	144	Basic
5	1.350	No	Community/No	IC	San Bernardino	174	30	Basic
9	1.650	No	GD/No	GC	LA	103	107	Basic
12	1.700	No	None/No	IC	Humboldt	774	78	Basic
12	1.700	No	Prime/No	IC	LA	139	148	Basic
12	1.700	No	Prime/No	IC	LA	124	128	Basic
14	1.975	No	Prime/No	IC	Orange	98	219	Basic
14	1.975	No	Alta Corp/No	IC	LA	114	130	None
15	2.000	No	UHS/No	NP	Riverside	95	78	Basic
16	2.025	No	Kaiser/Yes	NP	Fresno	345	169	Basic
19	2.050	No	GD/No	GC	San Mateo	485	228	Basic
19	2.050	No	UHS/No	NP	LA	173	157	Basic
19	2.050	No	AHMC/No	IC	LA	117	157	Basic
20	2.300	No	None/No	NP	Alameda	465	167	Basic
21	2.325	No	Dignity/No	NP	San Fran.	502	403	Basic
22	2.325	No	Central CA Network/No	NP	Fresno	346	57	Basic
24	2.625	No	Dignity/No	Nonprofit (NP)	Los Angeles	105	389	Trauma Level II
24	2.625	No	Sutter/No	NP	Sacramento	504	306	Basic
26	2.750	No	None/No	NP	San Fran.	500	54	Standby
26	2.750	No	Sutter/No	NP	Sacramento	848	49	Level IV Trauma
29	2.975	No	Prime/No	IC	San Bernardino	140	148	Basic

Rank N= 300	Total HAC (1-9)		Affiliation	Control	County	Distance	Bed Size	ED services
29	2.975	No	Dignity/No	NP	Santa Barbara	279	435	Level III Trauma
29	2.975	No	None/No	NP	El Dorado	545	113	Level III
33	3.025	No	Closed	Closed	Closed	Closed	135	Closed
33	3.025	No	Kaiser/Yes	NP	San Diego	8	414	Basic
33	3.025	No	Tenet/No	IC	LA	108	172	Basic
33	3.025	No	None/No	IC	LA	121	116	None

Data gathered for descriptive purposes from OSHPD 2013 (last year of reporting period for Total HAC score) data and facility websites.

Appendix C

Email Solicitation

Dear Chief Nursing Officer:

My name is Tammy Doolittle, MS, RN. I am currently a PhD candidate in the Hahn School of Nursing at the University of San Diego, San Diego, CA. I am conducting a dissertation research study about what factors contribute to hospitals performing in the top decile on hospital-acquired conditions (HAC) measures. You have received this email as your institution was identified as a top performer in HAC measures in the time period 2011-2013.

If you decide to participate, I would like to conduct a one-on-one interview with you at a private location of your choosing. The interview will take about one hour to complete. I will ask you some open-ended questions about the things that contribute to an institution being a top performer in HAC measures, like "Can you describe the events leading up to these results?"

Your interview will be audio-recorded, but your real name or the name of our institution will not be used during the interview.

The risks of participating in this study are minimal and no more than those encountered in everyday life. Your responses will be kept confidential and all your information will be coded with a number. *No one will know your identity OR the identity of your institution.*

This research project has been approved by the IRB at the University of San Diego. In most cases, your participation in this study will not require the additional approval of your institution's IRB. However, institutional IRB requirements can vary. Please check with a representative of your institution's IRB for any additional requirements.

If this sounds like something you'd be interested in, please hit "Reply" to this email to get more information. If you know of a colleague in your institution who might also be interested, please forward this email to him or her.

I will be happy to answer any questions you have about the study. You may contact me at 619-873-5906 or tammykd@sandiego.edu. You can also contact my dissertation Chairperson, Dr. Linda Urden, at (619) 260-7609 or urden@sandiego.edu.

Thank you for your consideration.

Tammy Doolittle, MS, RN

PhD Candidate

Hahn School of Nursing and Health Science

University of San Diego

Appendix D

**University of San Diego
Institutional Review Board**

Research Participant Consent Form

For the research study entitled:
Avoiding Hospital-Acquired Conditions: A Qualitative Analysis of Early Top Performers

I. Purpose of the research study

Tammy Doolittle is a student in the Hahn School of Nursing and Allied Health Science at the University of San Diego. You are invited to participate in a research study she is conducting. The purpose of this research study is to answer the question "What factors do stakeholders at highest performing health care organizations attribute to success in keeping patients safe from events that should never happen in the hospital? "

II. What you will be asked to do

If you decide to be in this study, you will be asked to participate in a private interview about your perceptions on the efforts in your organization to avoid hospital-acquired conditions. You will be audiotaped during he interview. The interview consists of eleven questions, like "Can you describe the events leading up to these results?" You will also be asked to share documents you feel portray the organization's approach to this topic. Additionally, you will be asked basic questions about your role and tenure at the hospital, your profession, and your reporting structure. You may also be asked to identify others at your facility having roles critical to hospital-acquired condition outcomes.

Your participation in this study will take a total of 60 minutes.

III. Foreseeable risks or discomforts

a) This study involves no more risk than the risks you encounter in daily life.

IV. Benefits

While there may be no direct benefit to you from participating in this study, the indirect benefit of participating will be knowing that you helped researchers better understand your organization's success in keeping patients safe from events that should never happen in hospitals.

V. Confidentiality

Any information provided and/or identifying records will remain confidential and kept in a locked file and/or password-protected computer file in the researcher's office for a minimum of five years. All data collected from you will be coded with a number or pseudonym (fake name). Your real name will not be used. The results of this research project may be made public and information quoted in professional journals and

meetings, but information from this study will only be reported as a group, and not individually.

VI. Compensation

You will receive no compensation for your participation in the study.

VII. Voluntary Nature of this Research
Participation in this study is entirely voluntary. You do not have to do this, and you can refuse to answer any question or quit at any time. Deciding not to participate or not answering any of the questions will have no effect on any benefits you're entitled to, like your health care, or your employment or grades. **You can withdraw from this study at any time without penalty.**

VIII. Contact Information
If you have any questions about this research, you may contact either:

1) Tammy Doolittle
Email: tammykd@sandiego.edu
Phone: 619-873-5906

2) Dr. Linda Urden, dissertation chairperson
Email: urden@sandiego.edu
Phone: (619) 260-7609

I have read and understand this form, and consent to the research it describes to me. I have received a copy of this consent form for my records.

_____

Signature of Participant   Date

_____

Name of Participant (**Printed**)

_____

Signature of Investigator   Date

Appendix E

Interview Guide

This research looks at the first reporting period for the Hospital Value-Based Purchasing

CMS HAC Reduction Program based on 2011 to 2013 HAC performance on the PSI 90

and CLABSI and CAUTI measures. Your hospital shows top performance.

- Could you describe the events leading to these results?

    o Describe who was involved and how?

- Describe other changes were going on in the hospital then?

    o Describe the impact of these changes?

- What structures were in place or needed to be put in place to address these

    efforts?

    o How does technology play a part in this process?

    o Did you have help from any outside organization or group?

    o What impact did that have?

- How could others achieve better outcomes?

- Is there anything we didn't cover that you would like share with me?

- What questions do you have for me?

Key

- Semi-structured interview questions

    o Additional probing questions if needed

Appendix F

Demographic Data Form

Instructions: Please fill in or circle the best response below. Please do <u>not</u> put your name or your institution's name anywhere on this form.

1. Professional background:

    a. Nurse

    b. Physician

    c. None

    d. Other: _____

2. Years in your profession: _____

3. Highest educational degree obtained: _____

4. Current role: _____

5. Years in current role: _____

6. Educational requirement for role: _____

7. Role of the person to whom you report: _____

8. What is the job title/role of the person at your facility who has the responsibility of reporting quality outcomes to the Board of Directors?_____

9. What professional affiliation does the above role require?

    a. Nurse

    b. Physician

    c. None

    d. Other

Appendix G

Facility Demographics

Facility Demographics (California Office of Statewide Health Planning and Development, 2015b)	Fac. 1	Fac. 2	Fac.3
Bed Size (range)	100-149	300-499	300-499
Type of Control/Emergency Services	Government/ Basic	Not-for-profit/Basic	Not-for-profit/Trauma Level II
Affiliation/Full Integration	Small local system/No	Large national system/Yes	Large national system/No
Average Length of stay (days)	12.9	3.6	4.1
Annual Discharges	3,015	27,845	13,339
Scheduled Visits (percent)	8.39	15.96	10.3
Unscheduled Visits (percent)	91.58	67.94	69.71
Infant Visits	0.03	16.10	19.96
Payer (percent)			
Medicare	59.64	35.60	23.23
Medi-Cal	17.45	4.28	57.79
Patient Race by Frequency: (percent)			
1	White: 51.71	White 60.02	White: 67.32
2	Asian/Pac. Isl.: 18.67	Other: 23.16	Black: 16.37
3	Black: 14.83	Asian/Pac. Isl.: 9.17	Other: 7.23
Ethnicity (percent)			
Hispanic	5.7	25	47.87
Non-Hispanic	94.03	74.79	48.83
Primary Language by Freq.: (percent)			
1	English: 86.57	English: 92.28	English 82.90
2	Cantonese: 4.25	Spanish: 6.50	Spanish 16.82

Appendix H

IRB Approval

University
of San Diego

ENTERED

Institutional Review Board
Project Action Summary

Action Date: November 10, 2015   *Note: Approval expires one year after this date.*

Type: New Full Review   X   New Expedited Review ___ Continuation Review ___Exempt Review
_____Modification

Action: _X__Approved   ___Approved Pending Modification   ___ Not Approved

Project Number: 2015-11-051
Researcher(s):   Tammy Doolittle Doc SON
                    Dr. Linda Urden Fac SON
Project Title: Avoiding Hospital-Acquired Conditions: A Qualitative Analysis of Early Top Performers

*Note: We send IRB correspondence regarding student research to the faculty advisor, who bears
the ultimate responsibility for the conduct of the research. We request that the faculty
advisor share this correspondence with the student researcher.*

Modifications Required or Reasons for Non Approval

None

The next deadline for submitting project proposals to the Provost's Office for full review is N/A. You may submit
a project proposal for expedited review at any time.

_____
Dr. Thomas R. Herrinton
Administrator, Institutional Review Board
University of San Diego
herrinton@sandiego.edu
5998 Alcalá Park
San Diego, California 92110-2492

Office of the Executive Vice President and Provost
Hughes Administration Center, Room 214
5998 Alcalá Park, San Diego, CA 92110-2492
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Appendix I

University of San Diego®

Fwd: Alfred Publishing - Thank you for submitting your request
1 message

From: **Alfred Permissions** <Permissions@alfred.com>
Date: Thu, Jul 28, 2016 at 2:37 PM
Subject: RE: Alfred Publishing - Thank you for submitting your request
To: Tammy Doolittle <tammykd@sandiego.edu>

Hi Tammy,

Thank you for your request.

I am happy to inform you that due to the educational/classroom nature of this usage it would be deemed FAIR USE. You are clear to use the lyrics as requested and we wish you the best with your dissertation.

Thank you for respecting the rights of our artists and copyright law.

Sincerley,

Michael Worden

Copyright Resource Administrator
Alfred Music

P.O. Box 10003 • Van Nuys, CA 91410-0003
(818) 891-5999 x269 | (818) 450-0746 fax

From: Tammy Doolittle [mailto:tammykd@sandiego.edu]
Sent: Thursday, July 14, 2016 10:06 AM
To: Alfred Permissions <Permissions@alfred.com>
Subject: Re: Alfred Publishing - Thank you for submitting your request

Attached are the pages prior to the partial quotation of Joni Mitchell's "Both Sides, Now" as requested in the above referred submission.

I appreciate your consideration.

Tammy Doolittle

On Thu, Jul 14, 2016 at 7:43 AM, <permissions@alfred.com> wrote:

> Thank you for contacting the Alfred Music Publishing Co., Inc. Permissions Department. You will receive a first response from us within 45 days.
>
> Your reference number is: Print_160714_10.
>
> *Please note that each request is responded to in the order in which it is was received. We are working diligently to ensure each request is responded to in a timely manner.*
>
> PLEASE DO NOT SEND MULTIPLE DUPLICATES OF THE EXACT SAME REQUEST AS THIS WILL CREATE UNNECESSARY BACKLOG.
>
> Thank you again for your patience and your patronage. We look forward to assisting you with this and future inquiries.
>
> Sincerely,
>
> ALFRED MUSIC PUBLISHING CO., INC
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