

Perceptions of Patient Safety:
What Influences Patient and Provider Involvement?

by

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DEDICATION

For my parents, Alan and Carine Scobie

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ABSTRACT

Introduction

Patient safety strategies have traditionally involved the promotion of provider-oriented practices aimed at reducing known risks associated with surgery, infection, and continuity of care. With the knowledge that patient safety incidents can significantly impact patients, providers, and health care organizations, greater emphasis on patient involvement as a means to mitigate risks warrants further research.

Objectives

The primary objective of this research was to determine the relationship between perceptions of patient safety and the likelihood of patient involvement in both factual and challenging patient safety practices.

Methods

This mixed methods study was conducted at two tertiary hospital sites located in Atlantic Canada between February 2011 and January 2012. The study design was the sequential explanatory model of mixed methods design, integrating both quantitative survey methods and qualitative focus group methods for both patient and provider participants. Survey data were analyzed using descriptive statistics and partial least squares (PLS) analysis. Focus group sessions were transcribed and analyzed using thematic analysis. The development and analysis of this research was guided by the Health Belief Model.

Results

Overall, patients were more willing to engage in factual patient safety practices (e.g., asking questions of their doctors) than challenging patient safety practices (e.g., asking a provider if they have washed their hands). The patient PLS analysis revealed relationships between patient perceptions of threat and self-efficacy and the performance of factual and challenging patient safety practices, explaining 46% and 42% of the variance, respectively. The provider PLS model found that perceptions of safety culture accounted for 34% of the variance in perceptions of threat and 42% of the variance in perceptions of barriers versus benefits. Thematic analysis resulted in the identification of four major themes for both patient and providers related to the phenomenon of patient involvement. Quantitative and qualitative results were complementary in nature.

Conclusions

Perceptions of patient safety were shown to influence both patient and provider likelihood in engaging in selected patient safety practices. Greater understanding of the roles that perceptions play in patient involvement in their care may help to improve the safety and quality of care delivered.

LIST OF ABBREVIATIONS AND SYMBOLS USED

| | |
|----------------|---------------------------------------------------|
| AVE | Average Variance Extracted |
| CAD | Canadian Dollar |
| CAPS | Consumers Advancing Patient Safety |
| CPSD | Canadian Patient Safety Dictionary |
| CPSI | Canadian Patient Safety Institute |
| FG | Focus Group |
| HBM | Health Belief Model |
| ICU | Intensive Care Unit |
| IOM | Institute of Medicine |
| LOS | Length of Stay |
| LPN | Licensed Practical Nurse |
| MD | Medical Doctor |
| MLE | Maximum-Likelihood Estimation |
| PLS | Partial Least Squares |
| PCC | Patient-Centered Care |
| QALY | Quality Adjusted Life Year |
| Qual | Qualitative |
| Quan | Quantitative |
| RN | Registered Nurse |
| RPh | Registered Pharmacist |
| SAQ | Safety Attitudes Questionnaire |
| SD | Standard Deviation |
| SE | Standard Error |
| SEIPS | Systems Engineering Initiative for Patient Safety |
| SEM | Socio-Ecological Model |
| TPB | Theory of Planned Behavior |
| US | United States |
| USD | United States Dollar |
| UK | United Kingdom |
| VHA | Voluntary Hospitals of America |
| WHO | World Health Organization |
| α | Alpha |
| n | Number of Observations |
| p | Probability |
| $\sqrt{\quad}$ | Square Root |

GLOSSARY

Accident: The Oxford English Dictionary defines an accident as “an unfortunate incident that happens unexpectedly and unintentionally, typically resulting in damage or injury” (Oxford Dictionaries, 2010). This definition assumes that the action was unexpected, and thus not able to be predicted or prevented. However, within a systems view of patient safety this is not always the case. In the context of patient safety, an accident is defined as “an adverse outcome that was not caused by chance or fate” (Davies, Hebert, & Hoffman, 2003, p.34). Additionally, it is stated that most accidents and their contributing factors are predictable, and thus can be anticipated and mitigated through organizational and system changes.

Adverse event: This term has been utilized in a number of different contexts within health care and can describe anything from increased use of health care resources to unexpected death. An adverse event has been defined in a number of ways, including unintended injuries, commission of inappropriate treatment or omission of appropriate treatment, and inappropriate health care management that causes harm (Davies, Hebert, & Hoffman, 2003). The term adverse event is one of the most ambiguous terms in relation to patient safety, as it does not specify the actual occurrence. As such, the Canadian Patient Safety Dictionary (CPSD) lists three acceptable definitions related to adverse event: (1) an unexpected and undesired incident directly associated with the care or services provided to the patient, (2) an incident that occurs during the process of providing health care and results in patient injury or death, and/or (3) an adverse outcome for a patient, including injury or complication (Davies, Hebert, & Hoffman, 2003, p.39).

Incident: This term has a much more broad definition and can include system, process, or outcome events. The CPSD defines incidents as “including events, processes, practices, or outcomes that are noteworthy by virtue of the hazards they create for, or the harms they cause, patients” (Davies, Hebert, & Hoffman, 2003, p.42). Therefore, incidents can be either the event that led to the harm, the harm itself, or both. Furthermore, the term does not necessarily refer to an individual decision or a certain level of predictability. As such it can be more broadly interpreted than the other terms described here.

Medical error: The term “error” has fallen out of favour with many patient safety organizations due to the connotation of blame that it carries at an individual level. Medical error is not defined any differently than error: “the failure to complete a planned action as it was intended, or when an incorrect plan is used in an attempt to achieve a given aim” (Davies, Hebert, & Hoffman, 2003, p.31). It is important then to highlight that an error does not necessarily encompass an adverse outcome or harm to a patient. However, it does often refer to an individual error, rather than a systems error.

Patient Safety Incident: For the purposes of this research the term “patient safety incident” has been used. The operational definition ascribed to this term is “an unintended, undesired and preventable incident that happens during the process of providing health care and results in patient injury or death.” This term was settled upon due to the ability to use the term “incident” to describe a number of different practices

and outcomes within the health care system. The definition incorporates different ideas and aspects from the four terms previously defined, including preventability from the term “accident” and the provision of care from the term “adverse event.” It was important in this research to create a term and definition that was easily understood and accessible by patients, as opposed to a more health care-related concept like adverse event.

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CHAPTER 1 INTRODUCTION

1.1 WHY PATIENT INVOLVEMENT?

Patient involvement in patient safety is paramount to achieving patient safety targets set out by both domestic and international bodies (Institute of Medicine, 1999; Koutantji, Davis, Vincent, & Coulter, 2005; Vincent & Coulter, 2002; World Health Organization, 2012). While provider-oriented strategies are important in ensuring the long-term safety of patients while hospitalized, patient involvement provides an opportunity to address gaps in information and continuity of care, diagnostic accuracy, appropriateness of treatment options, disease management techniques, and monitoring of adverse events (Vincent & Coulter, 2002). With a lack of accessible and complete patient safety records within Canada, patient involvement is important as patients are often the one consistent factor in their health care. Ensuring that patients have the information and knowledge needed to act as an advocate for themselves may help to decrease patient safety incidents associated with health care provider handoffs and long-term management of chronic diseases (Bergeson & Dean, 2006; Holman & Lorig, 2004).

While some critics have warned that greater patient involvement in patient safety may place undue burden on patients during times of duress (Entwistle, Mello, & Brennan, 2005; Lyons, 2007), research has found that many patients are already involved in their care while hospitalized to varying degrees. For example, research from the United States suggests that patients are willing to participate in patient safety strategies aimed at increasing their knowledge of health care, such as asking questions of their physicians and nurses while hospitalized (Davis, Jackline, Sevdalis, & Vincent, 2007; Davis, Koutantji, & Vincent, 2008; Marella, Finley, & Tomas, 2007; Waterman et al., 2006).

However, patients are less likely to engage in practices they view as challenging to health care provider knowledge or skill, suggesting that patients may feel uncomfortable involving themselves in such ways. Research has also found that patient involvement in patient safety is influenced by an array of factors associated with patient, illness, provider, and environmental characteristics (Davis, Jackline, Sevdalis, & Vincent, 2007). Furthermore, demographic factors such as being employed, female, younger, and university educated all have been found to be associated with higher rates of patient involvement in their care (Davis, Jackline, Sevdalis, & Vincent, 2007; Davis, Koutantji, & Vincent, 2008; Marella, Finley, & Tomas, 2007; Waterman et al., 2006). Given these results, it is clear that patient involvement in patient safety is complex in nature and patients may require further support and knowledge from health care providers to ensure engagement.

Currently, the role that health care providers and organizations play in ensuring patient involvement in patient safety is not well understood, with health care provider strategies often excluding the role that patients can play as an integral team member in patient safety. On the whole, patient involvement in patient safety has been passive and characterized by patient-initiated learning (Entwistle, Mello, & Brennan, 2005), with greater emphasis placed on provider-oriented strategies and risk reduction (Leape, Berwick, & Bates, 2002). As such, greater integration of patient and provider strategies is required to ensure seamless transitions of care and improve patient knowledge. Actively involving patients in the patient-provider encounter through a better understanding of patient and provider perceptions may help to improve active patient involvement in patient safety. Ultimately, the aim of patient involvement in patient safety is to improve

patient-provider communication, patient self-management and outcomes, and provide patients with the support necessary to become integral team members in their care.

1.2 FINDING THE PATIENT IN PATIENT SAFETY

According to the Canadian Patient Safety Dictionary, patient safety is defined as “the reduction and mitigation of unsafe acts within the health-care system, as well as through the use of best practices shown to lead to optimal patient outcomes” (Davies, Hebert, & Hoffman, 2003, p.12). This traditional viewpoint of the patient safety movement in Canada and worldwide has focused on improving safety through provider-oriented practices, such as the reporting of adverse events, a renewed awareness of hand-washing practices, and improved continuity of care (Burke, 2003; Cook, Render, & Woods, 2003; Leape, Berwick, & Bates, 2002). Until recently, the role of the patient as an integral team member in ensuring and promoting patient safety has largely been overlooked. In Canada, the Canadian Patient Safety Institute (CPSI) has taken a lead in educating health care practitioners and the public on patient safety and quality of care issues. The CPSI was established in 2003 as an independent, not-for-profit organization aimed at providing leadership in patient safety and advancing a safer health care system for Canadians (Canadian Patient Safety Institute, 2012a). The CPSI has created a number of educational materials for patients including *Ask. Listen. Talk.*, a tip sheet aimed at promoting safer health care through greater involvement of patients in their treatment plans (Canadian Patient Safety Institute, 2012b). Similar patient safety strategies have also been employed throughout Canada by provincial patient safety bodies, including the Manitoba Institute for Patient Safety, the Health Quality Council of Alberta, the British Columbia Patient Safety and Quality Council, and the Nova Scotia Quality and Patient

Safety Advisory Committee. Nonetheless, the role of patients within the patient safety continuum, while acknowledged, has yet to be fully explored within the Canadian context.

Internationally, the Joint Commission in the United States launched a national campaign in 2002 called *Speak Up* (2012), which urges patients to take a more active role in their medical treatment. It advises patients to educate themselves about their illness and to ensure they are receiving appropriate medical care by asking questions, taking notes, and keeping up-to-date and accurate information about their health care readily available. The primary tool of this campaign is the distribution of pamphlets to help patients become more informed and involved in their health care through a better understanding of risks and how to minimize them. The World Health Organization (WHO) has launched a similar campaign called *Patients for Patient Safety* (World Health Organization, 2012), as has the Memorial Health System in Illinois with the *It's Ok to Ask* program, in which five key areas are addressed through their website and dissemination of brochures: (1) infection control, (2) reducing medication errors, (3) preventing falls, (4) safe health care at home, and (5) improved communication (Memorial Health System, 2010). Finally, Consumers Advancing Patient Safety (CAPS) has put together a comprehensive toolkit for patients and their families entitled *Taking Charge of your Healthcare: Your Path to Being an Empowered Patient* (Consumers Advancing Patient Safety, 2012). This toolkit is aimed at easing stress and empowering patients to ask questions during the transition from hospital to community care. All of these international initiatives mirror the medium and intent of their Canadian equivalents.

Ultimately, they run into the same problem: just how effective are pamphlets at creating awareness of patient safety for patients? Furthermore, how well do they inspire action?

1.3 PURPOSE AND SIGNIFICANCE OF RESEARCH

The importance of patient safety has been demonstrated through the wide adoption of strategies aimed at increasing the safety and quality of health care and reducing the impacts of unsafe events within Canada and worldwide. While patient safety strategies aimed at patients have largely taken the format of information pamphlets, tip sheets, and brochures, it is unknown how well the information contained within them is followed by patients or mirrored by their motivations. Essentially, do written instructions and tips really translate into modified behaviour when the aim should be to encourage active involvement of patients and to close the loop between health care organizations, providers, and the patients they care for? Furthermore, while patient-oriented strategies do exist in Canada, to what extent is patient involvement actually encouraged by health care providers and health care organizations?

The purpose of this research is to better understand how and why patients become involved in their care while hospitalized and whether perceptions of patient safety and health care provider behaviour play a role in patient engagement in patient safety practices. Patient safety practices include practices and behaviours performed by organizations, health care providers, and patients that are aimed at improving patient safety. This research examines patient involvement in both factual (e.g., asking questions regarding treatment) and challenging (e.g., asking a health care provider if they have washed their hands) patient safety practices to better understand patient likelihood of action and the role of perceptions in the performance of these behaviours.

The specific research question addressed is:

- Do perceptions of patient safety influence patient involvement in patient safety practices?

To address this overarching question, the following investigative questions were explored:

- What are patient perceptions of factual and challenging patient safety practices?
- To what extent are patients involved in patient safety practices?
- Do health care provider perceptions influence patient involvement in patient safety practices?
- What effect do health care provider behaviours have on patient perceptions of patient safety?
- How do patients want to become involved in patient safety?
- What are the best strategies for involving patients in patient safety practices?
- How do health care provider and patient perceptions of patient safety differ and how does this affect patient involvement?

This research was guided by the Health Belief Model (HBM) as a framework to understand how perceptions of benefits versus barriers, threat, cues to action, and self-efficacy play a role in the likelihood of patients becoming involved in patient safety practices. The application of the HBM to patient involvement in patient safety is novel and provided the opportunity to both explain past patient involvement in patient safety practices and predict future patient involvement. Both patient and health care provider experiences were explored using survey and focus group methods to better understand the phenomenon of patient involvement in patient safety and the role that organizational culture, provider perceptions, and patient experience play in shaping patient perceptions.

In exploring these questions, this research addresses a number of significant issues for both the research community and health care stakeholders alike. Firstly, the study of both health care provider and patient perceptions is important to ensure that patient safety strategies address the role that the patient-provider encounter plays in involving patients in their care. Since this interaction is inherent within health care, it is essential to address how patient involvement can be shaped by health care providers and vice versa. This knowledge will help to improve understanding of the role of the health care encounter within patient safety and to build upon existing research on shared decision-making and patient-centered care. Secondly, although current knowledge has provided guidance regarding which strategies patients are more likely to engage in, little is known about how patient perceptions of patient safety influence the performance of patient safety behaviours. Understanding the role that perceptions and motivations play in patient involvement is critical in that it allows health care providers and decision-makers to address these perceptions to positively influence them. As such, illuminating the patient view of patient safety will ultimately allow for greater tailoring of patient safety initiatives and more strategic involvement of patients in their care. Furthermore, this research aims to provide a framework for understanding these perceptions, which can then be used by both decision-makers and researchers to address deficiencies within current strategies and provide guidance for future strategies. Ultimately, this research aims to further the understanding of what facilitates or hinders patient involvement in their care and safety, which many believe is essential to producing successful patient safety initiatives (Davis, Jackline, Sevdalis, & Vincent, 2007; Vincent & Coulter, 2002). In doing so, this study is intended to close the loop between health care organizations,

providers, and patients in understanding perceptions of patient safety and how they influence patient involvement in patient safety practices.

Finally, patient engagement in patient safety has the potential to increase patient satisfaction and quality of care. It is hoped that the outcome of this research will directly benefit patients through greater collaboration with their health care providers and through an increased understanding of how to successfully involve patients in patient safety practices. Fundamentally, the exploration of patient safety perceptions among patients and health care providers is expected to lead to valuable insights and a greater understanding of the issue of patient involvement in patient safety in Canada.

CHAPTER 2 LITERATURE REVIEW

The Canadian Adverse Event Study, released in 2004, brought the impact and importance of patient safety in Canada into focus (Baker, Norton, Flintoft, & Blais, 2004). An adverse event incidence rate of 7.5% in adult hospitalized patients in Canada has become a target for reduction, as have the major events and processes found to be most responsible for adverse events. As a result, patient safety has been increasingly coupled with a renewed effort to improve the quality of health care delivered to Canadians and to establish best practices. Many patient safety strategies within the hospital setting have focused on patient identification, surgical site identification, wound management, continuity of care, sound-alike drug names, drug labeling and storage, and allergy identification (Burke, 2003; Cook, Render, & Woods, 2003; Nolan, 2000). While provider and system characteristics are important in understanding and improving patient safety, patient characteristics must also be taken into account when endeavoring to understand patient involvement in patient safety. As such, the following review has been organized into three components of patient involvement in patient safety: (1) system factors, (2) health care provider factors, and (3) patient factors.

2.1 SYSTEM FACTORS

This section examines the system design and characteristics required for greater patient safety, and introduces measurements of safety culture that can aid in understanding how patient safety is perceived and encouraged within an organization. As both health care providers and patients interact within a health care organizational context, it is important to understand why patient safety incidents occur and how organizational culture measurement can be used to mitigate further incidents.

2.1.1 System Design

Organizational system problems have been highlighted as primary cause of safety issues within health care (Institute of Medicine, 1999; Nolan, 2000). A systems argument for patient safety suggests that incidents are more likely to occur when organizational safeguards that are normally in place fail. One of the most widely accepted models of systems failures in health care is the “Swiss Cheese Model” of system accidents (Reason, 2000). This model posits that there are both active failures and latent conditions within a system that lead to incidents occurring. Within this model, active failures are characterized as unsafe acts that are committed by persons who have direct contact with patients. These failures are often easy to identify as root causes once an incident occurs and often involve the “blame and shame” of individuals. However, Reason (2000) notes that many incidents have a long causal history of latent conditions that predispose a system to failures and allow active failures to occur. These conditions are important when considering system design, as they are often identifiable and manageable. Management of incidents should, therefore, be based on creating safe systems that can proactively mitigate incidents from occurring by identifying and correcting latent conditions.

Nolan (2000) expands on the concepts raised by Reason and argues that when designing systems of care to be safer, organizations should focus on three main tasks: (1) designing the system to prevent errors, (2) designing procedures to make errors visible when they do occur so that they may be intercepted, and (3) designing procedures for mitigating the adverse effects of errors when they are not detected and intercepted. This research also provides examples of how to effectively perform these three tasks, including improving organizational and work environments, using patients as a resource

for information and “double checking,” and implementing processes that can help to halt and reverse harm to patients.

Classen and Kilbridge (2002) provide further detail on these concepts, suggesting seven essential components for safe health care delivery based on high-performing organizations: (1) governance and leadership, (2) a culture of safety, (3) creating a learning environment, (4) defining patient safety program objectives, (5) designing safe processes, (6) implementing processes, and (7) measuring and monitoring. It is clear from these seven components that promotion and enhancement of patient safety must come from a variety of sources and levels within an organization, with input and support required from front-line health care providers and senior leadership. As such, patient safety cannot be achieved through the introduction of stand-alone behaviours and practices, but rather must be integrated into everyday operations and culture.

The Systems Engineering Initiative for Patient Safety (SEIPS) model provides an overarching framework for systems design within patient safety (Carayon et al., 2006). The SEIPS model attempts to explain the interactions between health care providers and patients within a health care environment that includes technology, tools, tasks, processes, and outcomes. As such, the model emphasizes how a system should be designed around individuals in order to facilitate performance and reduce negative consequences. This particular model also includes the patient as a key component of the interaction between individuals and their environment, acknowledging that patients often play a role in the provision of their treatment. It is posited that greater understanding of these interactions between individuals and their work system, and the impact on patient

and provider processes and outcomes, better equips system designers to improve the likelihood of obtaining a healthy work environment where patient safety is enhanced.

Reducing gaps in the continuity of care has also been studied as a means to help mitigate errors. Continuity of care has been described in a number of different contexts, including primary care, mental health, nursing, and disease management, with two main components reported: (1) care of an individual patient and (2) care delivered over time (Haggerty et al., 2003). Furthermore, three types of continuity of care have been identified, including (1) informational continuity, (2) management continuity, and (3) relational continuity. All three types of continuity play different roles in ensuring that gaps are diminished, including having important medical information available, ensuring coordination of care, and providing for ongoing relationships with health care providers.

Gaps are common occurrences in health care and are often bridged through policies and procedures mandated by an organization, such as shift change protocol (Cook, Render, & Woods, 2003). Most of the time these bridges are successful; however, they also create opportunities for patient safety incidents to occur. Patient information may be lost or lapses in continuity of care may present themselves when organizational conditions create obstacles to bridging. Cook et al. (2003) suggest that incidents occur because of conditions that overwhelm or nullify practitioner abilities to cope with gaps. As such, strategies that help to understand practitioner abilities to detect and cope with distractions and hazards may be useful in reducing patient safety incidents. Gaps in continuity of care during and following hospital discharge have also been noted as a significant source of patient safety incidents and unnecessary hospital readmission (Dhalla, O'Brien, Ko, & Laupacis, 2012; Kripalani et al., 2007). System policies,

therefore, not only need to be established for bridging gaps within the hospital setting, but must also ensure that gaps between health care settings are adequately prevented.

Continuity of care has also been linked with greater patient satisfaction with care received. Hjortdahl and Laurum (1992) examined continuity of care, operationalized as the length and intensity of interaction with one physician, and found that patients who had an ongoing relationship with a health care provider had a sevenfold odds ratio of patient satisfaction. With evidence confirming that patients who are more satisfied with their care are more compliant with their treatment (Wroth & Pathman, 2006), and are more trusting of their health care provider (Mainous, Baker, Love, Gray, & Gill, 2001), patient perceptions of continuity are an important system consideration.

2.1.2 Measuring Safety Culture

With the realization that the health care encounter presents a number of risks to patients, safety culture has become an important facet of delivering safe care. Safety culture has been defined as “the product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine commitment to, and the style and proficiency of, an organization’s health and safety management” (Advisory Committee on Safety of Nuclear Installations, Health and Safety Committee, 1993). Research has identified perceptions of management support and actions as an important indicator of whether employee behaviour and organizational performance uphold a safety culture (Griffiths, 1985; Zohar, 1980). As such, it is important for management action and communication to be consistent in delivering the message that safety is an important issue within the organization. However, mistrust of management may ultimately undermine goals to improve the adoption of safety beliefs and behaviours within an

organization (Clarke, 1999). It is imperative that the development of a safety culture goes hand-in-hand with the promotion of a trusting and accountable organizational culture.

Within health care, tools have been developed as a means to better understand the role that safety culture plays in promoting and sustaining patient safety. Flin et al. (2006), in a comprehensive review of safety culture questionnaires, identified ten common dimensions of safety culture, including: (1) management and supervision, (2) safety systems, (3) risk perception, (4) job demands, (5) reporting and speaking up, (6) safety attitudes and behaviours, (7) communication and feedback, (8) teamwork, (9) personal resources, and (10) organizational factors. Nieva & Sorra (2003) have also identified a number of uses of safety culture assessment in health care organizations, including (1) diagnosing safety culture to identify areas for improvement and raise awareness (2) evaluating interventions and changes over time, (3) conducting benchmarking, and (4) fulfilling regulatory requirements. The authors go on to say that in order to achieve the maximum benefit when conducting assessments, critical processes including involving key stakeholders, selecting a suitable assessment tool, using appropriate and effective data collection procedures, and implementing actions plans and initiating change must be carried out.

Safety culture can be measured in a number of ways, including individual health centre audits, questionnaires, and focus groups. The Safety Attitudes Questionnaire (SAQ), developed by the University of Texas (Sexton, Helmrich, & Neilands, 2006), incorporates constructs from Vincent's (1998) framework for analyzing safety and Donabedian's (1988) model for assessing quality. The SAQ has been adapted in a number of areas, including intensive care units (ICU) and ambulatory care, and can be

used to compare safety cultures across different units. Furthermore, the SAQ includes open-ended questions that can help to elicit provider feedback on recommendations for how to improve safety culture.

Singer et al. (2003) conducted a safety culture assessment of 15 hospitals in California using their Stanford/PSCI culture survey. This tool was created through the analysis and compilation of a number of previously validated and reliable tools that were unit or sector specific. The survey is aimed at assessing organizations on a number of dimensions of safety culture, including rewards and punishment, risk perception, fatigue and stress, employee training, and time and resources. In addition, the survey is divided into five different factors of safety culture: (1) organization, (2) department, (3) production, (4) reporting/seeking help, and (5) shame/self-awareness. The questionnaire is constructed entirely of close-ended questions and has been extensively piloted and tested on large sample size of respondents.

Qualitative methods have also been used to develop a framework to analyze safety culture within organizations. The Manchester Patient Safety Assessment Framework (Ashcroft, Morecroft, Parker, & Noyce, 2005) was developed to be used in a workshop setting, providing discussion points on a number of dimensions, including (1) commitment to patient safety, (2) perceptions of the causes of incidents and their reporting, (3) investigating incidents, (4) learning following an incident, (5) communication, (6) staff management and safety issues, (7) staff education and training about risk management, and (8) team work. Participants are asked to rate their organizational safety culture individually based on a five-point scale that ranges from a pathological culture to a generative culture. Scores are then brought to the rest of the

group for discussion. This approach works very well for targeting interventions and engaging clinical staff; however, there is a lack of data regarding the validity and reliability of this approach (Fleming & Hartnell, 2007).

While the previous three examples target direct provider and clinician input for measuring safety culture, a fourth approach incorporates feedback from all levels of an organization, including managers and high-level administration. The Strategies for Leadership tool developed by the Voluntary Hospitals of America (VHA, 2000) aims to provide a report card on an organization's safety culture based on seven dimensions: (1) leadership, (2) strategic planning, (3) information and analysis, (4) human resources, (5) process management, (6) patient and family involvement, and (7) overall summary of key safety aspects. Team members are instructed to review each dimension themselves and then discuss their findings with the rest of the team. Each member is asked to assign a grade from A to E, indicating the level of implementation and discussion of each dimension within the organization. Hospitals are also able to compare their results with other organizations due to the inclusion of demographic information at the end of the tool. Dimensions are then scored and teams are instructed to identify three to five low scoring activities and develop improvement plans to be implemented throughout the organization, with annual measurements encouraged to evaluate progress. As with the Manchester tool, the strength of the VHA audit is that it is solutions-based, with the aim to assess deficiencies and correct them. Furthermore, it provides the opportunity for discussion across the spectrum of health care personnel with the inclusion of both clinicians and administrators.

Fleming (2005) provides a ten-step process for successful safety measurement and implementation in health care through a comparison and analysis of patient safety culture instruments. These ten elements aim to ensure greater success of the application of safety culture to health care through lessons gleaned in other high-risk sectors, such as nuclear energy and aviation. The ten elements include: (1) building capacity, (2) selecting an appropriate survey instrument, (3) obtaining informed leadership support, (4) involving health care staff, (5) survey distribution and collection, (6) data analysis and interpretation, (7) feedback of results, (8) agreeing on interventions via consultation, (9) implementing interventions, and (10) tracking changes. The author cautions that while safety culture assessments are important and can result in positive changes, improper measurement and implementation can have negative impacts on advances made. As such, it is important for organizations to carefully consider safety culture measurement and to ensure ongoing support from staff and management.

2.2 PROVIDER FACTORS

This section explores the concept of patient-centered care and the characteristics of the patient-provider encounter that can help facilitate or create barriers to patient involvement. Patient-centered care principles emphasize greater involvement of patients in their care, and as such create an ideal environment for greater patient engagement in patient safety.

2.2.1 Patient-Centered Care

Patient-centered care (PCC) has been defined as “the extent to which health care professionals select and deliver interventions that are responsive to the needs of

individual patients” (Sidani, 2008, p.25). PCC gained a strong foothold as an innovative approach to delivering health care in the Institute of Medicine (IOM) report *Crossing the Quality Chasm* (Institute of Medicine, 2001). In this report, PCC was introduced as a means to enhance patient involvement in, and comfort with, their health care, seeking to establish best practices in areas that have been traditionally lacking in a provider-oriented system. Several suggestions have been made to help incorporate PCC into existing health care systems, including using multiple routes of patient access to providers, maintaining electronic medical records, utilizing patient self-assessment of health status and patient goal-planning tools, and appointing care coordinators and patient navigators for patients with chronic conditions (Bergeson & Dean, 2006). Several components of PCC have been identified in the literature with two predominant components emerging: (1) patient participation in care and (2) individualization of care (Sidani, 2008). Both of these components have the propensity to greatly factor into patient safety.

Research over the past decade has begun to establish empirical evidence on the impact of PCC on patient care and satisfaction. A study conducted by Little et al. (2001) aimed to better understand patient preferences for PCC and whether preferences for PCC outrank preferences for traditional biomedical services during physician consultation. To do so, patients were given pre- and post-consultation questionnaires that addressed patient characteristics and asked patients to rank the consultation on different domains of PCC. The study found that three main domains of a consultation process impacted patient response: (1) communication, (2) partnership, and (3) health promotion, with all three domains explaining 91% of respondent variance. These three domains highlight the

expectations that patients may have going into a health care provider encounter and also provide further evidence for the need to involve patients in their health care.

While patients may indicate that they would like to receive PCC during an encounter, further evidence proves that patients are also able to identify provider practices as patient-centered. Sidani (2008), in a study of acute care hospital patients, found that patient perceptions of PCC were influenced by whether they had participated in their care and whether they felt their provider had attended to their needs and resolved their problems. The study also showed moderately improved physical, psychological, and social function outcomes with the provision of PCC at three time intervals, suggesting that PCC may help to improve patient outcomes through a greater ability to manage symptoms and provide self-care. These findings echo results from a study conducted by Stewart et al. (2000) that found patient perceptions of patient-centeredness were associated with improved health status and increased efficiency of care through a reduction in diagnostic testing and referrals.

2.2.2 Patient-Provider Encounter

The patient-provider encounter must also be shifted toward greater patient involvement in care. This may be a significant hurdle to the adoption of PCC, as a reshaping of the traditional patient-provider relationship must take place (Berntsen, 2006). The IOM has developed new rules designed to provide a framework for this transformation to take shape, including (1) care is based on a continuous healing relationship, (2) care is customized according to the patient's needs and values, (3) the patient is the source of control, (4) knowledge is shared and information flows freely, (5) decision making is evidence-based, (6) safety is a system property, (7) transparency is

necessary, (8) needs are anticipated, (9) waste is continuously decreased, and (10) cooperation among clinicians is a priority (Institute of Medicine, 2001). Patient partnership can be strengthened within each of these ten rules, leading to greater patient participation, knowledge, and prioritization of quality and safe health care.

The patient-provider encounter provides an ideal opportunity for patient education of patient safety practices. Explaining to patients the importance of asking questions, and creating a sense of comfort surrounding asking challenging questions, may be a key step in involving more patients in these types of error-prevention strategies. Vincent and Coulter (2002) propose a collaborative approach to bringing patients into the patient safety movement. They acknowledge that although some clinical encounters may present specific challenges to involving patients, such as in times of urgent and emerging health care crises, many patient-provider encounters provide an appropriate situation for patient involvement in the diagnosis, treatment, and monitoring of health conditions. This concept builds upon earlier work by Roter and Hall (1991) that describes the patient-provider relationship as one of reciprocity; if the provider withholds information, or is seen to be indifferent to the needs of the patient, then the patient will in turn be reticent to disclose information. It is this shared responsibility between patient and health care provider, then, which may lead to a greater education about and adoption of patient safety initiatives by patients.

2.3 PATIENT FACTORS

This section examines what is currently known about patient involvement in patient safety and how patient education opportunities are influenced by patient characteristics.

2.3.1 Patient Involvement in Patient Safety

Patient involvement has been an integral part of a number of domestic and international patient safety campaigns. In 2004, the WHO officially launched their patient safety campaign with member countries with patient engagement as a priority (World Health Organization, 2012). The *Patients for Patient Safety* campaign was designed to address an overall lack of patient and family engagement in health care policy and has created a network of patient champions and sites worldwide aimed at emphasizing the role of the patient as a partner. In Canada, the Canadian Patient Safety Institute (CPSI) has spearheaded the campaign and empowered patients to take a more active role in improving the safety of the health care system. In addition, the Joint Commission identified the role of patients in improving safety as a national patient safety goal in 2007, with the aim of improved patient-centered communication in US hospitals (Joint Commission, 2011).

The identification of patient involvement as a priority in improving patient safety has been an important catalyst of research in this area. In recent years, there have been a number of studies aimed at better understanding patient involvement in selected patient safety practices. A US study conducted by Waterman et al. (2006) examined hospitalized patients' attitudes about error prevention and their participation in error prevention strategies. The study looked at seven error-prevention actions, including (1) asking about a medication's purpose, (2) asking questions about medical care, (3) asking to confirm patient identity, (4) having a family or friend watch for errors, (5) telling medical staff if an error occurred, (6) asking for their surgical location to be marked, and (7) asking medical personnel whether they had washed their hands. The results indicated

that while 91% of respondents agreed that patients could help prevent errors, patient comfort levels with patient safety practices varied greatly, with patients very comfortable asking the purpose of a medication but very uncomfortable asking providers if they had washed their hands.

A cross-sectional survey administered to patients in the United Kingdom found similar results (Davis, Koutantji, & Vincent, 2008). This survey aimed to highlight six different aspects of a patient's willingness to ask: (1) factual questions (e.g., "how long will I be in hospital for?"), (2) challenging questions (e.g., "have you washed your hands?"), (3) challenging questions of a doctor if instructed to do so by a doctor, (4) challenging and (5) factual questions of a nurse if instructed to do so by a nurse, and (6) challenging questions of a nurse if instructed to do so by a doctor. Results indicated that patients were more comfortable asking factual as opposed to challenging questions of their doctor, and patients were more likely to ask nurses challenging questions rather than doctors. Consequently, the authors conclude that the success of current safety initiatives may be limited to those that patients do not find challenging to the role of their health care provider.

Marella, Finley and Tomas (2007) found similar results in a telephone survey of patients in Pennsylvania. The aim of this research was to assess consumer inclination to engage in patient safety practices that were included in existing educational materials and strategies. Respondents reported they were more inclined to ask factually based questions, such as asking for more complete explanations of procedures. On the other hand, respondents were least inclined to ask their health care provider to confirm their identity or ask them if they had washed their hands. This once again signals patient

reluctance to challenge the role of their health care provider and the perception of it being unacceptable in some way. The authors conclude that non-confrontational ways of interacting with health care providers may need to be found in order for some patient safety practices to be successful.

A comprehensive literature review of patient involvement in patient safety studies found that patient involvement is influenced by five dimensions of characteristics: (1) patient-related, (2) illness-related, (3) health care professional-related, (4) health care setting-related, and (5) task-related (Davis, Jackline, Sevdalis, & Vincent, 2007). As a result, patient involvement in patient safety practices is influenced by an array of factors unique to each health care encounter. Evidence from the review suggests that patients feel they have some partial responsibility for errors and can play a role in reducing their susceptibility. Results also showed that the discipline of the health care professional (e.g., doctor or nurse) does play a large role in patient involvement, with patients once again more willing to ask confrontational questions of nursing staff (McGuckin et al., 2001).

With the expectation of patients becoming increasingly involved in their own care and patient safety incident prevention, there has been some uncertainty as to how this may change the responsibility of both the provider and patient. Critics of increased patient involvement in patient safety have argued that it is unreasonable to expect that patients take on more responsibility for their health when they are already in the vulnerable position of being ill (Johnstone & Kanitsaki, 2009; Lyons, 2007). Furthermore, they argue that if a patient is entrusted with the task of ensuring their safety, providers may rely too heavily on this, leading to a reduction of safeguards. Additionally, liability for medical and medicine errors could also be called into question with the

expectation of patients to act in increased capacities. Entrusting patients with remembering important medical information is equally as problematic, with research suggesting that many patients incorrectly recall medical information despite being satisfied with the amount of information received while hospitalized (Murphy, Donnelly, & Fitzgerald, 2004). Consequently, it is important to clearly define the objective of patient involvement in patient safety practices as not enforcing a standard of involvement for all patients, but rather encouraging patients who are interested and willing to become more involved in their care.

2.3.2 Patient Education

Socioeconomic and cultural factors can influence the ability of patients to comprehend education materials. Literature suggests that most people read at least two grade levels below their last year of school completed (London, 1999). However, other studies have shown that due to the technical nature of health information, effort should be made to reduce the readability level even further. A study conducted in the US found that although the mean self-reported last grade completed of respondents was grade 11, actual reading levels fell between the grade 7 and grade 8 range (T. Davis, Meldrum, & Tippy, 1996). It is currently recommended that patient education materials be written to suit a grade 6 reading level, with nearly 48% of Canadian adults aged 16 years and older being considered as having low literacy (ABC Canada Literacy Foundation, 2005). Cultural appropriateness and sensitivity must also be taken into account when developing materials. Considerations should include whether or not patient education materials target at-risk populations, are printed in a number of languages, and are sensitive to cultural needs (Kreuter, Lukwago, & Bucholtz, 2002).

The capacity to acquire new knowledge in a stressful environment, such as in a hospital setting, must also be taken into account when developing patient education strategies. On average, patients retain only 20% of the information they are given during a health care encounter (Weiss, Coyne, & Michielutte, 1998). Coupled with the stress of being ill and hospitalized, this can lead to significant issues relating to the safety of care delivered to patients. Considerable challenges also exist for individuals who may not have the ability to understand health care information, such as children, the elderly, or individuals with mental illnesses. Patient safety initiatives have tried to address this obstacle by educating and encouraging patients to bring family members or close friends with them to increase retention of health information and to assist with decision-making (Canadian Patient Safety Institute, 2010; Ontario Health Association, 2011).

2.4 THE IMPACT OF UNSAFE ACTS

With an increasing number of reports detailing the potential risks for patients when entering into the health care system, this issue has become an area of concern not only for health care providers, but also for the public. The Canadian Adverse Events Study (Baker et al., 2004) found an incidence rate of 7.5% of adverse events among hospitalized adults in Canada, extrapolating to nearly 185,000 hospital-related adverse events annually. Moreover, nearly 70,000 of these adverse events were found to be potentially preventable. A survey conducted by the Commonwealth Fund in 2008 revealed that 29% of Canadian respondents with one or more chronic conditions indicated that they had experienced a medical, medication, or lab error in the past two years (Schoen, Osborn, How, Doty, & Peugh, 2008). This research has built upon international reports of patient safety, such as the Harvard Medical Practice Study

(Brennan, Leape, & Laird, 1991) and the Institute of Medicine's *To Err is Human* (Institute of Medicine, 1999), which concluded that at least 44,000, and as many as 98,000 people, die in hospitals each year as a result of preventable medical errors in the United States.

In the United States, it is estimated that the costs of medical errors add up to between \$17 billion and \$29 billion USD per year (Institute of Medicine, 1999). In Canada, it has been estimated that an extra \$750 million CAD in health care spending every year can be attributed to medical error (Kondro, 2004). The impacts of poor quality and unsafe care can be quantitatively measured in a number of ways, including increased lengths of stay (LOS) in hospital, overall economic return on investment in patient safety strategies, and quality-adjusted life years (QALY), as well as qualitatively through the impact that patient safety incidents have on the lives of the patients, families, and health care providers affected.

Since health care institutions must normally bear all costs of patient safety strategies and practices, defining the cost-benefit ratio of engaging in activities aimed at reducing harm is important in the promotion of patient safety. Baker et al. (2004) found that an incidence rate of adverse events of 7.5% for hospitalized adults in Canada led to an estimated overall increase of hospital LOS by 6 days for patients who experienced an adverse event. Looking at increased health care utilization, Forster et al. (2003) found that 19% of patients treated in a Canadian tertiary hospital experienced an adverse event upon discharge to home, with 50% of these patients requiring further treatment or hospital readmission. Furthermore, research conducted in the US found that the three-month hospital readmission rate for individuals flagged at risk for a safety event was

nearly 25% (Friedman, Encinosa, Jian, & Mutter, 2009). These studies indicate a significant cost to hospitals when patient safety incidents occur, including increased health care utilization and resources.

The costs of implementing patient safety practices and acquiring new technologies to make care safer also have an economic impact that must be quantified. A study from Japan found that the costs of implementing strategies to prevent adverse events in one hospital came with an incremental cost of \$9.68 USD per patient-day, or the equivalent of 26 additional full-time staff per year (Fukuda, Imanaka, & Hayashida, 2008). However, it has been shown that hospitals can reap long-term gains for short-term investments in patient safety. For example, one study found that the implementation of bar coding to prevent adverse drug events led to a net benefit after 5-10 years of implementation (Maviglia et al., 2007). Another study in the UK found an overall cost savings of £138.20 per patient for those treated with anti-infective central venous catheters designed to prevent blood stream infections (Hockenhull, Dwan, Boland, Smith, & Bagust, 2008). A comprehensive literature review of the costs and benefits of electronic health records found costs ranged from minimal for small office systems to \$19 million USD for a multi-site system, with anticipated benefits and averted costs associated with reduced billing errors, transcription, and improved productivity (Menachemi & Brooks, 2006). A return on investment study of electronic health record implementation in a physician outpatient clinic found a direct first-year savings of \$1 million USD related to decreased transcription, improved revenues, fewer patient charts, reduced space requirements, and fewer staff requirements (Barlow, Johnson, & Steck, 2004).

Another method to view and prioritize patient safety practices is by looking at QALYs. In this respect, costs refer to the number of QALYs lost as a result of a patient safety incident, both for patients who are harmed by the incident and for health care providers who may lose productive hours due to dealing with the after effects of incidents (Warburton, 2005). Therefore, the prioritization of patient safety practices is related to the ratio of costs per QALY gained through the prevention of error. For example, it has been estimated that a net benefit for bar coding on all medications, blood products, vaccines, and over-the-counter-drugs dispensed in US hospitals could be reached at a QALY value of around \$63,000. Considering that each QALY was valued at \$373,000, the net benefit of bar coding is large, with estimated annual benefits of nearly \$3.2 billion for US hospitals (Warburton, 2005).

While quantifying patient safety practices is important, the emotional impact of experiencing an error is also significant. The impact that medical errors can have on clinicians, patients, and families can be profound, often leading to reduced patient care and fear. A study conducted in Norway in 2000 asked physicians if they had experienced patient harm as a clinician and the potential consequences of their actions on their personal and professional lives (Aasland & Forde, 2005). Of the 1,294 respondents, 28% reported they had experienced an adverse event as a clinician, with 17% of these physicians indicating that the event had negatively impacted their private life and 5% indicating that they required professional help. Further research has shown that negative consequences for physicians may include increased anxiety, loss of confidence, sleeping difficulties, reduced job satisfaction, and harm to reputation (Waterman et al., 2007). Interestingly, 90% of physicians surveyed in that study disagreed that health care

organizations provide adequate support to help clinicians cope with medical errors. A study conducted in the US found three emerging themes among patients and families that had experienced a medical error: (1) family members often have similar or even stronger feelings of guilt than clinicians, (2) patients and families may fear further harm if they express their feelings or inquire about a perceived mistake, and (3) clinicians may turn away from patients who have been harmed (Delbanco & Bell, 2007). Medical errors most commonly involved increased pain and hardship for patients, and often continued or increased the need for health care services leading to emotional, physical, and financial harm (Van Vorst, Araya-Guerra, & Felzien, 2007).

2.5 MODELS OF HEALTH BEHAVIOUR

Health behaviour has been defined as “any activity undertaken by an individual regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining health, whether or not such behaviour is objectively effective toward the end” (World Health Organization, 1998, p.8). Due to the inherent complex nature of human behaviour, health behaviour models and frameworks are useful in determining why some individuals perform certain health behaviours while others do not.

Traditionally, patient safety research has lacked a theoretical lens, focusing mainly on patient comfort levels with, and willingness to engage in, selected patient safety practices. The adaptation of a health behaviour model within patient safety research helps to further illuminate patient motivations and precursors to action, which can then be used to better tailor patient safety strategies towards patient involvement. The use of a socio-cognitive framework within patient safety adds to current knowledge through an investigation of underlying perceptions, which can ultimately facilitate or hinder patient

likelihood of action. Understanding these perceptions, therefore, is essential to better understanding how to use patient motivations to guide patient involvement strategies.

Many health behaviour models are borrowed or adapted from psychological models that favour individual and cognitive characteristics. Both the Health Belief Model and Theory of Planned Behaviour primarily focus on the individual and intrapersonal characteristics that lead to certain health behaviours. The Socio-Ecological Model attempts to incorporate both the social and environmental factors that influence behaviour through a broader view of the organizational, community, societal, and policy factors that may play a role in health behaviour, providing a more holistic approach. Each model is presented below.

2.5.1 Socio-Ecological Model

The Socio-Ecological Model (SEM) of health originates from the ecological framework first proposed by Bronfenbrenner (1977). According to Bronfenbrenner, behaviour is the interaction of both internal and external, or environmental, factors. More specifically, Bronfenbrenner posited that environmental factors exert influence at the micro, meso, macro, and exosystem levels. The microsystem encompasses the face-to-face interactions within one's family or close social groups. The sum of these interactions and influences then create the mesosystem (e.g., where an individual works or their school). The macrosystem influences both the micro- and mesosystems through pervading cultural beliefs and values. All three of these levels of influence exist within a greater exosystem of social values and beliefs in which an individual exists. All levels of environmental influence occur reciprocally with the individual, meaning that individual behaviour influences environmental factors and vice versa (Bronfenbrenner, 1977).

Bronfenbrenner's original model was adapted for use within healthcare by McLeroy, Bibeau & Stecker (1988). Using a health promotion perspective, they sought to apply Bronfenbrenner's model to determine patterned behaviour on a larger, societal scale (Figure 2.1). Environmental factors captured by the SEM of health are similar to those first proposed by Bronfenbrenner; however, the levels of influence are further delineated. According to McLeroy et al. (1988), environmental influences are exerted at four different levels: (1) interpersonal processes, (2) institutional factors, (3) community factors, and (4) public policy. Their model also includes a fifth level of influence within their SEM: intrapersonal factors. Intrapersonal factors refer to the cognitive factors that influence an individual's behaviour such as knowledge or attitude. The SEM of health, therefore, better explicates the role of the individual within the environment and the influence that intrapersonal and cognitive factors have on health behaviour. Each of the five dimensions of SEM is considered in detail below.

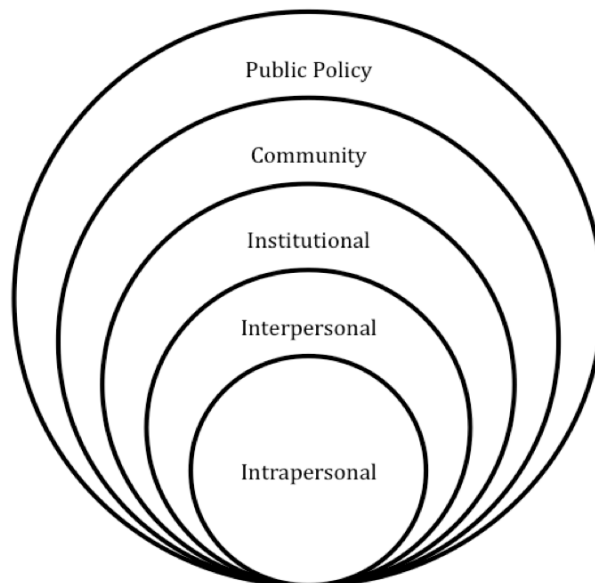


Figure 2.1. Socio-Ecological Model of Health (McLeroy, Bibeau, & Stecker, 1988)

Intrapersonal processes

Intrapersonal factors address the cognitive and personality characteristics that influence an individual's behaviour, such as personality traits, prior knowledge, beliefs, and attitudes. This component of the SEM is the most commonly used construct of health behaviour, appearing in many cognitive-based behaviour models including the Health Belief Model, Theory of Planned Behavior, and the transtheoretical model (Gregson, 2001). At this level of influence, the purpose of an intervention is to change the individual rather than the environment. Consequently, educational programs aimed at changing beliefs, attitudes, or knowledge regarding certain health behaviours are the most successful at producing behavioural change at this level (McLeroy, Bibeau, & Stecker, 1988).

Interpersonal processes

The interpersonal level of influence primarily represents the influence exerted by an individual's social environment. Examples of interpersonal influences include an individual's relationship with their family members, friends, work colleagues, and neighbours. These influences are important as individuals derive meaning from their social relationships, which in turn define their social identity (McLeroy, Bibeau, & Stecker, 1988). Interpersonal influences impact health behaviours through the adoption of socially accepted practices and behaviours. Furthermore, interpersonal relationships provide support and resources for individuals who wish to change their health behaviours, making them important indicators to consider when implementing health interventions (McLeroy, Bibeau, & Stecker, 1988) Although interpersonal relationships exert a great deal of influence on an individual, interventions at this level of influence are

difficult to achieve. Social marketing aimed at large social groups, such as neighbourhoods or special interest groups, is the most successful strategy to alter behaviour using interpersonal influences (Grzywacz & Fuqua, 2000). In essence, changing the norms and accepted behaviours of a large group of individuals will ultimately influence the attitudes, beliefs, and behaviours of each individual involved (McLeroy, Bibeau, & Stecker, 1988).

Organizational

Organizations have a tremendous ability to exert influence due to the large number of individuals who can be reached, and their ability to exert influence through their structure, culture, and organizational processes (Gregson, 2001). Because of this, changing organizational policies and culture to coincide with desired health behaviours can have a direct influence on the behaviours of each individual within that organization. Targets for organizational influence can include the adoption of health promotion activities by leaders within the organization or messages to employees that certain behaviours are no longer allowed within organizational boundaries. McLeroy et al. (1988) assert, however, that it is important to target the organization itself, not just the employees, to ensure a lasting influence on behaviour.

Community

Community factors refer to the norms, practices, and standards that exist among individuals, groups, and organizations (Gregson, 2001). Producing change at this level requires that the intervention is compatible with the pervading needs and beliefs of a community. As well, influence should be targeted to subpopulations within the community when specific health behaviour change is required. Raising awareness of health issues within a community can help to bring about behavioural change; as more

individuals are made aware of a preferred health behaviour, the more individuals within a community will adopt the behaviour and a shift in societal norm will occur. Ultimately, this level of influence can be initiated within the community through social groups or organizations that belong to the community, or by outside influences such as mass media (McLeroy, Bibeau, & Stecker, 1988).

Public Policy

The final level of influence, public policy, refers to the policies and laws within a society that help support or regulate healthy behaviours at the individual, organizational, and community levels (McLeroy, Bibeau, & Stecker, 1988). These influences are often broad and serve to protect the basic interests of an entire population. Interventions aimed at this level of influence are often the result of either community or political pressure to change undesirable health behaviours or behaviours that affect the health of others, such as banning smoking in public places. While this level of influence may target the greatest number of individuals, it is often difficult to change policies and laws within a short period of time. Educating decision and policy-makers regarding positive health behaviours is often the most successful way of creating change at this level (Gregson, 2001).

Strengths

The SEM excels at providing a broad, holistic approach to health behaviour (Stokols, 2000). Unlike its purely cognitive counterparts, the SEM acknowledges external influences that may affect an individual's health behaviours, such as those exerted by family members, friends, and social norms. Furthermore, the SEM is an extremely intuitive model for health care professionals and decision-makers as it recognizes that positive lifestyle choices are not only the result of individual characteristics, but also

conditioned by multiple characteristics of an individual's environment (Grzywacz, & Fuqua 2000).

Limitations

Although the SEM does provide a broader picture in which to contextualize individual health behaviour, there are some limitations to this model. Firstly, although the SEM is intuitive, it lacks consistent theoretical concepts that can be used to create testable hypotheses (Grzywacz & Fuqua, 2000). Moreover, although the SEM is particularly useful when designing intervention strategies, it is often difficult to use as a predictor of behaviour. In fact, this is somewhat due to the SEM's comprehensive nature. Grzywacz and Fuqua (2000) suggest that the SEM's "everything affects everything" theme presents significant challenges for researchers due to time and monetary restraints. Specifically, it might not be practical for researchers to incorporate all levels of influence within their study as it takes considerable time and resources to evaluate. As well, it could be difficult to delineate and measure in what direction the influence is taking place. This presents significant methodological issues for researchers, including how best to capture how and why an individual's health behaviour has been altered. Finally, it has been argued that although ecological approaches to behaviour change reduce the burden of change on individuals, it may result in coercion due to a top-down approach to social change, especially when considering political and organizational policy and mass media approaches (McLeroy, Bibeau, & Stecker, 1988). Thus, it is important to include the target population or community within the intervention strategy.

2.5.2 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA), first proposed by Fishbein in 1967 as a means to explain the

relationships between beliefs, attitudes, intentions, and behaviour (Montano & Kasprzyk, 2002). Prior to Fishbein's work, the relationship between attitude and behaviour had been discredited; however, Fishbein differentiated between attitudes toward objects (i.e., breast cancer) and attitudes toward behaviours (i.e., mammography screening). Fundamentally, the TRA links beliefs to attitudes, which are then linked to intentions, which leads to behaviour (Sharma & Romas, 2008). Intention is, therefore, the immediate determinant of action. The TRA was further refined in the 1980s by Fishbein and Ajzen and was applied in a number of different settings, including predicting and explaining weight loss and behaviour change (Ajzen & Fishbein, 1980). However, broader use led some researchers to question whether the TRA was sufficient in understanding behaviours individuals may not have full control over. Because of this, the construct of perceived behavioural control was added to better capture the ability of individuals to achieve change (Ajzen, 1991). This expanded model resulted in the TPB, which consists of five main constructs: (1) attitude toward a behaviour, (2) subjective norm, (3) perceived behavioural control, (4) intention, and (5) behaviour (Figure 2.2).

Attitude toward a behaviour

Attitude toward a behaviour simply refers to a person's general feelings of like or dislike to any given behaviour (Ajzen, 1991). The more an individual's attitude toward a behaviour is positive, the more likely they will intend to perform that behaviour and vice versa. Attitude is informed by two other constructs: (1) behavioural beliefs and (2) evaluations of behavioural outcomes. Behavioural beliefs refer to an individual's beliefs that any given behaviour will lead to a certain outcome. Related to behavioural beliefs are an individual's outcome evaluations, or the value that an individual places on each

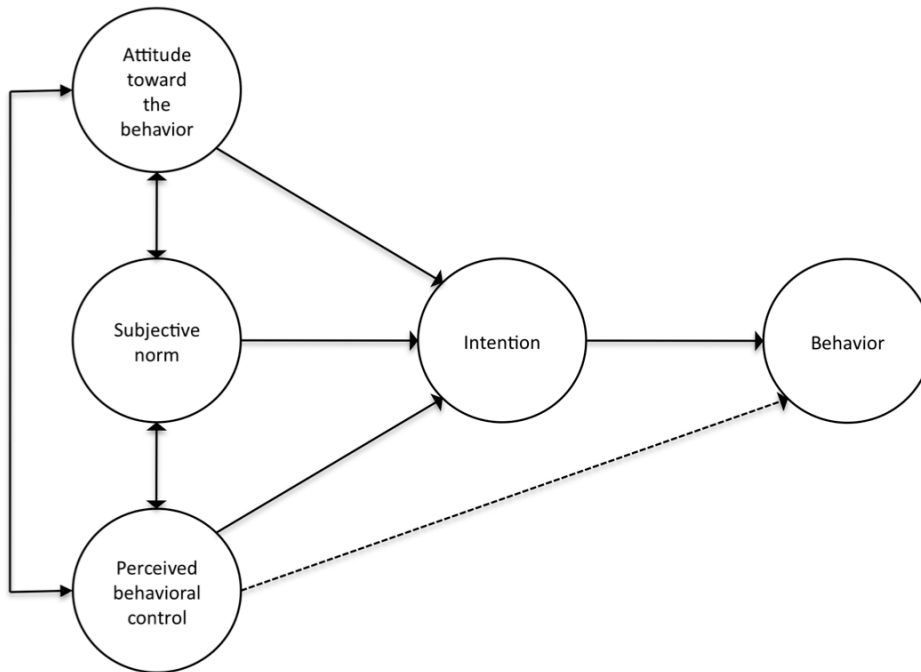


Figure 2.2. Theory of Planned Behavior (Ajzen, 1991)

outcome resulting from the performance of a behaviour. To effect change at this level, interventions should focus on identifying behaviour beliefs and outcome evaluations to modify these through positive reinforcement (Sharma & Romas, 2008).

Subjective norm

The construct of subjective norm captures the influence of the social environment on the intentions and behaviours of an individual (Ajzen, 1991). Most importantly, it deals with one's belief or perception that significant others in their life think they should or should not perform a behaviour. In essence, if an individual perceives that those important to them think he/she should perform a particular behaviour, the more he/she will intend to do so. This construct is informed by normative beliefs, or how an individual views the significant others in their life as wanting them to behave, and motivation to comply, or the degree to which an individual wants to comply with the

wishes of those significant to them. By making individuals more cognizant and critical of their underlying perceptions, these underlying motivations can be positively influenced (Sharma & Romas, 2008).

Perceived behavioral control

Perceived behavioural control refers to the perceived ease or difficulty of performing a behaviour (Ajzen, 1991). This construct captures the degree to which an individual feels in control of achieving a given behaviour and consists of two concepts: (1) control beliefs and (2) perceived power. Control beliefs are an individual's beliefs regarding internal or external factors that may create barriers or facilitators in the performance of a behaviour. Perceived power is an individual's perception regarding how easy or difficult it is to perform a behaviour. Therefore, intention to perform a behaviour is mediated by whether or not an individual perceives control in performing it and, if so, whether or not they can perform it easily. Perceived behavioural control is most analogous to Bandura's (1986) concept of self-efficacy; however, the TPB places it within a more general relation among beliefs, attitudes, intentions, and behaviour (Ajzen, 1991). Modifying behaviour at this level can include the use of incentives to increase control and providing role models to increase perceptions of power (Sharma & Romas, 2008).

Intention

The TPB posits that intention is the immediate determinant of performing any given behaviour, meaning that if an individual intends to perform a behaviour they will (Ajzen, 1991). The previous three constructs, attitude toward a behaviour, subjective norm, and perceived behavioural control, are all determinants of intention. It is important to note, however, that intention can change over time and that a person's intention may

be different prior to, during, and after a behaviour is performed. Therefore, measuring intention closely to the occurrence of the behaviour is essential for obtaining an accurate prediction of behaviour (Ajzen, 1991).

Behaviour

The final construct of the TPB is the behaviour of interest. Culminating from the four previous constructs, behaviour is determined by intention, which is influenced by attitude toward a behaviour, subjective norms, and perceived behavioural control. When operationalizing the TPB, a behaviour is defined in terms of its target, context, time, and action (Ajzen, 1991). Essentially, individual behaviours will change according to where they are directed (target), where they are performed (context), when they are performed (time), and what the behaviour entails (action).

Strengths

Overall, the TPB provides a comprehensive model for exploring and predicting the cognitive factors associated with the performance of a particular behaviour. The addition of perceived behavioural control has enhanced the overall predicative capability of the TPB; with research indicating that it is a significant predictor of behaviour (Ajzen, 1991; Montano & Kasprzyk, 2002). The TPB is also particularly useful in planning behavioural interventions as it identifies the underlying beliefs that affect the likelihood of performing a behaviour. Because of this, interventions can be designed to influence some or all of the dimensions that affect intention and behaviour.

Limitations

While the TPB is useful for predicting behaviour change, it does not excel at explaining why a change has occurred due to the multitude of cognitive factors involved. Sheeren, Connor & Norman (2001) contend that the main focus of the TPB is goal

setting, in that it explains how individuals may form an intention to perform an action. However, the TPB does not perform well when trying to explain actual sustained behaviour or goal achievement, as it fails to fully explain how individuals translate intentions into action. In addition, although the construct of perceived behavioural control has good predictive value, it assumes that perceived behavioural control predicts actual behavioural control. This might not always be the case as irrational thoughts might ultimately influence an individual's performance of a behaviour (Sharma & Romas, 2008). Manstead & Parker (1995) argue that greater underlying intentions, such as what is believed to be morally right, need to be further elicited in the model if it is to fully capture behavioural intentions.

2.5.3 Health Belief Model

Originated by American social psychologists Hochbaum, Kegels and Rosenstock (1958), the HBM was developed to better explain why individuals were not taking advantage of free tuberculosis screening clinics in the United States during the 1950s. The HBM is rooted in value expectancy theories which have become widely interpreted within health care as: (1) the desire to avoid illness or to get well and (2) the belief that a specific health action available to a person will prevent illness (Rosenstock, Strecher, & Becker, 1994). Early applications of the HBM focused mainly on single preventative behaviours, such as vaccination and screening (Baranowski, Cullen, & Nicklas, 2003); however, since then, the HBM has been applied to numerous health behaviours including healthy lifestyle adoption, illness prevention, and sick-role behaviours (Janz & Becker, 1984). Broader use of the HBM has been mediated by the addition of self-efficacy to the model in the 1980's by one of its original developers, Irwin Rosenstock (Rosenstock,

Strecher, & Becker, 1988). Borrowing from Albert Bandura's Social Cognitive Theory, self-efficacy is defined as an individual's belief in their ability to successfully execute and manage prospective situations (Bandura, 1986). The HBM model consists of six constructs: (1) perceived susceptibility, (2) perceived severity, (3) perceived benefits, (4) perceived barriers, (5) cues to action, and (6) self-efficacy (Figure 2.3). Each construct is considered in greater detail below.

Perceived susceptibility

Perceived susceptibility refers to whether or not an individual regards himself or herself as susceptible to acquiring an illness or being harmed due to engaging or not engaging in a behaviour (Rosenstock, Strecher, & Becker, 1988). In essence, the more susceptible a person feels, the more likely they will engage in behaviours to prevent illness or harm from occurring. Perceived susceptibility has a strong cognitive component and is partly determined by an individual's knowledge (Rosenstock, 1974). As such, fear-based patient education aimed at enhancing negative consequences and risks may be successful at influencing an individual's feeling of threat.

Perceived severity

Perceived severity refers to the subjective belief of an individual regarding the extent of harm that can occur by performing or not performing a health behaviour (Rosenstock, Strecher, & Becker, 1988). Harm can be characterized on a medical scale, such as physical symptoms and limitations due to an illness, or on a broader scale, such as the effects on family members or ability to work. Past knowledge of the consequences of an illness or behaviour and personal experiences with friends and family are influential to an individual's perception of severity. Because of this, contextualizing and personalizing potential harm can help to influence individual behaviour within this

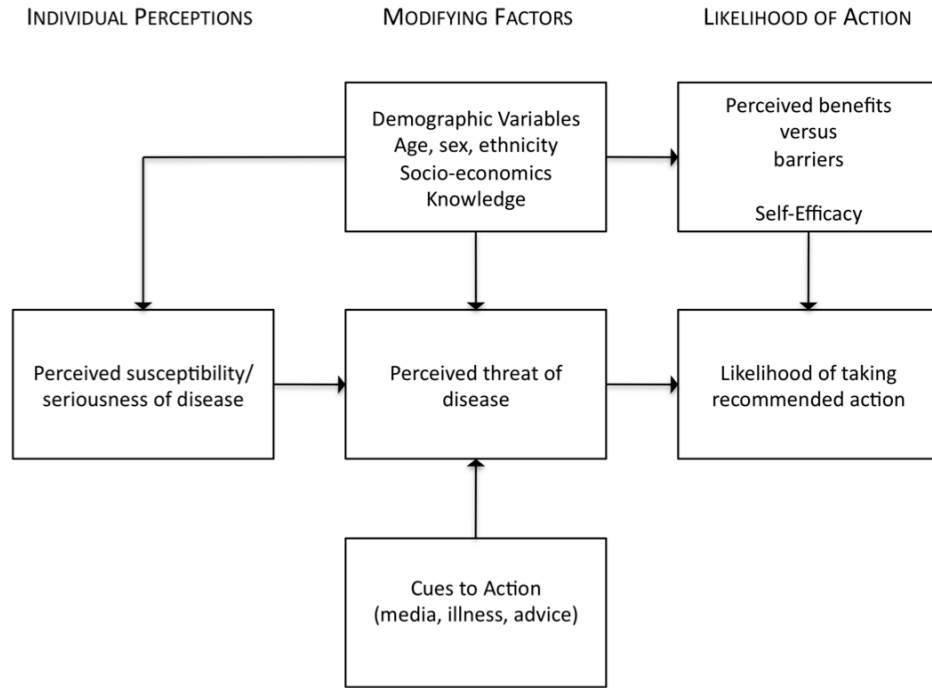


Figure 2.3. Health Belief Model (Rosenstock, Strecher, & Becker, 1994)

construct. The end product of perceived susceptibility and perceived severity is known as “perceived threat” (Rosenstock, Strecher, & Becker, 1988).

Perceived benefits

Although perceived threat may lead to the performance of an action to reduce threat, the choice of which action to take depends on the perceived benefit of performing it (Rosenstock, Strecher, & Becker, 1988). If the threat is significant, individuals will be more likely to invest more time and energy in a course of action to prevent it.

Furthermore, individuals will chose a course of action from a number of alternatives based on how efficacious they view it to be. Essentially, an individual will only view a proposed preventative action as beneficial if they believe it will prevent or reduce the likelihood of harm (Rosenstock, Strecher, & Becker, 1988). Presenting individuals with

well-documented and effective strategies to reduce harm may, therefore, increase the likelihood of preventive behaviour.

Perceived barriers

Corresponding to perceived benefits, perceived barriers illustrate the negative consequences of engaging in a preventive health action. Benefits are weighed against perceptions that an action might be expensive, dangerous, unpleasant, or inconvenient (Rosenstock, Strecher, & Becker, 1988). This weighing of perceived benefits versus perceived barriers presents each individual with a preferred course of action (Rosenstock, Strecher, & Becker, 1988). If a particular health action is to be promoted, then, barriers should be minimized to encourage individuals to adopt it.

Cues to action

Cues to action refer to the precipitating and mediating factors that stimulate an individual to take or maintain an action (Rosenstock, Strecher, & Becker, 1988). Cues can be both internal, such as feeling better after beginning a course of action, or external, such as advice from a health professional. Furthermore, cues to action should be in line with an individual's perceived threat; if perceived threat is high, an individual will need a more intense stimulus than if the perceived threat is low (Sharma & Romas, 2008).

Self-efficacy

Although self-efficacy was not included within the original HBM, it has now become an accepted addition to the model. Self-efficacy is an important addition when one considers chronic illnesses or conditions requiring long-term behaviour changes (Rosenstock, Strecher, & Becker, 1988). If an individual does not feel confident in pursuing an action, or does not feel that they will be effective in preventing illness or harm, they are unlikely to pursue long-term behaviour changes. Strategies to overcome

low self-efficacy must, therefore, build confidence in an individual to pursue a behaviour, such as using modeling, providing reassurance, and reducing stress (Sharma & Romas, 2008).

Other variables

The HBM model also includes other variables that act as indirect influences on an individual's perceptions, such as educational attainment, sex, and socioeconomic status (Rosenstock, Strecher, & Becker, 1988). These factors include demographic, socio-psychological, and structural variables that influence an individual's perceptions of susceptibility, severity, benefits, and barriers.

Strengths

The strengths of the HBM exist within its exclusive use to explain and predict health behaviours. As one of the most widely used health behaviour models, the HBM constructs have been repeatedly validated in a number of different settings to explain a variety of preventative behaviours (Janz & Becker, 1984). This lends reliability to the model and also provides examples to researchers and decision-makers about how best to use this model and to implement interventions. Furthermore, relationships between the six constructs of the HBM are predicated on three hypotheses: (1) the existence of sufficient motivation to make health issues relevant, (2) the belief that one is susceptible to a serious health problem or to the consequences of an illness or condition and (3) the belief that following a particular health recommendation would be beneficial in reducing the perceived threat and at a reasonably accepted cost (Champion & Skinner, 2008). This provides direction for researchers who wish to use the HBM to explore health behaviour and better explicates the relationship between constructs when developing measurement tools.

Limitations

The HBM still presents some limitations for the explanation and prediction of health behaviour. Firstly, although the constructs of the HBM and their relationships are clearly delineated, measures for each of the constructs are not clear. This has led to a great deal of heterogeneity in testing of the HBM, and in some cases has led to weak predictive power, with many of the predictions made by the HBM not being confirmed (Baranowski, Cullen, & Nicklas, 2003). Moreover, it has been argued that although the HBM is useful for planning injury and disease avoidance programs, it does not lend itself well to the promotion of behaviours. Particularly, the HBM does not expand on the factors associated with influencing behaviour; instead it focuses mainly on the individual and cognitive factors that lead an individual to perform a behaviour. This is due in part to the limited number of factors used by the HBM to explain complex behaviour (Sharma & Romas, 2008).

2.5.4 Comparison of Health Behaviour Models

Patient engagement and participation in patient safety practices involves the patient taking on a larger role within their health care, requiring them to become more knowledgeable about their treatment and asking questions of their health care provider to ensure safe and quality care. Patient involvement will ultimately depend on the health care setting each patient is present in, the severity of their illness, and their familiarity with their health care provider and treatment plan, and will vary with every health care encounter. As a result, a health behaviour model to help explain and predict patient participation in patient safety practices must incorporate this variability within its design

and account for the interaction between health care providers and patients that may influence health behaviour.

The SEM provides a model that explicitly includes social and environmental influences that can affect the health behaviours of individuals and groups of individuals. However, the aim of the SEM is primarily to effect change at the health promotion level; understanding the roles that organizational and social policies can have on communities and individuals. In fact, Quinn, Thompson & Ott (2005) argue that the primary aim of the SEM is to establish a health-promoting environment, rather than to target individuals who are making specific, health-significant decisions. The difficulty in applying the SEM to patient involvement in patient safety is, then, that some health care encounters will not require patient participation, and patients may choose to become involved in some aspects of patient safety and not others. As a result, long-term behaviour change on a population scale might not be appropriate when applied to patient involvement in patient safety. Although organizational factors undoubtedly influence patient behaviour, it is often the employees, rather than the patients, that are targets for change within the SEM (McLeroy, Bibeau, & Stecker, 1988).

Furthermore, although the SEM does more explicitly incorporate the role of social relationships and environmental factors, both the HBM and the TPB incorporate aspects of social and environmental influences. Within the HBM, socio-demographic factors and cues to action take into account outside influences on individual behaviour. These include such things as socioeconomic status, the health practices of their friends and family members, and interactions with health care providers. The construct of cues to action in the HBM could also be analogous to the community level of influence in the SEM, where

mass media campaigns and education can be used to influence the behaviour of groups of individuals. However, unlike the SEM, the HBM is significantly more focused on patient behaviours, rather than everyday health behaviours, such as exercising. Within the TPB, the subjective norm construct identifies the interpersonal influences that lead an individual to perform or not perform certain health behaviours. Subjective norms include a variety of interpersonal influences, but are mainly focused on how individuals perceive how those significant to them want them to behave. This captures a number of interpersonal influences; however, the TPB seeks to explain only those that are the most significant, and therefore more likely to effect change. Thus, although the HBM and the TPB are generally considered to be intrapersonal or cognitive theories of health behaviour, they do indirectly include social and environmental influences on health behaviour. While the SEM may provide a more comprehensive view of social and environmental factors, the HBM and TPB provide researchers with the ability to more easily measure important environmental influences and provide better explanatory and predictive value. Consequently, the SEM is not well suited to the study of patient involvement in patient safety when compared to the advantages of the HBM and TPB.

In comparing the HBM and TPB, the TPB posits that individuals will perform a health behaviour if they intend to do so as long as that behaviour is under their control. The construct of perceived behavioural control is analogous to the HBM construct of self-efficacy; both capture the feeling of control and confidence in the performance of a behaviour. Self-efficacy could be an important aspect of patient involvement in patient safety not captured by the SEM. For example, although an individual may be influenced by their relationships with significant others and wish to perform accepted health

behaviours, change might not occur unless that individual feels that they can be successful at achieving and performing that health behaviour. Self-efficacy can be increased through patient education and modeling, thereby removing barriers to the performance of a behaviour. With respect to patient involvement in patient safety, this could be accomplished either at the personal level, with patient education, or at a more organizational level using physician modeling and media campaigns, such as posters in waiting rooms.

Tapping into patient perceptions of behaviours might also be useful when looking at specific, short-term behaviour changes. Both the TPB and the HBM seek to measure patient perceptions and attitudes. Within the TPB, attitude toward the behaviour encompasses measures how an individual's attitude will affect action; if the attitude is more positive, the individual is more likely to intend to perform a behaviour. The HBM incorporates a number of different constructs aimed at measuring patient perceptions of a behaviour, including perceived susceptibility, severity, barriers, and benefits. The HBM provides a more comprehensive and complete measurement of how a patient might perceive performing patient safety practices. The weighing of barriers versus benefits may be especially useful to describe why some patients do not engage in patient safety practices. For example, patients might perceive that asking questions of their physician might negatively affect the care they receive. For those patients, the benefit of reducing the likelihood of a patient safety incident might not outweigh the costs. Furthermore, unlike the TPB, the HBM is better able to capture irrational thoughts and fears by focusing on perceptions of threat, rather than focusing on intention to perform a health behaviour.

2.6 Summary of Literature and Perceived Gap in Research

The literature highlights a number of areas relating to patient safety and patient involvement in patient safety, describing factors related to systems and work environments, health care providers, and patients. Literature has shown that decreasing latent conditions present in the health care system and improving the design of systems and procedures to enable safeguards can help to mitigate patient safety incidents. Furthermore, the interplay between health care providers, patients, and the system environment is important in better understanding the impact of health care organizations on patient outcomes. Identifying gaps in system processes where information and knowledge may be lost is also important in reducing the likelihood for incidents to occur. Finally, the measurement and implementation of safety culture within health care organizations can help to proactively identify areas for improvement and to ensure that all necessary stakeholders understand and adopt improvements.

The patient-provider relationship has also been explored as a means to improve patient involvement in their care. The importance of PCC has been underscored, with results suggesting that patient perceptions of patient-centeredness can improve patient satisfaction and care outcomes. Patient-provider interaction and communication is important in ensuring that patients are knowledgeable about their health and treatment options. Positive, ongoing interaction has been shown to improve patient satisfaction with care, which may in turn improve patient compliance with treatment. However, considerations need to be taken for providers wishing to educate patients during an encounter. Socio-demographic factors and literacy levels have been shown to impact patient understanding and retention of medical information, which can in turn hinder

patient efforts to become involved in their care. Ensuring that patient-provider encounters maximize both provider and patient intentions is imperative to improve patient comfort levels and involvement.

Finally, results from patient involvement literature suggest that perceptions of the patient-provider interaction, as well as patient and provider beliefs and prior experiences, may all influence the likelihood of patients becoming involved in their care and patient safety practices. Demographic factors were also found to play a role in whether or not patients were inclined to engage in selected practices in all of the studies, with individuals who were employed, younger, female, and university educated more likely to participate in their care. All studies point to the need for greater education of both health care providers and patients on the importance of questioning the safety of health care and to promote environments where patients are more comfortable to ask questions. The results of the studies also point to the role that organizational safety culture may play in helping to make patients more aware of their role in error prevention and more likely to participate in all aspects of patient safety.

While the literature presents the argument for why patient safety is important, and why patient involvement is an integral piece to improving safety, there has been little integration of all three components related to patient safety. Patient safety is undoubtedly an important topic in today's health care environment, and while issues relating to system, provider, and patient factors have been studied, there is limited understanding of the interplay of these three components and how health care providers and patients perceive them. Patient and provider perceptions of patient safety are important, as ultimately these perceptions can help to uncover the motivations behind patient and

provider behaviour, thus providing greater insight into how to involve patients in patient safety strategies. While previous research has elicited patient perceptions and likelihood of action related to patient safety behaviours, the literature lacks further exploration through patient narratives and qualitative inquiry. Furthermore, provider perceptions have not been included in previous research, which excludes one half of the health care encounter experience. This presents a significant gap in current research and limits the ability for researchers and practitioners to implement best practices. As such, this research study is intended to close the loop between health care organizations, providers, and patients in understanding perceptions of patient safety and how they influence patient involvement in patient safety practices.

CHAPTER 3 METHODOLOGY

Mixed methods provide an avenue to explore patient involvement in patient safety using both quantitative and qualitative methods. It is proposed that the sequential explanatory model of mixed methods be used to conduct this research. To date, patient engagement in patient safety has been measured in several ways, including patient comfort levels, willingness to ask, and likelihood of engaging in certain activities. However, most studies investigating these topics have employed purely quantitative techniques, limiting the insight that qualitative methods can provide in better understanding patient perceptions and opinions of increased involvement in patient safety. As such, the explanatory model of mixed methods allows for further exploration of survey results and statistical analyses through patient and provider narratives captured in focus groups.

3.1 RESEARCH OBJECTIVE AND QUESTIONS

The objective of this research was to determine the relationship between patient and provider perceptions of patient safety incidents and the likelihood of patient involvement in both factual and challenging patient safety practices. The specific research question used to address this objective was:

- Do perceptions of patient safety influence patient involvement in patient safety practices?

To address this overarching question, the following investigative questions were explored:

- What are patient perceptions of factual and challenging patient safety practices?
- To what extent are patients involved in patient safety practices?

- Do health care provider perceptions influence patient involvement in patient safety practices?
- What effect do health care provider behaviours have on patient perceptions of patient safety?
- What are the best strategies for involving patients in patient safety practices?
- How do health care provider and patient perceptions of patient safety differ and how does this affect patient involvement?

3.2 MIXED METHODS DESIGN

The research questions presented above were investigated using mixed methods. Mixed methods research is becoming increasingly prevalent within health care research as it allows for greater integration of data and information within a complex social setting (Creswell, Fetters, & Ivankova, 2004). In practice, mixed methods research provides researchers with the ability to generate stronger inferences about the data and to better capture and understand divergent views (Tashakkori & Teddlie, 2003). Mixed methods can be integrated in a variety of ways, including using both quantitative and qualitative methods equally, having a dominant and complementary method, or using two different types of qualitative or quantitative methodologies within the same study. Sequential mixed methods study designs are often the easiest to implement, with the results of one method guiding the data collection of the next (Ivankova, Creswell, & Stick, 2006).

QUAN-Qual: The Explanatory Design

The explanatory design can be used in two instances: (1) to follow-up and explain significant quantitative results and (2) to use quantitative data to help select participants for the qualitative phase (Ivankova, Creswell, & Stick, 2006). The follow-up explanatory model emphasizes the quantitative phase of a research project, augmenting the broad

results of the quantitative phase with more in-depth qualitative data. With respect to the use of surveys and focus groups, the sequence of this approach follows the collection and analysis of results from the administered survey, the identification of quantitative results that are significant or require further investigation, the collection of focus group data and analysis, and the interpretation of qualitative and quantitative results collectively. In this model, the selection of focus group participants is purposeful, as focus group participants are chosen at the discretion of the researcher and brought together to provide greater understanding of survey results (Creswell & Plano Clark, 2007). The depth of knowledge acquired through this method complements the breadth of knowledge that can be attained through the administration of a survey to a large number of individuals. This method can also be used to explore whether or not results of the quantitative phase are consistent with the views and perspectives of focus group participants (Tashakkori & Teddlie, 2003). In this way, focus groups can be used to confirm the results of a survey and determine if divergence exists.

QUAL-Quan: The Exploratory Design

Qualitative data have increasingly been used as a preliminary method for the collection and analysis of quantitative data, most commonly in the development of questionnaires. This type of sequential method allows researchers to qualitatively explore a research topic to help develop or inform a quantitative research instrument, and is known as the exploratory design of mixed methods. This design is most useful when research instruments are not yet available, when variables are unknown or undefined, and/or when there is no guiding framework to help develop an instrument (Morgan, 1996; Tashakkori & Teddlie, 1998; Creswell & Plano Clark, 2007). In essence, focus groups or individual interviews provide researchers with the opportunity to discuss the research

topic with a representative sample of the targeted population, hearing first-hand the language participants use when talking about the topics of the questionnaire (Morgan, 1996).

Choosing a Mixed Methods Design

The priority of quantitative and qualitative data is an important element in deciding which mixed methods design to use. Determining which design element will be the priority provides a foundation for the research and also determines which method is used as the follow-up (Ivankova, Creswell, & Stick, 2006). As stated in the proposed research objective, this research is aimed at exploring the role of perceptions in the likelihood of patient involvement in patient safety. The proposed investigative questions are also aimed at eliciting the role of perceptions and culture in patient engagement in patient safety practices. The goal, therefore, is not the creation of a new instrument, but rather to gain more in-depth knowledge from the collection of data from patients and health care providers. Utilizing a quantitative priority enables the collection of survey data from a number of individuals on a broad array of variables associated with patient involvement in patient safety, with the opportunity to explore significant variables in-depth. As a result, the follow-up sequential explanatory model of mixed methods has been utilized for this research. A summary of the methods and integration of quantitative and qualitative phases can be found in Figure 3.1.

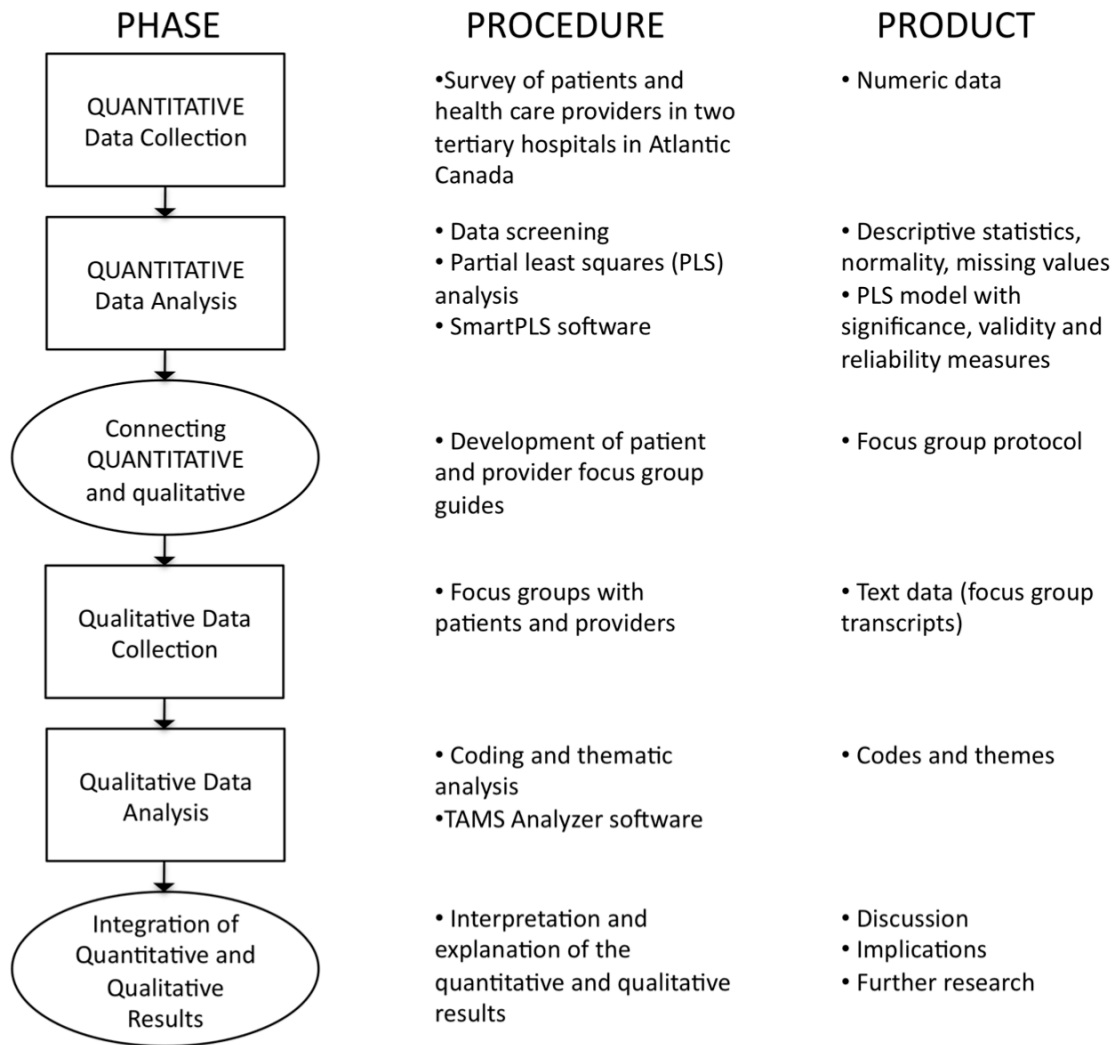


Figure 3.1. Explanatory Mixed Methods Design

3.3 Theoretical Framework

Health behaviour has been explored in Chapter 2 using three different behaviour models: the Socio-Ecological Model (SEM), the Theory of Planned Behaviour (TPB), and the Health Belief Model (HBM). All three models of health behaviour present certain strengths and limitations when determining why some individuals engage in health behaviours and why some do not. Applying each model to the topic of patient involvement in patient safety, however, produces further strengths and limitations.

Consequently, it is important to better characterize patient involvement in patient safety for the purpose of this comparison.

While the SEM provides a comprehensive model for assessing the social and environmental influences that affect health behaviours, this model lacks theoretical clarity and is not an ideal model to use when trying to explain and predict behaviour change. It could be argued that the SEM is best used for planning health promotion interventions and producing positive behavioural changes at a societal level, such as promoting healthy eating or discouraging smoking. The TPB exhibits more theoretical clarity than the SEM, incorporating both cognitive and socio-environmental factors to explain performance of health behaviours; however, the model still lacks the ability to account for demographic factors and other perceptions such as fear and regret. Furthermore, the TPB does not take into account external cues such as patient education or media campaigns that may change individual perceptions. The HBM provides a model to explain, measure, and predict an individual's health behaviour in relation to patient involvement in patient safety. The HBM was originally developed to explain health behaviour in relation to illness prevention behaviours such as vaccination. Patient involvement in patient safety is analogous to illness prevention behaviours because of the targeted behaviour changes that are required to prevent patient safety incidents on a short-term basis. The HBM also offers more insight into how cues to action, such as media campaigns or provider modeling, can affect perceptions of patient safety practices and the perceived barriers and benefits in engaging in a wide variety of patient safety practices. As such, the HBM provides the opportunity to explore how health care provider behaviour can influence patient perceptions of patient safety, and the likelihood

of patient involvement in patient safety behaviours when external influences are positive or negative. Subsequently, the Health Belief Model has been used as the guiding framework for this research.

3.4 SURVEY METHODS

Quantitative data are most often characterized by the collection of close-ended information, as exemplified by attitude, behaviour, and performance instruments (Creswell & Plano Clark, 2007). Surveys elicit close-ended information through the selection of predetermined responses; participants choose from a range of answers that best match their response to the question. Surveys, therefore, are better able to obtain yes/no and scaled responses from participants as compared to focus groups, and they typically cover a greater number of topics (Morgan, 1996). Because of this, surveys tend to provide more breadth on the topic at the expense of the depth that can be achieved through qualitative data collection. Nonetheless, surveys allow for the collection of quantitative data from large population samples and for the transformation of data through statistical analysis. By doing so, hypotheses can be tested and generalizations can be made about target populations. Surveys can also include open-ended questions where respondents are encouraged to add their own comments. However, open-ended questions are used less frequently and have been shown to reduce the reliability of a study (Krosnick, 1999). Consequently, some researchers have begun combining surveys with other qualitative methods to better capture data that is lost when using purely quantitative methods.

3.4.1 Survey Instrument Design

Questionnaires for patients and health care providers were developed to address the constructs of the Health Belief Model. Survey questions were aimed at better understanding how the perceptions of patient involvement in patient safety practices at the patient and provider levels contribute to or hinder greater patient involvement. Online questionnaires were conducted using the online survey service Opinio[®] housed at Dalhousie University. This approach ensured confidentiality of research participants and also ensured that completed questionnaires and associated data were housed within Canada, in compliance with provincial privacy legislation. All online data from the Opinio[®] server were downloaded to the researcher's computer on August 31, 2011 and subsequently all data were deleted permanently from the Opinio[®] server.

3.4.1.1 Patient Survey Instrument Design

Patients were surveyed with respect to their involvement in patient safety practices during their last hospitalization, their experiences when interacting with hospital staff, their experiences with and perceptions of patient safety incidents, as well as demographic information (e.g., age, sex, education, income, hospitalization). The patient questionnaire (Appendix A) consisted of 38 variables and was developed using questions from validated and reliable tools that have been discussed in the previous chapter (Davis, Koutantji, & Vincent, 2008; Marella, Finley, & Tomas, 2007; Waterman et al., 2006), as well as from new questions based on the constructs of the HBM. A full list of constructs, survey variables, and sources can be found in Table 3.1.

Table 3.1 Patient Survey Constructs, Questions, and Sources

| Construct | Questions | Source |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Patient Safety Practice - Factual | Q1 - How often did you ask questions of your doctor regarding your health care? | Waterman et al., (2006), Marella et al. (2007) |
| | Q2 - How often did you ask questions of your nurses regarding your health care? | Waterman et al. (2006), Marella et al. (2007) |
| | Q3 - How often did you ask questions of your other health care providers regarding your care? | Waterman et al. (2006), Marella (2007) |
| | Q4 - Did you share a list of the medications you take on a regular basis with your health care providers? | Waterman et al. (2006), Marella et al. (2007) |
| | Q5 - Did you write down important medical information during your stay to bring home with you? | New Question |
| | Q6 - Did you have a family member/friend present when your health care providers were explaining health care information to you? | Waterman et al. (2006) |
| Patient Safety Practice - Challenging | Q7 - Did you ever ask a health care provider to confirm your identity before giving medications or providing treatment? | Waterman et al. (2006), Marella et al. (2007) |
| | Q8 - Did you ever ask a health care provider if they had washed their hands prior to touching you? | Waterman et al. (2006), Marella et al. (2007) |
| | Q9 - If you had surgery during your last hospitalization, did you help the doctor or nurse mark your surgical site? | Waterman et al. (2006), Marella et al. (2007) |
| Threat (Seriousness & Susceptibility) | Q22 - To what extent do you <u>agree</u> with the following statement: my chances of experiencing a patient safety incident are significant? | New Question |
| | Q23 - To what extent do you agree with the following statement: I believe I could be <u>seriously</u> injured (i.e. further hospitalization, lasting side effects) by a health care error? | New Question |
| | Q24 - To what extent do you <u>agree</u> with the following statement: experiencing a health care error could lead to death or permanent injury? | New Question |
| Self-Efficacy | Q15 - When I asked questions of my health care providers their answers were helpful and courteous. | New Question |
| | Q16 - Overall, it was easy for me to understand the information or directions my health care providers were giving me regarding my health care | New Question |
| | Q17 - Asking questions about my health is embarrassing | New Question |
| | Q18 - Asking questions about my health care can prevent a patient safety incident from occurring | New Question |

Table 3.1 Patient Survey Constructs, Questions, and Sources, Cont'd

| Construct | Questions | Source |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Cues to Action | Q19 - Have you ever experienced a patient safety incident? | New Question |
| | Q20 - Has someone you know (family/friend) ever experienced a patient safety incident? | New Question |
| | Q21 - What percentage of patients do you think experience health care errors during hospitalization? | New Question |
| | Q25 - Have you heard the term “patient safety” before? | New Question |
| | Q26 - Did you hear about patient safety from your family doctor? | New Question |
| | Q27 - Did you hear about patient safety during a hospital stay? | New Question |
| | Q28 - Did you hear about patient safety from popular media (e.g. TV program, magazine article, newspaper article)? | New Question |
| | Q29 - Did you hear about patient safety from any other source? | New Question |
| | Q30 - To what extent do you <u>agree</u> with the following statement: I would like to be made more aware of the risks associated with my health care | New Question |
| Expectations (Benefits vs. Barriers) | Q10 - Overall my experience dealing with my health care providers at the hospital was positive. | New Question |
| | Q11 - I was encouraged by my doctor to ask questions of my health providers | Davis et al. (2008) |
| | Q12 - I was encouraged by other health care providers to ask questions | Davis et al. (2008) |
| | Q13 - I felt comfortable asking the nursing staff questions about my health | Davis et al. (2008) |
| | Q14 - If you did not ask your health care providers questions, what got in the way of doing so? | New Question |
| Demographics | Q31 - How long was your most recent hospitalization? | New Question |
| | Q32 - What is your age? | Waterman et al. (2006), Marella et al. (2007), Davis et al. (2008) |
| | Q33 - What is your gender? | Waterman et al. (2006), Marella et al. (2007), Davis et al. (2008) |
| | Q34 - What is the highest level of education you received? | Davis et al. (2008) |

Table 3.1 Patient Survey Constructs, Questions, and Sources, Cont'd

| Construct | Questions | Source |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Demographics | Q35 - Are you currently employed? | Davis et al. (2008) |
| | Q36 - What is your average annual income? | New Question |
| | Q37 - In the last two years, how many times have you been hospitalized (excl. emergency room visits which did not end in admission)? | Waterman et al. (2006) |

Patient Safety Practices – Factual

Patients were surveyed on how often they performed several factual patient safety practices during their most recent hospitalization, including asking health care providers questions, sharing a list of medications with providers, writing down important medical information during their stay, and having a family member or friend present when providers explained health care information to them. Frequency of patient safety practices was measured on a 4-point Likert-type scale from (1) always to (4) never.

Patient Safety Practices – Challenging

Patients were also surveyed on how often they performed several challenging patient safety practices, including asking health care providers to confirm their identity before being given medications or treatment, asking providers if they had washed their hands, and whether they had helped to locate or mark their surgical site. Frequency of patient safety practices was measured on a 4-point Likert-type scale from (1) always to (4) never for the first two questions and yes/no for surgical site marking.

Threat

The construct of threat was measured using perceptions of seriousness and susceptibility. Questions used to measure this included the perceived chances of experiencing a patient safety incident, whether the respondent perceived they could be

seriously injured by a patient safety incident, and whether experiencing a patient safety incident could lead to death or permanent injury. Responses were measured on a 5-point Likert scale from (1) strongly agree to (5) strongly disagree. Respondents were also asked to write in the percentage of patients they thought experienced a patient safety incident during hospitalization.

Expectations

The construct of expectations incorporates both the perceived benefits and barriers to performing a behaviour. This construct included questions that could be perceived as a benefit or barrier depending on a patient's experience, and included whether their overall experience dealing with health care providers was positive, whether they felt comfortable asking questions, and whether they were encouraged by their health care providers to ask questions. Responses were measured on a 5-point Likert scale from (1) strongly agree to (5) strongly disagree.

Self-Efficacy

The construct of self-efficacy captured the respondent's ability to perform patient safety practices and feel comfortable doing so. Questions included in this construct were whether patients felt comfortable asking health care providers questions, if provider answers were helpful and courteous, if it was easy to understand the information or directions given by health care providers, and whether they felt that asking questions could help prevent an incident from occurring. Responses were measured on a 5-point Likert scale from (1) strongly agree to (5) strongly disagree.

Cues to Action

Cues to action is a mediating construct and encompasses practices and strategies that may help to further mediate perceptions of threat and expectations to help patients

engage in a particular behaviour. Questions for this construct included whether or not the respondent heard the term “patient safety” before and, if so, if they heard the term from their family doctor, during a hospital stay, from popular media, or from another source. Respondents were also asked if they or a family member or friend had ever experienced a patient safety incident. Responses were recorded as yes/no and respondents also had the option of providing further descriptive information if necessary.

3.4.1.2 Provider Survey Instrument Design

The health care provider survey examined individual patient safety practices, unit-wide patient safety practices, perceptions of the organization’s safety culture, and personal experiences and perceptions of greater patient involvement. The health provider survey (Appendix B) was developed using questions from validated and reliable patient safety culture and patient involvement surveys that have been discussed in the previous chapter (Marella, Finley, & Tomas, 2007; Sexton, Helmrich, & Neilands, 2006; Singer, Gaba, & Geppert, 2003; Voluntary Hospitals of America, 2000; Waterman et al., 2006), and new questions based on the constructs of the HBM. A full list of constructs, survey variables, and sources can be found in Table 3.2.

Table 3.2. Provider Survey Constructs, Questions, and Sources

| Construct | Question | Source |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Patient Safety Practices - Factual | Q4 - How often are patients in this unit given written information regarding medications they are given while hospitalized? | Waterman et al. (2006), Marella et al. 2007) |
| | Q6 - Are patients in this unit given materials and/or pamphlets to record important information about their hospitalization on for personal use? | New Question |
| | Q7 - Are patients in this unit encouraged to have family members/friends present when nursing staff is explaining health care information? | Waterman et al. (2006), Marella et al. 2007) |
| Patient Safety Practices - Challenging | Q5 - How often are patients in this unit encouraged to ask their health care providers if they have washed their hands before touching them? | Waterman et al. (2006), Marella et al. 2007) |

Table 3.2. Provider Survey Constructs, Questions, and Sources, Cont'd

| Construct | Question | Source |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Patient Safety Practices – Challenging (Cont'd) | Q8 - Are patients in this unit asked to identify themselves before being given a new treatment? | Waterman et al. (2006), Marella et al. 2007) |
| Threat (Seriousness & Susceptibility) | Q10 - To what extent do you believe patients in your unit are at risk for experiencing a health care error? | New Question |
| | Q11 - What percentage of patients do you think experience patient safety incidents during hospitalization? | New Question |
| | Q18 - On average, how often do your patients ask you questions about their health care treatments during hospitalization? | New Question |
| | Q19 - On average, how often do your patients ask you questions about medication they are given during hospitalization? | New Question |
| | Q22 - On average, how often do patients ask you about the likelihood of a patient safety incident occurring? | New Question |
| | Q30 - Staff on my unit understand what a patient safety incident is and the importance of reporting them | Sexton et al. (2003) |
| Self-Efficacy | Q26 - To what extent do you <u>agree</u> with the following statement: I could lessen the chance of a patient safety incident occurring by involving patients in their care while hospitalized? | New Question |
| | Q27 - To what extent do you agree with the following statement: Overall, greater patient involvement in patient safety makes me feel more able to prevent patient safety incidents from occurring? | New Question |
| Cues to Action | Q1 - Are patients verbally educated about patient safety concerns in your unit? | New Question |
| | Q2 - Who are patients verbally educated by? | New Question |
| | Q3 - Are patients educated using pamphlets about patient safety concerns in your unit? | New Question |
| | Q9 - Are patients in this unit educated about how frequently patient safety incidents occur? | New Question |
| | Q20 - How often do you invite patients to ask you factual patient safety questions, e.g. “Let me know if you have any questions about your surgery”? | Sexton et al. (2003) |
| | Q21 - How often do you invite patients to ask you challenging patient safety questions, e.g. “feel free to ask me whether or not I’ve washed my hands”? | Sexton et al. (2003) |
| | Q23 - How often do you encourage your patients to become involved in their health care while hospitalized? | New Question |
| | Q25 - To what extent do you agree with the following statement: on average, patients understand what patient safety incidents are and how they might occur during hospitalization? | New Question |
| Expectations (Benefits versus Barriers) | Q24 - To what extent do you agree with the following statement: patient questions about their treatments and medications during hospitalization increases my workload? | New Question |
| | Q28 - Patient safety is a top priority in my unit | Sexton et al. (2003), Singer et al. (2003) |

Table 3.2. Provider Survey Constructs, Questions, and Sources, Cont'd

| Construct | Question | Source |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Expectations (Benefits versus Barriers), Cont'd | Q29 - Patient collaboration is a top priority in my unit | VHA (2000) |
| | Q31 - The majority of health care errors that do occur on my unit are disclosed. | New Question |
| | Q32 - When reported, health care errors are discussed in full with the staff involved and learnings are shared | Singer et al. (2003) |
| Safety Culture | Q12 - There is good communication between staff regarding patient safety issues | Singer et al. (2003) |
| | Q13 - Management provides a climate that promotes safety | Singer et al. (2003) |
| | Q14 - Reporting a patient safety incident results in negative consequences for the person reporting it | Singer et al. (2003), VHA (2000) |
| | Q15 - If I report a patient safety incident, I know that management will act on it | Singer et al. (2003) |
| | Q16 - Employee ideas and suggestions for improving patient safety are listened to | Sexton et al. (2003) |
| | Q17 - In general, employees have actively participated in helping to shape and implement patient safety practices | New Question |
| | Q33 - When reported, health care errors are disclosed to the patient and their family in an honest and open manner | VHA (2000) |
| | Q34 - Patients are encouraged to be involved in the setting and implementation of patient safety practices | VHA (2000) |
| | Q35 - Patients are able to directly report patient safety incidents to management | VHA (2000) |
| Demographics | Q36 - What is your age? | Sexton et al. (2003), Singer et al. (2003) |
| | Q37 - What is your gender? | Sexton et al. (2003), Singer et al. (2003) |
| | Q38 - How many years have you been in your profession? | Sexton et al. (2003) |
| | Q39 - How long have you worked on this unit? | Sexton et al. (2003), Singer et al. (2003) |
| | Q40 - What is the highest level of education you have achieved to date? | New Question |

Table 3.2. Provider Survey Constructs, Questions, and Sources, Cont'd

| Construct | Question | Source |
|------------------------|--------------------------------------------------------------------------|--------------------------------------------|
| Demographics Cont'd | Q41 - How many day shifts and night shifts do you do in an average week? | New Question |
| | Q42 - What is your primary role on this unit? | Sexton et al. (2003), Singer et al. (2003) |

Patient Safety Practices – Factual

Providers were surveyed on how often several factual patient safety practices were performed on their unit. Practices included how often patients are given written information about their medications while in hospital, materials or pamphlets to write down important information for personal use, and if patients are encouraged to have a family member or friend present when health care information is explained. Responses were measured on a 4-point Likert-type scale from (1) always to (4) never. An option of (5) not sure was included due to some health care providers possibly being unaware of certain practices.

Patient Safety Practices – Challenging

Providers were also surveyed on how often challenging patient safety practices are utilized on their unit, including encouraging patients to ask their providers if they have washed their hands and asking patients to confirm their identity before being given a new treatment. Responses were recorded on a 4-point Likert-type scale ranging from (1) always to (4) never. As with the previous construct, an option of (5) not sure was included due to some health care providers possibly being unaware of certain practices.

Threat

Seriousness and susceptibility of patient safety incidents was measured as whether providers felt patients on the unit are at risk for experiencing a patient safety incident, whether staff members on the unit understand what a patient safety incident is, and the importance of reporting incidents. Responses were captured on a 5-point Likert scale from (1) strongly agree to (5) strongly disagree. In addition, health care provider respondents were asked to indicate what percentage of patients they thought experienced patient safety incidents during hospitalization.

Expectations

The construct of expectations incorporated both the perceived benefits and barriers to performing patient safety behaviours. Benefits and barriers to greater patient involvement in patient safety were captured using a number of variables, including whether patient questions increased workload, whether patient safety and patient collaboration are top priorities in the unit, whether the majority of patient safety incidents are disclosed, and if reported incidents are discussed and learnings shared. Responses were captured on a 5-point Likert scale from (1) strongly agree to (5) strongly disagree.

Self-Efficacy

The construct of self-efficacy was captured using variables aimed at assessing whether providers felt they could lessen the chance of a patient safety incident from occurring by involving patients in their care while hospitalized and whether greater patient involvement in patient safety makes them feel more able to prevent patient safety incidents from occurring. Responses were captured on a 5-point Likert scale from (1) strongly agree to (5) strongly disagree.

Safety Culture

The safety culture construct was added to the provider survey to further capture external influences regarding whether providers are supported and encouraged to participate in patient safety practices. Variables in this construct included whether there is good communication between staff regarding patient safety issues, whether management provides a climate that promotes safety, if reporting an incident results in negative consequences, if management acts on reported incidents, whether employee ideas are listened to, and if providers feel actively engaged in shaping patient safety practices. Responses were captured on a 5-point Likert scale from (1) strongly agree to (5) strongly disagree.

Cues to Action

The provider survey captured a number of provider behaviours that might serve as cues to action for greater patient involvement in patient safety. Variables used to capture this construct included whether patients are verbally educated and educated through pamphlets about patient safety concerns, whether patients are educated about how frequently patient safety incidents occur, how often the provider invites patients to ask factual or challenging questions, and how often the provider encourages patients to become involved in their health care while hospitalized. Responses were captured on a 4-point Likert-type scale from (1) always to (4) never. Providers were also given the option of responding (5) not sure if they were not aware of the practices on their unit.

3.4.2 Pilot Testing

Both the patient and provider questionnaires were tested prior to full distribution. A hospital administrator identified possible pilot test participants and provided contact

information to distribute information and the surveys to potential participants. A cardiac patient group and staff professional group both agreed to participate in the pilot test. The researcher provided participants with an information session regarding the research and with a list of considerations for pilot testing, including length of time to complete, appropriateness of language, issues with question wording, layout and appearance of the survey, and to identify any questions to be removed or added. New questions based on the HBM constructs were also tested during this pilot phase. A total of 12 patients and 10 staff members completed the pilot test. Both pilot tests indicated an acceptable length of time to complete the survey, with an average time of seven minutes. Wording suggestions were provided by both groups, which were then incorporated into the final survey draft. Patient participants indicated that they would be likely to fill out the survey if they received it in the mail. Patient participants did indicated some anxiety regarding asking for a respondent's income level. As such, a box labeled "prefer not to answer" was added to decrease non-response. Staff participants indicating that they would be interested if the survey was placed on a unit, but warned that uptake may be low due to prior experience. As such, alternative methods for survey delivery were considered, including the use of staff education days.

3.4.3 Study Sample

This study took place in two tertiary hospital sites located in Atlantic Canada. Four units across the two sites were selected to participate in this study, including two surgical units and two medical units. The participating units were chosen because of their high admission and discharge rates to the community, their ability to capture the eligible sample, and the ability to capture both medical and surgical units within the study, thus

improving representativeness of both patient and provider samples. The patient study sample for this research was determined from a consecutive sample of discharges from the participating units using hospital discharge databases. As it was important to ensure patient recall of their visit, patient eligibility for participation was determined by having been hospitalized within three months of the study start date, or between November 2010 and January 2011.

Patient inclusion criteria included: being 18 years of age and older, competent to answer questions about health care experiences, having had a minimum length of stay (LOS) of one night within a participating unit, and having been discharged directly to the community. Inclusion criteria for health care providers included: being a licensed Registered Health care provider (RN), a Licensed Practical Nurse (LPN), a doctor (MD), a pharmacist (RPh), or allied health professional (e.g., physiotherapist) employed on a participating unit, working full-time, having worked in the unit for at least 6 months prior to the research start date, and providing direct front-line care to patients. Furthermore, inclusion criteria for patient and provider focus groups included having previously completed the survey.

The sample size calculation for this research was determined using accepted rules for partial least squares analysis. Sample size is determined by the larger of two possibilities: (1) the block with the largest number of formative indicators, or (2) the dependent latent variable with the largest number of independent latent variables impacting it (Chin, 1998). Using the rule of 10 cases per predictor for regression, the sample size is determined by 10 times either (1) or (2). As such, a minimum of 50 patient and 70 provider responses would be needed using this rule. Other researchers, however,

have suggested that sample sizes should exceed 100 overall observations to ensure acceptable fit (Nasser & Wisenbaker, 2003). This rule is more widely accepted and as such was used for this research. However, research partners at the hospitals were interested in attaining an overall patient sample of 200. A first run of 460 patient surveys was sent out on February 16, 2011 with follow-up reminder letters sent out on March 11, 2011. Due to a low response rate on the first run of patient surveys, a second run of 128 surveys was sent out on May 13, 2011 with follow-up reminder letters sent out on June 13, 2011 to ensure a minimum of 200 responses from the patient sample. With regards to providers, a minimal sample size of 100 health care providers across the two sites was deemed acceptable. In order to achieve this sample size, paper surveys were distributed to the four participating units accounting for a total of 318 eligible staff members.

3.4.4 Selection and Recruitment

The first phase of data collection was the distribution and collection of the patient and health care provider surveys. Patient questionnaires were mailed along with an informational letter (Appendix C) to the patient study sample as generated by the discharge databases. Patients were given the choice of completing a provided hardcopy of the questionnaire or to complete the questionnaire online with the provided link. This approach was used to not only give participants a choice, but to ensure that no patients were excluded because of a lack of access to, or comfort in, completing an online questionnaire. For hardcopy questionnaires, patients were provided with a stamped return envelope that was addressed to the researcher to return their completed questionnaires in.

Health care provider participants were also invited to complete either a hardcopy or online questionnaire. Hardcopy surveys, along with informational letters (Appendix D)

and promotional flyers (Appendix E), were placed in strategic areas in each of the participating units in March 2011, with the researcher providing a short ten-minute introduction to the study to staff in each unit. A link was provided to access the online questionnaire by the researcher through handouts and was also emailed to health care providers by unit managers. Providers were also instructed to place completed hardcopy questionnaires in a separate envelope provided, which the researcher then collected from the unit. To ensure maximum uptake of provider survey response, staff education days were utilized, with the researcher participating in two education days per unit. Staff educators gave the researcher time to introduce the study and hand out questionnaires to participants during a lunch break. Education day participants had the opportunity to opt-out of completing the questionnaire if they wished to. The researcher then collected the hardcopy questionnaires directly from participants.

3.4.5 Informed Consent

Consent to participate in the research project was obtained through the addition of an informational sheet on both the hardcopy and online questionnaires. The informational sheet fully explained the purpose of the research, how the data were to be used, and how the confidentiality and security of data would be maintained. Consent was given through the inclusion of a bolded statement on the questionnaire itself indicating, “If you complete this survey, you are consenting to participate in this research.” Participants were not compensated for their involvement.

3.5 FOCUS GROUP METHODS

According to Morgan (1996), focus groups are a research method to collect data through group interaction on a specific topic guided by the researcher. It is important to

delineate focus groups from other forms of group discussions, in that the primary purpose of focus groups is data collection, with the process being overseen by a trained interviewer. Kreuger and Casey (2009) provide five characteristic features related to focus groups, including (1) focus groups involve people, (2) the people possess certain characteristics, (3) they provide qualitative data, (4) have a focused discussion, and (5) help understand the topic of interest. Individuals involved in a focus group are brought together solely for research purposes and are encouraged to interact with each other; therefore, already established groups, or group interviewing that does not allow participants to interact, are excluded (Morgan, 1996). In essence, focus groups provide researchers the forum to gather rich data from participants they view as representative of the target population. Data collected from focus groups are analyzed by aggregating data together to form themes and concepts that capture the nature of the topic. Although focus groups can be used on their own in qualitative research, they are increasingly being used in conjunction with quantitative research to provide a fuller understanding and explanation of results (Morgan, 1996).

3.5.1 Selection and Recruitment

Focus group data were collected following survey analysis. Patients and providers who completed the survey had the opportunity to self-identify for focus group participation by contacting the researcher through the inclusion of a phone number on the questionnaire and information letter. Information regarding whom to contact was also available on the online questionnaire. This approach was used to limit the influence of coercion on focus group participants, and provided the researcher with a rough estimate of focus group participation prior to that phase. Limiting the number of individuals in

each focus group allowed for in-depth qualitative questioning and analysis (Kreuger & Casey, 2009).

3.5.2 Focus Group Process

3.5.2.1 Patient Focus Groups

The researcher and a professional focus group moderator developed a moderator's guide ahead of the patient focus groups (Appendix F). Focus group questions were developed and informed by the results from the patient survey and were aimed at eliciting further information as to how patients view their involvement, how provider behaviour influences their involvement, and how best to get patients further involved in patient safety and their care. The guide included a brief introduction concerning why the participants were there, instructions to make introductions by first name only, and to tell the group what you do in your spare time. This was done to ease the participants into the focus group session and bring the participants together as a group. A number of ground rules were also set, including protecting each other's confidentiality, not talking over one another, answering each question respectfully, and to change their answers when appropriate (Kreuger & Casey, 2009).

Focus groups for patients were conducted within the community setting at an independent research facility. Upon arriving for the focus groups, participants were given the opportunity to chat with one another while enjoying refreshments and snacks. Participants were asked by the third-party research facility to sign in for the focus group. As each participant arrived, the researcher greeted them and asked if there were any questions regarding the consent document. If the participant was satisfied that their questions had been answered they were asked to sign the consent form. Once all participants had arrived, they were asked to come into the focus group room. A

professional focus group moderator was employed to run the focus groups and she introduced herself at the beginning of the focus group. The participants were once again made aware that they were being audio recorded and that the researcher was behind a one-way mirror taking notes.

3.5.2.2 Provider Focus Groups

A similar procedure was followed for the provider focus groups. The researcher developed a moderator's guide for use in the provider focus groups (Appendix G). Provider focus group questions stemmed from results regarding patient involvement practices, perceptions of greater patient involvement, and the role of patient safety on their unit and how it is expressed. Provider focus groups were held at both hospital sites during staff education days. Participants were invited to partake in a light lunch and refreshments before and during the focus group. Consent forms were collected by the researcher prior to the start of the focus group due to time constraints. A similar introduction to the focus group was used with providers, including going around the room to indicate how many years of experience each participant had on the unit and their primary role. Focus group ground rules were the same as for the patient focus group.

3.5.3 Informed Consent

An informed consent document was developed using hospital consent guidelines (Appendix H). The consent document included information regarding the purpose of the research, how it was to be conducted, who could participate, participant expectations and compensation, confidentiality issues, and a statement speaking to the freedom to withdraw from participation at any time. The consent form was provided to participants ahead of time in order to ensure they had enough time to read the document thoroughly

and to have the opportunity to ask questions of the researcher. The consent forms were then reviewed again at the start of the focus group and the participants were given the opportunity to raise any further questions. Participants were then asked to sign the consent forms before going into the focus group area.

3.5.4 Compensation

Focus group participants were compensated for their time with a \$10 or \$20 Tim Horton's gift card depending on the duration of the focus group. Patient participants were also reimbursed for any travel costs incurred.

3.5.5 Transcription

A professional transcriptionist transcribed both the patient and provider focus groups verbatim. Transcripts represented a second source of data for inclusion in the final analysis.

3.6 ETHICAL CONSIDERATIONS

The Tri-Council Policy Statement defines *minimal risk* as research in which “the probability and magnitude of possible harms implied by participation in the research is no greater than those encountered by the participant in those aspects of his or her everyday life that relate to the research” (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2010, s. C1). As this research proposed to utilize survey and focus group techniques, and involved questioning about recent health care experiences and satisfaction with care, it presented no more than minimal risk to research participants. However, if recalling instances proved upsetting to participants, appropriate contact

information (e.g., patient representative, employee assistance) was provided on the questionnaires.

Confidentiality for surveys was maintained by ensuring that no identifiers were included in the hardcopy and online questionnaires. Patient and health care provider participants were also provided with a return envelope for the hardcopy questionnaire to be directly mailed back to the researcher. All returned questionnaires were stored in a locked drawer within a locked office at Dalhousie University. Completed online questionnaires were accessible only by the researcher and all exported data were kept in password-protected files. Confidentiality of focus group transcriptions was ensured through the de-identification of participant information and through the storage of focus audio-recordings and transcripts in a locked drawer located in a locked office at Dalhousie University. Focus group participants were also asked to respect the confidentiality of fellow participants and to refrain from disclosing any of the information discussed during the focus group.

3.7 DATA ANALYSIS

3.7.1 Quantitative Analysis

The first phase of data analysis constituted the patient and provider survey. In order to answer the primary research question, the partial least squares (PLS) approach to structural equation modeling was used. First developed by Wold (1982), PLS is considered more appropriate for data sets that may include smaller sample sizes and non-normal or unknown distributions, and places minimal demands on measurement scales (i.e. categorical and ordinal variables) as compared to the maximum-likelihood estimation method of structural equation modeling (Chin, 1998; Falk & Miller, 1992;

Fornell & Bookstein, 1982). While the covariance approach to structural equation modeling is used more frequently, the variance approach of PLS focuses on maximizing how the variance of dependent, or latent variables, is explained, rather than reproducing a covariance matrix. Essentially, PLS assumes that all variance found in a model should be explained (Haenlein & Kaplan, 2004). Furthermore, unlike the covariance approach, the PLS approach is able to incorporate and measure reflective and formative indicators (Chin, 1998). As such, it is argued that the PLS approach “makes for models that give a closer fit to the given observations...” (Wold, 1973, p.384).

While PLS is considered a “soft” approach to structural equation modeling, as compared to a “hard” approach such as maximum-likelihood estimation (MLE), PLS provides the flexibility to perform the following: (a) model relationships among multiple predictor and criterion variables, (b) construct latent variables that cannot be directly measured or observed, (c) model measurement errors for manifest variables, and (d) test theoretical assumptions against empirical data (Chin, 1998). PLS interpretation is also very straightforward, with factor loadings between variables and constructs analogous to factor analysis (i.e., the higher the loading, the more meaning it has to the construct), and PLS path coefficients between constructs analogous to standardized regression coefficients (Brock Smith & Bristor, 1994).

Latent variables within the patient and provider PLS models encompassed the constructs of the Health Belief Model and their hypothesized relationships, with questionnaire variables captured as manifest variables. Within PLS models, manifest variables can be deemed as either reflective or formative depending on their relationship with the latent variable they are meant to measure. This is an important distinction to

make, as misspecification can influence the PLS model itself and the conclusions drawn from it (Freeze & Raschke, 2007). Reflective indicators are viewed as functions of the latent variable they capture; the latent variable gives rise to, or causes, the manifest variables (Chin, 1998). As such, it would be expected that if the latent variable were to change in magnitude, so would the reflective indicators. Reflective indicators are highly correlated with one another, and as such can be interchanged or dropped without altering the meaning of the construct they are meant to reflect (Freeze & Raschke, 2007).

Formative indicators, on the other hand, have the opposite relationship with latent variables. Formative indicators give rise to the latent variable, and as such changes in formative indicators determine how the latent variable will change (Diamontopoulos & Siguaw, 2006). In other words, the latent variable is viewed as an effect of the manifest variables, with formative manifest variables not expected to be correlated (Chin, 1998).

Manifest variables for most constructs were deemed reflective as they were used to measure the same phenomenon. However, manifest variables for demographic latent variables (e.g., age, gender, employment, education, staff position) were deemed formative as they gave rise to the latent variable and were exhaustive in nature. For example, the latent variable of “gender” is explained by the manifest variables “female” and “male,” with no correlation between the manifest variables and both manifest variables required to explain the variable of gender.

In order to explore the primary and investigative research questions, a latent variable PLS analysis was performed on the patient and provider data separately. A number of issues concerning the dataset were dealt with before running the PLS model. Firstly, a missing case analysis was performed and the mean substitution method was

used. This ensured that the data were valid for analysis with the PLS software. Variables that were negative in nature were also reverse-coded to ensure uniformity with the data. Also, variables that were interval in scale (e.g., percentage of patients who experience a patient safety incident, age, etc.) were transposed into ordinal scaling for analysis. Finally, in order to input demographic variables into the PLS model, dummy variables were created for each demographic question of interest (e.g., “gender” cases were coded as either “0” or “1” for male/female).

A preliminary patient model for testing was developed using the constructs and relationships set forth by the Health Belief Model, and by the proposed hypothesis that perceptions will differ for factual versus challenging patient safety practices. The patient input model is shown in Figure 3.2. Manifest variables are shown as rectangles, with latent variables represented by circles.

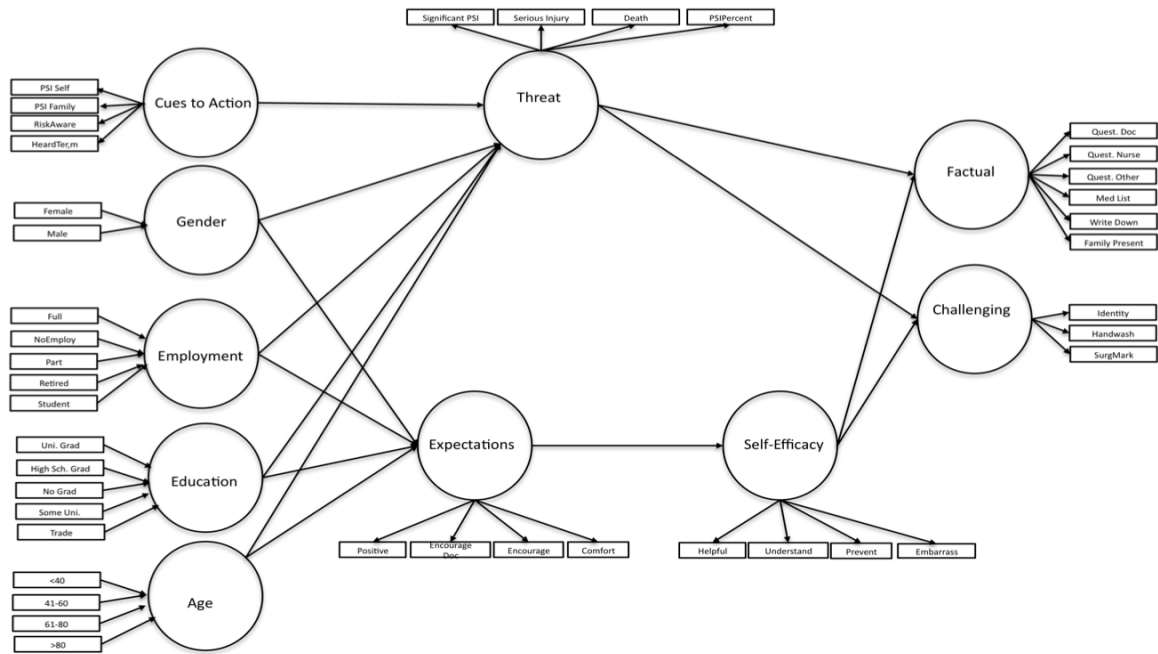


Figure 3.2. Patient Input PLS Model

As with the patient data, provider survey data were also analyzed using PLS. An initial model was built based on both the constructs of the HBM and the proposed hypothesis that an organizational safety culture will impact provider perceptions and behaviors. The provider input model for testing is shown in Figure 3.3.

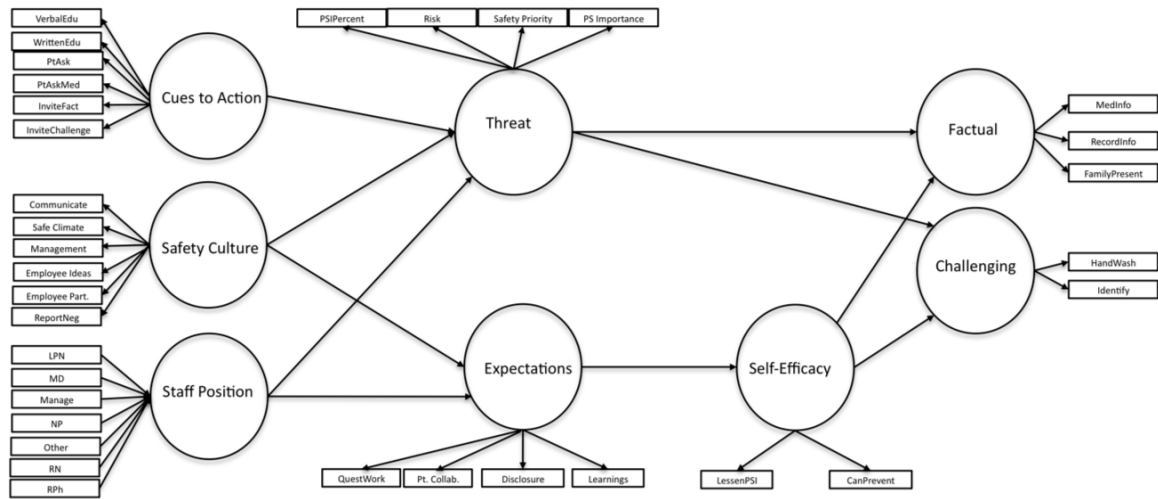


Figure 3.3 Provider Input PLS Model

Both input models were tested with the PLS algorithm. Bootstrapping was then performed to estimate precision of PLS estimates and to determine the significance of path coefficients. Only statistically significant paths (i.e., $\alpha \leq .05$) were retained in the final model. Further, only those dependent latent variables that accounted for at least 10% of variance explained were retained (Falk & Miller, 1992). In order to ensure item reliability only reflective manifest variables with loadings greater than 0.50 were retained in the final models (Chin, 1998). Formative manifest variables were not removed from the models as they are expected to be integral to the construct itself (Freeze & Raschke, 2007).

The average variance extracted (AVE) was used to test for discriminant validity of the reflective latent variables. The AVE measures the amount of variance that a reflective latent variable captures relative to the amount due to measurement error. The standard threshold for AVE is 0.50, indicating that 50% or more of the variance is accounted for (Fornell & Larcker, 1981; Hulland, 1999). Discriminant validity was measured by ensuring that the AVEs of reflective latent variables were greater than the square of the correlations among all other latent variables (Fornell & Larcker, 1981). To test internal consistency of latent variables, the composite reliability test was used rather than Cronbach's alpha as it provides greater accuracy in nonparametric modeling (Yi & Hwang, 2003). Validity and reliability were measured for reflective latent variables only as they are inappropriate for formative relationships, given that the manifest variables for formative latent variables may have positive, negative, or no correlations. PLS analysis was performed using SmartPLS v.2.0 (beta) software (Ringle, Wende, & Will, 2005).

3.7.2 Qualitative Analysis

3.7.2.1 Interpretative Framework and Assumptions

Within qualitative inquiry it is important to identify the interpretative framework that has been used by the researcher to conduct the study and analyze data, as underlying philosophies and assumptions can explicitly or implicitly influence choices regarding data methodology and interpretation. This researcher identifies strongly with the interpretative framework of postpositivism. Postpositivism is often used by researchers who have quantitative backgrounds and take a scientific approach to research (Creswell, 2007). Tenets of postpositivism include viewing research as a series of logical steps, using rigorous and multiple methods of data collection and analysis, and believing in

multiple perspectives rather than one reality (Phillips & Burbules, 2000). Due to the use of both quantitative and qualitative data collection and analysis in this research, postpositivism provides a framework for interpreting similarities and differences in the data, using both survey and focus group data to understand a phenomenon, and employing a sequential explanatory design.

Within an interpretative framework, philosophical assumptions regarding data collection and interpretation are made. Four main philosophical assumptions have been identified in qualitative research, including (1) ontological, (2) epistemological, (3) axiological, and (4) methodological (Creswell, 2007). Within postpositivism, ontological assumptions refer to the belief that a reality exists apart from ourselves.

Epistemologically, postpositivism asserts that reality can only be approximated through research and statistical methods validated by peers. Postpositivist axiological beliefs suggest that researcher biases need to be controlled in research, including having minimal interaction with research participants. Finally, methodological assumptions of postpositivism assert that the object of research is to create new knowledge, with deductive and scientific methods allowing for comparisons among groups. These assumptions have impacted the design and interpretation of mixed methods data and have provided a framework for the presentation of results.

3.7.2.2 Thematic Analysis

A thematic analysis approach was used to conduct the analysis of the focus group data. Thematic analysis involves the coding of qualitative data to produce themes. A theme is a “pattern found in the information that at a minimum describes and organizes the possible observations and at a maximum interprets aspects of the phenomenon”

(Boyatzis, 1998, p.vii). Thematic analysis allows a researcher to identify patterns, and from those patterns develop themes or typologies that describe these patterns. Thus, themes should capture something important about the data in relation to the primary research questions (Braun & Clarke, 2006). Thematic analysis is particularly useful for this research, as it is not attached to a pre-existing theoretical framework. Thematic analysis involves a number of steps from raw qualitative data to the identification of codes and themes. Braun and Clarke (2006) have identified six phases that constitute thematic analysis: (1) immersion/familiarization, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. This framework was used to conduct the analysis of the qualitative information from focus groups. Furthermore, thematic analysis can either be inductive or theoretical, meaning that themes can either emerge from the data itself or be placed in pre-existing themes already established by literature. For the purpose of this research, themes were generated inductively and were semantic in nature, meaning that participant responses were analyzed based on what was said, not on underlying meanings and conceptualizations (Braun & Clarke, 2006). Semantic thematic analysis most closely resembles the postpositivist paradigm with which this researcher most closely relates. To ensure credibility throughout this process, a reflexive and methodological journal was kept to make explicit the biases and assumptions of the researcher that may have impacted the development of codes and themes.

3.7.2.3 Transcript Analysis

Both patient and nurse transcripts were compiled as one complete dataset within the thematic analysis. This was done to better understand the interplay between patients

and health care providers in the inclusion of patients in their care and involvement of patients in patient safety practices. As such, this analysis provides for a more holistic view of patient involvement during the patient-provider encounter and attempts to understand the phenomenon of patient involvement as a shared experience between patients and providers. This shared experience helps to illuminate how best to influence patient motivations during the patient-provider encounter and how perceptions can be modified by provider behaviour.

To accomplish immersion/familiarization, verbatim transcripts were checked for accuracy by the researcher by doing a thorough reading while listening to the audio recording. Once accuracy was established, all patient focus group transcripts and nurse focus group transcripts were read together as one complete data set. Once a complete reading had taken place, each individual focus group transcript was then read again individually. During this second reading, initial notes and thoughts regarding the data were recorded in a journal.

The next phase of analysis was the generation of initial codes for the data. Codes refer to the most basic element of data that can be assessed meaningfully (Braun & Clarke, 2006). For the initial phase of coding, it was important to generate as many codes as possible, with each data extract coded inclusively. Coding was conducted using TAMS Analyzer[®] v.4.34 (beta) software (Weinstein, 2012). Once the initial list of codes was created, the next phase of analysis was to analyze the codes to identify possible themes. To help facilitate this phase, the list of initial codes was made into a table in Excel[®] to help organize codes into themes. These themes were then reviewed against all data extracts to determine their presence. It is important to ensure that each theme, and all

themes collectively, present an accurate representation of the data set (Braun & Clarke, 2006). As such, all transcripts were reread to ensure that nothing had been missed. Once all possible themes had been determined and the data had been sufficiently coded, a candidate thematic map was created to show the relation between codes and themes. Finally, each theme was named and defined using the data to provide a description for future use.

CHAPTER 4 RESULTS

The purpose of this research was to better understand how and why patients become involved in their care while hospitalized, and whether perceptions of patient safety and health care provider behaviour play a role in patient involvement in patient safety. The results are based on patient and provider responses from two tertiary hospital sites located in Atlantic Canada. A total of 217 patient and 113 provider survey responses were recorded, with 11 patients and 27 nurses further participating in focus groups. Overall, patient responses indicated greater willingness to engage in factual patient safety practices versus challenging patient safety practices, with patient perceptions of threat and self-efficacy greatly contributing to patient involvement in patient safety practices. Provider perceptions of safety culture, threat, and expectations all contributed to providing encouragement and modeling of patient safety practices. Qualitative analysis of patient and provider narratives led to the development of four overarching themes, including (1) wanting control, (2) feeling connected, (3) encountering roadblocks, and (4) sharing responsibility for safety.

4.1 QUANTITATIVE ANALYSIS

4.1.1 Patient Survey Descriptive Results

A total of 217 of the 587 patient surveys were returned for a final response rate of 37.0%. Table 4.1 describes the demographics of the patient sample. Overall, the patient sample was 65 years and older (n=119, 54.8%), male (n=136, 62.2%) and retired (n=144, 66.4%). Additionally, the majority of patients had only been hospitalized once in the past

two years (n=110, 50.7%) and had stayed in hospital for more than one night during their most recent hospitalization (n=201, 92.6%).

Table 4.1. Patient Survey Demographics (N=217; ND=No Data)

| Variable | n | % |
|----------------------------------------------|-----|------|
| Age | | |
| <65 | 95 | 43.8 |
| 65 and older | 119 | 54.8 |
| ND | 3 | 1.4 |
| Sex | | |
| Male | 136 | 62.2 |
| Female | 80 | 36.9 |
| ND | 1 | 0.5 |
| Level of Education | | |
| Less than high school | 15 | 6.9 |
| Some high school | 33 | 15.2 |
| High school graduate | 48 | 22.1 |
| Vocational/trade school | 36 | 16.6 |
| Some college/university | 43 | 19.8 |
| University Graduate | 39 | 18.0 |
| ND | 3 | 1.4 |
| Employment | | |
| Full-time | 37 | 17.1 |
| Part-time | 11 | 5.1 |
| Student | 1 | 0.5 |
| Retired | 144 | 66.4 |
| Not employed | 20 | 9.3 |
| ND | 4 | 1.8 |
| Length of most recent hospitalization | | |
| 1 night | 14 | 6.5 |
| 2-6 nights | 101 | 46.5 |
| 7 or more nights | 100 | 46.1 |
| ND | 2 | 0.9 |
| Number of hospitalizations in last two years | | |
| 1 | 110 | 50.7 |
| 2 | 46 | 21.2 |
| 3 or more | 59 | 27.2 |
| ND | 2 | 0.9 |

Descriptive analysis of survey results based on constructs was performed. The presence of outliers was explored through the examination of box plots and an extreme values table to ensure the accuracy of the data. Survey data were then tested for normality

of distribution using the Shapiro-Wilk's W test with visual inspection of variable histograms. The data were found to be non-normal, and as such the median for each variable is presented in addition to the mean.

Patient Safety Practices – Factual

The majority of respondents (n=116, 54.2%) always asked questions of their doctors, whereas 97 (45.3%) patients sometimes asked questions of their nurses and 78 (36.4%) sometimes asked questions of other health care providers (Table 4.2). When asked why they did not ask questions of health care providers, 28 (14.5%) respondents indicated that the health care providers did not seem to have the time and 25 (13.0%) respondents did not know what questions to ask. The most commonly employed patient safety practice by respondents was sharing a medication list with providers, with 191 (89.7%) respondents indicating that they always did this during their last hospitalization. Respondents also indicated that they commonly wrote down information, with 91 (42.7%) respondents indicating that they always did this during hospitalization. However, having a friend or family member present was not as common, with 102 (47.7%) respondents indicating that they sometimes did this.

Table 4.2. Descriptive Statistics for Patient Factual Patient Safety Practices

| Variable | N | Min | Max | Mean | Median | SE | SD |
|----------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| Did you ask questions of your doctor regarding your health care? | 214 | 1 | 4 | 1.61 | 1.00 | 0.05 | 0.77 |
| Did you ask questions of your nurses regarding your health care? | 214 | 1 | 4 | 1.72 | 2.00 | 0.05 | 0.77 |
| Did you ask questions of your other health care providers (e.g., pharmacists, etc) regarding your health care? | 213 | 1 | 4 | 2.46 | 2.00 | 0.09 | 1.32 |
| Did you share a list of the medications you take on a regular basis with your health care providers? | 213 | 1 | 4 | 1.14 | 1.00 | 0.03 | 0.48 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert-type scale from (1) always to (4) never

Table 4.2. Descriptive Statistics for Patient Factual Patient Safety Practices, Cont'd

| Variable | N | Min | Max | Mean | Median | SE | SD |
|-----------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| Did you write down important medical information during your stay to bring home with you? | 213 | 1 | 4 | 1.93 | 2.00 | 0.07 | 1.01 |
| Did you have a family member/friend present when your health care providers were explaining health care information to you? | 214 | 1 | 4 | 1.95 | 2.00 | 0.06 | 1.01 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert-type scale from (1) always to (4) never

Patient Safety Practices – Challenging

Overall, respondents were less likely to perform challenging practices than factual practices. Respondents were least likely to ask providers if they had washed their hands, with 174 (82.1%) patients indicating they never did during their last hospitalization (Table 4.3). Another 97 (45.8%) patients indicated that they never asked their provider to confirm their identity before medication or treatment. Out of the 122 respondents who did have surgery, 77 (63.1%) did not help to mark or locate their surgical site.

Table 4.3. Descriptive Statistics for Patient Challenging Patient Safety Practices

| Variable | N | Min | Max | Mean | Median | SE | SD |
|--------------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| Did you ask your health care providers to confirm your identity before giving medications or providing treatment? | 212 | 1 | 4 | 2.87 | 3.00 | 0.08 | 1.21 |
| Did you ask your health care providers if they had washed their hands prior to touching you? | 212 | 1 | 4 | 3.72 | 4.00 | 0.05 | 0.68 |
| If you had surgery during your last hospitalization, did you help the doctor to locate or mark your surgical site? | 213 | 0 | 1 | 0.93 | 1.00 | 0.06 | 0.89 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert-type scale from (1) always to (4) never, except in questions where 0 = no, 1 = yes

Threat

Respondents indicated overall agreement that a patient safety incident could cause serious injury or permanent injury/death, with 84 (40.4%) and 117 (56.5%) indicating agreement, respectively (Table 4.4). However, patients were less likely to see their risk as significant, with most respondents, 75 (36.2%), indicating that they neither agree/disagree that the chances of experiencing an incident are significant.

Table 4.4. Descriptive Statistics for Patient Threat Construct

| Variable | N | Min | Max | Mean | Median | SE | SD |
|--------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| My chances of experiencing a patient safety incident are significant | 208 | 1 | 5 | 3.00 | 3.00 | 0.07 | 0.98 |
| I believe I could be seriously injured by a patient safety incident | 207 | 1 | 5 | 2.57 | 2.00 | 0.08 | 1.08 |
| Experiencing a patient safety incident could lead to death or permanent injury | 207 | 1 | 5 | 2.15 | 2.00 | 0.06 | 0.90 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Expectations

Respondents overall felt they had a positive experience dealing with health care providers, with 188 (88.3%) either strongly agreeing or agreeing with the statement (Table 4.5). Respondents also indicated that they were comfortable asking questions of health care providers, with 186 (86.9%) agreeing or strongly agreeing with the statement. The majority of respondents also strongly agreed or agreed that they were encouraged to ask questions by doctors, 128 (60.0%), and other health care providers, 129 (60.6%).

Table 4.5. Descriptive Statistics for Patient Expectations Construct

| Variable | N | Min | Max | Mean | Median | SE | SD |
|------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| Overall my experience with my health care providers was positive | 213 | 1 | 5 | 1.75 | 2.00 | 0.06 | 0.86 |
| I felt comfortable asking my health care providers questions | 214 | 1 | 5 | 1.83 | 2.00 | 0.06 | 0.84 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Table 4.5. Descriptive Statistics for Patient Expectations Construct, Cont'd

| Variable | N | Min | Max | Mean | Median | SE | SD |
|----------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| I was encouraged by other health care providers to ask questions | 214 | 1 | 5 | 2.36 | 2.00 | 0.06 | 0.88 |
| I was encouraged by my doctor to ask questions of my health care providers | 213 | 1 | 5 | 2.33 | 2.00 | 0.07 | 0.98 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Self-Efficacy

The majority of respondents, 121 (56.5%), agreed that providers were helpful and courteous when asked a question, and 116 (55.2%) agreed that it was easy to understand information given to them by their health care providers (Table 4.6). When asked if they felt that asking questions would help to prevent an incident from occurring, 194 (90.7%) patients strongly agreed or agreed with the statement. Finally, when asked if they find asking questions about their health care embarrassing, the majority of patients, 154 (71.6%), disagreed or strongly disagreed.

Table 4.6. Descriptive Statistics for Patient Self-Efficacy Construct

| Variable | N | Min | Max | Mean | Median | SE | SD |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| When I asked questions of my health care providers their answers were helpful and courteous | 214 | 1 | 5 | 1.83 | 2.00 | 0.06 | 0.84 |
| Overall it was easy for me to understand the information or directions my health care providers were giving me regarding my health care | 210 | 1 | 5 | 1.93 | 2.00 | 0.06 | 0.85 |
| Asking questions about my health care can prevent a patient safety incident from occurring | 214 | 1 | 5 | 1.72 | 2.00 | 0.06 | 0.85 |
| Asking questions about my health is embarrassing | 215 | 1 | 5 | 3.87 | 4.00 | 0.75 | 1.01 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Cues to Action

Nearly one quarter of respondents (n=53, 24.9%), have experienced a patient safety incident in their lifetime, with another 28 (13.5%) indicating that someone they know (family/friend) has experienced a patient safety incident (Table 4.7). Surprisingly, 121 (56.8%) patients responded that they had never heard the term ‘patient safety’ before, with 93 (45.1%) agreeing that they would like to be made more aware of the risks associated with their health care. Finally, an average response of 20.4% (n=137, range= 0% - 100%) was found when respondents were asked what percentage of patients experienced patient safety incidents while hospitalized, with 76 (35.0%) respondents indicating they did not know.

Table 4.7. Descriptive Statistics for Patient Cues to Action Construct

| Variable | N | Min | Max | Mean | Median | SE | SD |
|--------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| Have you ever experienced a patient safety incident? | 213 | 0 | 2 | 0.36 | 0.00 | 0.04 | 0.59 |
| Has someone you know ever experienced a patient safety incident? | 208 | 0 | 2 | 0.69 | 0.00 | 0.06 | 0.88 |
| Have you heard the term 'patient safety' before? | 213 | 0 | 1 | 0.43 | 0.00 | 0.03 | 0.5 |
| I would like to be made more aware of the risks associated with my health care | 206 | 1 | 5 | 1.77 | 2.00 | 0.06 | 0.79 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree, except in questions where 0 = no, 1 = yes, and 2 = not sure

4.1.2 Provider Survey Descriptive Results

Provider Demographics

A total of 113 health care providers completed a survey out of an eligible 318, representing a response rate of 35.5%. Table 4.8 describes the demographics of the health care provider sample. Overall, the provider sample was younger than 40 years of age (n=63, 51.3%), female (n=108, 87.8%), had a primary role of an RN (n=73, 59.3%), and

had been in their profession for over ten years (n=65, 52.8%). The majority of respondents identified themselves as a nurse (n=103, 83.7%). Additionally, most health care providers had worked on their unit for greater than ten years (n=37, 30.1%), with the majority performing shift work (n=99, 80.5%).

Table 4.8. Provider Survey Demographics (N=123; ND=No Data)

| Variable | n | % |
|---------------------------------|-----|------|
| Age | | |
| <40 | 63 | 51.3 |
| 40 and older | 53 | 43.1 |
| ND | 7 | 5.7 |
| Sex | | |
| Male | 14 | 11.4 |
| Female | 108 | 87.8 |
| ND | 1 | 0.8 |
| Primary role | | |
| MD | 8 | 6.5 |
| RN | 73 | 59.3 |
| LPN | 28 | 22.8 |
| NP | 2 | 1.6 |
| Allied/Interprofessional health | 5 | 4.1 |
| Pharmacist | 2 | 1.6 |
| Team Leader | 4 | 3.3 |
| ND | 1 | 0.8 |
| Years worked in profession | | |
| < 1 year | 7 | 5.7 |
| 1-2 years | 14 | 11.4 |
| 3-5 years | 21 | 17.1 |
| 6-10 years | 16 | 13.0 |
| > 10 years | 65 | 52.8 |
| Years worked on unit | | |
| < 1 year | 12 | 0.8 |
| 1-2 years | 24 | 19.5 |
| 3-5 years | 30 | 24.4 |
| 6-10 years | 20 | 16.3 |
| > 10 years | 37 | 30.1 |
| Shift work | | |
| Yes | 99 | 80.5 |
| No | 24 | 19.5 |

Descriptive analysis of survey results based on constructs was performed. The presence of outliers was explored through the examination of box plots and an extreme

values table to ensure the accuracy of the data. Survey data were then tested for normality of distribution using the Shapiro-Wilk's *W* test with visual inspection of variable histograms. The data were found to be non-normal, and as such the median for each variable is presented in addition to the mean.

Patient Safety Practices – Factual

Encouraging patients to have a family member or friend present was the most utilized practice with a majority of respondents, 101 (82.1%), saying this is always or sometimes done on their unit (Table 4.9). Responses for how often patients are given written information regarding their medications were split between sometimes and rarely, with 43 (35.2%) and 44 (36.1%), respectively. Finally, patients were least likely to be given materials or pamphlets to write down important information, with 42 (34.4%) respondents saying this is never done on their unit.

Table 4.9. Descriptive Statistics for Provider Factual Patient Safety Practices

| Variable | N | Min | Max | Mean | Median | SE | SD |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| How often are patients in this unit given written information regarding medications they are given while hospitalized? | 122 | 1 | 5 | 2.71 | 3.00 | 0.09 | 1.04 |
| Are patients in this unit given materials and/or pamphlets to record important information about their hospitalization for personal use? | 123 | 1 | 5 | 3.11 | 3.00 | 0.1 | 1.1 |
| Are patients in this unit encouraged to have family members/friends present when a health care provider is explaining health care information? | 123 | 1 | 5 | 2.08 | 2.00 | 0.08 | 0.85 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Patient Safety Practices – Challenging

As with patients, providers were less likely to engage patients in hand washing strategies, with the majority of respondents (n=93, 75.6%), indicating this was rarely or

never done on the unit (Table 4.10). Safety practices associated with having patients identify themselves were more likely to be practiced, with 53 (43.1%) respondents indicating this is sometimes done on their unit.

Table 4.10. Descriptive Statistics for Provider Challenging Patient Safety Practices

| Variable | N | Min | Max | Mean | Median | SE | SD |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| How often are patients in this unit encouraged to ask their health care providers if they have washed their hands before touching them? | 123 | 1 | 5 | 3.54 | 4.00 | 0.08 | 0.92 |
| Are patients in this unit asked to identify themselves before being given a new treatment? | 123 | 1 | 5 | 2.23 | 2.00 | 0.10 | 1.10 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Threat

It is apparent from the responses that providers believe patients are at risk for experiencing a patient safety incident, with 61 (50.0%) respondents agreeing, and a further 17 (13.9%) strongly agreeing, with the statement (Table 4.11). When providers were asked to identify the percentage of patients they think experience a patient safety incident during hospitalization, the average response was 35.2%. Nonetheless, patient safety was seen as a top priority on their unit, with 95 (77.2%) of respondents indicating that they agreed or strongly agreed with the statement.

Table 4.11. Descriptive Statistics for Provider Threat Construct

| Variable | N | Min | Max | Mean | Median | SE | SD |
|---------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| To what extent do you agree with the following statement: patients in my unit are at risk for experiencing a patient safety incident? | 122 | 1 | 5 | 2.30 | 2.00 | 0.07 | 0.81 |
| Patient safety is a top priority in my unit. | 123 | 1 | 5 | 2.11 | 2.00 | 0.08 | 0.83 |
| Staff members on my unit understand what a patient safety incident is and the importance of reporting them. | 123 | 1 | 5 | 2.23 | 2.00 | 0.74 | 0.82 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Expectations

Interestingly, there were split responses for whether patient questions increased workload, with 38 (31.4%) of respondents saying they agreed with the statement and 38 (31.4%) saying they disagreed (Table 4.12). However, only 53 (43.1%) respondents said they agreed that patient collaboration is a top priority. With regards to patient safety incident reporting, 50 (41.0%) respondents agreed that the majority of patient safety incidents were disclosed. Providers were less positive about discussing incidents and sharing learnings, with only 31 (25.4%) respondents agreeing that this occurred on their unit.

Table 4.12. Descriptive Statistics for Provider Expectations Construct

| Variable | N | Min | Max | Mean | Median | SE | SD |
|-----------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| Patient questions about their treatments and medications during hospitalization increased my workload | 121 | 1 | 5 | 2.95 | 2.00 | 0.10 | 1.12 |
| Patient collaboration is a top priority in my unit. | 123 | 1 | 5 | 2.50 | 2.00 | 0.08 | 0.91 |
| The majority of patient safety incidents that do occur on my unit are disclosed. | 122 | 1 | 5 | 2.75 | 3.00 | 0.09 | 0.98 |
| When reported, patient safety incidents are discussed in full with the staff involved and learnings are shared. | 122 | 1 | 5 | 3.07 | 3.00 | 0.09 | 1.03 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Self-Efficacy

Results for both variables indicate that the majority of providers agreed that greater patient involvement could lessen the chance of a patient safety incident (n=75, 61.5%), and that greater patient involvement makes them feel more able to prevent a patient safety incident (n=75, 61.0%; Table 4.13).

Table 4.13. Descriptive Statistics for Provider Self-Efficacy Construct

| Variable | N | Min | Max | Mean | Median | SE | SD |
|------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| I could lessen the chance of a patient safety incident occurring by involving patients in their care while hospitalized. | 122 | 1 | 5 | 2.07 | 2.00 | 0.07 | 0.72 |
| Overall, greater patient involvement in patient safety makes me feel more able to prevent patient safety incidents from occurring. | 123 | 1 | 5 | 1.96 | 2.00 | 0.06 | 0.69 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Cues to Action

Patients are most likely to be educated about patient safety using pamphlets; with 22 (17.9%) respondents saying this is always done on their unit (Table 4.14). Only 12 (9.9%) respondents indicated that patients were always educated verbally regarding patient safety. A follow-up question that asked respondents to indicate who verbally educated patients indicated that patients were most likely to be educated by RNs and LPNs. With regards to encouraging patients to become involved in their health care, the majority of respondents, (n=72, 59.0%), indicated that they always do this. Providers were much more likely to always invite patients to ask factual questions (n=62, 50.8%), versus challenging questions (n=4, 3.3%).

Table 4.14. Descriptive Statistics for Provider Cues to Action

| Variable | N | Min | Max | Mean | Median | SE | SD |
|-----------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| Are patients verbally educated about patient safety concerns in your unit? | 121 | 1 | 5 | 2.17 | 2.00 | 0.07 | 0.78 |
| Are patients educated using pamphlets about patient safety concerns in your unit? | 123 | 1 | 5 | 2.41 | 2.00 | 0.10 | 1.14 |
| Are patients in this unit educated about how frequently patient safety incidents occur? | 121 | 1 | 5 | 3.72 | 4.00 | 0.08 | 0.85 |
| How often do you invite patients to ask you factual patient safety questions? | 122 | 1 | 4 | 1.60 | 1.00 | 0.06 | 0.69 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree or from (1) always to (4) never

Table 4.14. Descriptive Statistics for Provider Cues to Action, Cont'd

| Variable | N | Min | Max | Mean | Median | SE | SD |
|------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| How often do you invite patients to ask you challenging patient safety questions? | 122 | 1 | 4 | 3.13 | 3.00 | 0.08 | 0.86 |
| How often do you encourage your patients to become involved in their health care while hospitalized? | 122 | 1 | 4 | 1.45 | 1.00 | 0.05 | 0.59 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree or from (1) always to (4) never

Safety Culture

Overall, results for safety culture were positive. The majority of respondents (n=69, 56.6%) agreed that there is good communication between staff regarding patient safety (Table 4.15). Furthermore, 67 (54.5%) respondents disagreed that there were negative consequences for reporting an incident, indicating a positive safety culture. However, providers were less likely to agree that management provides a climate of safety, with 45 (36.6%) respondents agreeing and 45 (36.6%) responding neutrally. Responses were similar when providers were asked if they feel that management acted on an incident once reported, with 43 (35.0%) respondents agreeing and 46 (37.4%) responding neutrally. Interestingly, while 53 (43.1%) providers agreed that employees generally participate in the setting and implementation of patient safety practices, only 32 (26.0%) agreed that employee suggestions for improving patient safety are listened to.

Table 4.15 Descriptive Statistics for Provider Safety Culture Construct

| Variable | N | Min | Max | Mean | Median | SE | SD |
|----------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| There is good communication between staff regarding patient safety issues. | 122 | 1 | 5 | 2.29 | 2.00 | 0.07 | 0.76 |
| Management provides a climate that promotes safety. | 123 | 1 | 5 | 2.82 | 3.00 | 0.08 | 0.92 |
| Reporting a patient safety incidents results in negative consequences for the person reporting it. | 123 | 1 | 5 | 2.29 | 4.00 | 0.09 | 0.96 |

SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

Table 4.15 Descriptive Statistics for Provider Safety Culture Construct, Cont'd

| Variable | N | Min | Max | Mean | Median | SE | SD |
|--------------------------------------------------------------------------------------------------------|-----|-----|-----|------|--------|------|------|
| If I report a patient safety incident, I know that management will act on it. | 123 | 1 | 5 | 2.87 | 3.00 | 0.08 | 0.91 |
| Employee ideas and suggestions for improving safety are listened to. | 123 | 1 | 5 | 3.01 | 3.00 | 0.08 | 0.88 |
| In general, employees actively participate in helping to shape and implement patient safety practices. | 123 | 1 | 5 | 2.58 | 2.00 | 0.08 | 0.88 |

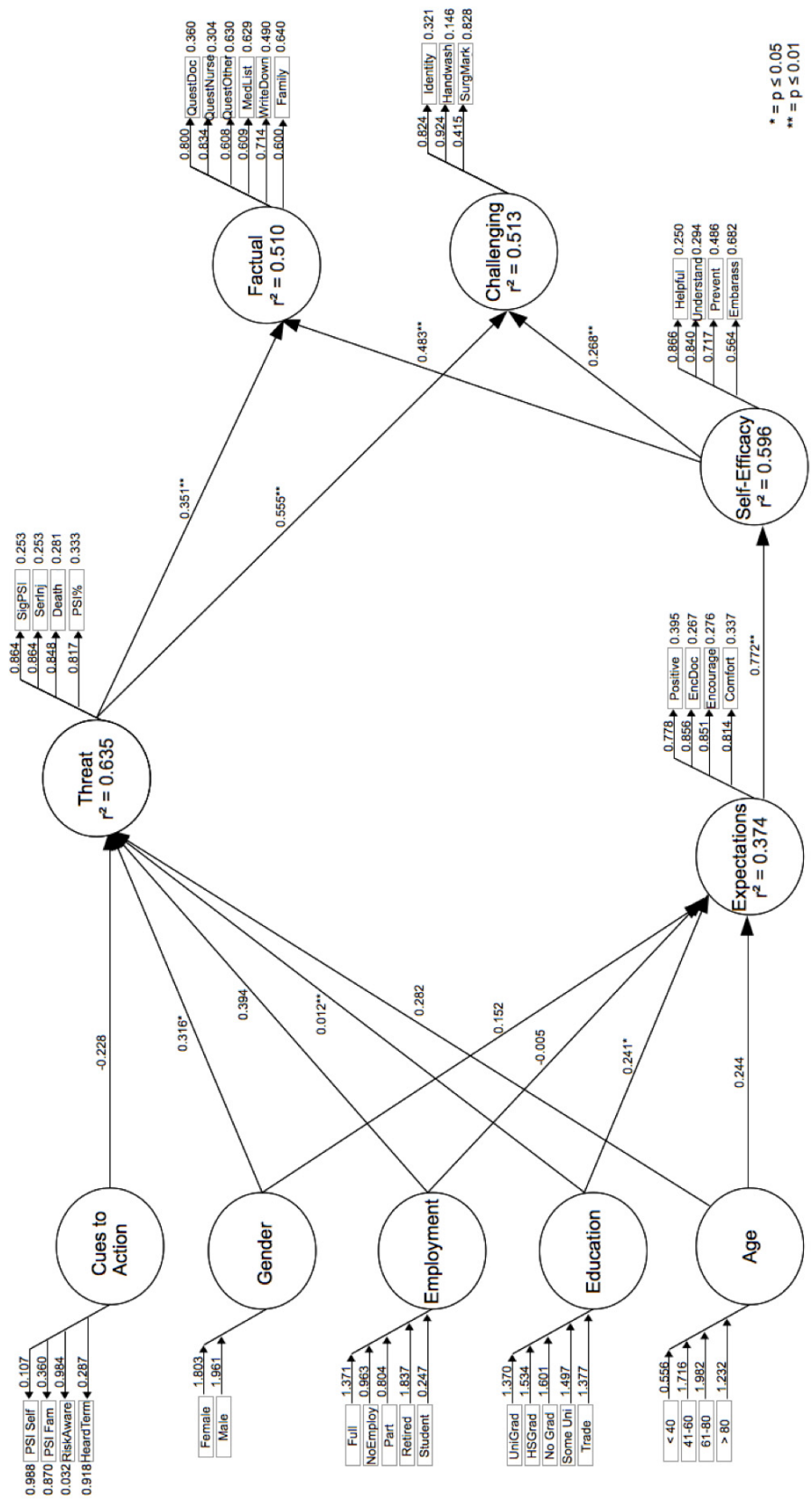
SE = Standard Error, SD = Standard Deviation

* Minimum and maximum refer to the possible range of answers on a Likert scale from (1) strongly agree to (5) strongly disagree

4.1.3 Statistical Analysis

4.1.3.1 Patient Partial Least Squares Model

The PLS algorithm was run with the proposed patient model shown in Figure 3.2. The initial patient PLS model is presented in Figure 4.1. The latent variable age was dropped due to a nonsignificant path coefficient. Additionally, two manifest variables were ultimately dropped due to low loadings (factor loading <0.50): (1) locating surgical site was dropped from challenging practices and (2) percent patient safety incidents was dropped from threat. The final PLS model is presented in Figure 4.2. Descriptions of latent and manifest variables can be found in Appendix I.



* = p ≤ 0.05
 ** = p ≤ 0.01

Figure 4.1. Initial Patient PLS Model

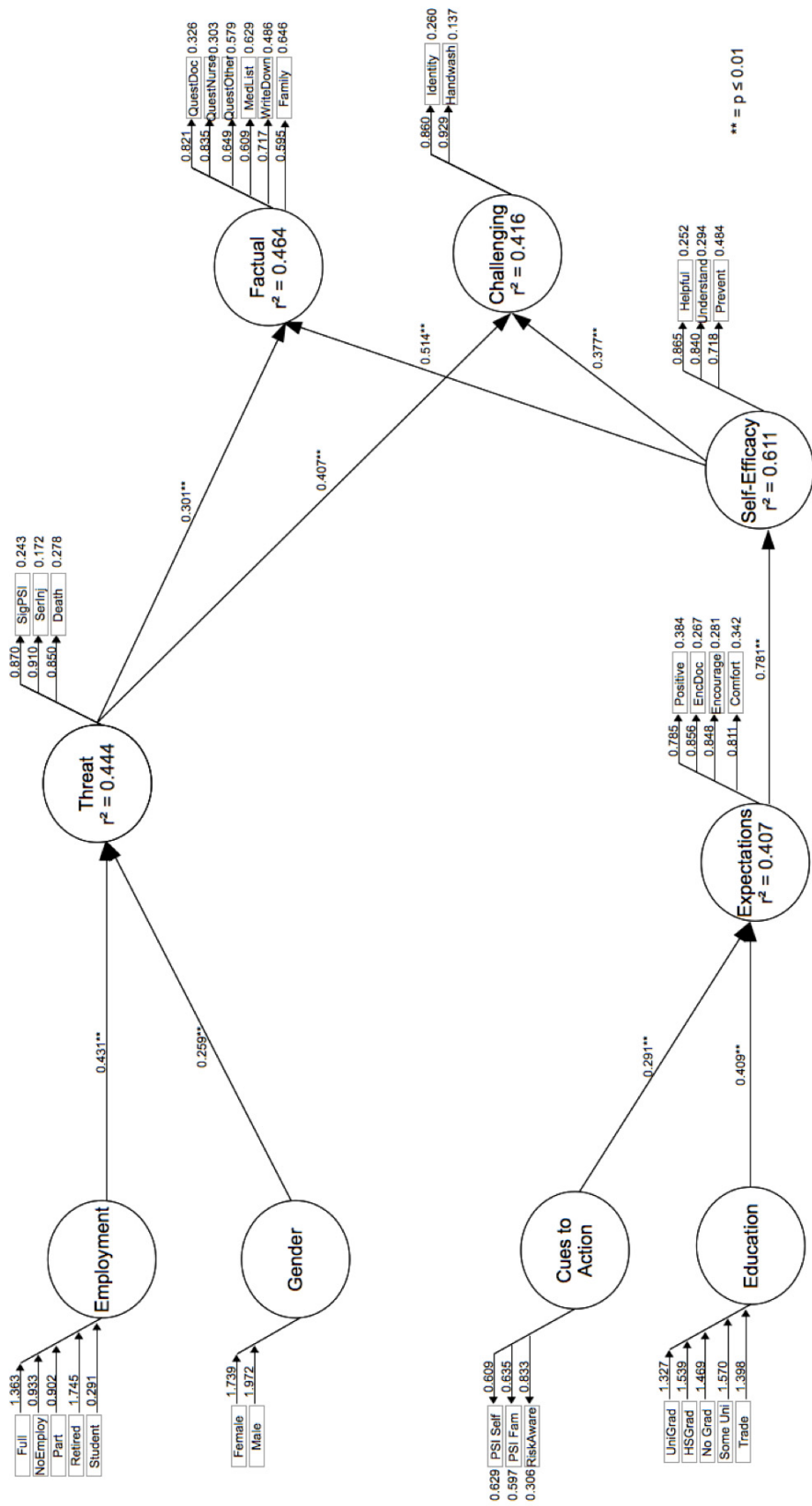


Figure 4.2. Final Patient PLS Model

The final PLS model showed acceptable internal consistency with all five reflective latent variables having a composite reliability score about the recommended 0.70 cut-off value (Threat = 0.91, Expectations = 0.90, Self-Efficacy = 0.87, Factual = 0.86, Challenging = 0.89, Cues to Action = 0.74). In order to test for discriminant validity for each latent variable, the square root average variance extracted (AVE) should be greater than 0.707 (AVE = 0.50) and its correlation to each of the other reflective latent variables (Table 4.16).

Table 4.16. Patient PLS Discriminant Validity

| | Cues to Action | Threat | Expectations | Self-Efficacy | Factual | Challenging |
|----------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Cues to Action | $\sqrt{\text{AVE}} = \mathbf{0.70}$ | | | | | |
| Threat | 0.22 | $\sqrt{\text{AVE}} = \mathbf{0.88}$ | | | | |
| Expectations | 0.56 | 0.29 | $\sqrt{\text{AVE}} = \mathbf{0.83}$ | | | |
| Self-Efficacy | 0.48 | 0.38 | 0.77 | $\sqrt{\text{AVE}} = \mathbf{0.83}$ | | |
| Factual | 0.43 | 0.48 | 0.59 | 0.64 | $\sqrt{\text{AVE}} = \mathbf{0.71}$ | |
| Challenging | 0.50 | 0.54 | 0.58 | 0.54 | 0.65 | $\sqrt{\text{AVE}} = \mathbf{0.90}$ |

$\sqrt{\text{AVE}}$ = Square Root Average Variance Extracted

The results suggest that discriminant validity exists for the final model. Of note, $\sqrt{\text{AVE}}$ for Cues to Action is on the threshold of .707; however, correlations with other latent variables are still less than its $\sqrt{\text{AVE}}$ of 0.70, which satisfies the other criterion for discriminant validity. Discriminant validity was also examined using cross-loadings. Manifest variables should load higher onto their intended latent variable than all other latent variables. The results in Table 4.17 suggest that the manifest variables do load higher onto the constructs they are meant to reflect. All path coefficients were found to be significant at the $\alpha = .01$ level of significance using nonparametric bootstrapping.

Table 4.17. Patient PLS Cross-Loadings

| | Challenging | Cues to Action | Expectations | Factual | Self-Efficacy | Threat |
|-----------------|-------------|----------------|--------------|-------------|---------------|-------------|
| Identity | 0.86 | 0.33 | 0.47 | 0.47 | 0.46 | 0.33 |
| Hand Wash | 0.93 | 0.53 | 0.55 | 0.67 | 0.48 | 0.60 |
| PSI Self | 0.12 | 0.61 | 0.30 | 0.11 | 0.17 | 0.15 |
| PSI Family | 0.18 | 0.63 | 0.28 | 0.21 | 0.23 | 0.05 |
| Risk Aware | 0.59 | 0.83 | 0.53 | 0.48 | 0.49 | 0.39 |
| Positive | 0.34 | 0.48 | 0.79 | 0.34 | 0.63 | 0.12 |
| Encourage Doc | 0.49 | 0.50 | 0.86 | 0.50 | 0.64 | 0.21 |
| Encourage | 0.58 | 0.47 | 0.85 | 0.54 | 0.62 | 0.31 |
| Comfort | 0.49 | 0.39 | 0.81 | 0.57 | 0.70 | 0.30 |
| Quest. Doc | 0.47 | 0.27 | 0.47 | 0.82 | 0.52 | 0.34 |
| Quest. Nurse | 0.53 | 0.34 | 0.49 | 0.83 | 0.51 | 0.41 |
| Quest. Other | 0.46 | 0.24 | 0.28 | 0.64 | 0.34 | 0.31 |
| Med List | 0.44 | 0.33 | 0.37 | 0.61 | 0.42 | 0.38 |
| Write Down | 0.45 | 0.27 | 0.41 | 0.72 | 0.39 | 0.37 |
| Family Present | 0.43 | 0.39 | 0.47 | 0.59 | 0.43 | 0.23 |
| Helpful | 0.39 | 0.44 | 0.73 | 0.50 | 0.89 | 0.24 |
| Understand | 0.44 | 0.46 | 0.72 | 0.48 | 0.86 | 0.23 |
| Prevent | 0.47 | 0.24 | 0.48 | 0.57 | 0.72 | 0.43 |
| Significant PSI | 0.53 | 0.25 | 0.25 | 0.43 | 0.29 | 0.87 |
| Serious Injury | 0.44 | 0.15 | 0.21 | 0.40 | 0.27 | 0.91 |
| Death | 0.43 | 0.15 | 0.28 | 0.43 | 0.38 | 0.85 |

4.1.3.2 Provider Partial Least Squares Model

The PLS algorithm was run with the proposed provider model shown in Figure

3.3. The initial provider PLS model is presented in Figure 4.3.

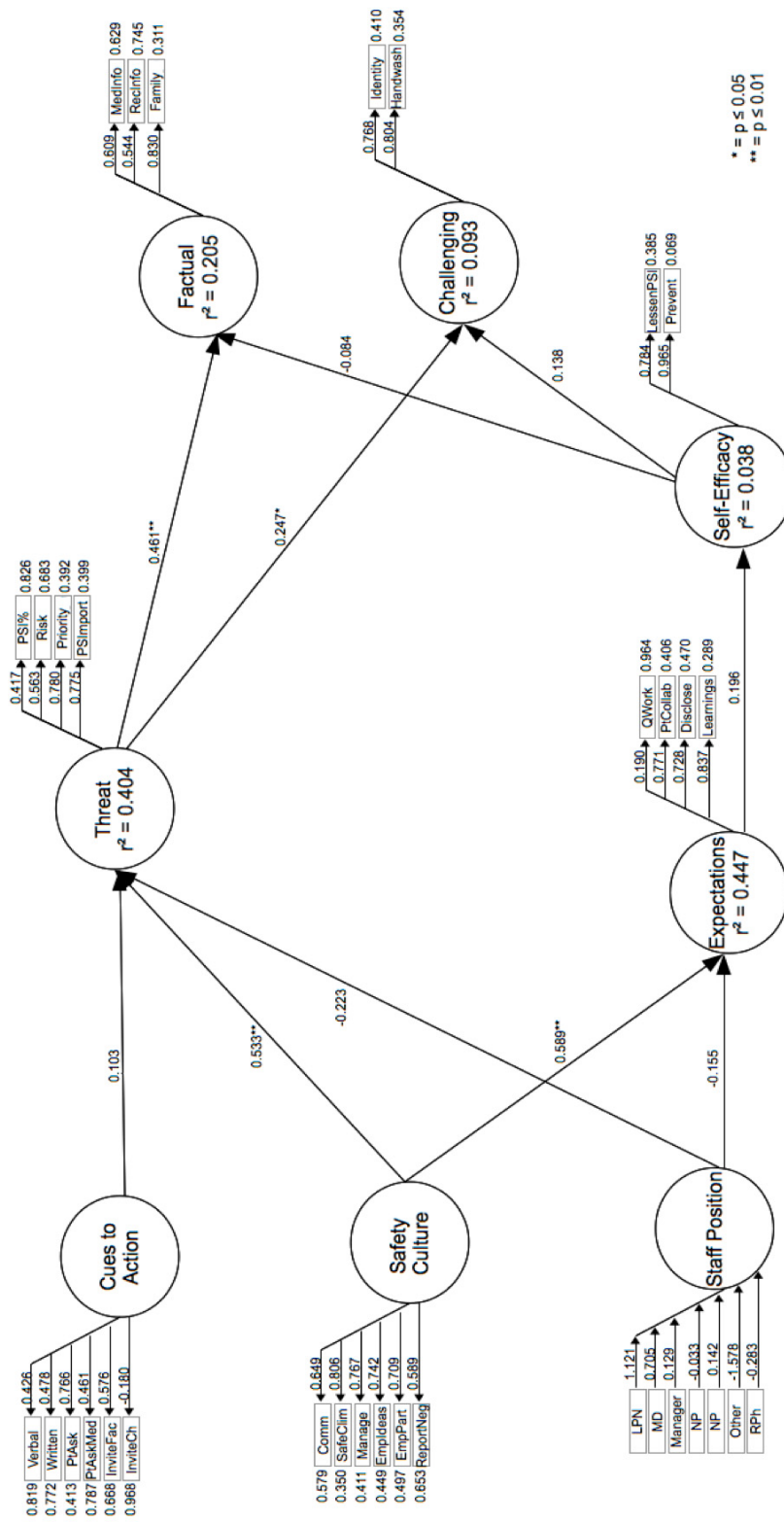


Figure 4.3. Initial Provider PLS Model

Three latent variables were ultimately dropped due to nonsignificant path coefficients: (1) cues to action, (2) staff position, and (3) self-efficacy. In addition, five manifest variables were dropped due to low loadings (<0.50), including: (1) negative reporting consequences from safety culture, (2) percentage of patient safety incidents from threat, (3) increased workload from expectations, and (4) medication information and (5) record information from patient safety practices. The latent variables of challenging and factual were also collapsed into one latent variable “PS Practices” as each showed low discriminant validity. The final model is shown in Figure 4.4.

Descriptions of latent and manifest variables can be found in Appendix J.

The final PLS model showed acceptable internal consistency with all four latent variables having a composite reliability score above the recommended 0.70 cut-off value (Safety Culture = 0.86, Threat = 0.76, Expectations = 0.83, PS Practices = 0.75). In order to test for discriminant validity for each latent variable, the square root average variance extracted (AVE) should be greater than 0.707 (AVE = 0.50) and its correlation to each of the other latent variables. Examining Table 4.18, adequate discriminant validity exists for the model.

Table 4.18. Provider PLS Discriminant Validity

| | Safety Culture | Threat | Expectations | PS Practices |
|----------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Safety Culture | $\sqrt{\text{AVE}} = \mathbf{0.74}$ | | | |
| Threat | 0.58 | $\sqrt{\text{AVE}} = \mathbf{0.73}$ | | |
| Expectations | 0.64 | 0.67 | $\sqrt{\text{AVE}} = \mathbf{0.78}$ | |
| PS Practices | 0.45 | 0.43 | 0.41 | $\sqrt{\text{AVE}} = \mathbf{0.71}$ |

$\sqrt{\text{AVE}}$ = Square Root Average Variance Extracted

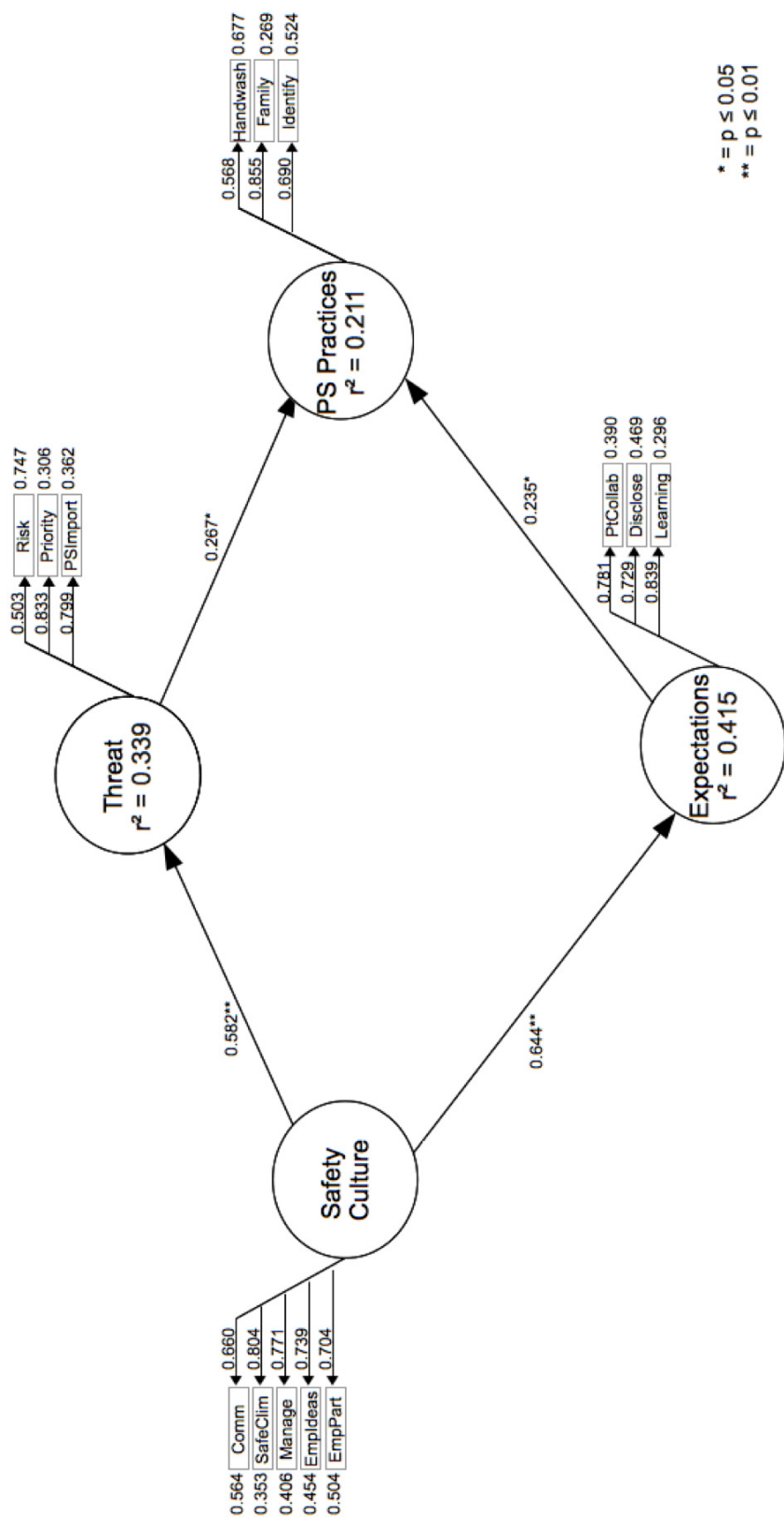


Figure 4.4. Final Provider PLS Model

Finally, discriminant validity was also examined using cross-loadings. Manifest variables should load higher onto their intended latent variable than all other latent variables. The results in Table 4.19 suggest that the manifest variables do load higher onto constructs they are meant to reflect. All path coefficients were found to be significant at the $\alpha = .05$ level using nonparametric bootstrapping.

Table 4.19. Provider PLS Cross-Loadings

| | Expectations | Practices | Safety Culture | Threat |
|-----------------|--------------|-------------|----------------|-------------|
| Pt. Collab | 0.78 | 0.38 | 0.51 | 0.61 |
| Disclosure | 0.73 | 0.27 | 0.38 | 0.46 |
| Learnings | 0.84 | 0.31 | 0.59 | 0.51 |
| Washed Hands | 0.20 | 0.57 | 0.24 | 0.21 |
| Family Present | 0.39 | 0.86 | 0.42 | 0.42 |
| Identify | 0.25 | 0.69 | 0.27 | 0.23 |
| Communication | 0.50 | 0.36 | 0.66 | 0.44 |
| Safe Climate | 0.50 | 0.35 | 0.80 | 0.54 |
| Management | 0.55 | 0.32 | 0.77 | 0.42 |
| Employee Ideas | 0.36 | 0.31 | 0.74 | 0.35 |
| Employee Part. | 0.43 | 0.31 | 0.70 | 0.36 |
| Risk | 0.30 | 0.19 | 0.29 | 0.50 |
| Safety Priority | 0.51 | 0.37 | 0.50 | 0.83 |
| PS Importance | 0.62 | 0.33 | 0.45 | 0.80 |

4.1.4 Summary of Quantitative Results

Patient perceptions of threat and self-efficacy accounted for 46.4% of the variance in the performance of factual patient safety practices and 41.6% of the variance in challenging patient safety practices. Self-efficacy was found to be a mediating perception between expectations of a health care encounter and performing a patient safety practice,

explaining 61.1% of the variation. Expectations were in turn influenced by cues to action provided by past experiences, risk awareness, and level of education, explaining 40.7% of the variance. Finally, perceptions of threat are influenced by employment level and gender, with 44.4% of the variance explained. The results also show that while patients perceive involvement in factual versus challenging patient safety differently, they are both influenced by the same perceptions. In this study, age and hospitalization history were not shown to influence patient safety practices.

Descriptive results show that overall patients were more likely to engage in factual patient safety practices than challenging patient safety practices. Within factual practices, patients were most likely to always bring a list of medications (n=191, 89.7%, median=1.00) and least likely to ask questions of other health care providers (n=54, 25.4%, median=2.00). Within challenging practices, patients were most likely to ask a health care provider to confirm their identity (n=46, 21.7%, median = 3.00) and least likely to always ask their health care provider if they had washed their hands (n=5, 2.3%, median=4.00). Likewise, provider responses indicated that patients were most likely to be asked to identify themselves before treatment, with 32 (26.0%, median=2.00) respondents saying this is always done on their unit. Only three (2.4%, median=4.00) provider respondents indicated that patients were always encouraged to ask their health care providers if they have washed their hands on their unit

Finally, results showed that patient involvement and encouragement by health care providers is influenced by provider perceptions of threat and expectations, explaining 21.1% of the variance in the variable. In addition, organizational safety culture

appeared to greatly influence perceptions, explaining 33.9% of the variance in threat and 41.5% of the variance in expectations.

4.2 QUALITATIVE ANALYSIS

4.2.1 Focus Groups

The intent of the focus groups was to gather additional information following the quantitative data analysis in order to further explore and understand key findings. As such, focus group guides were aimed at eliciting feedback from patients and nurses on interesting or significant quantitative results. A summary of the number, composition, and duration of the patient and nurse focus groups can be found in Table 4.20.

Table 4.20 Summary of Focus Group Participants

| Focus Group Session | Date of Focus Group | Number of Focus Group Participants | Length of Focus Group |
|---------------------|---------------------|--------------------------------------------|-----------------------|
| FG 1 Patient | June 2011 | Patient: 4 | 95 minutes |
| FG 2 Patient | January 2012 | Patient: 6 | 109 minutes |
| FG 1 Nurse | November 2011 | LPN: 2 RN: 3 Charge: 1 | 33 minutes |
| FG 2 Nurse | November 2011 | LPN: 1 RN: 5 | 33 minutes |
| FG 3 Nurse | January 2012 | LPN: 1 RN: 7 Charge: 1 | 36 minutes |
| FG 4 Nurse | January 2012 | RN: 4 Charge: 1 Clinical Educator: 1 | 36 minutes |

Both patient focus groups lasted roughly 100 minutes, with the number of participants ranging from four to six patients. Nurse focus groups lasted roughly 30 minutes and ranged in number from six to nine participants. Information was more easily solicited in some groups than others and participants required additional prompting for

more detailed responses to questions. Moderator guides were used for both patient and nurse focus groups to help ensure that similar information was elicited and to aid the moderator to probe for in-depth responses. Results of the thematic analysis are presented for both the patient focus groups and nurse focus groups, followed by a discussion of the meaning of the results.

4.2.2 Thematic Analysis

Focus groups were audio-recorded with permission and transcribed by a professional transcriptionist to provide a verbatim account of the discussion. Both patient and nurse transcripts were compiled as one complete dataset to provide a holistic interpretation of the phenomenon of patient involvement during the patient-provider encounter. Transcripts were then read carefully by the researcher against the audio recording to ensure accuracy and to fill in any areas that were not discernable to the transcriptionist. Once accuracy was assured and transcripts were deemed complete, transcripts were read through carefully by the researcher as a complete data set. During this initial read through, notes were made regarding initial impressions of the data and what was found to be important or interesting. These impressions served in the development of initial codes. Once again, transcripts were read as one complete data set with each item systematically coded. These initial codes were then grouped into potential themes. A total of eight initial themes were identified in the data. Further analysis of the data took place, and during this phase several codes were seen as redundant and collapsed to form better-defined themes.

Coded extracts for each theme and subtheme were then reread to develop further understanding of the data, identified themes, and relationships among the themes. This

resulted in further refinement of themes and sub-themes. The data set was then reread to ensure that each extract was contained within a theme and that the themes gave an overall explanation of the entire data set. Ultimately four main themes were identified in the data: (1) Wanting Control, (2) Feeling Connected, (3) Encountering Roadblocks, and (4) Sharing Responsibility for Safety. Overall, each theme contributed to furthering the understanding of patient involvement in their care while hospitalized, with the analysis provided in detail below. An overview of the themes, subthemes, and patient and provider meanings can be found in Appendix K.

4.2.2.1 Theme 1: Wanting Control

Greater patient involvement in care was often characterized as patients wanting to be in control of their situation while hospitalized. For patients, this meant having control over their experience and care while hospitalized, and for nurses it meant giving patients the knowledge necessary for them to have that control. For patients, the continuum of wanting control ranged from not wanting to have control to wanting increased control of their health care based on poor past experiences. Many patients cited feeling overwhelmed during their hospitalization, which led them to feel out of control. Every patient felt the need to have an advocate available to take control when needed. For nurses, the level of control was determined by patient expectations of their care. Nurse perceptions of these expectations ranged from placing too much trust in their health care nurses to having unrealistic expectations of the care they were to receive. Nurses also frequently spoke of patients not wanting to “bother” or to “burden” nurses with questions. This was seen by many nurses as being a detriment to patients having control of their health care situation. Nurses spoke to the need to further educate patients on the realities of health care, what to expect while hospitalized, and the need to advocate for

themselves. Two subthemes captured the essence of wanting control: (1) expectations of care and (2) not knowing.

Expectations of Care

Patients

Patients and nurses freely discussed what patients expected their care to look like or be like while hospitalized. Expectations for patients meant that past experiences, or lack thereof, often influenced their expectations of care. These expectations ranged from carrying very negative memories of past experiences to having positive experiences that lead to high expectations for future care. Many patients compared their hospital experiences against other health care encounters they had in the past or from ideas of what they believed their health care should or should not feel like. For some patients, past negative experiences with the health care system led them to have an overall negative view of health care providers and hospitals. These past experiences were described in terms of something that profoundly affected their ability to be comfortable with future health care experiences. When asked about their most recent hospitalization experience, one patient recounted a particularly bad experience while hospitalized that impacted their entire care experience:

“That 5% episode with that one woman has coloured 95% of my positive experience with the entire system. So it takes that huge out of proportion implication about how I feel towards my entire experience in [hospital], is it was ahh! Whereas in fact, 95% of it was good.”

On the other end of the spectrum, patients also spoke about positive encounters while hospitalized that led them to have high expectations of their care in later visits. For some patients, past hospitalizations were seen as a “gold standard” and the experience to

which all subsequent hospitalizations have been compared. For one patient, past and present expectations were not only positive, but were met in every encounter and instance during hospitalization:

“I was in there for 10 days so I figured that was enough time to get a pretty good handle on what was going on. And I thought the social work department, I thought the dietician... The dietician took lots of time. And my husband had been in for two months prior to that, and he also received tremendous care. Everybody... every single professional person did what I personally would expect. And my expectations were very high, and they were never diminished in any way. I have to say that. We got everything that we expected.”

Between the opposite ends of the spectrum described above were patients who remarked that they had little experience with hospitals, and as such did not know what to expect from their care, “I never had that so I didn't know that that should or shouldn't have been.” For these participants, having no expectations of care made it difficult to describe whether their most recent hospitalization was positive or negative. One patient recounted the following:

“If you don't have the history, it's sort of like... remember the movie the President's Men where they talk about...they said the people are eating the sand. Not because it's all they had, it was because they don't know any better. So from my experience, I've been fortunate to be in the hospital... you see the nurses and there's no continuity but to me, it wasn't a big deal. I was like okay; this is what happens in a hospital. Right?”

For this patient, there was no prior knowledge or experience from which to glean expectations of care while hospitalized, and as such it made it difficult for this participant

to discern whether their care experience was positive or negative: “but in my case, I never had that so I didn't know that that should or shouldn't have been.”

Nurses

Expectations for nurses meant their perceptions of what patients expected from their care experience while hospitalized. Nurses explained that they believed a lack of knowledge led many patients to develop certain expectations about their care. This lack of knowledge was related to a number of factors, including patient age, past encounters with the health care system, and awareness of risks. Nurse perceptions of patient expectations ranged from completely trusting the health care system to not knowing enough about the risks inherent in health care. Nurses characterized patient expectations of care as having a sense of “trust” in the system and their health care providers and that health care is safe. Many nurses noted that patients just “assume” that something is being done. This was a cause for concern for the majority of participants and was described as a barrier to patients having more control over their health care. One nurse noted how many patients seem unaware of the risks associated with hospitalization: “the number of people that come through their room in the run of a day. They're behind a curtain. They don't always see us and see what we need to do.” Expectations also existed about the hospital environment in that patients expected the hospital to be a safe clean environment, with nurses noting that patients are not always aware of the hazards that being in hospital can pose to their health with one participant noting:

“Yes. But I think that again it's something that should be asked. I don't think that safety is always in the mindset of the patients. They're thinking that a hospital is the cleanest place on earth. Give me a break. It's the dirtiest. So I mean they're not aware when they bring their

children in and their children are on the floor or...you know. Like all of those things tell me that they're not really tuned into what a hospital is about."

Nurses further described trust in the system with regards to the older population of patients, which they felt is of particular concern. Nurses suggested that there is a different mentality among older patients compared to those who are younger, and that many older patients view health care providers with reverence. Ultimately, this perception was seen to pose further risks for this age group as they were less likely to ask questions, whether factual or challenging. Trust in the system was described by every nurse and illustrated by one nurse who stated "again, it goes back to kind of the age group, because I find some...the older people just take whatever the doctors tell them point blank and they won't ask questions about it." This nurse further illustrated this blind trust in saying "we're still getting the 80 year olds that think doctors are on pedestals and wouldn't ask a question like that in a million years." These expectations were seen to be particularly challenging for nurses when trying to provide patients with greater control over their care. While patients may feel more or less in control based on past experiences and subsequent expectations, nurses felt that greater education surrounding assumptions and "trust" were necessary to achieve greater patient involvement.

Not Knowing

Patients

Part of being in control is being in the know. Patient participants in this study explained that they did not know enough about their health care while hospitalized. Not knowing meant feeling as if they did not know anything about their care and were merely

objects of treatment. Patients reported that not knowing ranged from being fearful during their hospitalization to being left without direction. For some patients, not knowing information stemmed from providers not sharing important information with them, and sometimes it was due to the inability to pinpoint a clinical diagnosis. One patient described their fear as not feeling informed:

“I think for me, the fear factor was not being able to get certain answers. You know, like for my heart attack, I’ve often said I wish that I would have had blockages and they could have put in some stents and that would have been the end. But it was the constant testing to find out why I had that heart attack because I didn’t have any blockages at all.”

For this patient, it was the fear of the unknown that ultimately led them to feel out of control. Not having the information necessary to make decisions for themselves was seen as a very frightening position to be in. Another patient described how even having their feelings of fear recognized could have made them feel more at ease: “I think for me, I think one of the biggest things was that if perhaps somebody recognized that I was very fearful, and my profession, and not to talk to me as though I didn’t have a clue what was being said. I found that pretty difficult.”

For other patients, there was a feeling that they could not do anything about their situation while in hospital or that they were “overwhelmed” with their situation. For these individuals, their treatment was something that was happening to them, and not something they felt they could take responsibility for:

“I don’t know whether I’ve been there five minutes or two hours. And I don’t know if anybody knows I’m even there because the last person I saw just disappeared. That was it. And so that feeling of I could be here 24 hours and nobody even know I was gone, you know, or where I am.”

Being an “object” of treatment, rather than a person with needs, was a powerful statement brought out by a number of patients, “they come in and, you know, you just feel like you're a specimen. And I mean I don't know how you can address that but I think sometimes doctors need to kind of reach out a little bit....” Ultimately, this feeling led some patients to refrain from involvement in their care and led to an overall negative impression of hospitalization. For these patients, there was little to no encouragement to be involved in their care, with health care providers withholding control through a lack of information exchange. One patient illustrated this by saying “I didn’t feel involved at all. I felt like decisions were made for me.”

Nurses

Nurses described not knowing and lack of control as symptomatic of patients being hesitant to ask questions about their care, as they viewed providers as too busy or feared offending them. For nurses, not knowing on the part of the patients meant a hesitation to become involved, noting that many patients do not want to burden their health care provider. This was acknowledged as a possible source of hesitation in all four of the nurse focus groups, “yes. Because they say that, “Oh, no, you’re running all over the place, never mind.” Nurses seemed to understand that patients are very much aware of their “busyness” and that this can often lead to patients refraining from asking certain questions or interacting with providers because they do not want to “hold them up.” While this was understood, there was also a sense that participants did not feel that this was something that could be changed, but that perhaps other behaviours could help to compensate for it. For example, nurses suggested further explaining to patients that it is

okay to ask questions, and that even though they are busy, they always have the time to answer them.

Nurses also discussed how some patients might not ask certain questions, most notably questions that are perceived as “challenging,” because they are afraid of offending their health care provider. Some nurses suggested that this could be due to the fact that patients might not want to “upset” their health care provider, with one nurse saying:

“I think people are really polite, especially in NS. And it’s like considered...it would be considered bad form on some of those people. That’s an old way of looking at things. But that is something that is very personal and so therefore they are not about to ask that. In a lot of cases, I think it’s us. We have to basically say when we admit them; we encourage you to ask everyone if they’ve washed their hands. It will not be taken as an insult. It’s something that we need to do. We are very responsible when it comes to trying to control infections. And I think you have to spread the word. And in a lot of cases, it’s like everything else; it will become second nature if you do it. But until we actually do it, it’s going to feel really strange.”

This account was one example of an area where nurses saw a need to further educate and explain to patients that asking questions is important, and to “welcome” patients to become involved in such behaviours. Providing the knowledge necessary to ensure that patients are aware of the risks was seen by many nurses as necessary to ensuring that patients feel in control of their care.

4.2.2.2 Theme 2: Feeling Connected

Patient involvement in care was also described as a product of the patient-provider encounter while hospitalized. For patients and nurses, patient involvement

meant feeling connected with one another during hospitalization in both a professional and personal manner. Connection varied from being given information, to wanting to feel like part of the care team, to building a rapport with their health care provider, and being treated with respect. On the whole, patients wanted to be acknowledged and to be shown that their thoughts and opinions mattered. Similarly for nurses, connection was viewed as an important step to increased patient involvement and safety. Many of the same ideas were brought about by nurses, acknowledging that feeling connected often varies between patients. In addition, nurses also felt it important to be connected with family and friends of the patient, and remarked on how involvement can be positively affected through conversation. Overall, feeling connected was discussed in terms of a continuum from (1) improving awareness, to (2) building a connection, and finally (3) getting involved. The subtheme of improving awareness was brought out in the nurse focus groups only; however, it relates strongly to the approach that providers take in building connections with patients, and as such adds depth to the overarching theme. Each subtheme is discussed in detail below.

Improving Awareness

Nurses

For nurses, improving awareness of patient and family involvement in care meant helping the patient to better understand what their care involves and why certain things are happening. A number of strategies for improving awareness were discussed, with the overall objective of having patients and their families aware of the role they can play in their care. The majority of nurses described using a “play-by-play” approach, where they narrated their tasks in order to help inform and involve the patient: “this is why I’m doing this, this is what I’m doing, as I’m doing it. It tends to make them a little more

comfortable.” In addition, many of the nurses remarked that it also had to do with helping patients and families to become more aware of the role they should be playing in their own care and safety:

“Making them more aware, involving them in your role, what you’re doing. I think that making them more aware of what you’re doing and the medications you’re giving or even the care that you’re giving, they feel like they still have that control. And they’re learning with you instead of like what she said, Googling and then going off with the wrong information. You know, communication.”

Improving awareness also included the use of “modeling,” such as showing patients what they should know and how to be involved by asking them questions. Nurses noted that this particular approach was useful to help patients understand that the hospital is not the safest place to be and that human error does occur. Often, nurses said they encouraged patients to become more aware and educated regarding their treatment:

“I often ask my patients... you know, I’ll go in with their morning meds and it may be the first day that I’m with them, and I’ll say, “So what is that pill?” you know. And they’ll say, “Well, I’ve been taking it for years. The doctor prescribed it.” And I’m like, “No, you want to be involved in your healthcare, right, because I’m human just like anyone else. So I could make a mistake. I can tell you what these pills are and I know according to your MAR [medication administration record] that you take these. But you have to take that with a grain of salt because I have five other patients, you know, and things could get messed up.”

It seemed that many nurses wanted their patients to be aware of their care and treatments and that it was important for them to help patients to achieve this. Ultimately, it involved different ways of trying to connect with the patient to ensure they saw involvement as an important aspect of their treatment.

Building a Connection

Patients

Building a connection describes how patients and providers connect on a personal level. For some patients this was seen as being friendly with one another, while others saw it as showing respect for the patient as a person. Connections ranged from spending time with one another, to building rapport, to sharing information, and showing respect. Patients and nurses saw the act of building a connection as an important step in ensuring patient involvement in their care. For many patients, connections with their health care providers were built when they viewed providers as taking the time to listen to them, “they’ve come in and they’ve sat down with me,” or “they didn’t seem rushed or hurried or whatever.” One patient illustrated the importance of taking the time to make a patient feel comfortable when they said:

“I think that’s really, really important. If you want to feel like you’re a part of a whole thing, your whole illness then the professional people could take their time to make you feel that they’ve got all the time in the world for you.”

For others, connecting with health care providers meant building a rapport with them “even if it was just a few words of humour or whatever, it made me feel an awful lot better.” One patient remarked, “it’s a smile. It’s a fluff up your pillow.” These sentiments capture a feeling of wanting to be “taken care of.” On the whole, it seemed that patients wanted to feel as though they had someone on their side while hospitalized, someone that understood how foreign and stressful being in a hospital could be. One patient described being treated like a person as, “it has to be friendly. I mean we’re not just animals. I mean treat us like people.” Having the reassurance that they could

converse and connect with a provider on an ongoing basis provided some patients with that feeling of comfort.

Many patients also touched on the importance of having a respectful relationship. For these patients, building a connection not only meant being comfortable to talk with one another, but doing it in a way that showed respect for both persons:

“Yes, they didn’t have to speak...I didn’t feel like they were speaking down to me because I did understand what was going on. And so that respect kind of thing would come in there, I would...you know, explaining in understandable terms. And not to have a person feel that they are sort of stupid and that they wouldn’t be able to...“Oh, you wouldn’t be able to understand it.” I never felt that at all.”

Another patient saw respect as understanding the limitations of patients and treating everyone as an individual with different needs as “different approaches for different characters.” This sentiment was echoed by another patient who remarked “and also do not put too much on people at once. You know, I mean I've seen people sitting there and I know...be sensitive to your patients' understanding.” For these patients, building a connection with providers meant that there was an understanding of how information was to be shared between them.

Nurses

Nurses also noted the importance of connecting with patients in order to facilitate awareness and involvement. Nurses tried to help patients become involved through providing that “human connection.” For one nurse it was “just even when they get that bad diagnosis and they’re in a four-bed ward, it can be just a hug or it can be just taking them down to the family room. Just having that quiet moment away from being in the ward.” Another nurse noted that it was really making sure that the patient was made to

feel like a person and “sometimes reaffirming that our reaction would be similar to theirs if it were happening to us.” It seemed that for most nurses, it was easier to build rapport and an interpersonal connection with patients if they had been on the unit for some time. In this way, there is an establishment of a patient-provider relationship, in which the patient feels more comfortable in interacting with their provider. One nurse remarked “I find if you’ve had a patient for a few days, they’re more like comfortable with you and that’s when they start asking a lot more questions. Because they’re getting used to the same person with them so they’re more comfortable.”

This was echoed by nurses who also noted that having that connection with patients meant showing respect and reassurance for them and for their concerns, as one participant stated:

“I think it’s how we handle their initial questions when they do ask something, that we don’t treat something that is everyday to us as silly or that we encourage them to ask more. But it’s how we treat them when they do ask.”

Building a connection experiences did vary by each participant; however, similarities did exist between patients and providers with the importance of ensuring that patients felt comfortable and that lines of communication were maintained.

Getting Involved

Patients

Getting involved represents patient and provider experiences related to patient involvement in care while hospitalized. For patients, involvement varied from being listened to, to being a part of the care team, to having family members involved in care. For some patients, getting involved was seen as communicating effectively with providers. Involvement by being listened to was nicely described by one patient:

“They were listening to me. I felt they had my interest at heart. If I had any questions, they responded well. If I had any issues to be relayed to somebody else, they made sure it got done. In other words, I didn’t feel that I was, you know, totally isolated in the hospital.”

However, the majority of patients felt that involvement for them came when there was a sense of being part of the “team.” This was exemplified by greater patient interaction with their provider and a feeling of value and importance. Feeling like a part of the team was seen by one patient as an integral step to greater patient involvement: “and interact with the patient. I think that can spin a lot of positives in terms of involvement. You know, in terms of the patients feel they're involved.”

While some patients acknowledged that patient involvement is not necessary in every circumstance, the majority did want to feel as though their opinion mattered and to have their health care providers recognize this. Once again, patients shared the feeling of wanting to be a part of their care, “you want to know what’s going on. You don’t want to feel like some guinea pig.”

Nurses

Nurse discussions also suggested the idea that involvement is a very personal thing, with some patients being more comfortable than others. For nurses, involvement was seen by some as being contingent on a patient’s age, with one participant remarking, “younger patients tend to get more involved probably.” Nurses also noted how some patients might feel too “overwhelmed” and this could prevent them from being involved in their care at certain times, especially during rounds or when multiple nurses are in their room: “you’re lying in a bed and you’ve got nine people staring at you.” Finally, involvement was also seen to differ on an individual level with how comfortable a patient

might be with their diagnosis and whether or not they have had prior hospital experience. Essentially, nurses noted differences in involvement between patients who seemed to want to know more information or felt comfortable building a rapport with them:

“I think it depends on the patient a lot. Like some patients are very involved. They want to know what every single pill is that you’re giving them. They know about their dressings and they want to, you know, help you out. Like say, “Oh, the last time they used this and it worked really well.” So sometimes it kind of depends on how much they pay attention and how involved they want to be, I guess.”

Nurses also noted that patient family members were often encouraged to become involved in a family member’s care plan and to assist in personal care and ambulation activities. Nurses all noted dealing with patients who had cognitive impairments and the safety risks that that can create. One nurse related how important it can be to encourage family involvement in that instance:

“I find it good when the family is involved too because the patients are being bombarded with so much information that sometimes there’s that like vital piece of information that you’re not...you don’t know if it’s quite registered with the patient. Because there’s nothing worse than thinking when you’re at home, thinking I don’t think they understood their diagnosis, and the family wasn’t there to hear it too. And I’m scared...like I’ve had patients that have agreed to radiation that are 93 years old. And went for radiation and the patient’s family came in and said, “Where’s my patient?” And I said, “Oh, they went for their radiation markings.” And everybody goes crazy. So it’s nice knowing that the family is involved so they can help explain things to the patient sometimes better. If the patient fully understood the risks they might not consent to something.”

However, some nurses discussed how family involvement can also be detrimental to a patient’s care, including situations where family members might hold different

opinions than the patient or when too many family members are involved which can complicate decision-making:

“I think it’s encouraged but I think you need to know who is going to be the spokesperson for the family. And there should be one, maybe two, depending upon the family dynamics as to who is going to be the back-up person for example when you’re talking to Jack about his new ostomy or whatever. I think if you have too many people, it just gets out of hand. Like nobody learns anything.”

As such, nurses noted that it is more important to ensure that they are connected and involved with the patient’s needs first and foremost, and that families should elect one individual who is then appointed as the “advocate” for the patient. Overall, it seemed important for nurses and patients to know that there is a working relationship between them during hospitalization, with reciprocal understanding and respect. Ultimately, this “connection” helps to ensure that information is relayed in both directions, and that questions are addressed and feelings are understood.

4.2.2.3 Theme 3: Encountering Roadblocks

Both patients and nurses discussed a number of impediments, or “roadblocks,” they felt stood in the way of greater patient involvement in care and safety. Roadblocks for patients meant instances or situations where they did not feel comfortable becoming involved. For some this included not wanting to overburden the system or their health care providers. For many patients, there was an unchallenged perception that the health care system and health care providers were under an enormous amount of stress, and as such it was best not to create extra work or to be “difficult.” This perception ultimately led to many patients refraining from greater involvement in their care as well as decreased expectations for the care they were to receive. Three subthemes were identified

during analysis, including (1) stretched to the limit (2) environmental deterrents, and (3) cultural disconnect. Although cultural disconnect was a subtheme identified in the nurse focus group discussions only, it was a recurring subtheme that greatly contributed to the understanding of the roadblocks encountered by nurses, and as such has been included.

Stretched to the limit

Patients

For patients, stretched to the limit describes their experience with health care professionals who were stressed and busy. This stress was seen as a deterrent to greater patient involvement by decreasing the time providers spent with their patients, and by deterring patients from conversing with providers. Stretched to the limit also referred to patient perceptions of the health care system in which health care providers worked, with patients remarking how care is often provided in spite of decreased resources and staff. Every patient indicated feeling that their health care providers were often too busy to answer questions or talk, especially nurses, “I just had the feeling that the nurses, and a couple of them were the same as before, that they were so pushed, they just didn't seem to have a whole lot of time other than to rush in and rush out.” This perception of providers being in a rush ultimately led many patients to avoid involving themselves in their care as they might have wanted to, including not wanting to bother them, with one patient remarking “I thought I might annoy them.” Another patient shared how a nurse’s workflow impeded her ability to talk with them: “I did find that the nurses were inordinately distracted by huge volumes of paperwork that they had to fill out. At the end of every shift, you could barely talk to one for an hour.” This perception of provider busyness was shared by the majority of patients and was a source of frustration for many during hospitalization.

Patient discussions contextualized this stress as a systems problem, and not necessarily one under the control of the providers themselves. There was the sense that patients did not want to complain about their level of interaction, but rather to explain it in terms of “how the system works.” The perception of some patients was that of quality care being delivered despite the “burden” that is placed on health care providers to provide care, “that's the point I'm making. In the midst of all that, the nurses do a hell of a good job.” When asked if they thought that the strain on the health care system had an impact on their care, one participant responded “no, it didn't have an impact on the quality of care. And I think that's a remarkable thing.”

Overall, patients seemed to be keenly aware of the “strain” put on the health care system and how that can affect organizational priorities and the level of care received by patients. According to one patient, “the reality is everything that's done in the sake of efficiency and better care and all that is about money.” Other patients shared stories regarding how their care was affected by what they perceived to be stress on the health care system, including “spending two days and a night in the corridor at the ER because there was no room for me, on a gurney” and “I know I could have been gone at 8:00 in the morning on Christmas Day but it was ten minutes to noon before the nurse finally found somebody who had the authorization to sign me out.” For these patients, there was a level of frustration that the health care system was so heavily burdened, but also an acceptance of this as the current state of health care delivery.

Nurses

For nurses, roadblocks represented what was going on in their day-to-day world of work that prevented them from getting to know their patients to the level and extent

they believed necessary to provide safe patient care. Not only did patients report how stretched to the limit they observed their providers to be, but nurse reports of their workload gave testimony to how stretched to the limit they felt in their ability to interact with patients and to perform their tasks safely. Nurses reported wanting to spend more time with patients, “but it’s always on your mind, there’s a hundred things on your mind that you know you have to do but...” Nurses also explained that their time is often “limited” due to the complexity of patient cases they deal with on their unit. When prompted to further describe this one nurse responded:

“It’s huge. You have a limited amount of time. Our patients, they have a lot going on. And you’d love to stay a little longer with them but you’re thinking in the back of your mind, you’ve got 10 other things you’ve got to get done right now. And you have to cut the conversation off.”

Being stretched to the limit affected nurses’ ability to get to know their patients on a deeper level and to have conversations that allowed them to better understand a patient’s frame of mind or discuss any questions as they arose. One nurse saw this as an impediment to greater patient involvement and led to many missed opportunities to know their patients:

“Just to have a few minutes with every patient to sit down in a day would just make that big of a difference. Like what are your concerns, how do you feel? Like just getting to know what’s going in their heads. We just don’t have the time.”

Furthermore, when patient safety incidents did arise, nurses also cited being stretched to the limit with regards to reporting incidents using an online reporting tool. One nurse noted their frustration with the current system: “and even when there is a safety concern, if you want to fill out a patient safety incident report, a lot of units do not

have time to do that. And that's a major, major issue." Ultimately, this lessened the ability of providers to learn from incidents when they did occur and to become more aware of the safety risks on their unit.

Environmental Deterrents

Patients

Both patient and nurse participants identified the physical environment of the hospital and the unit as being a significant deterrent to safe care. For patients, environmental deterrents ranged from issues regarding cleanliness to privacy concerns. Patients readily saw cleanliness as a potential safety hazard while hospitalized, maintaining that unclean environments could lead to further illness, "I focused a bit on the cleanliness because of the infectious disease that come from lack of cleanliness." Another participant remarked, "well, you can literally, and I did literally, write in the dust on the window." Patient participants on the whole were not pleased with the cleanliness of the hospital surroundings and linked this to patient safety. For others, environmental deterrents lead to discomfort and contributing to an inability to feel at ease in their surroundings, "at that hospital, I had to go to the bathroom, and I will tell you, as desperate as I was, I could not go." Both patients and nurses stated lack of privacy as an additional environmental concern, with patients noting that they are far less likely to ask or answer personal questions when in earshot of other patients. One patient recounted the following incident:

"My husband was in a private room the first time. The second time it was a ward. It was so jammed, you could hardly move around. But guess what? This doctor came in. The man across from us had two visitors. This man came in, he talked to the man, and he told him all about what was going to happen when the two visitors were there. That's a terrible breach

of ethics. I mean immediately you say, "Excuse me, are these your friends? Would you mind leaving?"

Nurses

Environmental deterrents were described as being particularly difficult to navigate, as often they were beyond the control of the patient and provider.

Environmental deterrents for nurses ranged from issues with equipment and cleanliness to lack of privacy when asking questions. While improvements were noted in the awareness of patient safety issues, many nurses felt that safer care was simply not possible given the environmental issues they are faced with, including cleanliness issues, old equipment, physical clutter, and lack of space.

“Even the...like we have 4 beds in a room now. For our type of floor, it’s too crowded. You know, even for patients to try to get at their tables and their IV pole, they can’t even move around their own bedside.”

While there was a strong sense for many nurses that patient safety is at the forefront of their minds, not having control over their surroundings led them to feel unable to improve patient safety in the unit overall. Some nurses reported that while patient safety strategies were important, they did little to improve some of the root causes of patient safety incidents, leading to little overall benefit. One participant gave the following example:

“No, because nothing changes, like there’s still falls. We still have falls. We’re still...you know, if someone is a falls risk, we still put a sign up. But the environment hasn’t changed and we still have a cluttered room. You know, there are still 4 beds jammed into this room. So no matter how many times I’ve checked and they have a sticker and they have...they’ve still fallen. So the environment hasn’t changed. We’re documenting that

we checked that yes, they are at risk for falling but we haven't changed the environment. And we've done everything that it says....”

Cultural Disconnect

Nurses

Nurses cited a number of times issues regarding what patient safety means to them and the messages they receive from their organization. Cultural disconnect refers to those instances where nurses felt that organizational patient safety strategies were not aligned with patient safety needs on their unit. This ranged from differences in opinion between staff and managers, to issues with current patient safety strategies, to a lack of feedback when safety incidents did occur. When nurses were prompted to describe how they would know if patient safety were a priority in their unit, many participants responded that things would look a lot differently than they currently do: “I think getting patients in and out and getting them where they need to be and budget is the priority.” Overall, it seemed that many nurses viewed patient safety as something that was “added” to their workload but did not necessarily positively impact areas that were deemed to be unsafe by nurses, “yes. It looks like we're monitoring it but we're monitoring something that can't be fixed. It needs to be fixed at a bigger level.”

The use of an online patient safety reporting tool was also discussed in the context of a “disconnect” between nurses and patient safety initiatives. Many nurses noted the feeling that even when issues are brought to a higher level or to management, that “nothing is ever done.” While nurses were all very aware of the online reporting tool, there was a lack of awareness about how that information is used or followed-up on:

“Like I don't think...like if something happens and we fill out one of those patient safety reporting, like when we fill those out, I can't say in my years

that anybody has ever come back and said because such and such has happened, this is what we're going to do. Like I can't say anything...not on the days that I've been working that I've ever...anything specific. But I'm sure it all helps them.”

When prompted to describe how providers are given feedback regarding patient safety incidents, some said that they thought it would go back to the person who made the mistake but not any further. For the majority of nurses, they understood that each report would be seen by their unit manager, and as such was probably taken into account when deciding topics for education days or for staff meetings. However, none were positively sure how incident reports were used, with many finding them tedious to complete. More so, it seemed that there was a frustration with a lack of follow-up for many participants:

“But it seems like issues are brought up about certain individuals that it doesn't seem like it's ever followed up. The same issues keep getting brought up again and again and there's no follow-up. Everyone is too busy to follow-up and then the same things keep happening again and again.”

For many nurses, current strategies were not seen as improving patient involvement or safety at the sharp end of health care. Some nurses noted “fatigue” with these strategies, indicating that it was just one more sheet of paper to fill out “and then it turns into another form to fill out and another...and we don't relate it back to the patient.” Nurses reported there was not enough support to further involve patients in patient safety or to learn from past patient safety incidents. Nurses agreed that reporting and learning from past patient safety incidents would be beneficial, but overall explained this was not a priority in their unit.

4.2.2.4 Theme 4: Sharing Responsibility for Safety

To achieve greater patient involvement in patient safety both patients and nurses indicated a need to share responsibility. For patients, sharing meant performing behaviours that would help keep them safe, ranging from asking a lot of questions and being informed to the use of “advocates” when patients are not able to do so themselves. Patient discussions often included instances of how being hospitalized can be “risky” to patients and how they themselves can help to protect themselves and loved ones. For nurses sharing safety meant something else; for them sharing came in the form of sharing responsibility between team members and across units. Interestingly, nurses mainly discussed ways to increase patient safety strategies for themselves, rather than identifying specific strategies for patients. Greater teamwork was identified as a potential source for increased safety for providers. Finally, both patients and nurses identified the health care organization as an integral partner in sharing safety through the implementation of policies and safeguards meant to keep providers and patients safe while in hospital. Three subthemes were identified during analysis, including (1) self-protection, (2) organizational safeguards, and (3) creating a team. The subthemes of self-protection and creating a team relate to only patient and nurse discussions, respectively. Nonetheless, they help to deepen the theme and provide greater understanding of how both groups describe their role in patient safety.

Self-Protection

Patients

For patients, self-protection meant those behaviours or actions they took while hospitalized in order to ensure that they felt safe. Behaviours and actions ranged from asking questions of their providers regarding their care, to being engaged when given

information, to ensuring they had an advocate available to ensure their well-being. Self-protection for some patients meant asking questions in order to make sure they were informed about their treatment, “well, I asked. Like they would tell me you're taking this and you're taking this, and then I'd ask what's it for? So I asked a few more questions so I knew what I was taking and why.” Another patient related how he ensured that he knew what medication he was supposed to be taking:

“I asked a lot of questions. In fact, this clip...I always had a clipboard with me. And whenever they'd give me a medication, I'd write down the time and what it was they gave me, and what it was I was supposed to be on. So I was trying to make sense of the whole thing as we went.”

In situations where patients had a lot of prior experience with being in hospital, many used these self-protection strategies of probing and writing to ensure they fully understood information. To them, being informed and a “second check” to the nursing and medical staff ensured that they felt safe. For many patients, this protection went a step further and was characterized by a “shared responsibility” between the patient and their health care providers, “it is our responsibility to do what we can to protect ourselves.” Another participant elaborated “and you know what, the more you ask questions, the more they realize that you are with it and you want answers.” Patients accepted this shared responsibility and were comfortable taking on this responsibility while hospitalized: “it is our responsibility to do what we can to protect ourselves.”

For many patients, being alert and aware was seen as a necessary function of being a safe patient. When patients were not able to fully participate in their care due to sedation or competence, they suggested having an “advocate” or “minder” present with them throughout their hospitalization. It seemed that most patients had tried this

technique and found it to be an important aspect of ensuring their safety during hospitalization. One participant reported, “my wife told me to go by myself. She should be right here to know exactly what's happening.” Another participant related:

“I agree with [name] and [name], that in that situation, you need somebody with you. Somebody who will speak for you if you're not getting through yourself as a patient because of either pain or medication or intimidated by this very educated, intelligent person, because doctors are, and to have somebody with you.”

There was a sense of reassurance for participants in having someone else with them who could act as a safety mechanism and advocate for their needs. Some participants agreed that when a patient does not have a family member to act in this respect, there should be mechanisms in place to have an advocate provided, perhaps even using a volunteer.

Organizational Safeguards

Patients

For patients, safeguards meant the organizational policies and practices that should be in place to keep patients safe during hospitalization. Patient responses ranged from physical and environmental safeguards, to provider practices, to concerns regarding patient literacy. When asked to describe what patient safety meant, one patient responded:

“Well, for me, being on the gurney in the hall, so strap the guy in so he doesn't fall out on the floor or roll out, you know. Or make sure his food is properly cooked. Or don't leave any sharp objects around if he may feel inclined to do harm to himself. Make sure he's getting the right medication and he's getting it when it's needed.”

The need for further safeguards around patient literacy was highlighted in both patient focus groups. Patients focused on issues arising when they cannot understand the information that is given to them. For one participant, an experience with one of their roommates was particularly troubling:

“There was a lady from out of town in my room, and there was nobody to really help her. And they could ask her some questions but to begin with, she was illiterate. So she couldn’t read anything they gave her. She finally admitted that. But I don’t think she told the nurses.”

This was echoed by another patient who said, “first of all, there are a lot of illiterate people that can't read. And they give you a lot of preadmission instruction, and no one ever says to anybody, ‘can you read this?’” There seemed to be some worry from patients that while they might have felt safe as relatively educated patients, that some patients were not as equipped to handle information given to them during their hospitalization. This was seen as a real safety issue and was tied to discussions regarding the need for patient advocates and further safety measures to help patients who are illiterate or unable to understand instructions. Overall, patients shared an understanding that it is important to be able to counteract unavoidable “human error” within health care by ensuring that measures were in place to protect the patient and safeguard the health care delivery process.

Nurses

Safeguards for nurses meant the organizational physical and mental reminders and constraints that prevented patient safety incidents from occurring on their units. These safeguards ranged from physical safeguards, such as railings, to medication safety, and the perception of policies being in place to prevent incidents from happening. Nurses also

noted the use of these “safeguards” in a number of circumstances that were meant to remind or alert providers to special patient needs or to potentially harmful risks. Many nurses noted the use of stickers or posters illustrating fall risks or other patient limitations. Such alerts were not only useful for providers, but also other personnel such as porters and janitorial services. Computer prompts were also noted for other safety strategies, such as similar patient names or patients requiring medication reconciliation. Having these prompts in place was seen as a way to highlight the severity of issues and to ensure that providers are aware of what they need to do in order to improve safety:

“Yes, because we spend a lot of time...we have specific forms for people who are at risk of falling or at risk of developing pressure sores. Or as [participant] said, the similar names. And it’s kind of constantly what you’re geared to. You’re looking for every situation that could cause potential harm, and plugs and wires and cables and all sorts. So you’re just constantly looking for things.”

Other strategies included incorporating patient safety assessments into already existing workflow processes. Examples of this included patient safety assessments during the admission process and mandating the use of fall risk and bed sore assessments for all patients. A few nurses also noted the requirement to chart when safety conversations were held or when checklists were completed:

“Like I guess we just got that new form where we have to sign every day where it’s like it’s a checklist and we have to go through, like do they have an arm band on, is their room de-cluttered, did you do a first safety check, like initial rounds.”

It seemed that most of these strategies were aimed at reminding providers of patient safety issues and trying to keep safety at the forefront of their mind. For the most part, nurses seemed to identify this as positive, showing that the organization as a whole

is actively promoting patient safety and implementing strategies to improve safety.

Overall, nurses noted the inclusion of several strategies that have been incorporated into current workflow and that these, for the most part, seem to be working. However, greater teamwork regarding patient safety was seen as a necessary strategy to improve safety, not only within units, but also between departments within the hospital.

Creating a Team

Nurses

Improving patient safety within the entire care team was a concept brought forth in all four of the nurse focus groups. For nurses, creating a team meant ensuring that the patient is always the focus of health care and providing support to one another in order to achieve this goal. Discussions ranged from improving communication between units and during patient transfers to being cognizant of the demands placed on colleagues.

Teamwork was also seen as a strategy to improve stress levels. Nurses noted several circumstances from their own experiences where patient safety was not the focus of the entire care team, with patients often being transferred during shift change or a lack of communication during handoffs. One participant shared the following example:

“We had a patient arrive on the unit at 7:00. So change of shift. No report given from Emerg. The patient just showed up. And then at 7:30, they called to send the patient to the OR. And it’s like okay, first of all, we didn’t get report from Emerg so that’s not safe. And we haven’t even had time to do our complete assessment. And now you want them for the OR. Right? And if this patient is going to surgery, there’s obviously something up. So they should have something to go by. Right?”

Two other nurse examples echoed this situation, suggesting that a lack of communication or policies regarding handoffs impact their ability to provide safe care.

Nurses did note that there are now forms in place when transferring patients between departments to ensure each patient comes with an accurate status update. However, nurses reported frustration with issues that stem from a larger organizational scale and are coping with them to ensure safe transfers. Having patient transfers occur at less hectic and unsafe times was seen as a strategy to improve safety and reduce the likelihood of patients being rushed through the system.

Nurses also identified areas within their unit that could be improved using teamwork. One participant remarked, “some of our issues, though, I think could be dealt with by if we sort of thought of our co-workers. Like making sure admitted patients are medicated before we leave. Up to the washroom before we leave.” Shift change was brought up several times by nurses as a time when patient safety can be compromised due to distraction and unsafe handoffs between providers. Nurses described this time as rushed, and often small things like answering call bells were seen as dangerous distractions. One nurse suggested the following solution:

“One person would stay like an extra 30 minutes and get paid over-time. And it was then their job to answer the buzzers for the first half an hour until you can take report, and then you’re out on the floor. It’s so dangerous trying to take report and somebody coming in and saying, “Oh, your patient needs a pain med and they need it now.” And you don’t know exactly where you were. I’ve missed things because I’ve had to leave. And all it would take is for one person to be there to answer the buzzers.”

4.2.3 Summary of Qualitative Results

Overall, patients discussed how a lack of control of their care often led to them being uncomfortable or fearful while hospitalized, ultimately leading them to shy away from becoming more involved. However, nurses discussed perceptions of being stretched

to the limit as a reason why some patients may not become involved. Nurses saw patients as not fully understanding the risks associated with their health care and the need to take control of their health care experience. As such, when patients feel that they are not in control, this is exactly when control needs to be transferred to patients.

However, provider behaviour may not always put patients at ease to perform such actions. Interestingly, both patients and nurses discussed the importance of building a connection to improve involvement. Patients described how a “human touch” can help them feel more at ease and comfortable, which ultimately may influence their likelihood of becoming involved. Many nurses spoke to building a rapport with patients to help decrease anxiety and increase involvement, often through increasing awareness of their care or by conversing with them. While patients and nurses did see positive aspects to greater patient and family involvement, nurses did speak to some of the disadvantages of involvement, including how some family involvement can actually decrease the ability to connect and involve certain patients.

Issues regarding stretched resources were ever present in both patient and nurse discussions. Patients were keenly aware that providers were busy and that the health care system was under great stress. These perceptions were manifested in several ways, such as patients not wanting to “burden” their health care providers and refraining from asking questions or seeking involvement. Nurse discussions acknowledged these perceptions, with nurses understanding that many patients feel this way. However, nurses seemed unsure of how to change these perceptions and often felt that they could not further involve patients because of how stretched they were on a daily basis. To add to this, many nurses also felt that patient safety practices only further stretched existing

resources, rather than complementing standard patient care. This perception may ultimately reduce the ability of providers to increase patient involvement or may signal a reluctance to do so. Patients and nurses also noted issues regarding the hospital environment, such as cleanliness, privacy, and equipment, as roadblocks to improving safety.

Finally, there was agreement between patients and nurses regarding the importance of patient safety and the need to protect both patient and providers from incidents. Patients discussed the need for patients to put safeguards in place for their own care, with some participants citing behaviours such as asking questions, writing information down, or having an advocate present. Patients were also aware of safeguards put in place for providers, such as posters and checklists. Nurses seemed to like the use of prompts as well to ensure that patient safety is part of their workflow. Greater teamwork between staff was also seen as an important step to protect patients and staff from incidents, with suggestions that teamwork across units is necessary to ensure safety throughout an organization.

CHAPTER 5 DISCUSSION

The purpose of this research was to gain a better understanding of how patients and health care providers perceive patient safety, and how these perceptions can affect patient involvement in patient safety strategies. Current knowledge regarding patient involvement in patient safety practices has been discussed in Chapter 2. The results of this study present a novel analysis of how perceptions of threats, barriers, benefits, self-efficacy, and safety culture can influence patient involvement in patient safety. Furthermore, the qualitative analysis provides for a fuller interpretation of the quantitative results and greater understanding of patient and provider experiences relating to wanting control, feeling connected, encountering roadblocks, and sharing responsibility for safety.

5.1 INTEGRATION AND INTERPRETATION OF RESULTS

An important aspect of using the follow-up sequential explanatory mixed methods design is the integration and interpretation of both the quantitative and qualitative results. This integration of results from both phases provides a more robust picture of the phenomenon being measured and helps to complement statistical numbers with real-life participant experiences. The purpose of employing the sequential explanatory design was to explore and provide further explanation of the quantitative results. As such, the results of both phases are expected to be complementary in nature. Overall, the quantitative and qualitative results from this research complement each other and provide a deeper understanding of the results as a whole. While the quantitative results provided for a statistical interpretation of patient perceptions and behaviours related to patient safety, the qualitative results allow for a more thorough understanding of how patient and provider

perceptions lead to patient involvement and the importance of context. This robustness could not have been achieved using quantitative methods alone. Overall, no major discrepancies between the analyses of the two phases were found; instead, the qualitative findings help to illustrate the results found in the quantitative phase. Both quantitative and qualitative results will be explored, integrated, and interpreted within the discussion of each research question.

5.2 DISCUSSION OF RESEARCH QUESTIONS

5.2.1 Primary Research Question

Do perceptions of patient safety influence patient involvement in patient safety practices?

The patient PLS analysis revealed that patient perceptions of benefits versus barriers and threat do influence patient involvement in both factual and challenging patient safety practices. However, the results also show self-efficacy as a mediating factor between patient perceptions of benefits versus barriers and the performance of patient safety practices. Overall, perceptions of threat and self-efficacy accounted for 46.4% of the variation in involvement in factual patient safety practices and 41.6% in challenging patient safety practices. In turn, 61.1% of the variation in perceptions of self-efficacy was explained by patient perceptions of benefits versus barriers. As such, perceptions of benefits versus barriers, threat (including severity and susceptibility), and self-efficacy were all found to be determinants of patient involvement in both factual and challenging patient safety practices.

Results from other studies have found similar relationships. Stein et al. (1992), who used the Health Belief Model to study mammography usage, found that perceived

susceptibility was the most powerful predictor of future intention. In another study of mammography screening, researchers found that perceiving fewer benefits versus barriers was associated with greater noncompliance (Bernstein Hyman, Baker, Ephraim, & Moadel, 1994). A critical review of the Health Belief Model over a ten year time span found that perceived susceptibility was also a strong contributor to preventative health behaviours, with perceived barriers being the most powerful HBM dimension among all included studies (Janz & Becker, 1984). This current study found a stronger relationship between perceived threat and involvement in challenging patient safety practices, suggesting that greater perceived seriousness and susceptibility may play a larger role in patients deciding whether or not to become involved in patient safety practices they perceive as riskier. Performing factual patient safety practices may, therefore, require less perception of threat but greater acknowledgement of the role of risk awareness and self-efficacy.

While perceptions of barriers and benefits were found to be a contributing factor to patient involvement in patient safety practices, it is important to highlight the role of self-efficacy as a mediating factor. This result suggests that while patients may be aware of the benefits and barriers of becoming involved in patient safety practices, this does not in and of itself contribute to patient action. Instead, patients may need to determine whether they can overcome potential barriers, and whether the benefits of involvement are positive enough to take action. Both past and present experiences may ultimately alter whether a patient is confident that their involvement will produce a positive result.

Patient focus group discussions provided insight into the importance of self-efficacy through the theme of Wanting Control. For many patients, having control over

their health care treatment, including understanding the information presented to them and expectations of their care, was an important aspect of their care experience. When patients did not feel in control, this was a very negative experience for some patients that they kept with them through subsequent health care encounters. As such, this signals the importance of building self-efficacy among patients to improve their knowledge and control over their health.

Self-efficacy has been shown to influence a number of stages in patient health behaviour change, including whether they have considered the behaviour, how much effort they put into performing a behaviour, and how well they maintain a behaviour (Rosenstock, Strecher, & Becker, 1994). The importance of self-efficacy in the performance and maintenance of health behaviours has been well documented in the literature (Hibbard, Peters, Slovic, & Tusler, 2005; Strecher, McEvoy DeVellis, Becker, & Rosenstock, 1986). In this study, self-efficacy was found to be a greater contributor to patient involvement in factual patient safety practices than challenging patient safety practices. In addition, perceptions of threat contributed less to involvement in factual patient safety practices. As such, it appears that there might be a relationship between threat and self-efficacy; if perceptions of seriousness and susceptibility are reduced, then greater self-efficacy might be required to overcome barriers and to realize potential benefits.

5.2.2 Investigative Questions

What are patient perceptions of factual and challenging patient safety practices?

The results of this study showed considerable differences between patient involvement in factual patient safety practices versus challenging patient safety practices.

While the patient PLS analysis indicated that perceptions of factual and challenging practices were similar, with both being influenced by threat, expectations and self-efficacy (Figure 4.2), the results also found factual patient safety practices and challenging patient safety practices to be two distinct constructs with acceptable discriminant validity and composite reliability. As such, while contributing perceptions might be similar, the overall impetus for involvement may be due to varying degrees of these perceptions, such as increased perceptions of barriers or decreased self-efficacy, when attempting to engage in challenging patient safety practices as compared to factual practices. Similar to the results of this study, self-efficacy has been found to be a major driver for patient involvement in patient safety practices in other literature. Hibbard et al. (2005) found that self-efficacy and perceived effectiveness accounted for 26% of the variation in the likelihood of individuals performing behaviours aimed at preventing medical errors, with greater correlation found between self-efficacy and performing new, unfamiliar actions. However, results in this study show a greater relationship between self-efficacy and factual patient safety practices (standardized path coefficient = 0.514) than challenging patient safety practices (standardized path coefficient = 0.377), suggesting that perceptions of threat may contribute more to the decision to perform a challenging patient safety practice.

Patient focus group results highlight that patients do not feel comfortable challenging their health care providers, or may choose to assume that an action has already been performed. With regards to challenging health care providers, patients did not want to appear difficult to deal with or to possibly upset their health care provider. These narratives fell under the theme of Encountering Roadblocks, where many patients

felt that providers were too busy to “bother” with questions or did not provide any opportunity where they felt comfortable to ask questions. When provider focus group participants were prompted for why patients might not be performing this behaviour, many participants pointed to the desire to not offend or to jeopardize their relationship with a health care provider. The theme of Wanting Control encompasses many of these perceptions that were identified by health care providers. Providers described how some patients assume that their care is safe, that their health care team is always right, or that if they were to ask questions it may lead to their provider becoming upset with them. Provider participants saw the need to educate patients regarding their rights and to provide encouragement. These approaches may ultimately lead to further patient involvement in uncomfortable or challenging patient safety practices.

To what extent are patients involved in patient safety practices?

Descriptive results suggest that patients are more likely to be involved in factual patient safety practices than challenging patient safety practices (Tables 4.2 and 4.3). With regards to factual patient safety practices, the majority of patients indicated that they always asked questions of their doctor (n=116, 54.2%, median= 1.00) and always brought a list of medications with them (n=191, 89.7%, median=1.00) during their last hospitalization. Responses also indicated that patients were likely to write down important information during their stay (n=91, 42.7%, median=2.00). Patients were less likely to have a family member or friend present while health care providers are explaining information (n=71, 33.2%, median=2.00) or to always ask questions of other health care providers (n=54, 25.4%, median=2.00). Patient responses indicated a lack of involvement in challenging patient safety practices with the majority of respondents (n=174, 82.1%, median=4.00) indicating that they never asked if a provider had washed

their hands during their most recent hospitalization. However, patients were more likely to always ask their provider to confirm their identity (n=46, 21.70%, median = 3.00) and to indicate that they helped their provider mark their surgical site if they required surgery (n=45, 36.8%, median=1.00).

These results uphold literature that has found patients more willing to ask questions of their doctors than nurses, especially regarding medical procedures (Davis, Koutantji, & Vincent, 2008). Overall, this type of involvement can be characterized as serving the needs of the patients; it serves as a safety check for patients to help them better understand information that has already been given to them. There was reduced willingness to perform other practices that would improve patient involvement, such as always having family members present (n = 70, 32.7%, median = 2.00), which can ultimately help patients to feel more relaxed and to ensure understanding. The results are similar to findings of Waterman et al. (2006) who found that patients were most likely to ask questions about their medical care (85.1%) versus having a family or friend watch for errors (38.6%).

The focus group results also touched on patient involvement in care as a very individual behaviour. It was interesting to see that while focus group participants wanted to become involved, they were all very aware that not everyone would want to. Involvement was also seen as contingent on the circumstances surrounding one's illness or hospitalization. One patient focus group participant indicated that involvement was not always necessary and that many health care decisions can be very straightforward. Literature on patient involvement does indicate a great deal of variation among patients as to the level of involvement they would like to have, with some patients preferring not

to be involved at all (Arora & McHorney, 2000; Robinson & Thomson, 2001; Thompson, 2007). Provider focus group narratives also touched on this topic, with providers noting that patient involvement is often very individual and can be influenced by a number of factors. Nonetheless, results from both the patient survey and focus groups suggest that many patients do want to be involved and are performing behaviours that help them to become involved in their health care, such as asking questions and writing information down.

How do health care provider perceptions influence patient involvement in patient safety practices?

The provider PLS analysis revealed relationships between provider perceptions of threat and benefits and barriers and the performance of patient safety behaviours aimed at involving patients, accounting for 21.1% of the variance in patient safety practices. The patient safety practices included in the final PLS model were: (1) encouraging patients to have a family member or friend present, (2) encouraging patients to ask if a provider had washed their hands, and (3) confirming a patient's identity before giving treatment. Due to low factor loadings, only these three practices were included in the final PLS model. Nonetheless, the first two practices can be considered provider modeling, in that health care providers encouraged patients to perform an activity, thus normalizing the behaviour for the patient and removing barriers to performing an action.

Overall, perceptions of threat and expectations contributed equally to variations in performing these patient safety practices. Unlike the patient results, self-efficacy did not contribute to performing patient safety practices. This could be explained by health care providers viewing patient safety as part of their professional responsibility, and therefore not requiring behavioural change, or because of their position of power within the

patient-provider relationship. However, this does not explain the lack of provider involvement in encouraging patients to ask challenging questions, such as provider hand washing. Research aimed at understanding the underlying behavioural considerations for hand washing has concluded that other mechanisms, such as cues to action and peer modeling, contribute to greater behavioural intent for hand hygiene (Whitby et al., 2007). Cues to action, however, were not found to be a significant contributor to providers performing patient safety practices in this study. Provider focus group participants did suggest that the use of safety prompts is a positive strategy in improving provider adherence to patient safety strategies. Some of the prompts discussed included medication alerts, fall risk signs, and Braden Scale assessments. As such, greater use of prompts associated with encouraging patient involvement could be used to improve provider awareness, such as having a prompt during the intake assessment stating that patients should be encouraged to ensure that hand washing has occurred for all visitors and providers prior to entering the room.

Other barriers to performing patient safety practices have been identified, such as environmental, workload, financial and communication restraints, provider education, and provider norms and values (Durbin, Hansen, Sinkowitz-Cochran, & Cardo, 2006; Mincer Hansen et al., 2003). Provider focus group results suggest that both workload and communication may be critical factors in why some patient involvement strategies are not widely adopted by health care providers. Under the theme of Encountering Roadblocks, many providers discussed how workload often interferes with them performing tasks or actions that could improve patient safety. Time constraints and the complexity of patient caseloads were cited as deterrents to increased patient interaction and involvement.

Providers often felt rushed and sometimes unable to incorporate patient safety behaviours into their workload. The hospital environment was also noted as a significant impediment to patient safety, with providers listing issues such as inadequate space, faulty equipment, and patient confidentiality in shared rooms as being detrimental to the success of other patient safety strategies. A qualitative study conducted with nurses in 2002 found similar results, with nurses indicating that physical environments, equipment, and workload all contributed to greater risk of untoward incidents occurring (Nicklin & McVeety, 2002)

Finally, provider results indicate that patient safety communications and teamwork need to be addressed among units and staff, with greater integration of practices and expectations. The role of safety culture was explored in this research as a possible factor in whether health care providers engaged in patient safety practices aimed at involving patients. The provider PLS analysis shows that safety culture accounted for 33.9% of the variation in perceptions of threat and 41.5% of the variation of expectations. As such, safety culture was shown to contribute to provider perceptions of whether patient safety is seen as important and a priority, whether providers view their patients at risk for experiencing a patient safety incident, whether there is patient collaboration and disclosure, and whether learning opportunities from past patient safety incidents are shared with staff. These results uphold literature that suggests that the development of an organizational safety culture can be used to help encourage greater knowledge and support for patient safety practices (Institute of Medicine, 1999; Nieva & Sorra, 2003). However, provider focus group discussions indicated a possible disconnect between organizational culture and patient safety strategies, suggesting that while perceptions of

organizational culture are positive, current strategies are not helping to promote or disseminate patient safety culture at the front lines.

What effect do health care provider behaviours have on the likelihood of patient involvement in patient safety practices?

Findings suggest that both patients and providers perceive provider behaviours as having an impact on patient involvement. Literature suggests that provider encouragement and modeling of safety related practices, such as inviting patients to ask questions and to know about their care, can have a significant effect on the intention of patients to engage in both factual and challenging practices (Davis, Koutantji, & Vincent, 2008; Koutantji, Davis, Vincent, & Coulter, 2005; Sainio, Lauri, & Eriksson, 2001). Provider strategies that had a positive impact on patient involvement in this study included those that “comforted” patients, such as having conversations with health care providers, sharing a joke, and generally having a “human connection” during a time that is stressful for the patient. The theme of Feeling Connected highlighted how patients wanted to feel like their provider had the time to talk to them, and that they were always available to answer their questions or to provide reassurance. Providers also noted similar behaviours when they described how they involved their patients in their care, such as inviting them to ask questions, reassuring them that they did have time to answer questions or chat, and educating patients on the what and whys of their treatment. Keeping lines of communication open, and providing opportunities for patient interaction, seemed to be the underlying facilitators for patient involvement.

However, patients reported that such behaviours were not always commonplace, with many providers appearing too busy and too stressed. Patients noted being reluctant to ask questions of their providers, as they did not want to be a “burden” or to upset their

provider. Descriptive results also showed that when patients did not ask questions it was most likely because they felt health care providers did not seem to have the time (n=27, 14.0%) or they did not know what questions to ask (n=25, 13.1%). Previous research has shown that nurse workload and stress levels can have an impact on the quality of care delivered, with the consequences of nurse burnout including increased rates of adverse events (Sochalski, 2001).

When there was a lack of connection between patient and provider, patients were not as eager to build a rapport, which ultimately influenced their level of involvement in care. Previous research has also found that patient perceptions of positive versus negative communication with their health care providers can have a significant impact on patient involvement in patient safety practices (Little et al., 2004). Furthermore, negative experiences with particular health care providers may overly influence some patients, with a few patients noting that one negative encounter had shaped their view of providers as a whole. It is important to note that this was not the case for all patients, as each individual patient experience varied. As such, while provider behaviour may influence the level of involvement for some patients, it may not for every patient. One patient participant, for instance, did not want to be involved in their care and was more than happy to let their health care providers take the reins. This suggests that for some patients, provider behaviours may have no impact on their involvement.

What are the best strategies for involving patients in patient safety practices?

Overall, patient discussions centered on wanting to have an open dialogue with their health care providers. Having the sense that they are part of a “team” with their health care providers and having mutual respect were important components of this. In this way, involvement was seen as an “invitation,” in that providers wanted patients to

become involved and promote patient involvement. Providers noted that inviting patients to ask questions also provides them with an opportunity to demonstrate what types of questions can be asked, such as making sure their medications are correct or that they are having surgery on the right site. Patients noted that having ongoing education like this helps to become more involved as they are more comfortable with their disease state and terminology. The majority of providers described a “play-by-play” style, educating patients as they perform tasks. Educating patients in their care and treatment was seen as an important form of involvement as it helps patients to become more aware and more likely to ask questions. Educating patients regarding their expectations and updating and correcting any prior knowledge was also identified as being important.

This sentiment of shared responsibility was once again noted in the way patients felt about wanting to be part of the “team” and not wanting to feel like an “object.” The theme of Feeling Connected captured many patient perceptions concerning wanting to be involved and respected. However, it is important to note that these perceptions were not necessarily centered on involvement in decision-making or the sharing of medical information, but rather describe the need to feel respected and welcome. Similar results were found by Levinson et al. (2005) in their survey of preferences for involvement, with 96% of respondents indicating that they wanted to be given options by their doctors and 52% preferring to leave final decisions to their physicians. The results of this study suggest that patients may not view sharing the responsibility for safety as shared-decision making, but rather treating patients with respect and providing the opportunity for patients to become involved when they choose to do so.

The focus group results also show an understanding of the shared responsibility between patients and health care providers while hospitalized. While data were not collected regarding this in the quantitative phase of research, it was a recurring comment made by participants in both patient focus groups. This finding underscores the ability for some patients to understand the importance of involvement in their health care and to link it back to their overall safety while hospitalized. Research has shown that many patients do see themselves as responsible for their well-being while hospitalized, in not only understanding their role in reducing susceptibility (Weingart, Toth, Eneman, & Aronson, 2004), but also sharing responsibility when an error occurs (Blendon et al., 2002).

Finally, focus group results suggest that patients see the need for greater family involvement and patient advocacy. The idea of having an advocate or family member present was repeatedly brought up in the patient focus groups, suggesting that while many patients might not take this action, it is seen as a potentially important aspect of patient involvement in care. In addition, it was seen as a protective measure for individuals who cannot become involved in their care due to cognitive or literacy deficiencies. Family involvement and engagement has been noted elsewhere as an important factor to improving patient safety (Leape et al., 1998; Vincent & Coulter, 2002).

How do health care provider and patient perceptions of patient safety differ and how does this affect patient involvement?

Overall, there was not a great deal of difference between provider and patient views of patient safety. Both groups identified patient safety as protecting patients from “harm” and comprising a number of issues, including physical safety, emotional safety, medication safety, and environmental safety. Patient and provider participants also

identified patient safety as being a shared responsibility and that patients have a role in helping to ensure safe care. Patient participants had an understanding of organizational safeguards put in place to help provide safe care to patients, such as the use of fall risk stickers, and appreciated that they are an important aspect of patient safety. Both patient and provider focus groups generated a lot of discussion of patient involvement being an important aspect of patient safety. Involvement in care, in this way, was seen as a precursor to any further involvement in specific patient safety strategies.

One area where patients and providers did differ was the feeling for provider participants that many patient safety issues were as a result of their workload. While patients did discuss perceptions of their providers being stressed, this was not explicitly tied to the concept of patient safety. Provider participants repeatedly brought up issues regarding workload interference and the sense that patient safety was not a priority for the organization. While the majority of provider participants saw patient safety as important, they felt their ability to provide safe care was hindered in some respects. Further measures to increase patient safety through the use of prompts and forms were seen as positive, but also possibly seen as creating an environment where safety is paid “lip service” in order to pass audits and accreditation. These findings corroborate research that has shown that work engagement is important to ensure that providers feel supported in their patient safety practices and to avoid burnout (Spence Laschinger & Leiter, 2006). Patient discussions suggested that they were not keenly aware of the interplay between organizational practices and provider perceptions. For patients, patient safety meant creating a comforting environment and having the time to connect with providers, rather than ensuring protocols are followed. This discrepancy could create a potential conflict

between what organizations may currently be prioritizing for patient safety strategies (e.g., checklists and pamphlets) and what providers and patients see as necessary priorities (e.g., interaction and involvement).

In addition, while providers often utilized the term “patient safety” with ease of understanding, patients were less aware of this term and its contextualization. This is an important aspect to note, as current strategies may not be reaching patients who are unaware of what this term means. Similar findings have been found in other research (Lang et al., 2009). In this research, when patients were asked to reflect on what the term meant to them, they often had to take some time to formulate their ideas. Patients readily saw safety as encompassing their physical safety while hospitalized (e.g., wheelchairs, fall prevention), but only after some discussion did they begin to realize the full potential of patient safety as encompassing everything associated with their care, including emotional aspects of their wellbeing. As such, patient awareness of patient safety may ultimately be diminished due to a lack of patient-friendly terminology and education. Literature has also suggested that health administrators and providers have difficulty defining the term “patient safety.” In one exploratory study, when 647 health administrators and physician leaders were asked to define patient safety using up to 10 single words, a total of 4,200 word definitions were provided with no discernible winners or patterns (Lin & Kumar, 2012). Ultimately, this lack of common understanding for both patients and providers may limit the ability to greater engage patients in patient safety.

5.3 THEORETICAL FRAMEWORK TESTING

The HBM attempts to explain the likelihood of engaging in a specific health behaviour through the interplay of individual perceptions of seriousness and

susceptibility (threat), barriers versus benefits, cues to action, and other socio-demographic modifying factors. The findings of this research have been based on the constructs of the HBM; therefore, the model has directly influenced the interpretations and implications of this research. As such, this necessitates an analysis of the applicability of this model to patient involvement. The results from this study have shown evidence for the constructs and relationships set forth by the HBM. Furthermore, the partial least squares analyses provided evidence for the validity and reliability of the constructs of the HBM when applied to patient safety. A discussion of each construct in relation to the quantitative and qualitative analyses for both patients and providers is presented below.

5.3.1 Health Belief Model Constructs

Socio-Demographic Factors

The HBM posits that socio-demographic factors, such as age, gender, education level, and prior knowledge, impact an individual's perceived threat. The study results show evidence for the inclusion of socio-demographic factors within a model for patient safety. The patient PLS model illustrates that both employment and gender had a significant relationship to patient perceptions of threat ($p \leq 0.01$). Overall, these two factors accounted for 44.4% of the variance in respondent perceptions of threat, including whether the respondents felt they could experience a significant patient safety incident and whether experiencing a patient safety incident could lead to serious injury or even death. However, education level was found to have a significant relationship with patient perceptions of expectations ($p \leq 0.01$), rather than the construct of threat. There has been very little exploration of the role of socio-demographic variables within the HBM, with

most meta- or systematic analyses focusing on the dimensions of barriers, benefits, seriousness, and susceptibility. Evidence from applications of the HBM in other health care settings does indicate support for the inclusion of socio-demographic factors in the model (Becker, Maiman, Kirscht, Haefner, & Drachman, 1977; Oldridge, 1990). Other research has also found significant relationships between gender, age, and employment status and the willingness of patients to be more involved in their care (Arora & McHorney, 2000; Beaver, Luker, Owens, Leinster, & Degner, 1996; Degner et al., 1997). No significant relationships were found in this research between income level, number of hospitalizations in the past two years, and duration of hospitalization with any of the HBM constructs.

Cues to Action

The HBM hypothesizes a relationship between cues to action and perceived threat of an illness. In this research, cues to action for patients, including whether the respondent or a family member or friend had experienced a patient safety incident and whether they had heard the term patient safety before, were found to significantly contribute to expectations of barriers versus benefits, helping to explain 40.7% of the variance along with education level. The results suggest that while cues to action may help to inform perceptions of threat in some circumstances, they may also help to increase awareness of the benefits of performing an action or behaviour in a health care environment. Within this research, external cues to action for patient safety were not readily available, with 56.8% (n=121) of respondents indicating they had never heard the term patient safety before. As such, cues to action for patient safety may be more internal, with past experiences influencing actions. Furthermore, with nearly one quarter of respondents (n=53, 24.9%), indicating that they have experienced a patient safety

incident in their lifetime, it could be that perceptions of seriousness and susceptibility are well established for these individuals.

Literature suggests that the relationship between cues to action and perceived threat may not be well defined. A study of safe sex intentions of adults found a relationship between cues to action and intention to perform a behaviour, but no relationship between cues to action and the construct of perceived threat (Petosa & Jackson, 1991). Another study looking at coronary heart disease prevention did not find any relationship between cues to action (such as having familial history or taking medications) and intention to perform preventative actions (Ali, 2002). No significant relationship between cues to action and other constructs of the HBM were found in the provider model in this study.

Threat

Perceived threat plays a central role within the HBM, having a direct effect on the likelihood of taking a recommended action. The results of both the patient and provider models are consistent with this proposition, with both models showing significant relationships between threat and the performance of patient safety practices. Patient and provider variables were very closely linked, with both asking whether patients were at risk for experiencing a significant patient safety incident. Patients were asked if they felt that a patient safety incident could result in serious injury or death, whereas providers were asked if patients were at risk for experiencing a patient safety incident on their unit, indicating both seriousness and susceptibility. In a critical review of literature, Janz & Becker (1984) found that the dimension of perceived susceptibility was a stronger predictor for preventative behaviours than seriousness. This was not found in this research, with the loadings for susceptibility variables (0.67 and 0.50 for patient and

provider, respectively) being lower than for severity variables (0.91 and 0.85 in the patient model and 0.83 and 0.80 in the provider model). However, this finding could be explained by the particular variables captured in this research and the use of a composite variable of threat.

Barriers versus Benefits

Within the HBM, perceived barriers minus perceived benefits is also thought to have a direct relationship with likelihood of performing a selected behaviour. For this study, the construct was captured as patient and provider expectations, in that respondents expected either a positive (benefit) or negative (barrier) outcome in performing an action or behaviour. The provider model upholds this relationship in that expectations were found to directly contribute to provider involvement in patient safety practices ($p \leq 0.05$). Together with threat, these two constructs explained 21.1% of the variance in involvement in patient safety practices. Rosenstock, Strecher & Becker (1994) cite perceived barriers as the single most powerful predictor of behavioral intention. The patient model, however, shows self-efficacy as a mediating factor between expectations and the performance of patient safety practices. Perceived expectations accounted for 61.1% of the variance in self-efficacy with a statistically significant path coefficient ($p \leq 0.01$). This suggests that self-efficacy may be necessary to overcome barriers and to determine the magnitude of benefits when performing patient safety behaviours. The construct of self-efficacy will be discussed further in the next section.

Finally, it is also posited that socio-demographic factors, as discussed earlier, impact perceived expectations. While this was not the case for the provider model, a relationship was found between education and expectations in the patient model, with the path coefficient significant at the $p \leq 0.01$ level. This finding is upheld by research on

mammography use that found socioeconomic status to be related to the dimension of perceived barriers (Stein, Fox, Murata, & Morisky, 1992).

Self-Efficacy

While the addition of self-efficacy to the HBM took place nearly 25 years ago, there has been little research on how the dimension of self-efficacy fits within the structural model. Visual representations of the HBM tend not to include the dimension of self-efficacy as a separate construct. However Rosenstock, Strecher and Becker (1994) warn about including self-efficacy under the “catch-all” of perceived barriers. As such, the inclusion of self-efficacy was hypothesized to have a mediating effect between expectations and adopting patient safety behaviours. The patient PLS model confirmed this hypothesis, with self-efficacy not only having adequate discriminant validity and composite reliability, but also directly contributing to involvement in patient safety practices. Self-efficacy has been found to be a significant determinant of engaging in patient safety practices elsewhere (Hibbard, Peters, Slovic, & Tusler, 2005).

However, self-efficacy was not found to be a mediating construct in the provider model. This could be explained by the fact that most of the patient safety practices included in this study are ones that have been instituted as practice standards in the study hospitals, including confirming a patient’s identity before giving treatment and encouraging patients to have a family member or friend present. Furthermore, because patient safety practices are meant to keep patients safe, and not necessarily increase the safety of the providers themselves, there may be less self-efficacy required to engage in practices that are known to increase patient safety and quality of care.

5.3.2 Expanded Model for Patient Involvement in Patient Safety

The Health Belief Model provided a strong framework for the study of patient involvement in patient safety. Results from the patient PLS model provide evidence for the use of the HBM in describing and predicting patient involvement in patient safety practices. The use of an expanded model for patient involvement in patient safety helps to address gaps in current knowledge by providing a cognitive basis for understanding patient perceptions and motivations as they relate to involvement in patient safety. Understanding these perceptions and motivations helps to frame the study of patient involvement in patient safety as a distinct health behaviour. As such, determinants of this health behaviour can then be influenced to effect change. This expanded model aims to contextualize the HBM within patient safety and better incorporate the role that providers and organizations play in engaging and involving patients. The importance of context and setting has been demonstrated in a number of health care safety practices, including quality improvement implementation and guideline dissemination (Grimshaw, Eccles, & Tetroe, 2004; Shortell, Bennett, & Byck, 1998). As such, to increase the effectiveness and use of a framework for patient safety, results from this study have been incorporated so as to address the context of patient involvement. The expanded model is discussed below and shown in Figure 5.1.

Safety Culture

Safety culture played a significant role in provider perceptions of barriers versus benefits and threat for patient involvement in patient safety. For providers, this suggests that much of the impetus to encourage patients or to model safety related strategies is related to the organizational culture within which they work. As such, many cues to

action that patients receive from providers may stem from the safety culture of the organization and whether such things as patient safety, patient collaboration, and learning from incidents are deemed important by providers. As a result, safety culture has been added as a precipitating factor to provider-led cues to action within the expanded model. This is a significant addition to the expanded model and provides an important link to literature which shows the importance of safety culture as a determinant of patient safety (Institute of Medicine, 1999; Nieva & Sorra, 2003). The expanded model, therefore, calls for greater integration of patient involvement in patient safety practices within an organization's safety culture, leading to greater acknowledgement of the role that an organization's culture can play in the adoption and promotion of patient safety practices.

Cues to Action

The findings from this study suggest that cues to action may play a role in patient perceptions of the benefits versus barriers to involvement in both factual and challenging patient safety practices. As such, it is proposed that an expanded model include this relationship. It is important to target these cues to action, whether they be external (e.g., media campaign) or internal (e.g., perceptions of seriousness), when implementing patient involvement strategies. This ultimately improves the ability of organizational and public safety campaigns to communicate strategically with patients. While no relationship was found between cues to action and threat, there is not enough evidence to support the removal of this from an expanded model, and as such has been left in.

Threat

Within the original HBM, threat is considered a mediating factor between perceptions of seriousness and susceptibility and the likelihood of action. However, due

to the impracticality of capturing the latent variable of threat using the latent variables of seriousness and susceptibility, this research instead used threat as a composite latent construct inclusive of seriousness and susceptibility. As such, the expanded model streamlines this relationship and allows for greater ease of use when trying to capture and measure the phenomenon of patient involvement. This modification may ultimately help to improve construct clarity within the HBM and aid in the application and use of the model in further research.

Self-Efficacy

The results of this study uphold the addition of self-efficacy as a distinct construct within an expanded model. Self-efficacy was found to be an important mediating factor between patient expectations and performance of patient safety practices. Furthermore, the construct was found to have adequate discriminant validity and composite reliability, suggesting that the construct of self-efficacy is unrelated to the other constructs in the model. This is an important distinction to make, as structural models of the HBM have tended not to explicitly represent the relationship of self-efficacy to the performance of a behaviour. Self-efficacy has been found to be an important determinant of patient involvement in patient safety practices in other research (Hibbard, Peters, Slovic, & Tusler, 2005). The addition of the self-efficacy construct within the expanded model explicitly acknowledges this contribution and presents self-efficacy as direct determinant of patient involvement in patient safety. As such, the expanded model supports greater introduction of patient safety strategies aimed at improving patient knowledge of, and comfort with, getting involved.

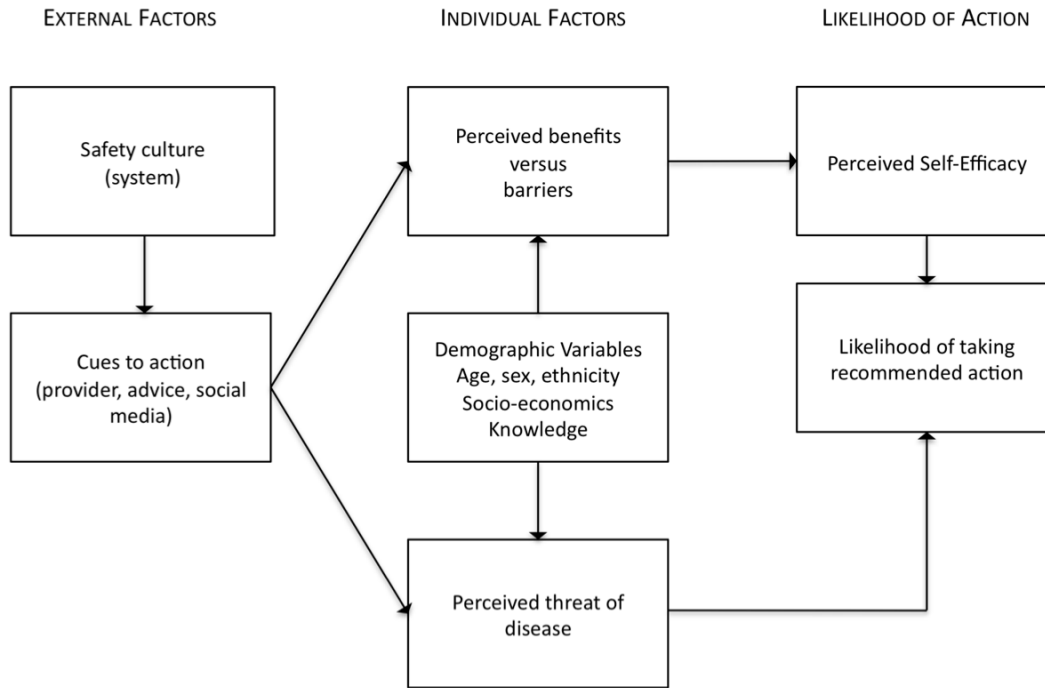


Figure 5.1. Expanded Model for Patient Involvement in Patient Safety

5.4 STUDY IMPLICATIONS

This research has implications for both policy and front-line practice in the promotion of patient safety within health care organizations. Recommendations are made to better guide policy development in the future and to help implement practice changes. Specifically, recommendations are made in four areas: (1) measuring readiness for change and safety culture, (2) providing opportunities in workflow to increase patient involvement and participation, (3) improving patient and provider awareness of patient safety issues, and (4) the use of an expanded Health Belief Model for patient safety in the creation and dissemination of patient safety strategies. A summary of the recommendations and implications is provided in Appendix L.

5.4.1 Measure Readiness for Change and Safety Culture

5.4.1.1 Implications for Patient Safety

This research shows that safety culture plays an important role in the promotion and maintenance of patient safety activities for health care providers. However, focus group results indicated a disconnect between what nurses saw as important patient safety practices (e.g., having time to include patients in their care) and what was touted by the organization as important patient safety measures (e.g., fall risk signs, patient safety checklists). As such, this disconnect may signal underlying issues related to organizational readiness for change and the adoption and promotion of a safety culture. Improving input from health care providers, introducing mechanisms for feedback, and implementing a learning environment were key components of a patient safety culture brought out by nurse focus group participants. Therefore, it is important that organizations understand, measure, and implement safety culture principles in conjunction with patient safety strategies.

It is proposed that a first step in this process is to understand an organization's readiness for change. The introduction of patient safety strategies within health care has grown within the last decade, with many changes being spearheaded by national and international organizations. As such, understanding the applicability and acceptability of patient safety strategies within individual organizations is paramount to ensuring uptake by health care administrators and front line health care providers. Descriptive results from this research suggest that while many patient safety strategies are being adopted by health care providers and patients, some strategies (e.g., handwashing, encouraging challenging questions) have failed to take hold despite evidence that they could improve the safety of care.

Readiness for change is aimed at better understanding motivations to change by change recipients, in this case health care providers. While change management can involve both change leaders and change recipients, it is recommended that patient safety strategies be approached from the change recipient standpoint. Armenakis and Harris (2009) suggest that since organizational change occurs often at the hand of individual change recipients, it is important to understand and utilize their motivations in order for change to succeed. They suggest five beliefs that play an important role in the change process, including (1) discrepancy, (2) appropriateness, (3) efficacy, (4) principal support and (5) valence.

It is clear from both the survey and focus group results from providers that three of the five beliefs have been satisfied for health care providers in this research: (1) discrepancy, in that health care providers understood the importance of patient safety and that change is needed to improve the current state; (2) principal support, in that a strong safety culture was perceived by many health care provider respondents, including perceiving coworkers as committed to patient safety; and (3) valence, in that many providers indicated their desire to ensure greater patient safety and understood the benefits that would result from having safer care, not only for patients, but also for health care providers. However, issues surrounding appropriateness involved time constraints for health care providers, integration of patient safety strategies into workflow, and acceptance of new behaviours by patients. Furthermore, efficacy needs to be strengthened as an important component of change management. Essentially, if recipients do not feel that the organization is capable of change, there is little motivation to adopt changes in personal behaviour. Frustration with current processes and a lack of feedback and

stakeholder input when change does occur can lead to apathy in change recipients and a failure to fully adopt changes even if they are understood to be beneficial.

5.4.1.2 Implications for Decision Makers

It is recommended that the introduction of new patient safety strategies follow a thorough exploration of an organization's readiness for change and safety culture. Safety culture can play an important role in helping to mitigate the challenges associated with adopting patient safety strategies, such as demands on time, appreciation of the importance of safety, and integration of safety strategies into everyday workflow. Evaluation of strategies that have failed to attract widespread adoption are an ideal starting point to understand where bridges need to be made between change leaders and recipients. There are a number of published readiness for change (Armenakis, Bernerth, & Pitts, 2007; Helfrich, Yu-Fang, Sharp, & Sales, 2009) and safety culture (Nieva & Sorra, 2003) measurement tools that can be used by organizations interested in ensuring greater success with patient safety strategies. It is recommended that organizations wishing to implement further patient safety strategies elicit input from an array of stakeholders to ensure widespread adoption among units.

5.4.1.3 Implications for Policy Makers

A number of domestic and international organizations have taken a lead in promoting patient safety strategies within health care, including the Canadian Patient Safety Institute (CPSI), the Joint Commission in the United States, and the World Health Organization (WHO). While these organizations benefit from pools of expertise and have been integral in ensuring widespread uptake of patient safety strategies, there are some drawbacks in implementing "one-size-fits-all" programs within hospitals and health

centres that have disparate organizational cultures and values. For instance, if an organization does not show a readiness for change, or lacks a strong safety culture, it is unlikely that patient safety strategies that are not developed in-house will succeed. As such, further education for health care organization leaders is necessary to better understand the challenges and facilitators to greater adoption in their own institutions. Finally, it is important to note that when providing strategic directions for hospitals and health centres on a national or international scale, strategies may need to be altered to ensure uptake. Ultimately, patient safety needs to be framed within the promotion of a larger safety culture within an organization.

5.4.2 Integrate Patient Involvement into Workflow

5.4.2.1 Implications for Patient Safety

An important theme that emerged from both the patient and provider focus group data was the feeling that there was not enough time to greater involve patients in their care. For patients, this was primarily manifested in statements regarding providers being too busy or too stressed, and patients not feeling comfortable or not knowing how to better participate in their care while hospitalized. For providers, rhetoric often focused on not having enough time in the day to talk with patients or answer questions, and the feeling that patient safety had become manifested in increased paperwork. Providing opportunities for interaction between patients and providers holds a great deal of promise for greater integration of the patient within the care team.

Patients spoke to the need to feel comfortable or safe in asking questions of their health care providers, and these conditions may be a precursor to ensuring greater involvement by patients in patient safety strategies. Health care providers should strive to

build a rapport with patients and to encourage them and their family members to become involved where possible. Self-efficacy was shown to greatly influence patient performance of patient safety practices in this research, indicating a need for health care providers to further enhance patient abilities to communicate, self-manage, and see improvement in their care. Providing information to patients regarding their treatment plan and explaining procedures as they take place is a good first step in making patients more aware of their role. Positive reinforcement and encouragement by health care providers is essential in ensuring that patients continue to perform patient safety behaviours on an ongoing basis.

While health care providers saw greater patient interaction and participation as positive, time and environmental constraints were repeatedly noted as deterrents. On the whole, providers were aware of the patient safety strategies and risks within their units, citing examples such as fall signs, Braden Scale assessments, and checklists. However, strategies were not necessarily aimed at greater patient involvement. With the advent of patient-centered care as the hallmark of safe and effective health care, patients need to be an integral team member and to understand the safety risks associated with the provision of health care. However, increased strain on health human resources, greater complexity of patient health issues, and growing environmental constraints do little to ensure that patients are engaged throughout their hospitalization. Current strategies aimed at accountability, such as patient safety checklists, may not be effective in ensuring patient involvement in care and may be susceptible to apathy or lip service by health care professionals. As such, providing health care professionals the opportunity to engage patients in conversation and their care should be a part of existing workflow. Providers

should not be asked to go above and beyond their required duties in order to ensure patients are involved, but rather it should be an expected and supported part of their job, with commitment from senior leadership, hospital administrators, and associated organizational policies.

5.4.2.2 Implications for Decision Makers

In order to achieve this recommendation, decision makers must support greater emphasis on patient-provider interaction. It is suggested that organizations start by conducting a workflow analysis of hospital units. Often, inefficiencies in workflow result in overworked and stressed employees. Identifying areas of workflow that are inefficient or counterproductive to greater patient involvement will help organizations to better allocate time to patient-provider interaction.

It is equally important to ensure that key stakeholders are involved throughout the workflow redesign process, ensuring that those individuals who work within the system communicate valuable information regarding processes (Curry, McGregor, & Tracy, 2006). Interdisciplinary teams should be assembled to complete the analysis, with steps including diagramming current workflow processes, identifying current patient safety strategies, identifying potential waste within the process, and redesigning workflow and the environment to assist providers in involving patients (Lighter, 2000). Ideas, opinions, and conclusions need to be communicated not only within units undertaking redesign, but also between units as well. Better integration of practices between units will ultimately help to achieve a more efficient system and increase stakeholder satisfaction.

5.4.2.3 Implications for Policy Makers

Policy makers can help to achieve this recommendation by framing the issue as a standard of care. Many professional standards of care and practice guidelines for health care providers do contain language regarding patient collaboration. However, there is a need for regulatory bodies, such as the College of Physician and Surgeons and the College of Registered Nurses, to ensure that patient collaboration and involvement is a required and supported action (Baker, Denis, Pomey, & MacIntosh-Murray, 2010; Rowell, 2003). Furthermore, greater lobbying by professional and patient groups regarding the importance of patient involvement will help to bring light to the situation. Ongoing evaluation consisting of both practitioner and patient satisfaction surveys will be helpful to understanding the barriers and benefits to further patient involvement in care and patient safety. Overall, there needs to be an increased expectation for patient-provider interaction and collaboration, with policies providing the necessary support to achieve this.

5.4.3 Improve Awareness of Patient Safety issues

5.4.3.1 Implications for Patient Safety

Results of the patient survey showed that over half of patient respondents had not heard the term patient safety before. This presents significant issues not only when trying to educate patients regarding patient safety and their role, but also when trying to do so within the context of hospitalization. Encouragingly, many patients want to become more aware of patient safety issues and the risks that are associated with hospitalization. Literature has suggested a number of roles that patients can play in their health care, including ensuring continuity of information, appropriateness of treatment, and

identifying adverse events when they occur (Vincent & Coulter, 2002). However, patients may not be aware of how they can be involved or when to become involved in their health care. Awareness and education surrounding patient roles is an important step in ensuring that patients are more involved in patient safety strategies.

While many patient safety strategies are aimed at raising awareness during hospitalization, including information packets and posters, patients are often at a disadvantage for acquiring new information when their primary concern is their illness. It has been shown that between 40-80% of the information that is presented to patients is forgotten immediately, and memory is often affected by the perceived importance of the information relayed (Kessels, 2003). Messages regarding patient safety may not be perceived as important as diagnostic information while hospitalized, thus getting lost in the myriad of information and decisions that must be made.

Patient awareness of patient safety must therefore begin before hospitalization occurs. Patients in this study cited examples of television and print media stories of medical and medication incidents as sources of information. Some patients were also made aware of patient safety through their family doctor. Social marketing has successfully been used to raise patient awareness of chronic health conditions, screening, and immunization both within Canada and abroad. One study that looked at high blood pressure awareness found a significant increase in patient knowledge of consequences and understanding of their responsibility and role after the implementation of a multifaceted social marketing campaign (Petrella, Speechly, & Kleinstiver, 2005). Social marketing holds promise for patient safety, as it ensures that patients are made aware of the potential risks when entering the health care system and the benefits to becoming

more involved, and may help to improve patient self-efficacy when attempting to perform patient safety activities. Additionally, social marketing campaigns may have an added benefit of increasing awareness among health care professionals as well.

It is recommended that a number of social marketing strategies be employed, including television, print media, direct-to-patient pamphlets, educational materials available at family physician offices, and web-based media. Educating individuals that health care is a shared responsibility, and that they can take steps to ensure their care is safe before a health care encounter occurs, can help to improve understanding and uptake (Ballard, 2003). When patients come to the hospital prepared to engage in certain practices, far less onus is placed on already busy health care professionals. Furthermore, patients are able to learn and understand more about patient safety when they are not faced with the stress and information overload that often comes with hospitalization.

5.4.3.2 Implications for Decision Makers

Provincial ministries and departments of health should take a more proactive approach to ensuring patients are aware of patient safety risks and strategies. Social media marketing campaigns should be aimed at the general population and include strategies that will reach the greatest percentage of the population. It is recommended that web-based materials be available for patients and that family physicians and public health offices promote materials through distribution and discussion of pamphlets. Using simple, easy-to-understand, and illustrative television and print campaigns will increase awareness among patients and help to prepare them for hospital visits. Distribution of simple patient safety materials, such as medication list booklets, notepads to write down important medical information, electronic applications, and wallet cards that explain

types of questions to ask of health care providers, will also help to increase cues to action for patients willing to become more involved in their health and safety. Taking advantage of pre-existing patient interaction, such as pre-operative assessment clinics, also presents a significant area for increasing patient awareness of patient safety activities prior to hospitalization. It is important to note that social marketing campaigns must strike a balance between educating patients about their role in patient safety without deterring patients from entering the health care system due to risk.

5.4.3.3 Implications for Policy Makers

The term “patient safety” was not found to be a useful term for patient focus group members. As such, it is recommended that policy makers ensure that terms and educational materials are in a language appropriate for patients. For instance, explaining “health care safety” in terms of the physical, environmental, and emotional risks for patients will help to delineate the many issues covered under the umbrella of patient safety. Additionally, ensuring that educational materials are at an appropriate level of understanding, as well as culturally appropriate, is also imperative to involving patients. Standard guidelines for patient safety materials, including language and content, should be developed to help guide individuals and organizations involved with patient safety when creating patient-specific content. Finally, professional colleges should also play a role in ensuring that the public is safe. As such, it is recommended that awareness campaigns and materials be supplied through professional college websites and through targeted patient campaigns.

5.4.4 Use of an Expanded Health Belief Model for Patient Safety

5.4.4.1 Implications for Patient Safety

Research regarding patient involvement in patient safety has traditionally lacked a theoretical lens. Attempts to explain patient involvement in patient safety have mainly focused on whether actions have been previously performed, or the likelihood of performing them in the future. However, little research has utilized the role of perceptions to explore how to predict or explain patient involvement in patient safety. By better understanding underlying perceptions, patient safety strategies can be developed using multifaceted approaches to appeal to perceptions of threat, benefits versus barriers, self-efficacy, and cues to action. The use of a theoretical approach may improve the success of patient-oriented safety strategies through an increased understanding of how patients perceive strategies and their motivations to perform certain behaviours.

The Health Belief Model was used in this research to explain and predict patient involvement in patient safety practices. The results of this research uphold the use of an expanded HBM for patient safety (Figure 5.1) and demonstrate the roles that perceptions of barriers, benefits, threat, and self-efficacy play in the likelihood of patients performing both factual and challenging patient safety practices. This knowledge is beneficial not only for implementing new patient safety strategies, but also for better understanding how to tailor already existing strategies to better suit the populations served. For instance, where certain strategies have been unsuccessful, such as asking patients to ensure provider hand washing, the revised model can provide insight into why patients may feel unable to ask challenging questions, including whether provider perceptions have prevented them from engaging patients or whether patients understand or pick up on cues to action in their environment. Finally, the expanded HBM can be used to evaluate

current efforts and to identify areas for improvement. This is an important component of successful strategy implementation that is missing from patient safety literature, and greater emphasis on understanding the impact of patient safety strategies on both health care providers and patients is needed.

Ultimately, using theory to guide implementation and evaluation is necessary to ensure that patient safety strategies are achieving their desired goal. The use of a theoretical or conceptual framework is helpful in providing planners with answers to three important questions: (1) why patients are not involved in performing patient safety activities, (2) what needs to be known in order to develop and implement successful strategies, and (3) how to successfully reach intended audiences and have an impact on the target population (Glanz, Rimer, & Viswanath, 2002). As such, theory can be extremely useful in guiding and evaluating new patient safety strategies and can help planners and administrators to better assess, plan, deliver, implement, and evaluate. It is recommended that the expanded HBM be used in the future to identify best practices and ensure greater uptake and success of patient safety strategies aimed at patients.

5.4.4.2 Implications for Decision Makers

Implementation of patient safety strategies aimed at patients without an understanding of the target population, their motivations, and perceptions increases the likelihood of failure. It is recommended that decision makers use a similar tool to that used in this research to better understand the barriers and facilitators to patient involvement in patient safety in their own setting. This will allow for the measurement of baseline perceptions within a distinct population and will help decision makers to better understand the unique needs of their patients. It is also imperative, then, that decision

makers fully understand the tool, including its strengths and limitations, so that they are better able to glean recommendations from the results. Ensuring that a measurement tool includes detailed instructions for completion and information concerning reliability, validity, and construct clarity is important to ensure that the tool is used and interpreted correctly.

The expanded HBM also helps to identify key relationships between patient perceptions of patient safety and likelihood of taking action, allowing decision makers to place greater emphasis on communicating the seriousness of patient safety consequences and training health care providers to better enable patient self-efficacy. With regards to implementing challenging patient safety practices, the expanded HBM provides a framework to ensure that all levels of influence, including cues to action, threat, barriers versus benefits, and self-efficacy, are incorporated into future strategies to better ensure success.

5.4.4.3 Implications for Policy Makers

It is essential that greater understanding of patient perceptions and motivations guide strategy implementation to ensure program success. It is recommended that provincial governments encourage greater use of theory- and evidence-based implementation guidelines to promote patient safety among health organizations, health care providers, and patients. Evidence-based implementation of best practices is needed on a wider scale within and between provinces. Yuan et al. (2010) suggest the use of a framework to guide evidence-based research dissemination, including: (1) highlighting the relative simplicity of evidence, (2) aligning campaigns with strategic goals, (3) increasing recruitment by tapping into opinion leaders, (4) creating a coalition of credible

sponsors, (5) generating a threshold of participating organizations who have large networking capabilities, (6) developing practical guidelines and implementation tools, (7) creating networks to encourage uptake, and (8) incorporating evaluation goals and milestones. As such, provincial governments should ensure greater uptake of theory and evidence-based research with regards to patient involvement in patient safety and could use the above framework to help disseminate and integrate knowledge into provincial patient safety policy and practice. Ensuring that provincial patient safety strategies are informed by evidence and theory will help to ensure greater success in involving patients. Improved communication between provincial departments and health care organizations to improve consistency among patient involvement strategies will also help promote regional standards. Provincial governments should also facilitate program evaluation policies and sharing of best practices, with learnings shared through national bodies such as the Canadian Patient Safety Institute and through provincial and regional patient safety groups and initiatives. Further collaboration among health care jurisdictions, professional organizations, and researchers to share data, evaluate theoretical frameworks for patient safety, and test implementation strategies is needed.

5.5 QUALITATIVE RESEARCH CONSIDERATIONS

5.5.1 Trustworthiness (Validity and Reliability)

The use of qualitative inquiry necessitates a discussion of the issues of validity and reliability. Because of the nature of qualitative inquiry, evaluating the strength of the results and how well the researcher understands the phenomenon is important. In order to evaluate this, researchers must “look to themselves, to the participants, and to the readers” (Creswell, 2007, p. 201). There are a number of techniques discussed in the

literature to ensure the validity and reliability of qualitative research, thus enhancing the rigor of the study (Eisner, 1991; LeCompte & Goetz, Spring 1982; Lincoln & Guba, 1985; Patton, 1990; Whitemore, Chase, & Mandle, 2001; Yin, 1994). In their seminal work, Lincoln & Guba (1985) suggest the use of four criteria to explore the *trustworthiness* of a qualitative inquiry: (1) transferability, (2) dependability, (3) confirmability, and (4) credibility.

Transferability refers to the requirement that the original investigator not only explain the findings in the population studied, but also the degree to which the results are transferable to other populations (Lee, 1999). In order to achieve this, rich and thick description of the study setting, participants, and narratives have been used to better contextualize the phenomenon and allow readers to assess potential transferability of the findings to other settings (Lincoln & Guba, 1985). Dependability and confirmability of the results were enhanced through detailed documentation of the data collection and analysis methods, verification of participant narratives with audiorecording and verbatim transcripts, and through the collection of data over a period of time. These methods helped to ensure that the data reflected participant experiences and that correspondence existed between what was observed and what was inferred through thematic analysis. Credibility in this study was enhanced through rich description of the phenomenon itself and through validation of the phenomenon with existing theory (Lee, 1999). As such, evidence has been provided throughout the development of the final themes, allowing for greater understanding of the progression from data extracts to themes. Finally, trustworthiness was enhanced in this study through the triangulation of data sources. In this study both surveys and focus groups were used to measure and explore the

phenomenon of patient involvement in patient safety practices. Quantitative and qualitative results were largely complementary across survey and interview findings, with further knowledge regarding environmental deterrents, patient and provider comfort with patient involvement, and the context in which patient involvement can occur resulting from the qualitative analysis. As an additional measure to ensure trustworthiness, the researcher's supervisor performed a thorough audit of preliminary data collection, analysis, and interpretation procedures.

5.5.2 Role of the Researcher

Within qualitative inquiry the researcher plays an integral role in both data collection and analysis. As such, the concept of reflexivity is important in identifying the potential biases, values, and experiences that a researcher brings with them (Creswell, 2007). In order to bring an awareness of the possibility of introducing bias into the research, the researcher kept a journal throughout the qualitative phase to better understand the judgments and values that may have influenced the analysis of the data. The researcher was involved in both phases of the data collection, administering the surveys, analyzing the results, and conducting the focus groups. As such, it is possible that preconceived notions of the phenomenon stemming from the quantitative analysis may have introduced bias into the qualitative phase. Furthermore, the qualitative phase was ultimately influenced by the researcher's choice of variables to include within the patient and provider surveys and the theoretical framework applied to the statistical analysis. Nonetheless, the purpose of using the sequential explanatory model of mixed methods is to use the results from the quantitative phase to inform the follow-up

qualitative data collection, and as such some level of bias is acknowledged within this research design.

5.6 STUDY LIMITATIONS AND SIGNIFICANCE

5.6.1 Study Limitations

Generalizability

The results of this study represent the experiences of patients and providers in two tertiary hospitals in Atlantic Canada. As such, the results may not be wholly applicable to other regions in Canada. Furthermore, only four units were included within this study, which may ultimately influence the ability to generalize the findings for all hospital units, patients, and providers within the two study sites. Finally, the use of a consecutive discharge patient sample may ultimately reduce the representativeness of the patient sample when generalized to the patient population in Canada. Nonetheless, this research provides the first account of Canada-specific data, thus increasing applicability to Canadian institutions as compared to previous international results. Further research in other health centres and provinces will ultimately increase the generalizability of these results to the Canadian context.

Self-Report

While the self-report nature of the quantitative survey allowed for a retrospective analysis of patient and provider experiences, there are some inherent weaknesses with the use of this design, including recall bias and distortion (Stone, 2002). Recall bias and distortion can stem from a number of issues within survey research, including how questions are posed to respondents and how straightforward the recall process is for respondents (Herrmann, 1995). In order to limit recall bias in this study, patient

participants were asked to fill out the survey using experiences from their most recent hospitalization. Further to this, sampling strategies ensured that patient respondents were initially contacted to complete the survey no more than three months after their most recent hospitalization. Patients and providers were also given the opportunity to respond “not sure” for some of the survey questions. This design ultimately lessens the chance for respondents to guess the “right” answer, thus reducing bias. Finally, provider survey respondents were asked to answer questions based on activities that were performed on the unit as a whole, rather than personal experiences. This approach aimed to better understand patient safety practices by all health care providers on a unit as understood by each respondent, relying less on personal recall of specific experiences.

Provider Focus Groups

Provider focus group participants were mainly conducted during previously scheduled staff education days. As such, provider focus groups were conducted during lunch times on these days, thus averaging 30 minutes long. While the entire focus group guide was utilized within this time frame, the length of time might have lessened the ability to have greater in-depth narratives on the subject matter. In order to lessen the impact of this, a greater number of provider focus groups were conducted (n=4). A secondary limitation was that only nurses were involved in the focus group sessions. The absence of these other health care providers within the focus groups may have reduced the overall understanding of patient involvement in patient safety. Nevertheless, the majority of survey respondents were nurses, and as such nurse participants were viewed as being the most capable to help explain and elaborate on the quantitative results.

5.6.2 Study Significance

This study is novel in that no other studies have applied all constructs of the Health Belief Model to explain or predict patient involvement in patient safety practices. In one study, the constructs of self-efficacy and barriers were used to help explain patient perceptions of effectiveness and action of patient safety practices (Hibbard, Peters, Slovic, & Tusler, 2005). However, this previous research failed to incorporate all constructs of the Health Belief Model and was only hypothetical in nature; e.g., respondents were asked if they thought an action would be effective and if they would engage in it. In this study, all constructs of the Health Belief Model were used to inform the patient and provider surveys, which were aimed at determining perceptions for behaviours related to actions actually performed by the respondents during their most recent hospitalization. Finally, this research has ensured and reported the validity and reliability of the final PLS models based on the HBM constructs, thus providing a more complete and rigorous application of the HBM to patient safety.

This study is also unique in that it included patients, physicians, nurses, and other health care providers, and analyzed both patient and provider perceptions in one study. Most studies exploring patient engagement in patient safety have focused on patient actions (Davis, Jackline, Sevdalis, & Vincent, 2007; Davis, Koutantji, & Vincent, 2008; Hibbard, Peters, Slovic, & Tusler, 2005; Johnstone & Kanitsaki, 2009; Koutantji, Davis, Vincent, & Coulter, 2005; Waterman et al., 2006; Weingart, Toth, Eneman, & Aronson, 2004), minimizing the relationship between patient and provider perceptions. The importance of analyzing both patient and provider perceptions together is to capture scenarios where patients feel comfortable engaging in patient safety practices and where

providers are comfortable in having patients more engaged. Understanding the context of the patient-provider encounter, and how that can improve patient involvement, ultimately provides a more comprehensive understanding of patient involvement in patient safety, thus providing greater insight into how best to engage patients.

This study also addresses a gap in patient safety literature in that it integrates both quantitative and qualitative methods. Research within this area has mainly utilized quantitative methods, surveying patients on their willingness to ask or perform selected patient safety practices. While previous research provides a baseline understanding of the barriers and facilitators to greater patient involvement, it fails to elicit a deeper understanding of the underlying issues that lead patients to become involved in their care or not. Thus, by combining both qualitative and quantitative methods, a more comprehensive picture of the phenomenon was captured. As such, this study provides not only for measurement of factors that influence patient involvement in patient safety, but also provides greater understanding of how respondents perceived these factors through in-depth patient and provider focus group interviews.

Finally, this study provides a uniquely Canadian perspective on patient involvement in patient safety. A great deal of research has emerged from a United States perspective following the release of the IOM's report *To Err is Human* (1999). While this research provides an understanding of the possible issues in Canada, it is important to have nation-specific data to ensure that the Canadian experience is captured. This study is the first of its kind in Canada aimed at understanding patient and provider perceptions of patient involvement in patient safety and provides recommendations specifically for a Canadian audience.

CHAPTER 6 CONCLUSION

This research contributes to knowledge in the areas of patient and provider involvement in patient safety and the use of the Health Belief Model to explain and predict involvement. This study has identified factors associated with greater patient involvement in patient safety practices, including the role of perceptions of threat, barriers, benefits, self-efficacy, cues to action, and socio-demographic variables on the practice of both factual and challenging patient safety practices. Additionally, provider perceptions of patient safety and the role of safety culture were explored to better understand the interplay between provider and patient perceptions. Finally, focus groups were conducted with both patients and health care providers to better determine barriers and facilitators to greater patient involvement in patient safety practices.

Overall, the results indicate that patients are involved in their health care while hospitalized, with many asking questions of their health care providers and sharing a list of medications. Findings also corroborate that patient involvement is influenced by whether the patient safety activity is factual or challenging, with more patients performing factual patient safety activities aimed at educating themselves or providing information to their health care providers. Both provider and patient perceptions of threat and expectations explained a significant amount of variance in patient involvement in, and provider modelling of, patient safety practices, with the final partial least squares models providing support for an expanded Health Belief Model for patient safety. Health care provider behaviour was found to impact patient involvement through the encouragement of factual versus challenging practices and through patient-provider interaction. Lastly, this study confirmed that safety culture plays a role in provider

perceptions of patient safety and contributes to the likelihood of provider modelling and encouragement of patient safety practices.

6.1 RECOMMENDATIONS FOR PRACTICE

The overall goal of increasing patient engagement and involvement in patient safety is to foster a team environment where patients, families, and providers share responsibility for the safety of the patient. However, several practice limitations were highlighted in this research that must be addressed. Three areas are identified for improvement, including (1) recognizing the complexity of patient-provider interactions, (2) improving provider communication skills, and (3) optimizing work environments to reduce known risks and improve safety.

(1) Recognize the complexity of patient-provider interactions and put policies in place to manage expectations

Understanding what is expected from a patient-provider encounter is important in shaping patient safety strategies aimed at patients and providers. Furthermore, understanding role expectations for health care professionals will be beneficial in ensuring that both patients and health care providers are satisfied with increased involvement from patients. Ensuring that health care providers are aware that everyone on a care team has a part to play in improving patient involvement may help to reduce confusion surrounding expectations that someone else should be taking initiative or responsibility for patient education and engagement. Setting clear and achievable expectations as to what the patient-provider encounter should look like, how this may differ among care team members, and what each encounter should include will help to promote patient safety and incorporate safety activities into workflow. Ultimately, setting forth expectations for health care providers should be part of a larger safety culture

environment, and as such it is important to clearly outline these expectations and evaluate progress. Improving communication strategies among care team members will also help to reduce confusion and ensure that care team members promote a unified approach to patient care.

Patients see a multitude of health care providers during their hospitalization. Often, patients are unaware of the role of each health care provider, who to ask questions, and what they should expect from their encounters. Patient education surrounding expectations is equally important to ensuring that patient-provider interaction is positive and productive. Research has shown that not only can unmet expectations adversely affect patient outcomes, they often stem from how providers communicate when questions are asked (Bell, Kravitz, Thom, & Krupat, 2002). Providing patients with information regarding how to ask questions of health care providers, who their point of contact should be in their care team, and what information they should know about their treatment will help to reduce confusion for patients and streamline communication.

(2) Improve communication skills of health care professionals during training and in the workplace

Results from this study show that patient comfort levels in performing patient safety practices are largely influenced by their interactions with health care providers. Health communication has the potential to improve patient participation, health literacy, and treatment outcomes, and as such is important to consider when attempting to improve patient involvement in care (Sparks & Villigran, 2010). Productive health communication is vital in ensuring that patients and providers are aware of pertinent information and understand all aspects of a treatment plan. Patients often try to communicate in the same language as health care providers, which can lead to decreased understanding of their

care and can cause confusion when terms or concepts are not understood. Ensuring that providers communicate in appropriate language, with regards to both literacy and culture, will further help to ensure patients are comfortable interacting with their providers. Just as managing expectations is important, managing communication styles has the potential to positively impact greater patient involvement in patient safety. When patients are more comfortable asking questions, and when those questions are answered in an effective manner, greater patient self-efficacy can be realized.

(3) Optimize work environments for patient safety to reduce known risks

Focus group results highlighted the need for improved hospital environments as a necessary step in improving patient safety. Many health care providers noted environmental hazards, such as not enough space, faulty equipment, lack of cleanliness, and lack of privacy, as deterrents to greater patient safety in their units. These results have been echoed elsewhere in research, with other issues such as availability of supplies and infection control being reported (Nicklin & McVeety, 2002). Asking health care providers to improve patient involvement and increase patient safety when physical environments do not allow for improvements in care is not effective. As such, it is recommended that health care organizations perform a workplace analysis for safety risks and establish priority lists for environmental improvements given the fiscal restraints that many organizations now face.

6.2 RECOMMENDATIONS FOR FUTURE RESEARCH

The results of this research have highlighted areas for future research that will build on the methodology, framework, and conclusions discussed. Four recommendations have been identified and are put forth for future study.

(1) Application of research to other hospital and community settings

It is envisioned that future research will apply the methodology and theoretical framework identified in this research to other geographical locations and health settings. Greater generalizability of results within the hospital setting will not only clarify the organizational issues involved in patient involvement in patient safety, but will also better identify system issues within Canada that may be facilitating or hindering patient safety strategies aimed at patients. Furthermore, it is important to apply this research to other health care settings, such as community and specialist physician offices and pharmacies. While this research has emphasized patient involvement in their care during hospitalization, many patients interact with other health care settings on a more regular basis. These interactions hold promise for further patient behaviour changes through greater knowledge of their medical conditions and treatment plans. For patients to be completely engaged in their care, involvement must be achieved during all encounters with the health care system. Further studies should aim at examining patient perceptions of safety within different health care settings to understand similarities or discrepancies, and to identify areas where changes or improvements can be capitalized on. Ultimately, if the patient-provider encounter is to be reformed, studies must look at all aspects of the patient journey through the health care system to better understand the challenges and issues associated with each setting.

(2) Creation of a survey tool incorporating the expanded HBM for patient involvement in patient safety

The survey tool used in this research was adapted from previously published surveys and from the constructs of the Health Belief Model (HBM). As the findings of this research uphold the use of an expanded model for patient safety, further development

and validation of a survey tool based on these new findings and construct relationships will be beneficial. Further studies should focus on measuring the constructs of expectations, threat, and self-efficacy, with other variables aimed at capturing sociodemographic variables, cues to action, and awareness of patient safety strategies in the jurisdiction being studied. It is also suggested that further research capture both factual and challenging patient safety practices to further enhance knowledge regarding the similarities and differences in patient motivations to perform each practice. Potential survey tools will need to be evaluated and validated and should be tested in a large jurisdiction to ensure applicability to other settings and locations.

(3) Further investigate the role of self-efficacy for patient involvement in patient safety

The findings of this research show that self-efficacy plays a significant mediating role in the likelihood of patient involvement in both factual and challenging patient safety practices. This is an important area for future research. Further studies should aim to better understand patient perceptions surrounding self-efficacy and patient safety, including sources of patient safety information, patient safety behaviours that have been tried, behaviours that have been successful or unsuccessful, positive and negative feelings toward behaviours, and possible sources of support that could be beneficial.

(4) Study the implementation of a patient safety initiative to better understand the role of safety culture and readiness for change

In order to better understand the role of readiness for change and safety culture in the successful adoption of patient safety strategies, an implementation study should be conducted in which safety culture and readiness for change are measured and evaluated. Future studies should aim to evaluate the entire process of implementation to provide further insight into the barriers and facilitators to change management with regards to

patient safety. A more thorough understanding of the relationship between safety culture, readiness for change, and change management within a patient safety context will ultimately ensure greater uptake of patient safety strategies in the future and provide a framework for implementation which could be applied in a broader context.

6.3 CONCLUDING STATEMENT

Patient safety has been demonstrated as an area of importance due to the number of preventable incidents associated with health care treatment in Canada and worldwide. Patient involvement in patient safety has been suggested as a means for reducing the risks associated with gaps in continuity of care and medical information, and from the understanding that patients should be an integral part of the care team.

The methods employed in this research provided both quantitative and qualitative data, culminating in complementary findings. These findings revealed that patients and providers were more likely to engage in or encourage factual patient safety practices, with challenging patient safety practices, such as hand washing, not gaining widespread use. Patient comfort level with their health care providers and hospital environment is an important aspect of patient involvement in patient safety practices. The results also show that while providers felt that a safety culture was present in their unit, workload and environmental barriers limit their ability to interact with patients the way they want to.

Finally, testing of the Health Belief Model constructs found that patient perceptions of benefits, barriers, threat, and self-efficacy were important mediators of involvement in both factual and challenging patient safety practices. Self-efficacy was found to be a mediating factor between perceptions of expectations and action, signalling this to be an important perception for patients. Interestingly, self-efficacy was not found

to contribute to provider encouragement of patient involvement in patient safety practices, with the construct of safety culture significantly contributing to variance in provider actions.

This research aimed to better understand the role that perceptions play in patient involvement in patient safety. The results of this study provide for a greater appreciation of the role that perceptions play in patient involvement in patient safety. Furthermore, the results close the loop between the organization, provider, and patient to give a holistic view of patient involvement in patient safety. The recommendations provided are aimed at improving the measurement and evaluation of patient safety strategies, as well as improving patient awareness and education. Overall, this research highlights the importance of patient involvement in patient safety and promotes further research in this area to ensure the adoption of successful patient safety strategies in the future.

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APPENDIX A PATIENT SURVEY

PATIENT PERCEPTIONS OF PATIENT SAFETY SURVEY



The purpose of this research is to find out how health care provider actions can influence how patients feel about being more involved in their health care and health care safety. Results of individual surveys are confidential and will not be disclosed to any outside parties. Anonymity will be ensured by assigning a number to each survey and combining the results of individual surveys when reporting research findings. Security will be maintained by keeping the questionnaires in a locked storage location.

By completing and returning this survey, you consent to participate in this research study. Please return this survey in the addressed envelope included in your package. If you have any questions or concerns regarding this survey, please do not hesitate to contact us.

Andrea Scobie, MHSA
Dalhousie University
Tel: (XXX) XXX-XXXX
Fax: (XXX) XXX-XXXX
XXXX@dal.ca

START 

DEFINITIONS

Health care provider: Anyone who was involved in your care during your hospitalization, e.g., *doctor, nurse, pharmacist, physiotherapist, etc.*

Patient Safety: Reducing and preventing unsafe acts in the health care system.

Patient Safety Incident: An unintended, undesired and preventable incident that happens during the process of providing health care or giving medications and results in patient injury or death (i.e. not related to your actual medical condition), e.g., *given the wrong dosage of medication, misdiagnosis of disease, unexpected surgery complications, not providing appropriate treatment.*

Thinking about your most recent hospitalization, please tell us about your involvement in patient safety practices

1. How often did you ask questions of your doctor regarding your health care?

Always Sometimes Rarely Never

2. How often did you ask questions of your nurses regarding your health care?

Always Sometimes Rarely Never

3. How often did you ask questions of your other health care providers (e.g., pharmacists, physiotherapists, etc.) regarding your health care?

Always Sometimes Rarely Never Not applicable

4. Did you share a list of the medications you take on a regular basis with your health care providers?

Always Sometimes Rarely Never

5. Did you write down important medical information during your stay to bring home with you?

Always Sometimes Rarely Never

6. Did you have a family member/friend present when your health care providers were explaining health care information to you?

Always Sometimes Rarely Never

7. Did you ask your health care providers to confirm your identity before giving medications or providing treatment?

Always Sometimes Rarely Never

8. Did you ask your health care providers if they had washed their hands prior to touching you?

Always Sometimes Rarely Never

9. If you had surgery during your last hospitalization, did you help the doctor or nurse locate or mark your surgical site (e.g., abdomen, chest, right eye, etc.)?

Yes No Did not have surgery

Please tell us about your experience with your health care providers during your last hospitalization

10. Overall my experience dealing with my health care providers was positive.

Strongly agree Agree Neutral Disagree Strongly disagree

11. I was encouraged by my doctor to ask questions of my health care providers.

Strongly agree Agree Neutral Disagree Strongly disagree

12. I was encouraged by other health care providers to ask questions.

Strongly agree Agree Neutral Disagree Strongly disagree

13. I felt comfortable asking my health care providers questions.

Strongly agree Agree Neutral Disagree Strongly disagree

14. If you did not feel comfortable asking your health care providers questions, what got in the way of doing so?

- | | |
|--------------------------------------------------------------------|-------------------------------------------------------------|
| <input type="checkbox"/> Did not know what questions to ask | <input type="checkbox"/> Did not want to upset them |
| <input type="checkbox"/> Did not feel well enough to ask questions | <input type="checkbox"/> They did not seem to have the time |
| <input type="checkbox"/> Not sure | <input type="checkbox"/> Not applicable |

15. When I asked questions of my health care providers their answers were helpful and courteous.

- Strongly agree Agree Neutral Disagree Strongly disagree Did not ask questions

16. Overall, it was easy for me to understand the information or directions my health care providers were giving me regarding my health care

- Strongly agree Agree Neutral Disagree Strongly disagree

17. To what extent do you agree with the following statement: Asking questions about my health is embarrassing.

- Strongly agree Agree Neutral Disagree Strongly disagree

18. To what extent do you agree with the following statement: Asking questions about my health care can help prevent a patient safety incident from occurring.

- Strongly agree Agree Neutral Disagree Strongly disagree Did not ask questions

Please tell us about your experiences with patient safety incidents

19. Have you ever experienced a patient safety incident? (please see definition at start of survey)

- Yes No Not sure

If yes, please

explain _____

20. Has someone you know (family/friend) ever experienced a patient safety incident?

Yes No Not sure

If yes, please

explain_____

21. What percentage of patients do you think experience patient safety incidents during hospitalization?

_____ %

22. To what extent do you agree with the following statement: My chances of experiencing a patient safety incident are significant.

Strongly Agree Agree Neither agree/disagree Disagree Strongly disagree

23. To what extent do you agree with the following statement: I believe I could be seriously injured (i.e. further hospitalization, lasting side effects) by a patient safety incident.

Strongly Agree Agree Neither agree/disagree Disagree Strongly disagree

24. To what extent do you agree with the following statement: Experiencing a patient safety incident could lead to death or permanent injury.

Strongly Agree Agree Neither agree/disagree Disagree Strongly disagree

25. Have you heard the term “patient safety” before?

Yes No...*Skip to question 30*



Thinking about where you have heard the term “patient safety” before:

26. Did you hear about patient safety from your family doctor?

Yes No

27. Did you hear about patient safety during a hospital stay?

Yes No

28. Did you hear about patient safety from popular media (e.g., TV program, magazine article, newspaper article)?

Yes No

29. Did you hear about patient safety from any other source?

Yes No

If yes, please explain _____

30. To what extent do you agree with the following statement: I would like to be made more aware of the risks associated with my health care.

Strongly Agree Agree Neither agree/disagree Disagree Strongly disagree

Please tell us about yourself

31. How long was your most recent hospitalization?

1 night 2-6 nights 7 nights or more

32. What is your age?

_____ Years

33. What is your gender?

Male Female

34. What is the highest level of education you have received?

Less than high school Some high school High school graduate
 Vocational/trade school Some college/university University graduate

35. Are you currently employed?

Full-time Part-time Student Retired Not employed

36. What is your average annual income?

Less than 19,999 \$20,000 - \$39,999 \$40,000 - \$59,999 \$60,000 - \$79,999
 \$80,000 - \$99,999 \$100,000 and greater Prefer not to answer

37. In the last two years, how many times have you been hospitalized (not including emergency room visits which did not end up admission to hospital or outpatient clinic visits)?

- 0 1 2 3 or more

38. Please share with us anything else you might feel is important (e.g., description of past patient safety incident experience, suggestions for involving patients in patient safety, etc.)

THANK YOU FOR COMPLETING THIS SURVEY – YOUR INPUT IS VERY MUCH APPRECIATED

IF YOU WOULD LIKE TO BE INVOLVED IN A PATIENT FOCUS GROUP AIMED AT BETTER UNDERSTANDING PATIENT EXPERIENCES WITH PATIENT SAFETY PLEASE CONTACT ANDREA SCOBIE AT (XXX) XXX-XXX OR XXXX@dal.ca. YOU WILL RECEIVE AN HONORARIUM FOR PARTICIPATION.

If you would like to discuss any experiences or concerns you have regarding your hospitalization at XXXX, please contact a Patient Representative at (XXX) XXX-XXXX.

APPENDIX B PROVIDER SURVEY

STAFF PERCEPTIONS OF PATIENT SAFETY SURVEY



The purpose of this survey is to identify how perceptions of health care safety and interactions with health care providers influence patient involvement in patient safety practices.

Results of individual surveys are confidential and will not be disclosed to any outside parties. Confidentiality will be ensured by assigning a number to each survey and combining the results of individual surveys when reporting research findings. Security will be maintained by keeping the questionnaires in a locked storage location.

By completing and returning this survey, you consent to participate in this research study. Please return this survey in the addressed envelope included in your package. If you have any questions or concerns regarding this survey, please do not hesitate to contact us.

Andrea Scobie, MHSA
Dalhousie University
Phone XXX-XXX-XXXX
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START 

DEFINITIONS

Patient Safety: Reducing and preventing unsafe acts in the health care system.

Patient Safety Incident: An unintended and undesired incident that occurs during the process of providing health care or providing medications and results in patient injury or death, e.g., *given the wrong dosage of medication, misdiagnosis of disease, unexpected surgery complications.*

Please tell us about patient safety practices on your unit

1. Are patients verbally educated about patient safety concerns in your unit?

Always Sometimes Rarely Never Not sure

2. Who are patients verbally educated by? (check all that apply)

MD RN LPN Allied health Pharmacist Team leader Manager
 Program director Other _____ Not sure

3. Are patients educated using pamphlets about patient safety concerns in your unit?

Always Sometimes Rarely Never Not sure

4. How often are patients in this unit given written information regarding medications they are given while hospitalized?

Always Sometimes Rarely Never Not sure

5. How often are patients in this unit encouraged to ask their health care providers if they have washed their hands before touching them?

Always Sometimes Rarely Never Not sure

6. Are patients in this unit given materials and/or pamphlets to record important information about their hospitalization for personal use?

Always Sometimes Rarely Never Not sure

7. Are patients in this unit encouraged to have family members/friends present when a health care provider is explaining health care information?

Always Sometimes Rarely Never Not sure

8. Are patients in this unit asked to identify themselves before being given a new treatment?

Always Sometimes Rarely Never Not sure

9. Are patients in this unit educated about how frequently patient safety incidents (please see definition at the start of the survey) occur?

Always Sometimes Rarely Never Not sure

10. To what extent do you agree with the following statement: Patients in my unit are at risk for experiencing a patient safety incident.

Strongly Agree Agree Neutral Disagree Strongly disagree

11. What percentage of patients do you think experience patient safety incidents during hospitalization?

_____ %

Please tell us about the patient safety culture at your hospital

12. There is good communication between staff regarding patient safety issues.

Strongly Agree Agree Neutral Disagree Strongly disagree

13. Management provides a climate that promotes safety.

Strongly Agree Agree Neutral Disagree Strongly disagree

14. Reporting a patient safety incident results in negative consequences for the person reporting it.

Strongly Agree Agree Neutral Disagree Strongly disagree

15. If I report a patient safety incident, I know that management will act on it.

Strongly Agree Agree Neutral Disagree Strongly disagree

16. Employee ideas and suggestions for improving patient safety are listened to.

Strongly Agree Agree Neutral Disagree Strongly disagree

17. In general, employees actively participate in helping to shape and implement patient safety practices

Strongly Agree Agree Neutral Disagree Strongly disagree

Please tell us about your experiences with patients
If you do not provide direct care to patients please proceed to the next section

18. On average, how often do your patients ask you questions about their health care treatments during hospitalization?

Always Sometimes Rarely Almost Never Never

19. On average, how often do your patients ask you questions about medications they are given during hospitalization?

Always Sometimes Rarely Almost Never Never

20. How often do you invite patients to ask you factual patient safety questions? e.g., “Let me know if you have any questions about your surgery”

Always Sometimes Rarely Almost Never Never

21. How often do you invite patients to ask you challenging patient safety questions? e.g., “feel free to ask me whether or not I’ve washed my hands”

Always Sometimes Rarely Almost Never Never

22. On average, how often do patients ask you about the likelihood of a patient safety incident occurring?

Always Sometimes Rarely Almost Never Never

23. How often do you encourage your patients to become involved in their health care while hospitalized?

Always Sometimes Rarely Almost Never Never

24. To what extent do you agree with the following statement: patient questions about their treatments and medications during hospitalization increases my workload.

Strongly agree Agree Neutral Disagree Strongly disagree

25. To what extent do you agree with the following statement: On average, patients understand what patient safety incidents are and how they might occur during hospitalization.

Strongly agree Agree Neutral Disagree Strongly disagree

26. To what extent do you agree with the following statement: I could lessen the chance of a patient safety incident occurring by involving patients in their care while hospitalized.

Strongly agree Agree Neutral Disagree Strongly disagree

27. To what extent do you agree with the following statement: Overall, greater patient involvement in patient safety makes me feel more able to prevent patient safety incidents from occurring.

Strongly agree Agree Neutral Disagree Strongly disagree

Please tell us about your patient safety experiences with your colleagues and patients

28. Patient safety is a top priority in my unit

Strongly Agree Agree Neutral Disagree Strongly disagree

29. Patient collaboration is a top priority in my unit

Strongly Agree Agree Neutral Disagree Strongly disagree

30. Staff members on my unit understand what a patient safety incident is and the importance of reporting them.

Strongly Agree Agree Neutral Disagree Strongly disagree

31. The majority of patient safety incidents that do occur on my unit are disclosed.

Strongly Agree Agree Neutral Disagree Strongly disagree

32. When reported, patient safety incidents are discussed in full with the staff involved and learnings are shared.

Strongly Agree Agree Neutral Disagree Strongly disagree

33. When reported, patient safety incidents are disclosed to the patient and their family in an honest and open manner.

Strongly Agree Agree Neutral Disagree Strongly disagree

34. Patients are encouraged to be involved in the setting and implementation of patient safety practices.

Strongly Agree Agree Neutral Disagree Strongly disagree

35. Patients are able to directly report patient safety incidents to management.

Strongly Agree Agree Neutral Disagree Strongly disagree

Please tell us about yourself

36. What is your age?

_____ Years

37. What is your gender?

Male Female

38. How many years have you been in your profession?

< 1yr 1-2 yrs 3-5 yrs 6-10yrs > 10 yrs

39. How long have you worked on this unit?

< 1yr 1-2 yrs 3-5 yrs 6-10yrs > 10 yrs

40. What is the highest level of education you have achieved to date?

RN LPN Bachelors Masters MD PhD Other _____

41. Do you work shift work?

Yes No

If **yes**, how many day shifts and night shifts do you work in an average week?

_____ Days _____ Nights

APPENDIX C PATIENT STUDY INFORMATION LETTER

[Date]

Dear Patient,

We invite you to take part in a research study being conducted by Dalhousie University and XXXX. In this study we want to find out from you what you think health care safety means, what your hospital experiences have been and if these things make you want to be more involved in your care or not. We are also trying to find out how health care provider actions can influence how you feel about being more involved in your health care and health care safety. It is hoped that the information gathered by this study will help to better involve patients in their care and ensure safe health care for all patients.

We are asking you to please participate in the study by filling out the enclosed questionnaire. The questionnaire will ask you questions about your most recent hospitalization at the Halifax Infirmary or Victoria General Hospital. Please answer the questions as honestly as possible. They will be very useful to us. All answers are confidential and there is no way to know who completed the questionnaire. Please do not put your name or any other personal information on your completed questionnaire. You do not have to answer all questions if you do not wish to. Agreement or refusal to participate in this study will not in any way affect the health care you receive. There is no financial compensation for completing the questionnaire.

Please complete the enclosed survey and return it to the Principal Investigator in the addressed envelope provided. **If you would like to complete this survey online, please follow this link:**

<https://surveys.dal.ca/opinio/s?s=PatientPerceptionsofPatientSafety>

At the end of the questionnaire we ask you if you are interested in being part of a group to further discuss what you think about your involvement in your care while in hospital. We will also share with you what we find out from the surveys and get your ideas on our findings. You will be reimbursed for travel costs and will receive a Tim Horton's gift certificate. **If you would like to participate in a focus group, please contact Andrea Scobie at the number below.**

Should you have any questions about taking part in study, concerns, or would like more information about this study, please do not hesitate to contact us.

Thank you for your consideration,

Andrea Scobie, MHSA

Principal Investigator
Dalhousie University
Tel: (XXX) XXX-XXXX
Email: XXXX@dal.ca

In the event that you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact a Patient Representative at (XXX) XXX-XXXX.

APPENDIX D PROVIDER STUDY INFORMATION LETTER

[Date]

Dear Staff,

We invite you to take part in a research study being conducted by Dalhousie University and the XXXX. In this study we will investigate how perceptions of patient safety influence patient involvement in health care. We are also investigating how health care provider perceptions can influence how patients feel about being more involved in their health care and health care safety. It is hoped that the information gathered by this study will help to better involve patients in their care and ensure safe health care for all patients.

We are asking you to please participate in the study by filling out the enclosed questionnaire. The questionnaire will ask you questions about your patient safety experiences within the workplace. Please answer the questions as honestly as possible. They will be very useful to us. All answers are confidential and there is no way to know who completed the questionnaire. Please do not put your name or any other personal information on your completed questionnaire. You do not have to answer all questions if you do not wish to. Agreement or refusal to participate in this study will not in any way affect your employment or performance review. There is no financial compensation for completing the questionnaire.

Please complete the enclosed survey and return it to the Principal Investigator in the addressed envelope provided. **If you would like to complete this survey online, please follow this link:**

<https://surveys.dal.ca/opinio/s?s=StaffPerceptionsofPatientSafety>

The research study will also include focus groups/interviews with patients, health care providers and health service managers. Participants will be asked to share health care experiences and to comment on questionnaire findings. Participants will be reimbursed for their time with a Tim Horton's gift certificate. If you would like to participate in a focus group please contact Andrea Scobie at the number below.

Should you have any questions about taking part in study, concerns, or would like more information about this study, please do not hesitate to contact us.

Thank you for your consideration,

Andrea Scobie, MHSA
Tel.: (XXX) XXX-XXXX
Email: XXXX@dal.ca

In the event that you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact a Patient Representative at (XXX) XXX-XXXX.

Perceptions of Patient Safety Survey



We invite you to take part in a research study being conducted by Dalhousie University and XXXX

In this study we will investigate how perceptions of patient safety influence patient involvement in health care.

Look for the survey on your unit or complete online:

<https://surveys.dal.ca/opinio/s?s=StaffPerceptionsOfPatientSafety>

If you have any questions, please contact **Andrea Scobie** (Dalhousie University) at XXX-XXXX or XXXX@dal.ca.

APPENDIX F PATIENT FOCUS GROUP GUIDE

Notes: Before the group starts Andrea will chat with each participant to ensure that everyone is comfortable with his or her consent form and have them signed (5 minutes).

I. Introduction – 5 minutes

Moderator's introduction and ground rules.

Welcome and thank you so much for taking time out of your day to talk with us. My name is Margaret Chapman and I am the moderator for this discussion. My job is to move the conversation along and make sure that we cover several different subjects and to ensure that everyone here gets involved.

The **purpose** of this session is to find out what patients think about patient safety and how to become more involved in patient safety practices. There are **no right or wrong answers** to any of the questions. The purpose is to find out what your personal opinions are - **everyone's opinion is important**.

I encourage you to speak freely and be as open and honest as possible.

A few key points before we get going:

a. Respect for opinions. You may find that you disagree with an opinion voiced here by another participant. That is OK, and I hope you will say so in a respectful and polite way. You might also change your mind in the middle of our discussion as a result of something that someone else says, and again I hope you will say so if that happens.

b. Important rule: one person speaking at one time. Because we want to respect everyone and make sure that everyone is heard, we have one basic rule in this session – we will allow only one person to speak at a time. We want to have an organized session, and in order to do this, I ask that you respect the person who is speaking, and wait for him/her to finish his/her thoughts.

c. Confidential/anonymous research. This discussion is completely anonymous and confidential. There will be no record of what you say with your name on it. We are not going to quote anyone specifically using her/his name. We will instead say “participant 1”, etc., and no one will ever connect your real name to your statements. There is a tape recorder so that we can be sure that we capture your words accurately, but no one will know which person says any specific statement. We are using a tape recorder because your opinions are very important to us, and we need to know what you said. Andrea will be taking notes during the session, observing behind the glass, but will not be recording names.

Participant introductions. Let's go around the room - tell us your first name and what you like to do in your spare time.

II. Background Involvement Questions – 20 minutes

This section of questions is meant to elicit participants to recall how they have been involved in their health care during hospitalization in the past and whether they feel this has been substantial or not. The main questions are numbered and, if required, follow-up questions are alphabetized.

Something you all have in common is that you have all had patient care at the hospital in the last few months. I'd like you all to think about your experience. We're going to first talk about your **involvement** in health care while you were hospitalized.

1. To start, I'm wondering to what extent you felt involved in your health care?
2. Were you involved in decisions about your care?
 - a. Would you say your level of involvement differed over the years? (i.e. different recently compared to in the past?)
 - b. Has your level of involvement differed in different situations? (i.e. with different health care workers)
3. Did you ask questions at any time during your stay? At what point?
4. *If yes:* Did you feel they were adequately answered?
5. Were there any times when you had unanswered questions? *If so,* when? What could have been done so that you had your questions answered?
6. In your opinion, how important is it to you to be involved in your health care while in hospital?
 - a. Are there times when you feel involvement is more important/less important?
 - b. How do you feel patient involvement in healthcare could improve care overall?

III. Provider Behaviour Questions – 20 minutes

This section of questions is meant to elicit participants to describe how health care provider relationships and behaviours determine patient involvement during hospitalization. Health care providers can be anyone who provided care to them while hospitalized (e.g. doctors, nurses, pharmacists, etc.) The main questions are numbered and, if required, follow-up questions are alphabetized.

7. Describe how your relationship(s) with your health care providers helped you to be involved in your health care.
 - a. Did health care providers make you feel comfortable/at ease? If so, how?
8. And now describe how your relationship(s) with your health care providers could have been improved to help you become more involved in your care.
9. Describe behaviours exhibited by your health care providers that helped you to ask questions about your health care.
 - a. Did behaviours of one particular health care provider group stand out as being especially positive/negative? If so, what?
10. And now describe any behaviours that did not help you to ask questions about your health care.

- a. What could be improved?
 - b. Did behaviours of one particular health care provider group stand out as being especially negative? If so, what?
11. How could health care providers help patients to be more comfortable in being involved in their health care?
- a. Is it useful to have health care providers indicate that they would like you to ask questions? When / at what stage?
 - b. How (i.e. by what methodology) could they best answer those questions?

IV. Strategy Questions – 25 minutes

This section of questions is to get the participants to share their ideas about how to get patients involved in patient safety strategies during hospitalization. This is really the main focus of the discussion and the previous questions should help them to realize the pros/cons of what they've experienced and what they would like their patient safety experience to be.

12. How could healthcare workers help patients feel more comfortable being involved in their health care
- a. Many survey respondents indicated that they hadn't heard the term patient safety before, why do you think that is?
 - b. What does the term 'patient safety' mean to you?
13. Do you think strategies of the healthcare system to improve patient safety are working? If so, how? If not, what could be improved?
14. Describe how you would have liked to have been involved in patient safety during your hospital stay.
- a. What role do you see the patient fulfilling in a safe health care environment?

V. Conclusion – 10 minutes

The purpose of this is to wrap up the session and allow participants to reflect on what they feel was beneficial.

8. Is there anything we missed that you would like to talk about?
9. What is the most important point we discussed?

We have finished the focus group session. Thank you again for taking the time to participate and share your opinions with us. We have a small gift in recognition of your participation – please pick this up from Andrea as you leave.

APPENDIX G PROVIDER FOCUS GROUP GUIDE

Notes: Before the group starts Andrea will chat with each participant to ensure that everyone is comfortable with his or her consent form and have them signed (5 minutes).

I. Introduction – 5 minutes

Moderator's introduction and ground rules.

Welcome and thank you so much for taking time out of your day to talk with us. I am the moderator for this discussion. My job is to move the conversation along and make sure that we cover several different subjects and to ensure that everyone here gets involved.

The **purpose** of this session is to find out what patients think about patient safety and how to become more involved in patient safety practices. There are **no right or wrong answers** to any of the questions. The purpose is to find out what your personal opinions are - **everyone's opinion is important**. I encourage you to speak freely and be as open and honest as possible.

A few key points before we get going:

a. Respect for opinions. You may find that you disagree with an opinion voiced here by another participant. That is OK, and I hope you will say so in a respectful and polite way. You might also change your mind in the middle of our discussion as a result of something that someone else says, and again I hope you will say so if that happens.

b. Important rule: one person speaking at one time. Because we want to respect everyone and make sure that everyone is heard, we have one basic rule in this session – we will allow only one person to speak at a time. We want to have an organized session, and in order to do this, I ask that you respect the person who is speaking, and wait for him/her to finish his/her thoughts.

c. Confidential/anonymous research. This discussion is completely anonymous and confidential. There will be no record of what you say with your name on it. We are not going to quote anyone specifically using her/his name. We will instead say “participant 1”, etc., and no one will ever connect your real name to your statements. There is a tape recorder so that we can be sure that we capture your words accurately, but no one will know which person says any specific statement. We are using a tape recorder because your opinions are very important to us and we need to know what you said.

Participant introductions. Let's go around the room - tell us your primary role on the unit and how long you've worked on this unit.

II. Background Involvement Questions – 10 minutes

This section of questions is meant to elicit response concerning how patients become involved in their care in the hospital and to start to get participants thinking about their opinions of patient behaviour.

15. To start, in what ways do patients become involved in their health care while hospitalized on your unit?
 - a. Are they invited to become involved?
 - b. Do patients ask questions about their health care treatment? At what point?
16. Describe how you might feel if a patient asked you safety questions that were factual vs. challenging/confrontational.
17. There seems to be a particular hesitation with patients wanting to ask health care providers if they have washed their hands. Why do you think that is?
18. What does the term patient safety mean to you?

III. Provider Behaviour Questions – 10 minutes

This section of questions is meant to elicit participants to describe how health care provider relationships and behaviours determine patient involvement.

19. Describe the types of behaviour that you exhibit that helps to relax patients/put them at ease?
 - a. Is this behaviour easy to perform?
 - b. How can providers help patients to be more comfortable
20. Describe how your relationship with your patients helps/doesn't help them to be involved in their care?
 - a. Does workload interfere?
 - b. How can providers help patients to be more involved?
21. Do you believe that greater patient involvement in their health care helps you to perform your job more safely?
 - a. Many survey respondents answered positively. Why do you think that is?
 - b. Are there times when patients shouldn't be involved?
 - c. Do you think patients understand/know about patient safety incidents?

IV. Strategy Questions – 10 minutes

This section of questions is to get the participants to share their ideas about how to get patients involved in patient safety strategies and to describe the current state of patient safety on their unit.

22. Is patient safety a priority on your unit?
 - a. Describe how you would know if patient safety were a priority.
 - b. Is patient safety a priority in the hospital as a whole?
23. Describe how your unit promotes patient safety
 - a. Are staff involved in setting strategies?
 - b. Describe the kind of feedback you get regarding patient safety incidents.
24. Describe how you would like to see patients involved in patient safety strategies.

V. Conclusion – 2 minutes

We have concluded our session. Thank you for taking the time to participate. We have a small gift in recognition of your participation.

APPENDIX H CONSENT FORM

Consent Form

STUDY TITLE: Perceptions of Patient Safety: How Do We Get Patients Involved?

PRINCIPAL Andrea Scobie, MHSA

OR QUALIFIED PhD Candidate, Dalhousie University

INVESTIGATOR 5968 College St.
Halifax, NS B3H 2Y5
(xxx) xxx-xxxx
xxxx@dal.ca

PART A.

NON-CLINICAL TRIAL STUDIES – GENERAL INFORMATION

1. Introduction

You have been invited to take part in a research study. Taking part in this study is voluntary. It is up to you to decide whether to be in the study or not. Before you decide, you need to understand what the study is for, what risks you might take and what benefits you might receive. This consent form explains the study.

Please read this carefully. Take as much time as you like. If you like, take it home to think about for a while. Mark anything you don't understand, or want explained better. After you have read it, please ask questions about anything that is not clear.

The researchers will:

- Discuss the study with you
- Answer your questions
- Keep confidential any information which could identify you personally
- Be available during the study to deal with problems and answer questions

We do not know if taking part in this study will help you. You may feel better. On the other hand it might not help you at all. It might even make you feel worse. We cannot always predict these things. We will always give you the best possible care no matter what happens.

If you decide not to take part or if you leave the study early, your usual health care will not be affected.

PART B.

EXPLAINING THE STUDY

2. Why Is This Study Being Done?

The purpose of this study is to find out how health care provider actions can influence how patients feel about being more involved in their health care and health care safety. The questions to be answered include: (1) How do patients want to become involved in their care? (2) What are the best strategies for involving patients in patient safety practices? and (3) How do health service manager, health care provider and patient views of patient safety differ and how does this affect patient involvement?

The questions to be answered are meant to follow-up on interesting results from the survey you recently completed. It is hoped that through this study a greater understanding of patient, health care provider and health services manager attitudes and opinions will be gained. This is why it is important to ask further questions of persons who already completed the survey portion of this research.

3. Why Am I Being Asked To Join This Study?

You have been invited to participate in this study because of your participation in and completion of the Perceptions of Patient Safety Survey.

4. How Long Will I Be In The Study?

Participants will be asked to join in for one focus group session. Each group session is planned to last approximately 1 hour. Additional time may be required for you to travel to the group session.

5. How Many People Will Take Part In This Study?

This study is taking place only in Nova Scotia. A maximum of 100 participants will participate in the focus groups in Capital Health. This includes patients, health care providers and health services managers.

6. How Is The Study Being Done?

The focus group part of the study is being conducted as a series of group sessions. Patients, health care providers and health services managers will participate in separate focus group sessions. This is done to make sure that participants in each group feel as comfortable as possible answering questions. Participants in each focus group will be asked to answer questions based on survey results. You will know the questions ahead of time. You will only be asked to participate in one 1 hour group session.

7. What Will Happen If I Take Part In This Study?

If you decide to participate in the focus group, you will participate in a 1 hour focus group session. You will be placed in a focus group session according to your participant type: patient, health care provider, or health services manager. We will do the following as part of the study:

- Ask a standard set of questions of participants.
- Ask participants to further clarify answers if needed.
- Ask participants to share their health care experiences.
- Tape record focus group sessions in order to record the proceedings at a later time.

Of course, you may choose not to participate in the focus group session at any time. If during the focus group session you feel you would rather not participate, you are free to leave without penalty. If you choose not to participate in the focus group you will be required to let the Principal Investigator know. You will not be required to further participate in the study in any other way.

8. Are There Risks To The Study?

There are risks with this, or any study. To give you the most complete information available, we have listed some *possible* risks. We want to make sure that if you decide to try the study, you have had a chance to think about the risks carefully. Please be aware that there may be risks that we don't yet know about.

You may find the questions you are asked during the course of the study upsetting or distressing. You may not like all of the questions that you will be asked. You do not have to answer any questions you find uncomfortable or that make you feel uneasy.

9. What Happens at the End of the Study?

You will have full access to study results when the study is completed. Participants will be mailed a brief report outlining the results of focus group session and the results of the survey they previously completed. Participants will also have access to all publications that are a result of this study.

10. What Are My Responsibilities?

As a study participant you will be expected to:

- Follow the directions of the Principal Investigator
- Answer questions honestly

11. Can I Be Taken Out Of The Study Without My Consent?

Yes. You may be taken out of the study at any time, if:

- There is new information that shows that being in this study is not in your best interests.
- The Capital Health Research Ethics Board or the Principal Investigator decides to stop the study.
- You do not follow the directions of the Principal Investigator.
- You lack the ability to answer questions asked of you in the focus group session.

12. What About New Information?

It is possible (but unlikely) that new information may become available while you are in the study that might affect your health, welfare, or willingness to stay in the study. If this happens, you will be informed in a timely manner and will be asked whether you wish to continue taking part in the study or not.

13. Will It Cost Me Anything?

Compensation

You will receive a one-time payment of a \$10 Tim Horton's gift card. This is a token of appreciation for the 1 hour you will spend in your focus group session. If you need to travel to attend your focus group session, you will receive money to cover or partially cover your travel and parking on that day. Please bring your receipts with you.

Research Related Injury

If you become ill or injured as a direct result of participating in this study, necessary medical treatment will be available at no additional cost to you. Your signature on this form only indicates that you have understood to your satisfaction the information regarding your participation in the study and agree to participate as a subject. In no way does this waive your legal rights nor release the Principal Investigator, the research staff, the study sponsor or involved institutions from their legal and professional responsibilities.

14. What About My Right To Privacy?

Protecting your privacy is an important part of this study. When you sign this consent form you give us permission to:

- Collect information from you
- Share information with the people conducting the study
- Share information with the people responsible for protecting your safety

Use of records.

The research team will collect and use only the information they need to complete the study. This information will only be used for the purposes of this study.

This information will include your:

- date of birth
- sex
- socioeconomic indicators (average income, level of education)
- information from study focus groups

Your name and contact information will be kept secure by the research team in Nova Scotia. It will not be shared with others without your permission. Your name will not appear in any report or article published as a result of this study. Some people use particular words and phrases. Some phrases that you say may be used in reports or

publications, and you and people who know you, may be able to identify your statements.

Information collected for this study will be kept as long as required by law. This could be 7 years or more. Transcripts and tapes will be destroyed once it is appropriate to do so. If you decide to withdraw from the study, the information collected up to that time will continue to be used by the research team. It may not be removed.

Information collected and used will be stored by the Principal Investigator at the College of Pharmacy, Dalhousie University. The Principal Investigator is the person responsible for keeping it secure.

You may also be contacted personally by Research Auditors for quality assurance purposes.

Your access to records

You may ask the Principal Investigator to see the information that has been collected about you at any time during the study or after the study has ended.

15. What If I Want to Quit the Study?

If you chose to participate and later change your mind, you can say no and stop the research at any time. If you wish to withdraw your consent please inform the Principal Investigator. All data collected up to the date you withdraw your consent will remain in the study records, to be included in study related analyses.

16. Declaration of Financial Interest

The Principal Investigator has no financial interests in conducting this research study.

17. What About Questions or Problems?

For further information about the study call **Ms. Andrea Scobie**. Ms. Scobie is in charge of this study at this institution (he/she is the “Principal Investigator”). Ms. Scobie’s work telephone number is (xxx) xxx-xxxx.

The Principal Investigator is **Ms. Andrea Scobie**.
Telephone: (xxx) xxx-xxxx

The Site Investigator is XXXX

18. What Are My Rights?

After you have signed this consent form you will be given a copy.

If you have any questions about your rights as a research participant, contact a **Patient Representative** at **(902) 473-2880**.

In the next part you will be asked if you agree (consent) to join this study. If the answer is “yes”, you will need to sign the form.

PART C.

19. Consent Form Signature

I have reviewed all of the information in this consent form related to the study called:

Perceptions of Patient Safety: How Do We Get Patients Involved?

I have been given the opportunity to discuss this study. All of my questions have been answered to my satisfaction.

This signature on this consent form means that I agree to take part in this study. I understand that I am free to withdraw at any time.

_____ / _____ / _____
Signature of Participant Name (Printed) Year Month Day*

_____ / _____ / _____
Witness to Participant's Name (Printed) Year Month Day*
Signature

_____ / _____ / _____
Signature of Investigator Name (Printed) Year Month Day*

_____ / _____ / _____
Signature of Person Conducting Name (Printed) Year Month Day*
Consent Discussion

**Note: Please fill in the dates personally*

I Will Be Given A Signed Copy Of This Consent Form

Thank you for your time and patience!

APPENDIX I PATIENT PLS VARIABLE DESCRIPTIONS

| Latent Variable | Manifest Variable | Description |
|-----------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Cues to Action | PSISelf | Have you ever experienced a patient safety incident? |
| | PSIFam | Has someone you know (family/friend) ever experienced a patient safety incident? |
| | RiskAware | I would like to be made more aware of the risks associated with my health care |
| Threat | SigPSI | My chances of experiencing a patient safety incident are significant |
| | SerInj | I believe I could be seriously injured by a patient safety incident |
| | Death | Experiencing a patient safety incident could lead to death or permanent injury |
| Expectations | Positive | Overall my experience dealing with my health care providers was positive |
| | EncDoc | I was encouraged by my doctor to ask questions of my health care providers |
| | Encourage | I was encouraged by other health care providers to ask questions |
| | Comfort | I felt comfortable asking my health care providers questions |
| Self-Efficacy | Helpful | When I asked questions of my health care providers their answers were helpful and courteous |
| | Understand | Overall it was easy for me to understand the information or directions my health care providers were giving me regarding my health care |
| | Prevent | Asking questions about my health care can help prevent a patient safety incident from occurring |
| Factual | QuestDoc | How often did you ask questions of your doctor regarding your health care? |
| | QuestNurse | How often did you ask questions of your nurses regarding your health care? |
| | QuestOther | How often did you ask questions of your other health care providers regarding your health care? |
| | MedList | Did you share a list of the medications you take on a regular basis with your health care providers? |
| | WriteDown | Did you write down important medical information during your stay to bring home with you? |
| | Family | Did you have a family member/friend present when your health care providers were explaining health care information to you? |
| Challenging | Identity | Did you ask your health care providers to confirm your identity before giving medications or providing treatment? |
| | Handwash | Did you ask your health care providers if they had washed their hands prior to touching you? |

APPENDIX J PROVIDER PLS VARIABLE DESCRIPTIONS

| Latent Variable | Manifest Variable | Description |
|-----------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety Culture | Comm | There is good communication between staff regarding patient safety issues |
| | SafeClim | Management provides a climate that promotes safety |
| | Manage | If I report a patient safety incident, I know that management will act on it |
| | EmpIdeas | Employee ideas and suggestions for improving patient safety are listened to |
| | EmpPart | In general, employees actively participate in helping to shape and implement patient safety practices |
| Threat | Risk | Patients on my unit are at risk for experiencing a patient safety incident |
| | Priority | Patient safety is a top priority in my unit |
| | PSImport | Staff members on my unit understand what a patient safety incident is and the importance of reporting them |
| Expectations | PtCollab | Patient collaboration is a top priority in my unit |
| | Disclose | The majority of patient safety incidents that do occur on my unit are disclosed |
| | Learning | When reported, patient safety incidents are discussed in full with the staff involved and learnings are shared |
| PS Practices | Handwash | How often are patients in this unit encouraged to ask their health care providers if they have washed their hands? |
| | Family | Are patients in this unit encouraged to have family members/friends present when a health care provider is explaining health care information? |
| | Identity | Are patients in this unit asked to identify themselves before being given a new treatment? |

APPENDIX K SUMMARY OF QUALITATIVE FINDINGS

| Theme | Description | Subtheme | Patient Meaning | Nurse Meaning |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wanting Control | Patients wanting increased control over their health care experience and nurses wanting to provide greater control to patients through increased understanding | Expectations | Comparison of hospital experience against past health care experiences. | Lack of knowledge for many patients regarding what to expect from health care encounter |
| | | Not Knowing | Not knowing enough during hospitalization and feeling like an "object" of treatment | Patients hesitant to ask questions of their providers and not wanting to "bother" or "burden" |
| | | Improving Awareness | N/A | Improving patient awareness of health care through "play-by-play" and provider "modeling" |
| Feeling Connected | Patients and nurses wanting to feel more connected to one another to improve patient comfort level with interaction and improve involvement | Building a Connection | Having providers take the time to listen, showing respect, and tailoring communication approaches to each patient's needs | Creating a "human connection" with patients through the establishment of a patient-provider relationship and showing respect when concerns are brought forward |
| | | Getting Involved | Having effective communication with providers by feeling like a part of the "team" and creating a working relationship | Patient involvement being contingent on a patient's age, whether or not they feel "overwhelmed," and the need to appoint an "advocate" for some patients |
| | | Stretched to the Limit | Providers seen as "stressed" and over-worked and having to operate within a "strained" health care system | Not being able to spend more time with patients due to "limited" time and an inability to converse with patients and follow-up on patient safety incidents |
| Encountering Roadblocks | Patient and nurse identification of impediments that prevent greater patient involvement and increased patient safety | Environment deterrents | Issues concerning cleanliness of hospital rooms and a lack of privacy when given health information | Problems associated with physical clutter, broken equipment, and cleanliness which mitigates efforts to improve patient safety |
| | | Cultural Disconnect | N/A | When organizational strategies are not in alignment with safety needs on units, with patient safety practices seen as "added" work which has caused "fatigue" with health care providers |
| | | Self-Protection | Performing behaviours such as asking questions, writing information down and being a "second check" to hospital staff which leads to a "shared responsibility" to keep themselves safe | N/A |
| Sharing Responsibility for Safety | Patients seeing hospitalization as "risky" and patients, providers, and organizations needing to work together to improve safety | Organizational Safeguards | Organizational policies regarding safeguards to ensure appropriate care and then need to improve policies regarding health literacy | Physical and mental reminders instituted by the organization, including posters, safety assessments, and prompts which improve the likelihood of patients being safe |
| | | Creating a Team | N/A | The need to improve communication across care teams and units to ensure that risks are lessened during handoffs, transfers, and shift change |

APPENDIX L STUDY RECOMMENDATIONS

| Recommendation | Rationale | Implications | |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Decision Makers | Policy Makers |
| Measure Readiness for Change and Safety Culture | <ul style="list-style-type: none"> • Important for the adoption and maintenance of safety behaviours by health care providers • Perceptions of safety culture was a significant predictor for provider perceptions of benefit versus barriers and threat | <p>Explore readiness for change and safety culture through validated tools</p> <p>Evaluate past strategies to better understand barriers and facilitators to adoption within organization</p> | <p>Emphasis on building cultures of safety before patient safety strategies</p> <p>Education of health leaders regarding implementation of national patient safety programs</p> |
| Integrate Patient Involvement into Workflow | <ul style="list-style-type: none"> • Increased interaction between health care providers and patients leads to increased comfort levels for patients to become involved • Increased interaction may improve patient self-efficacy, which was significant predictor of patient involvement in patient safety practices • Time constraints were seen as a major impediment to greater patient involvement | <p>Perform a workflow analysis to identify inefficiencies and waste in current process</p> <p>Involve multi-unit stakeholders in analysis process and in setting of new procedures</p> | <p>Increase the governance of patient collaboration and involvement through professional associations</p> <p>Ongoing evaluation of provider satisfaction with, and perceptions of, patient involvement in care</p> |
| Improve Awareness of Patient Safety Issues | <ul style="list-style-type: none"> • More than half of the patients surveyed had not heard the term "patient safety" before • Research has shown that 40-80% of the health information that is presented to patients is forgotten | <p>Use social media and marketing to target patients before entering the health care system</p> <p>Utilize existing interactions (e.g. pre-operative assessment) to increase awareness of issues while hospitalized</p> | <p>Create standards and guidelines regarding terminology and language aimed at patients</p> <p>Promote patient safety involvement through professional college and targeted campaigns</p> |
| Use of a Revised Health Belief Model for Patient Safety | <ul style="list-style-type: none"> • Results of this study uphold the use of a revised Health Belief Model for use in patient safety • Can be used to evaluate current efforts and to identify areas of need • Use of a theoretical framework to guide patient safety strategies may help to improve success of patient strategies | <p>Use of a HBM tool to understand barriers and facilitators and highlight key areas for patient safety strategies</p> <p>Place greater emphasis on communicating the seriousness of patient safety consequences and train health care providers to enable patient self-efficacy</p> | <p>Encourage the use of theory and evidence-based implementation guidelines for patient safety</p> <p>Facilitate program evaluation, sharing of best practices, and collaboration</p> |