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Perceptions of Caring in the Pediatric Medically Complex Population

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ABSTRACT

PERCEPTIONS OF CARING IN THE PEDIATRIC MEDICALLY
COMPLEX POPULATION

In a hospital system that transitioned from a non-caring science model to a professional practice model based on the Theory of Human Caring/Caring Science, it is important to measure the outcomes of the care delivery transition. In a non-experimental, cross-sectional, correlational, quantitative study the aim was to compare a pre/post-Caring Science model implementation at a pediatric and obstetric medical center, by assessing perceptions of caring in the medically complex pediatric population and in the nurses that care for them.

This study used a convenience sample of 102 pediatric families enrolled in a complex care program, and 23 nurses providing care to these families. The Caring Nurse Patient Interaction Scale-23 and the Watson Caritas Self-Rating Score, valid and reliable scales, were used to measure perceptions of caring. The results for the patient/family outcomes for the CNPI and the WCRS were statistically significant (CNPI: $t(42) = -3.053$, $p < 0.004$ and the WCRS: $t(42)= -6.438$, $p<0.001$) between the control and intervention groups. For the nurses pre post survey no statistical significance was found (CNPI: $t(19) = -1.374$, $p < 0.186$; WCRS: $t(19) = 1.824$, $p < 0.085$).

The family's perception of the nurses caring behavior did change between the control group and the intervention group. For the nurse participants perceptions of caring did not change with the intervention. The impact of caring science on the pediatric population needs to be understood to improve perceptions of caring in the pediatric population.

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COMPLEX POPULATION

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We, the undersigned, certify that the project of the following student
meets the required standards of scholarship, format, and style of the
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CHAPTER 1: INTRODUCTION

Background

Historically care plans, as a form of communication, have lacked meaning for families, nurses, and clinical teams, as deficiencies in the healthcare system lead to a lack of engagement. Care plans often fail to communicate important treatment of care information to patients/families. This gap is magnified within pediatric medically complex patients who have intrinsic treatment of care information that is not adequately captured in care plans (Hunter & Segrott, 2008; Jansson, Bahtsevani, Pilhammar, Forsberg, & Hogskolan, 2010; Tucker, 2000). Studies on care plans have mainly focused on interagency communication, safety threats during transitions of care, standards of practice, and care plan ownership (Behara, et al., 2005; Coleman & Berenson, 2004; Dykes, et al., 2014; Jeffs, Kito, Merkley, lons, & Bell, 2012).

This author explored the perspective of the care plan focusing on the patient's perception of care (Lianne, Lyons, Makley, & Bell, 2013). Care plans for medically complex children are very complicated and involve various stakeholders, including healthcare, county/public offices, school, medical supply vendors, legislators, recreational facilities, and other support areas. Caregivers become the coordinators of their child's care, being the sole person who holds the clinical information from one provider to the next. Healthcare providers are a small part of the complicated care plan for this population, and in this area alone significant fragmentation and communication regarding a patient's care exists among experienced and skilled professionals. Routines and treatment protocols must be worked into patterns of daily living. Furthermore, most of the care for medically complex pediatric patients takes place outside of hospitals and clinics.

This includes providing special diets, using technical equipment and providing therapy and medication, in-between school, growing up and socialization. The scarcity of skilled pediatric home health care providers, compounds the problem. This often leaves families feeling confused and disillusioned in an uncoordinated healthcare system (Neuman, 2014) and too often not feeling cared for at all.

Care plan transition gaps result in (Hunter & Segrott, 2008) patients not following treatments of care, leading to avoidable readmissions within this vulnerable population (Krishnamurti, 2014; Lautz, 2011; Neuman, 2014). Pediatric medically complex patients have intrinsic treatment of care information that is not adequately captured in care plans. With a prevalence of 0.5% (n~400,000) of all United States (US) children, the pediatric medically complex population accounts for approximately one-third of health care spending for all children (Berry, 2015), thus readmissions are very costly. This rate can be reduced by proactively involving the patient/family integrally in the discharge planning, providing further education on the treatment plan, and improving the transitions of care throughout the continuum of care, from inpatient to outpatient (Krishnamurti, 2014; Lautz, 2011; Neuman, 2014).

Hospital inpatient readmission rates for the pediatric medically complex population exceed in rates by ~20% or higher from elderly Medicare beneficiaries (Berry, 2015). Furthermore, the pediatric medically complex population average approximately five readmission rates per year, with the readmission from discharge date being approximately 38 days apart (Berry, 2015). The pediatric medically complex population accounts for 55% of hospital costs for inpatient admissions and 85% of costs for unplanned readmissions at 30 days (Berry, 2015). Engaging patient/families of medically complex pediatric patients in creating a realistic care plan and providing the education by efficiently communicating the

expectations of the treatment of care may avoid readmissions to hospitals by providing more individualized care plans, making them meaningful for the patient/family (Krishnamurti, 2014; Lautz, 2011; Neuman, 2014). Methods to engage and educate the pediatric population and their family can be utilized to seek maximum involvement in care planning, and inviting the patient/family to assist the care team in creating the plan of care.

Significance to Pediatric Healthcare

In pediatric health care organizations, family centered rounds (FCR), care conferences, patient portals, care calls and discharge teaching are processes intended to facilitate information flow for the patient and family. In particular, care planning is the framework that regulatory agencies, such as The Joint Commission (TJC) and Center for Medicaid and Medicare (CMS), require for coordinating communication that results in safe, effective and improved care for patients. Unfunded requirements by TJC (2017) and CMS (2018) leave it up to organizations to integrate and ensure care coordination communication with patients and families happen effectively and efficiently. The Affordable Care Act (ACA), HITECH, Meaningful Use (MU) and Agency for Healthcare Research and Quality (AHRQ) all define care plans similarly as the standard for communicating quality care management among providers and with the patient/family (Dykes, et al., 2014).

This author has identified at least four CMS quality improvement activities that relate to care coordination, pediatrics, perceptions of caring, and the patient experience across the continuum of care. These quality improvement activities are: care coordination agreements that promote improvements in patient tracking across settings, engagement of patients/family/caregivers in developing a plan of

care, evidenced-based techniques to promote self-management into usual care, and leadership engagement in regular guidance and demonstrated commitment for implementing practice improvement changes (CMS, 2018).

In pediatrics, families are frequently the sole providers of care who share information from one setting of the patient's life to the next. ACA, HITECH, and MU patient care quality improvements focusing on care coordination permit provider portals to share critical patient health information with community primary care providers and other healthcare agencies/organizations needing vital information to care for patients. Patient can also access hospitals' electronic health systems to communicate the most accurate information with their healthcare providers. Making this access as seamless as possible minimizes barriers to care, and user error. Important to this process of improving care coordination is the education and training of healthcare providers and patients to access their patient's health information via medical portals (Dykes, et al., 2014). AHRQ further defined the coordination of care to go beyond the coordination in one single facility, but to also cross the continuum of care; for the pediatric population this would include locations such as school where care is often needing to be delivered for participation.

Thus far, efforts to improve coordination of care have focused to address the issue of better coordination of care from a systems and process perspective. However, there are different dimensions of care coordination that go beyond accessing clinical information that impact a patient/family's healing process (Watson, 2008; Watson, 2002; Smith, Turkel, Wolf Robinson, & Institute, 2013). According to Watson (1979), Swanson (1991), Nightingale (Loane, 1911), and several other theorists throughout nursing history this may include, but it is not

limited to the cultural and spiritual beliefs on healing of patient and families' as well as the healthcare professionals providing care to the patient.

In a non-experimental, cross-sectional, correlational, quantitative study this author compared a pre/post-Caring Science model implementation at a pediatric and obstetric medical center, by assessing perceptions of caring in the medically complex pediatric population and in the nurses that care for them. The theoretical model used for this study is the model of Jean Watson's Theory of Human Caring/Caring Science (THC/CS). In the THC/CS nurses are accountable to own the caring moment with the patient and their family, as well as accountable to their self-care (Watson, 2008). It can be very challenging for nurses to create a caring healing environment within a hospital setting, outpatient patient encounter, institutions or even in the patient's home as throughout history nursing has evolved primarily to the delivery of tasks and functions of patient care as defined by a healthcare system that primarily focuses on the medicalization of a patient. For example, treating a patient's diagnosis as oppose to the patient as a whole by honoring the shared humanity that brings unity and trust that connects the nurse with their patient/family (Watson, 2008; Watson, 2002).

CHAPTER 2: THEORY OF HUMAN CARING/CARING SCIENCE

Health care professionals go through their academic training learning to create a multidisciplinary care plan, do an objective assessment, run tests, do procedures, assess for treatments of care, and choose the best medications to treat/cure/heal particular diagnosis. It is often assumed that health care professionals inherently know how to care. However, rarely is there any formal training in academic programs on the meaning of caring and the various types of caring that may exist. Too often clinical care indicators are the only measurable quality performance indicators in a patient's care. In the literature and in practice, there is a lack of measurable patient satisfaction and patient centered quality performance indicators. With few academic nursing institutions teaching, identifying competencies for, and evaluating a nurses ability to care, it is likely that nurses without specialized training are left to determine whether their nursing interventions translate to perceptions of caring. Integrating the patient and family perceptions on the care received has taken a long time to adopt in healthcare (Latour, et al., 2009).

This author's intent in shining a light on the need to incorporate caring into the nursing curriculums is to develop competencies that measure the effectiveness of caring within nursing. This stands in contrast to assuming that all healthcare professionals innately know how to care. The intentional integration of caring into nursing curriculum, in hopes of developing a valid and reliable competency that evaluates caring consistently, is challenging given the impact a nurse's values, culture, and experiences have on their approach in caring for patients. Attempting to measure perceptions of caring the Caritas processes can determine the effectiveness of caring for individuals.

Because of the integral role that caring plays in healing, illness, and treatment, it is important to understand if basic clinical standards related to care are being met. This is especially true for the pediatric population, as tools for measuring perceptions of caring have yet to be developed in pediatrics. Furthermore there are no theoretical models for caring specifically for the pediatric population. Jean Watson's THC/CS offers healthcare providers with the theoretical framework for developing a transpersonal caring relationship that creates a healing environment based on authentic presence, self-awareness, reflection and openness. Using the (THC/CS), nurses are provided the permission and skill to create a caring moment that foments the caring-healing relationship between the nurse and their patients/families. This author proposes to extend the Caring Science evidence based knowledge into pediatrics by measuring outcomes in a medically complex population at a quaternary free standing children's hospital in the San Francisco Bay Area, Stanford Children's Health (SCH).

Barbara Brewer and Jean Watson (2015) developed a tool for measuring caring behaviors, as defined by Watson's Caritas factors that has been validated and reproduced in other hospitals for the adult population. Cossette and colleagues (2005) have developed a validated and reliable tool that measures perceptions of caring that has been utilized for the adult population. This author utilized both tools to provide evidence for clinical, administrative, and educational decision making in a pediatric population. In pediatrics, family centered care is based on the premise that family is the constant primary source of support and strength for the patient, as such a collaborative effort among family, patient, and the clinical team is necessary to create a healing environment (Florin, Ehrenberg, & Ehnfors, 2006; Frankovich, Thienemann, Rana, & Chang, 2015; Subramony, Schwartz, & Hametz, 2012). Nursing has an opportunity to facilitate improved

communication and ultimately improve medical outcomes by fostering patient and family centered caring environments (Florin, Ehrenberg, & Ehnfors, 2006; Peplau, 1991; Watson, 2002)

Theoretical Framework

At the center of the THC/CS is a caring healing relationship based on nursing professional practice and an evolving philosophical-ethical-epistemic field of study (Watson, 2008). Jean Watson's 10 Caritas processes (see Appendix) are the application of the THC/CS that provide a guideline for nursing practice that encompasses both the self-care for the nurse and the care for patients/families (Watson, 1979).

It is critical for the nurse to practice self-care and self-compassion to be open to the connected caring moment with their patient/families. It is this caring experience that encourages a healing environment that creates a transpersonal moment between the nurse and the patient/family (Watson, 2008). According to Watson (2008) it is in this intentional creation of transpersonal moments that the nurse is practicing from a caring consciousness perspective, as transpersonal caring is that moment you connect to a person that goes beyond the physical self. It is the nurse being alert to verbal and physical cues from patients, and responding to such cues. It is these transpersonal moments that impact a patients/families perception of care.

There are four areas of caring that the Caritas processes seek to provide caring competency on. They are: comforting care, humanistic care, relational care, and clinical care (Cossette, Pepin, Côté, & De Courval, 2008). In all four areas caring refers to both the care provided to patients, as well as the practice for self-care of nurses. Embedded in the Caritas processes is the intentional

integration of mindfulness, hope, compassion, and authentic presence into clinical practice and in encounters with patients/families. These are challenging skills to evaluate in people, hence the importance of developing competencies that assist in identifying the skill of the healthcare provider in applying such practices.

There are researchers who are skeptical about the applicability of the THC/CS in practice because the theory is too complicated, encompasses a wide range of perspectives, and is deductive in origin (Pajnkihar, McKenna, Štiglic, & Vrbnjak, 2017). Watson herself has argued that her theory is not a "hard scientific theory," but it is nevertheless a theory (Watson, 2012, p. 4). Researchers such as Sylvie Cossette and Jacinthe Pepin have developed and completed psychometric testing on the Caring Nurse Patient Interaction Scale-23 (CNPI) that measures perceptions of caring paralleling the THC/CS (Cossette, Cara, Ricard, & Pepin, 2005; Cossette, Coté, Pepin, Ricard, & D'Aoust, 2006; Cossette, Pepin, Côté, & De Courval, 2008). Brewer and Watson (2015) have also tested the validity and reliability of the Watson Caritas Self-Rating Score (WCRS) (Brewer & Watson, 2015; Watson, Brewer, & D'Alfonso, 2010). Despite their work, there remains a schism because of the lack clarity in the theory and methodology used in studies that support the efficacy of the theory.

CHAPTER 3: LITERATURE REVIEW

The search strategy conducted for this clinical inquiry was done on the following databases PubMed/Medline, Cochrane, CINAHL, OVID, EMBASE, Dissertation Abstracts Online and ERIC. Other sources of evidence used were from regulatory bodies, such as TJC and CMS, Google Scholar, AHRQ Evidence Based Practice Centers, and AHRQ National Guideline Clearinghouse. The studies reviewed met the search criteria for Pediatrics, Caring Science, perceptions of caring, human caring, quantitative study, nurse patient relationship, Caring Nurse Patient Interaction Scale, Caritas, Jean Watson, inpatient, hospital, nurse recruitment and retention, and patient satisfaction. Of the 10 articles that met the search criteria for Caring Science, pediatrics, and perceptions of caring, one is a level VII expert opinion, eight are Level VI qualitative or descriptive studies, and one is a level V systematic review of qualitative studies. Of these studies seven showed improvement with caring behavior nursing competency, three showed improvement on patient satisfaction, five showed improvement on clinical care indicators, two showed improvement on recruitment and retention, three on organizational support and climate, and two showed no improvement with spirituality and emotional support.

Theorists such as Jean Watson and Kristen Swanson have identified ideal caring behaviors to form the basis of their theories on caring. In particular Watson has created the practical application for training nurses, educators, and students on the basic competencies for Caring Science, called the 10 Caritas processes. Literature related to clinical care indicators and Caring Science indicate that the Caritas Processes would impact patient/family perspectives of caring, as well as

nurse recruitment and retention, but there is a need to evaluate how well the 10 Caritas processes translate in pediatrics.

Furthermore, Caring Science literature related to measuring perceptions of caring in pediatric patients and families is limited, and there are a minimal number of studies that measure the nurse's perception of care provided to the pediatric population. Only one study (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012) was found to have evaluated the actual perceptions of caring in pediatric families seen in the Emergency Department (ED) using a modified version of the Caring Behavior Assessment tool by Sheryl Cronin and Barbara Harrison (1988) based on the THC/CS. The research by Cossette and colleagues (2005, 2006, 2008) was successful in developing and refining a validated and reliable tool for measuring caring attitudes and behaviors as defined by the Watson THC/CS 10 Caritas factors. Cossette and colleagues (2008) created a strong clinical and research tool that provides the ability to measure the translation of a theoretical framework into nursing practice. In several cross-sectional, quasi-experimental, quantitative studies by Cossette and colleagues (2005, 2006, 2008) focused on the development and refinement of the CNPI scale, to measure concepts of caring as described in the Jean Watson's THC/CS 10 Caritas factors. Data was collected on convenience samples of 332 (2005), 337 (2006), and 531 (2008) students between their second and third year of nursing school to validate the CNPI scale, along with 13 (2005) nursing experts to assess the reliability of the scale (Cossette, Cara, Ricard, & Pepin, 2005; Cossette, Coté, Pepin, Ricard, & D'Aoust, 2006; Cossette, Pepin, Côté, & De Courval, 2008).

To better understand the patient experience, in this next study the CNPI was modified to capture patient satisfaction with respect to nursing practices. In a longitudinal, quasi-experimental, quantitative, comparison study by Desmond and

colleagues (2014) 10 staff nurses from one hospital compared the pre/post Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores from adult patients with the CNPI scores from nurses, during 2 quarter study periods after the nurses attended an eight-hour seminar on THC/CS. The goal of the study was to compare if attending a THC/CS seminar would increase the nurse's perception of his/her patient-nurse caring competence compared to the patient's perception of the care received during the inpatient stay (Desmond, Horn, Keith, Kelby, & Ryan, 2014). HCAHPS were used to collect patient data on the patient's perception of care based on patient satisfactions scores, and the CNPI was used to collect the nurses' data on the nurse's perception of caring behaviors (Desmond, Horn, Keith, Kelby, & Ryan, 2014; Cossette, Cara, Ricard, & Pepin, 2005). Both the Child HCAHPS (Bruyneel, et al., 2017) and CNPI (Cossette, Cara, Ricard, & Pepin, 2005) surveys are validated and reliable instruments used to measure patients' perception of care at a hospital. Third party vendors are used to collect and analyze the data for the HCAHPS survey and the CNPI data was collected and analyzed by the researcher (Desmond, Horn, Keith, Kelby, & Ryan, 2014). Using one-way ANOVA, the nurse's perception of being competent in delivering caring behaviors as defined by THC/CS 10 Caritas factors was statistically significant (p<0.001) immediately after the training and six months post training (Desmond, Horn, Keith, Kelby, & Ryan, 2014). For the HCAHPS scores, changes in the percent of patients answering "always" for questions pertaining to caring behaviors of nurses were determined (Desmond, Horn, Keith, Kelby, & Ryan, 2014). Levene statistics was used to analyze the equality within the variances among the caring attitudes and behaviors in the CNPI (Desmond, Horn, Keith, Kelby, & Ryan, 2014). Tukey HSD post hoc test was used to analyze the total score of the CNPI with the variances of the caring behavior and attitudes

found to be uniform by the Levene statistical analysis. The Games-Howell post hoc test was used to analyze the subscale on spirituality, as this was the only subscale that was unequal to the other variances (Desmond, Horn, Keith, Kelby, & Ryan, 2014). The authors found that the educational session indeed increased the nurse's competence in caring attitudes and behaviors immediately after the education session, and the nurse was able to maintain the competence six months post the session (Desmond, Horn, Keith, Kelby, & Ryan, 2014). A strength of this study was the comparison of two valid and reliable instruments, the CNPI and the HCAHP scores, to measure caring behaviors from both the patient and nurse perspective (Desmond, Horn, Keith, Kelby, & Ryan, 2014). A limitation of the study was the small sample size of the study. HCAHP scores were utilized for six of the 10 nurses who participated secondary to a hospital remodel that eliminated the units of four nurses. Furthermore, of the six nurses remaining four of those nurses were transferred to areas of the hospital that did not collect HCAHPS scores (Desmond, Horn, Keith, Kelby, & Ryan, 2014).

In a descriptive longitudinal experimental quantitative correlational study, Brewer and Watson (2015) collected data using the WCRS to develop a database that evaluates the nurse's perception of practicing caring behaviors with patients, and the patient's perception of caring behaviors received during an inpatient stay. With this ongoing study, Brewer and Watson (2015) are developing a database that can impact the understanding of caring behaviors in hospitals, ultimately influencing policy and process for patient care and nursing practice. The questions of the WCRS were correlated with the HCAHPS scores that reflected nursing care and the practice environment most closely. Furthermore, the HCAHPS scores are a validated and reliable tool for measuring patient satisfaction with the care provided by nurses (Bruyneel, et al., 2017). The data collected was

from a random sample of adult inpatients (1010) in 48 acute care or rehabilitation units during one quarter in 2014. All hospitals are affiliates or research partners of the Watson Caring Science Institute, as such the data was collected by Caritas trained hospital coordinators across eight hospitals (Brewer & Watson, 2015). The data collected was compiled to measure unit level outcomes that were then analyzed using ANOVA (Brewer & Watson, 2015; Shortell, Rousseau, Gillies, Devers, & Simons, 1991). This method is used to evaluate if the data collected at the individual level could be compiled at the unit level (Brewer & Watson, 2015). Descriptive analysis was used to evaluate discrepancies among the units and hospitals, and a non-parametric spearman was used to measure the relationship between the WCRS and HCAHPS items (Brewer & Watson, 2015). The results show statistically significant differences in three of the five items between the WCRS and HCAHPS; furthermore, three of the eight hospitals were statistically significant for each correlated item (Brewer & Watson, 2015). A limitation of this study is that all hospitals were Watson Care Science affiliates or research partners, and this may have introduced a bias to the results by having inflated caring scores than expected across all hospitals (Brewer & Watson, 2015).

In a mixed-methods correlational quasi experimental study, Roch and colleagues (2014) used 292 nurses to complete two surveys, the CNPI and the Psychological Climate Questionnaire (PCQ), in combination with 15 qualitative case studies to assess caring practices. The goal was to link the organizational work climate with the caring practices delivered by nurses and experienced by patients (Roch, Dubois, & Clarke, 2014). The authors reported overall organizational climate (11%-14%) was a way to explain the variances in nurse caring practices. Statistically significant was the perception of the nurse's role ($p<0.001$) and nurse's workload ($p<0.001$) as a predictor for caring practice (Roch,

Dubois, & Clarke, 2014). The data was collected by the researchers and all direct care nurses at an adult hospital were invited to participate. The questions of the CNPI were correlated with the PCQ questions that reflected nursing caring practices and the organizational impact on caring practices most closely. A confirmatory factor analysis was performed to validate fit with the structural and perceptual model approach for work climate as conceptualized by Gagnon and colleagues (2009). Validity measures for the PCQ were the root mean square error of approximation (0.0522 to 0.0549), comparative fit index (0.932 to 0.985), non-normed fit index (0.930 to 0.981) and standardized root mean residual (0.0569 to 0.091) were considered indicative of a good model fit (Gagnon, Paquet, Courcy, & Parker, 2009). Regression analysis was used to integrate the inferences from both phases of the study (Roch, Dubois, & Clarke, 2014). A strength in this study is the impact of showing that organizational climate directly impacts nursing practice, thus patient care quality indicators (Roch, Dubois, & Clarke, 2014). A limitation of the study was not considering patient related variables impacting care delivery models (Roch, Dubois, & Clarke, 2014).

An important finding of this study is the identification that patients identify nurse caring behaviors as coexisting with nurse competence; a patient's perception of the nurse caring does not end when the nurse completes a task (Baldursdottir & Jonsdottir, 2002). A cross-sectional non-experimental descriptive quantitative study by Baldursdottir and colleagues (2002) used the Cronin and Harrison's Caring Behavior Assessment Tool (CBA) to identify patient's perception of caring behaviors in nursing practice in one hospital's ED. The survey was mailed to 300 adult patients that visited and discharged from the ED during the period of one month, of which 118 patients returned the survey (Baldursdottir & Jonsdottir, 2002). The CBA was the first instrument developed to measure nurse caring

behaviors as defined by the Watson's THC/CS (Baldursdottir & Jonsdottir, 2002; Cronin & Harrison, 1988). The CBA is a validated tool with Cronbach alpha ranges between 0.66 to 0.90 for each of the subscales and a reliable tool with reliability coefficients ranging from 0.69 and 0.89 (Baldursdottir & Jonsdottir, 2002; Cronin & Harrison, 1988). Mean scores and standard deviations were calculated for the 61 identified caring behavior items and were ranked least to highest in importance for patient's perception caring behaviors (Baldursdottir & Jonsdottir, 2002; Cronin & Harrison, 1988). Baldursdottir and colleagues (2002) also aggregated the data to analyze it by the subscales identified in the CBA. The non-parametric Mann-Whitney U test and Kruskal-Wallis one-way analysis of variance were used to analyze the data collected with the CBA (Baldursdottir & Jonsdottir, 2002). A limitation of this study was that it was a convenience sample in one hospital for one department in adult only patients who could read and write (Baldursdottir & Jonsdottir, 2002).

In a cross-sectional descriptive, non-experimental quantitative study Gillespie and colleagues (2012) used a modified version of the CBA to identify the priority of caring behaviors based on the assigned acuity level of a pediatric population in an ED setting. Using the Deville (2012) study for instrument development, Gillespie and colleague's (2012) stratified random sampling to recruit 100 patient participants. The researcher decided to modify the CBA for applicability to the pediatric population. The modified version of the CBA was found to be valid based on a panel of experts, and the reliability ranged from 0.66 to 0.90, thus a consistent tool for measuring the sub-scales (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012). A trained research clinical coordinator approached the participants with a laptop, and the data was collected using a self-guided Survey Monkey application (Gillespie, Hounchell, Pettinichi, Mattei, &

Rose, 2012). A multiple analysis of variance was used to analyze the difference between the nurse assigned acuity level of the patient and the acuity level perceived by the parent of the patient (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012). The mean scores of the sub-scales were used to rank the highest to lowest parent-prioritized caring behaviors (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012). The highest ranking caring behaviors prioritized by parents were related to competence and ability to explain clinical events; spirituality and emotional support was the lowest prioritized caring behavior (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012). The researcher hypothesized that the low prioritization for spirituality and emotional support may be due to the expected short stay in the ED, parents are not expecting to stay long (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012). Interestingly, the researcher discusses the heavy emphasis on spirituality and emotional support in the Watson 10 Caritas processes (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012). One of the limitations to this study was studying a population expecting to clinically turn around quickly in the ED (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012). A strength of this study was that it was conducted with parents of pediatric patients, which has been a gap in the literature for Caring Science (Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012).

In a correlational, quantitative, cross-sectional, quasi-experimental study performed by Eggenberger and colleagues (2012) 57 nursing students, in their last 2 years of nursing school, participated in testing a modified version of the Caring Efficacy Scale Self-Report (CESSR) for measuring caring behaviors in a simulated environment. The students were enrolled in an adult acute care nursing practice course, and the school developed the simulated scenarios that created the caring behavior interventions. The original CESSR is a validated tool for

measuring caring behaviors with a Cronbach alpha 0.88 (Coates, 2009). Permission to modify the scale was obtained; however, the validity and reliability of the modified CESSR was not reported (Eggenberger, Keller, Chase, & Payne, 2012). The students completed the modified CESSR immediately after the videotaped simulated session, and later the session was rated by one faculty and one doctoral student for caring behavior practices. The modified CESSR showed an excellent reliability ranging from 0.917 to 0.965 for measuring the student's perception of practicing caring behaviors as compared to the rated observed simulation (Eggenberger, Keller, Chase, & Payne, 2012). An Independent T-test showed no difference in rating among the sub-scales for caring behaviors indicating students performed similarly in regard to practicing caring behaviors. A strength of this study is the development of competencies for caring behaviors in nursing practices, allowing for student self-reflection and focused educational efforts for improving patient care. Future research can focus on a facto analysis of the modified CESSR to measure the individual items of the scale, as this was not possible with the small sample of this study (Eggenberger, Keller, Chase, & Payne, 2012).

In a non-experimental correlational, quantitative study by Larrabee and colleagues (2004) two questionnaires were used to identify how an organization's cultural environment impacts nurse caring behavior practices, ultimately impacting patient satisfaction. One questionnaire measured patient's perceptions of nurse caring behaviors, and the other questionnaire measured the impact of the organization's culture on nurse care behaviors (Larrabee, Ostrow, Withrow, Janney, & Burrant, 2004). A convenience sample of 362 adult patients admitted twenty-four hours in participating medical, surgical and ICU units were recruited to complete the patient questionnaire (Larrabee, Ostrow, Withrow, Janney, &

Burrant, 2004). Ninety nurses working on the participating units were recruited to complete the nurse questionnaire (Larrabee, Ostrow, Withrow, Janney, & Burrant, 2004). The two questionnaires report a Cronbach alpha between 0.8 to 0.98, meaning both instruments are valid and reliable tools (Larrabee, Ostrow, Withrow, Janney, & Burrant, 2004). Pearson correlations and structural equation modeling were used to test causality among all the variables (Larrabee, Ostrow, Withrow, Janney, & Burrant, 2004). Statistical significance was found to correlate patient satisfaction scores with patient perceived caring behaviors (Larrabee, Ostrow, Withrow, Janney, & Burrant, 2004). Three models were found to possibly fit the data; however, the researchers chose to use a model with a non-significant regression path between nursing care behaviors and patient satisfaction secondary to findings from previous research. A significant finding of this study was the correlation between patient satisfaction and perceived nurse caring behaviors. This finding suggest that organizations should find a way to monitor perceptions of caring from a patient's experience perspective, and provide the organizational support and climate that maintains and sustains a caring environment, as identified by a Caring Science model. A limitation of this study was that both instruments were validated to measure individual nurse caring behaviors, not aggregate unit caring behaviors, and this study analyzed data at a unit level (Larrabee, Ostrow, Withrow, Janney, & Burrant, 2004).

Based on the literature, following were the evidence-based recommendations for the pediatric population, they were: validated and reliable tools for nursing caring behaviors, evaluation of authentic human caring nursing professional practices, translating caring theory across the continuum from inpatient to ambulatory care, and studies based on hospital cultural climate and integrated care delivery systems. By utilizing the CNPI to understand the perception

toward caring practices, the healthcare system can start moving toward a more holistic healing journey for families throughout the continuum of care. This study serves as a basis for reporting on perceptions of caring behaviors between nurses and patients/families.

Summary of the Gaps in the Literature

In reviewing the evidence-based practice on Caring Science there remains a gap in understanding the impact of Caring Science in the care of children admitted to the hospital for acute and chronic conditions. This gap is due to a lack of assessing perceptions of caring as identified by the family unit, and the nurses providing care to this population. Therefore, studies measuring the impact of Caring Science in the pediatric population need to be conducted to improve overall quality of care and patient satisfaction. Extending the Caring Science evidence-based knowledge to include the pediatric population will inform governing bodies influencing policy and regulations impacting the pediatric population.

This study begins to address these gaps in the pediatric population by researching the following question: in a pediatric medically complex population, how does a Caring Science model compared to a non-caring model affect parental perceptions of caring? This author proposes that an understanding of caring behaviors in the pediatric population will assist in improving perceptions of caring behaviors in nursing practice, ultimately improving the patient experience and developing the need for nurse competencies in caring behaviors for the pediatric population. Understanding perceptions of caring behaviors in the pediatric population will assist healthcare organizations to improve financial success, as patient's satisfaction scores are indicators of the quality of care the patient is

receiving, and this is a financial contributing factor for a healthcare institution (Larrabee, Ostrow, Withrow, Janney, & Burrant, 2004).

CHAPTER 4: METHODS

Project Design/Type of Project

In a non-experimental, cross-sectional, correlational, quantitative study this author compared a pre/post-Caring Science model implementation at a pediatric and obstetric medical center, by assessing perceptions of caring in the medically complex pediatric population and in the nurses that care for them. SCH is a quaternary pediatric medical center with 315 inpatient pediatric/maternity beds and over 54 pediatric specialty outpatient clinics throughout the San Francisco Bay Area. Prior to the development of this study, the hospital made the decision to adopt the THC/CS model into the nurse professional practice model as the concepts of THC/CS were deemed a good fit with the value and vision for nursing practice at SCH.

The Department of Family-Centered Care at SCH has enrolled approximately 600 medically complex pediatric patients in the SCH complex care program (CCP) funded by the Center for Medicare and Medicaid Innovation (CMMI) award. The CCP have assigned tier level acuities to all the enrolled particpants from Tier 1 (lowest acuity) to Tier 3 (highest most complex acuity). One of the many results seen by the CCP has been the improvement in efficiency and effective care coordination delivery to this medically complex population. The CCP has integrated their systems across the contiuum of care, both inpatient and outpatient. It is with this pediatric medically complex patient population that this author studied the perceptions of caring behaviors in patients/families in regards to the nursing care they received, as well as the perceptions of caring delivered by the nurses that cared for the patients/families.

The CCP works with the Family-Advisory Councils, who are parent volunteer working groups that provide feedback to SCH staff and they are parent mentors for families with hospitalized children. The parent mentors work collaboretively with the

clinical team, physicians, nurses, social workers, and care coordinators, to ensure that the families' needs are being met. These needs include having their questions and concerns addressed during family centered rounds, care conferences or during discharge teaching.

Sample/participants

SCH's CCP had approximately 5 complex care patients/families admitted inpatient weekly. Using a convenience sample, the author recruited 47 patients/families and 20 nurse participants. Of the 20 nurse participants, all 20 completed the Caring Science intervention, and of these 20 nurses that attended 19 completed the post-test after the training, thus retaining 19 nurses. The patients/families had all been assigned to either a tier 2 or tier 3 medically complex acuity prior to or during the hospitalization. Tier 2 acuity means the patient is receiving services from 3 subspecialties with 1-2 clinic visits per year, at least one hospitalization or ED visit per year. Tier 3 acuity means that the patient/family is scheduled to attend 3 or more subspecialty providers, with 4 visits per provider per year, 1 or more hospitalizations per year that generally include PICU and Frequent ED visits. The nurse participants are nurse care coordinators in acute and critical care inpatient units throughout the hospital, as well as the outpatient clinical setting.

Instrument and Methodology

To date there are no validated and reliable tools that measure the perceptions of caring in the pediatric population. Thus, to measure perceptions of caring for both patients/families and nurses, this author utilized both the WCRS and the CNPI shorten scale. In addition to the WCRS and the CNPI patients/families also completed some demographic information. Separately, both tools have previously had psychometric testing completed and have shown to be valid and reliable scales for measuring perceptions of caring behaviors in adult patient, nurse, and graduate student populations

(Cossette, Coté, Pepin, Ricard, & D'Aoust, 2006; Brewer & Watson, 2015; Tinkham, 2014; Presson, Zhang, Abtahi, & Kean, 22017). For the CNPI Cossette and colleagues (2005, 2006, 2008) reported Cronbach's alpha coefficients 0.73-0.91 (2005) and 0.3-0.94 (2006) to assess the uniformity of the scale, and Pearson correlational coefficients -0.2 to 0.32 (2005) to assess the strengths between the subscales and the original CNPI scale (Cossette, Cara, Ricard, & Pepin, 2005; Cossette, Coté, Pepin, Ricard, & D'Aoust, 2006). An exploratory factor analysis with varimax rotation (0.94) by Cossette and colleagues (2006) was used to find trends among the questions, which then could be linked to one of the four concepts of the THC/CS 10 Caritas factors. Using confirmatory factor analysis to assess the fit of the model to the data, Cossette and colleagues (2008) analyzed the standardized root mean-squared residuals (0.54), the root mean-square error of approximation (0.7), the goodness of fit index (0.88), the comparative fit index (0.98), and the normal fit index (0.97) of the CNPI scale. For the WCRS, Brewer and Watson (2015) reported a Cronbach alpha 0.9 and on exploratory factor analysis, using varimax rotation resulting in an index varying from 0.766 to 0.906.

The WCRS and the CNPI have two versions for collecting data, one version is for the patients/families and the other version is for nurses. Both versions of each tool measure the same caring behavior indicators; the difference are the questions. Both the WCRS and the CNPI are validated to parallel Watson's 10 Caritas processes categorized in the following 4 subcategories: humanistic caring, clinical care, relational care, and comforting care (Cossette, Coté, Pepin, Ricard, & D'Aoust, 2006; Cossette, Pepin, Côté, & De Courval, 2008; Brewer & Watson, 2015). This author received permission from Jean Watson to utilize the WCRS and from Sylvie Cossette to use the CNPI.

The intervention was a one-day Caring Science training for SCH nurse care coordinators during the month of September 2017. The training was developed to

specifically train nurse care coordinators on caring behaviors for both inpatient and outpatient clinical setting, based on the THC/CS. The core content of the training was built on the 10 Caritas processes, which are the processes that translate the THC/CS into practice. At the time of writing the author, and project coordinator for this study, was the Director, Care Management at SCH. Over the course of three months the project coordinator collected, coded, entered, and analyzed all the data. The project coordinator was also the initial contact person for participant questions. In addition to the project coordinator, four Caritas coaches assisted in the training of the nurses in the Caritas processes. The main Caring Science trainer was a consultant from Colorado Children's Hospital and also a coach from the Caring Science Institute as well. The main trainer developed all the course material, conducted all the trainings, provided guidance, answered questions from the participants, and led the group activities during the training.

A student centered transformative learning framework was used in developing the training. The certified Caritas trainers divided the participants into groups of 3-4 people to create a more personal, intimate and accountable environment. The smaller groups shared their experiences as guided by the 10 Caritas processes/themes. Through smaller group-based activities allowed the participants to assist one another to critically think through challenging patient care clinical encounters in applying the Caritas processes. This model afforded a level of intimacy within the smaller groups that encouraged self-care and self-exploration, to essentially create transformative caring spaces with patients and colleagues.

Data Collection

This author partnered with the Director for Parent Self-Advocacy who oversees the pediatric CCP at SCH. The Chief Nursing Officer and Nurse Scientist for SCH

provided support for the financial resources and implementation of this study. Furthermore, the Administrative Director for Nursing Excellence and Inquiry provided direction for the roll out of this study. Approval was received from the Administrative Director of Clinical Access and Care Coordination at SCH, California State University, Fresno and SCH University Institutional Review Board (IRB).

The data, pre/post intervention, was collected by this author without additional assistance. Data was collected from a convenience sample of patients/families and nurses 6 weeks pre/post the Caring Science training intervention. This author had access to CCP patients admitted throughout the hospital, and created a standardized process for identifying patients/families assigned to either the tier 2 or tier 3 medically complex acuity. Once the patient/family were identified by this author, the patient/family were approached by this author to request voluntary participation to the study. Furthermore, volunteer participation in this study was also sought by this author for the nurse participants during designated staff meetings and scheduled Caring Science training. The training was conducted by certified Caritas coaches, and a consultant from the Watson Caring Science Institute.

To evaluate the data this author performed two separate descriptive data analyses, one for each independent variable. A Paired T-test was performed for the nurse's data analysis and an Independent T-test was performed for the data analysis for the patient and families. In this non-experimental, cross-sectional, correlational, quantitative study this author compared a pre/post-Caring Science model, by assessing perceptions of caring in the medically complex pediatric population and in the nurses that care for them. The null hypotheses is the mean perception of caring is the same for nurses and patient/families. And the alternative hypothesis is that the mean perception of caring is not the same for nurses and patient/families. The two group means differ, or there is a difference somewhere between the group means. The independent variable has 2 levels, nurses and

patients/families. The dependent variable is the perception of caring. The CNPI is a 23-item survey that is rated by the participant on a Likert scale from 1-5, the numeric scale is summed from 0-115, with higher scores indicating greater perceptions of caring. Also, the WCRS is a 5-item survey that is rated by the participant on a Likert scale from 1-7, the was summed from 0-35 with higher scores indicating greater perceptions of caring.

Ethical Consideration

This author sought informed consent from all participants by explaining there were none to minimal risks of participation in this study, the ability to withdraw from this study at any time, the extra steps taken to protect their information, and the benefits of the study in understanding patient perceptions of caring behaviors. All participation in this study was voluntary for both groups of participants, patients/families and nurses. The patients/families were invited to participate in the study 24-48 hours prior to discharge by this author. There were no complaints or issues escalated to the clinical team, this author, the principle investigator of the study, or any administrative office throughout the hospital in relation to this study. Informed consent was sought by this author, with a copy of the informed consent given to all participants. For Spanish-speaking participants, this author interpreted the document in fluent Spanish. Both the SCH University and California State University, Fresno IRB granted approval for this study to be conducted at SCH. Data was securely stored and analyzed by this author in a password protected computer that meets SCH security requirements for protecting information.

The two ethical considerations for this study were families who were experiencing an acute health crisis and the lack of a valid and reliable pediatric survey. Therefore, patients in acute health crisis were assessed and families of acutely critical patients were not approached to participate. As a result of there not being a valid and reliable tool for measuring caring behaviors in the pediatric population, accommodations

for vulnerable populations was not necessary as the patient/family surveys were conducted on the adult caregiver of the pediatric patient.

Bias

To minimize bias to this study, survey results were collected prior to implementation and training of Caring Science throughout the hospital. In doing so, caring behavior scores of nurses minimize being inflated than expected across the hospital. Also, there was a selection bias as the population were patients enrolled in the CCP, a program designed to care for the most medically complex patients throughout all of SCH. As a result of regression to the mean, the outcome of this study may not be generalizable as the patient population are extremely medically complex and extreme in the chronic condition spectrum (DeVellis, 2012).

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Summary

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Approval to conduct this study was obtained by the SCH and Fresno State IRB. A convenience sample was obtained from one department in one hospital, and were the most chronically ill patients at SCH. Data was collected using a validated and reliable survey and completed prior to and post Caring Science training. All data was analyzed using descriptive statistics. Data was uploaded into SPSS version 23 software (IBM Corp, Armonk, New York) for analysis. Total scores for the WCRS survey and total and subscale knowledge scores on the CNPI were computed.

CHAPTER 5: RESULTS

Statistics and Data Analysis

All data was analyzed using descriptive statistics. Demographic

information for the patient/families is provided on tables 1-11. There was a

separate control and intervention group for the patient/family participants, thus an

Independent Samples T-test was used to analyze the data. For the control

patient/family participants the nurses that cared for them had not received the 10

Caritas process intervention. For the intervention patient/family participants the

nurses that cared for them had received a one-day training in Caring Science. The

data for the pre/post intervention nurse participants was analyzed using a Paired T-

test.

Table 1

Clinical Acuity Level

Acuity	Frequency	Percent
Tier 2	8	17.0
Tier 3	39	83.0
Total	47	100.0

Table 2

Guardian Educational Background

Grade Level	Frequency	Percent
Grade 1-8	10	21.3
Grade 9-12	18	38.3
Some College	3	6.4
Associate Degree	1	2.1
Bachelor degree	3	6.4
Masters Degree	6	12.8
Total	41	87.2
Missing	6	12.8
Total	47	100.0

Table 3

Guardian Healthcare Background

Does Guardian have Healthcare Background	Frequency	Percent
Yes	4	8.5
No	34	72.3
5	1	2.1
Total	39	83.0
Missing	8	17.0
Total	47	100.0

Table 4

Guardian Gender

Gender	Frequency	Percent
Female	36	76.6
Male	6	12.8
Both Guardians	2	4.3
Total	44	93.6
Missing	3	6.4
Total	47	100.0

Table 5

Qualifying Patient Age

Age of Patient	Frequency	Percent
<1	2	4.3
1	4	8.5
2	12	25.5
3	3	6.4
4	2	4.3
5	1	2.1
6	6	12.8
7	2	4.3
8	2	4.3
9	2	4.3
10	1	2.1
11	2	4.3
13	1	2.1
15	2	4.3
16	1	2.1
17	1	2.1
Total	44	93.6
Missing	3	6.4
Total	47	100.0

Table 6

Marital Status

Marital Status	Frequency	Percent
Now Married	19	40.4
Separated	3	6.4
Never Married	12	25.5
Living Together	9	19.1
Total	43	91.5
Missing	4	8.5
Total	47	100.0

Table 7

Employment Status

Employment Status	Frequency	Percent
Employed for wages	18	38.3
Self-employed	4	8.5
Out of work and looking for work	11	23.4
Out of work but not currently lookking for work	6	12.8
Retired	1	2.1
Unable to work	2	4.3
Total	42	89.4
Missing	5	10.6
Total	47	100.0

Table 8

Employer Type

Employer Type	Frequency	Percent
Employed for a profit company or business or of an individual, for wages, salary, or commission	15	31.9
Employee of a not for profit, tax exempt, or chairtable organization	3	6.4
Local government employee (city, county, etc)	2	4.3
Self employed in own not incorporated business, professional practice, or farm	2	4.3
Working without pay in family business or farm	6	12.8
Total	28	59.6
Missing	19	40.4
Total	47	100.0

Table 9

Household Income

Income Ranges	Frequency	Percent
Less than $10,000	3	6.4
$10,000-$19,000	1	2.1
$20,000-$29,000	2	4.3
$30,000-$39,000	3	6.4
$40,000-$49,000	2	4.3
$50,000-$59,000	6	12.8
$60,000-$69,000	6	12.8
$70,000-$79,000	3	6.4
$80,000-$89,000	4	8.5
$90,000-$99,000	3	6.4
$100,000-$149,000	3	6.4
$150,000 or more	6	12.8
Total	42	89.4
Missing	5	10.6
Total	47	100.0

Table 10

Ethnicity

Ethnicity	Frequency	Percent
Hispanic or Latino	25	53.2
Not Hispanic or Latino	19	40.4
Total	44	93.6
Missing	3	6.4
Total	47	100.0

Table 11

Race

Race	Frequency	Percent
American Indian or Alaska Native	14	29.8
Asian	8	17.0
Black or African American	1	2.1
White	20	42.6
Total	43	91.5
Missing	4	8.5
Total	47	100.0

The total and subscale caring behavior scores on the CNPI were computed. The CNPI scores were answered based on a Likert scale, and summed for the total and subcategory scale. Independent Samples T-test were used to compare both total and subcategories scores for caring behaviors between the pre-intervention and post intervention. A total perceived caring behavior score was calculated from the Likert scale. Higher scores indicated higher perceptions of caring behavior from nurses toward patients/families in clinical care.

The results for the patient/family outcomes for the CNPI and the WCRS were statistically significant (CNPI: $t(42) = -3.053$, $p < 0.004$ and the WCRS: $t(42)= -6.438$, $p<0.001$) between the control and intervention groups. The family's perception of the nurses caring behavior did change between the control group and the intervention group (Table 12). The control group had a lower mean than the intervention group, thus the intervention group had more perceived caring behaviors. For the CNPI there are 4 subcategories that identify the domains for nurse caring behaviors, they are clinical care, relational care, humanistic care, and comforting care. A secondary analysis was conducted on the patient/family data (Table 13). The results from the families indicate that the strongest relationships are with clinical care ($p=.002<.05$) and relational care ($p=.006<.05$). The results

from the families indicate that the weakest relationships are with humanistic care
(p=.174>.05) and comforting care (p=.394>.05).

Table 12

Total Sum CNPI and WCRS for Patient/Family Statistics

Tool	Control/Intervention	N	Mean	Std. Deviation	Std. Error Mean
Sum_CNPIF	Control	20	66.0500	22.65409	5.06561
	Intervention	24	81.7917	10.28287	2.09898
Sum_WCRSF	Control	20	14.9500	4.98920	1.11562
	Intervention	24	23.8333	4.16681	.85055

Table 13

CNPI Subcategory Sum for Patient/Family Statistics

Subcategory	Control / Intervention	N	Mean	Std. Deviation	Std. Error Mean
CNPIFClinicalcare	Control	20	25.3500	9.11491	2.03816
	Intervention	24	33.1250	4.13166	.84337
CNPIFRelationalcare	Control	20	19.6000	7.28661	1.62934
	Intervention	24	25.0000	3.79931	.77553
CNPIFHumanisticcare	Control	20	11.7500	4.77796	1.06839
	Intervention	24	13.4583	2.96324	.60487
CNPIFComfortingcare	Control	20	9.3500	3.91051	.87442
	Intervention	24	10.2083	2.30272	.47004

For the nurses pre post survey no statistical significance was found (CNPI: t(19) = -1.374, p < 0.186; WCRS: t(19) = 1.824, p < 0.085). Perceptions of caring in nurses did not change with the intervention (Table 14). In the secondary analysis (Table 15) for the subcategories of the CNPI no statistical significance was found with Clinical Care: p=.354>.05, Relational Care: p=.058>.05, Humanistic Care: p=.310>.05, Comforting Care: p=.610>.05. The lack of statistical significance found in this study is similar to other studies of nurses reporting that they provide caring behaviors more frequently than patients actually

report receiving them (Cossette, Pepin, Côté, & De Courval, 2008; Levy-Malmberg & Hilli, 2013; Modic, 2014). No difference in rating among the subscales for caring behaviors indicating nurses performed similarly pre and post intervention in regard to practicing caring behaviors.

Table 14

Total Sum CNPI and WCRS for Nurses Statistics

Tool	Pre/Post Intervention	Mean	N	Std. Deviation	Std. Error Mean
CNPIN	Pre-Intervention	83.1579	19	14.88199	3.41416
	Post Intervention	91.0000	19	15.70563	3.60312
WCRSN	Pre-Intervention	29.0000	19	3.84419	.88192
	Post-Intervention	26.1053	19	4.60549	1.05657

Table 15

CNPI Subcategory Sum for Nurse Statistics

Subcategory	Pre/Post Intervention	Mean	N	Std. Deviation	Std. Error Mean
CNPINClinicalCare	Pre-Intervention	32.5263	19	6.22154	1.42732
	Post Intervention	34.9474	19	6.94801	1.59398
CNPINRelationalCare	Pre-Intervention	22.4211	19	6.20319	1.42311
	Post-Intervention	26.4737	19	5.69959	1.30758
CNPINHumanisticCare	Pre-Intervention	16.0526	19	2.34458	.53788
	Post-Intervention	17.0000	19	2.33333	.53530
CNPINComfortCare	Pre-Intervention	12.1579	19	2.16700	.49714
	Post-Intervention	12.5789	19	1.98090	.45445

Discussion

The intent of this study was to compare a nursing model based on the THC/CS with a nursing model not based on the THC/CS when measuring the perceptions of caring in the medically complex pediatric population. Per the results from the patient/family control and intervention data the Caring Science training did have an impact on the patient/family perceptions of nursing care. The nurse caring behavior interventions most impacted by the Caring Science training

were clinical care relating to the families perception of the nurses intervening, monitoring and competence, as well as relational care relating to the families perception of the nurses problem-solving, helping relationships and expression of emotions (Cossette, Cara, Ricard, & Pepin, 2005; Cossette, Coté, Pepin, & D'Aoust, 2006; Cossette, Pepin, Côté, & De Courval, 2008). The nurse caring behavior interventions least impacted were humanistic care relating to the families perception of the nurse providing hope, followed to a lesser extent by sensitivity, as well as comforting care relating to the families perception of the nurse teaching, healing environment, and spirituality (Cossette, Cara, Ricard, & Pepin, 2005; Cossette, Coté, Pepin, & D'Aoust, 2006; Cossette, Pepin, Côté, & De Courval, 2008).

Limitations

Due to the time constraints to perform this study the same family population was not surveyed pre/post Caritas training of the nurses. Thus, the study was not able to assess the effect of the intervention on the nurses. Future studies can measure the perceptions of caring on the same pre/post population to measure the effect of the intervention. Another limitation of the study was not considering patient related variables impacting care delivery models, such as the family's previous experience with the healthcare organization or the stage in the chronically ill disease process of the patient managed by the family. Finally, the population surveyed was a convenience sample in one hospital for one department with the most chronically ill pediatric patients identified at SCH, thus there are concerns with regression to the mean (DeVellis, 2012). Thus, a larger sample size with both acute and chronic patients would be recommended for future studies.

Implications for Nursing Practice and Conclusion

This study has begun changing nursing practice at SCH. It was able to measure the change before and after the Caring Science roll out in the Care Coordination department. This study is applicable to all units strategizing to implement Caring Science as the perceptions of caring from the nurses can be collected prior to Caritas training. The perceptions of the family/patient population can also be gathered prior to training of the nurses for each unit. Gathering data in the pediatric population to further study the perceptions of caring in this population is particularly valuable given the gaps in the evidence-based literature.

One of the evidence-based practice recommendations is to focus on outcomes of a Caring Science model in Pediatrics (Baldursdottir & Jonsdottir, 2002; Gillespie, Hounchell, Pettinichi, Mattei, & Rose, 2012). From a leadership perspective there is a need to continue to promote evidence-based practice in Caring Science in the pediatric population. Another recommendation is for hospitals to measure the impact of Caring Science on nurse clinical care indicators in the pediatric population (Larrabee, Ostrow, Withrow, Hobbs, & Burrant, 2004; Watson, Brewer, & D'Alfonso, 2010), as well as align Caring Science initiatives with patient satisfaction (Jansson, Bahtsevani, Pilhammar, Forsberg, & Hogskolan, 2010; Larrabee, Ostrow, Withrow, Hobbs, & Burrant, 2004; Neuman, Hall, Gay, Blaschke, & Williams, 2014), and measure the impact of a Caring Science nursing model on nurse engagement (Larrabee, Ostrow, Withrow, Hobbs, & Burrant, 2004; Cheng, Emmanuel, Levy, & Jenkins, 2015).

Caring Science should be more than just an afterthought in the nursing profession. It is critical to integrate Caring Science within nursing curriculum, at the start of a nurse's coursework. In this way nurses learn that perceptions of

caring, for both their patient/families and themselves, is just as important as learning clinical skills. This author's intent in shining a light on the need to incorporate caring into nursing curriculum is to develop competencies that measure the effectiveness of caring within nursing (Eggenberger, Keller, Chase, & Payne, 2012; Desmond, Horn, Keith, Kelby, & Ryan, 2014; Cossette, Cara, Ricard, & Pepin, 2005; Cossette, Coté, Pepin, & D'Aoust, 2006). This stands in contrast to assuming that all healthcare professionals innately know how to care. As evidenced by this study, there is a gap between the nurses and their patient's perceptions of care. It would benefit patient care to develop a valid and reliable competency that evaluates caring consistently.

REFERENCES

REFERENCES

Baldursdottir, G., & Jonsdottir, H. (2002). The importance of nurse caring behaviors as perceived by patients receiving care at an emergency department. *Journal of Acute and Critical Care, 31*(1), 67-75.

Behara, R., Wears, R., Perry, S., Eisenberg, E., Murphy, L., & Venderhoef, M. (2005). *A conceptual framework for studying the safety of transitions in emergency care.* Publication, Agency for Healthcare Research and Quality. Retrieved January 14, 2018, from http://www.ahcpr.gov/downloads/pub/advances/vol2/Behara.pdf

Berry, J. (2015). What children with medical complexity, their families, and healthcare providers deserve from an ideal healthcare system. *Lucile Packard Foundation for Children Health*. Retrieved from http://www.lpfch.org/sites/default/files/field/pub

Brewer, B., & Watson, J. (2015). Evaluation of authentic human caring. *Journal of Nursing Administration, 45*(12), 622-627.

Bruyneel, L., Buyse, G., Casteels, K., Eldere, J., Geet, C., Vanhaecht, K., . . . Van Geet, C. (2017). Validation of the Child HCAHPS survey to measure pediatric inpatient experience of care in Flanders. *European Journal of Pediatrics, 176*(7), 135-145.

Center for Medicare and Medicaid. (2018, January 15). *Care coordination agreements that promote improvements in patient tracking across settings.* Retrieved January 2018, from MD Interactive: https://mdinteractive.com/care-coordination-agreements-promote-improvements-patient-tracking-across-settings

Cheng, T., Emmanuel, M., Levy, D., & Jenkins, R. (2015). Child health disparities: What can a clinician do? *Pediatrics, 136*(5).

Coates, C. (2009). Caring Efficacy Scale. In J. Watson, *Assessing and Measuring Caring in Nursing and Health Sciences.* New York: Springer Pub. Co.

Coleman, E., & Berenson, R. (2004). Lost in transition: Challenges and opportunities for improving the quality of transitional care. *Annals of internal medecine, 14*(7), 533-536.

Cossette, S., Cara, C., Ricard, N., & Pepin, J. (2005). International Journal Studies. *Assessing nurse-patient interactions from a caring perspective: Report of the development and preliminary psychometric testing of the Caring Nurse-Patient Interactions Scale., 42*, 673-686.

Cossette, S., Coté, J. K., Pepin, J. R., & D'Aoust, L. (2006). A dimensional structure of nurse-patient interaction from a caring perspective: Refinement of the Caring Nurse-Patient Interactions Scale (CNPI-Short Scale). *Journal of Advanced Nursing, 55*, 198-214.

Cossette, S., Pepin, J., Côté, J., & De Courval, F. (2008). The multidimensionality of caring: A confirmatory factor analysis of the caring nurse–patient interaction short scale. *Journal of Advanced Nursing*, 699-710.

Cronin, S., & Harrison, B. (1988). Importance of nurse caring behaviors as perceived by patients after myocardial infarction. *Heart & Lung, 22*, 374-380.

Desmond, M., Horn, S., Keith, K., Kelby, S., & Ryan, L. (2014). Incorporating caring theory into personal and professional nursing practice to improve perception of care. *International Journal for Human Caring, 18*(1), 35-44.

DeVellis, R. (2012). *Scale Development: Theory and Applications.* Thousand Oaks: SAGE.

Dykes, P., Samal, L., Donahue, M., Greenberg, J., Hurley, A., Hasan, O., . . . Bates, D. (2014, November). A patient-centered longitudinal care plan: Vision versus reality. *Journal American Informatics Association, 21*(6), 1082-1090. doi:10.1136/amiajnl-2013-002454

Eggenberger, T., Keller, K., Chase, S., & Payne, L. (2012). A quantitative approach to evaluating caring in nursing simulation. *Nursing Education Perspectives, 33*(6).

Florin, J., Ehrenberg, A., & Ehnfors, M. (2006). Patient participation in clinical decision making in nursing: A comparative study of nurses' and patients' perceptions. *Journal of Clinical Nursing, 15*(12), 1498-1508.

Frankovich, J., Thienemann, M., Rana, S., & Chang, K. (2015). Five youth with pediatric acute onset neuropsychiatric syndrome of differing etiologies. *Journal of Child and Adolescent Psychopharmacology, 25*(1).

Gagnon, S., Paquet, M., Courcy, F., & Parker, C. (2009). Measurement and management of work climate: Cross-validation of the criso psychological climate questionnaire. *Healthcare Management Forum, 22*(1), 57-65.

Gillespie, G., Hounchell, M., Pettinichi, J., Mattei, J., & Rose, L. (2012). Caring in pediatric emergency nursing. *Research and Theory for Nursing Practice: An International Journal, 26*(3), 216-232.

Hunter, B., & Segrott, J. (2008). Re-mapping client journeys and professional identities: A review of the literature on clinical pathways. *INternational Journal of Nursing Studies, 45*(4), 608-25.

Jansson, I., Bahtsevani, C., Pilhammar, E., Forsberg, A., & Hogskolan, H. (2010). Factors and conditions that influence the implementation of standardized nursing care plans. *Open Nursing Journal, 4*, 25-34.

Jeffs, L., Kito, S., Merkley, J., Lons, R., & Bell, C. (2012, October 5). Safety threats and opportunities to iprove interfacility care transitions: insights from patients and family members. *Patient Preferance Adherance, 6*, 711-718. doi:10.2147/PPA.S36797

Krishnamurti, L., Smith-Packard, B., Gupta, A., Campbell, M., & Gunawardena, S. (2014). Impact of individualized pain plan on the emergency management of children with sickle cell disease. *Pediatric Blood & Cancer, 61*(10), 1747.

Larrabee, J., Ostrow, C., Withrow, M., Janney, M. H., & Burrant, C. (2004). Predictors of patient satisfaction with inpatient hospital care. *Research in Nursing & Health, 27*(4), 254-268.

Latour, J., Van Goudoever, J., Duivenvoorden, H., Van Dam, N., Dullaart, E., Albers, M., . . . Hazelzet, J. (2009). Perceptions of parents on satisfaction with care in the pediatric intensive care unit: the EMPATHIC study. *Intensive Care Medecine, 35*, 1082–1089.

Lautz, T., & Reynolds, M. (2011). Context and significance of emergency department visits and readmissions after pediatric appendectomy. *Journal of Pediatric Surgery, 46*(10), 1918-1922.

Levy-Malmberg, R., & Hilli, Y. (2013). The enhancement of clinical competence through caring science. *Scandinavian Journal of Caring Science*, 861-866.

Lianne, J., Lyons, R., Makley, J., & Bell, C. (2013). Clinicians' views on improving inter-organizational care transitions. *Biomedical Central Health Services Research, 13*, 289. doi:10.1186/1472-6963-13-289

Loane, S. (1911, February). Nightengale and district nursing. *The American Journal of Nursing, 11*(5), 383-384. Retrieved 2018, from http://www.jstor.org/stable/3404995

Modic, M. S. (2014). Caring behaviors: Perceptions of acute care nurses and hospitalized patients with diabetes. *Journal of Patient Experience, 1*(1).

Neuman, M., Hall, M., Gay, J., Blaschke, A., & Williams, D. (2014). Readmission among children previously hospitalized with pmneumonia. *Peditrics, 134*(1), 100-109.

Pajnkihar, M., McKenna, H., Štiglic, G., & Vrbnjak, D. (2017). Fit for Practice: Analysis and Evaluation of Watson's Theory of Human Caring. *Nursing Science Quarterly , 30*(3).

Peplau, H. (1991). *Interpersonal Relations in Nursing: A Conceptual Frame of Reference for Psychodynamic Nursing.* New York: Springer: Springer.

Presson, A., Zhang, C., Abtahi, A., & Kean, J. H. (22017). Psychometric properties of the press ganey[r] outpatient medical practice survey. *Health and Quality of Life Outcomes, 15*(1).

Roch, G., Dubois, C., & Clarke, S. (2014). Organizational climate and hospital nurses' caring practices: A mixed-methods study. *Research in Nursing & Health, 37*(3), 229-240.

Shortell, M., Rousseau, M., Gillies, R., Devers, J., & Simons, L. (1991). Organizational assessment in intensive care units (icus): Construct development, reliability, and validity of the icu nurse-physician questionnaire. *Medical Care, 29*(8), 709-726.

Smith, M., Turkel, M., & Robinson Wolf, Z. (2013). *Caring in Nursing Classics: An Essential Resource.* New York: Springer Publishing Company.

Subramony, A., Schwartz, T., & Hametz, P. (2012). Family-centered rounds and communication about discharge between families and inpatient medical teams. *Clinical Pediatrics, 51*(8), 730-738.

Swanson, K. (1991). Empirical evidence of a middle range theory of caring. *Nursing Research, 40*(3), 161-166.

The Joint Commission. (2017). *Hospital Accreditation Standardds.* Retrieved
from The Joint Commission.

Tinkham, M. (2014). Satisfaction, press ganey, and magnet recognition. *AORN
Journal, 100*(5), 534-536.

Tucker, S., Canobbio, M., Vargo-Paquette, E., & Wells, M. (2000). *Patient Care
Standards. Collaborative Planning & Nursing Interventions* (7th ed. ed.). St.
Louis: Mosby.

Watson, J. (1979). *Nursing: The Philosophy and Science of Caring.* Boston: Little,
Brown.

Watson, J. (2002). *Assessing and Measuring Caring in Nursing and Health
Science .* New York: Springer.

Watson, J. (2008). *The Philosophy and Science of Caring* (Revised ed.). Boulder:
Univeristy Press of Colorado.

Watson, J. (2012). *Human caring science: A theory of nursing* (2 ed.). Sudbury,
Ontario, Canada: Jones & Bartlett Learning.

Watson, J., Brewer, B., & D'Alfonso, J. (2010). Caritas: A theory guided scale to
measure human caring. *Poster presented at the 2010 State of the Congress on
Nursing research; September 2010.* Washington, DC.

APPENDIX: 10 CARITAS PROCESSES®

1. Sustaining humanistic-altruistic values by practice of loving-kindness, compassion and equanimity with self/others.

2. Being authentically present, enabling faith/hope/belief system; honoring subjective inner, life-world of self/others.

3. Being sensitive to self and others by cultivating own spiritual practices; beyond ego-self to transpersonal presence.

4. Developing and sustaining loving, trusting-caring relationships.

5. Allowing for expression of positive and negative feelings – authentically listening to another person's story.

6. Creatively problem-solving-'solution-seeking' through caring process; full use of self and artistry of caring-healing practices via use of all ways of knowing/being/doing/becoming.

7. Engaging in transpersonal teaching and learning within context of caring relationship; staying within other's frame of reference-shift toward coaching model for expanded health/wellness.

8. Creating a healing environment at all levels; subtle environment for energetic authentic caring presence.

9. Reverentially assisting with basic needs as sacred acts, touching mind, body, spirit of spirit of other; sustaining human dignity.

10. Opening to spiritual, mystery, unknowns-allowing for miracles. (Watson, 2008, pg. 31)