Exploring the Use of Patient Safety Climate Surveys for Improvement: A

Descriptive Phenomenology

by

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Abstract

Over the last 20 years, a large amount of research has been conducted on the development and validation of patient safety climate surveys. Despite the volume of research on the topic, little is known about how patient safety climate surveys are used in practice. The intent of this descriptive phenomenological study was to understand the lived experience of individuals who use patient safety climate survey results for improvement. Understanding how individuals working in health care use patient safety climate survey results may provide insight into the value of patient safety climate surveys and identify gaps in the resources staff require to effectively use survey results. Semi-structured interviews were conducted with 7 individuals identified as having experience using patient safety climate survey results for improvement. The findings of this qualitative study suggest leadership commitment and external support are the most influential components required to act on survey results in a meaningful and sustainable way. This study is a starting point to understanding how patient safety climate surveys are used in practice. More research is needed to thoroughly understand this phenomenon.

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Chapter 1: Introduction

1.1 Brief Overview of Research

In 1999, the Institute of Medicine (IOM) published the report *To Err is Human,* bringing public awareness to the prevalence of patient harm that occurs in the American health care system. The report stated that between 44,000 and 98,000 people die in America each year as a result of errors that occur in hospitals. This report spurred further research, including the Canadian Adverse Events Study, which found that approximately 7.5% of acute care patients experienced at least 1 adverse event in the fiscal year of 2000 (Baker et al., 2004). Nearly 37% of these adverse events were deemed highly preventable by physicians. It was estimated that between 9,250 and 23,750 deaths caused by adverse events could have been prevented in 2000 (Baker et al., 2004). Recent data suggests adverse events are still common. Patient safety incidents are the third leading cause of death in Canada after cancer and heart disease (RiskAnalytica, 2017). Adverse events are "unintended injuries or complications that are caused by health care management, rather than by the patient's underlying disease, and that lead to death, disability at the time of discharge or prolonged hospital stays" (Baker et al., 2004, p.1678).

Adverse events are detrimental to patient safety. The World Health Organization defines patient safety as "the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum." Research by The Canadian Institute of Health Information found there were 5.3 harmful events per every 100 hospitalizations in the fiscal year of 2018-2019 in Canada. The most common harmful event occurring in Canada is health care-medication-associated conditions with over 70,000 occurring in the fiscal year of 2018-

2019 (CIHI, OECD, 2019). Canada scored the lowest of all OECD countries on four out of five patient safety indicators and scored below average on the remaining indicator (CIHI, OECD, 2019).

One of the many potential solutions to reduce adverse events in health care is to work towards creating a patient safety culture. Efforts to create a strong safety culture have been ongoing in other industries, such as nuclear, aviation, and oil and gas since the 1980s. Safety culture is broadly recognized as a crucial part of improving safety, as without a supportive safety culture, hazards and risks may go unmanaged and lead to adverse events (Battles & Lilford, 2003). The IOM report (1999) states that "Health care organizations must develop a culture of safety such that an organization's care processes and workforce are focused on improving the reliability and safety of care for patients" (p.14).

A considerable amount of work has been done over the last 20 years to build patient safety culture, particularly in acute care. In this study, patient safety culture is defined as "[…] an integrated pattern of individual and organizational behaviour, based upon shared beliefs and values, that continuously seeks to minimize patient harm that may result from the processes of care delivery" (EUNetPaS, 2010, p.4). It is widely accepted that safety culture measurement is a critical part of improving safety culture and patient safety (Battles & Lilford, 2003; Pronovost & Sexton, 2005; Ginsburg et al., 2009). Through measurement, we can attempt to understand what is working well and what needs improvement (Ginsburg et al., 2007). Climate surveys are intended to measure the surface features of the deeper culture that resides within an organization (Reichers & Schneider, 1990). Positive patient safety climate scores have been correlated with higher

quality care for patients (Singer et al., 2009), patient safety outcome measures (Hofmann & Mark, 2006), and standard precaution adherence (Hessels & Larson, 2016). There is mounting evidence that staff perceptions of patient safety culture are related to safety behaviours that occur within an organization (Ginsburg et al., 2014). Despite these findings, a recent meta-analysis noted there are many inconsistent findings across patient safety climate research (Lee et al., 2019).

There are a variety of safety climate surveys used in the health care sector in Canada. These surveys have been validated to varying degrees and have different strengths and purposes. Safety climate surveys are used in various sectors of health care for purposes including accreditation (Ginsburg et al., 2014), measuring intervention success (Thomas et al., 2005), and benchmarking (Sexton et al., 2006). While there is a significant body of research on patient safety climate surveys, there has been no research published, to the knowledge of the researcher, on how climate survey results are acted on and used to improve patient safety in practice.

The purpose of this descriptive phenomenological study is to describe the lived experience of individuals who have used patient safety climate surveys for improvement. The central research question of the study is: what are the lived experiences of health care staff in the process of using safety climate survey results to improve patient safety? The semi-structured interviews will focus is on how safety climate surveys are used in practice to improve patient safety, including challenges and successes in using survey results and where opportunities for improvement exist. The results of this study intend to provide insight into how safety climate surveys are used in practice to facilitate patient safety improvements and the benefits and limitations of survey use.

This research intends to provide insight into how safety climate surveys are used in practice to improve patient safety by individuals who have access to the survey results. Various members of health care staff receive safety climate survey data, but we do not know how this data is used to facilitate patient safety improvement. It is important to discern how individuals who receive the data from patient safety climate surveys are using this information for improvement and to understand what is working and what can be improved in this process to ensure participation in patient safety climate surveys is a meaningful activity. Understanding how individuals experience patient safety climate surveys and address the results of the survey may provide insight into the value of climate surveys. Additionally, most of the research conducted on patient safety climate surveys is conducted in an acute care setting. Participants from any area of health care were eligible to participate in this research if they met the eligibility criteria of having experience using patient safety climate survey results. Data were collected through semi-structured telephone interviews with health care staff in Canada.

This qualitative study explores a central research question and four sub-questions listed below:

1. What is the lived experience of individuals in Canada in the process of using safety climate survey results for improvement?

   a. How useful is the process of using patient safety climate survey results for improvements?

   b. How have the results of the patient safety climate survey led to improvements?

      c. Are there challenges in using patient safety climate survey results for

          improvement?

      d. Are there any improvements that could be made to the process of using

          patient safety climate surveys?

The research questions are guided by a descriptive phenomenological methodology using Giorgi's (1985; 2009) scientific phenomenological approach. Giorgi's approach was followed throughout all phases of the research. This approach not only serves as the methodology for the study but also the interpretive framework. Interpretive frameworks can be viewed as a belief system that guides the researcher throughout the research process (Creswell & Poth, 2018). The nature of conducting a descriptive phenomenology using Giorgi's method requires the researcher to challenge their belief system by bracketing their biases and previous knowledge to be open to the experience of the participants (Giorgi, 2009).

1.2 Thesis Outline

This thesis has six chapters. The literature review is presented in Chapter 2 and discusses patient safety, the conceptual development of safety climate and culture, an overview of patient safety climate surveys, and the need for the current research. Chapter 3 discusses the descriptive phenomenological methodology using Giorgi's (2009) scientific phenomenological approach. Chapter 3 also includes the philosophical underpinnings that guide this approach, the rationale for the approach, an overview of how the methodology is employed, and how trustworthiness was established. The study findings are presented in Chapter 4, including an essential structure common to all

participants, as well as an individual structure for each participant. This is followed by the discussion in Chapter 5 and the conclusion in Chapter 6.

Chapter 2: Literature Review

This literature review provides an overview of patient safety in Canada and the efforts that have been made over the last two decades to improve patient safety. Next, an overview of the conceptual development of safety culture and safety climate are provided, including how climate surveys came to be used in the health care sector. This is followed by a review of the purpose and rationale of patient safety climate surveys, their psychometric properties, underlying theories, the relationship between surveys and patient safety outcomes, and practical considerations and challenges in using climate surveys. Finally, the rationale for the current study will be presented.

2.1 Patient Safety

Patient safety incidents are now the third leading cause of death in Canada based on estimates using acute and home care data (RiskAnalytica, 2017). In acute care, it is estimated that one in every 18 patients experience harm while in care (CIHI; CPSI, 2016), and one in ten experience harm in the home care sector (CPSI, 2013).

Improving safe patient care has become a priority across health care sectors (Sorra & Dyer, 2010). This has resulted in the creation of national policy documents on patient safety, recognition of patient safety as a global health priority (WHA, 2019), and a surge of patient safety publications following the release of the IOM report (Stelfox et al., 2006; Fleming et al., 2018). In 2003, the Canadian Patient Safety Institute was formed to improve patient safety and quality by engaging various stakeholders, including governments and health care organizations, with the mission of advancing a culture

committed to safer patient care (CPSI, n.d). CPSI recently released a *Policy Framework for Patient Safety* "to improve patient safety in all health care settings and to inform sustained, system-wide improvement" (CPSI, 2019, p. 6). In 2014, the Protecting Canadians from Unsafe Drugs Act was passed to improve patient safety and transparency through penalization and decreased recall times of unsafe products (Fierlbeck, 2014). The health care system in Canada has also seen improvements in reducing ventilator-associated pneumonia and catheter line infections through the creation of best practice guidelines and checklists (RiskAnalytica, 2017). Despite these efforts, there is a considerable amount of improvement to be made (Baker, 2015).

Recent statistics suggest Canada is still struggling with patient safety (CIHI, OECD, 2019). The Organisation for Economic Co-operation and Development (OECD) measures patient safety using five indicators: foreign body left in a patient's body, rate of post-operative pulmonary embolisms, abdominal surgery post-operative sepsis rate, vaginal deliveries with third or fourth-degree obstetric trauma, as well as non-instrument deliveries. Canada scored the lowest on four of five indicators across OECD countries. Canada faired the best on the abdominal surgery post-operative sepsis rate but still performed slightly worse than the OECD average. Based on this data, there is room for improvement in patient safety in Canada.

Working to develop a strong safety culture is one area of focus to foster patient safety improvements. Many hospital inquiry reports over the last 20 years have consistently found culture to be a factor in adverse events (Francis, 2013; Kennedy, 2001; Gosport Independent Panel, 2018). Measurement of patient safety culture comprises a large proportion of the published literature on patient safety culture (Fleming et al.,

2018). Although patient safety culture and its measurement began to take off in the early 2000s, it was preceded by work in other industries.

Many health care facilities around the world now attempt to measure their patient safety climate using surveys. The volume of patient safety climate survey use suggests that climate survey measurement is a worthwhile activity in the effort to improve patient safety. Items or dimensions that receive lower scores on patient safety climate surveys can point organizations toward areas in need of improvement. National Canadian data from the 2009 Modified Stanford Instrument showed lower scores on items concerning error reporting (Mitchell, 2012). The item "I am rewarded for taking quick action to identify a serious mistake" received an overall mean of 3.11 on a 5-point scale, with "1" referring to "strongly disagree" and "5" referring to "strongly agree." The item "In the last year, I have witnessed a co-worker do something that appeared to me to be unsafe for the patient in order to save time" received an overall mean of 3.14. Mitchell (2012) found little variation across regions and health care sectors in Canada. The aggregated MSI results reveal the importance of patient safety climate measurement. While patient safety events usually affect one individual at a time, the underlying causes of the events are frequently attributable to a system-wide problem. Measuring staff perceptions of patient safety climate can help identify these problems.

In the following section, the conceptual development of safety climate and culture are discussed, including an overview of how patient safety climate surveys came to be used and developed.

2.2 Conceptual Development of Safety Climate and Culture

Safety culture and climate were preceded by the broader literature on organizational culture and climate. Although some researchers use the terms interchangeably, the concepts have distinct etymologies (Reichers & Schneider, 1990). Reichers and Schneider (1990) cover the development of climate and culture in industrial-organizational psychology. They suggest the lack of collaboration in the later half of the 20th century between climate and culture researchers, is due to climate being an "indigenous" concept to industrial-organizational psychology, whereas culture is a borrowed concept from anthropology. Because culture is borrowed from anthropology, many early papers focus on defining the concept, whereas early climate papers focused on the behavioural effects of climate (Reichers and Schneider, 1990). The first publication dedicated to climate at work was written in 1939 by Lewin and colleagues and focused on the "relationship between leadership style and climate" (Reichers & Schneider, 1990, p.10). Although climate is a concept written about in industrial-organizational psychology since the 1930s, it wasn't until the late 1960s that climate was written about in a way that is similar to how it is conceptualized today (Reichers & Schneider, 1990). The first publication on workplace culture occurred much later, in 1979 by Pettigrew, and focused on the development of organizational culture over time (Reichers and Schneider, 1990, p.15).

Organizational climate and culture focus on how individuals understand and make sense of their workplace, and they are socially learned concepts. Despite their similarities, research between climate and culture didn't occur until the late 80s (Reichers and Schneider, 1990). This could be due to the different methodological approaches in the disciplines in which each of the concepts were derived (Reichers & Schneider, 1990).

As mentioned previously, climate is indigenous to industrial-organizational psychology in which objectivist, quantitative approaches prevailed. Culture is borrowed from anthropology where qualitative approaches are used to elicit rich descriptions about the topic of study (Reichers and Schneider, 1990). In anthropology, culture is typically studied using an ethnographic methodology (Smets et al., 2014). This approach is rarely used in organizational culture studies because of the time and resources ethnographic research requires (Choudhry et al., 2007). Instead, other qualitative methods, such as observations, interviews, and case studies, have been used in an attempt to understand how values and assumptions contribute to the culture of an organization and how culture changes over time (Schein, 1985). Today, it is common to see climate and culture discussed together, and sometimes used as interchangeable terms.

Research into facets of climate and culture has also increased, with safety being an example. The term "safety culture" was first used following the Chernobyl nuclear disaster in 1986 (IAEA, 1986). Since then, many high-reliability industries, and the health care sector, have adopted the term. The most commonly used definition of safety culture, and the conceptualization adopted in this study, is from the Advisory Committee for Safety in Nuclear Installations (1993):

> Safety culture is the product of individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of an organization's health and safety programmes. Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety and by confidence in the efficacy of preventive measures. (p. 23)

Today, safety culture is a commonly used term in research and practice. There is a

consensus that a strong safety culture is important to facilitate safe work practices

(Simpson et al., 2019; Sorensen, 2002). In the published literature on safety culture, a

considerable portion is dedicated to safety culture measurement (Fleming et al., 2018).

Safety culture measurement is important as it increases an organization's understanding

of staff's perceptions towards safety at the time of measurement. Measurement can aid in

identifying improvement opportunities, and when measured over time, can show how

culture has evolved (Sorra & Dyer, 2010).

   In many high-reliability organizations, safety culture measurement occurs through a

multi-method approach in which quantitative and qualitative methods are employed to

gain an understanding of safety culture within an organization. The methods used often

involve surveys, document analysis, safety audits, observations, interviews, and focus

groups (Cox & Flin, 1998; IAEA, 2016). Measurement of safety culture in health care

started to develop in the early 2000s. Safety culture measurement in health care often

involves the use of perceptual surveys referred to as 'climate' or 'culture surveys'

(Halligan & Zecevic, 2011). Mearns and Flin (1999) suggest that the term 'climate' be

used when referring to a concept measured by surveys, rather than culture which cannot

be measured by perceptual surveys alone. Cox and Cox (1996) provide a helpful analogy

that likens culture to personality, which is relatively stable over time, while climate can

be compared to mood as it changes frequently. However, the terms 'safety climate' and

'safety culture' are often used interchangeably in research and practice.

   Zohar (1980) was the first to use the term safety climate in a published study (Mearns

& Flin, 1999). Zohar's (1980) seminal safety climate paper highlights the importance of

management commitment to safety during safety interventions. He defines safety climate

as "a unified set of [worker] cognitions regarding the safety aspects of their organization"

(Zohar, 1980, p.101). Zohar's (1980) paper is considered an original safety climate paper

as it makes a distinction from the broader organizational climate research (Cox & Flin,

1998). Zohar (1980) developed and validated a 40-item climate survey with 8

dimensions. The survey was tested in 20 industrial factories in Israel. The employee

perceptions gathered from the climate survey showed consistency among employees

within organizations and correlated with safety inspectors' perceptions of the

effectiveness of safety programs within individual organizations (Zohar, 1980). Zohar

(1980) concludes that a genuine change in the attitudes of management can lead to safety

improvements at an organizational level. A vital component of safety climate is the

implication that workers share a set of perceptions of safety within their organization, and

that these perceptions can modify work behaviours and attitudes (Zohar, 1980).

Countless safety climate surveys have been developed since Zohar's seminal paper across

a variety of industries. The use of patient safety climate surveys is more recent but have

been in use since the early 2000s.

Some researchers consider safety climate to be a subcomponent of safety culture,

while others believe safety climate measures provide a glimpse of culture (Cooper &

Philips, 2004). Regardless of the way safety climate is conceptualized, it is assumed that

by measuring safety climate regularly, organizations can gain insight into employee

perceptions of systems, procedures, and behaviors around safety in the specific time in

which a safety climate survey was administered (Flin, 2006; Mearns & Flin, 1999; Cox &

Flin, 1998). For the purpose of this study, climate and culture will be viewed as

conceptually different, with climate being viewed as a measurable feature of culture.

In the Canadian health care sector and the health care sector in general, perceptual

climate surveys are viewed as an indicator of safety culture. The multi-method approach

to safety culture measurement that occurs in other safety-critical industries is less

common in health care. It is common for surveys to be the only measure of culture in

health care (Fleming et al., 2018), in which case what is really being measured is climate

(Mearns & Flin, 1999). In addition to the ambiguity of how surveys are referred to (i.e.

climate vs. culture), there is also variation in the theories underlying surveys and the

dimensions the surveys intend to measure. This is discussed in more detail in the

following section.

2.3 Overview of Patient Safety Climate Surveys

Safety culture is an important concept to understand to improve patient safety (Sorra

& Dyer, 2010). Safety culture goes beyond the technical aspects of safety to include how

people working together in a system affects safety (Sexton et al., 2000). The most

common way to assess safety culture is through climate surveys, as they are cost-

effective and do not require a major time commitment (Guldenmund, 2000). The

rationale behind climate surveys is to provide organizations with valuable information on

safety attitudes and perceptions that can aid in predictions of safety for the future (Cox &

Flin, 1998). Evaluating safety climate enables hospitals to identify safety concerns and

manage these concerns over time through interventions and repeated measurement (Reis

et al., 2018).

In health care, commonly used climate surveys include: the Hospital Survey on

Patient Safety Culture (HSOPSC) (Sorra & Dyer, 2010) the Safety Attitudes

Questionnaire (SAQ) (Sexton et al., 2006), the Patient Safety in Healthcare

Organizations survey (PSCHO) (Singer et al., 2007), the Safety Organizing Scale (SOS)

(Vogus & Sutcliffe, 2007), and the Canadian Patient Safety Climate Survey (Can-PSCS)

(Ginsburg et al., 2014), an adapted version of the Modified Stanford Instrument

(Ginsburg et al., 2005) which was adapted from the Stanford Instrument (Singer et al.,

2003) (Ginsburg et al., 2014). These surveys, and others, have been subject to a range of

systematic reviews. These reviews investigate the psychometric properties of the surveys,

theories, definitions, and dimensions underlying the surveys, and the relationship

between safety climate and patient safety outcomes. The findings of the safety climate

survey reviews are discussed below, as well as practical considerations when

administering surveys. The reviews in the following subsections refer to surveys that

measure perceptions towards patient safety, what Mearns and Flin (1999) would refer to

as climate surveys. However, some of the reviews use the term "culture survey". For the

purpose of this literature review, the language chosen by each respective author(s) will be

used.

2.3.1 Theories, Definitions, and Dimensions

Stating the guiding theory and defining climate is an important component of

safety climate research. Many conceptualizations, theories, and definitions of safety

climate exist. As a result, researchers need to be explicit about how they are

conceptualizing and defining safety climate and be clear about which theories guide their

research. Additionally, health care practitioners may not be familiar with climate, so it is

necessary to be clear and transparent to avoid confusion.

In Flin and colleagues (2006), many of the safety climate surveys reviewed did not state a theoretical basis, and of those that did it was unclear how the survey items related to the stated theory. The lack of theory in safety culture research could contribute to inconsistent findings in the relationship between safety culture and patient safety due to inappropriate operationalization of relationships and outcomes.

In a review of 139 safety culture research papers in health care, Halligan and Zecevic (2011) noted a variety of definitions in use. Some studies used the term 'safety culture' while others used the term 'safety climate'. Many studies (n=82) did not define either term, and only 58 research papers mentioned theories that guided their research. Halligan and Zecevic (2011) advocate for the use of theory to guide future safety culture research in health care.

Ambiguity is also present in how climate survey dimensions are defined. There is no consensus for which dimensions are core components of safety climate as safety climate does not have an agreed-upon definition. While most patient safety climate surveys include a dimension on leadership commitment to safety, communication, and teamwork (Alsalem et al., 2018) surveys vary in their dimensions. For example, the Hospital Survey on Patient Safety Culture has 12 dimensions while the Safety Organization Scale has one. Organizations must consider what information they are trying to gather before selecting a survey. Alsalem and colleagues (2018) recommend future research on safety climate surveys focus on identifying the "core dimensions" of safety culture that are present across organizations and industries as their review found considerable variability in the number of dimensions used, and many dimensions were not defined.

Law (2011) looked at how the results of two climate surveys (MaPSaF and MSI) compared with qualitative interviews in terms of results. Consistent with the literature, Law (2011) found the quantitative climate tools provide a broad overview of safety perceptions, while interviews provide more detail, such as the contextual features of culture. The safety climate surveys had similar results when they contained similar survey dimensions, however, it is difficult to compare results when dimensions differ between surveys (Law, 2011). This finding has important practical implications as the survey selected by an organization will have a particular focus and may yield different results than an alternative survey (Law, 2011).

Although surveys vary in the number of dimensions and items, most patient safety climate surveys have dimensions relating to leadership support, communication, and teamwork (Singla et al., 2006). Leadership commitment to safety is arguably the most common dimension across safety climate surveys (Flin, 2003; Halligan & Zecevic, 2011). Leadership commitment to safety was found to be the strongest survey dimension in predicting future injuries (Beus et al., 2010). In Flin and colleague's (2006) review of safety climate surveys in health care, the most common dimension across surveys was management commitment to safety, followed by supervisor commitment to safety, safety systems, and job demands/workload. Halligan and Zecevic's (2011) review found the most common survey dimension was leadership commitment to safety, followed by open communication founded on trust, organizational learning, a non-punitive approach to event reporting, teamwork, and shared belief in the importance of safety.

Reis and colleagues (2018) conducted a systematic review of studies that used the HSOPSC and evaluated the strongest and weakest dimensions of safety culture as they

relate to the survey. In their review, strength refers to positive perceptions (overall mean scores) for each dimension. The strongest dimension on the HSOPSC was "teamwork within units." This was true across locations in which the survey was administered. Working in teams in health care is a critical part of the job, as "providing healthcare is intrinsically interdisciplinary" (Reis et al., 2018, p.675). "Organisational learning-continuous improvement" was also a strong dimension across studies. Interestingly, "teamwork across units" was one of the weakest dimensions. Other weak dimensions included "staffing" and "handoffs and transitions." Nearly 70% of hospitals included in the study had weak responses to items around non-punitive response to error, reflecting a blame culture. This is an important finding as blame cultures discourage staff from reporting incidents and near misses due to fear of punitive action. This leads to missed opportunities for learning and improvement (Reis et al., 2018). Under-reporting occurs significantly less frequently in organizations with a strong safety climate (Probst & Estrada, 2010).

Dimensions included in safety climate surveys must have a theoretical basis. Dimensions such as "inherent risk" are relevant to safety but are not a dimension of safety climate as the inherent risk of an organization does not necessarily affect safety climate (Beus et al., 2010). "Inherent risk" and other dimensions included in safety climate surveys that are not a part of safety climate are considered contaminants. Beus and colleagues (2010) also note that surveys can be deficient if dimensions that are representative of safety climate are not included in the survey.

The variation among patient safety climate survey dimensions, and the theories on which the surveys are based, raises questions about the utility of patient safety climate

surveys. How do organizations know which survey to choose? Are the surveys measuring what they intend to measure? The next section elaborates on these questions, discussing the psychometrics of patient safety climate surveys and the different ways data can be analyzed to understand patient safety perceptions.

2.3.2 Psychometrics and Data Analysis Considerations

The psychometric properties of climate surveys have been the subject of many reviews. Patient safety climate surveys vary in the extensiveness of their psychometric validation (Colla et al., 2005). The validity and reliability of safety climate surveys are crucial to ensure surveys measure what they intend to measure and to make appropriate distinctions between survey dimensions (Flin et al., 2006). Measuring safety climate can assist hospitals in understanding the underlying safety culture within their organization (Flin et al., 2006). As such, climate surveys must be extensively validated to produce reliable results. Flin and colleagues' (2006), reviewed the psychometric properties of patient safety climate surveys. Of the 12 surveys included in the review, only six reported factor analysis results. This is problematic given the wide use of patient safety climate surveys (Flin et al., 2006).

Alsalem and colleagues (2018) reviewed safety climate questionnaires in the acute care sector. The psychometric properties of 5 surveys were reviewed, and based on their rigor, were rated as poor quality (0-5), fair quality (6-10), and good quality (11-14). These ratings were based on whether or not the aim of the research question, methodology, and the data analysis were clearly stated and appropriate. The response rate was also considered in the score (above 60% considered acceptable). The Canadian Patient Safety Climate Survey (Can-PSCS) and the (PSCHO) scored 10/14 and were

classified as "fair quality." The Hospital Survey on Patient Safety Culture (HSOPSC), Safety Attitudes Questionnaire (SAQ), and Safety Organizing Scale (SOS) scored 12/14 and were classified as "good quality." Surveys lost points on describing data collection methods (Can-PSCS), describing the study population (SAQ, PSCHO, and Can-PSCS), and for failing to reach an appropriate response rate (PSCHO and SOS). It is concerning that these surveys did not score higher on Alsalem and colleagues' (2018) validation measures as they are among the most commonly used patient safety climate surveys.

In addition to good psychometrics, how the data are analyzed is also important. Ginsburg and Gilin Oore (2016) raise the issue of climate strength in the analysis of patient safety climate surveys. Patient safety climate is often viewed and analyzed as a construct shared by all members of a group or unit, referred to as a direct consensus model of climate. Using the consensus model, it is assumed that there would be a high level of within-group agreement. In consensus models, results are typically presented as a mean score for each survey item. A different way of viewing climate is the dispersion model in which the variability of responses within a group are analyzed, presenting percentages of agree and disagree responses to each question (Ginsburg & Gilin Oore, 2016). The dispersion model provides additional information, showing how many individuals agreed or disagreed with each item. When only the mean is presented, important pieces of information can be missed. According to Ginsburg and Gilin Oore (2016), many climate surveys do not consider level of disagreement in the analysis of climate data and this is a missed opportunity to gain insight into how different groups within an organization perceive safety. Ginsburg and Gilin Oore (2016) recommend

visually presenting climate level with a histogram for each climate dimension present in the survey.

Mascherek and Schwappach (2017) also found support for measuring climate strength in addition to level. In their study of two large Swiss hospitals, fewer differences were found when looking at climate level (climate mean) overall but gained more information when looking at climate strength and shape. Results suggest national safety interventions reach hospital staff to varying degrees. While the climate levels became more homogenous in one hospital, the subgroups diverged between the first and second measurements. If only some members of subgroups are affected by the intervention, the overall climate level may improve but the consensus within subgroups may change due to differing perceptions towards safety (Mascherek & Schwappach, 2017). In one hospital, the subgroup climate strength improved after the second measurement however between subgroups there was divergence. Even if a group has a strong negative climate this means that group members share the same perceptions about safety and therefore might be more likely to react the same way to a safety intervention (Mascherek & Schwappach, 2017). In a weak climate, there are inconsistencies in safety perceptions and attitudes which makes it more difficult to implement successful safety improvements (Mascherek & Schwappach, 2017).

2.3.3 Relationship Between Safety Climate and Patient Safety Outcomes

The goal of patient safety climate surveys is to use the data they provide to target improvement. Objective measures, such as incident rates, are often compared with survey results to assess how well safety climate scores predict incidents (Cox & Flin, 1998). Research in the acute care sector found more positive patient safety climate survey results

were associated with lower rates of pressure ulcers (Brown & Wolosin, 2013), fewer

medication errors (Hofmann & Mark, 2006), reduced readmission rates (Hansen,

Williams, & Singer, 2011), fewer patient safety incidents (Singer et al., 2009), and

increased safety behaviours among staff (Cooper & Philips, 2004; Glendon & Litherland,

2001). However, there are inconsistencies across studies that look at the relationship

between safety climate and patient safety outcomes. While some studies report inverse

relationships between safety climate and patient safety outcomes, others report no

significant findings (Lee et al., 2019; Groves, 2014). Inconsistent findings could be

related to the lack of theory in these studies (Lee et al., 2019; Groves, 2014) or due to

methodological differences (Lee et al., 2019). Patient safety outcomes and safety culture

have been found to have no relationship, specifically when looking at pressure ulcers,

falls, medication errors, nurse-sensitive outcomes, and postoperative outcomes (Groves,

2014). Groves (2014) proposes the lack of support between safety culture and patient

safety outcomes could be due to a non-linear relationship that is indirect, affected through

various steps and mediators. Additionally, health care institutions are not closed systems.

Some variables affect the safety climate of an organization that occurs outside of its

control, such as the background of employees (Guldenmund et al., 2006) and policy

initiatives (Allen et al., 2010).

2.3.4 Practical Considerations and Challenges

        In the previous section, the properties of safety climate surveys were discussed.

Now, the administration and use of safety climate surveys in health care will be

examined. This section considers survey preparedness, data analysis, and dissemination

of survey results to the workforce.

When administering safety climate surveys, it is recommended that staff be included in the planning and administration process and that they are familiar with survey administration procedures to reduce potential biases in recruitment and to achieve a satisfactory response rate (Nieva & Sorra, 2003). The planning and organization of climate surveys play an important role in achieving a response rate that will accurately represent the workforce (Reis et al., 2018). A high response rate is necessary if the data are to be generalized at the organizational level. Survey results with low response rates may not be representative of the workforce as individuals who did not respond to the survey may have different perceptions of safety than those who did respond (Reis et al., 2018).

During the planning phase for survey administration, health care organizations must decide how they will analyze and share data once the surveys are completed. Data can be analyzed at the unit level or the organizational level. The way the survey data is analyzed and shared should be consistent with the reason for administering safety climate surveys. It is not uncommon for safety climate survey data to be used for comparison between health care organizations (Sexton et al., 2006). These comparisons often have little value because of the many differences between any two organizations (Ginsburg et al., 2007). Many researchers recommend analyzing survey data at the unit level, as units typically have their own culture (Nieva & Sorra, 2003; Pronovost & Sexton, 2005; Morello et al., 2013). Analyzing at the unit level supports the creation of interventions specific to the needs and culture of each unit. This is more effective than a broad, organization-wide approach to improvement (Nieva & Sorra, 2003), as even well-planned, evidenced-based

interventions can fail if the culture does not support the intervention (Morello et al., 2013).

O'Connor and colleagues (2011) raise important points about the validity of climate surveys in their analysis of 110,014 responses to the Command Safety Assessment Survey (CSAS) used by the United States Naval aviation sector. In their study, evidence was found to suggest negatively worded items confuse respondents. These items were more likely to receive a negative response than positively worded items (O'Connor et al., 2011). The analysis of CSAS data found reverse coded items accounted for nearly 34% of all ratings of '1' on a Likert scale, but only accounted for less than 9% of items on the CSAS (O'Connor et al., 2011). To reduce error around negatively worded items, O'Connor and colleagues (2011) recommend screening items for a unique response pattern if they are going to be included in a climate survey.

Guldenmund (2007) points to the issue of Likert scales, used in most climate surveys. Data from Likert scales are treated as even intervals, although safety attitudes and perceptions cannot be accurately measured on an interval scale. We cannot assume the difference between agree and disagree is the same for all individuals. It is not the same as the difference between '1' and '5'. As Guldenmund (2007) states, "in survey research one is caught between the theoretical demands of statistics… and the theoretical requirements of culture" (p.726). Halligan and Zecevic (2011) raise an important point when discussing the results of their review of safety culture in health care, "perhaps we can assume most researchers in safety culture come from a postpositivist paradigm, neglecting the importance to be explicit about their underlying epistemologies and theoretical roots" (p.4).

Guldenmund (2007) describes climate surveys as a 'quick and dirty' way to assess safety culture due to the lack of detail they provide into the state of safety. Climate surveys do not provide a clear sense of direction as to how changes can be made to improve safety (Guldenmund, 2007). Guldenmund (2007) argues that self-administered questionnaires are not a good fit for organizational culture research as "culture is, by definition, something that is shared between people" (p.726). The unspecific results of climate surveys may lead to misinterpretation of the shared assumptions, which require a more rigorous investigation (Guldenmund, 2007).

Once data has been collected and the analysis is complete, the climate survey results must be shared with employees. It is a common complaint of employees who participate in safety climate assessments that they do not receive feedback about survey results or interventions based on results (Nieva & Sorra, 2003). Participants who believe the survey data will be used to make changes are more likely to respond to future surveys (O'Connor, 2011).

Many researchers now believe safety climate surveys are not sufficient as a stand-alone measurement tool and should be supplemented with qualitative methods (Nieva & Sorra, 2003; Antonsen, 2009; Guldenmund, 2000; Cooper, 2000; Halligan & Zecevic, 2011). Using safety climate surveys as a singular method of evaluating safety limits an organization's ability to create effective interventions (Allen et al., 2010). Currently, climate surveys are the primary method of capturing data on patient safety climate (Fleming et al., 2018) which raises questions about the information surveys provide. Patient safety climate surveys have been a part of research and practice for nearly 20 years. Various surveys have been created and validated and have been the subject of

many reviews. Despite these efforts, there is a lack of clarity about how patient safety climate surveys are tied to the theories on which they are based, and little is known about how surveys are used in practice.

2.4 Need for Current Research

To the knowledge of the researcher, no research has been conducted inquiring into how patient safety climate surveys are used in practice for improvement. Research has been conducted using qualitative methods to gain an understanding of how hospitals understand safety culture improvements (Law, 2011), and how the process of becoming accredited leads to improvements (Melo, 2016). This research is discussed in more detail below.

Accredited hospitals generally perform more favourably than non-accredited hospitals (Shaw et al., 2010), and patient safety climate surveys are often completed as a part of the accreditation process. Melo (2016) conducted a single case study of an acute care hospital in Portugal to understand how participation in accreditation processes led to quality and patient safety improvements. Data was primarily collected through semi-structured interviews with 49 employees, many of whom participated in quality and patient safety initiatives in their day to day work. The level of quality before participating in accreditation affected the outcome of accreditation (Melo, 2016). Participants in the study had positive attitudes towards the accreditation process and worked in a teaching hospital (Melo, 2016). Among participants, there was a perception that the accreditation process led to the formalization of quality and patient safety policies and initiatives that would not have occurred otherwise.

The main improvements initiated through the accreditation process were the adaption of a fall recording system from digital to paper-based for the maternity unit who could not consistently rely on IT, an increase in reports of patient safety events and cross-department communication about patient safety, formalization through written policies, and defining and monitoring performance indicators (Melo, 2016). There were several limitations in Melo's (2016) study. First, patient safety and quality improvement were not distinguished from each other. Patient safety was only referred to as a component of quality improvement. Also, patient safety culture was mentioned several times throughout the study but was not defined. Melo (2016) states the accreditation process led to quality and patient safety improvements "including the establishment of a generalized patient safety culture" (p.1252) but does not explain what this means.

A study by Law (2011) employed an exemplary multiple case study design with the aim of understanding lessons learned from hospitals in the process of safety culture improvement. The hospitals in the study did not rely solely on the results of surveys to understand cultural changes. These organizations looked at process measures with outcome measures to understand how culture was changing (Law, 2011). Participants stated that survey data was helpful for seeing if there were notable improvements in response rates over time and were useful to see how an intervention affected safety perceptions. Participants understood culture change largely through talking to and observing their staff. The frequency of incident reports was also seen as an indicator of culture by participants. Higher incident reports were viewed as a sign of "greater understanding of patient safety and comfort in reporting events" (Law, 2011, p.183).

While the research of Melo (2016) and Law (2011) provide insight into how accreditation contributes to patient safety improvements and how patient safety culture improvement is recognized by hospitals, there is a gap in the research regarding how patient safety climate surveys are used in practice for improvement. Many researchers have voiced the need for research to investigate how patient safety climate surveys are used in practice. Ginsburg and colleagues (2009) raise an important point about the use of patient safety climate surveys:

> Given that the *practice* of PSC measurement may be outpacing the *research,* it is incumbent upon health services researchers to continue to carefully study the measurement properties of this construct and, in the interim, help specify how these measures can and cannot be used in organizational settings" (p. 215).

Similarly, Antonsen (2009) calls for safety culture research that puts more focus on staffs' experience of culture rather than looking at culture through a pre-existing theory alone.

Given the volume of publications on patient safety climate surveys (Fleming et al., 2018), it is surprising that no research has been conducted to understand how these surveys are being used in practice. The dearth of research in this area suggests there is a lack of interest in the applied use of patient safety climate surveys. This study intends to shed light on how patient safety climate surveys are being used in practice. To the knowledge of the researcher, this is a novel study that aims to understand the lived experience of individuals who have experience using patient safety climate survey results for improvement.

Chapter 3: Methodology and Methods

This chapter starts with an overview of qualitative research and the descriptive phenomenological methodology employed in this study. Next, the interpretive framework and philosophical assumptions guiding the research will be discussed. This is followed by an overview of recruitment, data collection, and analysis.

3.1 Qualitative Research

This qualitative study employed a descriptive phenomenological methodology using semi-structured, one-on-one phone interviews to understand how patient safety climate surveys are used in practice for improvement. The research question guiding the study is what is the lived experience of individuals in Canada in the process of using safety climate survey results for improvement?

A qualitative approach was selected for this study rather than a quantitative approach because the study aims to describe how patient safety climate surveys are being used for improvements. Qualitative methodologies are suitable to research questions in which little is known about the topic, and when the goal is description rather than causality (Creswell & Poth, 2018). The aim of this study is to understand how surveys are being used in practice. For this reason, a qualitative approach was chosen.

3.2 Scientific Phenomenology

Descriptive phenomenology was selected as the qualitative methodology for this study because this methodology brings focus to a phenomenon rather than any one individual participating in the study (Creswell & Poth, 2018). This methodology is also suitable for use when there is a lack of information on the topic being studied (Giorgi, 2009). Descriptive phenomenological research is not intended to find causality (Englander, 2016). Its purpose is to create a rich description of the lived experience of a

human phenomenon (Giorgi, 2009). The central research question, what is the lived experience of individuals in Canada in the process of using patient safety climate survey results for improvement, is focused on a phenomenon, rather than an individual or group of individuals.

Amedeo Giorgi's (1985, 2009) approach to phenomenology was selected as the framework for this study. Other approaches to descriptive phenomenology exist, but only Giorgi has worked on and refined his method assiduously over the last 50 years (Applebaum, 2011). Giorgi advocates for a systematic approach that adds rigor to the methodology. This aspect is missing or ambiguous in some other conceptualizations (Giorgi, 2006).

Giorgi's approach, referred to as scientific phenomenology, aims to study a concept by collecting descriptions from individuals who have a lived experience of the phenomenon under study (Giorgi, 2009). The scientific phenomenological approach has been used to describe the experience of being diagnosed with a terminal illness (Esbensen et al., 2008), the experience of early Alzheimer's disease (Robinson, Giorgi, & Ekman, 2012), being the victim of a violent crime (Wertz, 1985), using deadly force as a police officer (Broomé, 2018), well-being in retirement (Bauger & Bongaardt, 2016), and countless other areas that are difficult to study using a quantitative approach. The methodology is suitable for broad topics such as learning (Giorgi, 1985) to specific experiences such as the experience of public sector employees executing strategic management in a political setting (Franklin, 2019). This methodology provides a rich description of a shared, lived experience by inquiring into "what does it mean to be X or experience x?" (Finlay, 2014).

Scientific phenomenology was developed by Giorgi in 1970 as an alternative to the natural science approach to psychology. Giorgi argues that the natural science approach is not always the best approach when one is studying aspects of human consciousness. He created scientific phenomenology which he deems a 'human science' as an alternative approach to psychology. Giorgi believes that many phenomena are "either overlooked or severely distorted" because the methods used to study them are borrowed from the natural sciences and evaluate phenomena in a controlled lab setting or through quantitative measures (Giorgi, 1985, p.1). Giorgi (2009) passionately advocates that qualitative research methodologies can produce scientific knowledge, which he views as "knowledge that is (1) general, (2) systematic, (3) critical, and (4) methodical" (p. 110). Giorgi's scientific phenomenology is a type descriptive phenomenology. This approach focuses only on what is "given" in the data and does not impose outside theories or explanations (Giorgi, 2009).

Although scientific phenomenology was developed for use in psychology, it has expanded into other disciplines, particularly nursing and health services research (Dowling, 2005). Phenomenology can be adapted for use in a variety of settings and research topics so long as the researcher has a thorough understanding of the methodology and follows the data analysis process (Giorgi et al., 2003; Giorgi, 2009).

3.2.1 Interpretive Framework and Philosophical Assumptions

Interpretive frameworks dictate how the researcher approaches their research question, including how the findings will be interpreted. Unlike other qualitative methodologies, Giorgi's scientific phenomenology has its own inherent interpretive framework that one must adopt to properly use the method. Giorgi's scientific

phenomenology is based on the work of Edmund Husserl who created philosophical

phenomenology. For Husserl, the aim of philosophical phenomenology was to

methodically examine consciousness (Koivisto et al., 2002). Husserl was a student of

philosopher and psychologist Franz Brentano and was inspired by his work on

intentionality (Dowling, 2005). Husserl used this inspiration to develop

phenomenological reduction, a key component of phenomenology (Dowling, 2005). In

Husserl's phenomenology intentionality means "consciousness of" (Finlay, 2014). People

have intentionality towards objects that are real and irreal. Unlike in natural science

approaches, an object in phenomenology can be a mental act or something that is not

physically real (Giorgi, 1985). Safety culture would be an example of an irreal object.

Reduction allows us to focus on how the object presents itself, regardless of physical

realness (Giorgi, 2008). In phenomenology, reduction refers to the process of reducing

the experience to its most essential structure. This will be discussed in more detail in

chapter 4. In Husserl's conceptualization of intentionality, "consciousness is always

directed at something that is not consciousness itself" (Giorgi, 1985, p.43). Husserl and

Giorgi interpret findings through the lived experience of individuals who are familiar

with the phenomenon being studied, although in philosophical phenomenology the self is

the participant (Giorgi, 2009). The findings in a scientific phenomenological study come

up from the data, nothing is imposed on the data that isn't contained within the raw

descriptions.

In descriptive phenomenology and any qualitative study, philosophical

congruence is vital (Creswell & Poth, 2018). Four philosophical assumptions need to be

considered in qualitative research: ontology, epistemology, axiology, and methodology

(Creswell & Poth, 2018). Giorgi's scientific phenomenology is adopted for all four assumptions.

Ontology refers to assumptions about the nature of reality (Creswell & Poth, 2018). In scientific phenomenology, there is the everyday attitude, in which participants give their descriptions without any reflection, and there is the attitude of scientific phenomenological reduction that the researcher adopts when conducting the analysis and writing the results. The ontological views underpinning this study is that our day to day life takes place with a pre-reflective, natural attitude (Giorgi, 2009). To determine the essence of the phenomenon, the researcher adopts a different attitude to bracket their biases and the everyday way of seeing the world. The researcher also views the phenomenon within the lens of their discipline, with a special awareness for the phenomenon being investigated (Giorgi, 2009). By adopting the phenomenological attitude, the researcher is no longer viewing the phenomenon through a typical, day to day lens.

Epistemology involves assumptions about knowledge creation (Creswell & Poth, 2018). In phenomenology, knowledge is generated by reducing participant descriptions to find what is essential to the phenomenon. Essential in this case refers to aspects of the phenomenon, that if they were changed or removed, would change the meaning of the phenomenon entirely (Giorgi, 2009).

Axiology refers to the philosophy of values (Creswell & Poth, 2018). The axiological stance underpinning the study is that each participant is active in the creation of their reality and knowledge generation, and therefore their input on the phenomenon is valued by the researcher and will be treated as valuable data. Descriptions will be viewed

as real to the participants who gave the descriptions and will not be analyzed as true or false.

3.3 Participants

Seven participants were recruited for this descriptive phenomenology using purposive sampling. Participants were eligible to participate in the study if they were English speaking and had experience using patient safety climate surveys for improvement. Four participants were recruited from acute care, two from long term care, and one from the home care sector. Two of the participants were located in Alberta, one was in Newfoundland and Labrador, and four were in Nova Scotia.

3.4 Materials

Data for this study was collected through one-on-one phone interviews using a semi-structured interview guide (see Appendix A). Interviews are the most common way to collect data in phenomenological studies (Giorgi, 2009). Some phenomenologists collect data through written participant experiences although this typically yields shorter, less in-depth descriptions (Giorgi, 2009). Participants were located throughout Canada and so the decision was made to conduct interviews over the phone. Originally, it was planned that participants in local areas would be interviewed by the researcher in person, but this was halted due to the global pandemic. Phone interviews can present challenges as it can be harder to build rapport with participants and to pick up on nonverbal participant reactions (Novik, 2008). However, phone interviews can also be advantageous because a larger number of participants can be accessed. Phone interviews were deemed to be the most appropriate method of data collection during the Covid-19 pandemic as they allowed for physical distancing.

The interview guides were created to be congruent with Giorgi's scientific phenomenology. The questions were written to evoke participants' real-life experiences of the phenomenon (Giorgi, 2009).

Interviews were recorded using a tape recorder and were stored on a password-protected laptop in an encrypted file. The interviews were transcribed by the researcher using Microsoft Word. Microsoft Excel was used in steps 2-4 of the data analysis process. This is described in more detail in later sections.

3.5 Procedure

3.5.1 Recruitment

Recruitment emails were sent to contacts of the student researcher and research supervisor who worked in health care. Individuals who received emails were invited to forward the email to colleagues who met the eligibility criteria. Recruitment posts were also made on LinkedIn. Individuals interested in participating were invited to contact the student researcher to schedule a phone interview.

Recruitment was difficult during this study as the data collection phase occurred during the COVID-19 pandemic.

3.5.2 Interviews

Interviews were conducted over the phone between May 7th and September 29th, 2020. Participants were sent the informed consent form via email before each interview (see Appendix B). The researcher reiterated the points made on the informed consent form before beginning each interview. Participants were also asked to give their verbal consent to participate and to have the interview audio recorded.

Seven interviews were conducted with individuals who were identified as people who had experience using patient safety climate survey results for improvement. An interview guide (see Appendix A) was used during the interview and was sent to participants before the interview. Although the interviews were semi-structured, all four of the main questions were asked during each interview (see Appendix C). Probing questions differed for each interview, as well as the follow-up questions. The purpose of interviewing in scientific phenomenology is to ask questions that elicit real, lived experiences from participants regarding the phenomenon of study without leading the participant towards the researcher's pre-existing biases and judgements on the topic (Giorgi, 2009).

Participants were sent a feedback form via email immediately following the completion of the interview (see Appendix D).

3.5.3 Cessation of Data Collection

Data collection ceased after seven interviews had been conducted. Giorgi's (2009) guidelines for descriptive phenomenology were followed throughout this study. Giorgi states that at least three participants are required to produce meaningful data, with enough variation among the descriptions. Giorgi (2009) also states that the number of participants in a phenomenological study is less important than the number of instances the phenomenon under study is present in the descriptions.

3.5.4 Ethics

This study was approved by the ethics review board at Saint Mary's University on April 23rd, 2020 and posed minimal risk to participants. Participant data was stored on a password-protected laptop in an encrypted file. Each participant was assigned an

identifying code to ensure no identifying information was stored with participant data.

After completion of the interviews, participants were sent a feedback form (Appendix D)

explaining how their interview data would be used, anonymity, and how they could

receive research findings. Participants were each assigned a withdraw date at least two

weeks after the date of their interview. Participants were sent two reminders about the

date to withdraw their data from the study. Participants were given the option to review

their transcript before this date to make an informed decision when deciding if they

would like their data to remain in the study. They were also given the option to remove

pieces of data from their transcript. All identifying information in the transcripts was

replaced with generic names (i.e. 'organization X'). Two of the seven participants chose

to review their interview transcripts. No changes to the transcripts were requested by

participants.

3.6 Data Analysis

There are four steps in Giorgi's (2009) data analysis process. First, the entire

description (interview transcript) is read, next meaning units are created, then

transformed, and finally, an essential structure is written. These steps are described in

greater detail in chapter 3.6.2. Throughout all of these steps, and when writing the

findings of the analysis, the researcher adopts the scientific phenomenological attitude.

3.6.1 Scientific Phenomenological Attitude

The scientific phenomenological data analysis requires a shift in attitude by the

researcher. First, the researcher needs to bracket their past knowledge of the

phenomenon. Giorgi (2009) is clear that bracketing does not mean erasing past

knowledge. The purpose of bracketing is to reduce bias in the analysis by acknowledging

past knowledge and experience and keeping these potentially biasing past experiences in mind throughout the analysis. Bracketing is also referred to as "epoché", a Greek term that means "suspending judgement." Morley (2010) argues that without bracketing researchers are likely to slip back into their everyday view of the phenomenon. Bracketing or epoché is an important component of scientific phenomenology as the findings should be present in participant descriptions without imposing outside experiences or theories on the data (Giorgi, 2009). Bracketing is not a one-time activity. The researcher needs to assess their biases throughout the analysis and when writing the findings (Giorgi, 2009).

The other component of the scientific phenomenological reduction is to shift one's attitude. The participants give their description of the phenomenon in the everyday attitude. The researcher analyses the data within the "attitude of scientific phenomenological reduction" (Giorgi, 2009, p. 128). This means the researcher analyzes the data from the perspective of their discipline, with a sensitivity to the phenomenon under study (Giorgi, 2009). In this study, the discipline of the researcher is health systems and the phenomenon of study is the experience of using patient safety climate surveys for improvement. When the researcher brackets their biases and views the phenomenon through their disciplinary lens with special attention to the phenomenon under study, the phenomenon can be reduced to find the essential structure of the phenomenon (Giorgi, 2009).

3.6.2 Data Analysis Steps

Step 1: Read the Description as a Whole. The first step is to read the participant descriptions several times to become familiar with the data (Giorgi, 2009). Before the

descriptions can be separated into meaning units the researcher needs to be familiar with the whole description (Giorgi, 2009). The interview data are referred to as "naïve descriptions" because they are given by the participant in the natural (everyday attitude) (Giorgi, 1985). They have not been reflected on through the disciplinary attitude at this stage.

Step 2: Creating Meaning Units. In this step, the researcher reads the description again, but this time a slash is placed every time there is a significant change in meaning (Giorgi, 2009). The purpose of this step is to create manageable chunks of data. There is no "theoretical weight" to the meaning units (Giorgi, 2009, p.130). Two researchers given the same description may create different meaning units as they are subjective. This step is merely to make the data manageable instead of having one large piece of data. When delineating the meaning units, the researcher keeps in mind their disciplinary background and the phenomenon under study. The creation of meaning units lays the groundwork for the next step, transforming meaning units.

During Step 2, the language is also changed from first to third-person language. This is to reduce the tendency for the researcher to "identify with the experience of the describer" as opposed to analysing the data from a scientific phenomenological perspective (Giorgi, 2009, p.153).

Step 3: Transformation of Meaning Units. In this step, the meaning units are rewritten into expressions that are sensitive to the phenomenon under study using the disciplinary language of the researcher (Giorgi, 2009). The purpose of the transformation is to highlight the meanings of the description with a disciplinary lens and a special focus on the phenomenon that is being investigated (Giorgi, 2009). During this step, the

language is also made more general as long as modifications do not change the meaning

of what the participant has said. This is done to make comparisons with other

descriptions easier in step 4 (Giorgi, 2009). Not all meaning units require the same

number of transformations. Some meaning units will be more complex and have more

relevance to the study than others which may require more transformations (Giorgi,

2009).

Giorgi (2009) recommends creating columns of meaning units on the left and

transformed meaning units on the right. This was done using Microsoft excel in this

study. Table 1 gives an example of a few transformations completed in this study. This

allows the research to easily compare the transformed meaning unit with the original

meaning unit to ensure the meaning was not lost. The columns are also useful in the next

step when a structure is written.

Table 1

Transformation of Meaning Units Example

Meaning Unit	Transformed Meaning Unit Iteration 1	Transformed Meaning Unit Iteration 2
P states she thinks overall big strides were made in changing the culture over a 10 year period from the perspective of "why would I report something I caught before it happened," to understanding if a safety culture is to be present, the organization will be looking for things and making improvements before anything big happens.	P reflects that over a decade, she noticed a cultural change in which staff came to understand their individual role in patient safety and making improvements, specifically around reporting activities.	
P states she thinks they made big strides in improving the culture of patient safety in their organization and improving that it was on everybody's mind. And that was kind of the underpinnings of everything they did. P explains it wasn't perfect and there was still a long way to go, but she thinks they succeeded in changing the culture and the climate of patient safety.	P states the organization improved its patient safety culture and how staff thought about patient safety. P acknowledges that there was still room for improvement.	P say's the organization made big strides in improving their patient safety culture and having patient safety be on everyone's mind. P says there was still room for improvement, but she believes there was a shift in patient safety climate and culture.
P explains that they compared what management and senior management thought with what staff thought and this was controversial.	P states the organization acted controversially in comparing senior management/management and staff survey results.	

Free imaginative variation is exercised in this step of the analysis. This requires the researcher to mentally change aspects of the transformed meaning units in their mind. If aspects can be altered without changing the meaning of the unit, then that aspect is not essential. If the meaning is changed with the alteration of the unit, the aspect is essential to its meaning (Giorgi, 2009). Free imaginative variation guides the researcher in the process of making the transformed units as general as possible without changing the meaning of what is being said. For example, in Table 1, there is one meaning unit that required two transformations. When reviewing the first iterations of transformations for this participant, and comparing transformations with the raw text, the section "they made big strides in improving the culture of patient safety in their organization and improving that it was on everybody's mind" was revaluated. In the first iteration, "improving that it was on everybody's mind" was left out. Free imaginative variation was used to evaluate if the removal of this aspect changed the overall meaning of what the participant was saying. It was deemed necessary to add this piece to the second iteration. Improving patient safety culture and having staff think more regularly about patient safety culture are different components of this participant's experience, and so it was necessary to make this distinction in the transformation.

Step 4: Writing the Essential Structure. The next step is to write a structure for the phenomenon. The essential structure is comprised of constituents that were general to the experience of using patient safety climate survey results for all participants (Giorgi, 2009). The structure should describe the relationship between the constituents (Giorgi, 2009). Constituents are interconnected pieces of the experience that form the essential

structure (Giorgi, 2009). The term 'constituents' is used in phenomenology rather than

elements because constituents are viewed as a piece of the whole that is not independent

of the whole (Giorgi, 2009). The structure does not contain every constituent mentioned

in the descriptions. Giorgi (2009) makes a helpful analogy of a structure when he says,

"the structure cannot present all of the data any more than a mean can present all of the

numbers upon which it is based" (p.202). The structure highlights the relationship

between the essential constituents (Giorgi, 2009). To test whether the structure is sound,

the researcher uses free imaginative variation and mentally removes one of the

constituents. If the meaning of the structure does not change with the removal of the

constituent, then it is not an essential constituent. While writing the structure, the

researcher needs to imagine a "critical other" is sitting on their shoulder (Giorgi, 2009,

p.136). This helps the researcher make the findings clear and transparent. It should be

obvious to the reader how the researcher got from the descriptions of the transformed

meaning units to the structure.

In this phenomenology, individual structures were written for each participant in

addition to the essential structure. The individual structures contain the most essential

components of the experience of using patient safety climate surveys for improvement as

experienced by each participant (Giorgi, 2009). This step is not a necessity in scientific

phenomenology, but the decision was made to create individual structures due to the

diverse sectors and provinces in which participants work; where they experience the

phenomenon.

3.7 Trustworthiness

In this study, trustworthiness was evaluated following the criteria of Lincoln and Guba (1986) with modifications from Shenton (2004). Trustworthiness is achieved in qualitative research when the study has credibility, transferability, dependability, and confirmability.

3.7.1 Credibility

Credibility in qualitative research refers to the congruence between the findings of the research and reality (Merriam, 1998). Credibility was enhanced by choosing and following a well-established research methodology, scientific phenomenology. There is a tendency among new qualitative researchers to mix and match steps from various methodologies. This means the stated methodology is no longer being followed. Throughout the research, Giorgi's writings on the scientific phenomenological methodology were referred to, and when necessary, clarifications were sought from the advanced qualitative research methods professor for the Master of Applied Health Services Research program.

Credibility was also enhanced through the use of thick descriptions. An essential structure with four constituents was written for this study. How each constituent is present for each participant is described in chapter 4.1, including transcript excerpts. In phenomenology, it should be apparent to the reader how the structure was formed. This includes presenting examples from interview transcripts and the conversion of raw data into meaning units and transformed meaning units (Giorgi, 2009). Examples of interview transcripts are provided in chapter 4.3. An example of data transformation is given in Table 1 in chapter 3.6.2.

3.7.2 Transferability

The criterion of transferability is concerned with the degree to which findings are applicable to other contexts (Merriam, 1998). In qualitative research this criterion is met when the researcher is explicit about the time, place, participant characteristics, and location in which data were collected, as well as materials used for data collection. This information is provided earlier in chapter 3.

3.7.3 Dependability

Dependability and credibility are similar components of trustworthiness (Lincoln & Guba, 1986). Dependability refers to describing the process followed by the researcher with enough detail that another could follow the same steps (Shenton, 2004). This criterion was met through a transparent description of the data analysis process in chapter 3.6.2, as well as an explanation of the intent of the research and how the research was conducted. Additionally, the researcher kept notes of their thinking during the interviews and the data analysis process. This was done with the intent of bracketing predetermined judgements of what was known about the area of study (Giorgi, 2009). Bracketing was employed throughout all phases of the research study. For example, the interview questions were written in a way to elicit rich descriptions of participants' experience of the phenomenon without guiding them in a predetermined direction (see Appendix B). During the data analysis, findings were reviewed to ensure the constituents came from the data, and to ensure ideas were not imposed upon the data by the researcher (Giorgi, 2009). As mentioned previously, bracketing allows the researcher to focus on the data as experienced by the participants, rather than the researcher's everyday view of the phenomenon (Giorgi, 2009).

3.7.4 Confirmability

In qualitative research, confirmability refers to the extent to which the findings present the experiences of participants without researcher bias influencing the results (Shenton, 2004). Giorgi's method of phenomenological research has features of confirmability built into all phases of the data analysis process. Through epoché, the researcher suspends judgement about whether the participants' experiences are true in the sense of objective reality. The researcher takes what the participant says as true to how they experienced the phenomenon (Giorgi, 2009). This also includes bracketing one's prior knowledge and everyday attitude towards the phenomenon so one can be present to what the phenomenon means to the experiencer (Giorgi, 2009). Additionally, Giorgi's method is a form of descriptive phenomenology in which everything that is written in the structure is given within the data. Nothing is inferred upon the data.

Chapter 4: Findings

The purpose of this study was to describe the lived experience of individuals who have used patient safety climate surveys for improvement. Seven individuals participated in interviews with the average interview time being 30 minutes. There were 65 pages of single-spaced interview transcripts. 4 participants worked in Nova Scotia, 1 in Newfoundland and Labrador, and 2 in Alberta. 1 participant was retired. 4 participants worked in the acute care sector, 2 in long-term care, and 1 in home care.

In this chapter, a structure is given for each participant describing their individual experience of using patient safety climate survey results for improvement. Next, an essential structure will be presented that is common to six of the seven participants' experiences. The essential structure is comprised of four constituents. Each constituent is explained in chapter 4.3, including examples of how each constituent was present in the

participants' lived experiences. Interview six was excluded from the essential structure. While analyzing the data for participant six (P_6), it became clear that they had not experienced using the patient safety climate survey results for improvement. Although their organization implements a patient safety climate survey for accreditation purposes, and P_6 was identified as an individual who would have information regarding survey use, they were unfamiliar with the process. An individual structure is provided for P_6 in chapter 4.1 for transparency.

4.1 Individual Participant Descriptions

Participant One (P_1)

Demographics
P_1 works in the risk management department in a large regional health authority in Canada. P_1's organization administers Accreditation Canada's patient safety climate survey once every four years.

Summary of Experience
In P_1's organization, there is variability in how departments use their survey results. P_1 feels her organization completes the minimum requirements stipulated by Accreditation Canada for certification. The organization reviews the survey data and creates action plans to address items with lower scores, but this is the extent of the survey use. In P_1's organization, there is no process to ensure the action plans are being followed. P_1 is uncertain how many staff members are informed about the survey results and subsequent action plans. P_1 perceives a cynical attitude among some staff concerning the survey as they view it as a tick box activity that does not result in change. The response rate for the survey is typically low and the number of action plans P_1 receives is small relative to the size of the organization. P_1 believes there needs to be a structured follow-up process that

evaluates progress on survey action plans and communication about the survey results.

Although the process has gaps in need of improvement, P_1 feels the survey adds value by

bringing focused attention to patient safety, particularly senior management attention.

However, P_1 is not sure if discontinuing the survey would have any effect on the

organization.

Participant Two (P_2)

Demographics
P_2 previously worked in a provincial health authority in the quality department and has

recently retired. P_2 has used various patient safety climate surveys during her career.

Summary of Experience
For P_2, the patient safety climate surveys were useful but were not used to their full

potential by her organization. P_2 felt there were missed opportunities with the survey

caused by a lack of transparency from senior management. P_2 believed the organization

used the survey results to gather information about patient safety but did not act on the

information in a way that led to meaningful change. P_2 perceived challenges in

illustrating to staff how patient safety climate surveys related to their day to day work

activities. P_2 expressed feeling challenged when merging the patient safety climate survey

results with the organization's overall strategic plan and other ongoing safety initiatives.

P_2 is uncertain if the survey results had a lasting effect, but she believes it is a process

that has the potential to add value. In P_2's experience, patient safety climate surveys are

beneficial but not essential.

Participant Three (P3)

Demographics
P3 is an administrator at a medium-sized, accredited nursing home in Canada. P3's facility

administers the Accreditation Canada patient safety climate survey one to three times per

year.

Summary of Experience
P3 perceives the process of patient safety climate survey administration as a positive and

rewarding experience. P3 believes the survey is a valuable tool for improving patient

safety but does not view it as a stand-alone solution. For P3, the survey is most valuable

when it is paired with other safety indicators. P3 uses the survey results, and other safety

indicators, to advocate for government funding and support for safety upgrades. P3

believes the survey spurs the facility to act on safety issues faster than they would

without the survey results. For P3, the survey allows the facility to reach the next level of

safety in the organization, instead of the minimum requirements for operating. P3 sees the

survey, and accreditation, as a valuable process for the long-term care sector. P3 believes

the size of his facility is an enabler in using the survey results for improvement, as the

facility has less bureaucracy than the acute care sector.

Participant Four (P4)

Demographics
P4 has had various quality improvement roles in acute care. In her interview, P4 primarily

talks about her experience working in an external consulting group with acute care teams.

In this role, P4 administered patient safety climate surveys with acute care teams as part

of a larger, provincial safety initiative.

Summary of Experience

P_4 views patient safety climate surveys as having limited practical value. P_4 believes

surveys are worthwhile when teams have systems in place that will support acting on

survey results before survey administration. For P_4, patient safety climate survey results

are only as valuable as the stories used to bring the data to life. P_4 believes surveys can be

useful but views them as one small piece of a large puzzle, not the driver of change. P_4

sees a need to create a pull strategy to garner interest in patient safety and survey results.

P_4 feels it is common for individuals working in health care to tell people in her role what

they want to hear, not what is happening in their daily work. When administering patient

safety climate surveys with teams, P_4 focused on building trust and rapport with teams to

reduce this barrier and to get honest feedback about how safety tools, including the

patient safety climate survey, are used. P_4 believes people inherently want to improve but

that there needs to be reinvigoration on the topic of patient safety and patient safety

culture in health care.

Participant Five (P_5)

Demographics

P_5 works in the quality department of a provincial health authority and also has

experience in a regional health authority. P_5's organization administers patient safety

climate surveys once every four years for accreditation purposes.

Summary of Experience

P_5 believes patient safety climate surveys have the potential to be valuable for her

organization but feels they are not currently used to their full potential. In her role, P_5 and

her team help departments in their organization to develop action plans using patient

safety climate survey results. P_5 has noticed variability in the extent to which survey

results are meaningfully presented to staff by various departments. P_5 perceives her

organization as having a reactional approach to safety which she views as a barrier to

effectively using survey results. P_5 perceives provincial budget cuts as a significant

barrier to acting on survey results and prioritizing safety in general. P_5 does not feel there

is a priority or direction to use the survey results within her organization, or from external

stakeholders. P_5 suggests survey results could be used more effectively if there was a

process to evaluate the effectiveness of how surveys are used and a genuine commitment

to safety from the highest level of management. P_5 does not foresee improvement without

external pressure to use the survey results in a meaningful way.

Participant Six (P_6)

Demographics
P_6 is a senior manager in a Canadian organization that provides home care services. P_6's

organization uses the Accreditation Canada patient safety climate survey.

Summary of Experience
P_6 is aware that her organization participates in a patient safety climate survey for

accreditation purposes but is unfamiliar with how the survey results are used. P_6 is aware

that the survey results are reviewed, and action plans are created because this is the

process followed for all surveys the organization administers. For P_6, the patient safety

climate survey does not make a clear contribution to patient safety or safety activities in

the organization. P_6 does not view the survey as a critical safety indicator. For P_6, other

surveys that are used more frequently are more relevant to patient safety. P_6 does not

remember completing the patient safety climate survey and does not think many staff

members would be familiar with the survey.

Participant Seven (P$_7$)

Demographics
P$_7$ is a quality manager in a Canadian long-term care facility. P$_7$'s facility administers

Accreditation Canada's patient safety climate survey once every four years.

Summary of Experience
P$_7$ views the patient safety climate survey as a valuable indicator of safety within the first

year it is administered. P$_7$'s facility uses patient safety climate survey results as an

indicator on their quality dashboard and incorporates the results into their strategic plan.

For P$_7$, the value in patient safety climate surveys comes from increasing the discussion

around patient safety in the organization. P$_7$'s facility encourages staff members to be

champions for the survey during administration, rather than management being the sole

driver of the survey. In P$_7$'s organization, survey results are primarily focused on during

the first year results are received, and then the focus shifts to another area. For P$_7$,

accreditation is considered a valuable achievement, and the survey is a part of a larger

whole. P$_7$ believes the survey could be more valuable if more long-term care facilities in

the province had access to the survey to allow for benchmarking and sharing best

practices in using survey results for improvement.

4.2 Essential Structure

The structure below describes the essential experience of using patient safety

climate survey results for improvement. "P" refers to all participants, except for

participant six, who did not experience the phenomenon.

P is in a role where one of their responsibilities is to use patient safety

climate survey results for improvement. P works with other members of

their organization to review survey results and create action plans. P

perceives less priority to act on survey results from other members of their

organization who do not have a direct role in safety or quality. For P, the

capacity to act on survey results is set by organizational leaders and the

priority they place on safety. P perceives their organization's ability to

make safety a genuine priority and act on patient safety climate survey

results, is affected by external parties. P perceives the degree to which

survey action plans are evaluated and followed up on, are in the hands of P

and others in their organization who work in a similar role. Overall, P

values the information patient safety climate survey results provide but

views them as one nonessential piece of patient safety improvement.

Four constituents comprise the description: personal beliefs about safety, leadership

commitment, external support, and value of the survey to the organization. The

constituents were created by reading and reviewing the participants' transformed

meaning units and individual descriptions for commonalities. Free imaginative variation

is employed in this process. If a constituent can be removed without changing the

meaning of the structure, then it is not essential to the structure. After the first draft of the

structure, there were five constituents. By using free imaginative variation and reviewing

participants' transformed meaning units and individual descriptions, two constituents,

personal responsibility for survey action and survey value were merged to create value of

the survey to the organization.

4.2.1 Relationship Between Constituents

Participants were identified as people who had experience using patient safety

climate survey results for improvement. Participants generally had a high, personal

priority for safety. They perceived differences in their view on patient safety and

climate surveys compared to the organization as a whole. Many participants worked

in the quality and patient safety department of their organization and attributed this to

their higher priority for patient safety. No matter the extent of participants' priority

for safety, other factors had a greater influence on their organization's ability to act

on patient safety climate survey results in a meaningful way. The lived experience of

individuals using patient safety climate survey results for improvement varies

depending on the degree of leadership commitment the organization has for patient

safety, and external support the organization receives from key stakeholders. These

two factors influence the value of the survey to the organization. The constituent

"personal beliefs about patient safety" had some influence on the value of the survey

to the organization, although it was dependent on the size of the organization and the

level of authority the participant had to initiate and prioritize change. External support

affected leadership commitment to safety. There was some evidence to suggest

leadership commitment can affect external support although external support had

more effect on leadership commitment. The relationship between the constituents and

how they interact with each other is shown in figure 1. Figure 1 is based on the

perceptions of individuals who participated in the study. The figure is not depicting a

cause and effect relationship.

Figure 1.

Constituent Relationships
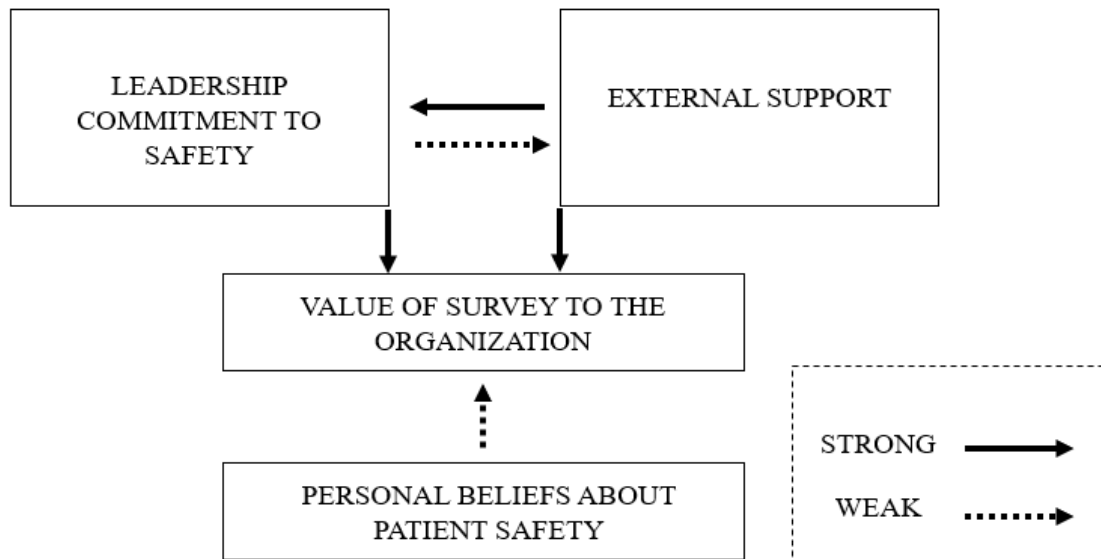
Note. This figure presents a model showing the relationship between the four constituents that comprise the lived experience of using patient safety climate surveys for improvement.

4.3 Constituents and Variations Among Participants

The essential structure presents the relationship between the four constituents: personal beliefs about patient safety, leadership commitment, external support, and value of the survey to the organization. Table 2 describes the four constituents that form the structure and how they are present for each participant. Next each constituent is described in more detail and illustrated with participant quotes. Words appearing underlined indicate the participant emphasized the word or phrase during their interview.

Table 2

Constituents of the Structure and Variations Experienced by Participants

Personal Beliefs About Patient Safety	Leadership Commitment	External Support	Value of the Survey to the Organization
P1 Attitude towards the importance of patient safety is greater than the rest of the organization, excluding peers in the quality department.	P1 Leadership is more active with respect to patient safety during accreditation year. There is not priority from leaders to continue to use survey results or follow up on action plans once accreditation is achieved.	P1 Believes survey is viewed by Accreditation Canada as a minor, unimportant piece of accreditation. Affects organizational priority to act on results.	P1 Survey results receive focus during accreditation year and then fade into the background. Perceives survey as an accreditation exercise rather than a tool to change the culture around patient safety. Survey brings attention to topic of safety culture and patient safety, but attention doesn't last.
P2 Perceives challenges in persuading frontline staff of the importance of participating in climate surveys.	P2 Leadership perceived as having low priority for safety due to lack of transparency in survey results.	P2 No push or support from external stakeholders to act on survey results.	P2 Surveys are not used to their full potential. Believes surveys have partially contributed to positive changes in reporting habits and how safety is talked about.
P3 Places high value on patient safety. Perceives some complacency among staff.	P3 P is organizational leader and places high value on safety and survey results. Sets the tone for other leaders in facility. P's leadership partially mitigates lack of external support.	P3 Budget cuts in recent years lowers ability to act on survey results requiring infrastructure changes or equipment.	P3 Views survey as a tool that contributes to meaningful change within the facility.

Personal Beliefs About Patient Safety	Leadership Commitment	External Support	Value of the Survey to the Organization
P4 Sees patient safety as a social movement. Values stories and pull strategies over data.	P4 Views team leadership as more valuable than organizational leadership.	P4 Worked with external organization that had many resources to help teams use and act on survey results.	P4 Views surveys as one component of larger initiative. Surveys are only as valuable as the stories used to bring the data to life.
P5 High relative importance towards safety compared to organization as a whole.	P5 No continuous focus from leadership on survey results and patient safety.	P5 Organization limited to focus on safety due to provincial budget cuts resulting in reorganization and lack of resources.	P5 No evaluation of effectiveness or obligation to act on survey results in a meaningful and sustainable way. Views survey items as direct and actionable. Sees opportunity to use survey items as pre and post safety intervention outcome measures.
P7 Views accreditation as important achievement and survey is component of this. Spends time conveying this message to staff who are sometimes resistant to participating in the survey.	P7 Perceives high support for survey among facility leadership.	P7 Wants more standardization across sector to have larger network to share and learn about patient safety climate survey results and best practices.	P7 Results presented on quality dashboard and incorporated into strategic plan.

4.3.1 Personal Beliefs about Patient Safety

This constituent refers to the difference in participants' perspectives on patient safety and patient safety climate surveys compared to their organization. P_1 and P_5 work in large regional and provincial health authorities, respectively, in the quality department. P_1 and P_5 perceive their attitude towards the importance of the patient safety climate surveys, and patient safety more generally, as greater than members outside of their department. Both notice a positive shift in their organization's view of patient safety climate surveys during the accreditation cycle when the surveys are administered and the results are reviewed but perceive this as driven by accreditation, not a genuine effort to improve. P_1 notes some staff members are resistant to participating in the survey process as they do not believe it will result in change.

"I think there's cynicism about "I'm not answering them [the survey] anymore because it doesn't matter what I say, nothing ever changes."
Umm, "it's just a waste of time, blah blah blah." I think maybe more of a mixed-methods approach, the fact that we only do it once every four years I think is a problem as well because it becomes "we do it because accreditation says we have to do it…..Frankly, once accreditation happens, the onsite survey visit, it kind of fades into the background a bit and won't… won't come to the foreground until we run the next survey." -P_1

_____

"In my head, because patient safety is my whole job, I feel like it's important data to have, but then when you see areas for improvement you need to act on it and work on those things. But we don't see the actual support for that cycle, like for the loop to be closed that way." -P_5

P2, now retired, also worked in the quality department of a large provincial health authority and perceived the relative importance of patient safety climate surveys was much greater in her department. P2 recalls using various patient safety climate surveys during her career. P2 believed the organization was less focused on patient safety climate survey results than those in her department. P2 felt the organization was more focused on gathering information than acting on it.

> "I think it could have been useful, but it's a harder sell for frontline people and others that aren't necessarily living the world of patient safety culture." -P2

P4 worked with small teams in acute care as part of a provincial initiative that included the use of patient safety climate surveys. P4 believes others in her organization are too focused on the data the survey provides without making it relevant and meaningful to staff.

> "You need to have examples, case examples to augment your data from the patient safety survey. And so, how do you combine those two pieces? I think that numbers, people can easily remove themselves from that. And I also feel that people are quite comfortable with the risks in health care. They think it's pretty normal that these numbers are there. So, you're dealing with an audience that isn't easily flabbed, right?" -P4

P3 and P7 work in the long-term care sector. Both place a lot of value on accreditation and try to build this appreciation of accreditation among staff. P7 notes resistance among staff who doubt the anonymity of survey results.

"People have a big fear of, I guess that their anonymity is gone from the

survey. So, if I answer how I really want to answer, they're going to know

it's me somehow." -P7

P3, the administrator in his facility, expresses that staff members are sometimes

indifferent to safety in the facility.

"In health care, if you think about it, most of the stuff we do is umm,

we're obviously caring for people. We have a huge safety focus it's just

that people get kind of blasé to it. It's just normal work kind of thing." -P3

4.3.2 Leadership Commitment

This constituent explains the various ways participants' experienced leadership's

commitment to safety affecting the process of using patient safety climate survey results

for improvement. P3 is in a unique situation compared to other participants. P3 is the

administrator in his organization and therefore can act on the results of the patient safety

climate survey and set the tone for the rest of the organization. P3 views the survey as a

valuable tool that is easy to administer. P3 decided to implement the survey a minimum of

once per year, more than what Accreditation Canada requires of long-term care facilities.

"…we get valuable results in terms of either it reaffirms what we're

already doing, or it points to potential weakness within the organization.

And to be honest, it's quite simple to do. You know, to administrate." -P3

"…just because some of the leadership team understand 100% why we're

doing stuff, we've got to make sure all staff have at least some

understanding of why we're taking an action. So, it gives us-it makes us

focus more on how we communicate what we're doing rather than just

doing it." -P$_3$

P$_1$, P$_2$, P$_5$, and P$_7$ state senior leaders in their organizations express an interest in the

patient safety climate survey results during the accreditation cycle, but their interest fades

once the criteria for accreditation are met.

"When I moved into this role because I'm the accreditation coordinator, I

was determined, that okay, I was going to make this- this isn't just about

our survey visit every four years, but it's really hard to break out of that

because there is this huge effort to get ready for the on-site survey, and

then when it's over, nobody wants to talk to me. Nobody wants to hear

from me, you know including my own director and VP. Right, it's like

okay that's done, we're moving on to other stuff now." -P$_1$

_____

"I don't know what it would take to change other than maybe a CEO or

someone who is really senior putting a consistent routine focus on that

question or on that topic. And then having that seen as a true priority for

the organization." -P$_5$

"We don't have really vocal leaders talking about safety on a regular basis

in a meaningful way and then supporting the work that needs to happen.

So, I think, you know when that's the case, it's hard to move the dialogue

and culture… because the actions aren't following what the values say on

paper." -P$_5$

P2 feels the usefulness of the patient safety climate survey results are limited due

to a lack of transparency. P2 recalled a time when a comparison was made

between patient safety climate survey results for leadership and a committee

comprised of all levels of staff.

> "…we did a comparison with what management and senior management
>
> thought, versus what staff thought. And some of that did not get filtered
>
> down because, you know, we were given a senior management directive
>
> that we were not to filter it down." -P2

P4 was approached by leaders of an acute care team to administer the patient

safety climate survey. Because leaders requested the survey, they were eager to

use the results and asked for extra resources to make the data more meaningful

through storytelling workshops.

4.3.3 External Support

This constituent refers to P's experience of how external parties enabled or

challenged the organization in the process of using patient safety climate survey results

for improvement. P1, P2, and P5 work(ed) in large, acute care organizations where patient

safety climate surveys are administered to receive accreditation. For these three

participants, their organizations review the survey results and create action plans, as is

required by Accreditation Canada. Although P1, P2, and P5 would like to follow-up on

action items to make sure they are being followed, Accreditation Canada does not require

their organization to take this step. These participants expressed a belief that patient

safety climate surveys are administered solely for accreditation and meeting accreditation

criteria which does not include following through on action plans.

"…I don't know that anybody is holding leaders accountable to even have

action plans. Definitely not to <u>submit</u> them or anything like that. So, we

don't know- we don't really know what's happening in terms of follow-

up."- P5

_____

"One of my frustrations has been between this survey and our employee

engagement survey, which is overseen by our human resources

department, we do these surveys and then I question, what are we doing in

between the surveys? Sometimes it feels like we're just casting our line

out every four years and hoping we're going to do better than last time. So,

what are we doing in between to make sure that we're going to be better

next time? And yeah, we do these action plans, but it still feels like more

of an accreditation exercise rather than this is what we're really doing to

try to change the culture and improve things." -P1

P1 also states her organization tends to score less positively on items related to

just culture and reporting. P1 feels it is difficult to change staffs' perceptions in

this area, partly because of professional associations and licensing bodies.

"I do recall when we presented these results last time a member of our

executive kind of got frustrated with these results saying "Well what do

they want? What more can we do? We're talking about this all the time."

Umm, but I think that's a reflection of executive and senior management

being very well-meaning about "no we're not holding you individually

responsible for making errors" but the reality <u>is</u> people do get held

individually responsible. That's the reality and we have a professional

practice department so if a nurse makes a medication error or you know

makes two medication errors, she's probably gonna get reviewed. Umm

and interrogated, frankly. And often cases, <u>disciplined</u>. That's the nature of

our professional associations and our professional practice, umm you

know we hold individuals accountable."-P$_1$

P$_5$ feels the organization is limited to effectively use patient safety climate survey results,

and make safety a genuine priority, because of budget cuts in the province.

"I mean budgets are always tight, but it's been particularly a huge focus in

the last 7 years. They, you know, budgets keep getting tighter and tighter.

Umm, and there's so much work trying to reorganize the organization

constantly and look for cost savings and cut positions that that's I think

where people are struggling. Like how do we just keep delivering care?

Never mind looking at an action plan for survey questions." -P$_5$

P$_3$ has also expressed budget cuts as a barrier to act on improvements.

"…one of our things that come up that's you know a shared frustration is

like why the hell haven't we hit this kind of minimum standard, you know

in this day and age. And again, that's a shared frustration. We actually

need quite a bit of money to do that and we haven't had it approved as

such." -P$_3$

However, P$_3$ is the administrator in his facility and he uses this position to make

a business case to get more funding using the data from patient safety climate

survey results, along with other safety indicators in the facility.

"So, it's really, it's a really useful tool cause it's not just, how can we say? When you're trying to get government money, it's just me having a rant as the administrator saying we need this. It doesn't quite carry as much weight as if you can add survey results and OH&S minutes that also say, well the staff feel exactly the same way." -P3

P4 worked as an external consultant to teams in acute care. P4's organization had many resources to help the acute care teams in whatever area they were struggling with.

"…because it was part of a bigger collaborative, we had three people full time working on this initiative. So, a lot of touching base, a lot of site visits, a lot of team workshops. And we would ask them "what do you need help with?" and they would tell us, and we would put it on. Like we were really at service to them." -P4

P7 felt the patient safety climate survey had limited value because only a small number of facilities in the province are accredited and have access to the survey P7's organization uses.

"…I wish there was more for long term care. More standardized tools like this. I think it's really great to be able to use a standard, valid tool that then we can cross-compare. To have the ability to compare yourself with other organizations and how they're doing. I would say for the most part in long term care, we're creating our own things every day. You know, we don't share data the way other provinces do, and other health care, acute care that sort of thing they're able to do. *I* do think there is great value in

having something like this. So, not so much on how we share our results,

but you know, how we have one tool that could be used for everybody

would be- You know, again accreditation is not a mandatory thing." -P7

P3 felt the survey tool would be more useful if the items were more specific to

the long-term care sector.

"Yeah, umm again I think it could be a little more long-term care focused.

It still reads a bit like, the survey still reads a bit like it could be-it seems

very familiar to me from working in large hospitals, do you know what I

mean? Umm, like they're trying to do a one size fits all approach kind of

thing." -P3

4.3.4 Value of the Survey to the Organization

This constituent describes the value participants perceive the survey has for the

organization, including potential value and actual value. P1, P2, and P7 state that

participation in the patient safety climate survey leads to an increase in conversations

around patient safety and patient safety culture at the time of administration.

"Hmmm, I think it's a really useful process to highlight patient safety

<u>culture</u>. Umm, it brings a lot of attention, a lot of focused attention, senior

management gets quite involved with it. Umm… I don't know how

confident I am, like if we stopped doing this survey… would it change

anything? I'm not confident that it would or wouldn't. I don't know, it's

hard to make that connection. For me I think the benefit has been putting

the spotlight on patient safety, starting the conversations, or renewing the

conversations, getting people talking about what we're doing, how can we

do it better and of course it's about culture which is really hard to change."

-P1

_____

"So, I think we made big strides in improving the culture of patient safety

in our organization and improving that it was on everybody's mind. And

that was kind of the underpinnings of everything we did. Was it perfect?

No. Was there still a long way to go? Absolutely. But we did- I think we

succeeded in changing the culture and the climate of patient safety." -P2

_____

"I would say it's been useful, certainly. You know, we have generated

some really good discussions from the survey, and it gives us another

cause, another reason to talk about patient safety with the whole

organization. And again, everybody in their role sees it as something

different. It has been useful for us." -P7

P2 and P7 also noted some improvements in near miss reporting and partially

attribute this to the patient safety climate survey results.

"We did a lot of work on near misses as part of our survey results." -P7

_____

I think we made big strides in changing the culture over a 10 year period

from a you know, a "why would I report something I caught before it

happened," to understanding if you're going to have a safety culture,

you're looking for things and making improvements before anything big

happens. -P2

Although P_2 noticed some improvements in her organization that she attributes to the patient safety climate survey, she felt the survey could have been used more effectively.

> "The potential for the usefulness I think was greater than the actual usefulness in the organization." -P_2

P_3 found the survey to be a valuable tool but also acknowledges that it is one piece of a larger initiative.

> "I think the results have kind of made us concentrate more on, well just because some of the leadership team understand 100% why we're doing stuff, we've got to make sure all staff have at least some understanding of why we're taking an action. So, it gives us-it makes us focus more on how we communicate what we're doing rather than just doing it. -P_3

> "It doesn't change the world for us, but it is a useful tool." -P_3

P_4 echoed P_3's sentiment about the survey being one component of a larger initiative. P_4 also stated the survey is only valuable when the organization has processes put in place to act on the results.

> "It's [the survey] one piece. I mean, culture surveys only work if people are really invested in the work and understand how- why they want to talk about it and have the energy to talk about it. There's a lot of pieces that need to be in place before it's worth it." -P_4

For P_5, the value of the survey is limited due to a lack of follow-up once action plans have been drafted. P_5 also feels there are missed opportunities in using subsections of the survey more frequently to measure changes before and after patient safety interventions.

"I think data is good. I think that the information is really valuable and if it

was used, especially to evaluate the effectiveness of different

interventions, I think it would really be great. You know like great data to

share and to be able to kind of help other areas of the organization learn. I

just don't know that there's been the emphasis, or the priority put on using

the data in any way." -P5

Chapter 5: Discussion

5.1 Purpose of the Research

The purpose of this study was to describe the lived experience of individuals who use

patient safety climate survey results for improvement. This includes the utilization of the

survey results, challenges in using results, and suggestions for improvement. The findings

of this study provide a starting point for understanding how patient safety climate surveys

are used in practice in various sectors of care. To the knowledge of the researcher, there

has been no research conducted on how patient safety climate surveys are used in practice

to facilitate improvement.

5.2 Utility of Survey Results

The usefulness of patient safety climate survey results differed for each

participant, however, all suggested that survey results are only one piece of a larger

process in the ongoing improvement of patient safety. Participants lived experience of

using patient safety climate survey results suggest the value of the survey comes from

engaging the workforce in conversations about patient safety and culture. This process

happens naturally when surveys are administered, results are shared, and action plans are

created. This experience was common to all participants even when they expressed a lack

of leadership commitment and external support. These conversations are perceived by

participants as raising awareness among staff around patient safety. The increase in

conversations about patient safety and culture does not include all staff. Many

participants expressed struggles in achieving a representative response rate and sharing

the results with all staff members. The effect of the conversations brought about by

patient safety climate surveys is not always long-lasting due to insufficiencies within or

outside of the organization. This will be discussed further in chapter 5.3.

The shift in conversations around patient safety noted by participants was viewed

as a positive outcome of patient safety climate survey use. In an exemplary multiple case

study, Law (2011) reported one way in which patient safety culture change is understood

in practice is through observing and having conversations with the workforce.

Participants expressed the need to make these conversations a regular part of the day to

day work, rather than a short-lived effect of climate surveys.

A potential positive effect of using patient safety climate surveys noted by some

participants was an increase in reporting behaviours. A few of the participants in this

study have a long tenure of working in patient safety and quality departments. These

individuals noted a change in reporting activities during their time working in health care.

A few participants expressed a shift in reporting in which staff were reporting near misses

more frequently. Participants felt that staff had a greater understanding of why near miss

reporting was an important activity for patient safety now than when they started working

in health care. Participants partially attribute this change to the use of patient safety

climate surveys. Previous research suggests changes in reporting rates are one way that

hospitals understand patient safety culture improvement (Law, 2011). Despite notable

improvements in reporting near misses, a few participants expressed patient safety

climate survey results indicate this is an area in need of improvement. Other research

suggests this is an area where health care typically has lower scores compared to other

survey items (Mitchell, 2012). This is an important area of focus as research suggests

errors are reported more frequently in organizations with a strong safety climate (Probst

& Estrada, 2010).

5.3 Barriers in the Process

The main barriers perceived by participants in using patient safety climate survey

results in a meaningful way were a lack of leadership commitment to the process and

insufficient external support to prioritize and act on survey results. These barriers, and

potential solutions, are discussed in the following sections.

5.3.1 Lack of Leadership Commitment

Participants who had adequate leadership support and commitment to patient

safety reported more value in using patient safety climate survey results than those

lacking leadership support. Participants who experienced a lack of support from

leadership perceived challenges in engaging the workforce concerning survey results.

When there is no priority from organizational leadership to act on results it is unlikely

staff will see action items from the survey as a worthwhile task. This is important as staff

are more likely to respond to future surveys when they believe the data will be acted on

(O'Connor, 2011). Survey results should be viewed as a beginning stage for initiating

change instead of the conclusion of the assessment (Nieva & Sorra, 2003). The results of

this study suggest that many organizations are not doing this and treat surveys as an

endpoint.

Nieva and Sorra (2003) make note of "critical processes" in safety culture

assessments (p.19). One of these processes is to involve key stakeholders in the

assessment, such as senior management. Nieva and Sorra wrote about these critical

processes in 2003, stating that "calling for leadership involvement in organizational

assessment efforts may appear to be so obvious as to be an unnecessary platitude." (p.

20). However, the findings of this study suggest this is still an issue 17 years later. As

Nieva and Sorra (2003) explain, leadership commitment is crucial when assessing safety

culture because leaders have the ability and authority to dedicate resources to safety.

While the participants of this study were committed to using survey results for

improvement, not all of them had the authority to allot the necessary resources within

their organization to make this a possibility. Participants repeatedly mentioned the

importance of leadership commitment to patient safety in using climate survey results.

The need for dedicated leadership to improve safety is not a new revelation. Leadership

commitment to safety is the most common dimension in safety climate surveys across

sectors (Flin, 2003; Halligan & Zecevic, 2011). Despite this knowledge, which is present

in academic and non-academic publications, findings of this phenomenology suggest

many leaders are not making patient safety a genuine priority. This creates a barrier to

acting on survey results in a meaningful way.

In the case of one participant, it was clear that although their organization used a

patient safety climate survey for accreditation, they did not have experience using patient

safety climate survey results for improvement. This participant couldn't remember

personally completing a survey and believed this would be common to many of their co-

workers. Interestingly, this participant was identified by the organization's leader as

someone who would know about the survey process. This gap between the leader's and participant's view of patient safety climate surveys suggest there is not adequate communication about the survey or priority to use the results.

5.3.2 Insufficient External Support

Participants also explained how various external stakeholders affect their organization's ability to act on survey results. External support is a broad category. For some participants, this was a lack of funding from the government to make patient safety upgrades. In some cases, financial constraints, such as budget cuts, contributed to staffing issues and organizational restructuring. This resulted in less time and resources for the organization to participate in any additional activity that was not directly related to providing care. This was a particular concern for a participant working in Alberta where significant cuts have been made to health care budgets.

External support also relates to the priority external stakeholders place on patient safety. For example, many participants felt that Accreditation Canada's process for participating in patient safety climate surveys was not robust enough to result in sustainable, meaningful change. Participants in acute care felt if Accreditation Canada prioritized following up on action plans, and made this an explicit step in their process, this would steer leaders to place a greater priority on using survey results. Participants suggest changes to Accreditation Canada's requirements for organizations in action plan development and follow-up. Participants believe this would force leaders to prioritize survey results. Participants in Melo's (2016) study reported participation in Accreditation processes encouraged positive changes within their organization more quickly than they would have without the positive pressure of accreditation. The perceptions of participants

in this study, and in Melo (2016), suggest health care organizations follow the processes

set for them by Accreditation bodies. Expanding the Accreditation Canada process to

have more follow-up processes in place for action plans would support more substantial

use of survey results for improvement. Generally, participants perceived the data the

survey provides as valuable and felt the lack of action on the results was a missed

opportunity. Participants' lived experience suggests that if Accreditation Canada were to

build in a mandatory process for following up on survey action plans, organizations

would comply.

Participants also experienced insufficient external support from government

stakeholders. The Canadian Patient Safety Institute (CPSI) released a policy framework

for patient safety in Canada intending to involve various stakeholders in the process of

increasing the priority for and action on patient safety. In this report, CPSI states "People

in Canada need policies that support patient safety, be it at the level of health care

organizations, or by governments" (CPSI, 2019, p.2). The findings of this study suggest

policies at the organizational and government level are needed. At the organizational

level, policies may be in place but are not necessarily followed. Some participants in this

study reported their organizations have written policies in place for patient safety and just

culture, however they are not congruent with how day to day work takes place.

Leadership commitment to patient safety and improvement appears to make a

difference in how patient safety climate survey results are acted on. However, even the

most dedicated leaders can only do so much without support from external bodies that

govern operations and control funding. The experience of one participant suggests that

strong leadership commitment to safety has the potential to partially mitigate a lack of

external support. Yet, the experience of most participants suggests external supports are

equally, if not more critical, than leadership commitment in ensuring survey use is a

meaningful process. Participants' experiences suggest an explicitly stated external priority

for patient safety set by the provincial or national government would result in increased

leadership commitment for patient safety and potentially increased use of patient safety

climate survey results for improvement. Madsen (2006) affirms there is a need to

consider policy and external factors when patient safety events occur, rather than

focusing solely on the individual or the organization. Madsen (2006) calls for "an ethics

of patient safety" to improve our understanding of the factors that contribute to adverse

events in health care and the systemic issues that allow for unsafe care (p.27).

5.3 Suggestions for Improvement

Some participants felt the process for measuring patient safety climate should be

expanded to include qualitative methods, such as interviews and focus groups with staff.

There is existing research to support the notion that patient safety climate surveys, and

climate surveys more broadly, do not provide a full picture of the state of safety climate.

Allen and colleagues (2010) concluded that the use of patient safety climate surveys as a

standalone measure restricts the information organizations can gain. Surveys do not

capture all aspects of what affects patient safety, such as influences that exist outside of

the organization (Allen et al., 2010). Implementing qualitative methods with patient

safety climate surveys may provide more insight into the survey data and directions for

improvement. Quantitative measures provide a broad overview of safety at the time of

measurement whereas qualitative tools can increase our understanding of the details that

contribute to the culture (Law, 2011).

Another common suggestion from participants was to increase the frequency of survey administration. Many participants who administer patient safety climate surveys once every four years for accreditation purposes suggest reducing the time between surveys would be a valuable change to the process. There are high turnover rates in health care (Zaheer et al., 2019), and when patient safety climate surveys are administered once every four years the data becomes outdated in-between survey cycles. Evaluating safety climate enables hospitals to identify safety concerns and manage these concerns over time through interventions and repeated measurement (Reis et al., 2018). Currently, the gap between survey administration is too large for most study participants to use the data for continuous improvements (Bergman et al., 2014). Based on the lived experience of participants, most action resulting from patient safety climate occurs during the first year in which surveys were administered and then declines rapidly until the next cycle. One participant whose organization administrates the survey 1-3 times per year found this added to the value of the survey process. While participants would like to administer climate surveys more frequently, they stated this was unlikely to occur without a requirement from Accreditation Canada.

The lack of meaningful action on survey results could partially be due to the way the data is presented to organizations by Accreditation Canada. Organizations who participate in patient safety climate surveys for accreditation receive a report with organizational mean scores for each survey item. Items receive a green, yellow, or red flag depending on their mean score. Current research suggests that this is not the most effective way to display patient safety climate survey data (Ginsburg & Gilin Oore, 2016; Mascherek & Schwappach, 2017). Presenting the degree of disagreement, in addition to

the mean score, is likely to provide more detailed information about patient safety

perceptions. Some participants expressed difficulties in making survey results relevant to

individual departments and units within their organization. If results were presented by

unit, showing the degree of agreement and disagreement, and overall mean scores for

each item, this could potentially increase staff interest in acting on survey results and lead

to more targeted action items. Research on patient safety climate measurement supports

analyzing survey data at the unit level, as units typically have their own culture (Nieva &

Sorra, 2003; Pronovost & Sexton, 2005; Morello et al., 2013).

While changes such as increased measurement and planning, and unit specific

patient safety climate survey data have the potential to add value to the process of using

patient safety climate survey results for improvements, the findings of this study suggest

leadership commitment and external support are the most crucial areas in need of

improvement.

5.4 Limitations and Opportunities for Research

This study was conducted using scientific phenomenology, a qualitative research

methodology. Qualitative research is descriptive and is bounded by the time, place, and

context in which the study was conducted. Qualitative research does not seek to

generalize findings like quantitative research. The findings of this study apply to a small

number of individuals in the Canadian health care sector. Findings could be different if

the methodology was conducted in another context. This study is a first step in

understanding how patient safety climate surveys are used in practice. More research is

needed in this area to compare findings and gain a consensus on the phenomenon.

Study participants worked in various sectors of health care, including acute care, long-term care, and home care. It is possible that different sectors of care experience patient safety climate surveys differently. Additionally, participants were from three provinces, Nova Scotia, Newfoundland and Labrador, and Alberta. Alberta is currently experiencing extensive budget cuts putting pressure on all facets of the health care system, including the ability to act on patient safety climate survey results. In the future, it would be beneficial to focus on one area of care in one province, as these characteristics may change how patient safety climate surveys are experienced. The findings of this study suggest a need for more research into the long-term care sector. Although only two participants from long-term care were interviewed, they placed more value on survey results compared to the other sectors.

Most participants in this study used Accreditation Canada's patient safety climate survey (Ginsburg et al., 2014), although some also referred to their experience of using other patient safety climate surveys. It would be interesting to see if different patient safety climate surveys are perceived as more or less useful in initiating improvement actions.

Chapter 6: Conclusion

This research aimed to understand how patient safety climate surveys are used in practice by individuals who, as part of their job, use survey results for improvement opportunities. This research fills a gap in the literature on patient safety climate surveys. This scientific descriptive phenomenology produced an essential structure comprised of four constituents that are common to the lived experience of participants in the process of using patient safety climate survey results for improvement. The constituents are personal

beliefs about patient safety, leadership commitment, external support, and value of the survey to the organization. While participants' beliefs about patient safety affect the value of the survey to the organization, leadership commitment and external support, are more influential. Additional research is needed to investigate these findings more thoroughly, but this study provides the first step into understanding patient safety climate survey use in practice. There are future research opportunities to investigate the extent to which leadership commitment and external support affect the value of patient safety climate surveys and the mechanisms of these effects.

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Appendix A

Interview Guide

Introductory Script: Hello, my name is Keri Harvey and I am a master's student at Saint Mary's University. Under the supervision of Dr. Mark Fleming, I am conducting research into how patient safety climate surveys are used to improve patient safety by interviewing individuals about their experiences using survey results to improve patient safety. I would like to remind you that your participation in this study is completely voluntary, and you may choose to end your participation at any time during the interview. You can also choose to skip any interview questions you do not want to answer. If you would like to withdraw your responses after the interview is completed, you have until (date to be specified prior to interviews) to withdraw your data from the study. I will send you a reminder two weeks and one week prior to this date. The interview data will be treated as confidential and your personal information will not be directly associated with your interview data. The audio recording of your interview will be transcribed verbatim and aggregated with other participant data.

Purpose of interview:

Ask if the participant has participated in an interview before.

Explain why the interview method has been selected for this study: Although research has been conducted into validating patient safety climate surveys, there has been no research conducted into how climate surveys are used in practice to improve patient safety. Interviews have been selected as the method of inquiry for this study because they are a valuable tool, for providing rich, in-depth data on a subject.

Interview Logistics:

The interview is estimated to take approximately 45-60 minutes. If at any time you want a break it is available upon your request.

Do you have any questions before I turn on the tape recorder?

Are you ready for me to turn on the tape recorder?

Turn on tape recorder.

Interview conclusion:

Turn off tape recorder.

Thank you for participating in this study. Do you have any questions?

Provide and explain feedback form.

Remind participant about date for withdrawing from the study.

Thank participant again.

Appendix B

Informed Consent

Introduction

We invite you to participate in our voluntary study on the experience of using patient safety climate survey results to improve patient safety.

Who is Conducting the Research?

Keri Harvey is conducting the research as a part of her enrolment in the Master of Applied Health Services Research program at Saint Mary's University.

What is the Purpose of the Research?

The purpose of the research is to explore how patient safety climate surveys are used to improve patient safety. Specifically, the study will inquiry into the experience of individuals who have used survey results to improve patient safety, the challenges and successes they've encountered in the process, and improvements that could be made to the process.

The study does not intend to evaluate any survey tools. Information will not be linked with your name, and your interview data will be compiled with other participant data to gain understanding into how patient safety climate survey results are used to improve patient safety. You are free to withdraw from the study without penalty until the point of data analysis. You will be given the opportunity to review your interview transcript prior to the data analysis phase and decide if you wish to have your data included in the study. If you choose to withdraw, any information gathered will be destroyed and will not be included in the study.

Who is Eligible to Take Part?

This study targets English speaking individuals who are employed or who have been employed in a position in which their responsibilities involve using patient safety climate survey results for improvement. Retired people and people who are no longer in a role where they use patient safety climate survey results may participate.

What Does Participating Mean?

Participating in this study involves two phone calls with the researcher. The first phone call is to answer any questions or concerns you may have about the research, provide more detail about the aim and purpose of the study, and discuss logistics for the phone interview.

The phone interview will be conducted at a time that is convenient for the participant. The interview will take approximately 45 minutes to an hour to complete. Participants will be sent the interview questions prior to the interview. The participant will be interviewed by Keri Harvey. Keri will be audio recording the phone call and later transcribing the audio recording into a word document after the call. Participants will be given the opportunity to review their transcript before it is compiled with the other transcripts and analyzed for main themes.

There will be no compensation for participation in this research.

What are the Potential Benefits of this Research?

Participating in the interview can be beneficial to understanding the experience of those who have had the role of managing patient safety improvement in their organization post-patient safety climate survey results, and to understand how the survey results are used to improve patient safety. The information collected from your interview may lead to a better understanding of the challenges and solutions to improving patient safety using patient safety climate surveys. This knowledge may benefit other health institutions in their efforts to improve patient safety.

What are the Potential Risks of this Research?

Individuals who are eligible to participate in this research are limited as participants must have experience using patient safety climate survey results. This includes individuals currently conducting this work, or those who used to conduct this work but have switched roles, occupations, or have retired. The researchers will take every precaution to ensure that information included in the study is anonymous and cannot identify individual participants. No identifying information will be associated with your name or reported in the publication of the findings.

What will be done with my information?

The audio recording of your interview will be transcribed into a word document. The transcriptions will be read and analyzed for themes. Participants will have access to their individual interview transcriptions. Only the researchers mentioned in this consent form will have access to all interview transcriptions. Only the student researcher (Keri Harvey) will know who participated in the interviews. Dr. Fleming will not know who has agreed to participate in the study.

The information collected during the interview will be stored in a password encrypted file on a password protected laptop. A second copy with be stored on a separate password protected laptop. Only Keri Harvey will have access to these laptops. Once Saint Mary's University opens again, a second copy of the information will be stored in a password encrypted file on a password protected hard drive in a locked room separate from the location of the other data and the data on the secondary laptop will be deleted. Personal identifiable information will not be stored with the interview notes. Each participant will be assigned an alphanumeric code that will be written on two hard copy pieces of paper. These paper copies will be stored in a secured location. The interview data will be linked to your code, not your personally identifiable information. These procedures make it extremely unlikely that your interview data could be linked to you.

Data will be destroyed 5 years following the release of the research findings.

How can I withdraw from the study?

You may withdraw from the study at anytime up until the point of data analysis. Participants will be notified before this time so that they may have their interview notes removed from the research and destroyed. Participants will be reminded of the final date to withdraw one week and two weeks prior to this date (to be determined). After the data analysis is conducted it will be impossible to identify which data belongs to which participant and therefore cannot be removed from the research. To withdraw from the research, you may contact the Keri or Mark (see contact information below).

How to get more information?

For more information about this research, please contact Keri Harvey or Mark Fleming. If you are interested in participating in the research, please contact Keri Harvey as she is the only individual who will know who participates in the study.

Keri Harvey

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How do I Learn about the Results of the Research?

All participants will be contacted when the study is complete and sent an executive summary of the research findings. Participants can contact Keri or Mark (see contact information above) for access to the full report of research findings.

Ethics Board

This research has been reviewed and approved by the Saint Mary's university Research Ethics Board. If you have any questions or concerns about ethical matters, you may contact the Chair of the Saint Mary's University Research Ethics Board at ethics@smu.ca or (902)420-5728. (Requirement to include this under SMU REB, this research has not been approved at this time).

Participation Agreement

I understand what this study is about, I am aware of the risks and benefits, and acknowledge that by consenting I agree to take part in this research study and do not waive any rights to legal

recourse in the event of research-related harm. I understand that my participation is voluntary and that I can end my participation at any time without penalty. I have had adequate time to think about the research study and to make an informed decision about my participation.

If you agree to participate in the research, please sign in the space below. You may withdraw from the research at anytime after signing this form until the point of data analysis. The researcher will contact you during this time to ensure you want your data (interview notes) analyzed and included in the research findings.

Signature: _____

Date:_____

Please keep a copy of this form for your records.

Appendix C

Interview Questions

1. Please describe for me the process of using patient safety climate survey results.

   Prompts: What are your beliefs about the information the survey provides? How often do you refer to the results? How are results used/were used in your day-to-day work?

2. When you think about your experience using the patient safety climate survey results to improve patient safety, how useful has this process been?

   Prompts: In what ways have survey results you've received led to patient safety improvements? How do you know notice these improvements?

3. In your experience, are there challenges in using the patient safety climate survey results to improve patient safety?
   Prompts: Do you experience challenges in using the results of the survey to improve patient safety? If you experience challenges using the survey, at what stage of the survey process do you encounter challenges? How do you manage these challenges?

4. When you think about your experience using the patient safety climate survey results to improve patient safety, are there any improvements that could be made to make the process easier?
   Prompts: Are the results enough to lead you in a direction of patient safety improvement? Are there any steps in the process that could be improved? Do you receive adequate support in the process of using the results to improve patient safety?

Appendix D

Participant Feedback Form

Thank you for your participation in this study.

The data from your interview will be aggregated with other participant data to increase understanding of how patient safety climate surveys are used in practice to improve patient safety.

The interview data you provided will be treated as confidential and will be stored separately from your personally identifiable information on a password-protected laptop in an encrypted file. Each participant will be assigned an alphanumeric code that will be written on two hard copy pieces of paper. These paper copies will be stored in a secured location. The interview data will be linked to your code, not your personally identifiable information. These procedures make it extremely unlikely that your interview data could be linked to you. Your aggregated responses will be used in academic texts and an executive summary which is to be shared with safety professionals in the health care sector. **Your responses will not be identifiable and no published information can be traced back to you.**

If you have any questions or would like to request the full research results, please contact Keri (Keri.Harvey@smu.ca). An executive summary will be sent to you outlining the research findings prior to any further publication or dissemination of research results.

If you have any questions or concerns about ethical matters, you may contact the Chair of the Saint Mary's University Research Ethics Board at ethics@smu.ca or 420-5728. This research has been reviewed and approved by the Saint Mary's University Research Ethics Board.