

May 2018

# Pediatric Nurses' Experiences of Identifying and Managing Constipation in Hospitalized Children

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PEDIATRIC NURSES' EXPERIENCES OF IDENTIFYING AND MANAGING  
CONSTIPATION IN HOSPITALIZED CHILDREN

by

Eileen Sherburne

A Dissertation Submitted in  
Partial Fulfillment of the  
Requirements for the Degree of

Doctor of Philosophy  
in Nursing

at

The University of Wisconsin-Milwaukee

May 2018

## ABSTRACT

### PEDIATRIC NURSES' EXPERIENCES OF IDENTIFYING AND MANAGING CONSTIPATION IN HOSPITALIZED CHILDREN

by

Eileen Sherburne

The University of Wisconsin-Milwaukee, 2018  
Under the Supervision of Julia Snethen, PhD, RN, FAAN

Pediatric nurses care for hospitalized children with constipation daily. Pediatric nurses' timely identification and management of constipation in hospitalized patients can be key to preventing long-term problems with chronic constipation and promoting child well-being. The purpose of the study was to investigate the experiences of pediatric nurses regarding their identification and management of constipation in hospitalized children. The Theory of Planned Behavior (TBP) informed this qualitative study. Participants for this phenomenological investigation were 21 pediatric nurses. Nurses provided care in the inpatient setting in a freestanding 292 bed magnet-designated pediatric hospital. In depth interviews were conducted to explore participants' perspectives of their experiences caring for hospitalized children with constipation. Six themes emerged from the results: 1) Looking for clues of constipation with subthemes of a) typical bowel patterns, b) walking kind of funny, and c) different reasons why they're constipated; 2) Multiple, multiple interventions with subthemes of a) go and sit on the toilet, b) a wide variety of constipation management, and c) it just took educating; 3) Getting everybody on the same page with subthemes of a) the parents are a huge resource, b) they trust our judgment, and c) just kind of negotiate; 4) Down there with subthemes of a) I would not automatically do a rectal check, b) an infant is totally different from a 5 or 6-year old, c) I just try

and build a trustful rapport, d) comfort and privacy, and e) we kind of do a dress rehearsal at the desk; 5) Just a very basic overview of constipation with the subthemes of a) you need time, experience, and certain patient situations and b) the unit I work on; and 6) Experiences whether good or bad with subthemes of a) it's exhausting, b) people missed it, and c) I know it will help the child.

Participants described their ability to recognize constipation in children across all ages. Pediatric nurses were creative in promoting bowel elimination through non-pharmacologic interventions, yet found pharmacologic constipation management challenging. Oral medications were easier for nurses to administer, which can influence the timely resolution of constipation. Participants didn't like to give enemas or suppositories and were uncertain about performing rectal checks and disimpactions. Pediatric nurses reported that child and parent negotiation was required to influence outcomes in the care of hospitalized children with constipation. Nurses in this study found that years of experience, especially on their work unit, enhanced their knowledge of constipation. According to the participants, constipation identification and management in hospitalized children can be exhausting but rewarding. Nurses needed to negotiate to promote successful outcomes. Implications for nursing practice, education, policy and future research are discussed.

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To my parents...

My dad for instilling persistence and excellence

My mom for instilling compassion

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## ACKNOWLEDGEMENTS

I want to thank my major professor, Dr. Julia Snethen, for her unending support, coaching, expertise, and constructive feedback. Dr. Snethen is the ultimate nurses' coach. I learned to question my own narrative about the phenomenon of constipation, which makes me a better nurse for children and families with challenging problems. I have also learned to be a voice for the difficult topic of bowels and constipation in hopes to make constipation an easier topic to discuss for children, families, and nurses.

I want to thank my committee members, Dr. Kathryn Zalewski, Dr. Julie Ellis, and Dr. Karen Morin for their time, energy, and insightful feedback. The review of this investigation by my committee makes the written material a better product. I also want to recognize Dr. Aaron Buseh, who challenged my knowledge and provided pragmatic suggestions for this investigation. And thanks to Dr. Kathleen Sawin, my colleague and constipation comrade in arms. I hope to emulate this important group of scientists.

I want to thank the nurses who participated in the interviews; their experiences were invaluable to understanding what really happens when hospitalized children are constipated. The nurses who I interviewed answered my detailed questions with compassion and caring. Thank you to all the nurses who let me talk with them about bowels and constipation on end.

Finally, thank you to my family and friends, who supported me and now have a better understanding of constipation. And to my nephew, Holden Sherer, who transcribed all my interviews and read many manuscript revisions. He also has a new appreciation for constipation. Thank you for getting me through this journey. It wasn't easy but it was worth it. And now I am a nurse scientist.

## **Chapter 1: Introduction**

### **Background and Significance**

Constipation in the hospitalized pediatric patient occurs frequently, with a higher prevalence than that of adults per 10,000 hospital days (Sethi et al., 2014). Half of children in a pediatric intensive care unit (ICU) have been reported to experience constipation (Petrillo-Albarano, Pettignano, Asfaw, Easley, 2006). Worldwide, the prevalence rate of constipation in children is estimated as high as 29.6% (Van Den Berg, Benninga, & DiLorenzo, 2006). Hospitalizations for childhood constipation rose 112% over a 12-year period from 1997 to 2009 (Park et al., 2015). Constipation can result in complications including nausea, vomiting, pain, decreased appetite, weight loss, and increased time to recovery (Liem et al., 2009; Youssef, Langseder, Verga, Mones, & Rosh, 2005). Hospitalized children who develop constipation are also anxious and afraid, as it is uncomfortable, at times painful, frustrating, and developmentally challenging (Bongers, van Dijk, Benninga, & Grootenhuis, 2009; Youssef et al., 2005). The problem of constipation can increase patient morbidity, lengthen hospital stays, and increase costs (Lopez et al, 2014; Rice-Townsend et al., 2012; Sethi et al., 2014), leading to an economic burden of \$3362 per treated child (Mugie, DiLorenzo, & Benninga, 2011). When constipation is not managed efficiently and effectively in children it can result in chronic constipation that lasts into adulthood (Bongers, van Dijk, Benninga, & Grootenhuis, 2010).

Medically complex children frequently require inpatient hospital care and constipation often occurs due to their treatments or changes in routine (Carbone, Young, Stoddard, Wilkes, & Trasande, 2015), including children with cerebral palsy, spinal cord dysfunction, neuromuscular disease, autism, and cancer (Carbone et al., 2015; Marshall, Kelly, Connolly, Bailie, & Hill,

2009; Park, Park, Cho, Na, & Cho, 2004; Powell & Davidson, 2015; Skalsky & Dalal, 2015; Woolery et al., 2008). The burden of constipation in hospitalized children is significant as it can result in reduced physical and psychological well-being, ongoing constipation and increased hospital costs (Andrews et al., 2013). Hospital acquired constipation in children is a patient safety issue, and has been cited as a reportable adverse drug reaction (ADRs) (Stockwell et al., 2015; Theisen et al., 2013). Therefore, pediatric nurses in the hospital setting must have the knowledge and expertise to effectively identify and manage constipation.

### **Nurses' knowledge of constipation.**

Investigations into nurses' knowledge of constipation began more than twenty years ago and has been replicated in several studies in nurses caring for adult populations (Marsh & Sweeney, 2008; Moore, Matyas, & Boudreau, 1996; Richmond & Devlin, 2003; Knowles et al., 2015). A Bowel Knowledge Survey (BKS) was initially developed and described by Moore, Matyas, and Boudreau (1996). The BKS included questions about medications with constipating side effects and medical conditions, which can cause constipation. Also included in the BKS were signs and symptoms of constipation and interventions that may relieve constipation (Marsh & Sweeney, 2008; Moore, Matyas, & Boudreau, 1996; Richmond & Devlin, 2003; Knowles et al., 2015). The BKS has also demonstrated consistency in correct answer scores. The average correct answer rate across the four studies was 59% (range = 57% - 64%; N = 336) (Marsh & Sweeney, 2008; Moore, Matyas, & Boudreau, 1996; Richmond & Devlin, 2003; Knowles et al., 2015). The National Assessment of Educational Progress considers a 60-69% percentage correct as a D grade or poor ("How is grade point," 2011). The results of nurses' knowledge related to constipation are concerning because of the burden that constipation decreases quality of life and

reduces well-being in patients (Bongers et al., 2009; Youssef et al., 2005). Therefore, it is important to understand how nurses identify and manage constipation in their daily practice.

Nurses have said that they did not receive adequate education regarding constipation (Berger et al., 2010; McPeake et al., 2011) to effectively manage the problem of constipation. It is not clear how nurses gain expertise with the commonly occurring problem of constipation in hospitalized children. Carper (1978) discusses nurses' patterns of gaining knowledge where one pattern of gaining knowledge is the traditional method of empirical knowledge of the science of the phenomenon. Nurses gain this knowledge of a phenomenon through didactic or textbook learning. There is also the esthetics of knowledge and personal knowledge that support nurse's ways of knowing. Nurses gain this knowledge of a phenomenon experientially by demonstration, during orientation, teamwork, being thrown in, colleagues' patient stories, or personal experience. It is uncertain how nurses approach and manage the problem of constipation with an inadequate knowledge base. The lack of nursing knowledge of constipation is concerning due to the frequency of the problem. Nurses who are knowledgeable about the identification and management of constipation can positively influence patient outcomes and patient well-being (Boltz, Capezuti, Wagner, Rosenberg, & Secic, 2013).

### **Nursing Assessment of Constipation**

Nursing experts have systematically developed criteria for the assessment of constipation because "studies of bowel elimination/constipation reported by gastroenterologists, physiologists, and nutritionists do not provide nurses with sufficient information to make practice decisions" (McShane & McLane, 1985, p. 802). McShane and McLane (1985) undertook a validation study of a constipation assessment scale (CAS) to determine descriptions used by nurses to diagnose constipation as well as descriptions used by patients to explain

constipation. The two groups, nurse subjects and patient subjects, identified 22 total descriptions with nurses identifying nine of the 22 descriptors for constipation and patient subjects adding an additional 13 descriptors for constipation. It is important to acknowledge the large number of descriptors that patients can attribute to constipation. Nurses who are unaware of the multiple descriptors of constipation and are providing daily care to hospitalized children could overlook the significance of the variety of descriptors and delay care for constipation. Hospitalized children and their families are relying on nurses to provide the best and safest care to maximize health and outcomes.

The initial CAS developed by McShane and McLane (1985) was validated in a wider population. The sample included healthy adult subjects with and without constipation and ill subjects in the outpatient oncology setting who had a greater risk of constipation due to constipating medications (McMillan & Williams, 1989). The investigators determined that the CAS distinguished severity of constipation symptoms between the three groups of subjects. The investigators proposed that the CAS would be a simple tool for nurses to use to evaluate patients for constipation. Woolery et al. (2006) expanded on the CAS in a pediatric oncology population and found the CAS to be a valid measure of pediatric signs and symptoms of constipation in this population as well. The investigators did note that children had a harder time using the scale than simply describing their symptoms. Despite the availability of a CAS for hospitalized children with multiple subjective and objective assessment measures, it is uncertain if nurses who provide care in the pediatric hospital setting only use one measure such as BM frequency for determining the presence of constipation in their patients.

Richmond and Wright (2005) used the CAS to develop a tool that would assess the risk to adult patients for developing constipation. Richmond and Wright developed a 10-item

assessment tool that would help nurses determine patients at risk for constipation further building on the work of McMillan and Williams' (1989) constipation assessment tool. Items included in the risk assessment included gender, mobility, medications, diet, and diagnosis. What is not clear is whether nurses use signs and symptoms as outlined in a constipation assessment scale or use criteria through a constipation risk assessment when caring for hospitalized children who are at risk for constipation or are constipated. Although nurses may be knowledgeable of risk factors for constipation and/or signs and symptoms of constipation it is uncertain what nurses use in their practice. The development of constipation assessment scales and a constipation risk tool supports the idea that patients use a wide range of symptomatology to describe constipation (McMillan & Williams, 1989; McShane & McLane, 1985; Richmond & Wright, 2005). Nurses need to be receptive and knowledgeable to more than the patient's BM frequency when assessing for constipation to reduce the negative consequences of constipation. It would be important to investigate nurses' critical thinking skills regarding constipation identification and management to determine the gaps. Understanding the gaps in nursing practice about constipation identification and management could potentially improve the nurses' recognition of the problem and result in earlier prevention or intervention.

### **Constipation Protocols**

Protocols that direct nurses to perform gastrointestinal assessments and administer medications to prevent and treat constipation have been developed to reduce the incidence of constipation in the hospitalized patient (Andrews et al., 2013; Dorman et al., 2004; Linari, Schofield, & Hormom, 2011; McKenna, Wallis, Brannelly, & Cawood, 2001; Petrillo-Albarano et al., 2006). When nurses follow protocols to either prevent or manage constipation, the capacity for independent decision-making and action by nurses is reduced as nurses must act on

the provider order. There are advantages and disadvantages to protocols (Grol & Grimshaw, 2003; Caveruel, n.d.; Cowherd 2011). The advantages of protocols include improved care by less experienced nurses because the less experienced nurses are able to act on a problem more quickly with greater knowledge at hand, and utilization of a standardized and routine approach to the common problem of constipation (Vardaman et al., 2012). The disadvantages to nurses using protocols include an inability for nurses to use their experience and judgment to vary the elements of the protocol based on patient condition and response (Caveruel, n.d.; Cowherd, 2011).

However, when constipation prevention protocols have been initiated, a decrease in the prevalence of constipation has been observed (Andrews et al., 2013; Dorman et al., 2004; Linari, Schofield, & Hormom, 2011; McKenna, Wallis, Brannelly, & Cawood, 2001; Petrillo-Albarano et al., 2006). When provider orders initiated through systematic protocols guide nurses to act, the outcome is improved including the problematic area of constipation as well as many other challenging patient care problems (Dale et al., 2015; Grol & Grimshaw, 2003; Vardaman, 2012). It is not clear if a constipation protocol that provides specific direction to nurses makes it easier for nurses to manage constipation due to challenging or difficult attitudes or lack of knowledge about the phenomenon of constipation. It would be important to investigate nurses' attitudes of the influence of constipation protocols on their ability to assess and manage constipation.

### **Nursing Attitudes and Constipation**

Although nurses' knowledge of constipation assessment and management is important, it is also nurses' attitudes towards constipation that influence the effectiveness of the plan and patient/family acceptance of interventions for constipation (Knowles et al., 2015; Varghese, 2013). Nurses' must understand the science of constipation, which enables nurses to evaluate the

outcomes of potentially multiple interventions performed in the non-pharmacologic and pharmacologic management of constipation (Marsh & Sweeney, 2008). Also important would be awareness of personal beliefs towards the intimate nature of constipation because intimate interventions require sensitivity to anticipate patient responses and ensure a successful outcome (Gulla, Fenheim, Myhre, & Lydersen, 2007). The assessment and management of constipation can be fraught with personal and professional taboos and attitudes (Knowles et al., 2015; Norton, 2004; Varghese, 2013). Nurses need to have an awareness of their own psychological feelings about defecation and constipation due to the sensitive nature of the issue (Brennan-Parsons, 2000; Norton, 2004). Attitudes of negativity and low status towards constipation is concerning and could influence nurses' approaches to patients with constipation (Collis Pellatt, 2003; Varghese, 2013). Nurses' have reported experiences of working with colleagues who don't address the patient problem of constipation or pass it off to the next shift (Varghese, 2013).

Nurses' confidence in intimate physiologic maneuvers such as digital rectal exam (DRE); digital rectal stimulation (DRS); and enema and suppository administration is also fundamental to the successful management of constipation (Knowles et al., 2015; Kyle, 2010; Ness, 2013). Nurses' attitudes may be involved in the successful performance of these maneuvers and can influence the outcome of constipation (Kyle, 2010; Ness, 2013). Although attitudes regarding management of constipation have been investigated in nurses providing care in the hospitalized adult population, little is known about pediatric nurses' attitudes regarding constipation management in the hospital setting (Berger et al., 2010; Knowles et al, 2015; McPeake et al., 2011; Moore et al., 1996; Varghese, 2013).

In an eloquent experiential paper regarding the nursing management of patients with constipation, Norton (2004) discusses many challenges for nurses when bowels are involved in

patient care. She outlines the lengthy history of social taboos as well as the individual developmental training that children receive from their parents that make talking about bowels, bowel movements, bowel care, and incontinence a difficult subject not only for patients but for nurses as well. Nurses enter their profession having developed their own personal attitudes as well as professional attitudes about bowel care. Norton (2004) states that the exquisite work of nurses though, permits nurses to perform intimate procedures on patients that would never be acceptable in other relationships. Nurses must overcome any personal barriers to taboo subjects and interventions to be able to help patients. Norton (2004) recognizes that there is little evidence available that describes the process of bowel care for nurses to competently perform these patient care procedures. She then discusses the importance of the nurse-patient relationship within the framework of bowel care. Nurses who were able to facilitate communication and have an open non-judgmental dialogue with patients were successful in helping reduce patients' anxiety about bowel care (Norton, 2004). There continues to be a gap in nursing knowledge regarding how nurses communicate with patients to lessen the anxiety and embarrassment in the assessment and management of constipation. These dialogues can only come about as a result of a research methodology that can examine the experiences of nurses.

### **Lived experiences of constipation**

Lived experiences are the events in people's daily lives regarding a phenomenon or routine that occurs regularly and can present a challenge in daily life or practice. The lived experiences of pediatric nurses regarding the identification and management of constipation in the hospitalized child have not been described in the literature. Lived experiences of nurses and patients have been studied in patients with spinal cord injury of which bowel care is a component of patient care (Collis Pellatt, 2003). It is known that nurses play a main role in the care of

patients with spinal cord injury in understanding and managing their own bowel care (Ness, 2013; Pellatt, 2003; Rundquist et al., 2012). Patients and nurses recognize the difficulty of patients' learning new methods of maintaining continence and reveal the tension between encouraging self-management and doing the skill for patients. The study did not reveal how nurses discussed or taught the intimacy of bowel care or strategies that were successful to encourage patients to be successful.

Parent experiences of bowel care in children with Spina Bifida may provide some insight into understanding the initiation of discussions about bowel care as bowel care. Investigators have used a qualitative methodology through interviewing parent of their experiences with health care providers in finding an effective bowel care plan for their child (Sawin & Thompson, 2009). Thematic analysis revealed four themes and ten subthemes that emerged from the interviews. The overall themes were: 1) the parent's journey to finding effective bowel management, 2) effect of the journey on the child, 3) the family struggle, and 4) the promise of the future. An important theme for nurses and similar to the challenges in dialogue about bowel management is the subtheme of problems in relationships with health care providers (HCP). In one experience, a mother expressed concern that HCPs did not place a high priority on bowel management. The parent felt that HCPs did not realize the influence that social continence had on the child's entire growth and development. The everyday experiences that were shared by parents in this study demonstrate the importance of the social bonds of parents with HCPs, their children, and the extended community around them and the influence those bonds can have on improving the health and well being of their children. The ability of the parents to use language and the interview process to convey their thoughts rather than respond to a survey provided much richer detail to understanding the needs of children and their families.

## **Statement of the Problem**

Pediatric nurses must care for hospitalized children with constipation on a daily basis. Identifying and managing constipation in hospitalized children can be a challenging problem when nurses are uncertain of the appropriate approaches to improve the outcome in children. Nurses are educated about the physiology of constipation in their nursing curriculum but the detail that is necessary to understand the identification and management of constipation in hospitalized children in pediatric nurses' daily practice is lacking (Kyle, 2010). An adequate knowledge base should underlie nurses' approach to the problem of constipation but this knowledge base is lacking (Marsh & Sweeney, 2008; Moore et al., 1996; Richmond & Devlin, 2003; Knowles et al, 2015). Investigating where and how nurses learn about the best interventions to identify and manage constipation would be helpful to children, families, and nurses.

There are evidence based assessment parameters that can guide decision-making to identify the risk or presence of constipation (McMillan & Williams, 1989; McShane & McLane, 1985; Richmond & Wright, 2005; Woolery et al., 2006). It is unknown if nurses use certain assessment parameters more than other parameters or several assessment parameters for determining when or if hospitalized children are constipated. Protocols have been developed to guide nurses to assess, identify, and manage constipation that have been shown to reduce the incidence of constipation (Andrews et al., 2013; Dorman et al, 2004; Linari et al., 2011; McKenna et al., 2001; Petrillo-Albarano et al., 2006). Whether nurses add more of their own techniques to enhance the steps to a protocol are unknown or whether a protocol compels nurses to intervene in a potentially unpleasant situation is unknown.

When pediatric nurses identify that children are constipated, their approach to patients is unknown. Nurses may delay interventions to treat constipation due to perceived higher priority patient needs such as cardiac or neurologic compromise when actually constipation can be the cause of the compromise as in the case of autonomic dysreflexia in patients with spinal cord injury or shunt malfunction in children with hydrocephalus (Bauman, Milligan, Lee, & Riva, 2012; Ilik, Coven, & Ozdemir, 2013). Whether pediatric nurses consider constipation in hospitalized children as afterthought or forethought would be important to know to improve the care of hospitalized children.

### **Purpose of the study**

The purpose of this study is to investigate pediatric nurses experiences in identifying and managing constipation in hospitalized children to gain an understanding of both successful and unsuccessful approaches to resolving the problem of constipation. As well, there may be facilitators and barriers to resolving the problem of constipation in the hospitalized child, which pediatric nurses encounter in their daily practice. Knowledge of the barriers and facilitators would inform pediatric nurses of improved approaches to the challenge of constipation and thereby improve outcomes and well being in children not only in the hospital for the short term but outside of the hospital in the long term.

### **Research Question**

What are the experiences of pediatric nurses' regarding the identification and management of constipation in children who are hospitalized?

### **Definition of Terms**

The definition of terms include:

*Assessment of constipation:* data obtained by pediatric nurses when performing the patient history and physical examination in the care of hospitalized children with constipation. Data from the history may include bowel patterns, environmental factors, and cognitive function; data from the physical may include palpation and auscultation of the abdomen, a rectal exam, and mobility function (Folden et al., 2002)

*Constipation:* “passage of hard stools, infrequent stools, the need for excessive straining, a sense of incomplete bowel evacuation and excessive time spent on the toilet or unsuccessful defecation” (Suresh, 2014). For purposes of this study, constipation is descriptions provided by pediatric nurses of the subjective and objective signs and symptoms of inability to defecate or lack of BM in hospitalized children that the pediatric nurses perceive or observe in caring for hospitalized children.

*Hospitalized children:* “The general pediatric care unit provides nursing care to children with a wide range of acute and chronic medical and surgical conditions. Children who require more frequent and invasive monitoring such as those with severe, critical, or life-threatening conditions are cared for in the pediatric intensive care unit (PICU) where the staff has advanced knowledge and training in the care of critically ill children” (“Becoming a nurse”, 2006). Children admitted to the hospital, either electively or emergently “for a variety of reasons including scheduled test, procedures, or surgery; emergency medical treatment, administration of medication; or to stabilize or monitor an existing condition” (“Hospitalization,” 2016). For purposes of this study, hospitalized children are children of any age receiving nursing care in the inpatient hospital setting.

*Identification of constipation:* the synthesis of general and individualized assessment measures used by pediatric nurses when determining the presence of constipation in hospitalized children (Eberhardie, 2003).

*Management of constipation:* descriptions of interventions used by pediatric nurses to relieve constipation in hospitalized children. Interventions may include administering ordered medication, promoting oral fluids and fiber intake, regular toileting, and positioning to aid effective defecation (Folden et al., 2002).

*Pediatric Nurses:* “Pediatric nurses are Registered Nurses (RNs) who care for children of all ages in a variety of healthcare settings. They graduate from a nursing school within a college or a university and then take a credentialing examination known as NCLEX” (“Becoming a nurse”, 2006). For the purposes of this study pediatric nurses are staff nurses who provide direct care to children hospitalized in the inpatient acute care or intensive care setting in the approved study setting.

### **Justification and Significance to Nursing Science**

Constipation is a common phenomenon that pediatric nurses must identify and manage daily; especially as patient care increases in complexity and challenges. The identification and management of constipation involves more than simply carrying out ordered interventions. Although medications for constipation are often the primary intervention ordered by medical providers to reduce the incidence of constipation, medications must be integrated with other nursing interventions such as positioning and timing, for the most beneficial patient outcomes and effective, efficient bowel elimination (Palit et al., 2012). Pediatric nurses must consider the needs of hospitalized children with constipation through assessment and identification of problems and then synthesize the information to implement an effective intervention for the

patient and family to correct the problem, i.e., constipation. Although much has been written about the science of constipation, there is a certain art to the nursing care required for the successful identification, management and relief from constipation (van den Berg et al., 2006; Folden et al., 2002). Constipation may not be resolved immediately and requires persistence by nurses to modify the plan in response to patient need. It is unknown how pediatric nurses approach children and their families when constipation is identified and the subsequent discussion and education that occurs when children need intimate interventions such as rectal exam or enema. If more evidence was available about nurses' successful and unsuccessful approaches to hospitalized children with constipation, not only would patients benefit but nurses would benefit also. If this information were available potentially nurses would be more informed and better prepared about assessment and management of constipation, there could be increased prevention of constipation, improved education of the family, less chronic constipation, and improved child well-being. The understanding of the experiences of pediatric nurses in their approach to the hospitalized patients with constipation has not been previously investigated.

Pediatric nurses need to have knowledge of evidence-based interventions for identifying and managing constipation in hospitalized children to reduce patient anxiety and improve patient outcomes. It is unknown how nurses gain knowledge about constipation or become skilled at interventions to relieve constipation. It is unclear how positive or negative attitudes about constipation influence nurses' approaches to relieving constipation. Since constipation is such a frequently occurring problem amongst children who are hospitalized, pediatric nurses need to have a complete tool kit to successfully relieve constipation. Knowledge that is gained through the investigation of pediatric nurses lived experiences of constipation identification and

management will further nursing science specific to constipation and promote improved outcomes in nursing care and patient care for children suffering from constipation.

## **Summary**

Constipation can be a complicated phenomenon for pediatric nurses to identify and manage in hospitalized children. Constipation requires pediatric nurses to not only understand the physiologic principles of the gastrointestinal system but also to understand the social and psychological issues that accompany interventions in intimate body areas. Exploration of pediatric nurses' experiences with both successful and unsuccessful approaches to identifying and managing constipation in hospitalized children could improve outcomes and overall well-being in children. If constipation is not identified and managed in a timely and effective manner by pediatric nurses, children can develop chronic constipation, reduced quality of life, and increased health care costs after discharge from the hospital setting (Bongers, van Wijk, Reitsma, & Benninga, 2010).

## **Chapter 2: Literature Review**

This literature review will examine the research and summarize the gaps in knowledge of pediatric nurses' identification and management of constipation in hospitalized children. Nurses are expected to be knowledgeable about patient diagnoses and use of the nursing process to care for patients. Subsequently, nurses are expected to apply critical thinking skills when caring for patients to keep them safe and assist in returning them to health ("Virginia Henderson," 2010; Ryan & Tatum, 2013). Effective bowel elimination is a patient diagnosis that nurses are expected to identify and manage as a basic human need ("Virginia Henderson," 2010), as bowel elimination is a daily occurrence for 65% of the population (Heaton et al., 1992). Nurses often identify risk for altered bowel function as a patient problem, and but rarely effectively implement interventions to manage constipation (Castellan, Sluga, Spina, & Sanson, 2016).

The following literature review draws from both the adult and the pediatric literature. The literature that encompasses the adult population (greater than 18 years of age) offers direction for practice when the necessary background in the pediatric literature did not exist. The pediatric literature is evidenced by use of defining words such as children, pediatric, or specific ages. The majority of the nursing practice literature arises from adult setting, as there is scant research from the pediatric hospital setting specific to constipation and nursing. Pediatric literature does exist for parent experiences with constipation and children, which provided alternative evidence as necessary.

Constipation is not usually life threatening, however, when other patient variables such as immobility or reduced mobility and constipating medications are included, the problem of constipation worsens and results in negative patient outcomes (Sharma et al., 2007). Additionally, it can take several weeks to re-establish a normal bowel movement routine once

constipation has set in (Dorman et al., 2004; McPeake, Gilmour, & McIntosh, 2011; NICE Guidelines, 2010). Therefore nurses' initial identification and management of constipation in hospitalized patients can be key to preventing long-term problems with bowel movement routines.

Health care providers often do not identify constipation in the hospitalized patient for several days, delaying the treatment of constipation (Heaton et al., 1992; Hertz et al., 1996; Palit, Lunnis, & Scott, 2012). It has been reported in the nursing literature that assessing the patient's typical BM frequency to determine the diagnosis of constipation (Folden et al., 2002), though the patient's typical BM frequency is not often taken into account to properly recognize the development of constipation (Gesensway, 2015; Saga et al., 2014). Other signs can be the actual side effects of constipation in hospitalized children and can include poor appetite, nausea, vomiting, abdominal pain, (Woolery et al., 2008; NICE Guidelines, 2010) and if not treated expeditiously, acute constipation can lead to chronic constipation. The diagnosis of constipation can be made using several signs and symptoms, e.g., BM frequency, stool consistency, difficult defecation (McMillan & Williams, 1989; McShane & McLane, 1985; Richmond & Wright, 2005; Woolery et al., 2006), though BM frequency is miscalculated for many patients (Ritchie et al., 2008).

The need for a patient to have a bowel movement (BM) can be overlooked (Chapman & Hungerford, 2015), as constipation may have less priority than other health concerns that prompted the patient's hospitalization (Ritchie et al., 2008; Berger, Durand, Grocq, 2010; Saga, Seim, Mørkved, Norton, & Vinsnes, 2014; Varghese, 2014). Nurses work flexible schedules and may not have the opportunity to provide consistent care and thereby observe the evolution of problems that occur over a few days, as is the case in constipation (Sharma, Kaur, & Garg, 2007;

Siow, Wypij, Berry, Hickey, & Curley, 2013); Stimfel, Sloane, & Aiken, 2012). Although the gastrointestinal (GI) system is an area that is routinely covered in nurse-to-nurse handoff report, the detail of the report or the priority of the problem related to constipation may be minimized or missed (Malekzadeh, Mazluom, Etezadi, & Tasseri, 2013; Sharma et al., 2007). Therefore, not only does nursing identification, management, and communication of constipation all play a role in the prevention of constipation, but also influences patient outcomes related to constipation.

### **Lower Gastrointestinal Tract Physiology**

Knowledge of the physiology of the lower gastrointestinal tract is important in the study of constipation as medical and nursing interventions are meant to influence the physiology to relieve the symptoms of constipation (Folden et al, 2002). The large intestine or colon is where most activity related to stool formation and forward stool propulsion occurs. The small intestine is responsible for absorbing nutrients from ingested food whereas the colon is responsible for converting the remaining unused food particles into stool (Palit et al., 2012). The colon has four main sections, ascending, transverse, descending and sigmoid, beginning at the ileo-cecal valve of the small intestine and terminating at the rectum and anus. The length of the colon varies with age and size; infant colon length has been reported at .56 meters and grows to 1.07 meters in the early teenage years (McKee, 1914) whereas the adult colon length is reported at 1.5 meters (Drake, Vogel, & Mitchell, 2015).

The colon is innervated by an intrinsic and extrinsic nervous system. Intrinsic innervation is within the four different layers of the colon; the mucosa, submucosa, muscularis externa, and serosa. The main components of the intrinsic nervous system are Auerbach's plexus and Meissner's plexus. Auerbach's plexus is positioned within the muscular layer and is responsible for movement of intestinal fecal contents through the colon. Meissner's plexus is

positioned in the more proximal submucosal layer of the colon with the submucosal layer surrounding the mucosal layer. Meissner's plexus is important in secretion of mucus to lubricate the intestinal contents for promoting flow of gastric contents (Hall, 2011). The intrinsic nervous supply is also known as the enteric nervous system as it does function independently and will continue to function if the extrinsic nervous supply fails, as in the case of spinal cord injury (Hall, 2011).

The extrinsic nervous system includes the components of the autonomic nervous system mainly through the parasympathetic supply of the vagus and sacral nerves and the sympathetic supply that acts through the thoracolumbar nerve segment of the spinal cord (Hall, 2011). The extrinsic nerve supply links to the central nervous system and allows for cerebral or voluntary control of defecation via the anal sphincter. Intact cognition is also required for the voluntary control of defecation (Palit et al., 2012). The timing though of voluntary control in children is dependent on the growth and development of the extrinsic nervous system, specifically the links to the sacral nerves of the spinal cord to the cortex of the brain where voluntary control originates (Croffie & Fitzgerald, 2007). An ability to sense bowel fullness and respond to the signals for defecation occurs between the ages of twenty-four to forty-eight months of age (Largo, Molinari, Von Siebenthal, & Wolfensberger, 1999; Ozturk et al., 2006).

Absorption of secretions from the small intestine occurs in the ascending section and part of the transverse section of colon whereas the latter half of the transverse colon and the descending colon are mainly responsible for storage and removal of gastric residue, i.e., feces, stool (Hall, 2011). There are two types of movements in the colon, mixing movements, also known as haustrations and propulsive movements also known as mass movements. Haustrations occur from secretions being pushed into the ascending colon from the small intestine. The

haustration movements are circular in nature and occur approximately every 2.5 centimeters along the colon (Hall, 2011). The fecal material in the colon is squeezed in a ring like manner, which causes forward motion of the fecal material towards the rectum. Haustrations occur every few minutes along the length of the colon (Hall, 2011). In contrast, propulsive or mass movements occur only a few times a day, strongest after the morning meal, and last approximately 30 minutes. During mass movements, the haustrations are interrupted so that segments of fecal material can be pushed towards the rectum (Hall, 2011). If nurses were able to consider the physiology of mass movements in managing constipation, it would be another intervention to add to relieve constipation in the hospitalized patient. It is not known whether nurses consider this physiologic principle of timing of mass movements after a meal to promote defecation when helping patients who are constipated.

The need for defecation occurs when the mixing and propulsive movements have pushed enough fecal material into the rectum and the sensation to empty occurs at that time. The muscles of the rectal wall contract and the muscles of the anal sphincters relax in a coordinated manner for expulsion of fecal material to occur (Hall, 2011). There are involuntary and voluntary responses that occur which determine whether defecation will occur. When cortical pathways are intact, a person is able to voluntarily contract the striated muscle of the external anal sphincter to prevent defecation until another appropriate time (Hall, 2011). These initial defecation signals can subside for hours. When an appropriate time and place occurs for defecation, increased intra-abdominal pressure pushes more fecal material into the rectum and the reflex sensation is initiated but the sensation that occurs later is not as strong as the initially occurring natural sensation. The inhibition of the initial natural sensation for defecation can result in constipation (Hall, 2011). When the defecation reflex occurs without voluntary

inhibition, the external anal sphincter relaxes, the walls of the rectum contract, and defecation ensues. The rectal wall also sends increased sensory signals to the spinal cord through the extrinsic (parasympathetic nerves) system that results in greater motor signals sent to the colon to increase contractions, peristaltic movements, and subsequent defecation (Hall, 2011). This overall review of the physiology of defecation is similar in children after approximately age three and adults (Palit et al., 2012). Nurses could use these principles in managing constipation but it is unknown whether this happens in practice.

There are other practical physical factors which encourage defecation. The sitting posture with the knees higher than the hips or even squatting has been shown to be most efficient for defecation and adequate rectal emptying (Rao, Kavlock, & Rao, 2006; Sakakibara et al., 2010). When the knees are higher than the hips, the puborectalis muscle relaxes and the rectum straightens allowing for more efficient expulsion of feces (Whitehead et al, 1999). As contrast, in the lateral recumbent position, i.e., lying flat in bed, a common position for immobile bedridden patients, there is risk of muscle dysenergia during defecation. Dysenergia occurs when the anal sphincter contracts at the same time as the rectum contracts preventing adequate defecation (Rao et al., 2006). Many hospitalized children can be immobile and in bed in a supine position preventing knee and hip flexion, increasing the risk of constipation. Since nurses are the HCPs at the bedside of hospitalized children with constipation, the knowledge of the physical maneuvers such as knee and hip flexion would be of value when intervening to facilitate a bowel movement whether there is voluntary control or not, i.e., infants (Jordan, 2014). Nurses would need to help the child attain this position either in bed or supported on a toilet or commode to improve defecation. Nurses' experiences of intervening with different types of maneuvers such

as bending the hips and knees, use of a stool for propping feet on, or timing of toileting to coincide with mass movements to relieve constipation in this population are unknown.

### **Definition of constipation**

The definition of constipation is important to understand the burden of constipation and the need for knowledgeable assessment, identification, and management by pediatric nurses in the hospital setting. The Rome III criteria provide an international definition of functional constipation, or constipation without an organic cause, in both younger (infants/toddlers) and older (child/adolescent) children (Hyman et al., 2006; Rasquin et al., 2006). The Rome III criteria state that for functional constipation to be diagnosed, the child must have at least two of six symptoms present for more than two months including: a) less than three defecations per week; b) one episode of fecal accident per week; c) observation of stool holding; c) history of difficult, painful, or hard stools; d) stool mass in the rectum; or e) stools that may plug the toilet (Rasquin et al, 2006). Subjective patient symptoms also may exist that include: a) a change in bowel habits; b) hard, formed stool; c) or increased difficulty with evacuation (Longstreth et al., 2006; McMillan & Williams, 1989; McShane & McLane, 1985; Woolery et al., 2006); however, it is length of time between bowel movements that has most often been used to identify constipation in hospitalized children (Lopez et al., 2012; Petrillo-Albarano, Pettignano, Asfaw, Easley, 2006).

The discrepancy with the Rome III definition for constipation in hospitalized children is the Rome criteria were developed to provide a standard for investigation and management of functional constipation. Functional constipation is a problem that more often occurs in patients in the ambulatory setting where constipation does not have an organic cause (Rasquin et al., 2006). Although the Rome III criteria for defining constipation are an accepted standard by the

medical community, the criteria are not consistent with the organic etiology of constipation in hospitalized children that most often develop constipation due to immobility, changes in routine, and medication side effects, especially opioid administration. Children may also have dietary changes that can result in constipation such as reduced fiber intake, reduced fluid intake, stress, and different toilet facilities that lead to changes in bowel habits (Andrews et al., 2013; Croffie & Fitzgerald, 2007; Folden et al, 2003; Noiesen et al., 2013, Norton, 2004; Woolery et al, 2008). The Rome III criteria maintain that organic etiologies of constipation such as medications and immobility have been ruled out within the patient history for the diagnosis of functional constipation to be made (Rasquin et al., 2006).

Although organic versus functional etiologies may cloud the early diagnosis of constipation in the hospital setting, another inconsistency is the definition of constipation used by providers and patients (Mugie et al., 2011). The frequency between bowel movements is most often used by providers is less than three bowel movements per week whereas subjective symptomatology is most often used by patients (Dorman et al., 2004; Herz et al., 1996; Palit et al., 2012; Ritchie et al., 2008). The frequency of normal bowel movements has been reported to range from three movements per day to three movements per week in children greater than three years of age and adults (Palit et al., 2012). Corazziari et al. (1985), reports that children achieve adult frequency by the age of four with a range of four to nine defecations per week. In one study of 1256 adults, 85.7% of men and 68.3% of women had a BM every day or more often than every day (Heaton et al., 1992). The findings suggest that the time frame of less than every three days between BM's could be an overestimated time interval for many patients (Mugie et al., 2011; Ritchie et al., 2008). Herz et al. (1996) found that when physicians and patients defined constipation, 52% of patients defined constipation as defecation as every three days or

less and included subjective symptomatology, whereas only 27% of physicians defined constipation as defecation every three days or less. Ritchie et al. (2008) suggests that the three-day time frame established for defining constipation may underestimate the prevalence of constipation in the hospitalized patient and result in delayed management. Knowledge and assessment of the usual frequency of bowel movements of patients is important in determining the potential for constipation but subjective patient symptomatology is essential as well. Awareness by nurses of individually based time frame for monitoring and intervening to prevent or address constipation in children could potentially de-escalate the problems related to constipation in hospitalized children. The three-day timeframe, although standard to diagnose functional constipation, can cause confusion and lead HCPs, both nurses and providers, to misjudge the appropriate timing for intervention in hospitalized patients with constipation from an organic etiology.

## **Nursing and Constipation**

### **Nursing Knowledge**

Nurses' knowledge of variables that influence bowel motility has been investigated in several studies (Knowles et al., 2015; Marsh & Sweeney, 2008; Moore, Matyas, & Boudreau, 1996; Richmond & Devlin, 2003). Moore, Matyas, and Boudreau (1996) initially reported on nurses' knowledge of constipation as part of a larger study that investigated the concept of constipation in the acute care setting. The authors developed a 40-item questionnaire to quantify nursing knowledge of constipation. The test consisted of four areas including a) diagnoses and medications associated with constipation; b) assessment measures used that indicate constipation and fecal impaction; c) medications that alleviate constipation; and d) physical modalities that alleviate constipation. Nurses (N = 31) could select *yes*, *no*, or *don't know* as an answer to a

particular question. Nurses correctly answered 57% of the questions, incorrectly answered 18% of the questions, and did not know the answers for 19% of the questions. The authors concluded that there were knowledge gaps in the four tested areas and that nurses may have used incorrect information to intervene in patients with constipation based on the high number of *don't know* responses. Richmond and Devlin (2003) built on the work by Moore, Matyas, and Boudreau (1996) to further understand nurses' knowledge of constipation. The questionnaire used in the previous study by Moore, Matyas, and Boudreau underwent revision by Richmond and Devlin to be suitable for their selected research setting. The study sample (N = 131) consisted of different levels of nursing experience from newly licensed nurses to managers and clinical nurse specialists. The overall results revealed a correct response rate of 59% with more experienced direct care nurses having more correct answers than less experienced direct care nurses (76.8% correct versus 43.6% correct).

Marsh and Sweeney (2008) further expanded investigation into nursing knowledge of constipation to determine knowledge of specific areas related to constipation including medications, and recognizing signs and symptoms of constipation. The knowledge survey consisted of 28 questions of which 26 questions required true/false answers and two questions were open-ended nutritional requirements to prevent constipation. The overall score for this bowel knowledge survey was 64% (n=91) which the investigators report supports the results of the previous knowledge surveys and demonstrated gaps in overall nurses' knowledge of constipation. As well, knowledge of constipation was deficient in the areas of medications causing constipation, disease processes that cause constipation, and gender differences related to constipation.

In a more recent investigation that included establishing a knowledge baseline regarding variables that were related to constipation, Knowles et al., (2015) measured knowledge before and after initiation of a bowel management protocol. There was education that was provided to staff prior to the initiation of the protocol. The pretest (N = 130) and post-test (N = 138) scores of a 31-item test differed by 6% with a pretest correct answer score of 56% and a posttest correct answer score of 62%. The change in knowledge scores was statistically significant despite the low scores.

The studies of bowel knowledge have been replicated with similar results demonstrating overall gaps in nurses' knowledge related to medications (besides opioids) that caused constipation, certain medical diagnoses that were related to constipation, and best position for an effective bowel movement. Moreover, there are gaps in nursing knowledge in the management of constipation. Studies have shown a wide variability in nurses' fund of knowledge related to the concepts of constipation and non-pharmacologic interventions (Knowles et al., 2015; Moore et al., 1996; Richmond & Devlin, 2003). A lack of knowledge is not always indicative of the ability to provide care as evidenced by the incorrect answers to survey questions by experienced nurses. Moore, Matyas, and Boudreau included a constipation case study in their constipation knowledge survey and received inconsistent answers. The authors suggested that nurses did not use any systematic pattern when making decisions on how to treat a patient with constipation.

It is interesting to note that British nurses have made a sizable and significant contribution to the body of nursing knowledge of constipation. British nurses investigated the nursing knowledge of constipation and proceeded to a constipation risk assessment tool (Moore-Gillon, Richmond & Devlin, 2003; Richmond & Wright, 2005). British nurses added to the literature on the nursing responsibilities towards patients with constipation including children,

people with disabilities, the elderly, and patients in the ICU (Collis-Pellat, 2003; Hunter, 2011; Kyle, 2010; Marsh & Sweeney, 2008; McPeake et al., 2011; Norton, 2004; Ritchie et al., 2008; Sanders & Bray 2014). As well, important documents have been developed, which provide instructions for rectal procedures such as rectal check, dis-impaction, and providing intimate care in children (Addison & Smith, 200; Graham-Ray & Higson, 2013; Ness, 2013; Powell & Rigby, 2000). The British contribution may be a reflection of the nationalized health care system and the oversight of the nursing profession that is provided by the Royal College of Nursing (RCN). It is the RCN, which publishes the policies for care of the patient with constipation. These types of national constipation initiatives do not exist in the United States although specialty nursing organizations have contributed to the constipation body of knowledge in the United States (Braun et al., 2006; Folden et al., 2002; Woolery et al., 2008).

When investigating a phenomenon such as constipation, an objective evaluation of nurses' general fund of knowledge of constipation would provide a baseline measure as a framework to potentially explain further gaps in nursing practice. Constipation knowledge has not been investigated in the pediatric nursing population. There is literature that informs nurses of the medical management of childhood functional constipation (Ismail, Ratchford, Proudfoot, & Gibbs, 2011; Tappin et al., 2013) but is lacking for nurses who care for children in the hospital setting with an organic cause for constipation. If pediatric nurses also demonstrate a knowledge deficit regarding constipation it would be important to investigate what their assessment and intervention decision making when caring for hospitalized children who are constipated.

### **Constipation Protocols**

When nurses have a limited knowledge base regarding constipation this could result in late identification of constipation and even further delayed intervention to resolve the problem of

constipation. There are studies that indicate that when a protocol to assess for and manage constipation is instituted that the incidence of constipation can be reduced (Andrews et al., 2013; Dorman et al, 2004; Linari, Schofield, & Hormom, 2011; McKenna et al., 2001; Petrillo-Albarano et al., 2006). When a protocol is initiated, nurses follow the steps that are included in the provider order such as performing a gastrointestinal assessment and administering preventive medications. There may also be selected nursing actions within the provider order that direct nurses to perform potentially taboo interventions such as performing a digital rectal examination (DRE) or manual disimpaction of patients' rectums (McKenna et al., 2001; McPeake et al., 2011). Nurses may not routinely perform a DRE even though more information is gained about the status of the patient (Knowles et al., 2015; Kyle, 2011). Interestingly, nurses automatically have the occasion to perform a DRE when a suppository needs to be administered and may not recognize the opportunity. Nurses may be more likely to perform sensitive nursing actions because the actions are included in a medical protocol and the need to complete the order is more powerful than nurses performing an action such as a DRE independently. The use of a protocol can also reinforce with a patient and family the need by nurses to carry out an intervention (Manias & Street, 2000). Nurses can support the interventions not only by explaining the purpose and the outcome but also by explaining that, "the doctor said we need to do this" (A. Goza, personal communication, January 18, 2016). Additionally, if the action such as suppository administration was ordered by providers and nurses did not carry out the actionable order, it could be considered an omission of nursing care and be subject to corrective or punitive job action (Kalisch, Landstrom, & Hinshaw, 2009; Kalisch, Tschannen, Lee, & Friese, 2011). Concern for an omission of nursing care and corrective action could be a negative motivator to perform a personally difficult but a professionally necessary intervention.

McKenna et al. (2001) investigated the frequency of documentation of bowel status before and after the introduction of a bowel management protocol (BMP) in an adult intensive care unit (ICU). Nurses' documentation elements such as bowel activity, gastrointestinal assessment, and initiation of treatment were collected through a chart audit pre- and post-implementation of the BMP. There was a significant difference in nurses' details of documentation of bowel activity pre- and post-implementation of the BMP (50% versus 65%,  $p < .05$ ) and in the actual presence of documentation of bowel movement status (33% versus 78%,  $p < .05$ ). In a similar study of bowel protocol initiation and nurses' documentation, comparable findings were reported by Dorman et al (2004) with increased documentation after protocol initiation (23% versus 95%), also time to first bowel movement was decreased (22% versus 70% of patients by day 3 of ICU stay) with the implementation of a structured protocol that required nurses to follow an algorithm of assessment and intervention. The algorithm that was developed for the bowel management protocol contained a significant number of assessment and intervention steps (>20 steps) that could be challenging for nurses to follow in a busy environment (Stacey, Carley, Ballantyne, Skrutkowski, & Whynot, 2015).

Linari, Schofield, and Horrom (2011) instituted the use of a rectal suppository to promote BM's in patients who were one day post-operation after orthopedic hip surgery. A reduction in constipation was observed in patients who underwent hip surgery. The constipation reduction rate decreased from 120.0 per 1000 patient days to 37.04 per 1000 patient days (95% CI [0.024, 0.142],  $p < .05$ ). The authors discussed that managing constipation is a responsibility of nurses but prior to initiation of the protocol the suppository was ordered on a non-scheduled basis. This allowed nurses to make the decision whether to intervene or not in patients who were constipated and for patients to refuse the intervention. The prescriptive nature of the protocol removes the

decision-making capacity from nurses and essentially compels nurses to act. And although patients can still refuse, because the intervention is then a standard of practice, it is easier to explain to patients. It is unclear how this would affect nurses' attitudes about constipation and the reduced ability to intervene based on their own assessment. The protocol concept does influence the outcome of constipation by decreasing the frequency of occurrence of constipation as evidenced by these studies (Andrews et al, 2014; Dorman et al., 2004; McKenna et al., 2001; McPeake et al., 2011). It is unclear whether nurses' feel that their nursing practice is more prescriptive through the use of a protocol. Therefore understanding whether a protocol reduces nurses' discomfort when intervening with constipated patients may reveal whether strategies that help nurses approach bowel care with specific direction and could improve confidence in bowel care.

### **Nursing Attitudes**

Although nurses' knowledge of constipation assessment and management is important, it is also nurses' attitudes towards constipation that influence the effectiveness of the plan and patient/family acceptance of interventions for constipation. Nurses' must understand the science of constipation but equally important would be knowledge of the appropriate developmental and psychological approaches to patients with constipation. Nurses must consider and plan their approach to children with constipation due to potentially intimate interventions such as a DRE and suppository administration to promote optimal outcome and relief of constipation (Norton, 2004). The prevalence of constipation in pediatric settings could be lessened if nurses are given clear practice guidelines prescribing the assessment and management of constipation (Andrews et al., 2013).

Nurses' confidence in physiologic maneuvers such as digital rectal exam (DRE); digital rectal stimulation (DRS); and enema and suppository administration are also fundamental to the successful management of constipation (Knowles et al., 2015). Therefore, nurses' attitudes may be involved in the successful management of constipation. Little is known about pediatric nurses' attitudes regarding constipation management in the hospital setting although attitudes have been investigated in the nurses providing care in the hospitalized adult population (Berger, Durand, and Grocq, 2010; Knowles et al, 2015; McPeake et al., 2011; Moore et al., 1996). The negativity toward and low status of constipation is concerning and could influence nurses' approaches to patients with constipation (Norton, 2004; Varghese, 2013).

Nurses' and physicians' attitudes regarding constipation and bowel care have been investigated as an element of many studies (Berger et al., 2010; Knowles et al., 2015; Moore et al., 1996; McPeake et al., 2011; Varghese, 2013). In the Moore, Matyas, and Boudreau (1996) investigation of nurses' knowledge, focus groups of primarily nurses were conducted to discuss perceptions and barriers towards constipation. Thematic analysis showed nurses were frustrated with lack of cooperation from patients, poor documentation by co-workers, lack of protocols, and concerns about scope of practice related to rectal examinations and rectal disimpaction. In a French study, Berger, Durand, and Grocq (2010) investigated staff attitudes and barriers towards the management of constipation. Multidisciplinary participants (N = 130) described challenges of talking about the problem of constipation including lack of social skills; lack of interest in addressing the problem; embarrassment when the problem is not addressed until it is a significant patient problem; and lack of education. McPeake, Gilmour, & MacIntosh, (2011) reported similar findings from focus groups of nurses and physicians that were conducted to improve bowel management and reduce the incidence of constipation in an adult ICU setting. Focus

group interviews were conducted prior to the implementation of a bowel management protocol and thematic analysis results were reported. Similar themes of feelings of bowels being a taboo subject, avoidance of the subject of bowels, lack of priority given to bowel management by medical professionals and confidence in management of bowel issues by nurses and physicians were reported. Similar to the previous studies, important themes such as lack of priority and lack of confidence were identified, which would provide direction for understanding pediatric nurses' attitudes about constipation.

Additionally, the knowledge and attitudes of both HCPs and patients towards bowel management in the hospital environment may also be a key factor in the development of constipation (Knowles et al., 2015; Norton, 2004; Varghese, 2013). Knowles et al., (2015) used survey methodology to investigate nursing and provider attitudes and beliefs regarding bowel care. The results revealed that despite adequate knowledge about general bowel management, this knowledge did not translate into nurses' using interventions such as DRE and enema administration to relieve patient constipation. The lack of implementation of interventions to relieve constipation was maintained even after educational sessions were provided to nurses regarding the proper technique for the interventions. There is a division between knowledge and practice and the reasons for this division have not been elicited with a quantitative methodology.

In a seminal review of the taboos and stigmas related to bowel continence, Norton (2004) described the history and meaning that bowel conversation and management can play in personal and professional lives not only of patients but of nurses as well. The author discussed the development of attitudes, generally negative, regarding bowel control and incontinence by the lay public. When a negative and silent perspective about bowels and constipation is developed, even by nurses, this can influence patient care when the need to address the issue arises. The

author acknowledges that even in the nursing profession, bowel care can be viewed with “distaste and embarrassment” and those feelings are managed through a mechanistic and routine approach to interventions that inhibits an individualized approach to the problem of constipation. Nyatanga (2012) argues that the only way nurses will be able to discuss taboo topics with patients is when they are comfortable with the topic themselves. She feels that as society in general becomes more comfortable with intimate topics that the conversations and patient assessments will become more accessible. Despite these potential negative attitudes, nurses are in a unique position to help patients with such intimate body functions to assess for constipation and manage its sequelae.

If nurses are unable or unwilling to manage the embarrassment of patients related to constipation, the problem for patients continue and the constipation goes unresolved. The division between knowledge and practice requires a qualitative investigation into nurses’ experiences to understand the barriers or facilitators to implementing interventions to reduce constipation in hospitalized children. Nurses must determine their approach to patients to ensure trust with children and families and confidence that physical maneuvers such as DRE and DRS will be safe and effective. This approach may be more important in children who have not experienced the medical procedures, which may occur with health exams of adulthood. As well, the skill of continence is described as an important developmental childhood achievement in Erikson’s stage of development, autonomy versus shame and doubt (Wilson, 2015). Becoming continent of urine and stool promotes a sense of independence and control in the toddler, generally 1 ½ - 3 years of age. Children’s ability to successfully toilet train and achieve developmental milestones can be interrupted if hospitalization is required at this age. It would be important to understand nurses’ approaches to children in different stages of development and

whether growth and development concepts play a role in nursing practices towards hospitalized children with constipation.

### **Lived experiences**

Nurses' knowledge, attitudes, and ability to identify and manage constipation in hospitalized children influence the approach and successful outcome for relieving constipation. Quantitative investigations have been discussed throughout this review but what is needed is a naturalistic inquiry to understand the human side of nurses' experiences, nurses' lived experiences, with this sensitive topic. Lived experiences of pediatric nurses have been investigated in other sensitive topics such as end of life care and providing patient restraint during a procedure (Brenner, Treacy, Drennan, & Fealy, 2014; Hendricks-Ferguson et al., 2015). Nurses acknowledged difficulties with communication and tension among the health care team during the procedure. The difficult experiences of death and restraint use could provide direction for pediatric nurses' experiences with children who are constipated.

Although pediatric nurses' lived experiences regarding the identification and management of constipation in hospitalized children have not been investigated; patients' lived experiences regarding constipation and bowel care where nurses have been involved have been investigated. The lived experiences of patients describe nurse/patient relationships and nursing approaches to constipation from the patients' perspective. Patient perspectives regarding bowel care include the stories of parents of children with constipation and people with spinal cord injuries who are required to learn specific bowel techniques to adapt to the sequelae of the injury (Burns et al., 2015; Farrell, Holmes, & Coldicutt, & Peak, 2003;).

In the Farrell et al. (2003) investigation, parents related experiences with health care professionals, including nurses, to better understand and implement care to manage their child's

problems with constipation. Parents described their concerns about their child's constipation as being of lower priority and less important than other childhood problems. On a positive note when parents felt dismissed by the provider, the parents found help from a nurse specialist who took an interest in their children's constipation. A parent also shared a story about a caring nurse who made sure to help her child through the pain and enemas during a hospital stay (Farrell et al., 2003).

Patients with spinal cord injuries described the importance of nursing continuity of care and reliability to maintain bowel continence (Burns et al., 2015). Another challenging aspect revealed by the participants was that some nurses were perceived as bullies and others not knowledgeable about anatomy. Nurses are in a unique position to straddle both physiologic and social management of constipation, yet parents reported that providers tended to focus on the physiologic processes of helping patients with constipation management when social functioning may be equally important. The gap in nursing literature is the limited information available regarding the nurses viewpoint and lived experiences of caring for patients with the problem of constipation. Accordingly, this proposal is for use of the qualitative method of phenomenology to better understand the nurses' perceptions of constipation identification and management.

Phenomenology is a method that explores the everyday lived experience of a particular phenomenon. Researchers in nursing and other social sciences have recognized the purpose that qualitative methods have served since the mid-20<sup>th</sup> century (Snape & Spencer, 2003). Ethnography, a method of qualitative research where everyday cultures and customs are described, was recognized in the early 20<sup>th</sup> century most notably with the publication of Margaret Mead's, *Coming of Age in Samoa* (Snape and Spencer, 2003). Further development of the qualitative method emerged with Glaser and Strauss' development of grounded theory in the

1960's. In grounded theory, a theory is inductively built from the structured analysis of everyday experiences as conveyed by the subjects often through an interview process (Snape & Spencer, 2003; Spencer, Ritchie, & O'Connor, 2003).

The introduction of phenomenology as a qualitative research method is known from the works of many philosophers such as Kant, Husserl, and Speigelberg, who recognized the importance of the human experience in understanding phenomena (Omery, 1983; Snape & Spencer, 2003). The investigation of the human experience was contrary to the prevailing quantitative scientific methods of the 20<sup>th</sup> century (Snape & Spencer, 2003). Quantitative and qualitative methodology offers contrasting approaches but both methodologies are important to understanding and explaining the human condition. Phenomenology can be descriptive or interpretive (Balls, 2008; Shosha, 2012). Descriptive phenomenology, most notably attributed to Edmund Hesserl, seeks to describe the meaning of the phenomenon by the individual, the aura of the experience to the individual, or the stream of consciousness within the phenomenon (Omery, 1983; Wojnar & Swanson, 2007). Descriptive phenomenology is contrasted with interpretive phenomenology, developed by Husserl's student, Martin Heidegger, where context of the lived experience to the individual was paramount (Wojnar & Swanson, 2007). Descriptive phenomenology was simply the description without meaning and context (Shosha, 2012). This study will use descriptive phenomenology.

### **Theoretical Background**

The theory of planned behavior (TPB) has informed the development of the investigation into pediatric nurses' experiences of identifying and managing constipation in hospitalized children. Isak Ajzen, a social psychologist, developed the theory of planned behavior in the early 1990's (Ajzen, 1991). The main concepts of the theory of planned behavior (TBP) include

individual attitudes about the behavior (what an individual believes about the behavior), social norms about the behavior (culture of the environment in which the behavior occurs) and the individual's perception of his/her own control over the behavior. The three concepts, attitudes, social norms, and behavioral control influence the intention to perform the behavior and determine whether the behavior occurs. The TPB has been used as a framework to investigate several nursing phenomena including constipation, promoting mobilization of ventilated patients in the intensive care unit, provision of supportive labor care to mothers during childbirth by bedside nurses, performance of hand hygiene by nursing staff, and performance of dysphagia assessment by nursing staff (Holdsworth et al., 2015; Knowles et al., 2015; Sauls, 2007, Werner, 2010, White et al., 2015).

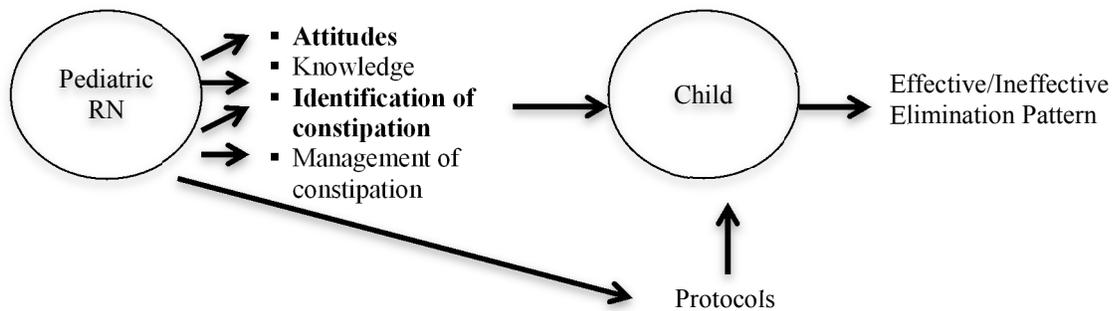
Knowles et al (2015) and Werner (2010) included an educational session and knowledge test in their investigations although knowledge is not a specific construct within the TPB that is predictive of a behavioral outcome (Atjen et al., 2011). The investigators suggested that increased knowledge through the educational sessions would influence the individual's perception of control over the behavior under study. Werner concluded that the educational session did influence the nurses' perceived control over performing the dysphagia assessment in patients with stroke whereas Knowles et al. (2015) concluded that the educational session did not influence the staff's intention to perform the digital rectal exam assessment in patients' risk of developing constipation. Atjen et al. (2011) discussed the influence of knowledge of a phenomenon and the intent to perform a behavior associated with the phenomenon and determined that knowledge is not necessary to perform a behavior, it is the attitudes and environment that influence whether the intention to perform a behavior occurs or not.

The results of the Knowles et al. (2015) study triggered the need to propose a qualitative investigation into nursing practices about constipation. Knowles was unable to explain why nurses did not perform behaviors specifically required for the success of the bowel protocol using quantitative methods. Varghese (2013) also investigated attitudes about a bowel protocol using a survey method but did not ascribe to any specific theory. Varghese learned more about nursing attitudes and practices through three open-ended questions that were included at the end of the survey. Therefore, it seems nurses have more to say about the identification and management of constipation than what has been learned through quantitative methods. So although the Theory of Planned Behavior has been cited as informing the study proposal, the theory has not been able to answer important aspects and questions within the phenomenon of constipation. A qualitative approach may better serve nurses to describe their practices and experiences of identifying and managing constipation in hospitalized children.

### **Conceptual Model**

A conceptual model has been proposed to understand the main concepts underlying the investigation of pediatric nurses experiences of identifying and managing constipation in hospitalized children (see Figure 1).

Figure 1. Conceptual Model (Proposed) – Pediatric nurses experiences of identifying and managing hospitalized children with constipation.



The nurse and the patient are fundamental to the model; nurses' knowledge; attitudes, identification of constipation, and management of constipation shapes the response of patients to influence the patients' bowel elimination pattern. Bowel protocols enacted by nurses on patients influence patients' bowel elimination patterns as well but bowel protocols are mostly independent of nurses' knowledge, attitudes, and identification and management of constipation. Certain concepts of the model, i.e., attitudes, identification of constipation, and protocols, may have greater priority within the phenomenon of pediatric nurses experiences of identifying and managing constipation in hospitalized children than the concepts of management of constipation and knowledge of constipation. A bolded font in the depiction of the conceptual model designates the prioritization. The diagram of the conceptual model will assist in understanding the possible influences affecting pediatric nurses experiences of identifying and managing constipation in hospitalized children

## Conclusion

Knowledge and attitudes can play an important role in nurses' capacity and ability to implement intimate bodily interventions. The developmental aspects of providing care to children without causing psychological harm when intimate interventions need to occur may influence the attitudes of pediatric nurses. There is limited direction available in pediatric texts to guide practice for the physical maneuvers such as a rectal exam or rectal suppository

administration that may be necessary (Ma & Dowell, 2012). There are pediatric nurses who excel at bowel care and there are pediatric nurses who could benefit from the wisdom of those nurses. The key is to investigate the thoughts and approaches of those who have positive and negative attitudes towards bowel care to elicit information and experiences that would improve the care of hospitalized children who are constipated.

In reviewing the assessment and management of constipation as a phenomenon, there is a gap in the literature regarding pediatric nurses' knowledge and experiences about their identification and management of constipation in the inpatient hospital setting. The investigation of the phenomenon of constipation would be an important to add to the body of knowledge of nursing practice especially in the pediatric inpatient setting to understand the challenges that nurses' face in their everyday practice.

## **Chapter 3: Methods**

### **Introduction**

Knowledge, attitudes and beliefs of nurses and physicians about bowel care have been investigated from a survey approach (Longstreth & Burchette, 2003; Richmond & Devlin, 2003; Marsh & Sweeney, 2008; Dickman et al., 2011; Tan, Holloway, Lange, & Andrews, 2012; Knowles et al., 2015) but these studies have not exposed the personal stories offered through the qualitative approach (Riessman, 2008). The perceptual element of the qualitative approach can address “long-held assumptions and one’s own view of the world or frame of reference (Bloomberg & Volpe, 2008, p. 70-71). This experience has not been explained through the qualitative approach in the investigations of nurses’ attitudes and experiences regarding hospitalized patients with constipation. A nurse’s own view of the world, or personal culture, or upbringing may influence her perceptions of certain types of nursing care such as constipation.

### **Design**

The qualitative methodology of phenomenology was the research design used to investigate pediatric nurses’ experiences of identifying and managing constipation in hospitalized children. This study used descriptive phenomenology because the purpose was to understand the daily experience of pediatric nurses when providing care to hospitalized children with constipation. Phenomenology provided an understanding of the experience of constipation from the nurses’ practice. Phenomenology was used in contrast to an approach such as narrative analysis, which the purpose is to understand the experience of the individual (Creswell, 2007). The experience of many participants about a phenomenon, e.g., problem, diagnosis, behavior, is the focus of phenomenology whereas the individual is the focus of the narrative format. Therefore, there is a fundamental difference between the different methodologies.

There are necessary steps to be followed with the phenomenological method of investigation, which strengthens rigor and trustworthiness. Colaizzi proposed a seven-step method of data collection and analysis in the 1970's (Colaizzi, 1978; Omery, 1983; Wojnar & Swanson, 2007). The Colaizzi method has been used in nursing to investigate experiences of patients upon transfer from the intensive care unit (Strahan & Brown, 2005) and to understand patient experiences of comforting and discomforting nursing actions (Wilby, 2005) among others (Friedrichsen, & Erichsen, 2004; Griffiths & Taylor, 2005; Saiani, Viviani, Lenzi, Chissalè, & Palese, 2008; Burns et al., 2014). Giorgi (2008), a psychologist who refined the phenomenological method, emphasized the importance of following all the steps and not to mix different steps of different phenomenologists although Colaizzi (1978) terms the steps in his method "typical" but not "definitive" (p. 59).

The seven steps of the phenomenological method as outlined by Colaizzi (1978) include: 1) reading and rereading the subjects' transcripts to get a sense or feeling of the subjects' experiences of the phenomenon; 2) extracting significant statements from subject transcripts into meaningful statements, in a sense paraphrasing the subject's words into declarative statements; similar statements between subjects may be noted and don't need to be repeated; 3) formulating meanings from the statements or reducing the meaningful statements to shorter phrases or ideas that stand out within the statement but still remain grounded within the subject experience; the investigator has to elevate the data but not conceptualize or interpret the data which Colaizzi says can be a "precarious leap" (p. 59); 4) organizing the formulated meanings into clusters of themes or more general themes that emerge from all of the subjects' transcripts; Colaizzi recommends to refer back to the themes to make sure nothing has been missed and that there are not any discrepancies; Colaizzi also cautions the investigator that some meanings may be ambiguous or

discordant but this must be overlooked by the investigator; 5) developing an exhaustive description of the phenomenon so that “anyone who has experienced the phenomenon should be able to identify their own experience in the proposed description” (Wojnar & Swanson, 2007, p. 177); 6) develop the themes and exhaustive description into an overall fundamental structure of the phenomenon; 7) returning to the subjects to verify that the exhaustive description is an accurate depiction of the phenomenon; and integrating the changes and recommendations from the subjects’ feedback into the description of the phenomenon.

Phenomenological analysis in nursing allows the researcher to investigate challenging or sensitive phenomena within the profession through the interview process. This investigation into pediatric nurses’ experiences in identifying and managing constipation in hospitalized children could be considered a sensitive nursing research topic (Norton, 2004). Constipation can be a sensitive topic due to the intimate and personal communication and interventions that occur with this phenomenon. Personal communication about bowel habits and intimate interventions such as rectal exams can be considered taboo and difficult not only for patients but for nurses as well (Norton, 2004). Qualitative methodology including phenomenology using the interview technique lends itself to investigating sensitive phenomenon (Snape & Spencer, 2007). Phenomenology can tell the “story of one” in these difficult conditions and it is this story that can provide greater insight into the phenomena for enhanced understanding and improved healthcare outcomes (Cresswell, 2007).

Phenomena related to constipation that have benefitted from qualitative analysis include the experiences of mothers of children with encopresis (Brennan-Parsons, 2000); experiences of adolescents with Spina Bifida and their bowel programs (Sawin & Thompson, 2009); parents’ health care experiences with their children with constipation (Farrell, Holmes, Coldicutt, & Peak,

2003), health care experiences of adults with constipation (Wainwright, Russell & Yiannakou, 2011), adults with spinal cord injury (Burns et al., 2014) and attitudes of intensive care unit nurses about a bowel protocol (Varghese, 2013). The reason these populations benefit from a qualitative approach is that the depth of the human experience can be explained and the true story from the individual's perspective is given voice and provides meaning to life's difficulties (Riessman, 1993). Nurses' experiences need to be investigated using a qualitative approach to understand the sensitive nature of the interaction to intervening in patients with constipation and teaching patients and families about bowels and bowel programs. Obtaining insight into the nursing perspective of caring for children with constipation could lead to improved nursing practices, improved outcomes and improved well-being in hospitalized children with constipation.

### **Research Question**

The primary purpose of this study was to investigate pediatric nurses' experiences regarding constipation identification, and management of constipation in hospitalized children using a phenomenological method. The research question was: What are the experiences of pediatric nurses' regarding the assessment, identification, and management of constipation in hospitalized children?

### **Research Participants**

#### **Participants**

Participants were obtained using a purposive sample of pediatric nurses who cared for children in the inpatient hospital setting, to ensure a heterogeneous selection of participants. The study site was a 296-bed freestanding pediatric hospital with approximately 1200 nurses employed. Pediatric nurses were recruited who practiced in the inpatient settings including

seven acute care units and three critical care settings and who had a range of years of nursing experience. Nurses on the different inpatients units provided care to patients with varying lengths of stay and who therefore had diverse opportunities to care for children with constipation. Interviewing nurses from each unit increased the likelihood of obtaining participants with a wide range of experiences, which was important in understanding the full breadth of the phenomenon and enhancing the richness of the data (Polit & Beck, 2012). All participants had experiences with patients who were constipated, but the extent of their own nursing interventions and patient outcomes varied. Polit and Beck (2012) describe this type of purposive sampling as maximum variation sampling where there is a deliberate effort on the part of the investigator to make sure that multiple experiences are obtained. When patterns are observed during the data collection using maximum variation sampling, there is increased trustworthiness in the data due to the variation (Polit & Beck, 2012).

### **Sample Size**

Investigations using the qualitative methodology traditionally have a small sample size, often less than ten participants (Ritchie, Lewis, & Elam, 2007; Polit & Beck, 2012; Starks & Trinidad, 2007). However, it is imperative that all participants have experienced the phenomenon under investigation (Mapp, 2008; Polit & Beck, 2012). The rationale for the small sample size includes the concept of saturation where no new information is learned from subsequent participants; qualitative investigations do not require a precise sample size due to the nature of the investigation and that no statistical analysis is completed that would require power through numbers; and qualitative methodology offers depth in the responses of the individual participants (Ritchie, Lewis, & Elam, 2007). Colaizzi (1978) does not recommend a specific sample size and other researchers who have used the phenomenological method have reiterated

the concept of saturation or redundancy during data collection and analysis without recommending a specific sample size (Green-Hernandez, 1991; Groenewald, 2004; Mason, 2010).

Mason (2010) provided a systematic review of sample size in PhD studies using a qualitative method. He discusses many descriptions of saturation in the literature review from varied authors including no new information learned from subsequent interviews; depends on the extent or breadth of the research question – answers from a more refined question may become repetitive sooner than a extensive question; quality of the data; and type of participants. In this review, Mason (2010) found overall that the sample size of qualitative studies in general was approximately 30 ( $N = 560$ , range = 1-65,  $\chi = 31$ , S.D. = 18.7) studies using the phenomenological method had a large range ( $n = 25$  range = 7-89,  $\chi = 25$ , S.D. = 19.9). Selected studies that used the phenomenological method in nursing ( $n = 6$ ) had sample sizes that ranged from ten to forty with a mean of seventeen (Burns et al., 2014; Saiani et al., 2008; Wilby, 2005; Strahan et al., 2005; Friedrichsen, & Erichsen, 2004; Griffiths & Taylor, 2005).

In the research setting, there were ten patient care units, which included three intensive care units (cardiac, surgical/trauma, medical), three surgical units (general surgery, orthopedics/specialty surgery, neurosurgery), and four medical units (oncology, gastrointestinal, infant, solid organ transplant). Nurses who provided care to patients on these units experienced children with constipation. Purposive sampling yielded at least one nurse from each unit for the interview to include diversity of setting and nursing experiences. The purposive sampling plan yielded 21 participants.

### **Sampling method**

The purposive sampling method is not random (Polit & Beck, 2012). The participants must have had the experience to be able to tell their story (Colaizzi, 1978). If purposive sampling does not elicit enough participants, snowball sampling will be utilized to gain further participants (Groenewald, 2004). Snowball sampling is a process where current participants recommend future participants based on knowledge of the setting and previous experiences (Groenewald, 2004). When snowball sampling is implemented, the investigator is able to specify participant requirements if necessary without having to eliminate participants through an interview process (Polit & Beck, 2012). The referring nurse would provide the participant through requested selection criteria of the investigator.

### **Recruitment Procedures**

Nurses were recruited for the study after approval by the University College of Nursing Institutional Review Board (IRB) (see Appendix A). The Hospital IRB had a collaborative agreement with the university and deferred approval to the University IRB (see Appendix B). A letter of support from Human Resources (HR) department in the selected setting was required for University IRB approval (see Appendix C).

The unit-based Clinical Nurse Specialists (UBCNS) assisted in recruitment of participants. The student PI has been a long-term staff member at the participating hospital and to reduce the possibility of staff RNs feeling compelled or coerced to participate, the student PI requested that the UBCNS's advertise and recruit for RN participation. An educational session with UBCNS's was held describing study, recruitment process, and recruitment materials were provided. A flyer describing the study with contact information was provided for posting on the unit, as well as a recruitment advertisement for the electronic unit newsletters and a group email

to unit nurses (see Appendices D and E). The student PI was available to answer any questions or issues from the UBCNS's.

Nurses who were interested in participating responded to the investigator of their interest in sharing their experiences via email or phone contact. Recruitment was slow, as the student PI did not have ability to contact interested participants despite feedback from the UBCNS's that nurses were interested in participating. Therefore, an amendment was submitted and approved to the IRB that would allow the UBCNS's, to use a "Permission to Contact" form (see Appendix F). The UBCNS requested that an interested RN complete the form that allowed the SPI to contact the interested RN via email or phone to provide further information about the study. The RN could choose to participate after obtaining further information. The "Permission to Contact" form keeps the RN participation anonymous from leadership but allows the RN to receive further information about the study from the SPI. This amendment improved recruitment of participants by allowing the SPI to contact a participant rather than waiting for the potential participant to contact the SPI.

### **Setting**

The interviews took place at a site that was comfortable for the participant. Interview sites included a private office located in an annex building close to the hospital or public libraries with private areas or small conference room. The sites were chosen by the participants for their convenience and ensured a quiet, private environment.

### **Ethics**

#### **Informed consent**

The dissertation committee recommended a request of waiver of documentation of informed consent. This was recommended due to potential sensitive nature of the interview and

the potential for participant being uncomfortable with signing any forms. Therefore, the informed consent document was read to the participant and verbal consent was obtained. The RN participant received a hard copy of the consent form (see Appendix G). The consent included the purpose of the research, and the expected length of the interview (Lewis, 2003). Participants were instructed that their participation was voluntary, and they could withdraw at any point during the interview. The participant was also informed that she did not have to answer any interview questions that made her uncomfortable or that she simply did not want to answer. The time that was required for the interview was discussed. There was minimal risk involved in this study of nurses' daily practice experiences with hospitalized children with constipation but the interviews did evoke intimate or sensitive experiences. No participants revealed any personal concerns due to discussion of sensitive experiences.

The setting where the study took place did not allow for any monetary compensation for participants. The participants receive a small thank you gift bag of hand lotion, chocolates, and a pen with a thank you card. The nurses were not paid for their time; some participants stayed after a 12-hour shift or a unit meeting, or consented to the interview during their non-working time. This thank you gift was approved by the director of Human Resources at the setting and approved by the University IRB.

### **Confidentiality**

Confidentiality and anonymity was important to convey to participants by promising to keep information confidential and ensuring that stories will not be shared with co-workers (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). To ensure confidentiality, participants were informed that numbers would be used to identify the demographic form and would be coded with the same number to be associated with the interview. There was no connection

between the individual and the demographic form and the interview. The demographic form did not ask for the participant's name. The completed forms were stored in a locked file in the student's home office. Individual transcripts were de-identified using a participant number. Specific exemplar nurses' stories that were used in the analysis, did not include any identifying information such as specific length of experience or specific unit of practice. Anonymity regarding participation was managed by not divulging study participation. Snowball sampling was not needed to increase participation.

### **Data Collection Procedure**

The participants were asked to complete a demographic form that included traditional variables of gender, age range, nursing education level, and nursing experience (see Appendix H). The demographic questionnaire also included three questions to elicit information specific to experience with patients with constipation, constipation education, and constipation attitudes. Interviews were voice recorded using a digital recorder with download capability that provided clear conversation between interviewer and participant to enhance transcription. A back up digital voice recorder will also be used. Any digital voice recordings will be kept in a locked file cabinet only available to the researcher.

An in-depth interview approach was used for data collection, as it allowed the participant to share the individual experience of the phenomenon of interest and was appropriate for sensitive topics (Mack et al., 2005; Melville, n.d.). The one-on-one individual interview versus focus group technique was more often employed in phenomenology and supported the individual experience of the story being told (Bradbury-Jones, Sambrook, & Irvine, 2009). As well, the individual interview was more often recommended for sensitive topic interviewing and for exploring the depth of experience in a specific phenomenon (Legard, Keegan & Ward, 2007).

Although the phenomenon of constipation can be a routine patient care problem for nurses in the hospital setting, it has been described as a taboo topic which can be considered as a sensitive topic or issue to discuss (Norton, 2004).

Interview questions were adapted from studies that used a qualitative approach where interview questions were available within the publication to address this sensitive issue (Moore, Matyas, & Boudreau, 1996; Berger, Durand, & Grocq, 2010; McPeake, Gilmour, & MacIntosh, 2011). The questions were designed to be open-ended to elicit personal stories by the participants. Interview questions were piloted with two nurses to test the flow and placement of questions (see appendix I). The phenomenological method encourages the participant to direct the interview rather than the investigator steering the interview to gain specific information. Additional questions had been developed and were used as further probes to encourage a deeper understanding of perspectives from the participant. Initial questions were broad based to “break the ice” and reduce the potential anxiety of the interview process. The additional questions addressed the more challenging aspects of the interview and provided for a wrap-up of thoughts and opportunity to address any omitted thoughts or experiences.

Participants were purposively selected to ensure that a range of perspectives was explored. The interview guide was developed with an effort to ensure the questions were not biased or leading, and phrased in the third person such as “there are nurses who have difficulty with bowel care” or “there are studies that explain the challenges or barriers to bowel care, have you had experience with that situation?” to explore the negative experiences with the phenomenon of constipation in hospitalized children.

The experiences of nurses caring for hospitalized children with constipation may be a sensitive issue for some nurses due to the intimate interventions, i.e., perineum assessment, rectal

checks, enema/suppository administration, that sometimes need to occur during patient care. It may be difficult for nurses to articulate the sensitive experiences that have occurred with children. Melville (n.d.) discussed sensitive interviewing in her video file and suggested that the researcher explain to the participants that discussion of the topic that is taboo or socially uncomfortable may be difficult but is important in understanding the underlying reasons in order to make change. She also suggested preparation of the participant beforehand with the general content of questions and expected length of the interview so there are minimal surprises. McGarry (2010) discussed further the issues of sensitive research when the investigator is conducting research in the nursing environment. There is concern for appropriate boundaries when interviewing in one's own environment and that roles can get confused from friend and colleague to researcher. It was important to find the correct amount of emotional engagement and not provide practice judgment as well during the interview process.

### **Data Analysis and Synthesis**

The steps for data analysis were described earlier in the general discussion of Colaizzi's (1978) method of phenomenology. To briefly review, the steps in data analysis include: 1) reading and rereading the subjects' transcripts; 2) extracting significant statements 3) formulating meanings from the statements; 4) organizing the formulated meanings into clusters of themes; 5) developing an exhaustive description of the phenomenon; 6) develop the themes and exhaustive description into an overall fundamental structure of the phenomenon; 7) return to the subjects to verify that the exhaustive description is an accurate depiction of the phenomenon; and integrating the changes and recommendations from the subjects' feedback into the description of the phenomenon (Colaizzi, 1978).

An external person who was skilled in transcription completed the interview

transcriptions. This was arranged prior to the start of the study to be able to complete transcription as soon as possible. PantherFILE was initially used to store audio files and transcribed interviews and was the source for collaboration with the transcriptionist and the major professor (“What is PantherFILE?”, n.d.). Originally, PantherFILE was used to store the data but this program was retired. An amendment was submitted to the IRB to change the location of the interview audio files and the transcript files. In discussion with the UWM tech support, it was recommended to use the student PI’s UWM Office 365 OneDrive for storage and collaborative work. The new data storage site was approved by the UWM IRB.

When the transcribed interviews were available, review took place as soon as possible. The interviews were read and reread using a hard copy of the transcripts for increased understanding of participants’ experiences. Participant experiences were examined for statements and statements identified and verified with the major professor for five interviews. The transcribed interviews were loaded into DEDOOSE, a web-based application for analyzing qualitative data. The interview statements were coded using the DEDOOSE platform for organization by meanings. The formulated meanings were then transferred to EXCEL files to be organized further by theme and subtheme. A field journal was maintained by the interviewer. The field journal contained thoughts and perceptions of the investigator that occurred during the interview process. The field journal was helpful as the field notes were integrated into the reading and re-reading of the transcripts to add context and depth to the interview content when and where necessary. Debriefing and review of statements, formulated meanings, clusters of themes and the exhaustive description occurred with the dissertation major professor. The review and development of statements, meanings, and theme clusters was dependent on mutual availability of student and major professor.

Follow-up with the participants is a step in the Colaizzi method and is required to ensure the exhaustive description of the phenomenon is accurate (Colaizzi, 1978). The follow up with the participants occurs when the exhaustive description has been developed therefore the follow up would have been at least several weeks to months after the interview process. It was recommended by the dissertation committee to not request to contact participants after the interview to review the exhaustive description of the phenomenon at completion of the analysis. This decision was made due to potential recruitment issues and nurses not wanting to participate if there was further contact after discussing a sensitive issue.

### **Issues of Trustworthiness**

There are assumptions that support rigor or trustworthiness in qualitative research and are necessary for study integrity (Morrow, 2005; Polit & Beck, 2012; Lewis & Ritchie, 2007). Several authors describe a framework developed by Lincoln and Guba which outlines five criteria that should be evident in a study to be considered trustworthy (Polit & Beck, 2012; Lewis & Ritchie, 2007; Schwandt, Lincoln, & Guba, 2007; Shenton, 2004). The criteria include credibility, dependability, confirmability, transferability, and authenticity (Polit & Beck, 2012; Schwandt et al., 2007). Each criterion will be explained with an accompanying example where possible in the proposed study.

Credibility is the criteria whereby the stories of the participants tell the truth of the experience (Krefting, 1991). Lincoln and Guba (Schwandt et al., 2007) liken credibility to internal validity or is the phenomenon being investigated really measuring the true phenomenon. When interviewing pediatric nurses about their experiences of identifying and managing constipation in hospitalized children it was important that all participants had the experience of caring for hospitalized children with constipation. It could be possible that pediatric nurses may

have had other experiences with hospitalized children that could be confused with constipation such as paralytic ileus or experiences with adults or children as family members with constipation. The true experience of the participants became recognizable through data saturation. Data saturation occurs in the interview and analysis phase when no new themes emerge from the interviews and further interviews become redundant (Mapp, 2008; Polit & Beck, 2012). Consistently following the template of the interview guide promoted data saturation. As the interview questions were asked in the same order, the participant responses and stories also became orderly and similar. Data saturation in this investigation was reached at interview 18 when the infant perspective became redundant from previous participant experiences.

Lincoln and Guba (Schwandt et al., 2007) also describe prolonged engagement and persistent observation as criteria to support credibility. Prolonged engagement is the opportunity by the investigator of having significant contact with the participants who have had the experience of caring for hospitalized children with constipation and being immersed in the culture to be able to understand the phenomenon (“Prolonged engagement”, 2008). The investigator has spent several years working with pediatric nurses and hospitalized children with constipation. The investigator developed the interest in the phenomenon through the patient care unit immersion as well as providing education and presentations on the topic to nurses and providers. In tandem with prolonged engagement is persistent observation, which is the ability of the investigator to seek out participant experiences, or themes that have been recognized from prolonged engagement (Schwandt et al., 2007). The literature that was available regarding nurses identification and management of constipation in hospitalized patients had supported negative attitudes and lack of education when caring for hospitalized patients who are

constipated (Berger et al., 2010, Varghese, 2013). The investigator considered that negative attitudes about constipation management could potentially be a theme that emerged from the interviews and persistent observation. The theme of attitudes or nurses' perceptions did emerge from the data and will be discussed in the results.

Lincoln and Guba (Schwandt et al., 2007) also suggest that triangulation supports trustworthiness although they do not provide specific detail beyond integrating different procedures, analysts, and participants to promote data consistency. Source triangulation, a process where the method of investigation is consistent but the data is obtained from participants of different experiences or data is obtained during differing time frames or different investigators obtain the data (Cohen & Crabtree, 2006). In the current study of pediatric nurses' experiences of identifying and managing constipation in hospitalized children, there was a range of participant nursing experience, which supported source triangulation. As well, including the stories of nurses from multiple patient care units supported source triangulation.

Analyst triangulation is another process whereby differing investigators or experts examine the data for alternative viewpoints (Cohen & Crabtree, 2006). Analyst triangulation is demonstrated when the major professor reviewed the data independent of the principal investigator for relevant or significant aspects of the interviews as well as emerging themes. The review by the major professor also supported triangulation through her outsider position in relation to the day-to-day familiarity of investigator and the participants in the study setting.

Peer debriefing is another concept that supports credibility (Schwandt et al., 2007). Peer debriefing is the process by which the investigator discusses the interview experiences with a skilled peer to maintain honesty and review any challenging or difficult aspects of the interview or emotional perceptions of the interview process (Schwandt et al., 2007). The major professor

provided the opportunity for the peer debriefing. This was important as the principal investigator was the only interviewer and peer debriefing was important to share thoughts and ideas to ensure full development of participant experiences and stories and reduce bias of the single investigator. Peer debriefing also enhanced the interviewing skills of the investigator.

Member checking also supports credibility and trustworthiness (Schwandt et al., 2007). Member checking can occur during the interview by reflecting and paraphrasing the participants' experiences to clarify that the investigator has clearly understood the words of the participant (Polit & Beck, 2012). Member checking can also occur after the interviews have been completed and the interview analysis is in progress along with theme development (Polit & Beck, 2012). According to the Colaizzi (1978) method, member checking would be akin to returning the participants to ensure that exhaustive description is correctly portraying the participants' experiences. Member checking occurred during the individual interviews as necessary and but did not occur with participants after the exhaustive description was developed.

A distinction in phenomenology and not in the Lincoln and Guba framework is a concept termed bracketing (Valle & King, 1978; Omery, 1983; Balls, 2008). Bracketing is the necessary ability of the researcher to put aside her own knowledge and perceptions of the phenomenon being investigated so as not to influence the story being told by the subjects (Balls, 2008; Shosha, 2012). Bracketing may be a subjective practice by the researcher but is a critical element in understanding the phenomenon from the lived experience of the subject. Valle and King (1978) suggest that bracketing recurs throughout the investigative process and leads to greater understanding by the researcher about her own preconceived assumptions about the phenomenon. When this occurs, "one moves from the 'natural attitude' toward the 'transcendental attitude'" (p. 12). They explain this process as reduction but also state that

bracketing never ends. Bracketing and rebracketing for personal reactions and perceptions maintains the true story of the subjects. Bracketing in the current study was essential due to the immersion of the investigator in the phenomenon. The ongoing review of the field journal notes was key to maintaining an outsider view by the investigator and supported bracketing. The major professor also consistently stressed the importance of hearing the participant story. The major professor feedback was ongoing during review of the audio portions of the interview and during review of the transcribed interviews.

Transferability is a concept of trustworthiness whereby the analysis of the participant interviews in conjunction with integration of investigator field notes results in a comprehensive or “thick” description of the phenomenon (Schwandt et al., 2007). A well-written comprehensive description supports the transference of the phenomenon in other settings, patient populations, or nursing care units (Polit & Beck, 2012). Field notes are essential to describing and understanding the data because field notes add depth to the analysis of the interview by including other nonverbal content conveyed during the interview (Mack et al., 2005). Nonverbal content can include facial expressions, verbal tone inflection of the participant as well as thoughts of the interviewer during the interview process (Arthur & Nazroo, 2007; Mack et al., 2005; Groenewald, 2004). Each interview had an individual written field note that was numbered to correspond with the audiotaped recording to maintain anonymity. Polit and Beck (2012) also suggest giving field notes from an interview a title to make the notes more memorable to investigator. Field notes were written immediately after the interview took place. Investigator field notes also play an important role in establishing an audit trail for the study, which enhances trustworthiness and reduces investigator bias (Groenewald, 2004; Sawin & Thompson, 2009).

The audit trail, an ongoing process throughout the development and implementation of the investigation. The audit trail is not only the field notes and bracketing that are generated during the interviews but the account of how the research question came to be (Carcary, 2009). A well-developed audit trail would allow other investigators to replicate the steps of the study and promote transferability. The audit trail was documented chronologically in the field notes journal to support any necessary historical review of the process of this investigation.

Authenticity refers to the ability of the investigator to convey the participants' experiences of the phenomenon to the participants (Polit & Beck, 2012). This is in contrast to transferability where the experience is able to be felt by those who know the phenomenon but did not participate in the investigation. The integrative analysis of all of the participant interviews must be true to each one of the participants' experiences and not the investigators experiences. Authenticity is supported in Colaizzi's (1978) method by returning to the participants to ensure that the exhaustive description that has been developed correctly depicts the phenomenon. The exhaustive description must resonate with the study participants and is often several paragraphs in length, which depicts the thick description of the phenomenon and is developed from the multiple voices and experiences of participants (Kookken & Haase, 2014; Wilby, 2005). To address the issue of not returning to the participants to review the exhaustive description, a review of the exhaustive description for authenticity was completed by two of the UBCNS's. The two UBCNS's had experienced in caring for hospitalized children with constipation and provided clinical leadership on two of the units where hospitalized children with constipation received care.

## **Conclusion**

This study examined the experiences of pediatric nurses in the identification and

management of constipation in hospitalized children. It was important to explore and describe these experiences to improve the practice of nurses to ultimately improve the health and experience of hospitalized children. When nurses are knowledgeable and confident in intervening in this sensitive area it is indispensable as revealed by these interpretations of patient with spinal cord injury experiences with their bowel programs,

“Functional impairments associated with SCI often necessitate that individuals require assistance to perform and complete bowel care. Finding and retaining appropriate assistance is challenging. Individuals providing assistance with bowel care typically require training, and lack of consistency and turnover of personnel can negatively impact individuals with SCI. Participants emphasized the importance of having reliable and consistent assistance” (Burns et al., 2014, p. 5).

An excerpt from Sawin and Thompson (2009) investigation of parents of children with spina bifida and bowel programs discloses the importance of the nurse,

“In contrast, when HCPs who were knowledgeable and sensitive to bowel issues interacted with the parent, it had a powerful impact. One mother discussed a nurse's impact: ‘I wish I had known her [nurse] when [child] was a baby, cause maybe the outcome would have been different...I always felt like she understood what families were going through, especially the patient, and worked hard to achieve bowel continence...I found her to be extremely helpful and sensitive in an area where it could be very uncomfortable to talk about (p. 285).”

Six themes and an exhaustive description were developed from this study of investigating the experiences of pediatric nurses regarding the identification and management of constipation in hospitalized children. The themes and exhaustive description can be incorporated into

developing strategies for modifying and enhancing pediatric nurses' practice to improve the outcomes of hospitalized children who are constipated.

## **Chapter 4: Results**

The purpose of this phenomenological investigation was to investigate pediatric nurses' experiences in identifying and managing constipation in hospitalized children. Chapter four includes a profile of the participant sample using descriptive statistics. The themes and subthemes that emerged from the data analysis will be presented. The findings can be used to promote child well-being and support pediatric nursing practice in the commonly occurring phenomenon of constipation in hospitalized children.

### **Description of Sample Participants**

There were 21 participants in this sample. All participants were female and provided care to children in the inpatient hospital setting. The nurses' ages ranged from 20 to 69 years and were grouped in 10-year age spans with the largest percentage of participants (33%) being 30 to 39 years of age. There was a mean RN experience of 11.54 years (SD 10.57), a mean pediatric nursing experience of 11.8 years (SD 10.53) and a mean 9.75 years (SD 9.1) on their current patient care unit. Seventy six percent of nurses held a bachelor's level nursing degree. Fifty-seven percent of nurses were certified, 81% worked in the acute care setting, and 52% of nurses worked full-time. See Table 1.

On average, nurses estimated that 38% of patients who they provided care to weekly were constipated patients with a range of one to five patients (10-80%). In this pediatric setting, nurses could care for one patient on multiple days. Nurses in this setting typically work three 12 hour days per week with three to four patients per assignment. Nurses responded to all three questions about constipation education and may have received education through a combination of methods. Eighty-one percent of nurses received education about constipation in their nursing programs, 48% through their employer, and 66% educated themselves about constipation.

The interviews took place between November 2016 and May 2017. The mean length of the interviews was 34 minutes 40 seconds (range 15 minutes 56 seconds to 57 minutes 48 seconds).

## **Themes**

Overall, there were six themes that emerged from the interviews. The themes were 1) looking for clues of constipation or nurses identification of constipation; 2) multiple, multiple interventions which includes the non-pharmacologic interventions, pharmacologic interventions, and family education of constipation; 3) getting everyone on the same page or the communication that occurs between the nurse and parents, the nurse and providers, and the negotiation of care between nurse, parent and providers; 4) down there which described several nursing experience of sensitive touch in children including rectal procedures, developmental adjustments for rectal procedures, preparation for rectal procedures, privacy for rectal procedures, and teaching rectal procedures to new nurses; 5) just a very basic overview of constipation which included nurses experiences of acquiring knowledge of constipation and nursing unit culture; and lastly, 6) experiences whether good or bad which included nurses challenges of caring for hospitalized children with constipation, interacting with coworkers who overlooked signs and symptoms of constipation in the hospitalized child, and successes of caring for hospitalized children with constipation. The results of the overall themes and subthemes will be discussed.

Table 2

*Themes and subthemes*

Theme	Meaning	Exemplar	Subtheme
Looking for Clues of Constipation	Identification of Constipation	“I look at an assessment piece - are they distended, are they fussy, do they say they have abdominal pain, have they been throwing up. Kind of like looking at clues for constipation, depending on what their age is.”	<ul style="list-style-type: none"> <li>• Typical Bowel Patterns</li> <li>• Walking Kind of Funny</li> <li>• Different Reasons Why They’re Constipated</li> </ul>
Multiple, Multiple Interventions	Management of Constipation	“My first thing would be natural stuff as much as possible. Activity, exercise, diet, which are all things we do too because we do a lot of activity on our floor. We do a lot of repositioning, moving, getting up, sitting, walking. So we do a lot of that stuff which is supposed to help as well. So I’m always about that before doing medicine. “	<ul style="list-style-type: none"> <li>• Go and Sit on the Toilet</li> <li>• A Wide Variety of Constipation Management</li> <li>• It Just Took Some Educating</li> </ul>
Getting Everybody on the Same Page	Influencers of Care	“I feel like the nurses, if the doctor says, or if the nurse goes to the doctor, hey I have a kid who’s constipated, they’re more than willing to say, do you know what the mom likes to use? What would you like to use?...What would you recommend?”	<ul style="list-style-type: none"> <li>• The Parents are a Huge Resource</li> <li>• They Trust Our Judgment</li> <li>• Just Kind of Negotiate</li> </ul>

Down There	Sensitive/ Intimate Touch	“Two year olds up to the seventeen or eighteen are going to have varied degrees of ability to accept that you go up their butt. So I would be less inclined to do a check, unless I really had some reason as to why to do that. I would probably not do that, unless it was like a Spina bifida patient that doesn’t have feeling down there and there’s a good reason to think that we can just get it out with digital stimulation.”	<ul style="list-style-type: none"> <li>• I Would Not Automatically Do a Rectal Check</li> <li>• An Infant is Totally Different From a 5 or 6 Year Old</li> <li>• I Just Try and Build a Trustful Rapport</li> <li>• Comfort and Privacy</li> <li>• We Kind of Do a Dress Rehearsal at the Desk</li> </ul>
Just a Very Basic Overview of Constipation	Nurse Knowledge	“I mean obviously they talk about it [constipation] in nursing school. I think most it’s through hands on experience on the unit and through preceptors and experienced people who are training you to be a new nurse on the floor. I think that’s where most of the education comes in. Like, keep this on your radar, this is what I’ve seen, and using those co-workers that have been around a lot longer than you have to really- even six months or more, it’s more on their radar to really kind of use that as a guide.”	<ul style="list-style-type: none"> <li>• You Need Time, Experience, and Certain Patient Situations</li> <li>• The Unit I Work On</li> </ul>
Experiences Whether Good or Bad	Nurse Perceptions/ Attitudes	“I always see my perspective as a nurse is to really coach them through that and to provide that compassion and that empathy. I’ll be right along side you all night. I mean we’re in this together. You’re going to have to do most of the hard work, but I’m here for whatever you need.”	<ul style="list-style-type: none"> <li>• It’s Exhausting</li> <li>• People Missed It</li> <li>• I Know It Will Help the Child</li> </ul>

## **Theme One: Looking for clues of constipation**

Nurses shared their definition of constipation and how they identified constipation in hospitalized children. Participants explained the assessment measures that they used to recognize constipation. This process of identification of constipation was described as “looking for clues of constipation.” Assessment measures for constipation are important due to different cognitive abilities and ages of children to describe their own physical sign and symptoms of constipation, which can often be hidden, ignored, or concealed by children leading to greater problems. Therefore identification of constipation by nurses plays an important role in positive health outcomes in hospitalized children.

I look at an assessment piece - are they distended, are they fussy, do they say they have abdominal pain, have they been throwing up. Kind of like looking at clues for constipation, depending on what their age is.

It was also important for nurses to be knowledgeable about a patient’s typical daily bowel output patterns. This was described as, “A pattern of having a bowel movement or maybe the nurse before me said, ‘He’s peeing fine but hasn’t pooped yet’, or you know, ‘He has diarrhea,’ or whatever it is to kind of clue me in.” Nurses also discussed the causative factors that they recognized that would also lead them to suspect which children were at risk for constipation. There were three subthemes including bowel movement frequency and consistency or “Typical bowel patterns,” signs and symptoms of constipation or “Walking kind of funny,” and causative factors or “Different reasons why they are constipated”.

### **Typical bowel patterns**

Nurses described typical bowel patterns in two ways, time since last bowel movement (BM) and individual patient BM pattern. Time since last BM was the most often cited answer

when nurses were asked about their definition of constipation. Nurses tended to favor two to three days for determining whether a patient was constipated. Nurses would add though that the definition was individualized to the patient's pattern and current gastrointestinal symptoms.

I would say that constipation is not having a bowel movement in greater than two days for our practice setting. We don't always follow that definition to the "T" because if a child is uncomfortable, feels bloated, obviously looks distended, or is feeling uncomfortable, and hasn't past stool in even under two days, we would probably classify that as constipated.

The one limitation to the two-day time frame was in the nurses' descriptions of infant stooling patterns. When nurses described infants' patterns of stooling, variability in stool output was described, particularly breast-fed infants. Nurses expected breast-fed infants to stool anywhere from several times per day to only once a week.

Well, like with the breast-feeding infant, for example, if I had a patient in a 12-hour shift that was strictly breast-fed and was up to full feeds if they didn't have a bowel movement in that 12-hour shift I thought that would be unusual for them.

The two-day time frame pattern for a BM was not used in isolation. Nurses also described assessing for the patient's typical BM frequency pattern, consistency, and stool output amount in determining whether a patient was constipated. Determining the patient's personal history and home routine was important as well as the stool amount and whether the child felt empty. Nurses also relied on parental awareness to know their child's regular BM pattern especially for the younger children. However, for older children as they gained more independence in self- cares, nurses relied on the child's report. Nurses said that BM patterns were individualized to each child. Constipation would depend on whether there was deviation

from the child's normal routine, usually a greater span of time in between BMs. Nurses also considered consistency of stool as an assessment measure. A nurse explained the need for a description of BM amount from a child for accurate documentation,

We do chart it as small, medium or large and then we ask them if it was soft, mushy, or I say, was it- I kind of laugh and say, 'Was it like rabbit poop? Did you have a little ball poop? A big poop?' If the kid is on antibiotics, 'Did you have diarrhea or was it pretty normal for you?'

Nurses talked about the differences in the level of concern for constipation between children who were two days post-operative from an abdominal surgery and children who have been eating and drinking appropriately in the past two days. Nurses had a lower level of concern for bowel output for those children who had undergone surgery more recently compared to children who had been more mobile and eating. Nurses rationalized that children who had undergone surgery would have less activity and contents in their GI system for any bowel activity to take place versus children who were not in the immediate post-operative period. One nurse explains,

So, if it's been a day or a couple of days post op and they sort had something in their belly then I would expect that they would start to have their bowels moving in despite being on maybe a little bit of narcotics.

Pediatric nurses most often use 48 hours as a starting point for observing for constipation in hospitalized children. Nurses rely on an objective time frame as one measure to include in their assessment of children who may be constipated. Communication of a time frame for BM to coworkers promotes comparison, as well as monitoring progress and outcome in hospitalized children with constipation.

### **Walking kind of funny**

Nurses explained their many signs and symptoms of constipation, which they observed across populations of children. There were typical descriptions of the patient assessment including abdominal distension, abdominal pain, increased abdominal girth, decreased appetite, straining during defecation, and nausea and vomiting. Additionally, nurses noted more subtle signs, “triggers” of constipation, such as “walking kind of funny,” respiratory changes such as grunting, guarding, drawing up of the legs, and fussiness and irritability in an infant. Subtle descriptions of constipation were described, “during my assessments I keep a close eye on not only my bowel sounds and listening for that but then are they kind of guarding or are they trying to prevent me from touching their abdomen.” An example of subtle assessment was noted by a participant:

Maybe they’re having a little more trouble breathing because their diaphragm is you know being pushed upon. Sometimes kind of a grunting thing, well what’s going on with this patient? As long as they actually sounded clear, but there was something going on down there.

From an infant assessment perspective, nurses’ concerns for constipation were raised if the infant was straining or turning bright red while trying to have a BM. Nurses described that infants could often be “trickier” and require more “guesswork” than older children. The infants were unable to speak about their constipation, whereas older children could be prompted to express their symptoms. On the other hand, nurses said infants were “easier” because parents who changed infants diapers would know every time the infant pooped. Nurses felt they had more control over infants but also needed to act more quickly because infants can get uncomfortable sooner than older children, “I think that we are maybe more, we’re quicker to act

with smaller infants especially since they seem like they get uncomfortable quicker than older children um and we tend to probably intervene quicker.”

Nurses also mentioned that they were suspicious of constipation as a problem when children were receiving intermittent medications for nausea. Nurses expected that the nausea should be minimal at a certain point for a typical post-surgical recovery. If a child was receiving an anti-nausea medication and was several days out from surgery or if a child was requiring more pain medication when previously it has not been required, nurses’ suspicions for constipation were raised. Nurses considered requiring more medication further out from surgery an atypical recovery pattern. An atypical recovery pattern was described as, “it doesn't make sense why it would hurt; like how they’re describing the pain doesn't make sense why it hurts.” The additional medications in combination with other indications, such as non-surgical site pain, lead nurses to consider constipation as a possible problem.

### **Different reasons why they’re constipated**

Participants were clearly aware of the different reasons that can cause constipation. The nurses’ descriptions of different reasons for constipation included knowledge of at-risk diagnoses such as Hirschsprung’s, Spina Bifida or paralysis from a spinal cord disorder. Nurses were also concerned about the development of constipation in children who had undergone lengthy surgical procedures and anesthesia. As well, nurses acknowledged that other patient variables influenced the onset of constipation. Poor diet was one influencing variable, “When they’re having cookies at midnight, just bed junk diet.” Medications including mostly narcotics and chemotherapy such as Oxycodone, Morphine, or Vincristine; immobility in children on bedrest; chronic constipation; and constipation that was related to developmental delay were other variables related to development of constipation. Nurses also articulated their entire critical

thinking process regarding causative factors of constipation as explained by a pediatric surgical nurse,

I think about if they've been drinking at all. So, if they're not really drinking anything by mouth and they don't have any IV- like any additional fluids or feeds going um that maybe it's due to their dehydration... Have they been taking a lot of Oxycodone? Have they had a lot of Morphine?... And kind of think too about some of the food and stuff that they've been eating like is it stuff that like is concerning- like all of a sudden it's super bulky fiber in their body. It just was too much for them too soon and kind of- Just kind of like look at those things as I'm considering what I think is going.

Nurses discussed the reasons for constipation in the non-surgical patients who were admitted for abdominal pain and vomiting where a large stool burden was noted on an abdominal x-ray. Often this scenario described children with autism or behavioral challenges, which made identification of constipation more difficult. Initially these children would present with poor appetite and fluid intake and progress to nausea and vomiting. Nurses expressed that the abdominal x-ray was helpful in determining the extent of the constipation and subsequent management.

If it's a known chronic constipation kiddo, sometimes they won't do the x-ray. From the nursing side of things, we feel better when we can get an x-ray before and an x-ray after even though I know that's testing more and putting the kids through x-ray. But I think sometimes you like to see kind of what you're working with.

### **Summary of Theme One**

Nurses' clues of constipation included assessing children for the time since their last BM as well as the child's own bowel patterns. Most nurses used the time frame of two days to raise

concern if a child has not yet had a BM. Participants were clear though that breast-fed infants had more variability for a typical time frame between BMs. The time frame of two days between BM's was not used in isolation to identify the problem of constipation. Children's noticeable signs and symptoms of abdominal pain, abdominal distension, and consistency of stool were taken into account when identifying constipation in hospitalized children. Nurses integrated children's bowel pattern time frame and signs and symptoms with the reasons or causative factors that may underlie children's constipation. Nurses used many sources of information to identify constipation in hospitalized children, including the children themselves, parents, and the medical record. Participants also used their own senses of sight, touch, and hearing, and knowledge that informed their recognition of constipation in hospitalized children.

### **Theme Two: Multiple, multiple interventions**

Participants also shared their experiences about managing patients with constipation. Nurses expressed a general strategy of, "Just be willing to try multiple, multiple interventions" which included non-pharmacologic interventions, pharmacologic interventions, and family education. Nurses described multiple nursing actions used to when caring for children with constipation,

My first thing would be natural stuff as much as possible. Activity, exercise, diet, which are all things we do too because we do a lot of activity on our floor. We do a lot of repositioning, moving, getting up, sitting, walking. So, we do a lot of that stuff which is supposed to help as well. So I'm always about that before doing medicine.

In addition to non-pharmacologic measures, nurses spoke about multiple pharmacologic interventions using both the oral and the rectal route of administration. Oral medications included stool softeners, bowel stimulants, and osmotic agents. Most frequently mentioned

rectal medications included suppositories and enemas, “Miralax is our go to and then stool softeners and then like enemas are like our last resorts” and “Senekot® as well and trying to be more aggressive, like doing the Enameez® everyday”

Nurses did discuss their experiences using bowel regimens and order sets directing the medical management for a child who is constipated or is at risk for constipation. Bowel regimens and order sets included laxative medications that were administered routinely or automatically depending on patient diagnosis. “There are definitely some populations I know for sure that like take their bowel regimens very seriously, and it’s part of their protocol. When they get that spinal fusion they are starting their bowel regimen like that day.”

Patient and parent education emerged as an integral concept under the umbrella of managing constipation. The three subthemes that emerged from participants experiences were non-pharmacologic management termed: Go and sit on the toilet, pharmacologic management which was identified as: A wide variety of management of constipation and patient/parent education termed: It just took some educating.

### **Go and sit on the toilet**

Nurses described many non-pharmacologic interventions in which “We really do a lot without medicine to help children overcome constipation outside of medication.” One of nurses’ primary non-pharmacologic interventions, for children who were able, included directing children to sit on the toilet. This intervention was explained, “If the patient is able to go sit on the toilet, I think that’s the step one, is I just encourage kids to really sit on the toilet and try to go to the bathroom first.”

Participants also discussed non-pharmacologic measures to manage constipation including mobility, positioning, and promoting fluid intake. If a post-surgical child was not

eating well, the sitting or walking movements could help stimulate the GI system. Also described were multiple interventions across the developmental spectrum from infants to teenagers that could be used to promote bowel elimination as stated in the following:

More from the nursing end of it, rectal temps, sometimes positioning things, sometimes them [infants] being tucked up, sometimes even just giving them like a warm bath and things like that help them go; it helps too with the bigger toddler kids. Then with adults or more adult sized, teenagers, or school aged kids...get them into a chair and just with their mobility to help with that too. Older kids I would say mostly mobility and then what their narcotic regimen is.

Nurses recognized the challenges of diet manipulation in hospitalized children.

According to the nurses, fiber is encouraged but they found that the hospitalized children don't like high fiber foods and tended not to eat foods that were high in fiber. Encouraging diet choices was explained by, "kind of swing them towards diet choices with more fiber. Because usually, especially like that teenagers, the first thing they want to eat is like pizza or mac and cheese or something without any fiber." Nurses like to use prune juice as a dietary choice as well for infants and older children. "The big one is prunes, I feel like prune to prune juice that we hear families do often, otherwise just including high fiber diets."

Specific to infants, nurses suggested using a rectal temperature and using a bicycling movement with their legs to stimulate a bowel movement. Nurses also included, positioning, massage with a warm pack, nutrition consultation, "flatfooting" and many combinations of these strategies. The positioning strategy was described as a better pooping posture by not lying flat in bed and promoting a squatting position by flatfooting the infant or child. The massage and warm

pack on the abdomen was used to promote comfort in the abdominal area. The nutrition consultation would ensure that an infant was on the proper formula.

We have to get that poop out. You need to flatfoot him. And now that is something 25 years later that I still do- put the enema in or if I give a suppository and I will take even the smallest child, put their feet flat and squat them down so they're not in the laying in the bed position.

Many nurses who cared for infants described the use and effectiveness of a rectal temperature for promoting bowel elimination.

We use rectal thermometers. So, if I notice a baby, okay you haven't pooped in 3 days, your tummy is a little hard, I would not take an axillary temp I would take a rectal temp, and we tell parents to take rectal temps at home to try to stimulate them to go and a lot of times one little rectal temp and 'boop' they poop.

Pediatric nurses shared many experiences of nonpharmacologic strategies used to promote bowel elimination in all ages of children. Nurses shared that these natural strategies can be implemented within the course of typical shift of care to promote BMs in children prior to the use of pharmacologic measures.

### **A wide variety of constipation management**

Nurses discussed many experiences with pharmacologic interventions to manage constipation in hospitalized children. There were a variety of oral and rectal medications that were administered to children with constipation. Nurses mentioned the medication, Miralax<sup>®</sup>, as the most frequently used medication as the first line of defense against constipation. Nurses described certain surgical patients, who were required to have a bowel movement prior to

discharge, had a combination of Miralax<sup>®</sup> with suppositories and an additional softener.

Opinions on the use of Miralax<sup>®</sup> in hospitalized children with constipation varied,

Everybody wants to just order Miralax<sup>®</sup>. And I don't know- do we love it here? Is it like their number one thing? Is everybody on it? I don't know, but it's- and I was always taught it takes a little while for that to work you know, especially if you're not well hydrated.

Nurses mentioned multiple medications but not with the frequency of Miralax<sup>®</sup>. Medication experience was explained in this summary,

Lactulose, that's a smaller volume and I'm not sure how well it works because we don't use it very much, but I like the idea of that one because it seems like it would be easier to take. I'm not sure why they use the Miralax<sup>®</sup> unless it's not as aggressive, it's not as hard on your bowels in terms of really riling it up a lot. So the suppositories are usually pretty good, it works pretty good. And Enemas. But then once again, with our patient population they don't often want to use those. I like them because they do seem to give pretty good results. Like a Fleets Enema seems to work pretty good. Every once in a while they'll use the Milk of mag.

The comments that nurses made about Miralax<sup>®</sup> were varied and numerous and included tips that were key to the effectiveness as well as barriers to the use of Miralax<sup>®</sup>. Nurses would mix the Miralax<sup>®</sup> in juice to improve palatability. According to participants, it was difficult to get children to drink the entire dose of Miralax in a timely manner for the medication to be effective. A strategy nurses said they used for Miralax<sup>®</sup> administration included:

Maybe he's on Miralax®. Let's make sure he drinks it. Let's make sure it's done within a short time frame. We're not letting him sip on it for 5 or 6 hours and then moving on because like it's just not going to be as effective.

Nurses discussed the administration of suppositories and enemas but indicated that suppositories and enemas were often medications of last resort. Nurses reported preferring to start treatment of constipation with an oral medication like Miralax® or senna. Although nurses stated they felt reluctant to use enemas and suppositories, they suggested that these medications worked effectively and in a shorter period of time, "I would say the normal Saline Enemas as well are something that we see frequently, and they're very effective." Nurses discussed the need for ramping up medications when there were ineffective results or no BM with ongoing symptoms and previous medications. According to the participants, at times children received multiple medications that then resulted in loose stools or diarrhea.

We blast them with everything. You get Miralax®, you get senna, you get Colace®, then you get a suppository and then you are like pooping water for a day or two and then they're like, oh my gosh we need to back off on that, and then it goes to PRN.

Nurses were familiar with certain bowel regimens or order sets that direct the nurse to perform certain interventions based on specific patient criteria. Nurses reported that bowel regimens were initiated for populations of children at risk for constipation. The populations of children reported by nurses who received automatic bowel medication orders included those who were admitted for spinal fusion, spinal cord injury, heart surgery, rehabilitation, and oncologic diagnoses. As explained by a participant, a bowel regimen for a patient with a spinal cord injury was a standard of care ordered by the Rehabilitation specialist with outlined steps for medication administration, "So anyway hers [bowel program] was a setup by physical rehab medicine, a set

up regimen that you had to do and it was once a day.” Nurses also discussed order sets that would direct the process for a bowel cleanout. The typical cleanout order set was described as directing the nurse to place an intravenous (IV) line and often a nasogastric tube (NGT). Participants indicated that additional orders included the administration of the stool softener, GoLyately, orally or through the NGT. Nurses discussed the challenges of encouraging a child to drink the large amount of oral fluid, NGT insertion, and administering the GoLyately as quickly as ordered in the provider protocol.

Yeah, it’s pretty standardized. They come in, if they’re developmentally appropriate to be offered an oral clean out, we suggest that but then we kind of set a time frame, a goal of you need to consume this much before we proceed to doing an NG. If the oral clean out is not working or they’re not developmentally able to do that then we just right off the bat, put in an IV and get fluids running and sink an NG, and then get GoLyately running and slowly ramp it up as tolerated.

The nurses expressed that the bowel regimens and order sets were provider driven and the timing of the orders may not be patient friendly or nurse friendly. Nurses shared that the timing was frustrating to both nurses and families. Nighttime care that was required for children requiring bowel cleanouts was difficult for nurses because children and families did not expect to be wakened at night. A nurse familiar with the bowel cleanout procedure explained:

You know the NG clean out, is really setting those expectations ahead of time because I’ve had families come in and working the night shift, I come in at 7pm and families want to be winding down and getting ready for bed. Setting those expectations that we’re going to be running this Go Lightly medication at almost a thousand mL’s an hour, so the likelihood of you being able to get 8 hours of consecutive sleep is pretty slim. So I think

that's an opportunity early on in the treatment plan to set those expectations and say like, 'You are going to be up every hour at least and you're going to be stooling frequently,' because- sometimes the families are caught by surprise, 'Like wait what? You know we didn't know that we we're going to be having that kind of a night.'

Initiating a complex order set and setting expectations for the successful process of a bowel cleanout and the necessity of care through the night was identified as a challenge for nurses. In a similar vein, nurses shared that they were challenged with promoting bowel regularity in the setting of a standardized medically driven order set. According to the nurses, the timing of the bowel regimen either conflicted with priorities for the nursing shift or conflicted with the individualized patient needs. A nurse provided an example of the competing needs of the nurse and patient,

Like 8 o'clock [at night] is a terrible time for the night person to do it. So, do you just do it in the morning with the bath, but then she has school. We're trying to organize all the different pieces of her day to make her feel a little more like she had a routine and if she was at home- I kept thinking, if she was at home they'd probably get her home from school, they'd have dinner, they'd give her- you know do all this, whatever, give her a bath, tuck her in for the night, but the routine of what she needed didn't fit into the routine of the nurse very well.

Pediatric nurses shared many typical pharmacologic interventions they had administered in hospitalized children with constipation. Nurses had a preference for multiple classes of oral medications. Nurses expressed some familiarity with constipation regimens and orders sets that exist in pediatric care.

### **It just took some educating**

As part of the management of constipation, nurses talked about the need to educate patients and families. Nurses educated patients and families on interventions that were necessary to promote bowel elimination, help children feel better, and prevent chronic constipation and expressed the experience as “it just took some educating.” Participants shared the importance of education regarding many of the non-pharmacologic and pharmacologic interventions that can be used in hospitalized children with constipation to prevent chronic constipation. As one nurse expressed, “I think the other side of that is definitely the teaching component because a lot of times it’s not a one time you know, my constipation is resolved and I’m never going to have constipation issues again.”

Nurses stated that they focused on consistency in continuing the home medication regimen and promoting a healthy diet. Nurses reported that there was a knowledge deficit on the part of the parents and understanding the connection between a poor diet and constipation. Nurses spoke of raising awareness of fiber and fluid intake and increasing physical activity to promote bowel regularity.

I always encourage them you know to really be diligent to their medication management. So, if they’ve got Miralax ordered everyday like yes you may be feeling good and you may not want to take it that day, but it’s so important to just follow that medication regimen and a lot of it is you know making sure that they’re eating the right foods because I think there’s a- a little bit of a deficit in knowledge of that connection piece. Like families don’t necessarily um kind of make that connection between, well my kids eating McDonald’s every day- like maybe if we did a little bit more work with the diet and tried to incorporate some more of those hyper foods and you know fluids and things like that.

Nurses shared that teaching patients and families about how constipation develops was important. Participants stated that families should understand that there are many elements that figure into the problem and continuum of constipation. As well, that resolution of constipation is not immediate and required due diligence on the part of families. Across the interviews, statements were made by nurses like the following, “Miralax is pretty much what we prescribe a lot and just really encouraging them to make sure the kids are drinking it and taking it and finding some way for them to eat more fiber and keep everything going.”

Nurses discussed the importance of education for children and parents to understand the connections between signs and symptoms of constipation and the interventions that will alleviate the constipation. Nurses shared that education needs to be ongoing and at a level that children and families can understand.

We try to kind of hone in on, are they pooping? And getting that in parents’ heads like, we need to do this right away, because we’ve had patients later on in treatment whose parents never really cared or never really did any stooling medicines and then they come in and are just miserable and so constipated. So I try to use those stories to help the newer patient and families.

### **Summary of Theme Two**

Nurses discussed a variety of both non-pharmacologic and pharmacologic interventions for management of constipation in children. The participants reported using creative non-pharmacologic measures and standard oral and rectal medications. According to the nurses, they preferred the use of oral medications, in particular Miralax, which nurses said was not always as useful in hospitalized children. Rectal medications were reported by nurses to be a challenge to administer to children both physically and emotionally. Nurses reported familiarity with

provider driven protocols that required administration of medications with diagnoses and settings. Protocols for constipation were not always successful in resolution of constipation. Nurses identified the importance of ongoing education of both patients and families about being persistent when managing constipation.

### **Theme Three: Getting Everybody on the Same Page**

Nurses described experiences of interacting with parents and providers in the identification and management of constipation in hospitalized children. Nurses termed the interaction between children, parents, and providers as “getting everybody on the same page.” Nurses described parents as being helpful because parents know their children best and know what will work best for their child. As well, nurses described parents as being a barrier to constipation treatment due to lack of constipation knowledge, cultural differences, or fear for their children. Nurses’ also shared experiences of working with physicians to identify and manage constipation in hospitalized children. Nurses said that physicians were most often positive and supportive of nurses’ constipation identification and suggestions for interventions. Nurses’ said talking with children, parents, and providers was necessary when caring for hospitalized children with constipation. Talking with children, parents, and providers about the identification and management of constipation would ensure that everyone was on the same page and had the same information. As one nurse shared:

I feel like the nurses, if the doctor says, or if the nurse goes to the doctor, hey I have a kid who’s constipated, they’re more than willing to say, do you know what the mom likes to use? What would you like to use?... What would you recommend?

Nurses describe this communication challenge as, “It’s always a little bit of a negotiation but that comes with the territory with anything you have to do that has a negative connotation for them.”

The subthemes for “getting everyone on the same page” are parents or “the parents are a huge resource,” providers or “they trust our judgment,” and communication or “just kind of negotiate.”

### **The parents are a huge resource**

Nurses said that they rely on parents for information regarding their child’s bowel status and the parental knowledge was dependent on the child’s age. Parents were less aware of a teenager’s bowel habits. Nurses said they would ask the child about bowel habits but also depended on the parents to verify the information so “the parents are a huge resource.” Nurses did share that some parents could be “clueless” about their child’s bowel habits, which could be barriers to effective constipation treatment. As one nurse shared: “I think I’m probably most concerned if a patient comes in and if a parent can’t recall or the patient can’t recall [last BM] then I start to think that maybe that is the point that they are constipated.” Some families were resistant to constipation interventions, felt that it was not a problem, or didn’t understand the ramifications of the problem. “I think we’ve had parents say like, no my kid is not constipated, until you actually have like proof like here’s a picture, here’s a KUB, like look at all of this you know or they show them.”

Nurses did share that most parents “want their kids to poop” while they are in the hospital. Nurses said though that parents might not have understood how interventions work to promote bowel elimination. Nurses said it was a struggle to help families understand why certain interventions need to occur. To convey this point, it required the ongoing communication between parents, nurse, and physician. As explained by a nurse,

I think it’s both the nurse trying to provide better education or explaining why this is important and why this matters. And then sometimes I will also have the doctor get

involved as well, especially if it's a doctor that I feel like I'm on the same page with, that can go in and also promote a consistent message,

In contrast, nurses also did express experiences with parents, who were partners in care,

Sometimes parents are very helpful in the sense that they're willing to get the patient up walking around and get them up to the bathroom. Encourage them to go to the bathroom on their own. Those parents help in the process so much more, because they can get them up, they can get them to the bathroom, they can get them walking. And I feel like the process goes a little bit smoother. They're also a great resource at the bedside, to see kind of how they're doing when we're not in there.

Nurses said families could be regimented about maintaining home bowel programs for hospitalized children who had a history of constipation. Many parents had ideas of what worked for their children to poop particularly including their home medication regimen. Families were grateful and appreciative that their children were being helped. Nurses experienced a range of positive and negative responses from parents when intervening to promote bowel elimination. Nurses had to determine the best ways to support parents to be facilitators of care rather than barriers to care in their children with constipation.

Chronic constipations, their parents most of the time have an idea of what's worked in the past before, whereas like the surgical ones, it's the first time and they don't know what they should do or what we should do. So, they look to us for guidance.

### **They trust our judgment**

Nurses discussed physicians' role when collaborating and managing constipation in hospitalized children. Nurses expressed mostly positive experiences with providers, who were agreeable and helpful in discussing options to help a constipated child indicated as "they trust

our judgment.” Usually there was not any delay in providers responding to nurses’ requests for interventions, as physicians were open to nurses’ suggestions.

I think for the most part if we ask for it we pretty much always will get support and get that order. I think that there’s sometimes less awareness on the providers’ part of being proactive in putting those orders in before they’re asked, but I think it’s never been really much of an issue if you talk about it.

While nurses had mostly favorable experiences with providers, they also expressed challenges as well. Nurses shared they were the ones at the bedside and able to recognize the signs and symptoms of constipation. Nurses also reported they had a more intimate sense of the outcomes of medications.

Sometimes it can be challenging in managing constipation is getting on the same page with the medical providers. That, especially in a teaching hospital setting where you have a lot of newer residents that might not agree or might feel that my experience isn’t as valid as what they’re reading in their textbook or something, that convincing the medical team to do the interventions that I know are going to work the best for the patient can be challenging sometimes.

Nurses talked about the collaboration with physicians to determine the best pharmacologic interventions. Nurses said their provider colleagues supported them in the management of constipation. Nurses also shared that as nurses they were often requested by providers to suggest an intervention that would be successful in alleviating the constipation.

If I have to ask the physician for medication, yeah I’d say we have more of collaboration. You know, we think they’re constipated, and they need some help going to the bathroom, and here’s some suggestions that we use on this floor that worked in the past.

### **Just kind of negotiate**

Nurses discussed the daily negotiation and communication that occurs in their practice to help to alleviate a child's constipation and to "get parents on board." Nurses talked about several communication strategies including open conversation, allowing time to process information, and giving information in little doses and the need to "just kind of negotiate." Another strategy was to put expectations and explanations "in a different light" by explaining longer term outcomes if an intervention is put off in the short term. Nurses said they would explain to parents that a specific intervention for constipation may make the child upset for a short period but would help the child feel better in the long term. Nurses said they included the parent and child in the decision-making process by understanding what worked best for the child and family. The skill of negotiation and communication with the family was explained by one nurse as follows:

I think I'd probably do that probably a little bit more in little doses. I'll explain to them what my concern is and then you know say, I'd like to try this. Or I just want to feel if they're constipated or if there's anything down low. And then depending whether they are or aren't and the parent's response to it, I may just back off a little bit and then approach it again a little bit later in the shift and just offer some more suggestions or kind of say what my concerns are and try to get them on board, so maybe some education on their point too. So not just blast in and say we're going to do this.

The other member in the communication loop was the physician or responsible medical team. Nurses most often mentioned patient rounds as the vehicle for discussing concerns about constipation. Nurses also frequently used the word collaboration when acknowledging their physician colleagues, "then looking at the medication side of it and kind of collaborating with the

doctors to figure out what's the best medication that we can help manage this constipation." It was helpful to work together with their physician colleagues to develop a plan to manage constipation in hospitalized children with constipation.

### **Summary of Theme Three**

Management of constipation in hospitalized children does not always progress smoothly. Nurses described that parents can be helpful with constipation intervention as well as barriers to constipation interventions. Nurses described providers who are responsible for the children's medical care as being open to most suggestion nurses may recommend for constipation management. Nurses said communication and negotiation with children, parents, and providers is important to overcome barriers to constipation management.

### **Theme Four: Down There**

Sensitive touch in children formed a theme in the investigation of nurses' experiences of hospitalized children with constipation. Nurses most frequently called sensitive touch or providing care in the perineal area as "down there" or "back there." Nurses' descriptions included: "like a spina bifida patient doesn't have feeling down there," "if it's a kid who can physically reach back there;" and "like with an older girl if you need to do anything down there."

There were several subthemes, which emerged for sensitive touch or "down there." Nurses shared experiences of different assessment measures for constipation and rectal interventions termed, "I would not automatically do a rectal check." Nurses shared experiences of working with children of differing developmental stages and the children's responses to rectal procedures explained as "an infant is totally different than a five or a six-year old." Nurses said they would use different approaches appropriate for the age of the child. Nurses talked about their experiences of preparing hospitalized children with constipation for rectal interventions

termed “I just try and build a trustful rapport.” Nurses also wanted to ensure privacy during rectal procedures, termed “comfort and privacy.” Nurses described the patient preparation and privacy for rectal procedures, as it required planning and timing to perform rectal procedures. Nurses shared experiences of how they taught rectal interventions for constipation to new nurses or orientees termed “we kind of do a dress rehearsal at the desk.” Participants discussed orientee education of rectal procedures as an element of understanding and teaching specific aspects of nursing practice. Nurses shared the teaching models, which were most helpful when precepting orientees.

### **I would not automatically do a rectal check**

Nurses explained that they usually did not perform any type of rectal check, as “it was not part of my routine.” Nurses reiterated they had not been taught how to perform a rectal check. Some nurses said they were uncertain if they could even perform a rectal check without a provider order. When administering an enema, nurses explained that they would perform an exterior check of the rectum but would not perform any internal assessment of the rectal vault. The decision to omit a rectal vault assessment was regardless of whether a stool mass was known to be present, “I mean I’ll usually do an exterior assessment prior to placing the enema, but not like internal you know in the rectal vault.” Nurses “would not just automatically do a rectal check just because I think that somebody is constipated.”

Nurses who did have experiences with rectal checks described performing rectal checks as an age dependent or cognitive dependent intervention. Nurses explained that they might do a rectal check on a baby or a child requiring total care as well as on children who did not have intact perineal sensation. As described by a nurse, “I might for babies |do a rectal check|... or total care. I’ll do that. But for some reason I guess I hesitate even with older kids to do a rectal

check.” Nurses described that as children get older, e.g., two years old and older, that there was less acceptance by the child to tolerate a rectal procedure.

Two-year olds up to the seventeen or eighteen are going to have varied degrees of ability to accept that you go up their butt. So I would be less inclined to do a check, unless I really had some reason as to why to do that. I would probably not do that, unless it was like a Spina bifida patient that doesn't have feeling down there and there's a good reason to think that we can just get it out with digital stimulation.

Nurses explained that when they administered a suppository that they could feel whether there was stool in the rectal vault. Nurses could tell the status of the rectal vault because stool could be present on the gloved finger when the gloved finger was removed, “when I put it [suppository] in, you can tell where the stool is because based on when you pull your glove out.” Nurses also said felt stool accumulation when a suppository or enema was inserted into the rectum because of the hard mass. Upon this assessment, nurses thought the stool mass had been present for a longer period of time. There was uncertainty if older children would actually tolerate both a rectal check and suppository insertion therefore the rectal check was not frequently performed, “I don't know that we would get by with doing both things.” Nurses mentioned they used rectal temperatures to stimulate a bowel movement. This maneuver was often carried out in infants, who had not pooped in an appropriate amount of time or appeared to have abdominal distress or distention,

I think for infants, like little people. I'd say less than 6 months, maybe even littler because that probe in correlation to their little anus just gets smaller and smaller so it doesn't really do much for a bigger kid it's not really stimulating them.

There were nurses who said that a rectal check comprised an element of gastrointestinal assessment and they gained important information from performing a rectal check. Some nurses conveyed a rectal check was a routine assessment tool on the unit where children had a higher risk for constipation. A nurse explained that a rectal check was helpful in the assessment of children with constipation as well as determining the success of medications,

If you can feel a lot of stool right there when you do the check, you might have a better idea that just digital stimulation or a suppository is going to help but if you don't even feel any stool in the rectal vault, yet the patient is complaining well then you know that you might need other interventions.

Nurses provided examples of using alternative techniques for administering suppositories and enemas. Nurses said they would set the patient up to administer their own medication if appropriate. This was particularly relevant to the teenage population, "We've said, "well OK if you don't feel comfortable with me doing it [giving a suppository], we could set you up to do it." Alternative positioning techniques for children who needed an enema were described as well,

So, what we ended up doing is he stood beside his bed, leaned his trunk over onto his bed and I was able to give him the enema like that. He felt he was in so much more control just because we weren't holding him down.

Nurses expressed that enemas were not their first line of intervention for children with hospital-acquired constipation. Nurses said did not like to administer suppositories or enemas and that enemas were traumatic for children. "We don't like to do, as nurses we don't like to do the enemas. We would rather try other things before starting those to see if we can get things moving. It's just so traumatic for them." A nurse shared how an enema order ordered for a child caused a commotion of activity. The nurse explained that her coworkers were unfamiliar with

the type of equipment and fluid to be used with the enema. She said her coworkers were flustered with the procedure. “It’s who wants to give you know an enema and a thin. People flutter about. Like I just had to help somebody figure out where to get the bag from and what kind of like saline.”

Nurses explained if a child required stool dis-impaction, it was often the provider who performed the procedure of disimpaction. A nurse shared an experience of a “little boy who had a different type of surgery that was there for a bowel prep and the doctors had to disimpact him twice.” The disimpaction was explained as a teaching opportunity for the residents and a time for the residents to learn to perform a rectal examination. Nurses shared that when inserting a rectal tube that the rectal vault could be blocked with stool, “if the kid has a chunk of stool further down in their rectum.... we try to like go just enough around it.” The children who required manual disimpaction of stool were taken to the operating room for anesthesia and disimpaction. Nurses said they would prefer this method of the child receiving anesthesia for disimpaction because “some of these kids that are such hard clean outs, and we can’t get anywhere with their clean outs.”

Rectal procedures could be messy, invasive, and gross. An example provided about a bowel regimen, “on some patients we had these orders- where a lot of nurses are just grossed out by this- where you do a digital stimulation in the evening hours and even try to pull something out if you could.” Although nurses did express positive experiences with rectal procedures as patients were surprised at the speed and un-intrusive nature of the intervention. After the intervention, children would respond, “Oh well that was nothing.” As well, nurses expressed that rectal procedures were often quick and effective at helping children feel better,

Really just being more aggressive with their bowel program and as far as doing more dig stim and things like that and then literally having like copious amounts of stool out and really just noticing like how much their belly is so much better and then his overall comfort in general.

When nurses did perform rectal procedures, they wanted to be certain that they were performing the rectal procedure correctly. Nurses said they would use the policy and procedure for reference and the directions on the enema box. A nurse explained that,

Parents have been pretty receptive to enemas, with suppositories too. They just want us to make sure we're putting it in the right hole, and with the baby girl they just want to make sure it's really in the right hole.

Pediatric nurses said they are hesitant to perform rectal procedures. There was uncertainty about the steps in performing rectal procedures such as enemas, disimpaction, and rectal checks..

Nurses expressed uncomfortable connotations regarding rectal procedures despite observing the effectiveness of rectal procedures in the relief of constipation in hospitalized children:

So though it's a super uncomfortable procedure for maybe you the nurse like you know yes this is a little bit violating but ultimately we both know you want what's best for your patient and if that's what's going to be best for your them, you know that dig-stim in- like a dig-stim might only be required depending upon the patient obviously. Initially to just like help with all that stool, then it might – they might not need it every day.

**An infant is totally different than a five or six-year old**

Nurses discussed the need for different approaches specific to children's cognitive abilities and age. Nurses said children with cognitive impairment could be easy to manage because the nurses did everything for the patient. The population of children with cognitive

impairment were described as those who required total physical care; were developmentally delayed or severely autistic; or had similar cognitive abilities of infants. A nurse explained,

I think it's almost easier to deal with constipation on some of our total care patients because they are total care, and I just do everything.... Total care was much easier to deal with constipation than it was on a healthy or just a normally functioning child.

Although nurses shared that children with cognitive impairment could be challenging as well, because the children with cognitive impairment could not express their care needs,

Just because it's hard for us to know how things are going in a sense, especially in our like non-verbal population. We do have an order set in to stop Go-Lightly if there's any type of like neurological type of deficits with these developmentally delayed kids just because they don't technically have a voice.

Treating children with cognitive impairment required more nurses, "to have 2 hands on deck."

Nurses said personal care could be messy and physically more difficult in a larger person than a diaper change with an infant. One nurse in particular discussed adding a sense of creativity to her treatment,

With the behaviorally challenging patients especially, kids that are coming in with autism, developmental delays and things like that, you have to be a little bit more creative on how you're going to effectively get that [personal care] done and safely get it done because a lot of times these kids can be a little bit combative and you have to stop and think about the safety of the nurse and pull in your resources."

When nurses discussed constipation management for school-aged children, the nurses said this age was developing social awareness. The school age child may think it was "weird" to "put something in your butt." While keeping track of a school aged child's BM, nurses

commented that it was difficult age to kind of figure out the frequency of BM's. School-aged children might be dishonest, embarrassed, might not want to talk about it, and might not remember. Embarrassment was a term nurses used to describe children who needed to poop in the hospital,

Especially for like four to eight-year olds, sometimes they have accidents because they have to go so quickly and that's really embarrassing for them because they finally have been potty trained and able to do that.

When the discussion of bowel elimination was necessary, "a lot of times school aged children are embarrassed to talk about their bowel movements." Similar to school-aged children, nurses described teenagers as embarrassed too, in regards to talking about bowel movements and performing perineal procedures. Teenagers were very private. Teenagers didn't want their private areas to be touched by nurses, or seen by parents. Teenagers were embarrassed when touched in private areas. "If they're a teenager then you're touching that, they're embarrassed. They don't want their parents to see them, and they don't want a tube up there. I mean it's just very invasive." It was also stated though, that children who are admitted regularly for bowel cleanouts, "know the drill" and know what to expect and have less embarrassment, "oh yeah older ones, if it is something that they've chronically dealt with or they're use to it, they are not embarrassed or they just you know blurt it out." Although the teenagers with acute constipation may be embarrassed, didn't want to discuss pooping and BM's, and may show an attitude when asked about BM's, nurses expressed that it was easier to rationalize with teenagers about management.

I'm like, well if you've never been constipated trying to convince them not to become constipated- I think once you've been constipated you're willing to do the easier things,

because you know what's coming later if you do get constipated. So, it's trying to have that conversation like trying to get them to see what they may have to do later if they can't do the easy stuff now. And sometimes- a lot of times they'll come around and try to work with you to do what you ask.

Nurses described management strategies when communicating with children of all ages about constipation. Nurses expressed that gaining the trust of children was very important as well as developing a good relationship. Nurses wanted to make sure the child understood that the nurse was there to make the child feel better, and wasn't there to hurt the child. One nurse shared this perspective,

To really coach them through that and to provide that compassion and that empathy. I'll be right alongside you all night. I mean we're in this together. You're going to have to do most of the hard work, but I'm here for whatever you need. It's just kind of developing those relationships.

To effectively manage constipation, nurses stressed the importance of explaining the process and the rationale of the treatment; the consequences of inadequate treatment; and giving children the big picture when discussing constipation management. When covering these topics of constipation management, nurses shared it was important to normalize the situation and "not make it a big deal." Humor also worked as a strategy to help children laugh and loosen up. One nurse said she managed the embarrassment by telling the child, "We're going to have a lot of conversations about poop and it's okay", and just kind of like make it a safe environment for them to feel comfortable talking about poop with a stranger." Nurses said it was important to explain that the medicines were going to help the child feel better and to be "real with them, like we really need you to do your best trying.... I got it on their terms." Nurses shared strategies to

help children across the developmental spectrum to adjust to rectal procedures. Nurses say “it depends on the kid” in their developmental approach to rectal procedures.

**I just try and build a trustful rapport**

Nurses explained how they prepared children for a rectal procedure with different developmental approaches for toddlers, school-agers, and teenagers. In the infant population, there were conversations with the parents. When nurses approached preschoolers who may be 3 or 4 years old, nurses made sure that there is a familiar person with the child. Nurses would tell the child, “it’s safe to put something in your butt because your mommy is right here or your daddy is right here.” Another nurse explained her approach with a teenage girl with a sensitive procedure,

If we have a teenage girl in the ICU where we try to make sure maybe when we’re making out assignments, she may not want an adult male care giver for that, and that can be as much as privacy just from the nature of being in here [the ICU]. We try to be very cognizant of that and say ‘she’s a fifteen year old girl let’s just make sure one of the male nurses don’t take her because she would probably be more comfortable with that’

Nurses described and used many techniques when preparing children for rectal procedures. The techniques included building a trustful rapport, using humor, relaxation, explaining that the nurse wants to help the child, using child life, using technology for distraction, having a supportive helper, being prepared, being a coach, and explaining the procedure to the child prior to the procedure taking place. A nurse explained, “I think a lot of times with these kids I just try and build a trustful rapport before I even start anything.” Knowing that children would want a rectal procedure to take as little time as possible, nurses “try and work as quickly and efficiently as possible.”

Not only do nurses explain procedures to the child in language the child can understand and ensure the child is in a comfortable position, nurses also to prepare themselves for the procedure. Some key aspects of preparation for the nurse included having all the equipment ready including wipes and alerting coworkers of the need for uninterrupted time prior to starting the procedure. Nurses stressed the importance of telling the child step by step how the procedure would happen, “tell them what’s going to happen, how you insert it, make sure it’s lubricated. Make it as least annoying as possible.” An experienced nurse gave an example of talking with a child about the procedure,

Not in great detail to draw it out, but in an age appropriate and just a brisk, ‘this is what we’re going to do, this is what we need to do, it’s going to feel like this. You know, it’s going to feel a little bit cold, and you’re going to feel a little bit of pressure.’ I try not to dwell too much on the explaining part with kids that are anxious because I think that can increase their anxiety, but I also feel it isn’t fair to just blindly go in and do something, a procedure to them, if they’re not aware. And I think also it’s very important with both kids and especially with the parents to make it sound like this is just a normal routine thing. This isn’t anything to be embarrassed about or this isn’t rare, and to be confident about it and not sound like you yourself are anxious about having to do this. That if you make it sound like, well I need to do a rectal check right now, this is just routine run of the mill, makes a huge difference that kids and parents can sense your uneasiness and if you’re uneasy about it that projects to them that, well something isn’t right, or this shouldn’t be happening.

Nurses shared the conversational and calming techniques they would use to build a sense of trust and comfort when preparing children for rectal procedures. Nurses described an

instructional approach to rectal procedures that at times included the sensations that the child may feel during a rectal procedure. Nurses said it was important to focus themselves on the task ahead and to be organized and confident when performing rectal procedures.

### **Comfort and Privacy**

The importance of privacy during sensitive touch procedures was conveyed by nurses as well. Nurses shared their methods to ensure privacy while performing sensitive touch procedures. “[Privacy] is a big deal so you do need to put privacy things on the door to alert people to not come in, or to check with the nurse first.” It was also important to pull the room curtains and allow the child to be covered as much as possible and to complete assessments in sections so the child could remain covered. Other strategies included,

Make sure that the blinds are pulled. Just all those things that you can do for privacy or put the TV on low for a little bit of distraction and I’ll step behind the curtain a minute and give them as much privacy as you think you can safely do.

It was key to monitor the traffic in and out of the patient room during the procedure to ensure privacy in the room and only allow people in the room who need to be in the room. Letting the patient decide who would be present in the room during the procedure allowed them to have control of the situation. A nurse highlighted,

Letting their parents know what’s going on, because keeping people who are intimate to the patient involved, and the older patient letting them know who they want in the room. It’s just like any other like intimate procedure that you don’t need everyone to be in the room. It’s not like some public event.

Nurses shared experiences of fostering comfort and privacy for children who were having rectal procedures. Nurses observed and protected the immediate patient environment for privacy by monitoring staff flow in and out of the room during these sensitive procedures.

### **We kind of do a dress rehearsal at the desk**

Participants discussed their teaching techniques for sensitive touch procedures to new nurses. Nurses articulated concepts such as “see one, do one, teach one”, going through the process “step by step”, and using “teach back.” Nurse preceptors instructed orientees to read the policy and procedure for enema administration or specific drug information for suppositories. The preceptor and orientee would also perform a “dry run through” outside the room prior to the actual procedure. The preceptor questioned the orientee about how the orientee would handle different situations that may arise during the procedure. As well, the orientee would be asked about their interpersonal approach the child and parent. The teaching process was explained as:

We kind of do a dress rehearsal at the desk or outside the room first, and then I go in with that orientee and, again, have them introduce the concept to the family or do the procedure while I’m right at the bedside.

Nurse preceptors were also aware of the novice nurses’ inexperience when actually performing sensitive touch procedures, especially on units with frequent sensitive procedures. Often the preceptor would act as a role model, “[I] would take more of a leading role and let them see how I interact with patients so that they’re more comfortable, the patients more comfortable, and then they’ll have something to kind of replicate and be able to practice with.” Nurse preceptors noticed that orientees could also be excited to perform a procedural skill. The preceptor shared that the orientee needed to take a step back to review the patient perspective of the sensitive touch. Here is an example of helping a student reflect on the upcoming procedure:

So we get a lot of nursing students on our floor, and I feel like it's often a matter of, 'ooh I get to do an enema for the first time,' like it's like this exciting moment so I let them express that outside, I explain what we're going to do and why we're going to do it, and then I kind of like talk them down a little bit and try to get them in the perspective of, okay so what does this mean for the patient and how are you going to present it because it is a part of nursing. So I don't want to take that away from the students, but at the same time the family and the patient aren't going to be uncomfortable. So, getting that all prepped and making sure they walk through the steps with me ahead of time so that we both feel comfortable and we identify either a look or some communication to me where it's like, okay I'm uncomfortable. I need your help. So that then I know I can step in if I need to.

Preceptors shared how they provided role modeling for the sensitive touch skills as well as the communication that was necessary to monitor the child and family's responses to the procedure. Preceptors said it was important that orientees could verbalize the steps of the procedure. Preceptors often used the teaching adage of 'see one, do one, teach one.'

Well we can do another enema because maybe he hasn't fully pooped." So, we did one, and that was her first time like experiencing it. I knew she would get more, and I like to do like the whole watch one, do one, teach one thing. So like this one I'll do. So, we go over like the procedure for it. We look it all up, pre, before going into the room. We discussed like the steps of it, the supplies that we need, who's in the room, how to go about approaching this, and explain to parents most importantly, how we're doing this and why it's needed, and asking if they have any questions before we do start.

Nurses shared several experiences of precepting techniques used to teach orientees the process of sensitive touch in hospitalized children with constipation.

#### **Summary of Theme Four**

Nurses expressed a wide range of positive and negative experiences with rectal procedures and sensitive touch interventions. Nurses shared that the benefits of the rectal procedures to improve the physical wellbeing of hospitalized children with constipation. Nurses, when possible, said they did not perform rectal procedures unless ordered by the provider. The psychological component of sensitive touch and potentially stressing the child predominated most nurses' responses.

Nurses described their practices for approaching children of different developmental levels. Nurses expressed that often infants and children with cognitive impairment were easier to manage from a constipation standpoint. Older toddlers, school-agers and teenagers were described as having a developing social awareness that poop talk was embarrassing:

The middle age is really the difficult one that I find because they're in school.... A kid might not be honest, might be embarrassed by it, might not want to talk about it, might not remember.

Nurses had many techniques when preparing children for rectal procedures. They spoke of integrating a developmental approach dependent on the cognitive level of the child. Infants and children with cognitive impairment were easier to approach and intervene with rectal procedures. All nurses stressed the importance of ensuring privacy during rectal procedures and sensitive touch. Nurses said ensuring privacy made children more comfortable during sensitive procedures.

### **Theme Five: Just a Very Basic Overview of Constipation**

Nurses shared that their nursing school education did not prepare them for understanding constipation in actual practice, “We can kind of go all the way back to nursing school ten years ago, I remember just a very basic overview of constipation.” Longevity in the profession was the source for the participants’ knowledge of the phenomenon of constipation, as shared in this example:

I mean obviously they talk about it [constipation] in nursing school. I think most it’s through hands on experience on the unit and through preceptors and experienced people who are training you to be a new nurse on the floor. I think that’s where most of the education comes in. Like, keep this on your radar, this is what I’ve seen, and using those co-workers that have been around a lot longer than you have to really- even six months or more, it’s more on their radar to really kind of use that as a guide.

The two themes to describe nurses’ knowledge of constipation identification and management are experience or “you need time, experience, and certain patient situations” and specialty unit or “the unit I work on.”

#### **You need time, experience, and certain patient situations**

Nurses mention that it takes times to develop the appreciation for the problems that constipation causes in children. One nurse recalled that constipation was not “big on my worklist when I was starting out” and that “I probably could’ve missed it.” Nurses said the longer they practiced in the profession and gathered patient care experiences that they gained an appreciation for the importance of identifying and managing constipation. This path to knowledge was explained as,

I really think it was the experiences, like the real life experiences that I had I mean working on a the floor that have really been a driver for my understanding and appreciation of constipation management because I think it helps to kind of have those real life experiences to learn the techniques that are effective when like you're putting interventions into place and to kind of learn how to identify a situation and figure out what would be best because you read about it in your textbooks and learn about it in school but really when you kind of put it into place, it makes more sense in my head like when you can kind of pull on those experiences.

Several nurses mentioned that their experiences in the adult setting in previous nursing positions, as nurse interns, and nursing assistants provided a framework for understanding constipation in the hospital setting. Nurses shared patient experiences that exemplified their critical thinking skills and decision-making process that they developed over time. They explained that in their time as a nurse they learned what worked and what didn't work. The learning areas included not only non-pharmacologic techniques but also pharmacologic, and communication techniques. Nurses also explained that time was important on a day-to-day basis in observing patient responses to gain knowledge. The value of monitoring a hospitalized child with constipation on a day-to-day basis and observing the outcomes of care was explained by,

I think it's important to know from the nursing perspective, you know, kind of what medications we commonly see, what is more effective. And it's nice working on this unit because we see like a lot of like chronic kids so you get to know those kids and you get to know like you know this is their bowel regimen and this is what they respond to. And you know if step one didn't work then we escalate to step two and that's kind of what that medication plan looks like.

Nurses described strategies they used to help themselves learn to prioritize constipation in their daily practice. Those strategies included developing their own template for report using a systems approach and writing down the patient's last BM on the report sheet as a matter of habit. Nurses mentioned reviewing the medication list for unscheduled bowel laxatives. When the medication list was reviewed early then the nurse said she was prepared to intervene when the patient complained of abdominal pain or hadn't had a BM in an appropriate amount of time. It made the nurse think, "When did you last poop?" Nurses also used prompts in the EHR to check information regarding the child's last BM. Nurses shared that they received basic constipation education in their nursing school curriculum to provide an initial understanding of constipation. However, nurses said it was their ongoing nursing practice experiences that prepared them for understanding the challenges of constipation in patients.

As far as the actual doing the procedures or handling or bringing up with parents, I think that was more kind of trial and error on your own or figuring out what works the best or how to explain things was just on my own practice, growing and learning that.

### **The Unit I Work On**

Nurses expressed that in addition to their ongoing nursing practice experiences that specific patient care specialty unit also prepared them for a greater understanding of the intricacies of constipation. The nurses who were interviewed represented eleven different units within the hospital setting. Nurses on the various units provide care to differing numbers of children with constipation. Nurses estimated that 38% (range 10%-80%) of children they cared for were constipated. Engaging with children requiring post-surgical, oncologic, rehabilitation treatment allowed nurses to gain hands on experience with constipation identification and

management. A participant explained the process of gaining experience through various patient care units:

We had the post op kids from their cardiac repairs and their organ transplants and there was constipation but not like I see in some of the others, the surgical units or the GI Units. Or you know, now that I'm in the ER I'm seeing kids coming in with constipation just to the ER. So, I feel that's broadened my experience and my knowledge on it tremendously.

If a certain population of patients was strongly predisposed to constipation, it was explained that constipation assessment and bowel programs were "drilled home" on specific units. And overall the constipation culture of the unit could be defined by the patient needs. The specialty unit education was explained in this example a nurse provided:

I think we got more formal education...I don't know if it was through some of our in-services or our in-education days...I just remember there was a real push on, some of the bowel programs, and just being much more cognizant of when was the last time they had a BM and I think the whole culture of our unit changed with some of that push with some of that education.

Nurses explained that units that have constipation "on their radar" tend to have more work-related educational opportunities regarding constipation, as a participant discussed:

I think the constipation part, a lot just from the unit that I work on, that since we experience a lot of patients with constipation there was a lot of in-services and on the job training and discussion of different management options on the unit, you know, that I primarily learned and through more experienced nurses and our advanced practiced nurse.

Nurses also described other sources of knowledge available to them. The sources included teaching sheets developed for family education on constipation, “Up-to-Date” an online evidenced based general medical resource, and nursing conferences where constipation was a topic at the conference. Overall nurses described trial and error on the job training combined with an underlying physiologic framework based from their nursing school education as the most significant components in identification and management of constipation.

### **Summary of Theme Five**

Nurses shared that they received basic constipation education in their nursing school curriculum but further education was necessary to be able to identify and manage constipation competently. Nurses described that learned most of what they know through their day-to-day experiences, ongoing job longevity, and on-the-job training. Nurses also shared that certain units where children with constipation received care or were more prone to constipation also provided a setting for ongoing knowledge improvement.

### **Theme Six: Experiences Whether Good or Bad**

Nurses shared their experiences of successes and excitement in helping children feel better when caring for hospitalized children who were constipated as well as the challenges and frustrations. A nurse shared that she thought it was “helpful...talking about experiences whether good or bad, ...the success stories, the challenging stories. I think those are always really good.” Participants expressed that the work of managing constipation was “exhausting” but that it was important because “I know it will help the child.” Nurses also shared they were able to develop important relationships with children and families when supporting them through uncomfortable hospital procedures. Nurses said that managing constipation and the associated interventions were part of the job and were frustrated when constipation signs and symptoms were overlooked.

Nurses also took satisfaction in providing care to children during difficult times and achieving a successful outcome to improve the children's well-being. The subthemes for nurses' experiences are challenges or "It's exhausting" and "People missed it;" and successes or "I know it will help the child."

### **It's Exhausting**

Nurses spoke about aspects of caring for children with constipation that made their nursing work difficult. Nurses reported feelings of exhaustion, discomfort, and frustration. Often this exhaustion was related to the physical aspect of administering enemas and bowel clean outs for children with chronic constipation. It was difficult though for nurses to have to perform emotionally wrought procedures on children. The bowel clean out procedure is an intervention that is exhausting for nurses, for children, and for parents, as one nurse shared:

You are in there and you know they're going to be screaming and you know they're going to be crying. They don't want this. They're doing everything in their power to not allow you to do it, and yet you still feel, you still go in and you have to do it. It just makes you feel like a bad person and it's exhausting emotionally and physically trying to hold a kid down to do this.

Although it may not be the "best intervention", nurses revealed that they relied on the stool softener Miralax to manage constipation. Many nurses found it difficult to administer the Miralax to their patients. The children didn't like the taste and either refused to drink the mixture, drank the volume too slowly, or didn't "always finish it all. One nurse reported, "So that [Miralax] is my number one challenge."

Nurses who performed the bowel clean-out procedure discussed several challenging aspects of the procedure. Challenges the participants expressed included the initial nasogastric

tube placement and intravenous line placement and the number of co-workers that may be necessary to complete the procedure. Difficulties during the night of children needing to go to the toilet, when children and parents expected to sleep were frequently mentioned by the participants as challenges. This is the time that the electrolyte fluid is acting on the GI system and the child and parent are awake most of the night. This causes friction for the nursing staff with families. One nurse explains,

Those kids are up pretty much the whole night, which is hard for a family member to see that their child was in pain because of the constipation and now we're waking them up every 20 minutes where they're not even sleeping and you know we have kids that are throwing up because of the Go Lightly and pooping at the same time, so it gets to be very taxing for everybody and I feel like sometimes a lack of sleep for parents gets to be built up and we see some frustrations come out, again, unintentional.

Nurses expressed discomfort with certain rectal procedures such as rectal irrigations and digital stimulation. The rectal procedures were described as unpleasant and messy and doing rectal procedures could feel invasive and awkward. One nurse shared her story about rectal irrigations, which included the only mention in all the interviews of the offensive smell that can be associated with bowel management,

It's probably one of my least favorite things to do as a nurse to be perfectly honest. Even if the tube is already in and placed and it's hooked on them so you're not having to push anything you know in their butt, so you don't have to do that. But you're putting liquid in there, and then you're pulling it back and you know it can get very messy. And it doesn't always neatly come back out. And sometimes it's squirting out and the bed gets really messy. The patient gets really messy. Sometimes it squirts on top of you. It doesn't

always smell that great. And often, they are not very happy about the whole experience, and they're maybe crying, they're uncomfortable, and the parents don't like it. And it can take you know, sometimes it can take half an hour. Usually it's maybe fifteen minutes, but it's kind of an unpleasant experience to do.

Nurses say that people can be "grossed out" and "uncomfortable" with certain rectal procedures, in particular digital stimulation to promote bowel evacuation in certain populations of children: "where a lot of nurses are just grossed out by this- where you do a digital stimulation like in the evening hours and even try to pull something out if you could" and

The actual dig-stim I think would be one of the things that I've experienced even like precepting a new nurses, not saying that they're like not going to do it, but it's one of the things like, oh okay, like it's not the more glamorous aspect of managing constipation,

### **People missed it**

Nurses expressed frustration when coworkers had missed or overlooked the signs of constipation for several shifts. The child's signs and symptoms then continued to build, resulting in further constipation. Nurses mentioned that signs and symptoms of constipation could be missed because it wasn't on the "nurse's radar." Nurses did explain that other patient status priorities, e.g., seizure, respiratory decompensation, could supersede the opportunity to address the patient's bowel needs. Sometimes the nurse who missed the constipation was a new nurse and it was not a priority in the nurse's care plan. Nurses with less experience had not yet incorporated constipation into their practice. Other nurses may end their intervention for constipation with an oral medication and miss the big picture of needing to ensure an outcome of a BM with further interventions. One nurse provided an example of this situation with a nurse colleague,

You know when they're having abdominal pain or abdominal distension and it's like OK, they have all the signs you know of having a little bit of constipation going on there but people missed it. So occasionally you do get that. And that's, the only time that, most of the time recently we had a bigger turnover on our floor, has been the newer nurses.

Nurses wanted their coworkers to acknowledge the presence of constipation even if there was less capacity to manage constipation at the time of the conversation, most often during handoff report. When the GI system was reviewed and BM status was requested but not known, the response was described as, "They maybe just get a little defensive about not addressing the issue, but I think it's more just them reflecting like, oh maybe I should've said something."

Nurses also recognized that their coworkers might feel a lack of confidence when overlooking or omitting a patient symptom:

Feel a little bit insecure with the fact that they don't feel like they actually addressed it, they may give you a little pushback, or just kind of change the subject a little bit because particularly on our floor they know it is important. So, that's the only negative attitude, like almost taking the defensive roll because they're like, no, I know they need to poop but I just didn't get a chance to do it, or, I know the suppository was due at five o'clock but you know x, y, and z happened and I wasn't able to give it.

When nurses communicated with their colleagues who may have missed or overlooked the signs of constipation in a patient, they try not to be confrontational. It was important to make any feedback into a teaching point especially if it was a new nurse. It was important that the newer nurse didn't feel like they were being criticized. If a nurse didn't mention the patient's bowel status in handoff report, many nurses said they use the electronic health record to view the

last BM. Nurses also recognized the importance of exchanging information with their colleagues to improve the child's health status so problems are not overlooked or ignored.

You know the constipation, although it's very important for that patient that maybe wasn't their highest priority for the night. You know they might've had a patient that you know was not breathing well all night long, and that was their main focus. And so the fact that this kid went another day without pooping was not the highest concern. So but that doesn't mean to make an excuse about something, but yeah with with that I don't usually don't get to, to ah, confrontational.

Nurses also sensed uncertainty in the care of hospitalized children with constipation. Nurses recognized that loose BMs can be a sign of diarrhea or can be a sign of stool impaction. The participants reported that they were uncertain if they could perform a rectal check in a child without an order. Nurses were uncertain about the expectation for a BM and subsequent timing for intervention in children who have limited oral intake after surgery. This uncertainty was described as kind of tricky because "they don't really expect them to be going poop necessarily for maybe even as much as a week. There was uncertainty because "everyone has a different threshold for what they consider constipated and when they're getting concerned about it." And sometimes constipation can be scary, as one participant stated:

I was a new nurse and I actually had to float to a baby floor. I just vaguely remember this experience of having this baby who was in for constipation. It was this tiny, tiny, little brand new baby and you could tell he was struggling to poop. We had his diaper off and mom was crying saying, he's trying to poop, he's trying to poop. And so I went to try and get the resident and then she actually did like- stuck the thermometer up to try to either stimulate or to like break up the stool, so I just remember that and his rectum actually

bled a little bit after that and we had the resident come in and he was on some medications to help him with stooling. I think we used some lube to try to kind of lube it up from there. That was just like probably the scariest thing because first of all it was just this tiny little baby and I had no idea what to do.

Nurses did feel that for the most part, they and their colleagues worked as a team and helped each other out during patient care. Coworkers are willing to provide distraction to a child undergoing an anxiety-producing procedure so the child's nurse can complete the intervention safely and efficiently. Nurses were mostly supportive of their coworkers in the management of constipation. Despite these challenges, nurses would continue to advocate for their patients with constipation and provide feedback to colleagues to promote successful outcomes. At times this advocacy and nursing work could be exhausting: "We're going to get through this, and then go on with your work and kind of work together as a team I think is the most important thing."

### **I Know It Will Help the Child**

Along with the many challenges of constipation management in hospitalized children, nurses also described successes in the management of hospitalized children with constipation. According to the nurses, their most positive experiences were effective problem solving skills that provided tangible results of children feeling better. Nurses reported that while interventions can be difficult they knew through their previous experiences that once the interventions were complete the child would "do a total 180." The observations of relief and feeling better were an important experience to nurses: "I've had so many times, like enough of that that they're just in a totally different mindset because they'll feel better and they're just not that uncomfortable feeling that comes along often with constipation."

When nurses were able to observe a quantifiable amount of stool along with the patient relief, this resulted in a positive experience for nurses. Nurses experienced a sense of gratification when they did something that benefited the patient especially if the patient would not or could not admit to feeling poorly. Nurses got excited and celebrated with families when constipation was relieved, as one participant stated:

So, you know when we have effectively managed that constipation when we've helped that child kind of remove that stool burden. We're seeing our clear stools that we're looking for. You know the nurses get pretty excited about that because you know we can tell the family, hey we're there, like we got that resolved, and it's nice to be able to kind of deliver that good news like, hey you've done a great job, let's celebrate that that's done.

Nurses mentioned feeling successful when a child pooped due to the nurses' assessments and interventions to relieve constipation. Nurses also felt confident when trying innovative interventions that were successful in producing a BM. The successful intervention of "flat-footing" to produce a BM as well as helping children through a scary procedure,

We had one little kid who had so much anxiety and we had five nurses in there. My only job was to sit in front of her and she squeezed my jacket the entire time while everyone else was doing everything. She still remembers who I am, and I still remember who she is, and if that's the only thing that she can really fully remember from that procedure then we did something right for that. So I think those are the success stories of just reading your kid, reading your patient, and just trying to figure out what is going to be the best for them.

Although nurses mentioned that general society had a difficult time discussing bowels and constipation, they stated that as nurses, “we just talk about poop like it’s a normal thing. I mean we are fairly comfortable about talking about poop,” and “there’s not really a big attitude because we just see so much poop.” Although one nurse mentioned that “I don’t think enough nurses talk about good techniques to use, you know how to approach it.”

Finally, nurses stated that constipation management was part of the job and but sometimes, managing constipation could be awkward. Mostly, nurses were comfortable talking about poop and constipation. Nurses deal with the systems of the human body on a daily basis and normally taboo discussions are an expectation of the role of the nurse. When nurses recognized the awkwardness with children and families, they would acknowledge that feeling and used supportive therapeutic dialogue to manage the awkwardness. An example of reflection was provided,

Just try to empathize and sympathize with them- trying to you know- if I had a child in that same situation, again knowing what the procedure is like is a little bit different because I’m a little bias towards it- but I would say I don’t internally get frustrated with families just because it’s part of my job you know trying to make the kids comfortable and obviously listen to the families and appreciate their frustrations, but explain to them you know, we’re doing everything we can to help them and make sure that they’re comfortable.

Pediatric nurses described the genuine role of the nurse in the helping profession when caring for hospitalized children with constipation. Nurses communicated the satisfaction of a job well done when managing constipation in children. It was important to nurses that children and

families recognized the team effort and supportive environment for successful outcomes in constipation management.

### **Summary of Theme Six**

Nurses shared many experiences of the feelings and challenges of constipation management in their daily nursing practice. Overall nurses said that constipation management could often be physically and mentally exhausting. Bowel cleanouts for children with chronic constipation or prior to a procedure could be fraught with challenges of patient discomfort and anxiety. When co-workers avoided addressing the problem or missed the signs and symptoms of constipation in children, which then delayed treatment, nurses said they were frustrated. The unpleasant aspects of constipation management including the distasteful BM odor and messy cleanup were also challenges voiced by nurses. Children with chronic constipation and multiple admissions created frustrations for nurses due to a lack of success in helping children and families overcome a difficult problem. In contrast to the negative attitudes and feelings were the positive aspects of constipation management with nurses knowing that they were helping constipated children in the long run. Nurses felt that constipation management and the attendant interventions were just part of the job and their responsibility to promote bowel health. Nurses celebrated successes with children, families, and coworkers.

### **Summary of Analysis**

The nurses who participated in this study were clearly advocates for children and had a desire to improve nursing practice within the phenomenon of constipation. There were six themes that emerged from the interviews including Identification or Looking for Clues of Constipation; Management of constipation or Multiple, Multiple Interventions; Influencers of care or Getting Everyone on the Same Page; Sensitive Touch or Down There; Knowledge or Just

a Very Basic Overview of Constipation; and Attitudes or Experiences Whether Good or Bad.

Nurses shared their methods of nursing practice from which the themes emerged. As well they shared their many skills that are necessary to promote a successful outcome for hospitalized children with constipation. However, nurses also articulated the hidden skills or the peripheral skills of negotiation and relationship building. Nurses described negotiating with children, parents, providers, and co-workers regarding the identification and management of constipation. As a whole, the participants describe the hidden skills as necessary to helping hospitalized children with constipation and their families. The identification of these experiences will provide direction to advances in pediatric nursing practices and the care of hospitalized children with constipation.

## Chapter 5: **Discussion: Implications for Nursing Practice, Education, Policy, and Research**

The study investigates pediatric nurses' experiences in identifying and managing constipation in hospitalized children. The research question, which the study sought to answer was: What are the experiences of pediatric nurses' regarding the identification and management of constipation in children who are hospitalized? Chapter five includes a discussion of the study results and implications for nursing practice, limitations and conclusions. There were six main themes and multiple subthemes that emerged from the data. The discussion and implications for nursing practice will be inform nursing practice for improved care of hospitalized children with constipation and promote greater child well-being to lessen the burden of constipation in children.

### **Theme One: Looking for clues of constipation**

Pediatric nurses described their methods and thought processes for determining a level of concern for constipation in hospitalized children. Nurses used several pieces of information to identify constipation. There were many 'clues' to identifying constipation that were recognized by nurses. Nurses used generally accepted definitions of constipation and applied the collection of data to the individual characteristics of the patient. Although a time frame of two days or 48 hours between BM's was frequently stated by participants, the time frame was not used in isolation to identify constipation. Although when asked the definition of constipation, nurses most frequently first answered with a time frame rather than a sign or symptom of constipation. Nurses also used patient signs and symptoms, consistency of BM's, as well as etiologic factors that could be associated with constipation. The clues discussed by nurses to identify constipation in hospitalized children led to several subthemes. Nurses discussed using BM frequency or typical bowel patterns for identifying constipation. As well, signs and symptoms of

constipations were described under the subtheme, walking kind of funny, and causative factors of constipation were described under the theme, different reasons why they're constipated. The details of the subthemes will be discussed.

### **Typical Bowel Patterns**

One of the clues used by nurses to identify constipation was that of frequency and consistency of BM's. Participants discussed knowing or determining the child's BM frequency prior to hospitalization or typical bowel pattern was a part of their assessment of constipation in a child. Nurses' definition of constipation as it related to BM frequency was more often every two days or less (range 1-5 days). Although nurses may not expect a BM on the second day of hospitalization or after a procedure, two days was the time frame that they considered concerning for constipation identification. Historically, acceptable BM frequency was considered to be two times per week or every three days (Longstreth et al., 2006; Rasquin et al., 2006). The two times per week time frame originated in the functional constipation literature (Longstreth et al., 2006; Rasquin et al., 2006). More recent literature regarding BM frequency and constipation in hospitalized children has raised concerns that current BM frequency criteria is based on children with functional constipation not iatrogenic constipation as is most frequently seen in the hospital and ICU setting (Lopez, Botran, Garcia, Gonzalez, Solana et al., 2015; Smalley & Vangaveti, 2014; Dhaliwal, Raghunathan, Kehar, & Sharma, 2016). Lopez et al., (2015) carried out a prospective observation study and measured BM frequency of 150 critically ill children. The Lopez group observed that 46.7% of children developed constipation. The definition of constipation in the Lopez et al. (2015) study was no BM for longer than three days because it was most often cited in the literature. The high incidence of constipation observed after three days made the investigators question the established three-day time frame. The distinction in

time frame is important because there is potential for delay in initiating interventions to relieve constipation or even prevent constipation. The practice of participants in the current study would support the work of Lopez et al. (2015) in raising concern for constipation earlier in hospitalized children. It is unclear why participants worry earlier about constipation than what is typically cited in the functional constipation literature. Although BM frequency is not the only factor in determining constipation, it is a simple objective factor that is easily measured. It may be that the definition of BM frequency for constipation in hospitalized children needs to be reconsidered. If nurses initiated interventions to prevent or manage constipation earlier, the incidence of constipation in hospitalized may be lessened.

Nurses in this study also describe the importance of knowing the child's pattern of BM texture or consistency. Nurses wanted to know the shape and density of the stool output when a BM occurred. Although no nurse mentioned the Bristol Stool Form Scale (BSFS) as a reference for stool consistency, the BSFS has been recognized internationally as an objective guide for stool consistency description and stool transit time (Lewis & Heaton, 1997; Lane, Czyzewski, Chumpitazi, Shulman, 2011; Bruce, Bruce, Short, & Paul, 2016). Stool consistency can provide further objective information on the status of constipation in hospitalized children by identifying stool typical of constipation. The information provided by a standardized tool to evaluate BM consistency could be used to ensure accurate assessment and communication among the health care team, patient, and family. The BSFS, when used as an educational tool by the nurse, may also help raise awareness for children and parents' knowledge of appropriate stool consistency in relation to constipation.

### **Walking Kind of Funny**

There were several signs and symptoms that nurses in this investigation voiced to raise their level of concern for identifying constipation in hospitalized children. Frequently the signs and symptoms of constipation were evident such as abdominal pain, abdominal distension, poor appetite, or straining during defecation. Pediatric nurses also developed the skills to detect subtle concerns in children of all ages who may be constipated while hospitalized. The subtle signs of constipation voiced by participants included an altered gait or altered breathing pattern. The participants said that additional obvious and subtle patient signs and symptoms of constipation were necessary to identify constipation. The participants' descriptions of subtle signs of constipation such as an altered gait or posture have been described in the literature particularly in young children who withhold stool (Cohn, 2010; Sood, 2017). The altered posture is due to tensing of the rectal musculature to prevent stool from being expelled and causing a painful stool evacuation (Cohn, 2010; Sood, 2017). Respiratory compromise has also been recognized as a subtle sign of constipation in children (Luder, Segal, & Saba, 1998; Milanese, Schechter, & Ganeshanathan, 1986). The subtle signs become more important signs of constipation as more medically complex children receive care in the inpatient setting (Berry et al., 2013).

Tabbers et al. (2014) defined additional criteria of constipation including painful BM's, large diameter BM's and irritability. Nurses in this study also recognized the additional symptoms of straining and painful bowel movement were observed in all ages of children including children who were unable to provide verbal feedback such as infants and children with developmental impairment. Multiple assessment measures need to be considered when assessing the verbal but also the non-verbal population. Infants constipation assessment can be difficult and observation needs to be comprehensive so subtle findings are not overlooked. Children with cognitive impairment can be similar to infants in the context of constipation. The children who

do not have a voice including infants and children with cognitive impairment rely on pediatric nurses to discern their complaints with keen assessment skills. Participants in this study were sensitive to subjective signs and symptoms of constipation in hospitalized children. The ability to assess the more recognizable symptoms of constipation like straining and painful BM's in addition to the subtle symptoms of constipation like respiratory changes may be an indication of the sample's nursing experience. The ability to recognize the signs and symptoms of constipation is despite the use a constipation risk assessment tool. Therefore, the assessment or constipation in hospitalized children could be unsystematic and possibly delayed or overlooked.

Little has been written about constipation risk assessment scales in the pediatric population though constipation risk assessment scales are widely used in the adult setting (Kyle, 2011; Varma et al., 2008; Zanik & Gray, 2015). Use of a constipation risk assessment tool has been reported in the pediatric oncology setting (Woolery et al., 2006). Children with oncologic diagnoses were asked to verbally report the degree of feelings constipation. Child friendly terms were used to describe feelings of distension and bloating, flatulence, and rectal pain. Woolery et al. reported that use of the constipation assessment scale daily allowed nurses to differentiate risk between children with and without constipation. Most literature for constipation risk in hospitalized children is at the discovery phase with describing children at risk cared for in the ICU setting (Andrew et al., 2013; Lopez et al., 2015). A gap in nursing practice is lack of a constipation risk assessment tool. Use of a tool that delineates specific signs and symptoms may assist less experienced nurses in improved constipation risk assessment. As well, use of constipation risk assessment tool would track signs and symptoms on a day-to-day basis. This would be beneficial as different nurses care for different children day-to-day. Nurses would then be able to compare assessments and identify and manage constipation in a timely manner.

### **Different reasons why they're constipated**

Pediatric nurses in this study observed and experienced a wide variety of hospitalized children with constipation. The nurses not only recognized different signs and symptoms of constipation but also described the causative factors of constipation. The current study participants nursing practice combined the objective parameters of constipation with the subjective signs and symptoms of their patients. The combination of objective and subjective use of constipation signs and symptoms allowed the nurses in this study to recognize constipation even in challenging, complex patients. Nurses cared for diverse populations of children on differing diagnostic and age specific units, which made their observations broad-based. Nurses did not express any systematic method of determining degree of risk of constipation

Many of the causative factors, such as narcotics and immobility, discussed by nurses in this study are included in constipation risk assessments tools. Constipation risk assessment tools as discussed earlier have been developed for both the general population of hospitalized adults and hospitalized children with oncologic diagnoses. Zanic & Gray (2015) developed a constipation risk assessment tool, which assigns differing number of points to different constipation factors. Subsequent interventions are based on the number of points that a patient receives. A system of risk-based interventions such as developed by Zanic and Gray could provide a good starting point for reducing the incidence of constipation in hospitalized children. With the use of a constipation risk assessment tool, pediatric nurses' decision-making for timing of constipation interventions would be evidence based. As well, there could be increased assurance of actual risk of constipation which could promote improved communication with children, parents, and providers, and result in improved child well-being.

## **Theme Two: Multiple, multiple interventions**

Pediatric nurses in this study discussed several non-pharmacologic and pharmacologic interventions to manage constipation in hospitalized children. Nurses described using multiple, multiple interventions for the management of constipation. Nurses in this study mentioned mobility, fluids, and fiber as non-pharmacologic interventions. Participants also discussed the administration of various standard oral and rectal laxatives to manage constipation. The subthemes for management of constipation in hospitalized children include non-pharmacologic measures or “go and sit on the toilet,” and pharmacologic measures or “a wide variety of management of constipation. Education about the non-pharmacologic and pharmacologic management of constipation was voiced as important by participants and is described as “it just took some educating.”

### **Go and sit on the toilet**

Pediatric nurses discussed nonpharmacologic measures used to promote bowel elimination in hospitalized children. Frequently discussed measures included increasing oral fluid intake, increased mobility, and abdominal massage. Other nonpharmacologic measures to facilitate a BM included improved toilet positioning and regular toileting time. The non-pharmacologic interventions that were voiced and instituted by nurses are endorsed in the functional constipation literature (Elawad, 2001; Nimrouzi & Zarshenas, 2015; Sood, 2017; Tabbers et al., 2014). There are few randomized, controlled trials (RCTs), which support the non-pharmacologic practices described by nurses in the present study (Boilesen, Tahan, Dias, Melli, & de Morais, 2017; Seidenfaden, Ormarsson, Lund, & Bjornsson, 2017; Tabbers et al., 2014). Despite the lack of RCT’s to support non-pharmacologic interventions to manage constipation, The North American Society for Pediatric Gastroenterology, Hepatology, and

Nutrition (NASPGHAN) does endorse the nursing interventions for constipation management. The non-pharmacologic interventions are included in the evidence-based guidelines for functional constipation assessment and management (Tabbers et al., 2014). The interventions in the evidenced based guidelines include increased fiber intake, increased fluid intake, and increased physical activity. The functional constipation framework continues to shape the constipation management interventions in the pediatric inpatient setting. Though constipation that develops in the inpatient setting (acute constipation) is a different phenomenon than constipation that develops in the ambulatory setting (functional constipation) (Fruhwald & Kainz, 2010; Vincent & Preiser, 2015). Results from interventions for functional constipation can often take weeks to be successful. Therefore, though non-pharmacologic interventions are important, when nurses use only non-pharmacologic interventions in the inpatient setting, constipation intervention and resolution may be delayed. It would be important that nurses understand the importance of complementing non-pharmacologic interventions with pharmacologic interventions.

The nonpharmacologic actions to manage constipation by study participants were similar to those reported in a study by Mantegazzi, Seliner, and Imhof (2016). Mantegazzi et al, used a quasi-experimental design to study the change in prevalence of constipation in 59 children undergoing orthopedic surgery. Mantegazzi et al.'s intervention included education of pediatric nurses on the assessment, documentation, and management of constipation. Nurses assessed the children for risk factors, monitored appropriate fluid intake, ensured privacy during stooling, encouraged mobility, and encouraged an appropriate diet. Pharmacologic interventions, an enema, ensued if the patient did not have a BM within three days. The investigators found post intervention that there was a significant reduction in the incidence of constipation from 59% to

42%. A limitation to the study was not having data regarding the frequency of nonpharmacologic interventions performed by the nurses. Mantegazzi et al. (2016) suggested that nursing staff who are well educated in the concepts of constipation can influence the prevention and resolution of constipation. There is a confusing dichotomy in the literature on whether nonpharmacologic interventions are effective in hospitalized children with constipation. It would be difficult for pediatric nurses not to promote natural nonpharmacologic interventions in hospitalized children despite the lack of evidence. Although the level of evidence is lacking for certain nonpharmacologic interventions in the hospital setting, pediatric nurses should continue to promote the interventions of fiber, fluid, and activity in conjunction with pharmacologic measures.

The intervention that makes sense physiologically, “go and sit on the toilet” and paying “attention to body posture and positioning,” is supported to enhance stool elimination (Palit, Lunniss, & Scott, 2012). Palit et al. discussed that by achieving an acute angle of the child’s hips and knees, a squatting position, elimination can be improved because the rectal musculature is relaxed. The nurse who described the importance of “flat-footing” in her practice was using this physiologic principle. The nurse said the flat-footing assisted the child in assuming a squatting position. Sakakibara et al. (2010) compared the abdominal pressure in three different bowel elimination postures, sitting in neutral, sitting with a 60-degree hip angle, and squatting. Increased hip angle straightened the rectal canal to ease stool passage. Sakakibara et al. also found that when the hip angle is more acute or tighter that abdominal pressure was increased. Increased abdominal pressure also assists with stool evacuation. Pediatric nurses need to be aware of the physiologic principle of knee and hip positioning to facilitate rectal vault evacuation in hospitalized children. Flexing the hips and knees, could also decrease the possibility of rectal

sphincter dyssnergia in patients who are flat in bed and unable to evacuate in the proper position (Palit, Lunniss, & Scott, 2012).

There is evidence to support the use of prune juice and rectal temperatures to promote stool elimination in the infant population, which were mentioned by nurses in this study. Sood (2017) discussed the use of fruit juices, (e.g., prune, pear, apple), that contain sorbitol to promote elimination. Sorbitol acts as an osmotic laxative promoting softer stool. Sood (2017) recommended using a rectal thermometer for rectal stimulation when infants have hard stool in the rectal vault to promote bowel evacuation. Sood does caution that infants can become tolerant or conditioned to the use of rectal stimulation for stool evacuation.

Nurses in this study used abdominal massage to promote bowel elimination in the infant population. Massage has been reported to improve constipation in infants although the effectiveness of massage is unclear (Alcantara, Alcantara, & Alcantara, 2014; Iyer, Skikos, Piombo, 2017). NASPGHAN does not recommend alternative therapies such as massage due to the lack of RCTs (Tabbers, Boluyt, Berger, & Benninga, 2011). Experts in the field of constipation direct general practitioners to use massage as well as bicycling-like leg movements in the management of infant constipation (Friedhoff, 2017). Pediatric nurses should be knowledgeable of the non-pharmacologic interventions in the hospitalized infant and child with constipation. When nurses in general and participants specifically were able to articulate and implement a range of non-pharmacologic interventions to support hospitalized children with constipation, there seemed to be improved understanding of constipation by children and their families.

### **A wide variety of management of constipation**

Pediatric nurses were familiar with many pharmacologic measures to manage constipation in hospitalized children. The most frequently mentioned pharmacologic intervention was Miralax<sup>®</sup> or polyethelene glycol (PEG). Pediatric nurses administered Miralax<sup>®</sup> across the spectrum of patient care units, diagnoses, and ages of children. Nurses were aware of the expected outcome of Miralax<sup>®</sup> administration but did not discuss the pharmacologic actions of the drug. Nurses experienced the effectiveness of Miralax<sup>®</sup> in producing a BM and that it was easy to dispense. Nurses did discuss challenges with Miralax<sup>®</sup> administration in hospitalized children. The challenges of administration included getting children to consume the entire dose of Miralax<sup>®</sup> and getting children to consume the dose in a timely manner to be effective. Miralax<sup>®</sup> is the second most frequently purchased laxative in the U.S. (“Dollar Sales Share,” 2015). The generic medication, PEG, is most frequently recommended as the first line medication by experts in the field of functional constipation (Hyams et al., 2016; Tabbers et al., 2014) and the pediatric ICU (Andrews et al., 2013). Andrew et al. used a retrospective study design to evaluate the effectiveness of a bowel regimen in a pediatric ICU. The study protocol contained four steps. The first step included initiation of Miralax<sup>®</sup> (step one) with enteral feeding on the first day of admission. The investigator wanted to know how often escalation of interventions above step one was necessary. The escalated interventions could include increasing the Miralax<sup>®</sup>, adding a medication to improve stomach emptying, glycerin suppository, milk and molasses enema and adding an additional osmotic laxative. The escalated interventions were implemented if there was no BM in 48 hours. It was reported that 56% of patients (n=54) required escalation of interventions beyond the step one of Miralax<sup>®</sup> administration. It is known that Miralax<sup>®</sup> is not immediately effective and may take days before results (BM) are obtained (Basson, 2017; Koppen, Lammers, Benninga, & Tabbers, 2015).

Nurses in this study were aware that Miralax<sup>®</sup> was not immediately effective for management of constipation. It would be important that nurses are aware of the actions of Miralax<sup>®</sup> and the expectation of BM elimination is delayed. Nurses may misunderstand the actions of Miralax<sup>®</sup> if the Miralax<sup>®</sup> is being administered for immediate relief of constipation as was described by nurses in this study. Although Miralax<sup>®</sup> is the medication most frequently mentioned by nurses for management of constipation, it would be important that nurses develop awareness and experience with other classes of medications for constipation management.

There was less familiarity by nurses in this study about the classes of bowel medications. Nurses discussed familiarity with other laxative names but did not report familiarity with the pharmacology of the laxatives. Knowledge of the pharmacology of laxatives combined with practice experience of administering bowel medications may influence the timing and consistency of BM output (Koppen et al., 2015). Interestingly nurses were willing to administer Miralax<sup>®</sup> to children who needed constipation relief sooner than what Miralax<sup>®</sup> could offer. Nurses said they were hesitant to administer rectal medications. However, the rectal route is often necessary by the second or third day without a BM (Andrews et al., 2013; Mantegazzi et al., 2016). Although pediatric nurses need a better understanding of laxative pharmacology in conjunction with an improved understanding of bowel physiology, improved knowledge does not always translate into change in practice (Knowles et al., 2015). The integration of the concepts of laxative pharmacology and GI physiology may reduce the incidence and duration of constipation in hospitalized children. Other factors related to nurses' medication practices to relieve constipation in hospitalized children are numerous. The current study generated insight into nurses' hesitation to administer rectal medications to hospitalized children with constipation as well as other factors. The insights into nurses' practices with rectal medications will be

discussed in theme four as well as other nurses' experiences that influence constipation management in hospitalized children

Bowel management in hospitalized children can be low on nurses' patient care priorities for the day. Nurses in this study said that other more emergent patient problems can take priority within nurses' workdays as well as various experience levels of nurses, which can delay constipation identification and management. Constipation protocols have been developed to address the problem of provider variability and practice standardization in constipation management (Chang, Sevransky, & Martin, 2012). Most protocols for constipation management in hospitalized patients are applied to patients who receive care in the ICU (Andrews et al., 2013; Knowles et al., 2015; Oczkowski, Duan, Groen, Warren, & Cook, 2017). In the current study, participants' descriptions of bowel regimens and order sets closely resemble the description used in the literature of protocols by standardizing practice across patients (Andrews et al., 2013; Knowles et al., 2014; Varghese, 2013). The use of protocols may assist nurses in addressing constipation prevention rather than initiating treatment after constipation has occurred. The success of protocols in achieving reduction in constipation has been reported but the success in constipation reduction is not overwhelming (Oczkowski et al., 2017). In a review of adult constipation protocols, Oczkowski et al. (2017), reported on four RCTs, which included 534 patients receiving ICU level care. The meta-analysis determined that there was only a slight non-significant decrease in the incidence of constipation. The investigators also evaluated the four RCT's for bias on several different measures including blinding, study fidelity, and missing data. There was much variability in the degree of bias for all studies indicating that protocol standardization was difficult to achieve. The investigators believed further research was needed to determine the efficacy of bowel protocols. In applying the results of the systematic review

that protocols are not always effective to the current study, a gap in protocol evaluation may involve nursing practice. Although the protocols contain provider orders, there is often latitude for nursing judgment in instituting orders based on patient assessment. Knowles et al. (2015) using a pre- and post-study design measured attitudes and intention to perform three actions to improve bowel function associated with a bowel protocol in an ICU. The protocol directed nurses to: assess the patient's bowel function, perform a digital rectal exam (DRE) on the patient if the patient had not had a BM in three days, and administer an enema if the DRE showed stool in the rectum. The investigators measured whether nurses' practice changed after education, provision of printed information, and reminders. Knowles et al., (2015) found that although nurses knowledge improved post implementation of the protocol, the nurses' intention to perform the three behaviors outlined above did not change. The investigators posited a few reasons why practice did not change. It was suggested that nurses may have felt the timing of the bowel assessments were too frequent. The practice of performing a DRE was not changed due to the suggestion that the procedure may be too invasive or the intervention was not necessary. Finally, the investigators suggested that the enema administration behavior may not have changed due to the patient not needing the intervention. This study points out that nurses make certain judgments based on patient conditions that can influence the success of protocol outcomes. The nurses in the current study also acknowledged that elements of order sets or protocols were also administered irregularly at times. When evaluating whether the implementation of a protocol is successful, the most frequently measured outcomes are incidence of constipation and amount of laxative administered (Andrews et al., 2015; Knowles et al., 2013; McPeake et al., 2011). However, Knowles et al. (2013) not only measured patient outcomes but also measured clinician behavior. When a bowel management protocol was implemented in

three ICU's, patient medical records were reviewed for evidence of documentation of admission bowel assessment by providers and nurses. As well, the medical record was also reviewed for daily nursing bowel assessment and appropriate timing of initiation of laxative order per protocol. Knowles et al. (2015) reported there was no difference in clinician behavior pre- and post-implementation of the bowel protocol. The investigators proposed that nursing judgment, unit culture, and leader support can influence protocol outcomes. The influence of nursing judgment and unit culture receives little recognition in the success constipation protocol outcomes. Nurses may be important mediators in the successful implementation of constipation protocols. Although Knowles et al. (2013) postulated that clinician behavior played a role in success of a constipation protocol implementation; the study participants were able to articulate the barriers to a successful bowel protocol implementation.

### **It just took some educating**

There remains a gap in the nursing literature about effective teaching methods for hospitalized children with constipation and their families. Constipation is often a secondary diagnosis and may require intensified education on the part of nurses before further patient and family education can occur. It was clear that pediatric nurses valued patient and family education, a core principle of nursing care (Gibson, Stelter, Haglund, & Lerret, 2017; Henderson, 1964; Weiss et al., 2017). Experts agree that constipation education is essential to the management of constipation (McClean-Vickers, 2014; Tabbers et al., 2014; Woolery et al., 2008) Nurses educate children and families though out their shift of care both formally and informally. Nurses in this study mentioned many opportunities to educate families specifically regarding constipation. Nurses described proactive education and reactive education. The proactive education was related to the possible development of constipation if certain interventions were

not completed, e.g., mobility and fluids. Reactive education tended to occur during teaching at the time of medication administration or at discharge. Nurses did not describe any required education classes for children and families regarding constipation similar to what maybe done with a new diagnosis of a chronic illness such as asthma or cancer (Auger, Kenyon, Feudtner, & Davis, 2014). Auger et al. performed a systematic review of interventions that were associated with reduced hospital readmissions and reduced emergency room (ER) visits in hospitalized children. The 14 studies, which were included in the review met the requirements of English language, pediatric-focused, hospital readmission and ER visits data, and use of a specific process or standardized intervention for discharge from the hospital. The investigators reported on interventions that occurred in both the hospital and after hospital discharge which were successful in reducing health care utilization. Successful in-hospital interventions included targeted education to the child and family by a specific person and engagement with the family. Family engagement was not well-defined in the study. Successful outpatient interventions which reduced health care utilization included multiple follow up phone calls, pre-scheduled clinic visits, home visits, and connection with community resources and agencies. The primary populations of patients where the interventions were targeted included infants in the NICU, children diagnosed with asthma, and children diagnosed with cancer. Hospitalized children with constipation may benefit from targeted interventions as outlined in the review to reduce the risk for developing chronic constipation and increased health care utilization. Nurses would play an important role in providing targeted interventions to hospitalized children with constipation.

The nurses in this study described the value of constipation education but did not describe a systematic approach to any education such as a lesson plan, objectives of the education, or expected outcomes of the education. Development of a systematic approach to constipation

education and supporting nurses' patient education skills may enhance understanding of constipation by the child and family. Kelo, Martikainen, and Eriksson (2013) described pediatric nurses' experiences of teaching patients. Forty-seven nurses were interviewed and asked to describe a memorable (positive or negative) teaching experience with a family. The interviews were then analyzed for empowering teaching behaviors or traditional teaching behaviors. Empowering teaching behaviors included an in-depth patient assessment and development of concrete teaching plans with objectives. Use of multiple media interventions, and use of a teach back concept to evaluate learning were also considered empowering teaching behaviors. The nurses who described empowering teaching sessions were also able to verify the improved patient and family knowledge and improved patient and family confidence to self-manage their disease process. The authors concluded that nurses who used empowering teaching behaviors had more successful patient learning outcomes. In addition, despite challenging daily assignments and challenging teaching topics, nurses were able to use empowering teaching techniques efficiently. Empowering teaching techniques could be the key to assisting pediatric nurses in helping families understand the necessary and ongoing interventions needed to prevent and manage constipation in hospitalized children.

### **Theme Three: Getting Everybody on the Same Page**

Pediatric nurses experience many encounters with parents and providers, which can influence the success of the pediatric nurses' approaches for constipation. The idea that negotiation and communication was necessary for the management of constipation in hospitalized children was apparent to nurses in this study. The strategies for negotiation and communication specific to constipation management, which were shared by nurses in this study, are not found in the constipation literature. Improved communication and negotiation skills may

enhance nurses' ability to manage challenging experiences with parents and providers in hospitalized children with constipation.

Nurses were the negotiators with children, parents, and providers in the identification and management of constipation and ensuring that “everyone is on the same page” regarding the plan of care. Parent involvement and understanding of their child’s condition is integral to the care of hospitalized children. Pediatric nurses recognized parent involvement as an essential component of providing care to hospitalized children with constipation. Families provide comfort to hospitalized children, advocate for their care needs, and provide information about their children’s health issues and individual characteristics (Coyne, 2015). Literature regarding negotiation and communication in nursing focuses on the communication and negotiation between nurse and parent or nurse and provider (Boztepe & Yildiz, 2016; Coyne, 2013; Manias & Street, 2001; McComb et al., 2017). However, in this study, participants explain a triad of communication between nurse, parent/child, and provider when discussing the challenges of constipation management. Fischer and Broome (2011) explored the triad of communication between nurse, parent and provider during hospitalization of a child using qualitative methodology. The investigators interviewed members of the triad to determine facilitators and barriers to communication. Parents who were interviewed mentioned the importance of being “on the same page” with nurses and providers and everyone having knowledge of the same plan of care. The results also supported the idea that communication between nurses, parents and providers was improved when there was a sense of an interpersonal connection between the members of the triad. Listening to each other and being direct but kind were also essential (Fischer & Broome, 2011).

Participants in this study discussed the importance of knowing and communicating the plan of care with parents and providers, and being clear about expectations and outcomes of interventions throughout the hospital stay. The capability of the participants in this study to possess the negotiation and communication skills as exhibited in the Fischer and Broome (2011) investigation may be an indication of their nursing experience level. Knowledge of the specific strategies used by participants could assist less experienced nurses to communicate with parents and providers more successfully in the identification and management of hospitalized children with constipation.

### **The parents are a huge resource**

Nurses in this study discussed the importance of parents during their child's hospitalization. Parents provided information about their child and asked questions about their child's plan of care to health care providers. Parents also provided emotional comfort and personal care to their child during hospitalization. Nurses depended on parents to share information about their child, as nurses said that parents know their child best. Nurses in this study said they needed to develop trust with children and families to promote partnership in patient care. Building trust and partnership between nurses and families often can take time and experience to know the best techniques (Dennis, Baxter, Ploeg, & Blatz, 2017). The relationship between the pediatric nurse and the parent is important though the nurse parent relationship can have positive and negative aspects (Power & Franck, 2008). In a review of parent participation and nurse-parent relationships, Power and Franck (2008) reported that parents wanted to be involved in the care of their children but parents needed direction and communication from nurses. When parents were involved, nurses were able to provide more hands on education regarding the children's needs and direct care. The dichotomy of care roles

between parents and nurses can be confusing and difficult to navigate. Because nurses felt ultimately responsible for children's care, the sense of nursing responsibility could result in not allowing parents to perform skills in the hospital that they would normally perform at home.

Nurses who were more experienced and educated managed and incorporated parents into their children's care with greater mutuality. Nurses in the Power and Franck (2008) study also felt that it took time to develop relationships with parents. The need for relationship building might add more stress to a currently stressful experience for nurses and parents when a difficult discussion topic like constipation is necessary. Nurses in this study had an average of nine years of experience and offered several strategies for educating and involving parents in their children's care. The participants spoke of the ongoing process of educating the family regarding the development and management of constipation that required a daily review of the previous and future interventions and outcomes to relieve the child's constipation. The participants' experiences align with literature reports of the need for relationship building in the care of hospitalized children (Roberts, Fenton, & Barnard, 2015). Pediatric nurses, similar to study participants, who have a better understanding of the development and evolution of constipation in addition to positive relationship building skills with parents and children in the hospital setting, may be better prepared to discuss constipation and constipation interventions in a more timely manner.

### **They trust our judgment**

Physicians also influenced the care of hospitalized children with constipation. The determination of constipation interventions required sharing of patient information between physicians and nurses. Nurses reported that they experienced good relationships with physicians in the hospital setting. The nurses in this study practiced in a teaching environment with resident

physicians. Most physician interactions mentioned by nurses in this study were interactions with resident physicians and less so, the attending or staff physician. Nurses in this study said that resident physicians were willing to listen to their patient assessments and concerns about constipation in their patients most of the time. This positive perception of communication and collaboration is not always the case with nurse physician communication in the hospital setting (Manias & Street, 2001; McComb, Lemaster Henneman, & Hinchey, 2017; Weinberg, Miner, Rivlin, 2009). The positive communication and collaboration approaches of nurses in this study may be an indication of the experience level of the participants. Nurses' working relationships with resident physicians have been investigated in a study by Weinberg et al. (2009). Twenty resident physicians were interviewed about the experiences of working with nurses. The investigators reported that whether residents trusted and valued the work of nurses "depended." Residents were more likely to value the work of nurses "depended" on whether residents perceived an individual nurse as collaborative and competent. Nurse experience often equated to competence but not always. The participants in this study did display their experience with identifying and advocating for hospitalized children with constipation. The nurses in this study spoke of participating in patient care rounds and sharing information with residents throughout the nurses' shift of work. Nurses spoke of providing constipation intervention rationale to residents to advocate for the best care for children.

Nurses in this study discussed situations of collaboration regarding the medication regimen for the child with constipation. It could be that the participants have more experience than residents with the variety of laxative medications available for constipation management. Participants may also have more experience than residents in observing patient responses to constipation management interventions. It has been reported that resident physicians have

requested further constipation education when rotating on specialty services (Ahmed, Farnie, & Dyer, 2011). Yang and Punati (2015) investigated the knowledge of standardized guidelines for functional constipation management and the common treatments for functional constipation in a sample of 1,202 pediatric physicians (79% were trainees). They found that only 16% of respondents were more than slightly familiar with nationally published guidelines. The physicians in the Yang and Punait study were most familiar with treating functional constipation with an osmotic laxative (PEG) and less familiar with other classes of laxative medications. Therefore, nurses needed to be knowledgeable of appropriate medications for constipation management in hospitalized children. It may be that nurses have more experience than resident physicians with constipation in hospitalized children. Management of constipation in hospitalized children may benefit from a more collaborative approach between pediatric nurses and pediatric residents.

### **Just kind of negotiate**

The experiences of nurses in this study of being the intermediary between parents and physicians required nurses to master their communication and negotiation skills to achieve a positive outcome for children and families. Nurses experienced the need for careful communication among children, parents, physicians, and nursing co-workers to coordinate the needs of hospitalized children with constipation. The daily communication and negotiation can require that nurses be sensitive to verbal and non-verbal cues to achieve a positive outcome for children. This sensitivity requires tact and understanding of the phenomenon of constipation that can be difficult to discuss (Brown, Rogers, & Wise, 2017; Lloyd, 2014; Sujatha, Velayutham, Deivamani, & Bavanandam, 2015). The participant nurses experienced challenges with communication regarding bowel elimination with all members of the child's care team.

Challenges as voiced by participants could include children not taking necessary laxative medications, parents refusing suggested constipation treatments, and physicians not heeding nurses' suggestions for constipation management. Each member of the care team whether child or parent or physician required different negotiating skills by these nurses. Nurses also communicated using different platforms to convey information. One-to-one communication was used most often with children and parents whereas rounds was used with physicians

Nurses had contrasting experiences with parents who had knowledge of constipation and those parents who were not familiar with constipation. The nurses discussed negotiating skills with less knowledgeable or less experienced parents and the need to explain the process of constipation development in their child. They expressed that parents would want to delay any pharmacologic intervention to see whether their child could have a BM spontaneously. Parents can be uncomfortable with BM related interventions (Sanders & Bray, 2014) A nurse explained reasons for parental negotiation,

It's really just trying to get the parents to agree with you if we believe this is the best treatment for them or if it really is not and you know there could also be like cultural reasons or something that they don't want a suppository or don't want certain treatments and it's respecting them and seeing what else can be done to help the child.

The need for negotiation expertise also arises with of parents of children with chronic conditions and constipation. Parents of children with chronic conditions have more health care and hospital experience and often more expectation of the nursing staff to continue with a home treatment like a bowel regimen (Denis-Larocque, Williams, St-Sauveur, Ruddy, & Rennick, 2017). At times, participant nurses felt that it was inappropriate for the child's treatment to continue with the home regimen. This required negotiation with the family. Nurses learn how to

negotiate with families of children with chronic conditions often out of necessity (Denis-Larocque et al., 2017)). Denis-Larocque et al. investigated nurses' perceptions of providing care to children with chronic health conditions. Ten PICU nurses were interviewed about their experiences in communicating, negotiating, and developing relationships with families of chronically ill children. It was reported that communication and negotiation between parent and nurse were ongoing and at times challenging. Nurses had to reframe their nursing approach to care of the chronically ill child from teacher to learner. Nurses had to negotiate care with parents, which was not typical for nursing care in the PICU. Also when skilled negotiation occurs between nurses and parents, a trusting relationship is developed between nurses and parents. The trusting relationship gains importance when key decisions need to be made regarding the child's care. There are many variables that influence negotiation and parent partnership in care, which can influence the parent nurse relationship in hospitalized children. It can take nurses time to acquire appropriate negotiation skills. The authors suggest that nurses may benefit from education to develop skills of open communication role negotiation with the families of hospitalized children.

Nurses in this study used the term negotiation in their relationships with families. In nurses' relationships with physicians, nurses used the term collaboration. Nurses in this study cited patient care rounds as a frequent method of communication and collaboration with physicians. The participants experienced positive responses to bowel discussions during rounds. They did not mention any distressing power struggles over patient communication as is evident in the literature (Manias & Street, 2001; McComb, Lemaster, Henneman, & Hinchey, 2017). The participants shared experiences of providing many suggestions for constipation management in this resident teaching setting. This positive sentiment for nurse-physician collaboration may

be specific to the pediatric setting (Choi & Boyle, 2014; Reese, Simmons, & Barnard, 2016; Rogers, 2016). A consortium of nurse researchers investigated nurse job satisfaction on ten different patient care units across the country (Montalvo, 2007).

The 2004 National Database of Nursing Quality Indicators (NDNQI) RN Satisfaction Survey was used to sample 55,516 nurses with pediatrics being considered one of the 10 patient care units. Pediatric nurses were the youngest ( $\bar{x}=36.76$  yrs) but had the greatest number of years on their unit ( $\bar{x}=6.75$  yrs) and were the work unit with greatest number of bachelor's degree prepared nurses ( $\bar{x}=52.33\%$ ). The NDNQI RN Satisfaction Survey also showed that pediatric nurses had the highest subscale scores in the areas of Nurse-to-Physician Interactions ( $\bar{x}=69.24$ ), professional status ( $\bar{x}=67.05$ ), autonomy ( $\bar{x}=53.88$ ), and decision-making ( $\bar{x}=48.61$ ). These subscale scores were significantly higher than all other work units surveyed. It appears that pediatric nurses experience greater job satisfaction than other RN work units and this may contribute to the collaborative relationships that participant nurses experienced in this study.

Overall, participants in this study discussed using negotiation skills with parents to identify and manage constipation in hospitalized children. Additionally, participants discussed the importance of collaboration with physicians to identify and manage constipation as early as possible in hospitalized children. The skills of negotiation and collaboration in relationship to identification and management of constipation in hospitalized children was an unexpected finding. Certainly, the skills of negotiation and collaboration are a necessary component of nursing practice, but not always considered an important element of identification and management of constipation.

#### **Theme Four: Down There**

The topic of sensitive touch emerged as a significant topic from the data. It was not a concept that was thoroughly investigated in the literature prior to the study. It became clear during the interview process that sensitive touch was a key element to interacting with hospitalized children who are constipated due to the private nature of the assessments and interventions. There is scant literature addressing the issue of intimate care or sensitive touch in hospitalized children. Literature about sensitive touch in children exists in the child sexual abuse (CSA) field as well as in the field of children with disorders of sexual development (DSD) (Duncan & Sanger, 2004; Hornor, Scribano, Curran, Stevens, & Roda, 2008; Tishelman & Shumer, & Nahata, 2017). Guidance for nurses during sensitive touch with rectal procedures can be gleaned from the CSA and children with congenital ano-genital conditions literature. Though the CSA and DSD literature is aimed at providers not nurses. This is a clear gap in pediatric nursing practice and research regarding sensitive touch that may influence the identification and management of constipation in hospitalized children.

There was no clear term for the performance of sensitive procedures by participants other than “down there.” “Down there” is typically described as the vaginal or rectal area of the body (Berry, 2014; Gwede et al., 2015). The term, “down there,” has been used in the literature to describe supporting the adolescent in a gynecologic exam (Perry & Jay, 2006) and in educating women about their bodies (Rankin, 2010). There are also reports of patients describing their perineal area as “down there” (Berry, 2014; Francis, Fraiz, Cattalozzi, Rosenthal, 2016). In the nursing care of adults, the nurse’s touch “down there” is most frequently termed, “intimate touch” or “intimate care” (Carnaby & Cambridge, 2002; O’Lynn, Cooper, & Blackwell, 2016; O’Lynn & Krautscheid, 2011).

Nurses used the euphemism of “down there” to describe anatomically private body areas. Euphemisms are described in medical care and can be confusing for patients but “down there” is a frequently used term in adolescent health care (Mullaney, 2010; Freeto & Jay, 2006). Using anatomically correct descriptions when talking with children has been suggested both in the education of children for sexual abuse prevention and health care education (Buni, 2013; Kilkelly & Donnelly, 2006). Although some euphemisms have been suggested as helpful with children (Harrison, 2010; Orenstein & Wald, 2016). One nurse explained suppository administration as, “We are going to have to take the poop out from the bottom,” a combination of euphemism and anatomic correctness.

### **I would not automatically do a rectal check**

Nurses said that a rectal check was not a standard part of their assessment for constipation. Nurses said they could determine whether stool was present in the rectal vault with rectal procedures. The rectal vault assessment though was incidental to the rectal procedure and not intentional. Rectal administration of bowel stimulant medications was not preferred by nurses, and there is “hesitation” in administering rectal medications. Nurses expressed several reasons for this hesitation including patient age, cognitive ability, and perineal sensation. If the child was younger, had diminished cognitive ability, or decreased perineal sensation, there was less hesitation to perform a rectal procedure. When children were cognitively intact and older, nurses were likely to perform rectal interventions due to increasingly distressing symptoms of constipation or by physician order. Nurses experienced that rectal procedure were more acceptable and understandable by the family and older child after the oral interventions had failed. Terms that nurses used when discussing rectal interventions included “traumatic,” “horrible,” “invasive,” “uncomfortable,” and “awkward.” Nurses considered rectal procedure

anxiety producing for the child and family. This perception by nurses is not supported in the literature. Perceptions of children about their experience of an anogenital exam have been investigated (Gulla, Fenheim, Myhre, & Lydersen, 2007). Gulla et al. interviewed 158 five to six-year old children (75% female) during their well-child visit about their responses to a perineal exam. The authors used the five-point Faces Rating Scale (FRS) for perceived discomfort with the children. There were few children (7.7%) who rated the perineal exam as negative or some negative. Children did rate the perineal exam as more distressing than the ear and mouth exam. Parents and nurses corroborated the children's responses by evaluating the child's anxiety and restlessness during the exam. Parents responded that 3.2% of children had some or a lot of anxiety and nurses felt that 4.4% of children had some or a lot of anxiety. The authors concluded that a perineal exam should not be automatically excluded when examining a child. It was important to ask the child about their opinions and parents felt that preparation of the child was important. Orenstein and Wald (2016) provided guidance for performing a DRE in children as a section of a manuscript on the importance of the pediatric rectal exam. Orenstein and Wald discussed the importance of mental and physical preparation of the child. It was recommended to describe the exam to the child using honest language, use humor and pediatric terminology and any previous experience with a sensitive exam. Physical preparation as suggested by the authors included a supportive person positioned in front of the child, ensuring comfortable positioning of the child on their side, sensory explanation, control for the child to say stop and go, and proceeding slowly. A script was also provided to guide the examiner in performance of the DRE. The authors advocate that the DRE should not be any different from an ear exam.

Psychological trauma from necessary anogenital exams and procedures is not widespread (Tishelman et al., 2017). Tishelman et al. reviewed the CSA literature to develop guidelines for the anogenital exam in children with DSD. Procedural anxiety and fear can be minimized if the health care provider (HCP) ensures that appropriate preparation, communication with the child, supportive person attendance or chaperone, HCP competence and trusting relationship is in place. Children may not always exhibit negative responses to sensitive touch procedures. It would be important for nurses to be competent in rectal procedures and to consider rectal procedures as one strategy of many strategies in constipation management of hospitalized children. Child preparation is essential.

Pediatric nurses approach to sensitive touch in hospitalized children may be enhanced with knowledge of literature evidence of children's responses to sensitive touch in addition to reflection of their own practice experience. Nurses did express some uncertainty about sensitive touch procedures as well, A few nurses seemed uncertain about appropriate procedural practices, "if they're 3 or 4- I don't think, unless it was an emergency, I would touch them without a parent." Therefore, pediatric nurses may also benefit from an institutional policy regarding sensitive touch to ensure clear practice parameters. One nurse voiced concerns about liability with perineal assessment, "it's down there with everything so you want to be really careful and respectful and legally just you know- we don't do a lot down there with our older kids." The Royal College of Nursing (RCN) in England has written a policy on providing intimate care to hospitalized children (Graham-Ray & Higson, 2017). The RCN policy was written for nurses working with young people and children. The purpose of the policy is to keep nurses and children safe during intimate care. The document includes strategies for child assessment, child preparation, and nurse self-assessment of behavior and actions during care. The RCN is

recognizing the vulnerability of nurses and children and minimizing risk of sexual abuse accusations during intimate care with children. As well, direction for nursing management for support of nurses is addressed in the document. This type of policy is not easily accessible in the national nursing organization in the United States (U.S.). Development of a similar policy would be important for pediatric nurses in the U.S. A sensitive touch policy would clear up the uncertainty that exists regarding scope of nursing practice and rectal procedures in children.

The rectal route of laxative administration can result in the most rapid output of stool (Hodges & Colaco, 2016; Wallaker et al, 2014; Chumpitazi et al, 2016). Nurses in this study experienced the rapid effectiveness with rectal medications. A nurse shared a story of a constipated toddler and the mother, “[I] showed them the results were within 3, 3 to 5 minutes. And, and it was just amazing. She [mom] was like wow you got all this from just doing that?” Participants in this study were also aware that a rectal temperature could often stimulate a BM in infants. Nurses on several different units used this technique of thermometer stimulation. There were other nurses who used a similar physiologic technique on children with cognitive impairment and spinal cord injury. The physiologic intervention is an acceptable standard of practice in these populations of children both to prevent constipation and to relieve constipation (Braun et al., 2009; Hwang, Zebracki, & Vogel, 2017; Sood, 2017). Enemas are often used as first line interventions to relieve constipation in the pediatric emergency room (Chumpitazi et al., 2016; Miller, Down, Friesen, & Walsh-Kelly, 2012).

Nurses mentioned using alternative techniques for rectal interventions such as self-administration and administering rectal medication on the toilet for appropriately aged children, usually teenagers. Use of alternative techniques especially for older children is referred to in hospital policy as an option for some children (Johnson & Vassar, 2018). Nurses may not

discuss these alternative techniques among themselves and may need permission through a constipation policy to employ these techniques. They also may not have the opportunity for nurses to investigate the literature for evidence for alternative techniques. Certain nurses had not ever administered an enema or rectal bowel medication therefore inexperience may be at play as well. It would be important to reduce nurses' barriers to rectal procedures. The multiple rectal procedures available for identification and management of constipation need to be regarded as strategies in a range of interventions to assist nurses in managing constipation. Nurses need to be competent to perform the rectal procedures and nurses in this study discussed mixed feedback on confidence in rectal procedures. When rectal procedures were more often a necessary component of the patient care plan, nurses discussed rectal interventions as standard procedure. Whereas, when rectal procedures were not performed as often, participants questioned their competence in performing rectal procedures. There has been little research into pediatric nurses' attitudes regarding the reluctance to perform certain sensitive touch procedures with children. Further information could assist in supporting nurses and children in challenging sensitive procedures.

### **An infant is totally different than a five or six-year old**

Pediatric nurses recognized that developmental adjustments to interventions were needed based on the child's age and cognitive ability. Pediatric nurses discussed a developmental approach to managing constipation. Zwimpfer and Elder (2012) discuss the importance of the nurse infant relationship especially during stressful and uncomfortable procedures. They suggest that nurse presence and a soothing vocal quality can assist the infant in modulating their behavioral responses. The authors recognize that infants may not understand the spoken words but infants can sense the vocal intensity and nurse connectedness. An example of this technique

and relationships with infants was explained, “even though it’s a baby I still tell them what I’m doing. I always do that. Some people kind of laugh at me. I still tell them what I’m going to do because you don’t know how much they understand.”

To assess the infant with constipation, nurses needed to rely on parents for information and used physical examination cues exhibited by the infant. Parents knew how often the infant had pooped because parents had changed the infant’s diaper. Nurses evaluated an infant’s fussiness, abdominal distension, and ability to feed to in assessing the infant for constipation. Nurses would also rule out other factors that may be causing distress in the infant such as pain or hunger. Participants’ use of subtle assessment parameters in the infant was supported in an investigation of nursing assessment of infants with bronchiolitis (Davies, Waters, & Marshall, 2017). Davies et al. audiotaped 10 nurses who were caring for infants with bronchiolitis to understand the information that nurses used to assess the ill infants. Nurses in the Davies et al. investigation used 20 different physical assessment signs in addition to relying on the mother’s knowledge of the infant. When the assessment signs in addition to the mother’s knowledge were combined, nurses could put the information into context to understand the trends in the infant’s recovery. Participants in the current study also exhibited the skills of physical assessment, parental partnership, and critical thinking to understand the needs of infants with constipation.

Nurses began to use the word, embarrass or embarrassment, as they talked about the care of young school-aged child through teenagers. The nurses recognized that it was more difficult to have conversations about BMs and constipation with these age groups. Nurses also took care to help children “save face” in the event of a bowel accident. Nurses were aware of the psychological concerns of children with constipation. Nurses prioritized the psychological concerns of children who could be embarrassed due to the problems of constipation.

Embarrassment regarding bowel habits, bowel needs, and personal exposure can occur because “society demands that individuals adopt acceptable practices with regard to defecation” (Chelvanayagam, 2014, p. 18). The demand for socially acceptable behavior begins as young as five to six years of age when children are often required to be ‘potty trained’ prior to entering elementary school. This is a time fraught with challenges for children and parents to transition to the next step of independence. It is often a time when constipation develops as well (Palit et al., 2012; Sood, 2017). So, children learn at a young age that bowel talk and bowel habits are private.

Buss, Iscoe, and Buss (1979) investigated the onset of the embarrassment emotion in children by surveying parents (n=355) about blushing type behaviors in their children. The investigators purposely left embarrassment broadly defined. Parents could report a reddening face, silly smile, nervous giggle, child verbalization of the feeling, or reduced eye contact. It was found that there were increased reports of signs of embarrassment between the ages of three to four years of age (26%) and five years of age (59%). Between the ages of five years to 12 years of age, embarrassment signs ranged from 59% to 75%. The age range determined in the Buss et al. investigation coincided with experiences of participants in the current study in the recognition of embarrassment in children. Nurses recognize the importance of supporting young school-agers through teenagers during sensitive touch and taboo topics. Participants in the current study recognized the difficulty that children have in discussing bowel habits. Participants cited different strategies to encourage hospitalized children to talk about their bowel habits. Encouraging children to discuss their bowel habits could assist nurses in identifying and managing constipation to help children feel better while hospitalized.

**I just try and build a trustful rapport**

Nurses said the possibility of rectal procedures caused anxiety in children and parents. Building trust and procedural preparation was important to reduce anxiety before rectal interventions. Nurses shared their practices to build trust with hospitalized children of all ages, at all times. Nurses used many relationship-building techniques that support hospitalized children. These techniques included conversations with children, conversations with parents, giving choices, including child in decision-making, taking time, child appropriate/friendly language, and humor. The concepts of building a trusting relationship mentioned by participants are supported in the literature (Bice & Wyatt, 2017; Cohen et al., 2017; Roberts et al., 2015). In an older investigation, Bricher (1999) uncovered pediatric nurses techniques of building trust with children as part of a larger interpretive phenomenological study of pediatric nurses day-to-day work experiences. The experienced pediatric nurses (n=6) in Bricher's study (1999) shared that it was important to spend time explaining things, being mindful of verbal and non-verbal cues, and getting to know the child as a person. Children needed to know that they were valued and nurses felt by that by sharing a story of themselves, let children know they mattered. Building and maintaining trust was a challenge at times because nurses shared that they had to carry out fearful or uncomfortable procedures with children whom that had built trust. Bricher explained the break in trust as a dichotomy when nurses had to violate the trust relationship. In the current study an example was shared, "I hate it when as a nurse I have to use a scare tactic to get what I need." Pediatric nurses don't want to disrupt the trusting relationship. Needing to carry out sensitive touch procedures is a risk to disrupting the trust that has been built with the child. The nurse's need to maintain the relationship with the child may eclipse the need to intervene sooner with a rectal intervention. The decision to maintain the relationship may delay the use of the

effective intervention to relieve constipation. Understanding nurses' motivations in decision making for rectal procedures remains to be investigated.

Contrasting the nurses' experiences with children's experiences, children who were interviewed about their insights of nursing care and behavior also supported several of the trust building strategies as well (Brady, 2009; Ryan-Wenger & Gardner, 2012; Schmidt et al., 2007). The perspectives of children regarding pediatric nurses in the studies were similar. Nurses positive behaviors included having a positive affect, sharing information, providing basic needs and comfort, concerned about safety and cleanliness, and were organized. Additionally, positive nurse behaviors were described as being calm and cheerful, used humor, could have fun and at times seemed to break the rules. Negative nurse behaviors or bad nurses were grumpy; didn't spend time with the child; and didn't clean their hands, did things that were uncomfortable, or didn't provide privacy (Brady, 2009; Ryan-Wenger & Gardner, 2012; Schmidt et al., 2007). The participant in this study who performed more sensitive procedures such as routine bowel cleanouts talked more about relationship development possibly because they experienced the risk of losing trust more often.

I think a lot of times with these kids I just try and build a trustful rapport before I even start anything...trying to get them to laugh with me, trying to get them to realize that I'm not there to hurt them and not there to do any harm to them before I even come in to introduce what I'm going to be doing

Participants shared their experiences of how they went about actually preparing a child for a sensitive procedure and how they managed sensitive touch. Some of the preparation strategies included having a familiar person at the bedside, humor, distraction, supportive helper,

being prepared, efficiency, step by step explanation of procedures, explaining the sensory input/feeling of the procedure, recognizing anxiety, confidence, and child life assistance.

So again, kind of assessing the patient's developmental level. A lot of times we will use Child Life to kind of help coach the patients through and distract them. Ipads are very popular with these kids because you can position them so that they're facing away from you when you're giving that enema and really focusing on that Ipad, focusing on family at the bedside, trying to put those supportive measures in place so that you can quickly administer the enema."

Procedures that are anxiety producing for children or adults are better tolerated if the person receives appropriate preparation. This is particularly true of sensitive touch procedures (O'Lynn & Krautscheid, 2011; Orenstein & Wald, 2016; Tishelman et al., 2017). The practice of explaining the subjective and objective sensations has been shown to be beneficial to a positive outcome with the procedure as well as giving the child some control during the procedure (Garvin, Huston, & Baker, 1992; McHugh, Christman, & Johnson, 1982; Tishelman et al., 2017; Wilson-Barnett, 1984). Pediatric nurses most often described the objective elements or steps of a rectal intervention. Objective elements include the timing of the intervention, equipment used, or location, as described by "step-by-step." A few nurses described the subjective or sensory perceptions of the intervention including, "feel a little bit cold, and you're going to feel a little bit of pressure." Nurses have told children, "this is the experience that other kids have had with it and what they tell me about it" which is helpful as well. Patients have better tolerance of sensitive procedures when both sensory information and temporal information is included in preparation (McHugh, Christman, & Johnson, 1982; Suls & Wan, 1989). Several participants discussed the inclusion of sensory and temporal information when performing rectal procedures.

An experience was shared by a participant: “A lot of them [children] like to see what’s going on or even the suppository to show them if they want to see it because it’s so small...it’s this big and just explain how they’re going to feel.”

Twenty-one hospitalized school age and teenage boys were interviewed about their needs during difficult procedures and said they needed control, their parents, familiarity, and being able to save face (Runeson, Hallstrom, Elander, & Hermeren, 2002). These techniques are important and may vary based on the age and needs of the child (Brown, 2015). These needs are similar to what participant pediatric nurses voiced about supporting children during sensitive touch procedures. A bowel cleanout experience was explained:

When we’re doing them [frequent enemas] I really again try to kind of look at the patient and determine is it better for me to kind of go through step by step here’s what to expect. Most school age and older kids I will absolutely do that for. So that they know what to expect because I think a lot of the interventions that’ll be put in place in hospital half the fear is I don’t know what I’m going to expect, so trying to kind of talk them through that and set up those expectations for the patient and for the family I think is really important.”

Participants in this study were cognizant of the challenges of preparation for sensitive procedures. The nurses learned through trial and error what will and won’t be effective strategies for performing sensitive procedures. The nursing practice of sensitive touch in hospitalized children needs further investigation. Overall, there was an emphasis by nurses in preparing children for sensitive on the emotional aspects of constipation management rather than the bodily sensations of constipation management.

### **Comfort and Privacy**

Nurses in this study supported the privacy needs of hospitalized children with constipation during sensitive interventions. The maintenance of privacy is important to children during intrusive procedures, particularly teenagers. Nurses experience that younger children often want a parent in attendance. Whereas teenagers were given the choice of whom they wanted in attendance during an intrusive procedure. Nurses are often distressed when someone walks into a patient room unexpectedly when performing a sensitive procedure such as an enema. Nurses work hard to prevent these interruptions and preserve the dignity of the child.

I think definitely just comfort and privacy as like two important things to highlight and like letting the patient know what's going on, especially. Letting their parents know what's going on, because keeping people who are intimate to the patient involved and the older patient letting them know who they want in the room. I mean it's just like any other like intimate procedure that you don't everyone to be in the room. It's not like some public event.

Nurses talked about maintaining the physical acts of privacy with closing the curtains, shutting the blinds, putting a sign on the door, and not being interrupted by phones or co-workers, thereby exhibiting are the tangible concepts of privacy. The tangible concepts though support child dignity and respect (Jamalimoghadam, Yektatalab, Momennasab, Ebadi, & Zare, 2017; Popovich, 2003). Jamalimonghadam et al. (2017) and Popovich (2003) addressed to importance of maintaining the dignity of the child by protecting their privacy. Teenagers expected HCPs to preserve their personal privacy. The expectation of privacy was a theme in the interviews of 13 teenagers in a study, which investigated dignity in hospitalized teens (Jamalimoghadam et al., (2017). Younger hospitalized children may not be able to convey their need for privacy, so Popovich suggests that it is a nurse's responsibility to respect younger

children's sense of modesty during sensitive touch. The concepts of privacy and dignity are the essential elements of nursing practice and they also support children's self-esteem and well-being. Therefore, privacy, dignity, and nursing practice are closely intertwined. The participants in the current study conveyed the importance of maintaining privacy for all ages of children but may not have made the cognitive connection that privacy is integrated with dignity.

### **We kind of do a dress rehearsal at the desk**

Nurses were thoughtful about the teaching expertise that was necessary for nurse orientees to carry out a sensitive touch procedure competently with any age child. Nurses described teaching orientees about sensitive procedures using several methods including, "see one, do one, teach one," "step by step," and using a "dress rehearsal." Nurses shared that did not receive any formal education about constipation and were "never really taught" about rectal checks. Nurses said that orientees and students get excited and nervous about performing procedures. Nurse preceptors used evidenced based sources of information including policy and procedure and medication information sources to provide a framework for orientee understanding of sensitive procedures. The dress rehearsal helped in going through the steps of the process at least once prior to procedure. There would be opportunity for questions and any process changes. Several preceptor nurses mentioned the teaching method of see one, do one, teach one. This method has been cited as being outdated in favor of simulation training (Leigh, 2008; When see one, 2017). The preceptor nurses closely monitored students and orientees during sensitive touch skill performance. The see one, do one, teach one method in the nursing profession is supported as a learning method in the literature but it is being replaced by simulation (Leigh, 2008; Mason & Strike, 2003). Mason and Strike (2003) surveyed nurses and physicians about their experiences in learning similar patient care skills including NG placement

and male catheterization. Nearly 50% of nurses said they have received training in the skill compared to 12% of physicians. Also, nurses were more confident than physicians (93% compared to 58%) that they could safely perform these procedures from the training they received. The limitation to this study was a small sample size and self-report that nurses and physicians were performing the procedure correctly. The authors concluded that physician skill training was less formal than that of nursing skill training. Although the Mason and Strike (2003) investigation is older, see one, do one, teach one is the predominant method of instruction as explained by participants in this study. Nurses in this study provided experiences of close oversight of orientees to ensure correct skill acquisition and safe practice.

Much nursing education though has moved to simulation for skill acquisition (Jeppesen, Christiansen, & Frederiksen, 2017). Simulation has improved nursing student confidence when performing sensitive touch procedures (Reid-Searl & O'Neill, 2017). Nursing students say they are better prepared for intimate care when using simulation activities (Reid-Searl & O'Neill, 2017). The participants in this study taught orientees and students using standard methods when performing rectal procedures and sensitive touch. This is clearly a challenging matter for pediatric nurses. The preceptors did focus their teaching discussions on the psychological experience of the child and family and not on the psychological experience of the orientee. So we don't know whether that would be important to acknowledge during sensitive touch skill acquisition. Perhaps orientee psychological preparation for sensitive touch procedures would result in improved care for hospitalized children with constipation.

### **Theme Five: Just a Very Basic Overview of Constipation**

Pediatric nurses did not experience a significant amount of academic instruction in identifying and managing constipation. Most nurses did recall receiving basic instruction in

constipation in the undergraduate setting. Nurses also received further formal education during their employment and on their own. The experiences of the nurses in this study support the majority of nurse experiences in acquiring knowledge about constipation with on the job training and experience (McPeake et al., 2011; Zanik & Gray, 2016). The participants in this study may be better educated about constipation than most pediatric nurses or more experienced in caring for hospitalized children with constipation. The nurses' experiences' may be why constipation identification and management was so important to their own practice. Constipation knowledge was not directly measured in this study and has not been investigated in pediatric nurses who care for hospitalized children.

### **You need time, experience, and certain patient situations**

The participant nurses shared several methods of gaining knowledge of the phenomenon of constipation. This was explained as time, experience, and certain patient situations or educational methods, which included their undergraduate education, on the job training, and nursing practice experiences. These educational methods support the concepts of the fundamental patterns of knowing as described by Carper (1978). Carper (1978) described four patterns of knowing: empirics, esthetics, personal knowledge, and ethics. Participant nurses shared examples of these patterns throughout their experiences of caring for hospitalized children with constipation. The on the job experiences seemed to form the strongest foundation of knowledge. Estabrooks et al., (2005) built on the work of Carper (1978) and developed a taxonomy of knowledge sources using ethnography and observation. The top level of the taxonomy structure for knowledge sources included a priori knowledge, documents, experience, and social interactions. The social interaction source was the overwhelmingly largest source of knowledge. This was followed by documents, experience, and A priori knowledge. Nurses' co-

workers provided the largest informal source of knowledge, largely because co-workers were most accessible. Other sources like clinical nurse specialists and physicians were valued for knowledge but not as easily accessible as co-workers. Estabrooks et al. (2005) also confirmed that nurses made more patient care decisions based on knowledge gained through experience rather than their nursing school education. Although knowledge gained through their own experiences and observations was not as large a source of knowledge as documents, e.g., policy and procedures, EHR; it was a more important source. Participants in this study echoed these sources of knowledge for their own practice related to constipation. A participant shared an example of this knowledge gain,

So now with education focusing on the basic things that you need to look for. We haven't really been educated specifically on what medications to ask for, but I feel like that just comes more with experience and I mean it's personal preference I feel like, what everyone feels like works better. I feel like over time someone can tell you all these things, but until you like, really experience it in the clinical practice, this is more effective than this or you know when to institute this, it's almost like on the job learning

The phenomenon of constipation crosses all practice settings and ages. Constipation can be a primary problem and it can be a secondary problem as well as an acute or a chronic problem. Nurses in this study had experienced all of the variety of patient care situations. When constipation is a primary problem such as a child who requires a bowel cleanout, the nurse cannot overlook the problem for a day or two. Most often constipation is not life threatening but constipation can put certain populations of children, e.g., congenital cardiac disorders, spinal cord injury at risk for decompensation. A nurse explains about monitoring bowel status in children with cardiac abnormalities:

Have they had bowel movements regularly? Cause they want to know because those are the kids that if they do increase their systemic vascular resistance they will shunt all their blood into their pulmonary blood flow and those are the kids that have really increased morbidity and mortality.

Patients in these populations were typically cared for on diagnostically related units. Therefore, nurses learn and experience the bowel needs of these children more frequently. When constipation can disrupt a child's stability, there tends to be more unit awareness and attention to the problem. The nurses who provide care to these populations of children where constipation is a primary problem or life threatening have acquired more strategies to manage the challenges of the care that is required.

### **The Unit I Work On**

Nurses discussed the knowledge experiences they gained on the unit where they worked. They mentioned not only the type of patients who they learned from but also the culture of the unit that supported the care of hospitalized children with constipation. Children with chronic constipation requiring a clean out, immobilized children in the intensive care unit, and children who present to the emergency room with abdominal pain also exposed nurses to learning experiences outside the realm of the classroom. One nurse explained the development of unit culture as,

Over the past couple of years that now people have come to accept that, how important it is, and now it's just everybody knows that's when you do the bowel program, it isn't like the day nurse pushed it off or saved it, you know, for hand off. So, people now just kind of accept that, oh yeah, I can set up a bowel program. We're going to have to do it. It's a lot more normalized now, so I feel like there's less push back.

When nurses experience similar patient diagnoses and problems they gain knowledge from the repetition and feedback of children, families, and coworkers. The nurses, with experience, are able to identify typical patterns of care and recovery. Rockett (2001) investigated how nurses gain knowledge on one specific orthopedic unit. The nurses on the unit were interviewed and observed over a ten-month period of time using ethnographic methodology. Nurses were able to recognize patients who did and did not fit the typical care pathway or trajectory of recovery. This recognition resulted in skilled nurses who were able to ask questions and make important decisions to improve patient care.

Nurses were not always certain if constipation education was included in the general orientation of a new nurse. Unit specific education was incorporated into nursing education as well as leadership support:

I think the constipation part, a lot just from the unit that I work on, that since we experience a lot of patients with constipation there was a lot of in-services and on the job training and discussion of different management options on the unit, you know, that I primarily learned and through more experiences nurses and our advanced practiced nurse. Because of the widespread nature of constipation, identification and management should be a core competency for pediatric nursing practice. It was not a universal competency for nurses in this study. It is considered to be a hospital-acquired condition (HAC) in other pediatric settings, similar to falls and pressure ulcers (Lyren et al., 2017). When a problem is considered a HAC, the work to reduce the incidence of the problem can be elevated to not only a hospital wide initiative but also a national initiative. Developing a HAC to reduce the incidence and occurrence of constipation in hospitalized children could improve the well-being of hospitalized children with constipation.

## **Theme Six: Experiences Whether Good or Bad**

Care of hospitalized children with constipation is clearly challenging for pediatric nurses. Individually during the interview process, nurses communicated few overt challenging experiences of identifying and managing constipation in hospitalized children. As an aggregate sample, the frustration and discomfort of identification and management of constipation in hospitalized children emerged. Nurses were reluctant to discuss the challenges and frustrations of identifying and managing constipation in hospitalized children. When asked about challenges or frustrations of constipation management, nurses would preface their answers with a justification: “I think some of them are a little bit, I don’t want to say hesitant;” “I don’t particularly enjoy it myself either;” or “that’s the only negative attitude.” Although nurses would also tell stories about the successful experiences of positive outcomes and relationship building with children that made difficult work worth it. Nurses’ telling of the successful experiences was easier than nurses’ telling of the frustrating experiences. Nurses as a group may not be aware that constipation is a frustrating problem and “experiences whether good or bad” are a part of nursing practice.

### **It’s Exhausting**

Participants said it could be exhausting to care for hospitalized children with constipation. It’s exhausting due to difficult patients, not only children with behavioral challenges, but complex patients and families, complex work, complex thinking, and juggling the work to be done in a shift. The work shift doesn’t always go according to plan. Bowel care is low tech in the high-tech hospital environment, “like it’s not like I said the most glamorous” and constipation is often a secondary problem that becomes a primary problem. Nurses have to deal with the intimacy required of sensitive care and sensitive conversations. It takes tact, finesse,

experience, and intelligence to navigate the many roads of constipation identification and management in hospitalized children.

There are challenges for nurses in pediatric nursing care. The challenges can include communication with children, resistance of children to procedures, emotional stress due to observing children in pain, and parent interaction due to parents feeling helpless when their child is ill (Williams, 2018; Greenwood, 2018). Participants in this study did experience and verbalize the challenges of resistance to procedures, stress, and challenging parental interactions when caring for hospitalized children with constipation. The challenges of constipation expressed by participants can lead to intermittent experiences of exhaustion, expressed by nurses as well. Exhaustion when providing nursing care can be a precursor for compassion fatigue in the nursing profession (Sorenson, Bolick, Wright, & Hamilton, 2017). The participants may be at risk for the development of compassion fatigue without awareness that constipation management could be a risk factor for compassion fatigue.

Berger, Polivka, Smoot and Owens (2015) investigated compassion fatigue in pediatric nurses (n=239) using survey methodology and the Professional Quality of Life Scale (ProQOL). Compassion fatigue was measured using two scales within the ProQOL, burnout and secondary traumatic stress. The investigators found that nurses who were 18-39 years of age had significantly burnout and secondary traumatic stress scores that those who were older than 40 years of age. As well, nurses who worked on medical-surgical units had significantly higher burnout scores when compared to nurses who worked in the PICU. The investigators suggested that older nurses may have developed emotional strength or resilience to be able to manage the challenges of pediatric nursing care (Berger et al., 2015). Participants in this study though did not use words such as burnout or fatigue when caring for hospitalized children with constipation.

Participants did use words such as exhaustion and frustration when discussing constipation management. However most participants worked on medical-surgical units and were in the 18-39-year age range, which may raise their risk of compassion fatigue as described in the Berger et al. investigation. The participants would seem to be a risk for compassion fatigue with the experiences, which were described as challenging in the nurses' day-to-day patient care. These challenges serve as another barrier to successful identification and management of constipation in hospitalized children and a gap in the literature.

Participants used terms such as messy and gross when discussing rectal procedures. Nurses also said families could be grossed out by rectal procedures. Schmelzer and Wright (1996) interviewed nurses (n=24) with an average of 19 years of nursing experience about their enema administration techniques. A theme that emerged from the analysis was that of attitudes. Nurses expressed both negative and positive attitudes similar to participants in the current study using similar words of mess, smell and embarrassment (Schmelzer, Nardelli, Wilson, Mirzaei, & Long, ). Holmes, Perron, and O'Byrne (2006) wrote about disgust in nursing and the difficulties that nurses face when caring for intimate, abject body orifices, such as the anus. The authors shared that disgust in nursing is rarely examined and nurses suppress their responses of distaste and aversion. Strategies, though, are easily identified and discussed in on-line nursing forums but not researched or evident in the literature (How do you handle, 2010; Nurses and poop, 2015). Nurses need strategies to deal with the difficult issues of bowels and constipation, e.g., unpleasant sights and smells. These sensations experienced by nurses are rarely discussed in constipation education. The distasteful experiences, which are associated with constipation identification and management, need to be addressed to help all nurses manage the more negative aspects of constipation.

### **People missed it**

Nurses mentioned that their coworkers had overlooked or missed children's signs and symptoms of constipation. Experience may explain the capability of the participants to recognize the omission. The participants had learned how to incorporate identification and management of constipation into their daily practice. As well, the experienced nurses conveyed a comfort level and a practice base to be able to discuss constipation with families, physicians, and coworkers. Constipation management is an essential and unavoidable phenomenon within patient care (Berger et al., 2010; Norton, 2004; Varghese, 2013). Constipation may not be addressed by less experienced nurses until symptoms are problematic and delaying recovery which was experienced by participants in the study.

Nurses also said that some coworkers would address the constipation with easier interventions such as oral medications knowing that the patient could have benefitted from a more determined approach. Often the determined approach takes time, communication, and creativity to convince parents and children of the need to have a BM. Varghese (2013) investigated adult ICU nurse attitudes to using a bowel protocol and found many negative attitudes including incompetence, laziness, and apathy. She also found attitudes similar to the participant in this study, which influenced constipation identification and management including busyness of the patient and unit, differing nurse experience levels, and patient problem prioritization. The participants in the current study seemed to minimize the negative perspectives when compared to the attitudes of adult nurses. However, since the current study was an interview, participants may not have felt as open to share their true perspectives as one might have using survey methodology. Also, pediatric patients come in all sizes and often, incontinent children are physically easier to manage and have parents in attendance to assist with

bowel care, unlike the adult setting. Certainly, there are many differences between pediatric nursing care and adult nursing care and bowel care could be more acceptable in the pediatric nursing specialty. This area could benefit from further research.

Participants did experience omission of nursing care by their coworkers, at times, for a child's symptoms of constipation and subsequent management. Some reasons expressed for the omission included other patient priorities, parent request, forgetfulness, or waiting for one intervention to produce a result. Lake et al. (2017) investigated missed nursing care in pediatric hospital settings nationally by surveying nurses across the country about their completion of 12 different nursing activities. It was determined that 53% of nurses missed at least one nursing care activity in a shift. Fifteen percent of nurses inadequately documented nursing care and two percent of nurses left treatments and procedures uncompleted. Kalisch investigated missed nursing care in the adult hospital setting and found that recording of patient bathroom use was a more frequent area of missed care. One reason for missed care in the Kalisch (2006) study included the length of time that it would take for the intervention to occur. There was some evidence that participants in the current study had co-workers who considered hygiene to be time-consuming, "I mean I feel like some nurses may give the suppositories, but I think some of them are a little bit, I don't want to say hesitant, but they just don't necessarily want to take the time." This can be a factor on the outcome of constipation in hospitalized children by subtly influencing the nurse's attitude toward and prioritization of constipation interventions in daily practice. Bowel status can be an overlooked assessment within patient care (Dorman, 2004; Ness; 2011; Varghese, 2013). Overlooking bowel status does occur and may contribute to ongoing constipation in hospitalized children.

When nurses discovered an omission, they explained that they used this as an opportunity for a teaching moment with the coworker or developing a shift plan for the patient. Nurses mentioned it was important to maintain relationships with their coworkers especially if it was a less experienced coworker. In the previously mentioned study by Boyle et al. (2006), pediatric nurses also had the highest score for nurse-to-nurse interactions (T score  $x=69.24$ ;  $< 40 = \text{low}$ ,  $40-60 = \text{moderate}$ ,  $> 60 = \text{high satisfaction}$ ). Nurses in this study recognize the importance of interpersonal communication with their co-workers.

The patient bowel status communication most often occurred during nurse-to-nurse handoff or shift report. Nurses explained that they used the EHR and a body systems assessment to discuss bowel status in their patients during handoff. Participant nurses did not mention using a standardized tool for handoff. Some nurses used their own tool that they had developed that included last BM as an essential piece of patient information. Although there are multiple standardized handoff tools available, there is little consistency in use of standardized tools (Bakon, Wirihana, Christensen, & Craft, 2016; Riesenber, Leitzsch, & Cunningham, 2010). A standardized template has been suggested as a strategy to improve handoff communication and safety between practitioners (Mardis et al, 2017). Including bowel status in a standardized handoff tool, as several nurses in this study have done, may improve the awareness of and attention to bowel status in hospitalized children.

### **I Know It Will Help the Child**

Pediatric nurses work hard to make hospitalization less frightening for children with constipation and their families. Positive aspects of the role of the pediatric nurse in caring for hospitalized children with constipation were apparent and verbalized. The positive role aspects included knowing that sensitive care was part of the job; successful outcomes that can be

visualized; positive family feedback; gaining of expertise; ability to discuss taboo subjects and knowing that it makes a difference, getting children to laugh; relationships; excitement of accomplishment; and building competence. Many of these aspects of care are outlined in a concept analysis of professional nursing values (Schmidt & McArthur, 2017). The defining attributes of nursing values include human dignity, integrity, altruism, and justice. Throughout the interviews, pediatric nurses have provided examples of the attributes of professional nursing values. In keeping these attributes in the forefront of care, pediatric nurses may get beyond the negative aspects of care of the hospitalized child with constipation. The participant nurses also articulated antecedents to the concepts of professional nursing values that were described in the concept analysis. Professional education, affective learning, clinical experiences, professional socialization, and role models were mentioned by participants. Antecedents support the defining attributes of the overall concept. The nursing practice of the participants in the current study would illustrate professional nursing values.

Pediatric nurses have a higher percentage of BSN preparation overall in the nursing profession and BSN prepared nurses have higher professional values (Boyle, Miller, Gajewski, Hart, & Dunton, 2006; Sibandze & Scafide, 2017). In the current study, 80% of nurses were BSN prepared (Berger et al., 2010). When nurses have higher professional values, the internalization of values may assist nurses in balancing the low status that bowel care has in health care. Gallegos & Sortedahl (2015) investigated professional values in pediatric nurses using the survey methodology and the Nursing Professional Values Scale – Revised (NPVS-R). Competency, advocacy, accountability, confidentiality, and privacy were some of the highest values espoused by nurses. Nurses who had the highest scores on the NPVS-R were those who had the least amount of experience (<2 years) and the most amount of experience (>10-20 years).

The authors found that those nurses with a moderate amount of experience (3-10 years) feel competent in their nursing skills and may lack role models and experiences to expand and grow their professional values. The authors proposed that supporting nurses' practice through review of patient experiences or case studies could build their professional values. Case studies and debriefing that discussed difficult experiences with hospitalized children with constipation could build professional values and support pediatric nurses to enhance their nursing practice. Many of the participants were the nurses providing the role modeling for professional values within a difficult patient care problem of constipation. It is unknown though whether the participants possessed high professional values and were subsequently successful with constipation management or whether succeeding in constipation management contributed to improved nursing professional values.

### **Conceptual Model**

The conceptual model that was developed for the study proposal was revised after the interviews were analyzed. See Figure 2. There were five original concepts in the model that were related to the nurse, which influenced whether the child had an effective or ineffective bowel elimination pattern. The original concepts included identification of constipation, management of constipation, protocols, knowledge, and attitudes. The new concepts that emerged from the data were added to the model and included influencers of care and sensitive touch. It was clear that parents and providers could influence the outcome of bowel elimination in hospitalized children with constipation. Parents play a key role not only in the child's life but also in their child's hospitalization. Parents are information givers and decision makers that influence the care of hospitalized children. Providers order medications for children with constipation and may or may not have a good understanding of what will work best on a

specialty pediatric unit. Subsequently, parents and providers can influence the outcome of constipation both positively and negatively.

Similarly, the concept of sensitive touch with rectal procedures also influenced the outcome of bowel elimination in hospitalized children with constipation. Sensitive touch in relation to rectal procedures required for constipation produced physical and psychological reactions in nurses and children, which requires further investigation in the pediatric setting. It is important to recognize the vast number of concepts and barriers and facilitators within the concepts to understand why constipation can be so challenging for pediatric nurses. The conceptual model provides an objective display of the challenges to successful outcomes in hospitalized children with constipation.

The concept of protocols was not a strong factor in nurses' experiences so it was removed from the model. Nurses were familiar with a similar idea of order sets but the order sets primarily were for medications and did not allow for adjustment based on nurses' assessments and patients' responses. Although the concept of constipation protocols for the management of constipation in hospitalized children, it was not as strong a factor as originally described in the study proposal. The concept of protocols or order sets though is integrated into the concept of management of constipation.

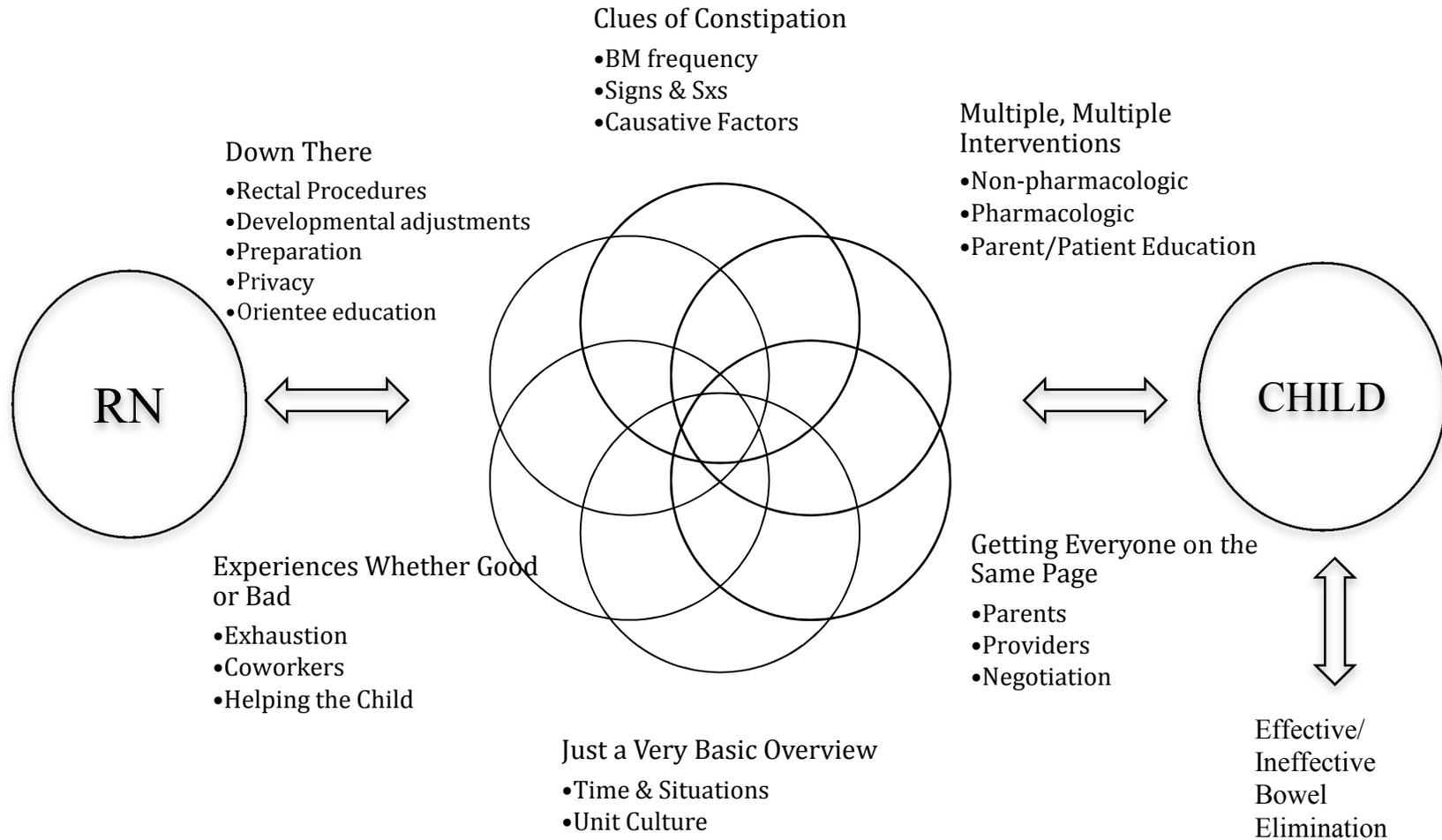
Another adaptation to the model is the networking of concepts among each other. Each concept can be an independent concept but each concept may also influence another concept, hence the interweaving conceptual circles. This is a dynamic model that may change as the phenomenon of constipation in hospitalized children is further investigated and understood. Pediatric nurses reported experiencing barriers and facilitators within concepts of the model that influence an effective or ineffective bowel elimination pattern. Nurses need to be aware of these

barriers and facilitators to effectively work with children, providers, coworkers, and parents who influence constipation identification and management. The beauty of the conceptual model is the display of the multiple factors, which influence pediatric nurses' experiences of identification and management of constipation in hospitalized children. The whole is greater than the sum of its parts.

The concepts of the theoretical framework, Theory of Planned Behavior (TPB), supported few comparable ideas within the participants' experiences. In the present study, there was not one clear behavior that emerged to influence the outcome of constipation. There were many behaviors that were necessary even within each theme that could influence the outcome of constipation. For example, in the theme of multiple, multiple interventions, nurses not only intervened (independent behavior) with non-pharmacologic interventions but also intervened with pharmacologic interventions (independent behavior) and educated patients and families (independent behavior). Other themes offered similar multiple independent behaviors which influenced the outcome of effective or ineffective bowel elimination. The multiple independent behaviors as discussed by participants in the current study may provide some explanation as to the weakness of the TPB to support successful protocol implementation in the Knowles et al. (2015) investigation. Knowles et al. attempted to influence constipation outcome with three behaviors, assessment of the patient, administration of medication, and rectal check. Although the three behaviors were discussed by current study participants, it was clear that there were multiple other influencers of care.

Figure 2. Conceptual Model – Revised

Pediatric Nurses Experiences of Identifying and Managing Constipation in Hospitalized Children



## **Exhaustive Description – Pediatric Nurses Experiences of Identifying and Managing Constipation in Hospitalized Children**

Colaizzi's method of phenomenology calls for developing a fundamental structure of the phenomenon at the completion of the analysis. The fundamental structure should be familiar to those nurses who have experienced the phenomenon. Although the participants did not review the fundamental structure, which was developed, two UBCNS's who were responsible for clinical competence on participating units did review the fundamental structure. There were/were not any changes to the structure. The UBCNS's are master's prepared nurses and could be considered as different from the sample of participants. However, four (19%) of study participants were master's prepared nurses who provided care at the bedside. As well, the UBCNS may often provide direct patient care and have familiarity with the phenomenon of constipation in hospitalized children.

Pediatric nurses care for hospitalized children with constipation on a daily basis. Bowel management is a challenging phenomenon for nurses, children and families. Nurses use many data elements, both obvious and subtle; to identify the risk and development of constipation in hospitalized children. The participants' clues of constipation included assessing children for the time since their last BM as well as the child's bowel patterns previous to hospital admission. Nurses stated that breast fed infants had more variability for a typical time frame between BMs. Children's signs and symptoms of abdominal pain, abdominal distension, and consistency of stool were also taken into account when identifying constipation. Nurses integrated children's bowel pattern and signs and symptoms with the reasons or causative factors that may underlie children's constipation.

Nurses discussed a variety of both non-pharmacologic and pharmacologic interventions for management of constipation in children. There were multiple non-pharmacologic measures to promote bowel elimination including sitting on the toilet, mobility, and abdominal massage.. In collaboration with providers, nurses utilize various pharmacologic measures to intervene when constipation is a problem. Nurses explain that oral medications are easier to administer but not always as effective as rectal medications. Nurses preferred the use of oral medications in particular Miralax<sup>®</sup>, which nurses felt was not always as useful or effective in hospitalized children. Pediatric nurses are hesitant to administer rectal medications due to the issues of sensitive touch and invasive procedures in children. Rectal medications were a challenge to administer to hospitalized children both physically and emotionally. Nurses described their practices for approaching children of different developmental levels and they expressed that often infants and children with cognitive impairment were easier to manage from a constipation standpoint. Older toddlers, school-agers and teenagers were described as having a developing social awareness of the societal taboo of poop talk that made constipation management difficult. Nurses specifically mention that school agers and teenagers were embarrassed to talk about pooping and pooping management. Nurses recognized the importance of ongoing education of both patients and families about constipation and being persistent. Nurses recognize that negotiation is required with children and parents to assist in alleviating constipation using both non-pharmacologic and pharmacologic routes. Parents, at times, can be the barriers to constipation relief.

Nurses do recognize the benefits of the rectal procedures and interventions to improve the physical wellbeing of hospitalized children with constipation. The psychological component of sensitive touch with a rectal procedure and potentially stressing the child predominated most

nurses' responses. Nurses had many caring and thoughtful responses when preparing children for rectal procedures and they spoke of integrating a developmental approach dependent on the cognitive level of the child. It was clear that infants and children with cognitive impairment were easier to approach and intervene with rectal procedures. Nurses were certain to ensure privacy during rectal procedures and sensitive touch to reduce stress in children for the best outcome in reducing constipation. The nurses also were unique in their specific approaches to teaching orientees and students when performing rectal procedures and sensitive touch.

Nurses conveyed that they received basic constipation education in their nursing school curriculum but further education was necessary to be able to identify and manage constipation competently. Nurses described that they learned most of what they know through their day-to-day experiences, ongoing longevity, and on-the-job training. Nurses also shared that certain units where children with constipation received care or were more prone to constipation also provided a setting for ongoing knowledge improvement.

Nurses discussed many experiences of the feelings and challenges of constipation management in their daily nursing practice. Overall nurses said that constipation management could often be physically and mentally exhausting. Bowel cleanouts for children with chronic constipation or prior to a procedure could be fraught with challenges of patient discomfort and anxiety. Nurses shared frustration when co-workers avoided addressing the problem or missed the signs and symptoms of constipation in children, which then delayed treatment. In contrast to the uneasy feelings, were the positive aspects of constipation management with nurses knowing that they were helping constipated children in the long run. Nurses take great personal and professional satisfaction in being able to help children with constipation by building relationships that support child well-being and promote physical and mental health with the challenging

phenomenon of constipation. Nurses felt that constipation management and the attendant interventions were just part of the job and their responsibility to promote bowel health. Nurses celebrated successes with children, families, and coworkers.

### **Implications for Nursing Practice**

The purpose of the study was to investigate pediatric nurses' experiences in identifying and managing constipation in hospitalized children. The experiences that were shared by nurses uncovered many barriers and facilitators to the nursing care of hospitalized children with constipation. The barriers and facilitators will be discussed by theme with implications for nursing practice, policy recommendations, and further research. The participant interviews yielded a rich amount of data that will inform nursing practice. Although the preconceived gaps in nursing practice may still exist, the data provide direction to improve nursing practice and child well-being. Barriers and facilitators to identification and management of constipation in hospitalized children were elucidated in this study. Also, the barriers and facilitators provide direction for policy implications direction as well as further research for the phenomenon of constipation in hospitalized children.

#### **Theme One: Looking for clues of constipation**

Pediatric nurses were comprehensive in their identification of constipation in hospitalized children. One assessment measure that was mentioned by nurses was that of consistency or texture of the BM. Nurses knew if the BM was hard that there was a higher risk of constipation. An objective measure of stool consistency, the BSFS, could assist nurses in objectively measuring BM consistency. As well, if the BSFS were to be posted in patient bathrooms, there could potentially be more conversations with children and parents about appropriate BM's. Children over the age of 6 years were able to reliably describe their BM

consistency using the scale (Lane et al., 2011). Nurses would need education on understanding the BSFS to educate children and families but open conversation about BM consistency is a start to improving understanding of constipation in the hospital setting.

Although nurses' assessment experiences were thorough, the nurses did not use a systematic framework to evaluate the patient's risk for constipation. Nurses did ask about the child's home bowel routine and last bowel movement and were cognizant of subtle signs of distress in children. Though children come in all sizes and abilities and at times can be difficult to assess. Nurses assessed children individually, which is important, but having a sense of the aggregate may delineate constipation risk more discretely in different populations and ages of children. A constipation risk assessment tool for pediatric oncology has been used with children but children found it difficult to understand (Woolery et al., 2006). The pediatric oncology tool could provide a starting point for development of a tool. Use of a constipation risk assessment tool could assist pediatric nurses in more carefully assessing children for risk of constipation. A risk assessment tool may also assist in the prevention of constipation in hospitalized children as well. A constipation risk assessment tool, which could be developed for the electronic health record might particularly assist less experienced nurses who are not as familiar with the phenomenon of constipation in hospitalized children. The risk assessment tool could automatically populate within a gastrointestinal system assessment and issue an alert based on entered criteria to alert nurses of constipation risk. Standard nursing interventions for constipation prevention and management could also be developed based on individual child criteria entered by the nurse.

### **Theme Two: Multiple, multiple interventions**

Pediatric nurses had a solid basic understanding of non-pharmacologic and pharmacologic interventions for hospitalized children with constipation. The nurses did not express a systematic approach to interventions. There could be certain non-pharmacologic interventions that could be standard such as proper pooping positioning, sitting on the toilet daily, mobility, and abdominal massage. The non-pharmacologic interventions need to be known by all pediatric nurses. The non-pharmacologic strategies could be applicable to all children and individualized as needed based on child age, cognitive ability, and diagnosis.

Pediatric nurses would benefit from routine, ongoing education related to laxative medications. Since it is often nurses who are asked what medications they prefer to use, it would be the best and safest care if nurses had a firm grasp on the specific actions of different classes of laxatives. Nurses are knowledgeable about indications, dosing, and assessment for familiar medications but can lack knowledge on medication mechanism of action (Ndosi & Newell, 2009). Knowledge of medication mechanism of action would be important concepts for nurses to know. This is especially true if the nurses are being asked for recommendations for laxative medications from resident physicians for patients.

### **Theme Three: Getting everyone on the same page**

Nurses shared their significant skill for negotiation with children and parents regarding constipation management. There are various relationship dynamics that change when children are hospitalized and parents relinquish day-to-day control over their child. Parents who are accustomed to providing care to their child often cede care to the nurse during an inpatient hospitalization. Nurses need to be aware of the challenges associated with parents and hospitalized children including delicate power struggles, knowledge deficits, and fear of both parent and child. It would be important for nurses to learn rapid relationship building skills to

supplement their negotiation skills that were necessary for constipation management. Building relationships with families can lead to better outcomes and improved family satisfaction (Cimke, 2017; Goldfarb, Bibas, Bartlett, Jones, & Khan, 2017).

Building relationships requires a certain amount of emotional intelligence for nurses to be alert to nuances in verbal and non-verbal communication that may occur with parents and hospitalized children. Promoting emotional intelligence in nurses may improve working relationships, improve retention, and make patient care safer (Codier & Codier, 2017). There may be opportunity in the study setting to engage nursing staff in enhancing their emotional intelligence skills. The setting for this investigation employs Clinical Nurse Specialists (CNS) on the inpatient units. The CNS's support the clinical practice of the unit staff to ensure competence and safety. It is the unit based CNS who could promote reflection and self-awareness with family and provider relationships in the venues of staff meetings, webinars, or staff education. CNS's may be in the best position to promote emotional intelligence with staff nurses especially during challenging interventions.

#### **Theme Four: Down there**

Pediatric nurses were hesitant to use a rectal check as an assessment tool to evaluate constipation. The use of rectal assessments can cause uncertainty for nurses. It would be important for nurses to understand the physiologic implications that are gathered through a rectal assessment. There are child considerations when performing rectal procedures but nurses need to know that children tolerate rectal procedures when the children receive adequate and appropriate preparation. Some nurses did have a sense for rectal procedure preparation but clearly a simulation experience may benefit nurses for different patient care situations. The simulation experience could assist less experienced nurses and nurses who are less comfortable

in performing rectal procedures to be prepared for the situation. The use of simulation has been increasing in recent years and has been beneficial for student nurses in other sensitive situations such as bathing patients and performing urinary catheterizations (Crossan & Mathew, 2013).

The simulation experience would then be standardized to all nurses in the institution. This simulation could be an ongoing or yearly competency for nurses. The yearly competency would build on previous experiences. As a simulation debrief or reflection is a step in the simulation teaching model, self-awareness on the part of the nurse could be addressed as well. The 'see one, do one, teach one' model has been successful for nurse preceptors in this study but the simulation would ensure standardization of steps in the procedure and would include emotional assessment and preparation of the child. It would require nursing assessment and judgment to adapt the procedure as necessary for the different developmental perspectives of children.

#### **Theme Five: Just a very basic overview of constipation**

Nurses learn in stages. Fundamental knowledge is obtained in the pre-licensure nursing program. Further knowledge is gained by personal experience and nursing practice. The nursing profession needs to ensure that the knowledge acquired in the practice setting is the correct knowledge and evidence based. Simulation experiences for intimate care with undergraduate nursing students have been instituted with success (Reid-Searl & O'Neill, 2017a). Students said they felt better prepared to provide intimate care and more confident in working with the patient after the simulation education (Reid-Searl & O'Neill, 2017a). Health care settings have also used simulation as a new model for skill acquisition (Bailey & Mixer, 2018) Constipation is a widespread nursing care problem and could be developed into a simulation experience in nursing school curriculums, health care institution nursing orientations, or ongoing competencies for

nurses caring for hospitalized children. Constipation is a basic nursing care problem and the attendant issues of constipation should be identified as a core competency for nursing practice.

Nurses experienced nuances to constipation identification and management on every patient care unit, e.g., different patient ages, different patient sizes, different medications. Unit differences could be investigated to enable new nursing staff and transfer nursing staff to be knowledgeable of the patient distinctions on each specialty unit. The specialty unit knowledge is important because there may be differences in constipation physiology in patients cared for in the pediatric ICU versus children who receive care on an acute care specialty (Fruhwald & Kainz, 2010; Vincent & Preiser, 2015) There are additional physiologic stressors such as mechanical ventilation, decreased nutritional intake, and presence of sepsis, which can influence the GI tract when patients require care in the ICU (Dhaliwal, Raghunathan, Kehar, & Sharma, ; Sharma, Kaur, & Garg, 2007). Therefore, the nursing identification and management of constipation may be different for ICU patients than patients who receive care in the acute care setting. It would be important for nurses to be aware of the distinction in physiology between typically higher stressed patients as are cared for the in pediatric ICU.

#### **Theme Six: Experiences whether good or bad**

Nurses spoke of challenges and frustrations in managing constipation in hospitalized children. Challenges and frustrations in practice can be acknowledged by reflecting on experiences. This can be important as nurses' gain experience and process those experiences. Reflection in pediatric nursing practice has been recommended to support recruitment and retention in pediatric nursing (Gallegos & Sortedahl, 2015). Nurses need ongoing support to process challenging procedures especially when those procedures are mentally and physically demanding such as experienced with rectal procedures. When nurses can reflect on stressful

experiences, there can be improved self-awareness during future experiences (Miraglia & Asselin, 2015). This improved self-awareness can build on the aesthetics and personal knowledge pattern of knowing in nursing by promoting empathy and compassion (Hayes, Jackson, Davidson, Daly, & Power, 2017). The practice of reflection can foster positive outcomes in hospitalized children with constipation. It would be beneficial to build in reflective experience/case review with difficult patient care situations to build confidence in nursing practice.

### **Implications for Nursing Education**

Theme four regarding sensitive touch and theme five regarding nurses' knowledge offer direction for nursing education. The teaching technique of simulation has been discussed earlier but simulation is clearly in the realm of nursing education. The use of simulation has been implemented in both the academic setting and practice setting (Bailey & Mixer, 2018; Harder, 2010). Simulation for sensitive touch education has been implemented in the nursing academic setting with students feeling they are better prepared for intimate patient care (Reid-Searl & O'Neill, 2017b) Simulation continues to be used in nursing education to provide more hands-on experiences of key patient care skills such as intimate care and medication administration and promotes safer nursing practice. Simulation for sensitive touch procedures in the pediatric setting would be a reasonable educational offering for orientees and experienced nurses.

General constipation content would be a reasonable educational need for nurses' ongoing or yearly competency requirements. The yearly education could be system wide to establish a baseline expectation for nursing knowledge and practice. The constipation content could then be individualized depending on the needs of individual patient care units. (Schanne et al., 2016) outlined a method for determining a system wide competency. Schanne et al. (2016

recommended that necessary ongoing competencies are prioritized by asking whether the information is new, changing, high risk, or problematic. Based on the results of the prioritization of needs, one core competency is determined and is completed by every nurse in the institution. The competency is standardized, as is the verification for skill acquisition. Unit specific competencies still exist and are determined locally. The identification of constipation as a priority in the high risk or the problematic area could be accomplished by a needs assessment of staff nurses and nursing leadership. Evidence presented by this investigation would support the need for a system wide constipation competency. As well, data on the incidence of constipation in hospitalized patients could be collected on each unit to support the need for education. The constipation competency could include multiple units of content that align with the themes that resulted from the current study.

### **Implications for Nursing Policy**

There are several pediatric hospital acquired conditions (HAC) where institutions are required to monitor and reduce, if not eliminate the occurrence of the condition. The Solutions for Patient Safety (SPS) collaborative oversees this quality improvement work. HAC's in the pediatric setting include: falls, ventilator acquired pneumonia, central line associated blood stream infection, medication errors, and pressure ulcers among others (Lyren et al., 2017). When a patient care problem is considered as a HAC, an institution guarantees considerable resources to rectify and improve the problem (Lyren et al., 2017). Resources include nursing and provider commitments, data management commitments, and other resource commitments. A HAC bundle of interventions is developed to address the problem area. A bundle of interventions is several evidence-based interventions that must be performed together for the outcome to be most effective to reduce or eliminate the incidence of the problem (Frank et al., 2017). A pressure

ulcer bundle includes elements, which address skin assessment, medical device rotation, patient repositioning, correct bed mattress, and moisture management. Nursing interventions address each element, e.g., patient positioning requires nurses to turn patients every two hours and keep the head of the bed less than 30 degrees. Quality improvement methodology is used to evaluate the bundle interventions and make ongoing changes. Bundles of interventions have been developed to address the problem of constipation related to narcotic administration in hospitalized children (Sharek et al., 2008). The key intervention for the bundle was an electronic alert for physicians to order a laxative when a narcotic was ordered for the patient. Although the incidence of constipation in children who received narcotics was decreased there were not any nursing interventions included in the bundle. There are concerns related to the automatic ordering of laxatives to prevent constipation due to issues of ineffectiveness of certain laxatives and side effects of laxatives (Jackson, Cheng, Moreman, Davey, & Owen, 2016; Linton, 2014). It would be reasonable to consider elevating constipation to the level of a hospital-acquired condition (HAC) but it would be necessary to include nursing interventions as well. The current study contributes information to support the need to include non-pharmacologic interventions in a bundle to effectively manage constipation. Constipation causes pain and discomfort, results in overuse of hospital resources, and reduces child well being. It continues to be an overlooked system problem that could benefit from the HAC systematic process for change and monitoring.

Similarly, there are many nurse sensitive indicators, which are measured in hospitalized children and reflect the quality of nursing care (Montalvo, 2007). The National Database of Nursing Quality Indicators (NDNQI) monitors pressure ulcers and falls in the pediatric care setting among other indicators. There is overlap between NDNQI and SPS initiatives, which can

integrate the work that is needed to manage such a large quality project. There is a process for developing an indicator to be considered for improvement (Montalvo, 2007). To date, constipation has not been raised to this level of improvement. Although, constipation has been considered an adverse drug event (ADE) in the patient safety literature (Stockwell et al., 2015). It may be that constipation needs a groundswell of nursing commitment to be considered a HAC or NDNQI quality indicator. The results of the current study could provide evidence of multiple factors that influence the success or failure of interventions for constipation in hospitalized children.

An institutional policy and procedure is necessary as well to guide and protect pediatric nurses when performing sensitive procedures. There is evidence for a sensitive procedures type of policy when gynecologic exams are performed in the inpatient pediatric setting. As well, a policy exists which outlines the urinary catheterization procedure in children, also a sensitive touch procedure (Children's Hospital of Wisconsin, personal communication, 2018). A sensitive touch or rectal procedures policy would include the definition of sensitive touch and the steps necessary to approaching the child & family using a developmental framework. Other elements of the policy and procedure would include definitions of rectal procedures, e.g., enemas and rectal checks, as well as typical classes of laxative medications. It would be important to include that sensitive touch is a standard nursing assessment measure for routine nursing practices where rectal procedures are indicated. Policies do exist for rectal irrigations but are missing essential elements of nursing aesthetics and personal knowledge. The inclusions of the preparation of the patient and the criteria for not initiating a procedure or stopping a procedure would assist nurses to reflect on the sensitive procedures to promote continuous improvement in practice. Nursing values would also be supported to improve the care of hospitalized children with constipation.

## **Implications for Nursing Research**

There are several areas for nursing research that have been generated by the results of this study. Each theme has produced ideas that add to a body of research in the phenomenon of hospitalized children with constipation. The qualitative methodology uncovered questions and answers that were not previously known through quantitative investigation, particularly in pediatrics (Knowles et al., 2015; Varghese, 2013). Nurses are a fundamental component to identification and management of constipation in hospitalized children. So much of management is focused on medications but we have learned that there can be intervening forces that influence outcome such as parents, procedures and perceptions. Investigation of these other forces such as parental involvement, nursing comfort level with sensitive touch procedures, and patterns of knowing specific to constipation could improve the outcomes in hospitalized children with constipation. Investigation into the variance that parents, procedures, and perceptions may contribute to outcomes in constipation would be important. Knowing the variances of parents, procedures, and perceptions could assist in targeting the problematic areas of constipation treatment in hospitalized children.

Identification of constipation risk and constipation in hospitalized children needs to be strengthened and standardized for the inpatient setting. The gap in constipation identification could be addressed by the development of a pediatric constipation risk assessment tool. Several adult constipation risk assessment tools could provide the groundwork for the pediatric tool development. Similar to tools that evaluate pediatric risk for pressure ulcers and falls, a constipation risk assessment tool would assign points for degree of risk. Similarly, the tool that evaluates children for risk of pressure ulcer development, the Braden Q scale directs nurses to assess the patient in seven areas. The seven areas are nutrition, mobility, activity, sensory

perception, tissue perfusion, moisture, and friction. Points are determined based on the nurse's assessment of each area and added for a total score and a degree of risk for pressure injury development is assigned (Noonan, Quigley, & Curley, 2011) Interventions to reduce the risk of pressure injury development are then initiated based on overall risk score and individual area score. A similar system could be developed for constipation risk based on the themes developed from the current study. Constipation interventions would then be based on degree of risk as is done with other risk assessment tools for an overall score and individual theme score. The constipation risk assessment tool could support less experienced practitioners to acknowledge an under recognized problem earlier in the child's hospitalization. If constipation risk in hospitalized children is recognized earlier, perhaps there would be less need for additional interventions to manage constipation and children may return to or maintain bowel regularity

Nurses in the current study did not discuss use of any tools to define BM consistency. Description of BM consistency can delineate stool transit time to help further define constipation risk and constipation (Russo et al., 2013). The Bristol Stool Form Scale (BSFS) has been used as a reliable objective tool for measurement of stool consistency and gastrointestinal transit time in children (Russo. et al., 2013). Implementation of the BSFS for use as a teaching and constipation conversation tool could be investigated in the pediatric setting. Nurses could be educated on the purpose and use of the BSFS. The BSFS could be posted in every patient bathroom. Nurses could then use the BSFS to educate families about stool consistency, definitions, and interventions. Pre and posttests could be performed on nurse knowledge and a knowledge survey could be completed with families. The outcome to be measured would be increased knowledge and awareness of stool forms, stool forms of concern, and recommended

management. It would also be important to further investigate the factors related to parental barriers and facilitators to constipation identification and management.

Bedside nurses have a close relationship with children and families where the nurses know intimate personal details of patients and families including bowel patterns. Bedside nurses are in the ideal position to manage uncomplicated constipation in hospitalized children. Nurses present the ideal position because of the close relationship and requirement for assessment of physical and psychological status of children and families throughout a nursing shift. An algorithm or protocol could be developed that guides nurses on management steps based on certain assessments variables. Outcomes that could be measured include: incidence of constipation, initial identification of constipation, interventions instituted, and time to first BM. There are studies regarding nurse led protocols for constipation in the ambulatory setting and nurse led feeding protocols in the pediatric ICU that could form a framework for further study (Ang et al., 2016; Houghton, Horgan, & Boldy, 2016).

Sensitive touch was an important concept in this study and nurses may have mistaken perceptions of children experiences related to rectal procedures. It would be important to investigate child experiences to understand their feelings and suggestions for acceptable outcome. Child experiences could be compared with nursing assessments to understand nursing perceptions of the child experience. Similarly, the procedure could be observed for for predetermined essential elements of procedural preparation and child anxiety during sensitive procedures. The observation investigation of sensitive procedures could assist nurses in determine the appropriate techniques for differing ages and stages of child development. Finally, a recommendation to investigate constipation interventions as the interventions relate to nurse

experience to understand how nurses gain knowledge and comfort with management of constipation in hospitalized children.

### **Limitations**

This study had a small sample size as is typical for qualitative investigations. However, qualitative analysis allows for a deeper understanding of the phenomenon under investigation. The stories that were shared by participants in this study uncovered facilitators and barriers in the identification and management of constipation in hospitalized children that were previously unknown. The participants were also able to convey a depth of experience, which enhanced the understanding of the phenomenon. Adequate sample size is also determined by saturation of data. Data saturation in this study was achieved through similarity of participant responses. No new information was learned during the interview process of the final participants. A review of phenomenological studies in nursing demonstrated a mean of 17 interviews (range 10-40 interviews) (Burns et al., 2014; Saiani et al., 2008; Wilby, 2005; Strahan et al., 2005; Friedrichsen, & Erichsen, 2004; Griffiths & Taylor, 2005). The current study had a sample slightly larger at 21 interviews. All participants were female however the high number of females is representative of the nursing profession in general.

Recruitment of participants was difficult perhaps due to the sensitive subject of constipation. Although study participants were also required to be interviewed outside of work responsibilities which may have influenced willingness or availability to participate. Study participants did represent most units in the hospital, which provided a variety of both constipation experiences and nursing experiences. There was frequent follow up and engagement with the unit-based CNS group to encourage participation. The use of the permission to contact form increased participation from nursing staff

The interview process was difficult for me. I felt obliged to the nurses since they were participating on their own time, often after a 12-hour shift or on their day off. Also, during the initial interviews, I would ask close-ended questions which cut off conversation and elaboration of nurses' experiences. My major professor reviewed and coached me through improved interviewing skills particularly with the simple statement, "tell me more about that." I could hear improvement in my interviewing skills as the investigation progressed and through the reading and re-reading of the transcribed interview. The qualitative methodology allowed nurses to tell their stories and it is unlikely that the theme of sensitive touch would have emerged in a quantitative methodology. Knowles et al. (2015) attempted to understand rectal procedures using survey methodology and was not able to describe the reluctance to perform rectal procedures.

The interviews generated a vast amount of data, which was difficult to reduce in a seldom researched area of nursing practice. Future qualitative investigations into the topic of hospitalized children with constipation would benefit from a team of researchers to analyze the data. A team of investigators may be able to add depth and greater meaning to the analysis. As a student investigator, data analysis decision-making was challenging to determine independent themes. As portrayed in the conceptual model, the entire concept of hospitalized children with constipation is intertwined with independent and interdependent themes. Distinguishing between interdependent concepts was problematic. Communication is an example of an interdependent subtheme. Nurses communicated with parents and providers to "get everyone on the same page." However, nurses also communicated among each other when coworkers overlooked the identification and management of constipation in the hospitalized child described under the

theme of “experiences whether good or bad.” A team of investigators would be able to discuss the nurses’ experiences to determine independence or interdependence of themes.

## **Conclusions**

The purpose of this study was to investigate pediatric nurses experience of identifying and managing constipation in hospitalized children. Although constipation has been investigated within the nursing framework there was scant literature that described pediatric nurses’ experiences in the inpatient setting. This study uncovered a wealth of experiences that influence the outcome of constipation in hospitalized children. Constipation identification and management is so much more complex than simply ordering a medication. The nurses in this study experienced many barriers and facilitators to successful constipation management. Nurses in this study shared a breadth and depth of awareness of the importance of identifying and managing constipation in hospitalized children. In sharing their experiences, pediatric nursing practice will be better informed. As well, nurses’ persistence and presence to help improve the well-being of hospitalized children with constipation was apparent.

The current qualitative investigation sets the stage for implementing nursing interventions that could help reduce anxiety in children and families who are unfamiliar with and afraid of constipation. The results of this investigation also provide a framework for future investigations into the individual themes, which were uncovered through the participants’ experiences. The non-pharmacologic interventions of knowledge, preparation, confidence, relationship building skills, negotiation, and humor go a long way in helping a children and family understand what is happening in the body. It is surprising how important self-awareness and self-reflection by the nurse is to helping children and families overcome challenging problems. Nurses shared

experiences of those successes and could finesse their care delivery to improve the outcome for the long term. This is especially important in the sensitive issue of pediatric constipation.

A nurse shared her experience of the ebb and flow of negotiation:

It's just kind of negotiating with them.... Don't just like run in there and feel like that since it's ordered [an intervention] you have to give it right there that minute. That's what I think, just kind of negotiate. But at the same time, not negotiating to the point where you don't do the thing, or have an alternative plan.”

Nurses are the negotiators of care.

Table 1

*Participant Demographic Characteristics (N = 21)*

November 2016 through May 2017		n (%)
<b>Age</b>		
20 to 29 years		6 (29%)
30 to 39 years		7 (33%)
40 to 49 years		4 (19%)
50 to 59 years		3 (14%)
60 to 69 years		1 (5%)
<b>FTE</b>		
Full time		11 (52%)
Part time		10 (48%)
<b>Unit Type</b>		
Acute Care		17 (81%)
Critical Care		4 (19%)
<b>Certification</b>		
Certified		12 (57%)
No Certification		9 (43%)
<b>Educational Preparation</b>		
Baccalaureate		16 (76%)
Masters		4 (19%)
Diploma		1 (5%)

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## Appendices

### Appendix A:

#### UWM IRB Approval



#### New Study - Notice of IRB Exempt Status

**Meissa Spadauda**  
*IRB Manager*  
Institutional Review Board  
Engelmann 270  
P. O. Box 413  
Milwaukee, WI 53201-0413  
(414) 229-3173 phone  
(414) 229-6729 fax

**Date:** October 14, 2016

**To:** Julia Sneath, PhD  
**Dept:** College of Nursing

**Cc:** Eileen Sherburne

**IRB#:** 17.093

**Title:** Pediatric Nurses Experiences of Identifying and Managing Constipation in Hospitalized Children

<http://www.irb.uwm.edu>  
[msp@uwm.edu](mailto:msp@uwm.edu)

After review of your research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol has been granted Exempt Status under **Category 2** as governed by 45 CFR 46.101(b).

This protocol has been approved as exempt for three years and IRB approval will expire on **October 13, 2019**. If you plan to continue any research related activities (e.g., enrollment of subjects, study interventions, data analysis, etc.) past the date of IRB expiration, please respond to the IRB's status request that will be sent by email approximately two weeks before the expiration date. If the study is closed or completed before the IRB expiration date, you may notify the IRB by sending an email to [irbinfo@uwm.edu](mailto:irbinfo@uwm.edu) with the study number and the status, so we can keep our study records accurate.

Any proposed changes to the protocol must be reviewed by the IRB before implementation, unless the change is specifically necessary to eliminate apparent immediate hazards to the subjects. The principal investigator is responsible for adhering to the policies and guidelines set forth by the UWM IRB, maintaining proper documentation of study records and promptly reporting to the IRB any adverse events which require reporting. The principal investigator is also responsible for ensuring that all study staff receive appropriate training in the ethical guidelines of conducting human subjects research.

As Principal Investigator, it is also your responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities which are independent of IRB review/approval (e.g., [FERPA](#), [Radiation Safety](#), [UWM Data Security](#), [UW System policy on Prizes, Awards and Gifts](#), state gambling laws, etc.). When conducting research at institutions outside of UWM, be sure to obtain permission and/or approval as required by their policies.

Contact the IRB office if you have any further questions. Thank you for your cooperation and best wishes for a successful project

Respectfully,

## Appendix B:

### CHW Deferral Memo

● Re: IRB deferral form (4)

People ★

● **Melissa C Spadanuda** <spadanud@uwm.edu>

Jun 23 at 12:53 PM ★

To Eileen Cecile Sherburne

CC Julia A Snethen, Jirovec, Derek

Good Afternoon,

The purpose of this email is to notify you that the CHW IRB has deferred IRB review and oversight of the following study to the UWM IRB: "Pediatric nurses experiences of identifying and managing constipation in hospitalized children."

This means that:

1. You must submit your study to the UWM IRB for review using IRBManager. See our website for more details (<http://www4.uwm.edu/usa/irb/researchers/irbmanager.cfm> )
2. No IRB applications need to be submitted to the CHW IRB. The UWM IRB will provide oversight for the life of the study.

If you have questions about this email or the UWM IRB submission process, please feel free to contact me.

Best regards,  
Melissa

**Appendix C:**  
**CHW Approval letter**



September 15, 2016

Eileen Sherburne  
MS 783

Dear Eileen,

Thank you for allowing me the opportunity to review the proposed 'Pediatric Nurses Experiences of Identifying and Managing Constipation in Hospitalized Children' study. Based upon a review of the proposal, I am authorizing the Human Resource approval necessary for the Institutional Review Board. In addition, I would like to advise that age categories are added to the questionnaire such as: 20-29 years, 30-39 years, 40-49, etc.

If you have any questions, please contact me at 414-266-2266. I wish you success with your research.

Sincerely,

A handwritten signature in black ink, consisting of a stylized, cursive name.

**Appendix D:  
Recruitment Flyer**



## Constipation

### Identification & Management

*I am looking for direct care nurses to interview about how you identify and manage constipation in children who are hospitalized. Constipation can be a difficult problem for children and challenging for nurses who are providing care. I am interested in learning about your experiences in caring for hospitalized children who are constipated.*

*The interview will require approximately 1 hour of your time. If you have further questions you can contact your Unit-based CNS or if you are interested in setting up an interview, contact Eileen Sherburne at [sherbur4@uwm.edu](mailto:sherbur4@uwm.edu)*

## Appendix E:

### Newsletter Item and Email message

#### **Pediatric Nurses Experiences of Identifying and Managing Constipation in Hospitalized Children**



I am completing my PhD dissertation, which includes my investigation of pediatric nurses experiences of identifying and managing constipation in hospitalized children. I am looking for direct care nurses to interview about these experiences. Constipation can be a difficult problem for children and challenging for nurses who are providing care. I am interested in learning about your experiences in caring for hospitalized children who are constipated. The results of this qualitative study may help pediatric nurses learn successful and unsuccessful practices in caring for hospitalized children who are constipated. The interview will require approximately 1 hour of your time. If you have

further questions you can contact your Unit-based CNS or if you are interested in setting up an interview, please contact Eileen Sherburne at [sherbur4@uwm.edu](mailto:sherbur4@uwm.edu)

## Appendix F:

### Permission to Contact Form

# Pediatric Nurses Experiences of Assessing and Managing Constipation in Hospitalized Children Volunteers Needed to Participate in Study Project

#### Why do I want to do this project?

Constipation can be a difficult problem for children and challenging for nurses who are providing care. I am interested in learning about your experiences in caring for hospitalized children who are constipated. The overall purpose of the study is to inform nursing practice and improve well-being of hospitalized children.

#### What does the project involve?

I am looking for direct care nurses to interview about how you identify and manage constipation in children who are hospitalized. I want to hear your stories. The interview will require approximately 1 hour of your time.

#### What do I need to do?

If you are interested in learning more about this study, sign the "Permission to Contact" form and return it to your Unit-Based CNS. I will then contact you to discuss the study. Signing this form only means that you want information about the study not that you are consenting to participate in the study.

### Permission to Contact

I, \_\_\_\_\_ (RN name) give permission to Eileen Sherburne to contact me regarding participation in the study, Pediatric Nurses Experiences of Assessing and Managing Constipation in Hospitalized Children. I realize that I will be given more information on this study during this contact. After obtaining more information I may or may not choose to participate in the study.

RN Name: \_\_\_\_\_

RN email: \_\_\_\_\_

RN phone number: \_\_\_\_\_

---

RN Signature

---

Date

## Appendix G:

### Consent Form

#### University of Wisconsin – Milwaukee Consent to Participate in Interview Research

**Study Title:** Pediatric Nurses Experiences of Identifying and Managing Constipation in Hospitalized Children

**Person Responsible for Research:** Julia Snethen, PhD, College of Nursing and Eileen Sherburne, MSN (PhD student – College of Nursing)

**Study Description:** The purpose of this study is to investigate pediatric nurses experiences in identifying and managing constipation in hospitalized children to gain an understanding of both successful and unsuccessful approaches to resolving the problem of constipation. As well, there may be facilitators and barriers to resolving the problem of constipation in the hospitalized child, which pediatric nurses encounter in their daily practice. Knowledge of the barriers and facilitators would inform pediatric nurses of improved approaches to the challenge of constipation and thereby improve outcomes and well being in children not only in the hospital for the short term but outside of the hospital in the long term. Approximately 30 subjects will participate in this study. If you agree to participate, you will be asked about your experiences in providing care to hospitalized children who were constipated. Some questions might include how you recognized that the child was constipated, what you did after you noted the child was constipated, and or any attitudes or perceptions that you felt while providing care to hospitalized children who are constipated. This will take approximately 1 hour of your time. The interview will take place in a private location and it will be audio recorded.

**Risks / Benefits:** Risks that you may experience from participating are some of the questions about providing bowel care to children could make you embarrassed or uncomfortable. Perhaps there may be a memory that comes back that makes you feel sad or embarrassed when caring for a child who was constipated although these risks are considered minimal. There are no costs to participating. Benefits of participating include being able to talk about and share your nursing practices and how you help hospitalized children who are constipated, participating in this study may help other nurses learn about the ways that nurses help hospitalized children who are constipated in the future, and participating in this study may help hospitalized children who are constipated because the nurses who care for them may be better informed and help to improve children's well-being.

**Confidentiality:** During the interview your name will not be used. Your interview transcript will be identified by a number that will be associated with the demographic profile that you completed prior to the start of the interview. Your responses will be treated as confidential and any use of your name and or identifying information about anyone else will be removed during the transcription process so that the transcript of our conversation is de-identified. All study results will be reported without identifying information so that no one viewing the results will ever be able to match you with your responses. Direct quotes may be used in publications or presentations. Data from this study will be saved on UWM server OneDrive, a UWM online storage site used for collaborative work. The hard copy demographic information will be kept in a locked file cabinet in the locked office of Eileen Sherburne until the completion of the study. When the study is

completed, the demographic files will be destroyed. Only Eileen Sherburne or Julia Snethen will have access to your information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review this study's records. Audio recordings will be destroyed at the completion of the study.

**Voluntary Participation:** Your participation in this study is voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision will not change any present or future relationships with the University of Wisconsin Milwaukee or Children's Hospital of Wisconsin. There are no known alternatives available to participating in this research study other than not taking part.

**Who do I contact for questions about the study:** For more information about the study or study procedures, contact Eileen Sherburne at [sherbur4@uwm.edu](mailto:sherbur4@uwm.edu) or 414-520-8264 or Julia Snethen at [julia@uwm.edu](mailto:julia@uwm.edu) or 414-229-5505.

**Who do I contact for questions about my rights or complaints towards my treatment as a research subject?** Contact the UWM IRB at 414-229-3173 or [irbinfo@uwm.edu](mailto:irbinfo@uwm.edu).

**Research Subject's Consent to Participate in Research:**

To voluntarily agree to take part in this study, you must be 18 years of age or older. By verbally agreeing to the information in this consent form, you are giving your consent to voluntarily participate in this research project.

**Appendix H:**  
**Demographic questionnaire**

Pre – Interview Demographics

1. Gender
  - a. Female
  - b. Male
2. Length of experience as a nurse
  - a. \_\_\_\_\_yrs
3. Length of experience in pediatrics
  - a. \_\_\_\_\_yrs
4. Length of employment on current unit
  - a. \_\_\_\_\_yrs
5. Current employment
  - a. Full time
  - b. Part time
6. Unit type
  - a. Critical care
  - b. Acute care
7. Age:
  - a. 20-29 year
  - b. 30-39 years
  - c. 40-49 years
  - d. 50-59 years
  - e. 60-69 years
8. Highest level of education
  - a. Associate degree
  - b. Bachelors degree
  - c. Master degree
9. Certification

- a. Yes
- b. No

10. Number of patients you care for per week who are constipated

- a. \_\_\_\_\_

11. Percent of patients who you care for who are constipated.

- a. \_\_\_\_\_

12. Did you receive education about constipation

- a. Nursing education            yes/no
- b. Employer education        yes/no
- c. On your own                    yes/no

**Appendix I:**  
**Interview Guide**

Thank you for agreeing to talk with me about the nursing identification and management of constipation. I hope the result of these interviews is a better understanding of the experiences of nurses with sensitive issues of basic nursing care. The interview may take about 1 hour and I appreciate your time. I have a demographic sheet that I am asking everyone to complete. The demographics information helps me to understand the entire make up of the participant group. I have a number of questions developed for the interview but this is also for you to share your experiences so depending on your stories I may or may not ask you to elaborate on your stories. The interview will be recorded. So to get started...

**Initial questions**

Tell me about your educational experiences of learning about or gaining knowledge about caring for patients with constipation.

When did you consider the patient to be constipated? What is your definition of constipation?

What is it like to interact with a child who is constipated?

Tell me about your experiences of identifying a patient with constipation

Tell me about your experiences of managing a patient with constipation.

Tell me about attitudes that you experienced in caring for children who are constipated?

Tell me about patient experiences that stand out of patients you have cared for who were constipated?

**Intermediate questions**

Some nurses have had some challenges with constipation how have you effectively managed constipation.

Tell me about your experiences where you may have had difficulty or challenges when intervening when the patient may require treatment for constipation?

**Ending questions**

Tell me three things that would be helpful for me to ask the next nurse.

Was there anything that made you uncomfortable or feedback you would like to share?

## Curriculum Vitae

Eileen C. Sherburne, MSN, ACNS-BC, FNP-BC, CRRN, CNRN, CPN, WCC

### **EDUCATION:**

- |      |        |  |
|------|--------|--|
| 2000 | F.N.P. | University of Wisconsin School of Nursing,<br>Milwaukee, WI<br>Family Nurse Practitioner Certificate Program |
| 1983 | M.S.N. | Yale University School of Nursing<br>New Haven, CT<br>Clinical Nurse Specialist - Neurosciences              |
| 1977 | B.S.N. | University of Wisconsin School of Nursing,<br>Madison, WI  |

### **PROFESSIONAL EXPERIENCE:**

- |              |  |
|--------------|--|
| 1989-present | Children's Hospital of Wisconsin, Milwaukee, WI<br>Clinical Nurse Specialist – Spina Bifida Program<br>Unit Based Clinical Nurse Specialist-C8-Neurosciences<br>Nurse Practitioner-Rehabilitation<br>Mentor-Evidence Based Practice Fellowship<br>Advanced Practice Nurse-5W-Orthopedics/General Surgery/Trauma<br>Clinical Nurse Specialist-Rehabilitation<br>Trauma Case Manager<br>Case Manager-Health Care Connections Program<br>Unit Educator/Pediatric Nurse-Rehabilitation/Orthopedics<br>Staff Nurse-Pulmonary/Neurology/Rehabilitation Clinics |
| 1987-1989    | Clinical Evaluator/Marketing Associate, New Medico<br>Head Injury Systems, Lynn, MA (Wisconsin Area<br>Representative)   |
| 1983-1987    | Neurosurgical Clinical Coordinator, Department of Neurosurgery,<br>Medical College of Wisconsin, Froedtert Memorial Lutheran<br>Hospital, Milwaukee, WI  |
| 1983-1986    | Associate Clinical Professor, Medical College of Wisconsin<br>School of Nursing, Milwaukee, WI   |
| 1981-1983    | Staff Nurse, Neurosurgical/Neurological ICU, Yale-New Haven<br>Hospital, New Haven, CT   |

- 1980-1981 Staff Nurse, Neuroscience ICU, Froedtert Memorial Lutheran Hospital, Milwaukee, WI
- 1979-1980 Head Nurse, Neurosurgical ICU, Milwaukee County General Hospital, Milwaukee, WI
- 1977-1980 Staff Nurse, Neurosurgical Unit/ICU, Milwaukee County General Hospital, Milwaukee, WI

**CERTIFICATIONS:**

- Advanced Practice Nurse Prescriber
- Certified Rehabilitation Registered Nurse (ABRN)
- Certified Adult Clinical Nurse Specialist (ANCC)
- Certified Family Nurse Practitioner (ANCC)
- Wound Care Certified (WCEI)
- Certified Neuroscience Registered Nurse (ABNN)
- Certified Pediatric Nurse (PCNB)

**PROFESSIONAL ACTIVITIES:**

- American Nurses Association
- Association of Rehabilitation Nurses
- Association of Neuroscience Nurses
- Sigma Theta Tau National Honor Society
- Milwaukee Metro Nurse Practitioners
- PhD student – UW-Milwaukee (projected completion Spring 2018)

**HONORS**

- 2003 Rehabilitation Advanced Practice Nurse of the Year Award, Wisconsin Association of Rehabilitation Nurses
- 2004 Rehabilitation Advanced Practice Nurse of the Year Award, Association of Rehabilitation
- 2007 Julie Lathrop Nursing Research Award, Children’s Hospital of WI
- 2014 Excellence in Nursing Practice, Eta Nu Chapter – Sigma Theta Tau International
- 2015 Evidence Based Practice Award, Children’s Hospital of WI
- 2015 Doctoral Student Poster Award – Safety Characteristics of Children Using an Enclosure Bed, Eta Nu Chapter – Sigma Theta Tau International
- 2016 Early Investigator – Julie Lathrop Nursing Research Award, Children Hospital of WI  
Sigma Theta Tau – Eta Nu chapter student poster session (3<sup>rd</sup> Place poster award for PhD students) – Transition Planning Process Pilot at Children’s Hospital of Wisconsin
- 2017 Doctoral Student Poster Award – Sensitive Touch in Hospitalized Children with Constipation,  
Eta Nu Chapter – Sigma Theta Tau International

## **PUBLICATIONS:**

**Sherburne, E.**, Snethen, J., & S. Kelber. (2017). Safety profile of children in an enclosure bed. *Clinical Nurse Specialist: The Journal for Advanced Nursing Practice*.

Drake, J., Redfern, W. S., **Sherburne, E.**, Nugent, M. L., & Simpson, P. (2012). Pediatric skin care: What do nurses really know?. *Journal for Specialists in Pediatric Nursing*, 17(4), 329-338.

**Sherburne, E.** & K. Sawin. (2008). Investigating Time to Void After Lower-Extremity Orthopedic Surgery in a Pediatric Population. *Journal for Specialists in Pediatric Nursing*, 13 (1), 36-47.

Weiss M; Johnson NL; Malin S; Jerofke T; Lang C; **Sherburne E.** (2008). Readiness for Discharge in Parents of Hospitalized Children. *Journal of Pediatric Nursing*, 23 (4), 282-95

Gralton, K. S., **Sherburne, E.**, & D. Soetenga. (2006). CNS Alert: The Hidden Challenges of Conducting and Evidence Based Practice Project. *Clinical Nurse Specialist: The Journal for Advanced Nursing Practice*, Mar-Apr; 20 (2), 91.

**Sherburne, E.** (1985) Continuous evoked potential monitoring in the NICU. *Journal of Neurosurgical Nursing*, 17(4), 247-252.

**Sherburne, E.** (1986). A rehabilitation protocol for the NICU. *Journal of Neurosurgical Nursing*, 18(3), 140-145.

## **RESEARCH:**

Principal Investigator, The Relationship of Degree of Disability to Nutritional Status in Patients with Difficulty Swallowing. (Master's Thesis)

Principal Investigator, The Incidence of Deep Vein Thrombosis in a Spinal Cord Injured Population.

Principal Investigator, Return to School after Traumatic Brain Injury.

Site Investigator, Clinical Performance Measure for Pediatric Brain Injury

Principal Investigator, Investigating Time to Void After Lower Extremity Orthopedic Surgery in a Pediatric Population

Investigating the Effectiveness of Seizure Pads (Collaboration with Ann Roach, MSN and Audrey Roach BSN)

Safety Profile of Children Using an Enclosure Bed (Collaboration with Julie Sneethen, RN, PhD and Sheryl Kelber, MS)

Co-Investigator, Testing the Feasibility of a National Spina Bifida Patient Registry (Kathleen Sawin, PhD, RN, principal investigator)

Pediatric Nurses Experiences of Identifying and Managing Constipation in Hospitalized Children (Doctoral Dissertation)

### **EVIDENCE BASED PRACTICE**

Implementing Standardized Diaper Dermatitis Practices in the Hospitalized: Integrating a Change in Practice (mentor with Erin Fritzinger, BSN)

Nurses' Barriers and Facilitators to Preventive Pressure Ulcer Practice in a Pediatric Inpatient Hospital (mentor with Jenn Drake, RN, MS & Wendi Redfern, MSN)

Reducing Family Anxiety When Transferring from the ICU: An Evidence Based Practice Project (mentor with Allison McCabe, MSN, Julia Fishler, MSN, & Deb Gogin, MSN)

Improving Patient/Family Communications Through the Use of Patient Whiteboards (mentor with Julie Desorcy, BSN, & Kim Sudar, BSN)

### **SELECTED SPEAKING ENGAGEMENTS:**

2018 Safety Profile of Children Using an Enclosure Bed  
UWM College of Nursing – Nursing 820 Presentation  
Milwaukee, WI

Down There – Sensitive Touch in Hospitalized Children with Constipation (Poster)  
Midwest Nursing Research Society  
Cleveland, Ohio

Pediatric Nurses' Experiences of Identifying and Managing Constipation in Hospitalized Children  
20<sup>th</sup> Annual Southeastern Wisconsin Building Bridges to Research Based Nursing Practice (Podium)  
Milwaukee, WI

2017 Effectiveness of Seizure Pads in a Pediatric Epilepsy Monitoring Unit  
American Association of Neuroscience Nurses Annual Conference  
Boston, MA

Identification and Management of Constipation in Hospitalized Children

UWM Undergraduate Nursing Students; CHW Special Needs Program  
Milwaukee, WI

Transition Planning Process in a Comprehensive Spina Bifida Clinic (Poster)  
National Spina Bifida Association World Congress  
Coronado, CA

Sensitive Touch in Hospitalized Children with Constipation (Poster)  
Sigma Theta Tau – Eta Nu Poster Symposium  
Milwaukee, WI

Pediatric Rehabilitation – Rehabilitation Nursing Certification Core Curriculum Review  
Froedtert Hospital  
Milwaukee, WI

2016 Safety Profile of Children in an Enclosure Bed  
National Webinar sponsored by Posey Company

Evidence Based Practice Mentoring Workshop  
Children’s Hospital of Wisconsin  
Milwaukee, WI

Transition Planning Process Pilot at Children’s Hospital of Wisconsin (poster)  
Pediatric Nursing Conference  
Brookfield, WI

UWM College of Nursing, Milwaukee WI

2015 Safety Profile of Children Using an Enclosure Bed  
National Association of Clinical Nurse Specialists National Conference  
Coronado, CA  
Wisconsin Association of Clinical Nurse Specialists  
Waukesha, WI

Staged Orientation and Simulation Testing in Pediatric Neuroscience Orientation (with Anne  
Magnan, RN, BSN)  
American Association of Neuroscience Nurses National Conference  
Nashville, TN

Urinary Retention After Spinal Dysraphism Surgery (with Hannah Belknap, RN, CPNP)  
(poster)  
American Association of Neuroscience Nurses National Conference  
Nashville, TN

Reducing Family Anxiety When Transferring from the ICU: An Evidence Based Practice Project (with Allison, McCabe, RN, MSN & Julia Fishler, RN, CPNP)  
Rehabilitation Grand Rounds – Froedtert Hospital  
Milwaukee, WI

Effectiveness of seizure pads in an epilepsy monitoring unit (poster)  
(with Audrey Roach, RN, BSN & Ann Roach, RN, MSN)  
Pediatric Nursing Conference  
Brookfield, WI

2014 Policy Alternatives to Life at All Costs in Pediatric Neurologic Devastation  
Developing Evidence Based Policy and Procedures for Neuroscience Nursing  
American Association of Neuroscience Nurses National Conference  
Anaheim, CA

Keep Me Safe –Interventions for Patients and Families with Challenging Behaviors  
Pediatric Nursing Conference – Children’s Hospital of Wisconsin  
Brookfield, WI

Safety Profile of Children Using an Enclosure Bed (Poster)  
Pediatric Nursing Conference – Children’s Hospital of Wisconsin  
Brookfield, WI

Pediatric Rehabilitation – Rehab Core Curriculum Review  
Froedtert Hospital  
Milwaukee, WI

Writing an Abstract; IRB Submission  
Research Council Brown Bag  
Children’s Hospital of Wisconsin  
Milwaukee, WI

2013 Constipation Pearls from a Constipation Queen  
Pediatric Nursing Conference – Children’s Hospital of Wisconsin  
Brookfield, WI

Pediatric Rehabilitation – Rehab Core Curriculum Review  
Rehabilitation Nursing Review  
Froedtert Hospital  
Milwaukee, WI