Uncovering Teamwork in a Pediatric Emergency Department

by

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ABSTRACT

Effective teamwork underpins multidisciplinary healthcare practices providing safe, quality care to children and their families. Emergency departments (EDs) are multifaceted, acute health care environments, imbued with uncertainties and prone to potential adverse events. There exists a paucity of research however about the impact of, the barriers and facilitators for, as well as, the overarching features of effective teamwork in a pediatric emergency setting. The current study addressed the knowledge gap by providing foundational insights to build future work to enhance, support and sustain this multidisciplinary collaboration and teamwork. Offered here are insights to the teamwork practices of a diverse group of 15 health care professionals (HCPs) who worked in a pediatric Emergency department (ED). Comprising individual interviews, the timing of the data collection coincided with the department relocating to new larger premises.

The current study findings revealed that collaboration, communication and skilled leadership were highly rated facilitators of effective teamwork. Within the context of established and ad-hoc teams (teams that assembled quickly without pre-planning to provide intensive acute emergency care), respect, role awareness and trust were disclosed as contributing factors to effective teamwork. Barriers to achieving effective teamwork were also discussed, and most ran counter to the aforementioned facilitators. For example, ineffectual leadership negatively affected teamwork to the extent that staff retention issues were linked to feeling undervalued and subordinate to some report line leaders. This was particularly evident during trauma situations when ad-hoc teams formed and leadership wavered. Additionally, within the context of jockeying for position and jurisdictions (turf wars and tensions), the findings revealed challenges related to the ownership of care, further fracturing teamwork and signaling a need for culture shifts. The study concludes with clinical implications and recommendations for enhancing
effective teamwork in pediatric EDs, and by extension the provision of safe care. A key recommendation discussed relates to the development, implementation and formal evaluation of a team training program to advance staff competencies in fostering change and collaboration. Furthermore, the incorporation of multidisciplinary simulation strategies, focused on non-technical skills (i.e., communication), along with a staff driven ED workplace respect policy, could also strengthen effective teamwork practices.
LAY SUMMARY

Providing safe high quality emergency care to children involves a collaborative effort between health care professionals (HCPs). Emergency departments (EDs) are typically comprised of multifaceted teams, within a busy health care environment characterized by a high level of unpredictability, and volume of patients. The purpose of the current study was to describe facilitators and barriers to effective teamwork practices in a pediatric ED, and provide foundational insights to build future work to support and sustain these practices. Children often cannot advocate or communicate their concerns effectively; therefore HCP teamwork is essential to providing safe care. The current study shares the views of HCPs, distilling the underpinnings of effective teamwork and what constitutes barriers to achieving effective teamwork. The study findings can guide the efforts of HCPs for optimizing effective teamwork and be the foundation to shape future research initiatives aimed at enhancing multidisciplinary collaboration and teamwork in a pediatric setting.
PREFACE

This research project is an original and unpublished study conceptualized by the author, Trisha J. Manio. This thesis was written by me and revised based on the feedback and recommendations received from my supervisor (Dr. John Oliffe) and my co-supervisors (Dr. Helen Brown and Ms. Christy Hay). Ethical approval to conduct the study was received by the University of British Columbia Children’s and Women’s Health Centre of British Columbia (Certificate # H17-01933).
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DEFINITION OF TERMS

Team - Two or more people with a mutual goal, working closely together is a widely used definition of a team (Clements, Dault, & Priest, 2007; Youngwerth & Twaddle, 2011). This definition relates to teams in health care, whereby team members bring individual skills and responsibilities and appoint a team leader to achieve a common goal (Clements et al., 2007). The World Health Organization (WHO) identifies that understanding the characteristics and knowledge of how a team functions, and ways to maintain effectiveness are necessary for teamwork (Organization, 2011). Teamwork in health care is defined as “the interaction of relationship of two or more health care professionals (HCPs) who work interdependently to provide care for patients” (Teamwork and Communication Working Group, 2011, p. 1). Teamwork and collaboration are frequently discussed together in the literature although some research argues that these are in fact different concepts (Clements et al., 2007).

Collaboration - Collaboration is the "process of interactions and relationships between health professionals working in a team environment" (Oandasan, 2006, p. 4) whereby the outcome is effective teamwork. Collaboration can occur when HCPs identify themselves as a team, resulting in improving patient outcomes; however this process does not necessarily equate to effective teamwork (Clements et al., 2007). In the ED a range of collaborations can ensue subject to the type of care required or complex needs of the patients and families (Oandasan, Baker, & Keegan, 2006). For instance, a child presents to the ED with abdominal pain and is diagnosed with appendicitis, requiring immediate surgery. The ED team and surgical team collaborate to prepare the child for surgery, perform the operation, and provide post surgical care through to discharge; however effective teamwork cannot be assumed among HCPs.
**Interdisciplinary care model** - The composition of teams in health care relies on terms such as multidisciplinary, interdisciplinary and interprofessional to describe the diversity of team members (Youngwerth & Twaddle, 2011). The interdisciplinary model – the collaboration of team members with varying competencies, working intimately, effectively communicating to collectively achieve a mutual goal - closely aligns with the ED team studied and, will serve as a model to describe the “team” of participants recruited for the study (Youngwerth & Twaddle, 2011).

**Ad-hoc teams** – Teams that are formed quickly, without structure and varying membership, working in fluctuating situations to provide timely care (Courtenay et al., 2013; Eppich, Brannen, & Hunt, 2008; White, Eklund, McNeal, Hochhalter, & Arroliga, 2018). There are significant challenges to ad-hoc teams including power hierarchy struggles, inconsistency in team composition, and absence of time to formulate structure and shared mental models. Therefore potential lack of unity or connection exists, positioning these teams at a disadvantage (White et al., 2018).
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Firstly I would like to express sincere appreciation to all the health care clinicians in the Emergency Department at BC Children’s who volunteered to be part of this study. Thank you for taking the time to share your stories and experiences, I truly admire all the work that you do. I also gratefully acknowledge the financial support received from the University of British Columbia’s Sheena Davidson Nursing Research 2017 Fund, for this research.

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CHAPTER 1: INTRODUCTION

Teamwork is a vital component in the delivery of safe, quality healthcare to the pediatric population (Oandasan, Baker, Barker, et al., 2006). The multifaceted dynamic nature of the healthcare environment impacts the care delivered, influencing teamwork practices to safely meet patient’s needs (Teamwork and Communication Working Group, 2011; Virani, 2012). Children and youth have complex unique health requirements; several examples include an increase in the number of children that live past prematurity, chronic health conditions, and rising mental health problems (Gauthier, Issenman, & Wilson, 2009). Aspects of care particular to pediatric populations include weight based medication dosing, inability of infants and young children to provide complete medical histories or articulate complaints, and physical and mental characteristics (Barata, Benjamin, Mace, Herman, & Goldman, 2007; Committee on Pediatric Emergency Medicine, 2007). These aspects combined with pediatric health needs increase the risk factors in caring for children in an ED setting. The nature of the ED is uniquely characterized by unpredictability, high patient volume, diverse disruptions and distractions, and numerous demands to multitask (Barata et al., 2007; Committee on Pediatric Emergency Medicine, 2007; Kilner & Sheppard, 2010). There is a paucity of information regarding the characteristics of effective teamwork that are unique in this setting, as well as strategies toward fostering these practices.

Given the challenging nature of the ED environment and pediatric health needs and characteristics, studying teamwork in this context is beneficial to improving practice, and by extension patient care. The purpose of the current study was to describe facilitators and barriers to effective teamwork practices in a pediatric ED, and provide foundational insights to build future work to enhance, support and sustain this multidisciplinary collaboration and teamwork.
This study utilized a qualitative interpretive descriptive methodology and collected data from interviews with HCPs to examine teamwork, in an emergency setting that provides care to children. The personal and professional context, background, research questions, and the problem and purpose of this research follow to situate and outline the research project.

**Personal and Professional Context**

The motivation to research teamwork practices stemmed from my nursing experience in pediatric critical care areas, and my values in fostering teamwork and collaboration. During my career I have had opportunities to work with a multitude of HCPs and teams, with the most recent experience working as a point of care nurse, in a pediatric ED. Throughout this practice I was a member of the team, and immersed in the teamwork practices. I became intrigued about what the ED staff valued and believed about teamwork, and curious about what was unique about this practice setting. Over the years I have noticed and heard that HCPs were drawn to ED because of the teamwork and camaraderie, and wondered what specific qualities characterized effective teamwork. However, I also questioned what stood in the way of achieving teamwork and how this translated to ED practices, especially when collaboration was not achieved. From my experiences, some of the challenges included poor communication, inefficient staffing and skill imbalances, and unclear practice boundaries, causing potential patient safety concerns. These questions and interpretations informed my desire to uncover this phenomenon in the pediatric ED.

Teamwork is interwoven in all aspects of practice and as a senior staff member and leader, it is important to emanate these behaviors to foster and sustain therapeutic practices. I have held various nursing practice positions including roles in clinical instructor positions for students in the University of British Columbia (UBC) nursing program. Whether I was
mentoring new staff or students, or assigned as the trauma nurse leader during resuscitation, I aimed to ensure collaboration to deliver high quality patient care. Bringing a new group of nursing students onto a unit that I had no previous experience had multiple challenges, namely in establishing trust and rapport with the HCPs to collaborate in teaching the students. Communication was integral to gaining access and trust, influencing the degree of collaboration in creating a safe learning environment for the nursing students. This role as an instructor also inspired my interest in teamwork amongst HCPs, as I recognized my expectations of openness and collaboration were not always shared across the various hospital units.

Likewise, throughout my experience as a nurse in the ED at the British Columbia Children’s Hospital (BCCH), I had witnessed first hand the successes and failures of teams. The breakdown of teamwork was shaped by poor communication resulting in dissatisfied team members, with potential negative impacts on patient care, and poor collaboration. I recalled experiences where the ED staffing and skill mix were worrisome; however, through strong communication, effective leadership, and support, the team rallied together to safely care for the patients. There were other instances when teamwork was inefficient, resulting in miscommunication of patient care assignments (i.e., a sedated patient was not assigned a nurse), increased amount of staff sick calls, medication errors, job dissatisfaction and burnout. These issues signified the importance of understanding the barriers to effective teamwork in the pediatric ED, and the implications for providing safe quality patient care and fostering a healthy workplace environment. Uncovering the phenomenon of teamwork in the current study revealed particular challenges, and the effect on optimizing patient care.

The current research was conducted after the ED department chosen for the study site began a transition to a significantly larger care facility, equipped with new patient care areas and
technologies. In this regard, the exploration of teamwork culture in the pediatric ED was timely, as the transitions evoked numerous changes, such as an increase in the interdisciplinary team, providing care in new spaces, and changes in workflow and practices to name a few—a time where teamwork was paramount.

**Background**

In Canada, several evidence-based research reports were produced in conjunction with Health Care Canada and the Canadian Health Services Research Foundation (CHSRF), to examine effective teamwork in health care. The research provides knowledge and direction in supporting teamwork and interdisciplinary collaboration; however, there are few studies that specifically explore teamwork in the ED (Clements et al., 2007). The most current report from 2011 by the Canadian Patient Safety Institute (CPSI) outlined the need for a cultural shift in health care practice, to focus efforts on supporting effective teamwork and communication, in order to provide safe patient care (Teamwork and Communication Working Group, 2011). The Institute of Medicine’s report (IOM) “To Err is Human: Building a Safer Health Care” (Clancy, 2009) specified between 44,000 to 98,000 deaths occurred due to medical errors in the United States, consequently igniting their primary emphasis on providing safer health care. Safe care was linked to team training programs as a principle recommendation of the IOM report, particularly in high-acuity areas such as the ED, aligning with the research by Eppich et al. (2008), who expressed the necessity of such programs in pediatric EDs.

In 2004, a Canadian study revealed that 7.5% of hospital admissions were associated with an adverse event (AE) (Baker et al., 2004). AEs have been defined as “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. 1). A Canadian Pediatric AE Study (CPAES) was conducted in 2012, which reported more than 9% of children admitted to hospital experienced an AE (Matlow et al., 2012). The results were similar to the above IOM report (Clancy, 2009), underscoring the need to improve patient safety in pediatrics. There is a dearth of research in pediatrics that examines patient safety issues, specifically in the context of teamwork and safe health care provision within the ED. This area requires much attention, as these events not only involve the child as the patient, but the family and caregivers, as well as, the health care system and community (Matlow et al., 2012).

In BC, nurses must provide safe, ethical care through communicating and collaborating with members of the health care team, as outlined in the British Columbia College of Nursing Professionals (BCCNP) professional standards (BCCNP, 2018). The ability to work as part of a team is requisite to working as a nurse in BC. These professional standards verify that interdisciplinary teamwork is endorsed by the provincial legislation for nursing practice; however, this model of care “is not always well understood or supported” (Bayne, 2012, p. 8) particularly in a healthcare environment that provides care to children and their families.

**Purpose**

Studying teamwork in a pediatric ED was key to understanding how the unique team dynamics and features related to patient care, and the influence on shaping a healthy workplace environment. There is a knowledge gap about the specific facilitators and barriers that exist in achieving effective teamwork for optimizing safe patient care in the pediatric ED. Additionally, the incidence of the increased amounts of AEs occurred in pediatrics (when compared to the momentous Canadian Adverse Events Study) also signified the importance of exploring this phenomenon (Baker et al. 2004). Therefore, this study laid important groundwork to inform
upcoming research, potential team training programs, strategies to address challenges to collaboration, and enhance the practice to provide safer health care to children and their families. The purpose of the current study was to describe facilitators and barriers to effective teamwork practices in a pediatric ED and provide foundational insights to build future work to enhance, support and sustain this multidisciplinary collaboration and teamwork.

**Research Questions**

The research questions that guided the current study were:

1. What characterizes effective teamwork in the ED?

2. What are the barriers to achieving effective teamwork in the ED?

**Thesis Overview**

In the Introduction section of Chapter 1, the research problem and purpose were described, including knowledge gaps about teamwork in pediatric ED settings. Chapter 2 further situates the study through a literature review of teamwork in emergency department settings, and teamwork practices in working with a pediatric population. Chapter 3 explains the methodology, theoretical framework and study design, including the description of the sample, criteria, and recruitment methods. The rationale for applying the qualitative interpretive description research methodology is described, including data collection methods, analysis and reflexivity. Chapter 4 presents the study findings related to the abovementioned research questions. The thesis concludes with Chapter 5, a discussion of the study findings, and the relation to clinical practice, the study limitations and future recommendations.
CHAPTER 2: LITERATURE REVIEW

The literature review incorporated widespread understandings of what is currently known about teamwork practices and patient safety within pediatric settings. The articles reviewed initially spanned 5 years (2012-2017); however a dearth of information was found on teamwork specific to pediatric EDs. The date range was expanded to approximately 10 years (2007-2017) to capture the teamwork research conducted within the context of pediatric EDs. Of the articles gathered for the literature review, remarkably only 5 explored teamwork concepts within the pediatric setting, another motivating factor to examine teamwork in the pediatric ED.

Emergency Departments

EDs are high acuity health care environments, involving complex HCP collaborations working toward a common goal - to provide safe quality health care while being able to quickly assess patients, and make critical judgments (Courtenay, Nancarrow, & Dawson, 2013; Kilner & Sheppard, 2010). EDs have high potential for AEs that occur due to communication complexities, interdisciplinary involvement, interchanging roles, and the stresses associated with needing to be precise under time pressure (Courtenay et al., 2013). Pruitt et al. (2010) described pediatric EDs as risky environments complicated by overcrowding, and naturally shifting roles to adapt to the fluctuating clinical progressions, and the distinctive skills needed to care for this population. The call for a “pan-Canadian strategy to develop a vision, strategic objectives, tasks, and responsibilities for implementing effective teamwork across Canada” (Clements et al., 2007, p. 33) has yet to be established.
Patient

Patient and family centered care (PFCC) is best described as a partnership between HCPs, patients and their families (O’Malley, Brown, & Krug, 2008). It encompasses caring for the person, understanding the patient in the context of their family, cultures and values, and making shared decisions that provide safe quality care (O’Malley et al., 2008). This practice echoes BCCH’s vision, mission, and values to collaborate with patient and families (BCCH, 2017). It is important to explore teamwork, in an environment that partners with patients and families in making health care decisions, especially in settings with complex interdisciplinary team members, to ensure continuity of this partnership.

Pediatric patients can be vulnerable because they may be challenged to communicate their symptoms and/or advocate for specific care. As a result, pediatric patients and their families are especially reliant on collaborative practice environments, where HCPs work cohesively to positively impact the quality of care provided (Matlow et al., 2012, Ajeigbe et al., 2013). Aspects of care that are unique to the pediatric population potentially increase the risk of AEs; for example, pediatric medication dosing is calculated based on body weight and, if weight is unknown, approximation to dosing is made, therefore exponentially increasing the risk for error (Barata et al., 2007). Infants and pediatric patients are unable to provide a thorough medical history, or accurate description of the complaint complicating the care plan (Barata et al., 2007). Additionally, the developmental and physical characteristics of children, and the specialty knowledge needed by clinicians to understand and react to the unique clinical presentations of this population, further puts pediatric patients at risk for AEs (Committee on Pediatric Emergency Medicine, 2007).
Team Work

Many studies describe the ED team as predominantly ad-hoc, characterized by diverse staff working together in short time spans, cooperating under pressure to make decisions, and provide care (Courtenay et al., 2013; Eppich, Brannen, & Hunt, 2008; Kilner & Sheppard, 2010; Manser, 2009; Youngwerth & Twaddle, 2011). Teamwork is vital to providing safe quality care and fostering healthy workplace environments, especially in the ED where the dynamic setting is further complicated by the triage processes, multiple patient workloads and managing numerous interruptions (Clements et al., 2007; Eppich et al., 2008; Kalisch & Weaver, 2009; Kilner & Sheppard, 2010; Teamwork and Communication Working Group, 2011; Youngwerth & Twaddle, 2011). A report based on care in a pediatric ED, highlighted the benefits of decreased stress with HCPs, increased job satisfaction, and patient and team collaboration when teamwork was effective (O’Malley et al., 2008). Team composition and team diversity were similarly found to have a positive effect on teamwork and patient safety, as well as improved patient and family satisfaction (Oandasan, Baker, & Keegan, 2006; Youngwerth & Twaddle, 2011). Because EDs are multifaceted complex health care environments, studying the coordination, skills, and behaviors in teamwork processes in the ED, are critical in providing safe patient care.

Several literature reviews identified the need for ED specific team training tools and methods to incorporate and gauge effective teamwork (Eppich et al., 2008; Fernandez, Kozlowski, Shapiro, & Salas, 2008; Kilner & Sheppard, 2010; Parsons, Cornett, & Burns, 2005; Turner, 2012). One study reported improved outcomes in communication and patient safety from a team training program in the ED (Turner, 2012). Although consistent with the studies that explored the effects of team training in an ED, there was a lack of specific tools to measure team performance (i.e., effective communication) in relation to patient outcomes and staff satisfaction.
(Ajeigbe, McNeese-Smith, Leach, & Phillips, 2013; Baker, Gustafson, Beaubien, Salas 2005; Kalisch & Weaver, 2009; Turner, 2012). Salas et al. (2013) reported that despite advancements in team training program delivery and design, work is needed to understand how these programs best operate to evaluate and measure effective teamwork practices.

Fewer mistakes have been shown to occur when HCP work together as an effective team (Fernandez et al., 2008). Understanding the process of teams is central to the effectiveness of interdisciplinary workflow (Baker et al., 2005; Fernandez et al., 2008). Team processes are the essential interactions amongst HCP to accomplish common goals (Baker et al., 2005; Oandasan, Baker, & Keegan, 2006). A majority of the studies indicated specific knowledge, skills and attitudes (KSA) as important competencies needed to achieve effective teamwork and collaboration (Eppich et al., 2008; Oandasan, Baker, & Keegan, 2006; Teamwork and Communication Working Group, 2011). The benefit of this core set of teamwork KSA was a mutual description of successful teamwork in providing patient care (Oandasan, Baker, Barker, et al., 2006).

**Teamwork Competencies**

EDs are unpredictable, complex, time constrained practice contexts where safe patient care is integrally connected to teamwork competencies and performance (Oandasan, Baker, & Keegan, 2006). Specifically in the pediatric ED setting, where there is little evidence about how teamwork dynamics shape practices. Teamwork competencies include specific knowledge, skills and attitudes (KSA) essential for effective teamwork however, there are challenges in evaluating, assessing and implementing these skills (Burke et al., 2016).
Knowledge competencies for effective teamwork include a shared understanding of the capacity of the team members and the overall goals (Baker et al., 2005; Eppich et al., 2008). This united awareness of what needs to happen during specific procedures is accomplished through shared mental models, including but not limited to knowledge of team members, role configurations and environment (van Schaik, O’Brien, Almeida, & Adler, 2014). For example, the combined efforts and assigned roles during a situation that requires airway securement, is an incident where knowledge competencies are essential for successful teamwork.

Skill competencies are considered learned abilities, such as efficient communication and evaluation methods (Eppich et al., 2008). Closed loop communication in fluctuating conditions (i.e., deteriorating patient in the ED), and team leadership demonstrated through problem solving and management, are examples of learned skill competencies (van Schaik et al., 2014). In the ED, action processes such as monitoring and communicating during resuscitation, or, anticipating and coordinating the extra coverage needed when an unexpected trauma arrives, are examples of skill competencies (Fernandez et al., 2008).

Attitudes are defined as team behaviors and collective measures that promote mutual trust and respect among the team members (Eppich et al., 2008; van Schaik et al., 2014). An example of attitude competencies include the appeal of working together, while respecting roles, responsibilities, and differing competencies brought to the team (i.e., safely logrolling a child with a suspected neck injury) (van Schaik et al., 2014). According to Parsons (2005) positive attitudes and supporting team members through direct communication, and constructive feedback, are the foundations of effective teamwork behavioral norms. Fernandez (2008) outlined a debriefing example of post trauma resuscitation, and noted the value of critical evaluation of both the strengths and inaccuracies, to improve team interactions and attitudes.
Team members are held accountable for their behaviors, which is one of the significant requirements in fostering a healthy workplace and positive working environments (Parsons et al., 2005). While the research on teamwork competencies has depicted core elements for successful functioning, investigating specific contextual factors of EDs, is required to tailor strategies to support a fundamental set of KSA to improve practice in providing safe patient care.

**Communication**

Effective communication is a necessary component of teamwork consistently detailed throughout the literature (Baker & Norton, 2002; Eppich et al., 2008; Kalisch, Lee, & Rochman, 2010; Kilner & Sheppard, 2010; Manser, 2009; Youngwerth & Twaddle, 2011). Accuracy, completeness, and consistency in communication are central to effective teamwork in providing safe patient care (Eppich et al., 2008; Pettit & Duffy, 2015). The results of several literature reviews discussed effective teamwork communication in the context of shared mental models (Eppich et al., 2008; Kalisch & Lee, 2009; Teamwork and Communication Working Group, 2011). Shared understandings of patient conditions, plan of care, levels of collaboration, and roles and structures, were qualities that were attributes of effective teamwork. Fernandez et al. (2008) linked this shared model to team cognition, members do not need to have the same knowledge understanding; rather it is the diverse knowledge and information that enriches team communication therefore enhancing teamwork.

Youngwerth et al. (2011) considered the importance of how communication is shared, and recognized this exchange is carried out both formally and informally. The Canadian Framework for Teamwork and Communication (2006) suggested that communication in health care is typically informal and variable. Informal discussions play a key component in communication, contributing to increased awareness and positive connections among team
members (Youngwerth, 2011). Youngwerth (2011) recognized this informal exchange was a vital component of communication in building trust and respect among HCPs. The impetus for exploring teamwork in this setting was influenced through informal discussion with colleagues.

According to Eppich (2008), ineffective communication and teamwork “threaten the safety of pediatric patients in the ED” (Eppich, 2008, p. 256). Various communication strategies exist that support effective communication, such as debriefings, critical and common language, closed loop communication, active listening, and call outs (Teamwork and Communication Working Group, 2011). However, there remains a lack of empirical evidence connecting improved patient outcomes with the listed communication strategies (Manser, 2009). Several systematic reviews identified structured communication as a central element to improving precision of the information shared (Baker, Gustafson, Beaubien, Salas, 2005; Eppich et al., 2008; Pettit & Duffy, 2015). One common method is the use of the “SBAR” tool, (situation, background, assessment, recommendation); however there is uncertainty in regards to the influence of this tool on patient safety (Kalisch, Curley, & Stefanov, 2007; Teamwork and Communication Working Group, 2011).

Additionally, handover protocols were identified as valuable tools to communicating a patient’s condition during the transfer of care (Eppich et al., 2008). The subtheme of handoff disconnects in relation to communication in teamwork, was a finding from a qualitative study that applied Salas’ (2005) conceptual framework of teamwork to nursing teams (Kalisch, Weaver, & Salas, 2009). Factors affecting handoff or shift reports included time, length, missing vital information, and excessive socialization, therefore, negatively impacting the teamwork of the unit staff. Conversely the Canadian report on teamwork and communication highlighted that multiple handovers can result in miscommunication and a loss of critical patient information.
This is a common occurrence in the ED as nursing roles continually shift (i.e., triage role to break relief role), and complex interdisciplinary collaborations transpire requiring multiple handover of information (Eppich, 2008). Strategies to improve communication were evident in the literature, though further research is needed to relate the effectiveness of handover protocols to improving patient safety.

**Leadership**

Leadership is considered fundamental in effective teamwork and promoting collaboration (Courtenay et al., 2013; Kalisch et al., 2007; Manser, 2009). Team leaders that are dynamic, encouraging, and motivating, enhance team performance (Courtenay et al., 2013; Fernandez et al., 2008). Leadership styles that request and value the team’s efforts and feedback, promote a mutual concession that encourages shared decision making (between leadership and point of care members), transparency of information and collaboration, flowing onto increased job retention (Manser, 2009).

According to several literature reviews, team leadership function is centered around two critical purposes – 1) to support task completion and 2) to keep team members supported and operational (Künzle, Kolbe, & Grote, 2010; Manser, 2009; Rosenman, Branzetti, & Fernandez, 2016). This is evidenced in a study by Oandasan, Baker, & Keegan (2006) indicating leaders are responsible for developing the process of the team, while supporting teamwork interventions that create a workplace conducive to positive teamwork. Manser (2009) described leadership as a “special means of coordination” (p. 147), particularly when trauma teams assembled, for example, prior to resuscitation of a patient. Successful resuscitation teams revealed the importance of directive leadership in team performance, especially in circumstances where ad-hoc teams amassed to care for trauma patients (Manser, 2009). In situations where critical tasks,
roles, and team members continually change, dynamic leadership is imperative to improve teamwork and collaboration in order to maintain continuity of care (Manser, 2009).

The review by Kunzle et al. (2010), indicated the need for team leadership training and argued that it was vital to improving and assessing leadership effectiveness, subsequently boosting performance and team safety. Team leadership training was comparable to the well established aviation crew resource management training. Establishing mutual trust, strengthening unity, and supporting psychological safety, were signaled as several team leadership outcomes relating to team performance; however challenges to evaluating these constructs remain (Rosenman et al., 2016). Additionally, difficulties in evaluating leadership performance were due to various contextual variables such as, the patient and family, team environment and setting (Künzle et al., 2010; Rosenman et al., 2016). To gain in-depth understandings of team leadership and the impact on team performance relating to patient safety, future research on team leadership training is needed to apply evidence based frameworks to support this role (Rosenman et al., 2016).

**Teamwork Training Programs**

Teamwork training programs were identified in several studies with positive correlation on team performance and patient outcomes, though, there remains an absence of consistent programs encompassing team competencies that can be applied to the various health care settings (Baker et al., 2005; Baker, Day, & Salas, 2006; Salas & Rosen, 2013). Team training programs have long been a critical part of the aviation and military industries to enhance safety and team performance, with many health care disciplines now adapting these strategies (Eppich et al., 2008; Hughes et al., 2014). The extensively known crew resource management (CRM) is an aviation team training program that employs training tools (i.e., decision making and situational
awareness exercises,) and methods (i.e., simulated scenarios) focused on teamwork, knowledge, skills and attitudes (Eppich et al., 2008). Several studies adapted elements of the CRM teaching to formulate team training programs tailored to their area of research (Eppich et al., 2008; Hughes et al., 2014; Pruitt & Liebelt, 2010; Eduardo Salas et al., 2008; Eduardo Salas & Rosen, 2013; Teamwork and Communication Working Group, 2011). Another widely known team training program mentioned throughout the literature is TeamSTEPPS (Teams Strategies and Tools to Enhance Performance and Patient Safety) (Clancy & Tornberg, 2007; Courtenay et al., 2013; Oandasan, Baker, & Keegan, 2006; Pruitt & Liebelt, 2010; Zajano et al., 2014).

TeamSTEPPS is an evidence based program derived from the influence of aviation and military team training aimed at improving clinical outcomes (Obenrader, Broome, Yap, & Jamison, 2018). This program is a train the trainer program, intended to be launched in 3 phases: assessment; planning, training and implementation; lastly the longest phase – sustainment (Patient Safety Institute Canada, November 2018). TeamSTEPPS has been linked to enhance safety through improved communication, collaboration and role awareness, and reducing barriers to providing well-being quality care (Agency for Healthcare Research and Quality (AHRQ), November, 2018). This program encompasses four competency sections including: leadership, situational monitoring, mutual support and communication; applicable to a variety of healthcare contexts (Baker et al., 2005). The most recent practice improvement research study conducted in an ED setting, in 2018 by Obenrader et al., implemented the TeamSTEPPS program; the findings indicated a marked increase in the perceptions and attitudes surrounding teamwork and communication. These findings were affirmed in several studies that reviewed TeamSTEPPS programs, or developed teamwork training informed by TeamSTEPPS (Etchells et al., 2005;
There has been a recent launch (May 2018) of a TeamSTEPPS Canada program - a revision of the original program incorporating Canadian healthcare context by the Canadian Patient Safety Institute (CPSI). The CPSI aims to support the implementation of this team training program across Canadian healthcare centres, with the intent to create a community of Canadian TeamSTEPPS Canada (CPSI, 2018). Team training rooted in improving communication and team performance and outcome are initiatives that will benefit patient safety.

**Barriers to Effective Teamwork**

Several studies identified barriers to effective teamwork specifically in relation to communication breakdown (Pettit & Duffy, 2015). The landmark event alert by the Joint Commission on Accreditation of Hospitals (JCAHO) in 2004 revealed communication failures as the principal factor in adverse medical events (Kalisch et al., 2007; Pettit & Duffy, 2015). Additionally the hierarchical culture of health care can hinder effective teamwork cognition and cooperation (Youngwerth & Twaddle, 2011). This signaled system factors impacting teamwork in health care, namely at the organizational and practice level. At the practice level, HCPs need to collaborate to form common goals, tackle professional “turf” issues, and eliminate hierarchies to work effectively as a team (Clements et al., 2007; Oandasan, Baker, & Keegan, 2006). At the organizational level, Clements (2007) argued that “accreditation systems that outline clear requirements for inter-professional collaboration” (p. 32) are needed to safeguard successful teamwork and collaboration. Furthermore, funding to support the integration of teamwork at the organizational level, as well as ongoing formal evaluation of the effectiveness of teamwork, is
essential to sustain this shift in practice towards providing patients with the best optimal care (Clements et al., 2007).

Another limitation of teamwork is an absence of steering leadership at the organizational level. The Policy and Synthesis report on Teamwork (2006) suggested that generating leadership education opportunities foster teams that effectively collaborate. Having leadership champions can help command the diversity that is needed to foresee change in management as a key factor to continued success, and sustainability of collaboration (Clements et al., 2007; Oandasan, Baker, & Keegan, 2006). This is particularly evident with change implementation activities, leadership competencies incorporating different activities are vital to supporting planned organizational transitions (Battilana, Gilmartin, Sengul, Pache, & Alexander, 2010). Battilana et al, (2010) claimed awareness at the managerial level is desirable to support leadership activities, that both promote change from a task oriented transformation perspective (organizing activities), and from a people oriented behaviours committed to sharing information regarding change implementation.

Increasing wait lists and wait times, crowding in the ED, and patient safety issues are at the forefront of the health care agenda (Clements et al., 2007). It is difficult to connect these issues to a deficiency of teamwork, therefore research is needed to identify best practices to address these issues (Clements et al., 2007). Educational opportunities that incorporate effective teamwork strategies across disciplines are important to diminish the professional territorial boundaries between HCPs, and improve collaboration (Clements et al., 2007; Youngwerth & Twaddle, 2011). Role ambiguity in interdisciplinary teams was especially evident in a review by Youngwerth and Twaddle (2011), resulting in poor collaboration, especially in circumstances that require rapid decision-making (Eppich et al., 2008). Courtenay et al. (2013) recognized the effectiveness of teamwork between various disciplines with differing knowledge is difficult to
measure, although, efforts at improving quality of communication proved beneficial. Many studies discussed simulation based training as an adjunct to enhance teamwork especially in emergency medicine, although similar challenges with measuring specific connections to the processes and outcomes existed (Eppich et al., 2008; Pettit & Duffy, 2015; Youngwerth & Twaddle, 2011).

**Significance to Nursing**

Within health care organizations, nurses are fundamental frontline members essential to safe patient care (Kalisch & Lee, 2010). Teamwork is key for nursing to accomplish its mission in providing quality care to patients while increasing efficiency, decreasing AE, and increasing patient satisfaction (Kalisch et al., 2007). Existing research has presented an abundance of teamwork models that supports team task classifications and processes; however, there are a myriad of variables that influence team success and sustainability (Salas, 2005). Most studies addressing nursing teamwork have utilized the Salas (2005) framework to clearly identify conceptual processes that underpin team performance (Kalisch et al., 2009). Although a knowledge gap remains about specific nursing teamwork practices, standardized components and strategies to achieving effective teamwork in pediatric EDs are poorly understood.

Exploring teamwork in the ED, where hierarchical decision-making and problem solving are ever present, are valuable in balancing hierarchies between nurses and physicians (Ajeigbe et al., 2013). A cross sectional study that compared the effects of a teamwork training course on ED staff, reported a positive correlation between workplace perceptions and effective teamwork between nurses and physicians (Ajeigbe et al., 2013). This positive teamwork collaboration allowed for the nursing and physician team to work effectively coordinating care, while supporting a positive workplace environment in the ED (Ajeigbe et al., 2013). Studies aimed at
flattening and/or understanding hierarchies in pediatric EDs are important for nursing, as diminishing these boundaries, can transpire to any health care environment that practices interdisciplinary teamwork.

Nurses are well situated to influence the teamwork and quality of care as they make up the largest interprofessional team in the ED, and by extension they have the most interaction with the multidisciplinary groups. High functioning teams in nursing are centered on teamwork, team members and environment, and the impact of these teams on the quality of care within the complex, risk laden, fast paced ED is essential (Baumann, Blythe, Norman, & Crea-Arsenio, 2014). With the strong link to teamwork and patient safety, the impact of teamwork from a nursing standpoint will strengthen this connection and elevate teamwork across disciplines (Kalisch & Weaver, 2009). Nurses are instrumental to shift the culture and enhance the teamwork practice necessary to safely care for pediatric patients.

The Salas (2005) teamwork model closely supports purpose of the current study to describe facilitators and barriers to effective teamwork practices in a pediatric ED. This teamwork model offered important avenues to consider the participant’s experiences and organize the interview findings. There is scant literature about teamwork processes in the pediatric emergency care setting, a knowledge gap that impedes the advancement of specific training to target essential skills. The knowledge derived from the current study will provide foundational insights to build future work to enhance, support and sustain this multidisciplinary collaboration and teamwork.
Summary

The literature reviewed and summated here revealed EDs as complex healthcare environments, overloaded with risks to patient care wherein teams are diverse and continually changing in response to clinical situations. Effective teamwork is connected to improved team performance and outcomes, especially in areas focused on PFCC. Team training programs aimed at implementing methods to support teamwork through enhanced communication skills and collaboration were effective, though little is unknown about how to measure and compare the contextual factors, and connect the variability of behaviours that impact this practice. Communication and leadership were consistently detailed as fundamental elements of teamwork. Several barriers were identified at the organizational and leadership level suggesting a shift in culture to adopt effective teamwork practices in optimizing patient care. Nursing constitutes the largest interprofessional team in the ED, and by extension has significant influence on sustaining teamwork practices. To address the knowledge gap in teamwork the current study will describe facilitators and barriers to effective teamwork practices in a pediatric ED, and provide foundational insights to build future work to enhance, support and sustain this multidisciplinary collaboration and teamwork.
CHAPTER 3: RESEARCH METHODS

The research questions used to guide the exploration of this topic included: 1) What characterizes effective teamwork? and 2) What barriers exist to achieving effective teamwork? Teamwork in the pediatric ED is poorly understood, however, although current research searched included teamwork competencies and supported the impact of teamwork on patient safety in high acuity healthcare settings; there was a paucity of studies on teamwork practices in pediatric EDs. It is imperative that this phenomenon is understood to discover the teamwork practices of HCPs, and distilling the characteristics and facilitators of, and barriers to effective teamwork. The following discussion details the methodology, study design, theoretical lens, sample and setting chosen to investigate the aforementioned research questions. As well, the following includes explanations of the recruitment process, inclusion criteria, data collection, data analysis, reflexivity, and ethical considerations.

Methodology

An interpretive description methodology guided the exploration of teamwork in a pediatric ED. Subjective and experiential knowledge formed the basis of information gathered, that underpinned the significant perceptions to “clarifying the nature of certain health contexts” (Thorne, 2013, p. 299) of an applied practice setting, in this case, teamwork in a pediatric ED (Thorne, 2016). The intention of using this methodology was to produce a “tentative truth claim” (Thorne et al., 2004, p. 4), from engagement with the patterns and themes that developed allowing the findings to be comprehended, and to formulate novel queries into the practice context (Thorne, 2016). This methodology was useful as the intended purpose was to gain understandings of participant’s teamwork experiences with the ontological viewpoint that the realities of teamwork vary. Interpretive description also provided direction and enabled an
iterative in-depth analysis of the HCPs experiences, to gain and advance understandings of teamwork that best represented the authenticity of these practices within the setting.

Theoretical scaffolding within interpretive description initially yielded a critical analysis of commonalities of the phenomenon, to conclude that uncovering teamwork in this setting would enhance the knowledge in this field (Thorne, Reimer Kirkham, & O’Flynn-Magee, 2004, Thorne, 2016). Secondly scaffolding my position through recognition of the experiential knowledge, theoretical influence, bias, and effect on to the study design, allowed for evident explanation of my positioning in coming into the study, as well as supported the motivation to begin this inquiry (Thorne, 2016). Situating the researcher was imperative to maintain the integrity of the process throughout the research project, and to endorse the reliability of the findings for the intended audience of healthcare professionals (Thorne, 2016). From my experiences in informal leadership roles and, as a point of care nurse in the ED, it was essential to position myself as the researcher to acknowledge my influences, and remain reflexive of how my dual roles impacted the analysis and findings.

Framing the process from these methodology standpoints allowed a transparent description of the conceptualization, influence and development of the methods, data analysis, and the sincerity of the findings, as they related to the unique practice of this group of HCPs. Clearly outlining the impetus for this current study by describing my teamwork experiences at the bedside and involvement with the team in the ED (both positive and negative), including my role as a clinical instructor, was prudent to presenting realistic outcomes. Subsequently, interpretive description enabled additional understanding on previous research, and afforded the advancement of new innovative knowledge, in this respect, teamwork in a pediatric ED (Thorne, 2013; Thorne et al., 2004).
Teamwork Framework

The “Big Five” is a teamwork framework proposed by Salas et al. (2005) that includes elements of team performance and processes. The framework comprises of team leadership (i.e., support person(s), motivator), mutual performance modeling (i.e., team member and role awareness, gives feedback), backup behavior (i.e., recognize shift in care needed, re-organize team), adaptability (i.e., responds to changing circumstances) and team orientation (i.e., sharing goals, strategizing with team members) (Salas, 2005). These five components of teamwork are supported by coordinating mechanisms of shared mental models (i.e., anticipating other’s needs), mutual trust (i.e., shared belief of roles, ownership of practice) and closed loop communication (i.e., ensuring information received) that fuse the value of the factors outlined (Salas, 2005). This framework was selected to initially orient, sort and arrange and the coding process, because of the easily understood practical and behavioral descriptions of teamwork. Furthermore, the components of this framework supported by research gathered from the preceding literature review served as a “starting point of scrutiny” (Charmaz, 2004, p. 985), more specifically as a priori set of codes, in addition to the codes that emerged from the data. Memos were utilized to document and illustrate how these predetermined codes affected the interpretation of the data, including descriptions of how assumptions shaped the analysis and findings.

With interpretive descriptive methods, the researcher is central to data interpretation, including determining which data is applicable, and the structure of displaying the results (Thorne et al., 2004). The challenge of analyzing the data is taking awareness and ownership of the interpretation, and noting the ability and biases of the researcher to articulate the “truths” of the phenomenon in a practical way, that portrays the application to practice (Thorne, 2016). As a novice researcher, a detailed evaluation and discussions of the limitations of my experience, in
gathering and engaging intellectually with the qualitative data, as well as, a discussion of rigor, enhanced the validity and credibility of the findings drawn from the proposed study.

Interpretive description and the “Big Five” (Salas, 2005) teamwork framework supported the exploration of this clinical phenomenon, and advanced the knowledge from the findings. The methods and framework supported the construction of the teamwork concepts uncovered, assisted in investigating and exploring the functions of teamwork from the relationships between the findings amongst the range of experiences (Hole, 2014; Charmaz, 2004).

**Study Design**

**Sample**

Purposive sampling was utilized to recruit participants. The population for this study included HCPs with current employment in the ED at BCCH located in Vancouver, British Columbia. The ED at BCCH is BC’s only Level 1 Pediatric Trauma center, and cares for children and families up to the age of 16 that present with acute illnesses or injuries (BCCH, 2017). The intention of purposive sampling provided direct access to participant’s perspectives to answer the research questions, and enabled a selection of participants that embodied pragmatic views of the lived everyday truth of teamwork in the ED (Thorne, 2016). The data collection process spanned 4 months, started in the ED at BCCH in November 2017 and occurred until March 2018.

Inclusion criteria for participation included HCPs - nurses, physicians, residents, fellows, pharmacists and, child life specialists - working full time or part time in the ED that provided direct patient care. Since ED teams are inherently ad-hoc in nature, the sample was limited to those members with current employment and with over 6 months experience working in the ED.
A minimum working experience of 6 months was indicated in the inclusion criteria, as from my experience as a point of care nurse in the ED, this length of time afforded sufficient experience in working with the interdisciplinary team. Those who did not meet the criteria were excluded. Additionally, this criterion allowed an appropriate sample of participants to uncover rich data that best explained the teamwork practice in a pediatric ED (Polit & Beck, 2017).

Thorne et al. (2004) described studies that utilized interpretive descriptions generally include a small sample, in conjunction with data collection methods such as interviews, to render an expressive interpretation of experiential knowledge. Interviews were conducted with 15 HCPs to offer a diversity of perspectives. The sampling ceased when data saturation was reached, balanced with the timeline and scope of study (Polit & Beck, 2017).

Recruitment was commenced utilizing three advertising strategies. First, posters (Appendix A) placed in common areas (i.e., bulletin boards at the team care stations and in the break room), to invite HCPs to participate in the study, promote awareness of the benefits to practice, explain practices of confidentiality and anonymity, state inclusion criteria, explain voluntary nature of participation, and provide contact information. Second, electronic copies of the poster were sent as a broadcast email (Appendix B) to all staff with the assistance of the program manager, and were made available on the ED team’s intranet site, and the monthly digital newspaper. The team’s intranet site is located on the organization’s private network, and is one of the primary communication tools used in the pediatric ED – including announcements of upcoming research.

Lastly, with the intention to easily reach out to HCPs working in the ED, a posted advertisement was placed in the pediatric ED social media group on Facebook (Appendix C). An
account was created specifically for the study, and the advertisement ensured only members of the chosen pediatric ED were able to view the announcement. Additionally, privacy issues were explicitly outlined in the social media post, indicating to potential participants that post comments, such as “like” or “follow” the study’s account would be recognized by users of those platforms. These recruitment strategies resulted in a diverse HCP sample of 15 participants (see Table 3.1).

Prior to commencement of the interview, the purpose of the study was explained; and consent to participate in the study was reviewed, including permission to include excerpts in the manuscript. Participants were encouraged to ask questions before signing the consent form (Appendix D) to clarify any concerns. As well, friendly conversation was used to establish rapport and to overcome any nervousness from either the participant or researcher (Polit & Beck, 2017). The confidentiality practice was reiterated and freedom to withdraw from the study at any time was explained, respecting participant’s right to self-determination.

Demographic data (Appendix E) were also collected before the interview started, to aggregate the sample, and contextualize the interpretation of the findings (Morse, 1991; Thorne, 2016). Participants were informed that the demographic data was held in strict confidence, and kept separately from interview data. One participant expressed concerns in protecting identities with the demographic data collected, and declined to answer specific questions for fear of identification from the interviews; however the participant was assured that rigorous measures were in place to safeguard all participant’s information. The demographic information is captured in the table below (see Table 3.1).
Table 1 Characteristics of Study Population

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n = 15 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, in years</td>
<td>Range 29-55 (M=39.2)</td>
</tr>
<tr>
<td>Length of time working in ED, in years</td>
<td>Range 1-12 (M=6.6)</td>
</tr>
<tr>
<td>Length of time working in Pediatrics, in years</td>
<td>Range 1-28 (M=12)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>13 (86%)</td>
</tr>
<tr>
<td>Male</td>
<td>2 (13%)</td>
</tr>
<tr>
<td>Designation</td>
<td></td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>11 (73%)</td>
</tr>
<tr>
<td>(Point of care)</td>
<td>[9] (9%)</td>
</tr>
<tr>
<td>(Formal Leadership)</td>
<td>[2] (18%)</td>
</tr>
<tr>
<td>Physician</td>
<td>2 (13%)</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>Child Life Specialist</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>7 (47%)</td>
</tr>
<tr>
<td>Part time</td>
<td>8 (53%)</td>
</tr>
<tr>
<td>Ethnicity*</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>9 (6%)</td>
</tr>
<tr>
<td>South Asian</td>
<td>3 (2%)</td>
</tr>
<tr>
<td>Mixed</td>
<td>2 (13%)</td>
</tr>
<tr>
<td>Level of Education</td>
<td></td>
</tr>
<tr>
<td>Degree</td>
<td>9 (60%)</td>
</tr>
<tr>
<td>Degree + specialty certificate</td>
<td>2 (13%)</td>
</tr>
<tr>
<td>Diploma</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>Masters</td>
<td>2 (13%)</td>
</tr>
<tr>
<td>Doctorate</td>
<td>1 (7%)</td>
</tr>
</tbody>
</table>
Data Collection

Interviews were often scheduled before and during working hours, in a private room within the ED; however some were also conducted in mutually agreed upon locations (i.e., coffee shops) on days off work. Flexibility in interview setting and scheduling was employed to meet the comfort needs of the participants, and to ensure a jointly agreed safe space to complete the interview. Most participants were keen to share teamwork practices, with some contributing real-time experiences of encounters just prior to the interview. Participants were generally relaxed and open to conversations, though often seeking assurance of confidentiality when sharing experiences about the barriers to achieving effective teamwork. Confidentiality was reiterated and detailed discussions continued. However with some participants who interviewed during working hours, towards the end of the interview there seemed to be a sense of distraction, likely in relation to the time period. The interview setting and timing may have possibly influenced the shared experiences (both positively and negatively), and future recommendations for research in this particular field could include ethnographic participant observation and fieldwork methods, to enrich and situate the stories shared, and diminish the pressures of time allotted for the interview process.

Interviews were semi-structured and guided by a predetermined set of questions and ranged from 45-60 minutes. The consent form was reviewed including information about recording and transcribing the interviews, and participants were reminded that recording could cease anytime at their request. Full disclosure of proposed study (i.e., fulfillment of master’s degree and personal professional interest) to advance the knowledge of teamwork in the pediatric ED was explained. There are many data collection methods within the interpretive description methodology, but face to face interviews provided a means to acquire the rich subjective
experience of participants to address the research aims (Thorne, 2016). The interview guide (Appendix F) posed questions in a sequential manner starting with a general approach to understanding the beliefs and knowledge about teamwork, to more explicit questions (Polit & Beck, 2017; Thorne, 2016). Question probes to stimulate a deeper description of what specifically hindered the teamwork in the pediatric ED, afforded more detailed narrative about the setting of the experience, the dialogue that ensued, and any related outcomes (Polit & Beck, 2017; Thorne, 2016). The interviews were audio recorded, and field notes and memos were created to document details of the participants and interview setting (i.e., dress, posture, time of day, location), and emerging concepts, patterns, to facilitate an accurate recollection of what was observed and comprehended from the interviews (Polit & Beck, 2017). Additionally the use of field notes supported the transcription reviews as they were checked for accuracy, alongside review of the digital audio recordings.

Data Security

Prior to obtaining consent, the purpose of the study was reviewed, reaffirming the practice of confidentiality and anonymity, and specifics regarding storage and access to the data (i.e., demographic data). Specific measures to guarantee anonymity were explained, for example, the use of identification numbers for participants to conceal their identity. Transcripts identified each participant with a numerical file name, and removal and/or replacement of any identifiers was done with the use of pseudonyms. To contextualize the narratives in the findings chapter, identifying characteristics were aggregated except if significant to the context of the excerpt, of course safeguarding against inadvertently disclosing any identifying characteristics. Additionally, stating to participants that interview data was only accessible by myself, and the principal supervisor. The data recordings, and electronic files were stored and encrypted and on a
password protected secure server, accessible only to the principal supervisor and myself. Additionally all hard copies, including demographic and consent forms were scanned, and stored in a secured locked cabinet at UBC. Lastly all data kept in the secure storage at the UBC will be destructed at the end of the fifth year.

**Data Analysis**

Analysis through an interpretive descriptive lens is “inherently experiential” (Thorne et al., 2004, p. 7) as the researcher takes ownership of interpreting the data (Thorne et al., 2004).

Upon completion of the interviews, an independent professional transcription company transcribed the data verbatim. Accuracy was ensured through checking the transcript line by line, alongside the audio recording. Errors were corrected and anonymity was ensured by removing any identifiers. Inserting notations that described body language, non-verbal reactions, and attaching punctuations were included to enhance the accurateness of the transcription. Following this process, the data was uploaded into the qualitative data software NVivo10™. The five components of the Salas (2005) teamwork framework – team leadership, mutual performance modeling, backup behavior, adaptability and team orientation were reflected on, and considered preceding the coding process.

I firstly read through all the transcripts to gain a sense what prevailed regarding teamwork in the ED, and allowed myself to reflect and be aware of the initial reactions to developing a genuine insight of what was revealed (Thorne, 2016). I then re-read through the data and comprehensively compared the contents among all the interviews to determine commonalities, followed by the process of sorting and organizing the data into category schemes, with careful attention to the potential biases of shaping the analysis (Polit & Beck, 2014). It was important that I remained cognizant of my neophyte experience as a researcher, as I iteratively
weaved in and out of the data to articulate the findings (Thorne et al., 2004). Qualitative data analysis is considered an inductive process of decontextualization and recontextualization, through multiple appraisals and evaluation of the data and findings, to develop thick description. After examining and categorizing the codes, drawing connections and reporting patterns, themes and subthemes inductively emerged (Hole, 2014). The data was continually examined until I was able to comprehend the commonalities and variations into a logic that best answered the research questions for the envisioned audience (Thorne et al., 2004). Additionally, the first few transcripts were reviewed by my supervisor to offer feedback and provide suggestions for future interviews, such as prompts that enabled the questioning to delve deeper into the way teamwork is shaped, going beyond description to evoke richer explanations.

Analytic memos were created throughout this process to record my biases’, preliminary interpretations, and reflections, to enhance my credibility as a researcher in mapping and constructing the results. In regards to the Salas’ teamwork framework (2005), analytic memos also served to jot down how the data was considered alongside the framework. The coded data was reviewed again and categorized into the themes and sub-themes to address each research question. Initially communication and leadership were themes developed to answer the first research question: What characterizes effective teamwork? Consequently contrasting themes for the second research question: What barriers exist to achieving effective teamwork? were derived. After the iterative process of returning to the raw data and analysis that addressed the second research question, specific themes were inductively derived; for example, turf wars and tensions surrounding ownership of patient care, with subthemes of leadership interwoven throughout. These themes were further refined through collaboration and discussion with my supervisor, and feedback from the committee.
During the process of writing up the findings, narratives were carefully selected to convey the results to readers, and the literature was reviewed to lift the interpretation into a space whereby discussion could follow. Several appraisals of the findings were conducted with the initial support of my supervisor following suggestions and comments from the committee.

**Ethical Considerations**

Ethical principles of beneficence, respect for human dignity and justice are imperative when humans are study participants (Polit & Beck, 2017). Ethics approval was obtained from UBC’s and the Children’s and Women’s Health Centre Research Ethics Board (UBC C&W REB). I have also completed the TCPS2: CORE (Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans – Course on Research Ethics) and employed the policies, procedures and guidelines throughout the research process. After ethics approval from the abovementioned REB, and consent for utilization through the institutional program (C&W) was received, the study was initiated.

Due to the nature of uncovering teamwork in the pediatric ED, there existed a potential risk for psychological harm (i.e., discomfort, frustration) during and/or after the interview. These risks were outlined in the consent form and reviewed prior to signing. To mitigate the risk of psychological harm to participants, workplace counseling support information was provided as a written handout and given to participants before the interview started (Appendix G). Participants were also reminded of their right to withdraw from the study at any point during the project, without undue harm to themselves or their practice.
Conflict of Interest

Conducting the research study in a setting where I had current employment afforded many advantages, such as ease of gaining entry through established rapport and credibility as a nurse. However, potential conflicts and ethical considerations in my role as both a researcher and a nurse were addressed; as such clear explanations to diminish any perceived threats to practice from partaking in the study, and ensuring participants did not feel coerced to participate (Morse, 1991). Some participants possibly perceived my researcher position as a hierarchal power position, resulting in the potential obligations or cautiousness when considering participation. Maintaining self-disclosure and honesty with participants helped maintain reflexivity and balance the dual role of researcher and point of care nurse (Karnieli-Miller, Strier, & Pessach, 2009). This hierarchal position was considered through my reflexive work of potential biases and power relationships that could interfere with the participant’s willingness, quality and depth of their experiences (Karnieli-Miller et al., 2009).

As Holloway and Galvin (2016) indicated, it was likely impossible to completely separate myself from the participants. The nature of my position, sampling plan, and inclusion criteria, inevitably recruited some participants that were considered peers within the department. Equal partnership in the research initiative is a benefit to researching one’s peers however, participant peers were also subject to vulnerability with potential threats to trust in the relationship, as well as any pressures to inadvertently disclose information (Holloway & Galvin, 2016). Moreover, the susceptibility of common shared notions, as well as, potential influences of preconceived assumptions of teamwork from myself increased this conflict (Holloway & Galvin).

Disclosure of the ED program manager’s membership of the research committee was explicitly discussed before the start of the interviews, including the inaccessibility to the
interview data. As well, providing precise information about the steps and process to maintain anonymity and confidentiality eluded coercion. For example, a detailed description of the process to protect participant’s confidentiality by use of study codes, and guaranteeing the removal of any identifying details was explained prior to commencing the interview.

Reflexivity was enacted throughout the entire process of this study. As a novice researcher, I took extreme caution to not let my beliefs and understandings of teamwork in the ED influence the experiences shared, though I was challenged to stay neutral and neither agree or disagree during the interview. I struggled with wanting to comment or add my own experience to the stories shared, but remained cognizant of the purpose to describe facilitators and barriers to effective teamwork, and how my preconceptions could shape the descriptions. Reflexive journals were used to be mindful and aware of these instances, and to reflect on how my assumptions, experiences and preconceived notions about teamwork influenced the interpretation and evaluation the data. This was essential as I inductively constructed a “tentative truth” about teamwork in the pediatric ED. This included a deep reflection of my interactions and previous discussions of teamwork with the ED team, including the lived teamwork failures, in conjunction with my informal leadership experiences. Furthermore, memos and journals depicting my instinctive reactions, and subjective experiences and perceptions, allowed reflexivity to be weaved throughout to attain sincere authentic conclusion about this process. Additionally, frequent consultations with my supervisor regarding this dual role challenge supported and reassured my position as a researcher throughout the study.

Immersing myself in the data and ensuring transparency was documented, in regards to organizing and choosing sections of the data that accurately represented the phenomenon of teamwork, enhanced the trustworthiness of the study (Tracy, 2010; Polit & Beck, 2014).
Credibility was strengthened through thick description of providing detailed thoughts of the power complexities, and circumstances of my dual role in gathering potentially sensitive and confidential information. Critical reflexivity was interwoven throughout the development of this research process, therefore my personal epistemological viewpoint and experiences that led me to study teamwork in a pediatric ED, outlined the effect of my position on analyzing data to achieve researcher credibility, validity and trustworthiness - strengthening the confidence in the findings (Polit & Beck, 2014).

Throughout the interview process I attentively listened to the descriptions or stories shared and did not disrupt the flow of conversation. To further minimize disruptions, I ensured all electronic devices such as cellphones were turned off, and safeguarded the equipment used for recording the interview (Polit & Beck, 2017). Positive closure concluded the interview, for example asking the participant “Is there anything else about teamwork in the ED that you would like to tell me?” (Polit & Beck, 2017).

The ethical issues surrounding the incentives provided were carefully considered. An honorarium of a $15 CDN coffee card was offered to participants, to recognize their efforts, commitment, and contribution to the study. In line with the TCPS2 guidelines, the honorarium was provided before the interview started, notwithstanding of their desire to continue participation in the study. I ensured participant’s understood this guarantee to reduce any pressures to remain committed to the research project (TCPS, Oct., 2018).

Summary

Interpretive description methodology informed the approach to explore the teamwork practices of HCPs working in the pediatric ED. The various methods utilized to construct this
study enabled the recruitment of 15 participants, and interviews to obtain diverse descriptions and analyses related to the research questions. Ethical concerns regarding confidentiality and conflicts of interest were outlined to enhance credibility and validity of the research, as well as the endurance to maintain reflexive throughout the process. Following this chapter are the findings drawn from the analysis - Chapter 4.
CHAPTER 4: FINDINGS

The study findings are presented in two sections; the first section addresses the research question: What characterizes effective teamwork in the ED? Data was collected through interviews with HCPs, who chronicled their experiences of and perspectives about teamwork in the context of working in a pediatric ED. The interviews were conducted within a unique context; that being, during a period of change that followed relocating to a new ED department. The following chapter will discuss this impact and consider the implications to the findings presented. The second research question: What are the barriers to achieving effective teamwork in the ED? is addressed in the second section of this findings chapter.

Participants described effective teamwork in the ED and their responses were read to inductively derive findings regarding what prevailed within and across the interviews. The following 3 themes were constructed: 1) working together to provide safe patient care, 2) effective communication and 3) strong leadership. In the first theme working together to provide safe patient care, participants agreed that working collaboratively was the foundation of effective teamwork in the ED. The diversity of the team, context and circumstances was further distilled in participants’ descriptions about multiple disciplines working together to provide safe patient care. The second theme effective communication was also strongly reflected in participants’ narratives wherein the operational aspects of effective teamwork in the ED, were deeply reliant on HCPs interactions and exchange. The third theme strong leadership was defined as a process that included influencing others through providing support, direction and included skills such as clear communication and modeling positive behaviors. The findings associated with each theme are detailed in what follows with illustrative quotes integrated to contextualize the perspectives and experiences shared by participants.
**Research Context**

The pediatric ED team at BCCH is comprised of a complex team of dedicated HCPs specializing in the provision of emergency care to the pediatric population. Daily operations in the ED rely on the synergies of a multidisciplinary team consisting of nurses, physicians, allied HCPs and administrative staff. Ad-hoc teams are typical in the ED, wherein team members quickly come together in response to triaged cases to prioritize acute care, including trauma situations. These various teams are described within the illustrative findings for each theme as a means to contextualize the results shared here.

**Participants**

A total of 15 HCPs from the ED at BCCH participated in the study. Thirteen participants self identified as female and 2 participants as male. The average length of time worked in the pediatric ED was 6.6 years with a range of 1 to 12 years. There were a total of 11 nurses that participated in the study, and within that sample 2 participants were in formal leadership positions, and the remaining 9 were point of care staff nurses. Included also were 2 allied health clinicians and 2 physicians. Please see Table 1 in Chapter 3 Methods for additional demographic details. Randomized participant numbers (i.e., P01, P02) are used to categorize the narratives and highlight the diversity of perspectives. The conventions some (defined as 3 to 5 participants), many (5 to 10 participants) and most (10 to 15 participants) are used to signal the weight of consensus within discrete findings detailed within the aforementioned themes.
Characteristics of Effective Teamwork

Working Together to Provide Safe Patient Care

Effective collaboration between HCPs was reflected in cohesive teams that acknowledged and shared skills, and effectual practices. In the context of working in a healthcare environment that focused on the emergency care of pediatric patients, a population vulnerable to experiencing adverse events, most participants suggested working together was paramount to providing safe care. A nurse from the leadership team claimed effective teamwork “comprised of a team willing to help each other, looking out for one each other, collaborating with each other, wanting to work as a team towards one set goal” (P01). The underpinnings of working together were evident in this, and most participant interviews, as was the overarching goal of providing safe patient care. An allied health clinician described:

It's ingrained in what I do, the teamwork component everyday. There is a lot of other allied health that are practitioners that I get involved in as well, it's sort of a part of my everyday data collection, I need to glean and take everything from other people. It's mandatory...at the end of the day it's about the patient in the bed. (P02)

In this narrative, practice was rooted in collaborating and working with HCPs, to gather information as a means to providing specific care. As a point of care nurse asserted, “we can only accomplish as much as we can if we're able to work together in keeping the safety and well-being of our patients first and foremost” (P03). Affirmed here was the need to maintain the focus on optimizing patient care, for which effective teamwork was the mechanism to achieving this.

Many participants expressed the need to maintain collaboration as means to improving patient care, in a wide variety of team contexts and configurations within the ED, which, in turn, demanded specific strategies to achieving effective teamwork. Most participants referred to ad-hoc teams, which included members from outside of the ED, when asked to describe experiences
of successful teamwork. Trauma resuscitation situations were many cited examples wherein ad-hoc teams were drawn together. During resuscitations in the ED, ad-hoc teams comprised of individuals from multiple disciplines who assembled quickly to coordinate, and provide timely patient care. Examples of ad-hoc teams described by some participants included members assembled from orthopaedic services, general surgery, radiology, intensive care, as well as the ED multidisciplinary team. A nursing leadership participant described this collaboration as:

The team needs to come together quite quickly without notice, and know how to do their job, and in order ... When it goes really well, despite the outcome the teamwork has been seen and you get to debrief about it after and everybody gets to say, “Yeah, I feel like I heard, and I know you were communicating to me, and you did your job well, and you did your job well”. And just that positive experience you can really feel that you've done exactly what you were supposed to do as a team at that moment. I think that's one of the best examples I guess. (P01)

The power of positive feedback wherein HCPs were able to affirm synergies and therapeutic actions within high stress situations to build camaraderie was evident in this example. In essence, normalizing ad-hoc team debriefs built teams that affirmed collaboration amid offering important opportunities for learning, and thoughtfully considering practices moving forward. Many participants referred to debriefs as critical components for enhancing teamwork through encouraging reflection post event (irrespective of the patient outcome). A point of care nurse shared an experience during a highly intense code situation:

There was a lot going on with this patient in terms of why it was happening. And, we needed different fluids, different meds. PICU (Pediatric Intensive Care Unit) came and they kind of just intertwined with our team. Both, the PICU Doctors and our Doctors were very collaborative in that sense, like it just seemed to work. I don't know if it was the personality of everyone that was in the room, but at one point there was like probably 20 people in the room because we were running an ECMO (Extracorporeal Membrane Oxygenation) code and it just felt like everyone was doing the pieces they needed to do. (P13)
Collaboration between the PICU and ED teams underpinned by shared understandings of and respect for each team’s roles was understood as the lynchpin to optimizing safe patient care, in what was clearly a challenging situation. In this example, the team’s calmness and clarity were central to working through the treatments required and, again, the patient outcome was delinked to some extent when teamwork was effective. The same nurse summated, “it was literally the best code I have ever been involved in, and it was the most chaotic but controlled” (P13).

The ED employed a well-defined trauma structure and team approach comprising two leaders (a team leader and a nurse leader), a core group of consultants, mapping of HCPs physical positions, with the goal to effectively work together to evaluate, treat and stabilize the patient within 30 minutes. Some participants explained that most consulting services were well versed in this plan and structure. One nursing leadership participant reflected on the collaboration during a trauma situation:

It's nice when you see the services come in with their residents and explaining to them what's going on while their learning or before they start, "Okay, you get a name tag here and you stand over here and you do this and you wait for them to tell you to go the patient", or whatever. It's about the team and everybody's got a different part. They need to stay to their part otherwise it all falls apart. The physician lead is making sure that the patient gets intubated or the medication orders are communicated, and the nurse leader, is a little bit broader in that they're overseeing everything to make sure that double work isn't happening. They can hear what's going on and they can see the patient and the vital signs, its collaboration. (P06)

Formal teaching, respect and role awareness were essential to ensuring efficiencies during a trauma, especially when services outside of the ED were integrated. Secondly, leadership roles were identified as key to timely medical interventions, monitoring progression of the team and coordinating care. Many participants considered leadership roles as fundamental to ensuring collaboration was supported, particularly in trauma situations. One point of care nurse claimed, “they (leaders) do a really great job of bringing everything together, synthesizing things as a
team so that we can work collaboratively, and that people understand their roles” (P03). While effective collaboration between multidisciplinary and interdisciplinary team members could unite HCPs in providing optimal patient care, it was heavily reliant on effective communication to elevate, drive and normalize these effective teamwork practices.

**Effective Communication**

Participants described how effective communication was critical for teamwork and safe patient care. A point of care nurse explained:

> In order to work as a team you need to be communicating efficiently as a team, not just assuming your team members know what's happening, or your coworkers know what's happening, to ensure that everybody is on the same page” (P01).

Many participants identified the importance of role modeling effective communication, and providing clear understandings of interdisciplinary duties, were key to successful teamwork. A point of care nurse offered this example:

> Dr. X has a really great communication style. He's very calm. He states very simply what he needs in the situation. These are the steps that we need to take to accomplish that goal for the station, these are the things that we're worried about… then nursing was really strong in their ability to close the loops of communication, so that we're always very clear about what had been done, what needed to be done, and what our goals were for the patient, just being like, "Okay, I'm going to do this part." "I've got this" "I've done this." Constantly, just closing those loops of communication. (P03)

Most participants agreed the need for verbal communication to signal the entire team regards who was doing what, what had been completed, and what needed to be done. This was critical, especially in potentially high stress situations where time sensitive decision-making and treatment administration, supported by cohesive communication and direction, were key to optimizing the patient outcomes. The need for effective communication also prevailed within sub-acute scenarios, including bedside handovers, as a point of care nurse explained:
You really have to rely on the team as well. To update one another, let you know if their kid is starting to deteriorate and you do need help. So, it doesn't just put the onus on the team knowing that you need help. It puts it on you, asking your team...I think it is just important to keep the communication, like open communication. (P13)

Implicit here was expectations that all team members - including those working at the bedside with sub-acute patients - would communicate patient status and explicitly express the need for assistance based on their clinical assessment. Many participants, especially within the high acuity ED, also expressed feeling safe to ask for help as key to ensuring this ‘open’ communication. One physician referenced a common approach to communicating concerns – “using the CUS language. So I'm Concerned, Uncomfortable, I'm Scared that the patient's deteriorating” (P11). This method afforded clear direct language to draw attention to an emergent acute time sensitive situation. As a point of care nurse affirmed, proactive communication behaviours were critical, “being approachable, non-judgy, not being afraid to ask people because you know that they'll think that you're stupid because you don't know something” (P07). Participants indicated that fostering a culture that supported team members in relaying their assessments and concerns enhanced the teamwork, and reduced the risk of adverse patient events. Implicit within this context was validating staff for communicating within their report lines, especially if and when they had concerns about patients.

Within nursing teams responsible for specific areas in the ED, the solo triage nurse was highlighted as central for communicating with families and determining the level of care required by the patient. A high level of trust was needed in this context, as a point of care nurse suggested:

When the triage nurse picks up the phone to phone and say, "Oh, this last level two, he's really a level two. He's working really hard" or whatever. Or, "This one is tearing up the waiting room, can we move him?" I think it only enhances what they've written on the
triage note and improves the communication between family and the charge nurse to get the kids dealt with in a more timely manner. (P12)

Evident here was the centrality of the triage nurse in directing patient flow, based on ongoing patient assessment – and the communication of those updates to the charge nurse. Apparent also was the need to augment written assessments with verbal communication to ensure accurate triage and, incorporate necessary stepwise responsive care in the ED. Efficient communication to build trust and rapport between HCPs and families was also described by many participants as critical, especially at triage. Another form of communication described by some participants included pre-briefs and debriefs to both prepare, and evaluate teamwork. One physician described a pre-briefing as:

Talking about what our main concerns are about what the patient has, what are the main priorities, assigning roles to the different team members so that everybody knows how they fit well into that setting and what their particular component is, also knowing that they can step out of those roles and do different things. So part of it is in the pre-planning before the patient arrives. (P11)

In this quote, the importance of establishing a plan, discussing expectations and assigning roles prior to an expected trauma arriving in the ED were highly valued. Bringing the team together beforehand and talking through the anticipated interventions or care needed was effective in pre-empting expectations, inviting questions, comments, clarification, and setting the tone for open communication. Similarly, some participants valued the open communication in debriefs suggesting they were valuable learning experiences to retrospectively discussing what worked well, and what might be changed going forward. One physician differentiated debriefing focused on the patient and the trauma situation, and the performance of the team, with both avenues being highly valued in terms of team building. Another physician referred to engaging in a quick debrief method as a means to briefly recognize the team:
(We) then shifted our culture for a period to instead of medical debriefings having a take five moment of acknowledging everybody’s contributions and emotions and checking in with each other, but not trying to dissect a medical case in real time that had high emotional balance. Just because we knew that those would always be reviewed in detail in a M&M (Morbidity and Mortality) type of situation. (P14)

In this quote, debriefing immediately following situations with high emotional impact was addressed, suggesting that time was essential to process the events and properly evaluate the team processes and individual’s well being.

These discussions were also understood to drive practice changes. One nursing leadership participant described the importance of communicating these changes to ensure the effectiveness of the team:

I think we're doing more of the, especially in the mornings, our little powwows where we all gather together and we go over some changes or how are things going…we have the broadcast function on our Vocera, so we can just say, "broadcast ED staff, powwow at orca three." Then just bring everybody together physically, which may seem kind of silly, but there's something about just standing together with people and talking about what's been going on, so I think that's been helping as well. (P01)

Apparent was the value of physically meeting as a team to receive updates and openly discuss changes. Unitling as a group served to address the team as a whole. Augmenting this in-person strategy and updating the entire team also drew on the department’s ‘teamsite’ to share information on an array of practice issues. The ‘teamsite’ is a department specific electronic site (only accessible on the organization’s private network) that contains a myriad of information, including practice changes, scheduling, and announcements, often used as a platform for sharing information. This communication tool was even more highly valued as the ED team was currently adjusting to the inherent challenges and changes, associated with relocating to a new facility. Many participants recognized the need for a higher level of communication in this new context. One nursing leadership member stated:
We need to find a more efficient way to communicate. We just have so much staff, all
different time frames and people going on vacation, having babies, coming and we need
to find a solid communication tool…I think the teamsite. We've always had the teamsite,
but it wasn't really until we moved in here that I think people realized how valuable it
was. (P06)

In this regard, this mode of communication had an increased awareness due to the
changes, influx and amount of team members, as well as, geographical modifications and
challenges of the new ED space. Providing feedback was understood as a means to ensure
inclusion and build teamwork, as a the same nurse described:

Really patting on the back, high fives. It sounds kind of corny, but people need to hear
that they're doing a good job or at least a good try. People need that, especially depending
on their environment, but I think especially in healthcare and nursing because there's so
many negative things that happen that you can't always rely on good patient outcomes to
be your, to make you feel good when you go home. (P06)

Job affirmation through communicating performance feedback enhanced feelings of
competence and improved working relations and teamwork. One physician also described the
importance of flattening hierarchies when communicating, “if someone has a concern, they
should feel comfortable to voice that to me, and not feel like there's any power differential.
Certainly those can prevent some of the near miss incidents that we often see” (P11). This
approach to inclusively acknowledging team members cultivated a working environment that
built trust and enhanced patient safety as one nurse explained, giving feedback (either positive or
negative) was important to recognizing and appreciating practices, and showed initiative for
improving performance.

However there were narratives within the data that indicated the need for hierarchies to
be advanced in situations requiring swift coordination (i.e., resuscitating a patient in
cardiopulmonary arrest) that necessitated direct and directive communication. A point of care
nurse explained:
It can't always be this very collaborative. It can't always be like that because the situation calls for a different kind of leadership in some situations, and so I think sometimes just like trying to not take things personally. This isn't like someone yelling at me. This is just yelling around me, or something like that. At the same time, though, I think there are people that are more effective, there's ways to give an order or a command that can still accomplish what you need to, but don't need to be so harsh, or come across so rude. I think that's a bit of I keep coming back to that give and take thing. (P03)

Balancing authority with effective communication especially in trauma situations required awareness of the leader to convey messages with respect and clarity, while ensuring timely care or intervention was achieved. Effective communication amongst team members in the ED characterized by sharing information, providing feedback and reflecting on situations was ever-present in most participant’s accounts of effective teamwork. Indeed, the skills needed to effectively unite and guide teams hinged on effective communication, and strong leadership was required to sustain these dynamics.

**Strong Leadership**

Among the interviews most participants claimed that strong leadership was fundamental for effective teamwork; wherein specific behaviors, actions and skills created an environment that could empower all HCPs. Many participants echoed the need for a ‘strong leader’ to support and affirm the work done within the team, as a physician described:

> Being a leader is taking responsibility as well for how the team functions and how you incorporate your members. I would say it's a critical part of the team building is the leader themselves. (P11)

Taking responsibility for one’s actions and behaviours as a leader was understood as essential to the development of effective teams as this physician indicated. Attention to variances in the dynamics of the team members, and patient assessments were key to embodying strong leadership. Also evident were clinical competencies to efficiently include team members and
assign roles based on thoughtful and accurate assessment of the situation. Some participants agreed that leaders influenced the teams’ behaviour toward their colleagues. The same physician described this as:

Role modeling from the leaders above us as to what effective teamwork looks like and what good communication looks like. Those would sort of be the core values that I think set a good teamwork ... create a good teamwork environment. (P11)

Leaders role-modelling philosophical dimensions of effective teamwork and communication were signalled as strongly influencing the behaviours of other HCPs. Also valued were clear directions as this had positively impacted team activities, with flow on benefits to delivering safe patient care. One physician described the day-to-day need for effective leadership collaboration, “I think it's co-team leaders as the bedside nurse and the physician and there isn’t a need for an identifying leader in that situation or a hierarchy” (P14). Many nursing participants spoke of increased informal leadership practices to support the impact of providing care in a space, where most participants experienced practice disorientation. One nursing participant shared:

Sometimes when you're not in charge or you're down in the back, other nurses that are more junior might look to you, and would not go to the charge nurse because they know a charge nurse is just learning and hasn't done charge much, or they've seen you in that role (charge) a lot. You're their go to person as opposed to the leader, the team leader, and the charge nurse that those types of questions should be asked of. (P05)

Leadership was espoused as a shared generative model in this regard, whereby everyone had opportunity and obligation to lead.

Most participants idealized a calm disposition as a fundamental characteristic of strong leadership, critical to building effective teams and teamwork. A nursing leadership team member suggested:

If the team lead is calm and is leading in a calm but strong way, then that tends to bring the same out of the players. How the team functions was very much related, I think, to who the lead is, whether it's the whole department or whether we're talking just a trauma. (P06)
In this regard the ability to evenly manage and empower the team was connected to the team’s performance. This was particularly visible in trauma situations, where leaders were responsible for establishing and maintaining high-levels of collaboration and synergy within the team. One point of care nurse explained:

We need strong leaders. We need strong zone leads because I think they're the foundation. We have so many NRTs (Nursing Resource Team members) and so much turnover that we need that solid group of nurses that are regular emerge nurses to lead by example. (P04)

In this regard sustained leadership with consistent messaging were seen as key to overcoming changes to HCP personnel and ensuring the expectations and culture of the ED were always clear. Interpersonal skills were also highlighted as imperative to effective leadership and efficiency of teams. The same nurse described leadership actions:

I think if we have strong, positive leaders then that's just going to rub off on everyone else, right? If you see them walking around, asking how your day's going and how your patients are and for them being engaged and involved I think is really helpful. (P04)

Implicit in this nurse’s narrative were the value of authentic interest in the well being of workers and communication whereby leaders were visible and seen as interested in receiving feedback. These leadership check-ins fostered cohesion amongst the team. Another point of care nurse noted that leaders were the “champions for teamwork” and created an environment where team members felt supported, she elaborated:

I think that the role of your leaders is to be the ones of the greatest example of how teamwork should be and set an example and a precedent for everything...a big part of the leadership is having an unwavering support for it's staff in any situation to some level. Like you can't be a hundred percent like "No matter what you do, I'm going to support you", but I think there needs to be an element of that. At the end of the day we're a team so like, "I'm going to quarterback for you as much as I can". (P08)

Encouraging the team and role modeling supportive, positive behaviours were clearly central to achieving effective teamwork. Many nurses indicated that setting an example of teamwork
expectations, namely in how to respect one another was important to set as a precedent, as one point of care nurse indicated, “I think it's good to set a good example of how you want other people on the team to treat each other, so they can see what's acceptable, what's not acceptable. The expectations are there” (P09).

Some HCPs rotated between formal and informal leadership roles. A point of care nurse described the effective behaviours of a leader based on her first hand experiences of leading shifts:

When you are the team leader, you have to know what you're doing and be strong enough. It's not a strong personality. It's not, and when I say assertive, it's not abrasively assertive; it's being so that you feel confident that your team can feel confident in you. That might just be a demeanour, how you carry yourself, or it might just be experience. I think it's a bit of everything. (P05)

Apparent in the self-awareness of being a formal leader was the need to be self-assured and involved; the same characteristics valued in nurses within clinical leadership roles (charge nurses). In essence, effective strong leadership flowed forward to influence the style of others. This built a culture of strong leadership, rather than relying on a few individuals to embody those qualities. The newly adapted ED workflow included assigned leadership roles within the team. A point of care nurse described:

With our new system now we have the leads in our pods, where they are checking in with people…and I think the goal of that is to be like a mini charge situation and help, each person…. our department is so big now, its so spread out, so you really have to rely on the team. (P13)

The changed physical environment and expansive space was reflected in this nurse’s interview; patient allocation and team members and less formal leadership was required, in addition to the official leadership roles assigned for the day. This echoed what many participants described as the importance of relying on the clinical leads for updates, trusting that members would inform,
escalate and communicate needs if and when required. Clear role expectations were also essential to successfully support the team and avoid confusion. A point of care nurse explained:

Leadership can really shine if the person that’s in the leadership position can see the whole team working, and that leader has a really good understanding of what needs to be done in the moment and can give clear, short directions. That just helps the team understand their roles a bit better…The leader has to be able to see everyone working together, including the emerge Doc and all of the ancillary services…They have to be able to step back and see that big picture and be able to give that clear and concise direction to keep things moving along the line that it should be going on. (P12)

Evident across many participants’ data were shared understandings of leadership roles and responsibilities, which were essential to optimizing team performance in high stress situations.

Most participant’s valued feedback from leaders about their own leadership style and performance, as a point of care nurse explained:

Getting feedback from these people who are experienced in that situation (formal leadership role) whether it be like criticism as well, because I think we need to embrace more of that. Not calling it negative feedback, but where can we improve. I think knowing that as a leader, you can always improve is also important. (P13)

Leadership succession was reflected in the data in the following ways; understanding that continued growth as a leader was imperative to successfully support, influence and maintain the function and performance of a team. One physician proposed a shift in conceptions surrounding feedback:

I think we should identify keen younger, new members of the team who are enthusiastic to learn and are potential future leaders and encourage them to ask for feedback from everybody they interact with. To model and open attitude and then maybe we’ll, simultaneously normalize feedback as a process from leadership and then top down as well. I think we need to move culturally. (P14)

This approach in standardizing a feedback process was valuable in facilitating a routine coordinated communication practice. This process was revered in improving performance and team effectiveness. Added benefits include involvement of junior team members to endorse and propagate this feedback philosophy.
Summary

The findings suggested that participants’ valued collaboration, communication and leadership as the cornerstones to effective teamwork and providing safe patient care in this pediatric ED. The intrinsic nature of adapting to working in a new ED was threaded throughout the various methods of sharing information, including feedback and debriefs that invited reflection to foster a culture of teamwork. Effective team management and function were related to leadership skills that supported, inspired and role modeled positive behaviours. HCPs valued teamwork practices deeply rooted in providing safe quality care to children and their families. Following are the findings that account for the subsequent research question.
Barriers to achieving effective teamwork

This section addresses the second research question: What are the barriers to achieving effective teamwork in the ED? Contrasting previous findings describing characteristics of effective teamwork in the ED, included here are details about the barriers to achieving effective teamwork. Two themes were inductively derived to address the second research question; 1) omissions and assumptions and 2) turf wars and tensions. The first theme, omissions and assumptions was defined as obstacles to achieving effective teamwork arising from poor communication and/or missed or misinformation. The second theme, turf wars and tensions was characterized by teams and individuals marking and/or contesting practice boundaries and specificities of patient care. The findings are illustrated using participant excerpts.

Pediatric EDs are complex environments that routinely experience challenges to optimizing patient care. As mentioned in the previous section, the ED selected for the current study had recently endured major changes to practice and operational workflows as a result of moving premises to a new facility, nearly three times the size of the original department. Discussing the barriers to effective teamwork in this fast-paced environment is key to thoughtfully considering potential avenues and specific strategies for addressing these challenges. In this regard, the findings offered here are intended to inform strategic and effective organization and unit level changes, rather than offer critique of individual level practices.

Omissions and assumptions

Effective leaders were highlighted as pivotal to motivating teamwork and cultivating a safe work culture, particularly in light of recent ED changes and the related effects on the ED staff. Most participants indicated that leader’s omissions and assumptions regarding the planned
organizational changes significantly impacted team performance and the integration of new team members. These exclusions informed barriers to achieving effective teamwork in the ED, eroding confidence in the workplace and fueling job dissatisfaction. Within the leadership context, some participants discussed how leadership behaviours could negatively impact some point of care staff, as one member of the nursing leadership team described:

There's not a lot of empathy coming from some of the leaders, which has really put a lot of people off, so they're like, "Yeah, done," so they leave. Yeah, it's all different styles, but when you're going through a big change like this, if you want your members to feel like a team, yeah, sometimes they need a hug, not a shove, or "Suck it up." It's hard for everyone. (P06)

Evident in this participant’s data, were references to the omission of nurturing and empathetic leadership skills, and assumptions made by leaders that staff were adequately coping with an array of changes and challenges. Diversity across the leadership styles, and level of awareness of the impact of sub-optimal leadership styles also highlighted the challenges depending on who was leading the shift. This same participant called for more supportive and perhaps ‘softer’ leadership, especially in the context of the team transitioning to a new physical environment.

Many participants also emphasized the importance of leaders who acknowledged the challenges for point of care workers, and affirmed their efforts in working through a multitude of unforeseen changes and challenges. Many participants shared examples of occasions where nurse leaders were perceived as having forgotten their point of care origins, amid a reliance on hierarchies and power relations to direct, rather than collaborate within the nursing team. A point of care nurse emphasized how this was amplified with the recent move to a new ED:

I feel like the leadership is a little bit heartier because I feel like the nurses (point of care) that are actually doing the nursing care, have their opinion, but I don't feel like anyone really listens. A lot of us (emphasis added) feel that way. I think people easily forget when they're out doing a leadership role what it was like to be in the assignment. (P10)
Affirmed here was an *us* and *them* division signalling explicit hierarchies and divisions of labour wherein some point of care work was perceived as somewhat undervalued. Most participants indicated that the lack of empathy for, and active listening to point of care providers, was a barrier to both initiating and levelling change, and supporting collaborative cultures that fostered effective teamwork. Leadership styles and behaviours, wherein the omission of formal appreciation and affirmation for point of care workers were critiqued as significant barriers to effective teamwork. Most participants considered such omissions and assumptions served to disenfranchise some team members, to the extent that they felt undervalued and did not have a sense of belonging. As a result, they felt isolated in their practice, with the potential impact on retention amid vast organizational change. A member of the nursing leadership team explained:

> We’ve lost quite a few staff moving into the new build, everyone wanted to come to the new building, and then they left because they just couldn't handle the stress. A lot of that is based on the leadership and how the leaders dealt with the transition. (P06)

Apparent was the heightened pressure of leading an expanding team in a considerably larger ED environment. Confirmed also was the need for leaders to be calm and comforting in levelling the changes that were occurring, as the same participant acknowledged:

> Whoever's sitting at that charge desk, if they're just flapping around like crazy, then the whole department's flapping around like crazy. It's just like it is contagious, truly. We could have exactly the same team the next day, and your leader is different and you have completely different results. It's kind of that ripple effect or domino effect or whatever. (P06)

Many participants conceded that teamwork flow and dynamics reflected leadership styles and dispositions, and the variability that existed among those in formal leadership roles, could heighten the uncertainty already created by the change of department. Embedded were the negative effects of inactive or detached leadership styles. Similar to many participants’ descriptions of ineffectual leadership, was the potential for the team to be rattled and ineffective
when the leader was unable to embody calm and control - to the extent that teams could loose
synergies and experience amplified workload challenges.

Similarly many other participants noted that when inactive leadership styles assumed
patient care workflow was manageable and therefore being managed, a lack of support was also
experienced, as a point of care nurse described:

   It's always harder when you have a leader or charge or whoever just sitting on their
   computer doing other stuff. We know they have other tasks and stuff…its all lead by
   example. You want to feel that comfort and safety talking to your leadership team and
   being able to bring up concerns and not feeling like you're a nuisance to them. (P04)

Inactive detached leadership – and the divisive effects of such siloes impacted nursing staff in
particular, and many participants signalled feeling excluded and separate without clear and open
communication channels. A point of care nurse elaborated:

   I feel like the morale is harder with leadership, not the nurses working on the floor. It's
   like you're in a leadership position so, you have the right to just be in a mood? Doesn't
   make sense to me. (P10)

When asked about efforts to overcome this behavior, this participant responded, “I don't even
think you can. I just feel like it's not worth my time and my energy, and that's sad to say but I just
want to come to work and do my job” (P10). Within this context the participant denied any
responsibility to influence a leader’s behaviors, instead opting to focus on the work at hand
rather than the sub-optimal culture and context within which that work was done. This reaction
further underlined how omissions (not communicating dissatisfaction) and assumptions (that it
was not within her scope of work) reinforced barriers to effective teamwork.

   Omissions and assumptions regarding leadership development and support were equally
cited as posing significant challenges to effective leadership, as a point of care nurse who
periodically was in charge, stated, “cause it's not like I was orientated to how to be a charge
nurse. You'll find my one little four hour session doesn't make me in charge of a huge
department” (P10). Many participants echoed the lack of confidence in assuming leadership roles periodically. One point of care nurse explained:

I was just saying to ‘X’ today whose just learning to do charge, and she was commenting that you just get thrown in and you sink or swim. That is a true analogy, but also I said to her, you realize sometimes when you are just learning...it's scary when you are charge nurse, for example, and you have junior staff, it's the weight of the department on your shoulders. (P05)

Team leadership roles were challenging for some participants, as they lacked formal training and were uncertain of their effectiveness. Building on the assumption that existing leadership orientation programs were sufficient in preparing point of care staff to provide effective periodic leadership was critiqued as naïve in this regard. Many participants also reflected on the fears and anxieties when there was a deficiency in leadership, especially on night shifts, as described by a point of care nurse:

The ship needs a captain... it is scary when you feel like there's not enough people ... We've had lots of situations now staffing-wise. There's only one person that can be in charge overnight working and stuff. It makes people really concerned. It is really worrisome. (P09)

Building on the lack of confidence and leadership capacity for taking on these roles, the shortage and sub-optimal leadership skills of nursing staff further compromised teamwork.

Supporting new clinicians in a high stress critical care environment also presented challenges that contested effective teamwork. A participant from the nursing leadership team described an example of attitudes and behaviours towards new ED nurses:

Everybody starts somewhere, and it bothers me when nurses get knocked down by one another especially in a new environment. If you're new to emergency it's fast paced, and the senior nurses can be pretty harsh on the young ins. It's not always effective teamwork to start with, that's for sure. You kind of almost have to prove yourself. (P01)
Evident were challenges that informal and formal leaders faced in fostering a culture that nurtured less experienced, or new nursing team members. Assumptions that new team member’s would acculturate to the ED workplace were embedded in many participants interviews. Central to this culture was proving oneself as independent within the nursing team. As a point of care nurse said:

A lot of nurses feel like they have to do everything, and asking for help is weakness. I used to work with people like that, and I'd be like, “No, I'm trying to help you so that we can chill together or talk later instead of you just running around”...I remember someone was like, “Oh, I don't know if this break time is really good. I have a lot to do”. I'm like, “What? That's fine, I'll do it”...Then when she came back, she was like, “Oh my god, thank you so much”. I'm like, “It's not a big deal”. (P10)

While this participant was clearly invested in countering the dominant workplace culture, such normative practices and interactions, demanding independence could marginalize new clinicians and threaten the essence of teamwork. These norms around independent nursing practice could also lead to omissions of relevant information on the part of nurses who were trying to prove themselves, especially amongst those who feared asking for help would signal deficiencies in their practice. As one point of care nurse asserted, these practices could also compromise patient care, “if you're the only one that knows your little one and they're de-saturating and you haven't communicated that, obviously that's really unsafe” (P04). Also evident were the risks involved with omitting information and the practice of taking on, as some participants referred to, “more than you can chew”. Omission of pertinent clinical information and conventions that one could handle complex situations independently posed significant barriers to effective teamwork.

Experience being a team leader was seen as requisite to leading interdisciplinary teams in trauma situations; one physician explained:
I think one of the things that a team leader needs to do is be able to have situational awareness in a bigger picture. I think the biggest threat to situational awareness and big picture is task fixation. (P14)

Within this context the participant suggested that when team leaders were focused on specific tasks, team leadership, and lines of communication were compromised, with potential implications for patient safety. Building on this, a nursing leadership participant described the criticality of communicating what had been done to apprise team leaders:

If you're giving meds without telling the doctor that you've given meds, or the nurse leader can't document it, this actually causes a lot of confusion and can really upset patient care, and make for a poor outcome. (P01)

Evident in this example was how distracted or inexperienced leadership and/or missed communications could render teams ineffective and jeopardize patient care, especially in critical situations. Linked to these stressors comprising barriers to effective teamwork was the strong potential for blame, and how that could further fracture teams. Depending on the situation, debriefs in the ED either occurred immediately following traumatic situations or several days after. Typically, a medical team member or an external clinician would lead debriefing conversations. A point of care nurse described a blaming tone that characterized a team debrief immediately following a trauma:

I feel like half the time, nurses are just being pointed at. Let's just blame the nurses. It feels like, “Why didn't the trauma go well? Let's blame the nurses”. That's what it feels like. Remember when you get together after a trauma, what could we have done better, even if it's a mock one, okay; let's just blame the nurse. What did we do?...the thing is everyone points to the trauma nurse leader, but how much can the trauma nurse leader do? (P10)

Flowing from these negative experiences was the fracturing of the interdisciplinary team wherein one subset of HCPs – the nursing team – was highlighted as ‘feeling’ sub-optimal in their performance. This blaming was apparent in a few participants’ accounts of such debriefings fuelling fear, diminishing confidence and posing additional barriers to effective teamwork.
Assuming individual’s or a HCP group as responsible for errors ran counter to the anticipated benefits of taking part in a facilitated debrief. Assumptions about the benefits of debriefing – making sense of the situation, understanding why certain events occurred, and acknowledging areas of improvement – were countered by a climate and culture of shame and blame. Similarly some participants conceded to the fear of being evaluated as one physician shared:

Then there is at least among the physicians but I’ve also seen it among nurses, there tends to be a fear of being evaluated which is a shame. Quality improvement is a process and a continual process and we’re always learning. Evaluation should be a routine nonthreatening welcome opportunity I think for all of us at all times, but that’s not always the case. We feel judged and on the spot. (P14)

Also apparent were the potential for negative undertones and pressures with feedback and evaluation across some members of the multidisciplinary group. Implicit also was the desire by this participant to foster a culture of feedback to the point that it was proactively normed and regularly practiced. Encouraging this practice of feedback, though well intended could inadvertently also impose barriers to effective teamwork in the ED.

Turf wars and Tensions

Interprofessional turf wars and tensions centered on territorial behavioral challenges that emerged in relation to patient care issues, resulting in barriers to effective teamwork. The ED team amassed and evolved to include services and practitioners external to the ED, and many participants talked to emergent challenges that accompanied ad-hoc teams. One physician shared a situation wherein an uncoordinated multidisciplinary response compromised trauma care:

I can remember an example where the attending surgeon responded to the trauma call out and the attending intensivist responded and, they were all barking out different orders overpowering the team leader, challenging the team leader. The nurses were confused, and not sure who to listen to. Care was ineffective, professionalism didn’t happen, communication wasn’t good, and leadership wasn’t good. It ended up I think leading to
suboptimal medical care, but definitely suboptimal dynamics so there was a lot of emotion from our team in terms of feeling trampled upon. (P14)

In this example, power plays and jockeying for position trumped formal procedures and hierarchies to overshadow the team leader fragmenting care amid a distracting turf war among the interprofessional team. Building on this, another example was shared by a participant from the physician group wherein an ‘outsider’ was consulted within a trauma situation:

What I sort of make it akin to, you have a consultant come from a different part of the hospital, who's not used to working our ED, communicates in a way that pushes everybody off and makes them bristle, teamwork's totally gonna fall apart. Everybody's unhappy. Whereas if there was maybe some sort of standardized way that we are expected to communicate with each other, and defer to each other, that situation would have never happened in the first place. (P11)

Herein, etiquette around the communication and jurisdiction within ad-hoc teams tending to high stress situations emerged as challenging. Implicit were turf wars and tensions around who was responsible for leading, “…there has to be somebody” (P02), their leadership style and behaviour, and the co-ordination required to optimizing patient outcomes. Many participants agreed that these tensions could be prevented during the provision of care (rather than debriefed after). As a point of care nurse explained:

There's some services that come in and they think they're top dog and try to take over…I think you just have to a simple stop the line type thing and just not be afraid to speak up. Stop the line and just try to regroup. (P04)

Stopping, albeit momentarily, the focus on direct patient care to attend to team processes and procedures was easier said than done, especially in high stress and acuity situations. Again, embedded here were turf wars and tensions around jurisdictions and hierarchies, the sum of which created barriers to teamwork with resulting negative implications for patient care.

As mentioned previously the ED was undergoing significant changes that included an increase in staff and emergent changes to some practices. In this regard, most participants
recognized that tensions arose around disorientation to place and practices. An allied health clinician described:

Moving into this new department, there's been lots of different challenges, and lots of things identified. Overall, flow and knowing who's, frankly, in your department is a big deal…. Sometimes that's hard, just not necessarily knowing who exactly is down at one end… it's just literally trying to find where is it now… I can think specifically of a patient that actually moved from our old department and happened to move (to the new department)... I think the patient frankly, was none the wiser but from my perspective, I don't think that patient necessarily got the optimal care here. Just because of a bit of the chaos in moving, things like patient charts, where they would normally be located, were often missing the next day. Or patients might've been waiting longer while we were trying to hunt easy things down, like the patient chart or the patient order. (P02)

Affirmed here were the tensions that could manifest within a changed environment and the impact on patient care, and the barriers to teamwork that emerged from the newly assumed workflow processes. The turf wars in this instance might be understood as internal to some extent adding to the challenges for ensuring effective teamwork and by extension patient safety.

A point of care nurse observed:

Sometimes we implement things that just feel like an extra step, or like an onerous thing for us to take on, without really understanding the “why is this important?” I think people are more willing to participate in things like that, if they understand why it's important. (P03)

Apparent was the desire to slow and perhaps rationalize changes to retain some familiarity.

Prevailing here also were tensions between those who were resisting change (both implicitly and explicitly) and change agents who were understood as driving change, a situation invoking a turf war between the drivers and resistors to change. Many participants indicated the importance of understanding resistance to change, as was the need for signalling professional accountability to stay informed about changes. A physician explained:
As a large team, generic team of emergency team we have a huge number of nurses, huge number of doctors and then a huge number of off service staff that come in and out of our department. Number one is just trying to capture everybody to inform standard practices, to train in standard practices. Not everybody is equally engaged, we should all be as professionals…we should all be responsible for our own learning and improvement, but not everybody takes that as seriously as the next person. (P14)

Signalled here were divisions delineating drivers, resisters and contradictions in how HCPs dealt with change. Turf wars emerged in this sense around what might constitute and compromise professional obligations within the team. Again, such tensions could be divisive and impose significant barriers to effective teamwork.

Turf wars and tensions also occurred within the context of advocating for a consistent patient family centered care (PFCC) approach, particularly amongst the interprofessional team. An allied health clinician expressed the difficulty in supporting a family with decision-making processes:

If you're working with a team member who isn't open to options and who feels like it's going to be this way, then I don't really feel as a practitioner that I have any independence or any control over helping the family make a decision. (P15)

Within this narrative, tensions surrounding the professional and family care boundaries were presented. Apparent also were interprofessional turf wars regards the involvement of families, and explicit decision-making. The same clinician elaborated:

To me safe patient care means that we are providing opportunities for patients to have that play outlet, have that distraction outlet, and to feel that they're safe in this space. So if we value play, but you have a consultant that's like, “There is no time for play. We need to get this done. There's no time for all this nice stuff”. “All this fluff”, (is what it's been called before too), “We don't have time for this fluff”. That really hits at a value. (P15)

Interprofessional tensions about the role of play within the context of PFCC were apparent.

Implicit also was the desire for a coherent understanding of the value in play as a vital
component in a child’s hospitalization, and the negative coping implications for both patients and families.

Summary

The barriers to effective teamwork related to omissions and assumptions wherein ineffectual leadership was understood as a significant contributor. These barriers were also amplified within the context of significant organizational transitions and change. Missing or missed communication had a significant impact fracturing interdisciplinary collaborations. Patient care turf wars and tensions were similarly challenged as most participants’ recounted situations wherein hierarchies and jockeying for positions eroded teamwork. Intersecting scope of practice again caused barriers to teamwork and tensions with team integration, particularly when competing values among interprofessional groups also served to limit the attention needed to support PFCC and shared decision-making processes during hospitalization. A discussion of the findings follows in Chapter 5.
CHAPTER 5: DISCUSSION AND RECOMMENDATIONS

In this chapter I situate the findings within relevant literature in two main areas; 1) characteristics of effective teamwork in the pediatric ED, and 2) the barriers to achieving effective teamwork within that environment. The study strengths and limitations are also discussed along with future practice recommendations for establishing and maintaining effective teamwork in the ED. In the conclusion I provide recommendations for policy, practice and education, as well as future research in this area.

Summary of key findings

Providing safe care to children and families relies on effective teamwork, especially in EDs where the nature of the work is inherently unpredictable, multifaceted, and complicated by competing triages, complex demands, and distractions (Manser, 2009). The current study findings revealed participants as deeply aware of the connections between effective teamwork and optimizing patient outcomes. In this regard, there was a goal to deconstruct, understand as well as, activate the characteristics of effective teamwork – all for a greater good of providing safe patient care. Perhaps the commitment to effective teamwork within the participant interviews also reflected their perspectives on the vulnerabilities of pediatric patients. With this in mind, it is noteworthy that the findings affirm results by Oandasan et al. (2006) including their definition and delineation that, “collaboration is a process of interactions and relationships between health professionals working in a team environment” (p. 4). By further discussing the current study findings, some specific characteristics and processes by which affective teamwork can be attained are offered. Moreover, within the context of a pediatric ED these insights are critical for providing care to a population that has heightened vulnerability to adverse events.
The current study findings revealed respect, role awareness and trust as contributing factors to effective teamwork both in the context of established and ad-hoc teams. According to Eppich (2008), ad-hoc teams are challenged to predict other team member’s skills, strengths and experience especially in high-risk situations. Likewise, Manser (2009) indicated that collaboration and the ease of adapting to changing courses were needed to counter unanticipated situations, and enhance teamwork and role knowledge. The current study findings highlighted how collaboration underpinned by the proficiency in swiftly adjusting to the needs of the patients, contributed to optimizing safe patient care. However, there are significant challenges within health care for implementing standardized team training approaches, such as TeamSTEPPS Canada – a teamwork training program further discussed in the recommendations section. This is in large part due to the ad-hoc nature of many teams and the acute and highly stressful nature of the work. Within the pediatric ED, the current study findings indicated that respect and role awareness are key, as well as openness to the effective processes emerging from this teamwork, are teaching and learning opportunities. Promoting respect and role awareness among teams is important to building effective teams; chronicling and sharing the findings with staff about what worked well; this is not to deny the need to also make adjustments on what did not work well, but signaling and synthesizing the strengths of the team is more likely to foster respect and optimal effectiveness of teams.

Regardless of their professional background, the current study participants indicated that communication was key to achieving effective teamwork. This included various methods such as pre and de-briefing, closed loop communication, sharing mental models, and affirmation of a job well done. Communication has long been known as a vital component and competency in teamwork effectiveness detailed in several studies, particularly within the context of providing
safe patient care, (Baker & Norton, 2002; Eppich et al., 2008; Kalisch, Lee, & Rochman, 2010; Kilner & Sheppard, 2010; Manser, 2009; Youngwerth & Twaddle, 2011; Salas, 2005). The current study adds empirical weight to affirm Weller’s (2014) assertion that, with the increasing demands and complexity of healthcare, a multidisciplinary team that can effectively communicate through shared understanding is essential to achieving the collective goal of providing safe care. In trauma situations, when teams were primarily ad-hoc, our results suggested that effective communication prevailed when pre-briefing sessions were thoughtfully and skillfully facilitated. Specifically, when roles and plans of action were discussed and delineated, and when leadership ensured high levels of communication and sharing of information, teamwork and performance was enhanced (Salas, 2005). Similarly de-briefs were identified as valuable learning experiences to move practices forward and gain collective insights to the team’s thought processes and anticipated outcomes (Weller et al. 2014).

The current study findings also closely align to the “Big Five” teamwork effectiveness framework, one which acknowledges the processes and varying elements of a team performance (Salas, 2005). Salas’ (2005) framework was taken up as a priori set of codes to initially orient and arrange the data, and most evident was closed looped communication and shared mental models. Closed looped communication and shared mental models were coordinating mechanisms necessary to fuse the five core components of the framework (Salas, 2005). The findings confirmed these coordinating methods as pivotal to the success of team performance, particularly during trauma situations - times when focus and precision were challenged by team composition and situation where leadership was required to sustain this solidarity. However, there were also challenges that flowed from the absence of these methods impacting interdisciplinary collaboration, likely a result of teams engaging in high stress situations. The findings also
showed continual references to the planned re-location of the ED (a high stress situation), and challenges to adapting to this organizational transition. Within these findings, sharing information regarding practice changes and closing the loop in terms of evaluating and affirming the uptake of these changes was essential to smoothing the various shifts in practice, and leveling the disorientation of working in a new environment. Possible methods to improve the uptake of a planned organizational change include supporting interpersonal leadership skills to emphasize communicating activities needed to level uncertainties and respond proactively to the emotional reactions of the change (Battilana et al., 2010). However, recognition that planned organizational changed is complex and requires a variety of differentiated processes to support and sustain the implementation also needs careful attention (Battilana et al., 2010).

Additionally, most participants conceded that when leadership was proficient in facilitating problem solving and role modeling calm leadership, the impact was a positive cohesive work plan with greater team effectiveness. According to Rosenman (2016) and Manser (2009) leadership competencies including interpersonal skills relating to open communication, and maintaining transparency, were vital to advancing team performance. This was especially evident in critical time limited circumstances, where the ripple effect of a calm leadership approach, together with a respectful direct communication style effectively led the team. Team members had clear guidance and expectations but also felt supported in their work efforts, key elements to efficient teamwork. Nonetheless, as important as it was to flatten hierarchies to improve lines of communication, advancing the knowledge to soften hierarchical report lines was also important for interdisciplinary teamwork. Many participants indicated that more ‘informal’ leadership roles were implemented into the workflow to both enhance team and support ‘formal’ leadership (i.e., charge nurse), as a result of the geographical challenges of
providing care in a larger ED space. These role changes increased the understanding of leadership support, consistent with the findings in a study by Nancarrow et al., (2015), which reported leadership as a mutual concession wherein members adopted different leadership roles throughout the daily practice.

There was resistance by some participants to make suggestions and/or give feedback on suboptimal leadership performance. Perhaps participants’ feared the reciprocity of sharing negative feedback with leaders especially when they were perceived as superiors or, participants were ill equipped to constructively discuss their observations and evaluations. According to Nancarrow et al., (2015) team leaders can value the team’s feedback of their performance particularly following the implementation of a structured change tool, intended to improve teamwork through a systematized reflection process. Challenges with giving feedback are significant and merit further research; indicating a need for a culture shift, along with a structured process to reflect and share constructive comments, to enhance leadership practices.

Hierarchy has long existed in health care organizations, especially between the physician and nursing groups. In regards to possible solutions, there is need for an explicit leadership framework that outlines the competencies necessary to take on these more formal leadership roles (i.e., charge nurse), supported by implementation of evaluative measures to assess leadership skills. Moreover, according to Ajeigbe (2013), it is possible to level this partnership especially if a structured teamwork training program is endorsed, to effectively lead teams and coordinate to optimize patient care.

There were situations described by some participants where the need for hierarchy and authoritative direction was warranted, especially in trauma situations when ad-hoc teams collaborated to provide care. Though flattening hierarchies was a subject that prevailed within
the findings, advancement of the knowledge in the competencies needed to develop this were connected to the performance and collaboration of the team (Künzle et al., 2010). Team members contribute different scopes and levels of practice, and liability of medical care often lies within the responsibilities of the medical team; therefore ‘hierarchy’ in a situation requiring swift coordination of team members (i.e., resuscitating a patient) is required. Balancing authority and hierarchy with inclusive leadership styles is necessary to effectively lead, as a means to positively engaging the team members, as well as, directing shared mental models and closed loop communication. As satisfaction with teamwork prevailed in the findings, concurrent was the desire to improve team performance and outcomes and lever a solidarity that would equip teams to effectively respond to rapidly changing contexts intrinsic to an ED.

Many barriers to achieving effective teamwork existed, the majority of which reflected the failure to meet the aforementioned characteristics of effective teamwork. Within these findings, the context by which barriers formed helps to guide potential solutions and reduce the risk of undesirable patient outcomes.

In the current study, ineffective leadership was highlighted as the single most significant barrier to teamwork. The impact of ineffective leadership was primarily understood by participants to foster team dysfunction and job dissatisfaction, the sum of which fueled staff retention issues. Evident were assumptions that team members were coping with changes and workload, findings consistent with White et al.’s (2018) study in which leadership behaviours influenced team performance and dynamics. Within the context of the current study, the recent change of physical environment was acknowledged as amplifying these concerns about ineffective leadership. In essence, leaders were seen as change agents, while many workers perceived themselves as having to accommodate, accept, and often times work around the
changes. According to Battilana et al. (2010), resistance to a planned organizational change can be associated with a level of uncertainty and or lack of rationale. Leaders with strong interpersonal connections (person oriented leaders) tend to be aware of these limitations and, are able to relate to the emotional impact on team performance, in regards to adapting to the change (Battilana et al., 2010). The current study findings reveal potential gaps in some leaders and leadership styles wherein executing wholesale changes was not possible to the extent that teams became divisive and dysfunctional. In terms of solution, team leadership requires organizational level supports (including formal credentialing, concessions and incentives) to enhance and sustain team function, as previously asserted by Oandasan (2009). Indeed, within the context of change, team leadership incurs additional demands in large part because they are often seen as change agents.

Building on the added pressures of a changing environment, many participants described the negative impact on the team when a leader was unable to embody a calm and controlled disposition. This disposition invoked a divide between some point of care staff and some leaders, and was further influenced by reliance on, but critique of, hierarchies and positional power to lead. Tensions resulted contributing to barriers to effective teamwork that eventually produced negative team dynamics and poor performance. These findings ran counter to literature that focused on how leadership responsibility for collaboration and support of a shared mental model was essential to build effective teams (Eppich, 2008; Manser, 2009). According to van Schaik et al., (2014) challenging power and hierarchical leadership approaches are important issues to improving intra and interprofessional teamwork. The current study findings reveal sensitivities and discretion for having those ‘difficult’ conversations (discussing ineffective leadership practices), especially when the subordinate individual (point of care nurse) was perceived to have
practice challenges. In this regard, silences and stoicism contribute to teamwork barriers, which thereby undermine the team’s confidence and, by extension, patient outcomes.

Turf wars among inter-professional teams were also ever-present among the participants’ descriptions of the barriers to effective teamwork, particularly in trauma resuscitation situations, where jurisdictions and boundaries could be invoked amid significant stresses pertaining to ownership of patient care. Perhaps this was the result of ad-hoc teams, quickly formed to respond to trauma situations without a pre-brief or plan as previously highlighted by Rosenman, (2016). Echoing research findings from Oandasan, Baker, & Keegan (2006), most participants in the current study indicated that ‘jockeying for position’ fractured teamwork, particularly when consultants from outside the ED asserted their lead. In regards to possible solutions, there is a need for innovative ways to collaborate within ad-hoc team whereby members reframe and flatten deep-rooted hierarchical cultures and power structures that hinder teamwork (Oandasan, Baker, & Keegan, 2006). According to Clements et al. (2007), and confirmed in the current study findings, leadership failing to champion and drive change with nurture had significant consequences for teamwork. This is not to assign blame to team leaders (though that did regularly happen); rather, systems management levels need to equip leaders and staff to anticipate, prevent, and overcome these overlapping jurisdictional barriers (Battilana et al., 2010; Oandasan, Baker, & Keegan, 2006). This development could foster cultures that prevail within the most challenging of circumstances.

**Future Recommendations for Practice and Implications**

Based on the current study findings, several recommendations are offered to enhance and improve teamwork in the pediatric ED, and reduce the barriers to achieving effective teamwork. Future research opportunities may include a longitudinal multi-stage study to gain a deeper
understanding of the patterns and trends of teamwork, in relation to the quality of care provided. This work might also be prudent to examining the impact of the vast organizational changes over time to inform future transitions across other health care sectors. Secondly, future studies could incorporate an ethnographic approach to capture and make connections between the everyday insights of teamwork, to the wider contextual view (Oliffe, 2005). This is essential to uncover thick descriptions of the culture of teamwork specific to pediatric EDs, and to understand and connect environmental distinctions that influence this practice. The current study revealed descriptions underpinning collaboration, communication and leadership as integral components of teamwork; however, additional observation data through an ethnographic approach, could provide a layer of information to better understand the distinct teamwork practices and, to deepen the link to patient safety while enhancing the teamwork culture. This is especially important in nursing research, as nurses are by nature well immersed in the culture of providing safe care to patients, as well as the intrinsic close working relationships with HCPs (Oliffe, 2005).

Additionally with the growing evidence of teamwork within a multigenerational healthcare workforce, focusing research within this historical temporal context would uncover timely findings that could influence practice, education, and policy development - conceivably at the system and organizational level.

As well, expanding criteria to include those that interact with patients but not necessarily providing direct care, (i.e., administrative support staff), would provide important additional perspectives about teamwork. Similarly, incorporating insights from new ED HCP to obtain their initial perspectives of teamwork, would add supplementary views on team integration, culture, and support within the context of team integration, and patient safety. Likewise including patient
families to gain their understanding of the teamwork in the ED would triangulate insights affording important views of this phenomenon.

**Practice**

Effective teamwork is a significant benefit and a lever to optimizing patient outcomes. In this regard there would likely be strong benefits from detailing the underpinnings of effective teams and addressing the barriers that invariably challenge this practice. To bring awareness to the specific teamwork practice within this pediatric ED, I would offer a presentation of this project during one of the interprofessional education days. The purpose would be to share the findings with a focus on engaging discussions about respect, and to influence the team to reflect on their own practices and the current practice challenges within department. I would highlight sections of the organization’s human resource policy on the “Code of Ethics” (PHSA, 2017), and draw connections to the study findings, including points such as:

> Acting with the highest standards of personal and professional integrity and conduct in dealing with our patients, the public, other employees and organizations…behaving in a respectful manner in the workplace…zero tolerance approach to disrespectful and disruptive behaviour…creating a productive and cooperative work environment that promotes the delivery and quality of health care and patient/client safety. (p. 2-3)

As well, I would encourage discussion around a similar organizational policy - “Fostering a Culture of Respect” (PHSA, 2017), “to confirm the organization’s commitment to a culture of respect across all our areas of work” (p. 1), as disrespectful behaviour is a barrier to patient safety. Moreover, emphasizing the responsibilities of leaders, managers, supervisors, department heads, and employees to nurture safe working environments that both models respectful behaviours, and secures zero tolerance for disrespectful behaviours. Specifically underlining verbatim sections of both policies provide contextual references, and help situate and invite
discussion around how this policy could potentially guide the development of an ED specific ‘culture of respect’ policy, to strengthen and bring awareness to teamwork practice.

It may also be important to note that this recommendation could possibly apply to other health care areas, including non-pediatric ED’s, as respectful workplaces are supported by Canadian Occupational Health and Safety legislations. Conversely, although ED teams are similar and have commonalities with other health care teams, they are unique according to Roberts et al. (2013), wherein ED teams are commonly ad-hoc and are generally unable to thoroughly communicate and create plans of care, due to the dynamic nature of the working environment and clinical course. Taking all of these considerations into account is necessary when further designing practice recommendations. Lastly, careful consideration of the process for implementing the respectful workplace policy in the ED is needed; ensuring adequate support and training to enhance the inclusion and sustainment into practice is critical.

Building on policy recommendations, I propose an organizational leadership policy with the intention to flatten the hierarchies evidenced from the findings. The policy would provide structure and accountability for leadership competencies and behaviours including those currently in formal leadership roles. Implementing this structure at an organizational level would provide teams throughout the hospital, a starting point to build specific unit/program leadership education tailored to meet their needs.

Many of the barriers that hinder effective teamwork particularly in relation to communication, leadership and within ad-hoc teams, suggest that a focus on communication strategies that enhance the sharing of information between multidisciplinary groups especially during trauma situations is vital. It would be beneficial to create a structure that supports
communication skills that includes ongoing assessment of competencies and educational support. A starting point could be a discussion to incorporate an existing teamwork training program, such as TeamSTEPPS Canada especially in the context of ad-hoc teams in trauma situations, as the findings suggest variances to communication methods and leadership within those ad-hoc teams (CPSI, October 27th, 2018). TeamSTEPPS Canada is an evidence based teamwork program, with the goal of optimizing safe patient care through enhancing communication and teamwork skills within the health care team (CPSI, October 27th, 2018). However challenges to implementation of this type of program are worth noting, including the cost to adapt this curriculum across the organization, as well as the support needed from multiple levels to measure the effectiveness and maintain this shift in practice (Epps et al., 2015). According to Salas (2013), team training involves a change in culture, and sustainment is greatly dependent on leadership support.

Furthermore, perhaps it would strengthen lines of communication if simulation scenarios involved in the ED interprofessional education sessions, depicted the described barriers such as, jockeying for position, and conflicts resulting from overlapping jurisdiction boundaries. With the aim being to purposefully work through how to address, coach and respectfully communicate. Providing a safe space to interact and rehearse the complex non-technical skills of effective communication, critical thinking, and decision making to name a few, enables the team to practice and learn from the goals of the scenario without risk to patient safety (Lewis, Strachan, & Smith, 2012). Moreover, during the debriefing session (post simulation), perhaps gaps in advocating for the patient and dealing with incivility would be uncovered, enhancing the need for a teamwork training program rooted in certain teamwork knowledge, skills and practices. Conversely, there is no existing evidence that connects the success of team leadership
performance during simulation to real life (patient care) leadership performance (Rosenman et al., 2016), however, according to Lewis et al. (2012), there is positive correlation to the improvement of transformational leadership skills from simulated learning. Lastly, given the opportunity to work through these difficult situations in a protected, non-judgmental learning environment could allow the team to practice how to respectfully respond, especially when teamwork is threatened.

This proposed method could build on Salas’ (2005) “Big 5” teamwork framework to explicitly drawing distinct components and processes of this particular team, and provide ways to manage and develop this group of HCPs. As we iteratively move between the study findings and compare and contrast the teamwork framework (i.e., communication methods to enhance teamwork) specific to working in a multifaceted ED, perhaps a specific ED teamwork structure could be crafted to depict necessary approaches in building this practice, and enhancing performance. As well, team leadership competencies that reflect again the nuances and nature of leading a team within the ED, could be constructed through continual iteration and adaptation of this framework.

The findings highlight the impact of leadership hierarchies and divisions on the point of care staff, disenfranchising some participants, leading to feelings of isolation especially in the midst of vast organizational changes. Some participants (including those in formal leadership roles) conceded that orientation to leadership roles (i.e., charge nurse, trauma nurse leader) lacked structure and process, signaling the need for review and possible reorganization in education to support these team members. Perhaps a framework approach similar to the study by Rosenman et al. (2016) that encompasses team leadership competencies and behaviours specific to an ED, could support and strengthen leadership capacity. Although, it is worth bearing in mind
that a team leadership framework is not entirely inclusive of competencies, as other contextual variables (i.e., environment, team membership) impacting leadership, complicate isolation of specific skills. This framework offers a comprehensive starting point to measure and assess this capacity as the findings revealed an absence of this type of structure. Additionally, building and sustaining a leadership team in the ED could include monthly leadership meetings and/or a leadership mentorship program (for both formal and informal leaders) aimed at identifying leadership and practice concerns and discussing future strategies. This could sustain a connection between formal and informal leadership roles, and potentially advances confidence in taking on these roles, especially when formal support is limited (i.e., during night shift).

The findings suggest the need to explore hierarchical boundaries to breakdown this barrier to effective teamwork. Encompassing an open reciprocal partnership in high stress situations, respecting boundaries and taking the time to gather information from the team members directly involved in the care, is pertinent to making informed decisions about a child’s plan of care. Recognizing that everyone brings their own expertise to the situation is important in regards to respecting one’s roles and their awareness of their involvement in the trajectory of care.

**Strengths and Limitations**

The current study has strengths and limitations. In terms of strengths, the research design allowed for the collection of rich contextual data from an array of stakeholders. The interview approach afforded time to reflect and articulate insights to facilitators and barriers to effective teamwork. As Morse (1994) asserts, the processes of collecting qualitative interview data can also afford deep reflection and insights to affirm practices and lobby change where necessary. Purposive sampling to maximize diversity across the 15 study participants was another strength
of the study design wherein patterns and diversity were distilled to contextualize teamwork in a pediatric ED undergoing significant change.

There were also several study limitations. The cross-sectional study design afforded keen insights reflecting specific points in time, whereas longitudinal data collection and analyses might more fully apprehend the processes driving teamwork across time. While the sample fairly represented gender and specific professions working within the ED, the small number of participants limits what can be reasonably claimed as representative of the study site, other EDs and HCPs working outside the ED.

My experiences as a point of care nurse on the ED team, while fueling my interest in this topic also rendered me susceptible to biases in how I collected and interpreted the data. I have strived to be critically conscious of my preconceived views about teamwork in the department by journaling during data collection and analyses, and in writing up the findings. It was essential to maintain this reflexivity throughout the research, to be mindful of my scope as a novice researcher and the influence of my professional experiences in shaping this work and the findings drawn from the research. The time constraints associated with completion of the MSN program were also potential limitations. Though data saturation was reached with additional time and data, I may have been able to formally compare discipline and designate specific sample cohorts to further tailor practice recommendations (Morse, 2015). These limitations do however offer direction for future research including multi-site and longitudinal studies to test the current study findings and advance interventions toward building effective teamwork among HCPs.
CONCLUSION

The multifaceted nature of a pediatric ED demands effective teamwork to provide safe quality care to children and their families. There exists a dearth of research focused on pediatric ED teamwork. The current study reveals communication and leadership as integral to effective teamwork underscored by respectful behaviours. Limitations in the scope of this research project could have afforded a more comprehensive comparison of the disciplines to shape future practice proposals. Given the challenges to public health care in Canada, and the ever-increasing acuity of pediatric ED patients it is vital to retain and adequately prepare HCPs to sustain the demands of providing care to these vulnerable patients. Teamwork, while valued and understood as important, is complex and demands strategy and tangible supports to enhance and sustain this practice. Clearly, there is an urgent need to implement and evaluate programs dedicated to equipping HCPs to build communication and leadership skills toward effective teamwork – and by extension advance the well-being of children and their families.
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APPENDICES

Appendix A: Recruitment Poster

Uncovering Teamwork in a Pediatric ED

Looking for volunteers to interview about teamwork practices and beliefs in the Emergency Department

Participants

- Minimum 6 months experience working in the pediatric ED
  - Provide direct care to patients
  - Will receive an honorarium

For more information, please contact:

Trisha Manio (principal investigator)

Email [redacted]
Phone [redacted]

Or Dr. John Oliffe (co-principal investigator)

Email [redacted]
Phone [redacted]

Contacting us does not commit you to the study, and freedom to withdraw from participation can be done at any point without any harm to participants.
Appendix B: Broadcast Email

Hello team:

I am conducting a qualitative study that explores how beliefs and values about teamwork inform our practice in the ED. The study is entitled “Uncovering Teamwork Practices in a Pediatric Emergency Department”. Participation is voluntary, strictly confidential and, withdrawal from the study can occur at any time. A small honorarium will be provided to eligible participants.

If you would like to participate or require more information, please contact me.

Also please see attached recruitment poster with additional contact information.

Email: xxxxxx
Phone: xxxxxx

Thank you for your time.

Cheers,

Trisha Manio, RN
Graduate Student – Masters of Science in Nursing
University of British Columbia
Appendix C: Social Media Advertisement

Uncovering Teamwork in a Pediatric ED

Looking for volunteers to interview about teamwork practices and beliefs in the Emergency Department

Participants

- Minimum 6 months experience working in the pediatric ED
  - Provide direct care to patients
  - Will receive an honorarium

For more information, please contact:

Trisha Manio (principal investigator)

Email
Phone

Or Dr. John Oliffe (co-principal investigator)

Email
Phone

Contacting us does not commit you to the study, and freedom to withdraw from participation can be done at any point without any harm to participants.

****Important please note if you post to the study’s page, “follow” or “like” the study’s account your preferences/engagement will be accessible to others****
Appendix D: Consent Form

THE UNIVERSITY OF BRITISH COLUMBIA

To be filled out by Researcher:

Date (dd/mm/yyyy): _______/_______/_____________  Participant ID #

Interviewer: ______________________________________________________

Study Consent Form

Title of Project:

Uncovering Teamwork in a Pediatric Emergency Department

H17-01933

Who is conducting the study:

Principal Investigator: Ms. Trisha Manio, Registered Nurse, University of British Columbia, and BC Children’s Hospital

Co-Principal Investigator: Dr. John Oliffe, School of Nursing, University of British Columbia
Co-Investigators: Dr. Helen Brown, School of Nursing, University of British Columbia
Ms. Christy Hay, Program Manager Emergency Department and Trauma Services, BC Children’s Hospital, University of British Columbia

Background and Purpose of the Study:
This study is for completion of Ms. Trisha Manio’s thesis for the Master of Science in Nursing program at UBC. It will explore the teamwork practice in a pediatric Emergency Department (ED) setting. Teamwork and collaboration is a core component in the delivery of safe, quality healthcare. ED departments are characterized by a large amount of unpredictability, overcrowding, multiple stressors and a high volume of patients. Due to this complex multifaceted healthcare environment, studying teamwork in this setting will benefit practice and improve the quality and safety of care delivered.

The purpose of the study will explore teamwork in a pediatric ED, specifically the values, beliefs and knowledge that inform and influence working together as a team, as health care providers teamwork impact patient outcomes. Few research studies have investigated teamwork practices in a pediatric ED. The study aims to uncover the teamwork in this setting is to address a significant knowledge gap and lay the foundation to shape future teamwork and research initiatives.

Study Procedures:
Participation in this study will involve completing an individual interview that will be approximately 60-90 minutes long. The interview questions will focus on your beliefs and values about teamwork in the Emergency Department (ED) as well as strategies for ensuring successful teamwork. The interview will be conducted in person, digitally recorded and transcribed by a professional transcriptionist. Interviews will be analysed and compared to inductively identify essential qualities of teamwork related to the practice in the ED.
**Risks and Benefits:**

There is minimal risk expected from the participation in this study. Each participant will be provided with an information sheet about the Employee and Family Assistance Program (EFAP) a counselling service available to healthcare providers.

No one knows whether or not you will benefit from this study. There may or may not be direct benefits to you from taking part in this study.

We hope that the information learned from this study can be used in the future to benefit the innovative knowledge about teamwork practiced in the ED.

For participating in the study you will receive $15 gift card for the interview.

**Confidentiality:**

Information collected in this study will be kept strictly confidential. Your personal information or identity WILL NOT be associated with the digitally recorded interviews or typed transcripts. A code number will be used. Only this number will be used on any research-related information collected about you during the course of this study, so that your identity will be kept confidential. Audio recordings and transcriptions will remain ONLY with the primary investigator (Ms. Trisha Manio) and co-principal investigator (Dr. John Oliffe). The information will be stored in a locked file cabinet and computer files will be password protected. Following completion of the study, data will be kept in secure storage archives at UBC for 5 years, and at the end of the fifth year the data will be destructed, there are no plans for secondary use of the recordings. You will not be identified in any reports or publications of this research project.

**Who can you contact if you questions or complaints about the study:**

If you have any further questions or desire further information, you can contact Dr. John Oliffe at [number] or email [email].
Who can you contact if you have complaints about the study?

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at or if long distance e-mail or call toll free . Please reference the study number (H17-01933) when contacting the Complaint Line so the staff can better assist you.

Consent:

Your participation in this study is entirely voluntary. By signing this consent form, you are agreeing to participate in this study and acknowledging that you have received a copy of this consent form for your own records. By signing this consent form, you do not waive any legal rights. You may refuse to participate or withdraw at any time without any consequence to you.

I have read the consent information, and had the opportunity to ask any questions about the study and my involvement. I understand the specificities of my participation in the study, and freely choose to take part.

- Your signature below indicates that you have received a copy of this consent form for your own records.
- Your signature indicates that your questions about the study have been answered by the researchers.
- Your signature indicates that you consent to participate in this study.
Would you like to receive a brief summary of the study findings?

- No
- Yes — If yes, please provide a postal or email address

May we contact you in the future about other aspects of this or new studies?

- No, I would not like to be contacted about future studies
Yes, I would like to be contacted about future studies – if yes, please provide a postal or email address

__________________________________________________________________

Participant's Signature  Date
Appendix E: Demographic Assessment Record

Teamwork Study

Demographics Form

1. What is your gender?
   - Female
   - Male

2. In what year were you born? ________________

3. What is your designation?
   Please choose one of the following:
   - Registered Nurse
   - Nurse Practitioner
   - Physician
   - Resident
   - Pharmacist
   - Child Life Specialist
   - Other _____________________

4. How long have you worked in the pediatric Emergency Department at BC Children’s Hospital?

5. How many years have you been working in the field of pediatrics?

6. What is your employment status in the ED at BC Children’s Hospital? i.e. Full time, part time, casual

7. What is your level of education?

8. What is your ethnicity?
Appendix F: Interview Guide

RQ#1: What knowledge, beliefs and values inform and influence teamwork in the pediatric ED?

1. What is your teamwork philosophy?
2. What is your knowledge of teamwork in the ED?
3. What are some key features of teamwork?
4. How do you feel when teamwork is achieved?
5. How do you relate to your team members?
6. Tell me a few memorable experiences of ineffective or effective teamwork?
7. What makes this experience memorable?
8. What do you value about teamwork in the ED?
9. How do these values influence your practice?
10. What are some teamwork behaviors?
11. How is your practice affected or not if these behaviours are not exhibited?
12. What do you do to overcome these challenges?
13. What works to ensure safe patient care?
14. What patient perspectives are important?
15. **Closing question – Is there anything else about teamwork you would like to tell me?

RQ#2: What strategies and recommendations do HCPs have for ensuring effective teamwork in the pediatric ED?

1. What are some prerequisites to achieving effective teamwork in the ED?
2. How do you incorporate teamwork into your practice?
3. How do you collaborate with HCPs to care for patients in the ED?
4. What works to facilitate inter professional collaboration?
5. Could you describe a few specific experiences in your practice where teamwork was effective?
6. What worked well in these experiences?
7. How did this make you feel?
8. How do you feel about standardized methods to inform teamwork practice in the ED?
9. What would be your ideal method to enhance teamwork practice in the ED?
10. How would these method/methods be evaluated?
11. How could these method/methods be implemented in the ED?
12. What supports are needed to sustain effective teamwork?
13. How do you envision gaining commitment from the ED staff?
14. How would you encourage staff to practice effective teamwork?
15. **Closing question – Is there anything else about effective teamwork you would like to tell me?**
Appendix G: Workplace Counseling Information

Workplace Counseling Service

The purpose of the study is to explore the teamwork practices in a pediatric ED. Teamwork is paramount in improving practice, and in the delivery of safe, quality healthcare. The aim of the study is to describe factors that inform and influence teamwork amongst pediatric ED staff.

Research Questions:

1. What knowledge, beliefs and values inform and influence teamwork in the pediatric ED?

2. What strategies and recommendations do HCPs have for ensuring effective teamwork in the pediatric ED?

Data will be collected through semi-structured interviews conducted by the researcher. Because of the nature of uncovering teamwork in the pediatric ED, there exists a potential for psychological harm (e.g., discomfort, frustration) during and/or after the interview. The Workplace counseling support information is provided below to support and protect participants from potential harm from discussing teamwork in the pediatric ED.

Employee and Family Assistance Program (EFAP)

EFAP is a free service available to PHSA employees that provide private and confidential counseling and resources. The EFAP is a non-profit program of Vancouver Coastal Health (VCH).

www.efap.ca/

Toll free number: [Redacted]

Email: [Redacted]