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DNP FINAL REPORT: IMPROVING CAREGIVER HEALTH LITERACY OF PEDIATRIC FEBRILE ILLNESS: A PATIENT CARE INITIATIVE

by

REBECCA TAYLOR SHIPLEY, FNP-C

A DNP Final Report submitted in partial fulfillment
of the requirements for the degree of
Doctor of Nursing Practice
School of Nursing

Dr. Ellen Fineout-Overholt, PhD, RN, FNAP, FAAN, Committee Chair

College of Nursing & Health Sciences

University of Texas at Tyler
May 2020

The University of Texas at Tyler
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Acknowledgements

I would like to acknowledge the substantial commitment and efforts dedicated to my doctoral scholarly project by Dr. Ellen Fineout-Overholt, who has served as Faculty Mentor for this project, as well as Dr. Kathleen Helgesen, who has served as Industry Mentor for this project. Dr. EFO has spent countless hours combing through the details of this manuscript with me, as well as expertly recommending amendments and improvements to my project in order increase the impact of this evidence-based intervention in the clinical setting. The time and energy she has devoted to my personal and professional success has not gone without recognition or immense appreciation. Dr. Helgesen, who came forward at a time of sincere desperation in my doctoral journey, has been monumental in helping me pervade the pediatric clinical scene in Jacksonville, Tx. Without her provision, this project would not have been able to meet its full potential. I have immeasurable appreciation to both of these nursing giants.

Additionally, it is imperative to recognize my eight cohort members, who made this 3-year journey tolerable and entertaining. Without their support and inspiration, I would have never found the motivation to push myself through those late nights and early mornings.

I would also like to acknowledge all of the nursing professors at the University of Texas at Tyler who dedicate their time to molding DNP students on their doctoral journey. Each doctoral professor in the school of nursing is devoted to the success of their students and it is a palpable commitment.

Dedication

This scholarly project is dedicated to my husband, Rob Shipley. Rob, the true hero of my scholastic efforts, has so graciously sacrificed exorbitant hours of our marriage to my educational endeavors in the most supportive and indulgent manner imaginable. His devotion to my didactic journey has been the underpinning for the achievement of this doctoral degree. I have no doubt that without his fortitude and optimism, the realization of this doctorate would still be many years away. His selflessness is humbly, yet immensely recognized.

This scholarly project is also dedicated to my parents, Mark and Lisa Taylor, who have indefatigably encouraged me in my academic pursuits over the previous 10 years. Their assiduous commitment to their children's education has fostered a culture of scholarship and success. Furthermore, my mother deserves a distinct note of appreciation for editing innumerable manuscripts throughout my collegiate career, often on the most vapid of subjects.

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Abstract

DNP FINAL REPORT: IMPROVING CAREGIVER HEALTH LITERACY OF PEDIATRIC FEBRILE ILLNESS: A PATIENT CARE INITIATIVE

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May 2020

Background: Pediatric fever, though typically harmless and incredibly common, can cause substantial fear and anxiety for caregivers unfamiliar with how to manage or treat this condition at home. Studies evaluating pediatric emergency department (ED) rates have repeatedly found fever to be a leading reason for clinical evaluation. Local EDs record percentages as high as 40% of pediatric patients seek evaluation primarily for fever.

Purpose: Provide educational resources for high-risk populations to reference at home regarding fever so that avoidable ED visits decreased and caregiver knowledge of fever improved.

Methods: An educational program was implemented at a pediatric primary care clinic for patients aged six months to four years. This program consisted of the distribution of a health information book, addressing basic fever knowledge/management, along with a description of its use and contents. A fever survey was completed by each participant pre- and post- book reception. Results were then compared.

Results: There was a 57% reduction in reported ED visits and a 65% increase in right answers after book education. In addition, there was a 77% increase in book referral by caregivers as a first line treatment for pediatric fever.

Chapter 1 – Development of the Clinical Question and Problem Identification (EBP Process Steps 0,1,2)

Background and Significance

Febrile illness is one of the leading reasons for pediatric health care visits annually. Morrison and colleagues (2014) presented that fever in children is a source of great anxiety for caregivers of all races, age, and socio-economic backgrounds. This concern is likely the result of decreased understanding regarding the cause, management, and treatment of fever in pediatric patients. Furthermore, some studies have found that fever is frequently the reason many caregivers seek treatment for their children in the emergency department (ED; Kubicek et al., 2012; Alpern et al., 2014). Caregivers with decreased health knowledge have been shown to take their children to the emergency department for fever more frequently than those with higher levels of health literacy (Morrison et al., 2014). Approximately 80,000 pediatric patients visit emergency departments daily and account for over 25% of all emergency department visits each year in the U.S. (Alpern et al., 2014). Kubicek et al. (2012) and Alpern et al. (2014) concluded from data collection studies investigating the trigger for pediatric emergency department visits, that fever was the number one reason given by caregivers for bringing their child to the ED for evaluation. Kubicek et al. (2012) questioned 106 caregivers about their reason for seeking ED evaluation for their child and found that 22% listed fever as their reason for evaluation - making it the highest-ranking reason for presenting. Morrison et al. (2014) concluded in a cross-sectional study that two-thirds of caregivers that brought their child to the ED for fever had low health literacy. It is logical to conclude that the anxiety and inadequate knowledge of caregivers to properly manage pediatric febrile illness is likely the trigger for their use of emergency medical services instead of treatment at home or through a primary care provider.

Pediatric febrile presentation to the ED, in the absence of emergent symptoms, is considered misuse of emergency services. “Non-urgent” ED visits are typically defined as visits for conditions in which a delay in evaluation of several hours would not increase the likelihood of an adverse outcome (Wong, Claudet, Sorum, & Mullet, 2015). Seeking non-urgent care in the ED can lead to misapplication of health care funds. Furthermore, one third of all emergency department visits are considered non-urgent and misuse. Non-urgent conditions are considered avoidable or preventable visits that could be treated in a primary care setting. It has been estimated that over 18 billion dollars are wasted each year from avoidable ED visits (SAGE Publications, 2015). Misuse of the ED can increase congestion and slowing of the normal movement of patients who have severe and possibly life-threatening conditions through the department. Workload is also affected. Primary providers report that pediatric febrile illness appointments place a large burden on their workload daily (Kelly et al., 2016).

External Evidence

With non-urgent presentations representing between 58% to 82% of pediatric visits to the emergency room (Berry, Brousseau, Brotanek, Tomany-Korman, & Flores, 2008), costs for such care cannot be ignored. Kubicek (2012) found that in a study of 106 caregivers, almost half (49%) of the respondents admitted to having a yearly income of less than $20,000, and 43% of the respondents reported they did not have health insurance. Willingness of healthcare agencies to provide pro bono care and primary care costs may be a factor in the choice to use the ED as a primary care office.

An analysis of ED visits in the United States during 2013 showed that nearly half (46.2%) of all ED visits by pediatrics were children less than 5 years of age. According to the Agency for Health Care Administration (2014), the average cost of a low-acuity ED visit for

children under the age of 5 is between $700 to $800. Additionally, Medicaid was the primary payer of all pediatric ED visits, covering over 68.7% of patients evaluated.

Medicaid is recognized as being one of the lowest reimbursement entities to health care systems. Overuse of EDs by Medicaid patients can affect not only the federal government through excessive healthcare spending, but also health care systems seeking reimbursement for services. Montalbano, Rodean, Kangas, Lee, and Hall (2017) concluded from their study that if low-acuity visits by pediatric Medicaid patients were seen in the primary care or urgent care setting instead of the ED, the per-year savings would be more than $50 million. The establishment of a financial relationship between the use of the ED for non-urgent visits and the large expense this comes at is important to appreciating how the reduction of such visits might aid all parties involved.

Health Literacy

Health literacy is the ability to understand and utilize health information. High levels of health literacy affect health decisions and behaviors. Low levels of health literacy have been shown to lead to confusion in individuals presented with even simple health information. According to the Office of Disease Prevention and Health Promotion (2008), over 77 million people (roughly over a third of US adults) have difficulty with common health tasks due to decreased health literacy. Low health literacy affected all racial and ethnic groups; however, Hispanic adults were shown to have the highest percentage of below basic literacy levels (Morrison et al., 2014). Additionally, individuals with federally funded insurance (such as Medicaid and Medicare) were twice as likely to have below basic or basic health literacy levels. Therefore, to raise the health literacy for caregivers who potentially would non-urgently use the ED for pediatric fever may reduce cost and improve continuity of care.

To further substantiate the impact of non-urgent presentation of pediatric fever complaints, consider the study by Elkon-Tamir, Rimon, Scolnik, and Glatstein (2017), in which a questionnaire was distributed to 100 caregivers who brought a pediatric patient to the ED. The questionnaire assessed caregiver knowledge regarding the numerical value that represented a fever, fever-related beliefs and fever-related behaviors (e.g., complications & causes of fever). While 86% of the caregivers listed fever as a chief complaint, the researchers found that caregivers had inadequate knowledge of accurate fever definition, treatment, and complications. Fewer than half of the respondents in the study were able to identify the temperature at which fever is first considered abnormal (i.e., 100.4F).

Despite healthcare provider's attempts to educate caregivers about fever management in clinical settings, substantial knowledge gaps still existed. Studies like this suggested there were still missed opportunities to educate caregivers about fever in the pediatric population. As clinic appointment time allotments shrink, the effectiveness of communication to caregivers would be expected to improve through varying strategies and resources to make the caregivers more comfortable in managing simple conditions in the home. For this reason, a take home resource of reference was considered as a method in which the reduction of face-to-face time between caregivers and health care providers could be overcome.

Internal Evidence

The location for implementation was selected as Jacksonville, TX, a small east Texas town classified as a medically underserved area. Jacksonville, TX is located in Cherokee County, which has 6,648 pediatric Medicaid enrollees as of 2018. Census data from 2018 report Hispanic children to make up 23.6% of Cherokee County youth (Texas Health and Human Services, 2019). This information is important, due to the previously identified risk factors for individuals

with low health literacy. Data was collected from the electronic medical record (EMR) of the local ED in this area. From May 2018 to April 2019, Jacksonville ED saw a total of 4,438 pediatric patients. Of these patients, 3,049 (68.7%) were funded federally by Medicaid. These data are reflective of state and national data, which highlights a population of patients that most frequently use the ED. Figure A1 in Appendix A breaks down the ages of the patients evaluated in this local ED. It can be appreciated that a substantial amount of the patients ranged in age from 6 months to 4 years. In specifically evaluating this age group in more detail, Figure A2 in Appendix A shows that approximately 35-40% of all ED visits in this age group presented with chief complaint (CC) of fever. Of those presenting with CC of fever, 81% were Medicaid insurance carriers. To further speak to the low visit acuity of this age group (6 months to 4 years) evaluated in the Jacksonville ED, substantially low volumes of these patients were transferred to Children's Hospitals or admitted for further treatment due to their condition. For example, of 1,468 patients in this age group evaluated, only 34 patients were admitted or transferred, equaling 2.3% of the evaluated population (Appendix A, Figure A3). Therefore, in the realm of non-urgent visits, there is a significant number of these visits that could likely be avoided or evaluated elsewhere (such as an ambulatory clinic). It was determined, based on these data, that a need for behavior modification was present in this area.

Development of the Clinical Question

Studies designed to increase caregiver knowledge were met with significant enthusiasm by caregivers and a desire for further health-related education (Chang, Lee, Guo, & Huang, 2015; Herman et al., 2009; Robinson et al., 1989). Such interest in educational programs lends some support to consider their inclusion by ED leadership to help increase health literacy of parents and caregivers of pediatric patients at risk for fever. In developing the clinical question,

concerns around how to distinguish the most effective method of educating caregivers of pediatric patients about varying qualities of fever were considered. Therefore, the question arises: In pediatric patients aged 6 to 48 months who present to the emergency room with complaint of fever (P) how does caregiver education about origins, diagnosis, and treatment of fever (I) compared to no education (C) affect valid emergency room visits (O) over a 6 month period (T)?

Chapter 2 –Evidence Synthesis and Model of EBP (EBP Process Steps 1, 2, 3, 4)

Systematic Search

After establishing significance of the clinical problem and formulation of a PICOT formatted question, a systematic search was conducted of the CINAHL (Cumulative Index of Nursing and Allied Health), PubMed, and Cochrane Database of Systematic Reviews (CDSR) databases for relevant evidence on this subject. A flow chart of this process is available in Appendix B, Figure B1. The key terms *pediatric fever, fever education, and emergency department* were used in the same systematic search strategy for each database. Across all databases, inclusion criteria required English language articles and human subjects. It was also required that the articles be peer-reviewed. Dates of articles were unrestricted to allow for all evidence pertaining to the PICOT question to be obtained.

The systematic search was initiated with the CINAHL database. Thirty-three articles were found to be relevant when the key terms were combined. Within CINAHL, the subject term *fever* was exploded to include the subject heading "*fever of unknown origin,"* as this is a common pediatric diagnosis used by providers. This modification did not change the search yield result. Five of these thirty-three studies were for relevance to the PICOT.

PubMed database yielded 100 total articles using the same search strategy. Of the 100 articles presented, four of these were retained due to their relevance to the PICOT and further assessed by rapid critical appraisal.

Sixty-one articles were found from the final database systematically searched, the CDSR, using the same key terms. None of the articles yielded were relevant to the PICOT and, therefore, were not included in rapid critical appraisal.

Upon performing a hand search, three additional articles were determined to be relevant to the PICOT. These articles were located online in the archives of the Institute for Healthcare Advancement (IHA) and included interventions to educate caregivers of small children on proper healthcare facility utilization for minor illnesses. These studies were added to the studies to be critically appraised.

Critical Appraisal

Using the four phases of critical appraisal the twelve keeper studies were evaluated to determine whether or not they answered the PICOT question.

Rapid critical appraisal

Each of the 12 studies most relevant to the PICOT question were evaluated using the appropriate rapid critical appraisal checklist (RCAC) and General Appraisal Overview (GAO). These tools were used to extract information and determine which were keeper that met the required quality to be retained.

The General appraisal overview (GAO) forms and RCACs helped to determine validity, reliability, and applicability of each study to the clinical issue. Level of evidence for each study was identified by the RCACs and GAOs, along with study design, methods, and interventions. Rapid Critical Appraisals were used as a quick assessment tool for each article to determine its applicability. Furthermore, GAOs were utilized as a more in-depth evaluation of the construct of each study to help determine its validity, strengths, and weaknesses (Melnyk & Fineout-Overholt, 2015).

Evaluation

The information from the 12 articles was then processed into a more easily interpreted Evaluation Table (Appendix C, Table C1). Herman and Nurshal (2017) explored the use of two

thirty-minute discussion style lectures to teach caregivers about how to manage fever at home. This was the only study to evaluate a lecture style approach without the supplement of any other forms of education. In addition, scores evaluating caregivers' knowledge, attitude, and action on fever were compared to the control group with standard instruction at the 48-hour and 1 month mark.

Fieldston and colleagues (2013) and O'Neil-Murphy, Liebman, and Barnsteiner (2001) explored the use of a healthcare professional-to-caregiver discussion session that incorporated a short skills demonstration and pamphlet handout afterwards. The skills demonstration, for both studies, included appropriate use of a thermometer. The study conducted by Fieldston et al. (2013) yielded improved caregiver knowledge scores about fever evaluated by a pre-test and post-test. Caregiver knowledge of fever was increased by 16% post-intervention. The reduction in ED visits pre- and post-intervention was not deemed statistically significant. The study conducted by O'Neil-Murphy et al. (2001) produced improved management of fever at home and decreased caregiver anxiety regarding fever by 85%. These results were evaluated by a pre-/post-test design. Furthermore, it was deemed as difficult to determine whether this educational program decreased the amount of ED visits.

Studies by Baker, Monroe, King, Sorrentino, and Glaeser (2009) and Wood et al. (2017) explored only a video educational program for intervention. These concluded that the video programs alone increased caregiver knowledge of fever via a pre-/post-test design. The study by Baker and colleagues (2009) found that an 11-minute video about fever also improved caregiver attitude of fever compared to the control group shown an 8-minute video about teen safety. This method, however, showed no difference in the rate of return ED visits for febrile illness between the two groups. The non-randomized control trial by Wood et al. (2017) used a 3-5 minute video,

which improved caregivers' knowledge of fever by 9% in pre-/post-test scores. (Baker et al., 2009; Wood et al., 2017).

Robinson, Schwartz, Magwene, Krengel, and Tamburello (1989) utilized a 10-minute video for fever education that included the addition of an informational pamphlet for at home use. Subsequent pediatric clinic visits for fever were decreased by 30% to 35% when assessed for twelve months. Three months post-intervention, caregiver knowledge of fever remained increased compared to pre-test scores. This appreciable increase faded by the six-month interval.

One non-randomized control trial conducted by Kawakatsu et al. (2015) explored the effect of a mother and child handbook distributed to caregivers. This book included information regarding common childhood illnesses and how to manage them at home. Kawakatsu et al. (2015) distributed the book door to door within a community. Kawakatsu and colleagues noted that book distribution increased caregiver knowledge of common childhood illnesses by 5.9%, along with improving the health seeking behaviors for fever by caregivers by 9.4%.

Chang et al. (2015) was the only study to evaluate a simulation based educational (SBE) program. The intervention included an interactive session with caregivers simulating home management of fever, along with an educational pamphlet distributed after the program. The study concluded that "information, motivation, behavior skills, and management behaviors" (p. 467), of simulation instructed caregivers, showed significant improvement on the post-test analysis. Additionally, the research proved that retention rates are much higher with SBE, lasting up to 12 months.

Four studies reviewed the effect of distributing a health information book to caregivers of pediatrics entitled "What To Do When Your Child Gets Sick". These books, written at a 3rd to 5th grade reading level, were disbursed to high-risk populations within Head Start Programs after

a brief "how to use" explanation by a healthcare professional. The book includes over 50 common childhood illness descriptions, management, and recommendations for caregivers to reference when their child becomes sick. Herman et al. (2009) had professionals provide a 5 to 10 minute discussion of the book and its contents. Post distribution, 13% fewer caregivers stated they would go to the ED first if their child became sick. There was also a 30% decrease in ED visits by caregivers of pediatrics for sickness after book distribution. Herman and Jackson (2011) distributed the book with a one-time training to caregivers by HCPs. Six months after distribution there was a 58% decrease in ED visits for acute pediatric illness by the families. The knowledge of caregivers regarding common childhood illnesses was increased in all acute pediatric conditions tested. Kurth (2010) distributed the books to caregivers via a one-on-one discussion with an HCP. This intervention resulted in a 55% decrease in ED visits for common childhood illnesses. Furthermore, caregiver confidence in caring for a sick child increased by 29% and caregiver knowledge of caring for a sick child increased by 20% after book distribution and education. Herman and Mayer (2004) distributed the self-help book with a brief training class to caregivers. At a six-month post-intervention evaluation, a 48% reduction in ED visits for common pediatric conditions was measured. Additionally, caregiver knowledge and management of common childhood illnesses were improved with book delivery.

Between the four studies, researchers noted a 35% to 58% decrease in ED visits by caregivers using the book as their health reference resource (Herman & Jackson, 2011; Herman & Mayer, 2004; Kurth, 2010; Herman et al., 2009).

Synthesis

As indicated in Table C2 (Appendix C), all articles were identified as levels 2, 3, or 4. Four of the keeper studies were randomized control trials (Level 2), five of the studies were

control trials without randomization (Level 3), and three articles were prospective cohort studies (Level 4).

All studies in the body of evidence introduced educational programs focused on improving caregiver health literacy. Education programs across studies used demonstrations and presentations, paper handouts with text and pictures, and simulations to show effective methods to increase caregiver knowledge of pediatric illness (Appendix C, Table C3).

Despite varying modalities, all studies demonstrated a positive impact on caregiver knowledge of fever and their ability to manage it at home (Appendix C, Table C4). All methods have shown differing levels of improvement in a caregiver's ability to manage fever at home and, therefore, reduce the need to be seen by a health care professional (HCP). Eight studies explored the implementation of educational programs in both the clinic and emergency department (ED) setting, with both locations yielding positive results. Some methods, however, yielded a greater impact on health care facility utilization. Ten articles assessed health-seeking behavior of caregivers, frequency of ED use by caregivers, and rate of return health care visits as study variables (Appendix C, Table C5).

The body of evidence validated that implementation of an educational intervention about how to effectively manage fever in pediatric populations can increase caregiver knowledge and attitude, as well as improve management of pediatric fever (Appendix C, Table C6). All outcomes were improved. Studies showed that increasing a caregiver's ability to efficiently manage fever at home would decrease the frequency of health care visits in both the clinic and emergency service setting.

Per the body of evidence, the method most effective at decreasing pediatric ED use for non-urgent conditions included distribution of a health book to caregivers regarding common

childhood illnesses, provided with a discussion opportunity with an HCP explaining how to properly use its contents. (Herman et al., 2009; Herman & Jackson, 2011; Herman & Mayer, 2004; Kurth, 2010). Studies identified high-risk populations who frequent EDs for non-urgent conditions, leading to greater medical resource usage and health system financial burdens. Focusing interventions on these high-risk populations exhibited the highest percentage decrease of ED use (Uscher-Pines, Kellermann, Gillen, & Mehrotra, 2013).

Exploration of interventions to promote appropriate use of emergency medical services for febrile illness is important to reduce misuse of resources. Fever phobia has been associated with great stress in caregivers who feel ill equipped to properly treat a pediatric febrile illness at home. Increasing a caregiver's scope of knowledge and management of fever could greatly decrease financial burdens for emergency health care evaluations, decrease primary provider appointment load, improve patient flow through emergency departments, and decrease caregiver stress. Allowing literature to guide the most effective methods to increase caregiver's ability to manage fever and correctly utilize emergency medical services can provide a great opportunity to implement necessary, sustainable change.

Sample sizes ranged from 32 caregivers to 9,240. Pediatric population ages ranged from 0 months to 18 years. All forms of medical coverage were assessed across the 12 studies, including federal (Medicaid-state/national), private, commercial, and self-pay. A table was generated to classify insurance providers for each study, in order to identify patterns and populations of focus (Appendix C, Table C6). International and US patients and caregivers were considered.

Three of the studies were international studies, while the remaining six were conducted in the US. All nine studies reviewed educational programs using varying methods and locations.

Settings ranged from pediatric primary clinics to pediatric emergency departments to community outreach programs in overseas countries. A synthesis table was created to categorize studies' settings, in order to more easily relate intervention to location (Appendix C, Table C7).

All interventions educated caregivers of pediatric population. Varying modalities of education were explored in each article. Educational intervention programs explored in the literature included didactic lectures or discussions, videos, skill demonstrations, pamphlet distribution and book distribution. Several of the articles studied mixed methods of education by combining more than one approach to enhance learning by the caregivers. Five of the studies' educational programs focused solely on fever education, while four provided information on fever and other common childhood illnesses.

All studies included caregivers of children. Stakeholders of the studies that included in the delivery of the educational interventions were staff in pediatric primary clinics, pediatric emergency departments, and community outreach programs. Health systems and hospital administration also were stakeholders in many of the studies.

Recommendation

Based on the evidence, distribution of the book entitled *What to Do When Your Child Gets Sick* by Mayer and Kuklierus should be required in all pediatric care clinics who have high-risk populations that frequent EDs for what are considered non-urgent conditions. This population was repeatedly addressed in the literature as minority groups and patients funded by federal/state entities, such as Medicare and Medicaid. The expectation of this intervention is that unnecessary pediatric visits to EDs will decrease. The dispensation of the book should be

coupled with a brief discussion of the contents and how to use the book for maximum effectiveness.

Larrabee's Model of Evidence-Based Practice Change

Larrabee's *A model of evidence-based practice change* (2009) was chosen for this educational project due to its well-organized and step-wise approach to project implementation. Furthermore, it encouraged reflection on the EBP process, with opportunity to adjust factors that might not have moved as smoothly as anticipated. This model consists of principles of Quality Improvement, which are the basis for an educational implementation project. These principles include collecting and analyzing data to evaluate processes that enhance a culture of quality within an organization. This requires a commitment to ongoing assessment of change when warranted, and the strict adherence to evidence-based (EB) practices. This model focuses on implementing an EB change and the permanence of that change (Melnyk & Fineout-Overholt, 2015).

Lewin's Change Theory

Kurt Lewin's Change Theory is a mid-range theory that simplifies organizational change into three clearly identified stages- unfreezing, moving, and freezing- that form the basis for nearly all processes of change in a health system or business entity (Hussain et al., 2016). Lewin's theory defines these three stages as checkpoints through which change agents proceed, before change in a system can be permanent (Mitchell, 2013). This theory, applied to the implementation of an educational program by health care professionals, promotes lasting change. This theory promotes EBP educational implementation to achieve effective and long-term results. The unfreezing stage identifies a need for change in clinic utilization. The change stage

represents the implementation of a new educational program, while the refreezing stage holds the change permanent to improve caregiver literacy while decreasing the burden of care.

Chapter 3- Project Design and Methodology (EBP Process Steps 3 & 4)

Project Design and Methodology

The setting for the project was a federally qualified pediatric clinic in Jacksonville, TX. This clinic services pediatrics of all ages and accepts all insurance carriers. High volumes of minority patients seek routine care at this facility, with Medicaid being the primary payer for billed services. Furthermore, this clinic has a board of directors who makes systematic decisions regarding service provision. It is one of many pediatric clinics in the area that work together to serve vulnerable populations. The clinic is managed by a full-time family nurse practitioner, who joined the clinic full-time approximately two months prior to project implementation. She provided care to an average of 22 pediatric patients a day, assisted by a certified medical assistant (CMA) who prepares patients for clinical evaluation; two front desk staff who are bilingual in Spanish/English; and a RN clinical manager.

Approval to work with this desired pediatric clinic was achieved via a meeting with the clinical board of directors. The medical director and industry mentor attended this meeting. Internal evidence evaluating local pediatric ED visit rates was presented as indication for necessary change, as well as the synthesis of BOE that supported the proposed EB educational program. After both parties submitted signed organizational paperwork, approval was granted for to complete the project (Appendix D, Form D1).

Fully Operationalized Plan

A lunch hour presentation was held with directly involved clinical staff at FCC Jacksonville. A PowerPoint presentation was shown, explaining the need for change and intended clinical protocol changes. A copy of the clinic protocol was dispersed for viewing (Appendix E, Form E1). Use and storages of patient information forms were explained. Staff

were encouraged to ask questions during this time. Health books were passed around for viewing and extra copies were offered to staff members who had young children at home. It was hoped that staff utilization and endorsement would encourage health book usage by caregivers.

The plan was to distribute the health book, *What to do When Your Child Gets Sick* (Appendix F, Figure F1), along with a brief discussion by a nurse/CMA on how to use the book, its contents, and proposed health seeking behavior change. During the project, caregivers with children aged 6 months to 4 years presenting for a well-child check (annual exam) received a demographic sheet (Appendix F, Form F1) and 5-question fever knowledge survey (Appendix F, Form F2) to complete at the front desk reception upon encounter and prior to provider evaluation. Front desk staff placed a reminder by the patient's name on the schedule when the appointment was made that read "Needs Book" if the patient qualified for the pilot. The demographic sheet included information about ethnicity, gender, and insurance carrier. Caregivers indicated the number of trips to the ED in the past six months, as well as were provided their basic knowledge about pediatric fever. A basic foundational knowledge packet was completed by the caregiver, retrieved by the front desk staff, and placed in a secure log folder. Distribution of the health book took place at check-in by the front desk staff. Caregivers had the option of receiving a Spanish or English text. Discussion and explanation of the health book occurred by the CMA during the rooming process, before evaluation by the provider. Discussion between caregiver and CMA included introduction of health book, its content overview, how to use the book, and proposed health seeking behavior change regarding ED use. This involved participation by the clinic staff to make certain the books were delivered to caregivers and logged in the folder after distribution. Nurses and providers could then refer to the health book at clinical visits to ensure their frequent use, and also during phone calls from

caregivers. Information sheets were evaluated for data extraction as well as the EMR. Caregivers received one follow up call, after book distribution, to discuss visits to the ED over the past 6 months after book reception.

Ethical review

An ethical review was conducted to establish the validity of the body of evidence and the ethical concerns surrounding project implementation. This was deemed a quality improvement project with EB focus, as the intent was to improve a practice within the institution. For this reason, no IRB approval was warranted. Ethical review forms were evaluated and signed by the faculty mentor prior to project implementation (Appendix G, Form G1).

Timeline & Gantt Chart

An eleven-checkpoint timeline was used to organize project progression from the earliest planning stages (Appendix H, Table H1). This timeline enabled strict adherence to selected EBP models in an organized, date-driven approach. Though modifiable, it applied target dates to each checkpoint to assure task completion. Secondly, a Gantt chart was utilized to show phasic movement of the project from start to completion. This visual tool provides a more condensed, interval view associated with large project milestones (Appendix H, Figure H1).

Logic model

A logic model was developed to assess resources, constraints, activities, and outcomes specific to this project (Appendix I, Table I1). A logic model provides a visual display of the relationship between these project elements. Anticipated resources and constraints were recorded as the project matured to provide a foundation for goal setting. The identification of constraints and resources early on helped to decrease the amount of unexpected setbacks. As the project progressed, the model was used to identify short-term, mid-term, and long-term goals. Each goal

was assigned to a particular audience of stakeholders who were affected by, or had responsibility in, the completion of that goal. Goals were set for each project activity at launch date and one-month post initiation. Furthermore, long-term goals were recorded for future implications to ensure a plan for project sustainability.

Operationalization of Larrabee's EBP Model

The Larrabee model of EB change is a six-step plan to guide change in practice. An adaptation of this model is presented in Appendix I, Figure I1. In Step 1, the need for practice change is assessed. The need for change is identified with both financial and patient quality of care motivators. A high volume of ED use by pediatric patients for non-urgent conditions was established as a local and national problem (Kubicek et al., 2012). This was appreciated by identifying fever as a leading cause of ED evaluation in pediatrics, along with the financial and societal repercussions of this decision (Morrison et al., 2014). Stakeholders were identified in this step as clinic providers, clinic managers, the chief medical director and Board of Directors members.

Step 2 identified the best evidence by completing a systematic search after meticulous planning. The databases of Cochrane, PubMed and CINAHL were searched for studies relevant to the PICOT question. Search results yielded 12 keeper studies that were retained for critical appraisal.

Step 3 allowed for critical analysis of the evidence. Critical analysis of the data included General Appraisal Overviews and Rapid Critical Appraisals for each retained study. Evaluation tables and synthesis tables, both located in Appendix C, are constructed to further evaluate the literature and body of evidence. Synthesis proved sufficient quality of the evidence to support

practice change. Benefits of studies were evaluated, along with feasibility and risk of implementation in the pediatric clinical practice setting.

Step 4 developed the design of the practice change project. The evidence was used to propose change by identifying necessary resources and designing the implementation plan (Melnyk & Fineout-Overholt, 2015). Resources needed included funding for educational health books, books for distribution, a medical Spanish translator, and various common office supplies. All aspects of the change plan were anticipated and analyzed in this step, prior to implementation. The plan inducted the distribution of the book, *What to do When Your Child Gets Sick*, provided with a brief discussion by a nurse/CMA on how to use the book, its contents, and proposed health seeking behavior change. This involved participation by the clinic staff to make certain the books were delivered to caregivers and logged in the folder after distribution. The nurses and providers were encouraged to reference the book, post distribution, at clinical visits to ensure their frequent use. The results will be evaluated by EMR, patient recall at subsequent visits, and/or phone calls regarding ED use frequency.

Step 5 was where the project is implemented and evaluated in practice. The pilot project was executed using the implementation plan. The EBP team members promoted the change and provided feedback for areas that needed adjustments. Book distribution was set into motion. Pre-implementation data were collected using the EMR and patient recall prior to book distribution via the pre-distribution paperwork. Post-implementation data were gathered 6 months after distribution, once the pilot concluded.

The final phase included integration and maintenance of the practice change. Conclusions and recommendations were drawn from EBP team members in this phase about the executed practice change. This included confirming the effect of the project, in the clinical setting, with

the pediatric provider, clinical manager, and ancillary staff. Based on results of the project, recommendations were made for sustained change with continued monitoring by the team (Melnyk & Fineout-Overholt, 2015).

Operationalization of Lewin's Change Model

For this implementation project, Lewin's Change Theory was utilized to guide education-based change in a pediatric clinic regarding management of pediatric febrile illness by caregivers to decrease misuse of EDs for this reason. Appendix I, Figure I2 provides a modified version of this theory specific to this change project. Following Lewin's theory, the first stage is the Unfreezing Stage. Little to no education was previously provided from this clinic to caregivers about pediatric febrile illness and home management of this condition. This led to misinterpretation of true fever levels by caregivers, fear of febrile complications, and ultimately misuse of health care service locations. The need for change was identified and EBP research was presented to clinic staff on the most impactful method of education. Variables were also measured in this stage to reinforce the need for an educational program. These variables included baseline frequency of ED visits for fever by caregivers and baseline knowledge levels (via a pre-test of simple fever facts) of caregivers about fever in children.

The second stage is the Change Stage, also recognized as the movement stage. Implementation took place in this step. Patient information sheets were distributed by front desk staff, completed by caregivers, and logged in the file folder. Books were distributed to patients/caregivers who met protocol criteria. The medical assistant provided a detailed description of book content and intended use. Staff members became an active part of protocol execution. Bi-monthly check-ins provided an opportunity for staff members to suggest changes and provide feedback.

The third stage is the Refreezing Stage. This stage ensured maintenance of the change for permanence. Continuation of the educational program remains intact as clinic staff recognizes the beneficial effect it has had on patients and their caregivers. In this stage, the same variables from Stage 1 (caregiver knowledge of febrile illness and frequency of ED visits for fever by caregivers) were reevaluated for improvement and reduction, respectively. The goal of increasing health literacy of caregivers, and thereby decreasing provider and financial burdens, was met.

Final budget

The largest cost for this project was the purchase of the educational books. Books were purchased from the Institute for Healthcare Advancement for a discounted price of $5.95 per book. A breakdown of the expenses and cost avoidance for this project are listed in Appendix J, Table J1. The initial purchase of these books was self-funded. Twenty-five Spanish health books and twenty-five English health books were purchased at project commencement. This proved to be sufficient for the first three months of program implementation. During the pilot program, a grant was received for $2,000 for future book purchases. According to monthly distribution rates, this amount should stand to sustain book purchases for one to two years at this clinic. Due to this acquisition, the clinic will likely choose to increase the age parameters of patients receiving the health books in order to impact higher volumes of caregivers. Future funding for book purchasing will require the procurement of new grants.

Data Collection Plan

Evaluation of the body of evidence guided the method by which data were collected and analyzed.

Process indicators included:

- Patient data sheet with personal ED use questions
- 5 item fever survey

Outcome measures included:

- ED use rates
- Caregiver knowledge

Patient information sheets, provided in both English and Spanish, allowed for the collection of demographic data from the patient population. This was useful in analyzing behavior by age, ethnicity, and insurance carrier. Furthermore, this allowed for comparison to other local, state, and national data collected. Caregivers were asked about ED use in the previous six months prior to the well-child check (WCC). They were encouraged to report the number of ED visits, as well as a short reason for the visit (eg. fever, cough, vomiting).

The five-item fever survey was adapted from the study conducted by Fieldston et al. (2013). This survey evaluated caregivers' initial knowledge base of simple pediatric fever facts and management. These data were collected prior to book reception and use. All collected data sheets were secured in a large re-sealable envelope, designated by language, and then placed inside a three-ring binder. Data extraction was conducted in confidential, private settings to protect contact information. After the successful completion of follow-up calls, provided phone numbers were marked out to avoid unsolicited dissemination.

Data Analysis Plan

After six months of book referencing and use, all questions were re-evaluated via a follow up phone call in the preferred language reported. Correct vs incorrect answers pre- and post- book reception were compared. Percentages were generated from the group values to appreciate change. Percentages were also generated from individual questions to assess

management vs knowledge changes. ED visit numbers were compared pre- and post- book reception. Percentages were generated from the reported group values to appreciate change.

Chapter 4 – Project Implementation, Outcomes, Impact, & Results (EBP Process Steps 4 & 5)

Process Indicators/Milestones

The primary milestone was gaining approval from the board members for clinical implementation. Completion of this process allowed for pervasion into the clinical setting, where buy-in from the clinical staff was crucial to project success. Continued clinical staff engagement is always a challenge to maintain. Once the program was commenced, the ease of protocol implementation yielded minimal problems. Staff was actively involved in the program, even adding reminders to the schedule for patients that would be receiving the books that day. Additionally, staff inquired about increasing the participant age to include more patients in the program. The final hurdle was reaching the participants by phone for follow-up evaluation. This population proved to be exceptionally elusive via phone. Using a clinical line to call caregivers seemed to improve the amount of returned calls. The follow-up calls proved to be one of the more difficult steps in this project. It was fortunate all fifteen participants were finally able to be reached by somewhat creative call back methods.

Data Collection & Analysis

Local emergency department data were collected via EMR access granted by the health system's technical department for the fiscal year of May 2018-April 2019. These data were gathered and dissected to evaluate local ED visits by age (0 to 19 years). Pediatric visits were further analyzed by chief complaint; specifically evaluating for febrile illness. These visits were additionally categorized by insurance carrier. Lastly, hospital admission rates for each age group were analyzed by month. Monthly and annual pediatric visit rates were collected and analyzed for demographically related patterns. These data were entered into an excel worksheet for graph

development. This assessment provided local data to be compared against state and national data, for generalizability of findings. Generalizability is important to consider when evaluating the need for change within a population of patients.

Demographic information was collected prior to pilot program via the patient information sheet. This information was placed in pie chart form for easier interpretation. The sheet also collected information regarding ED visit use for six months preceding book reception. ED use was reassessed six months post reception via the follow-up phone call. These data were entered into excel where graphs could be developed for comparison. Caregiver's fever knowledge was assessed via the 5-question survey pre- and post- pilot program. These data were also entered onto excel for comparison graphics, as well.

Outcome Measures & Analysis

At project implementation, demographic information was collected from caregivers about their children via a two-page form at registration. The form included the patient's age, gender, ethnicity, insurance carrier, preferred language, and information regarding quantity and quality of ED visits in the past six months. In addition, the caregivers' phone number was requested for follow-up. Analysis of the demographic information collected from each patient was compiled into pie graphs, including patient age, ethnicity, and insurance carrier (Appendix K, Figures K1-K3, respectively).

The Fever Knowledge Survey was administered before the book education and had five simple questions about childhood fever; including first steps by caregivers, fever measurement identification, and myths vs. facts about fever. This survey was adapted from the knowledge measurement used in the Fieldston et. al study (2013). This same questionnaire was re-assessed

over the phone for knowledge improvement 6 months after book reception. Pre-post responses were compared for analysis.

Another project outcome was measured by asking caregiver to report the frequency of trips to the ED for their children pre- and post- book distribution and use. The pre- book reception and six months post- book reception correct responses on the fever knowledge questions were compared to measure fever knowledge improvement. Furthermore, responses to specific questions pre- and post- book reception were compared to emphasize the culture of change elicited by behavioral modification of first line action when fever arises.

Project Results

Caregivers reported their ED use for 6 months prior to book reception. This same question was repeated and 6 months after book reception via the follow-up phone call. There was a 57% reduction in reported ED visits after book reception (Appendix K, Figure K4). Though questions concerning recent hospital admission were not asked, no caregivers mentioned that their children had been admitted or transferred from the ED during the six-month period.

Caregivers were given the 5-question Fever Knowledge survey pre and post book reception. There was a 35% reduction in wrong answers (a 65% increase in correct answers) after book use (Appendix K, Figure K5). When evaluating a caregiver's ability to appropriately identify the temperature measure deemed abnormal, all fifteen caregivers were able to identify the correct answer on the follow up call. This was a 33% increase from the pre- distribution survey. When evaluating a caregiver's ability to appropriately identify fever symptoms that warrant emergency evaluation, 14 of the 15 caregivers answered correctly on the follow up call. This was a 26% increase from the pre- distribution survey.

Pre- and post- book distribution, caregivers were asked the question "*What do you do FIRST when your child has a fever?"* Caregivers reported a 77% increase in book use/reference as first line treatment for pediatric fever in the follow up call (Appendix K, Figure K6). This indicates caregivers were using the book to answer questions about management of fever instead of going directly to the ED, calling friends for advice, or calling their doctor.

Based on the evidence, it was anticipated that the results of this project would have a positive impact on appropriate ED use and fever knowledge. This program was a success by all measurable outcomes. In addition, as an unexpected outcome, by the end of the three-month pilot period, the clinic staff approached the project director about increasing the age of the patients who could receive the health books, as many caregivers had shown interest in them when distributed to their peers. This was an enthusing request, and plans were made to increase age limits.

Data collection and analysis conclusively revealed positive results of the educational program. Fifteen patients were included in the three-month book distribution pilot with data tracking.

Financial Impact

Cost impact can be appreciated mostly in the reduction of reported ED visits. Though this project included a small patient sample, it is anticipated increasing volumes of patients will be able to receive the educational books over the next months to years. With the average cost of ED visits continuing to increase, families, health systems, and government insurance providers can expect financial savings.

It is hoped that as this pediatric practice increases its patient volumes over the next several months/years, that the impact of this educational program will grow as well. If the

program continues to positively influence appropriate ED usage, it is anticipated that fewer non-urgent visits will be measured at the local ED for fever. Furthermore, providing growing numbers of caregivers with a reliable, easy-to-use health resource to use has the potential to make a large impact on appropriate health facility usage in this local area.

Chapter 5- Project Sustainability Discussion, Conclusions, and Recommendations (EBP Process Steps 5 & 6)

Project Sustainability

The initial phases of this project were self-funded. Future sustainability of this project will rely on private and public grant money. The project director obtained a grant in late 2019 for the purchase of these books to continue well beyond the first year of distribution. The continuance of grant renewal will be clinic driven and will be pioneered by the clinic manager. A close record of book usage will need to be collected across this calendar year to project future grant amount needs. Many federal, state, and private options are available for grant application for vulnerable pediatric populations. Grant application and description information was provided to clinic staff for aiding future applications.

Project Result Implications

Despite a small participant number during the project implementation, the outcomes demonstrate that this project has far reaching implications. The dedication of the clinical staff to the project and their patients will help ensure that caregivers who receive the book will use it and ED visits will continue to reduce as well as caregiver management of fever in children in this clinic will continue to improve.

Other important elements of the project that have future implications were that patients viewed the clinic health care professionals as educators and reliable sources of health information. It was also essential for this organization to provide a health resource that patients were able to understand. The use of this health book by the pediatric clinic offered consistency in management recommendations.

Implication of Results to Community/Organization

The provision of a reliable health resource, for high-risk populations, has a plethora of potential benefits beyond the clinic. Improving the health literacy of caregivers, specifically regarding the management of common illnesses and appropriate utilization of medical resources, has the ability to decrease unnecessary ED visits for this population. Consequently, this change will lower ED burden, decrease costs to health systems and federal/state insuring agencies, and decrease caregiver fear/anxiety surrounding febrile illness. Extending the implementation of the health book in all pediatric clinics in the county could have an impact on healthcare costs as well as caregiver confidence in managing fever in the pediatric population.

Key Lesson Learned

There are a few different factors that impacted the educational program that are worth revealing for reproduction. This particular pediatric clinic had only had a full-time pediatric provider for approximately 2 months when the program was started. For this reason, it is probable there were lower numbers of well-child checks (WCC) scheduled, due to local caregivers not being aware of appointment availability with the new clinician. Also, the pilot program was implemented from October to December. This happens to be a time of substantially increased sick visits due to cold and flu season, as well as holiday vacation time for families. Both of these elements likely had an impact on the amount of WCCs the clinic performed during the implementation months. A total of 6 patients were missed for program enrollment that should have been included. This was due to two reasons: 1) modification of the routine check-in process by addition of an extra step, and 2) interim front desk staff from another clinic who were not aware of the new clinic protocol while filling in.

A barrier worthy of mention regards limitations of charge capturing within an FQHC clinic. Because FQHC clinics are federally regulated, certain restrictions are placed on federal reimbursement. Had this project been implemented at a private or commercial clinic, it is probable the distribution of these health books, and the preventative education that accompanied their reception, could have been charged to insurance via an educational CPT code of 99415. The possibility of this charge was explored extensively before initiation of this project. However, due to the refusal of reimbursement for this CPT code by federal insurance carriers, this was not possible. It was discovered that several commercial insurances reimbursed this CPT code at a reasonable rate that would have amply covered the cost of a book. This should be explored further, if implementation is considered out of a federally qualified clinical setting. The unfortunate aspect of reimbursement denial does cause challenges with project sustainability, and also limits such educational material from reaching the population of patients that would most benefit from them.

Project Recommendations

Strict adherence to evidence-based practice guidelines is the most effective method for influencing and sustaining change within an organization. Implemented protocols should be frequently evaluated for necessary adjustments based on patient, staff, community, or clinical variations. Due to the success of the program in such a small group of patients, increasing patient age requirements should be considered for larger impact. Moreover, it should be considered that the equipping of high-risk patient groups (patients with decreased health literacy), with proper health resources, stands to have a significant impact on the appropriate consumption of health care services everywhere. This project demonstrates that health and financial benefits can be realized through educating certain patient groups, primarily from a primary care clinic.

Spreading this educational intervention program across other east Texas pediatric clinics would be expected to further extend the achieved outcomes. Gradual, methodical dissemination of the program would help to ensure the message behind distribution of the book is not lost.

Chapter 6 – DNP Practice- Scholar Role Actualization

Impact of the DNP Role

The DNP role is essential in conceptualizing change within a health organization of any size. In this particular educational program, the DNP was able to bridge the gap between research, clinical practice, and implementation. Because the DNP role is grounded in evidence-based practice, leadership models with the same emphasis are able to guide these anticipated changes. Using leadership models to direct practice change is imperative to produce intended, generalizable results.

The future goal of this educational program is to continue implementation into other local pediatric clinics within this health system. This will, of course, require increasing grant funds. The accumulation of more grants is a commission that should be accomplished prior to expanding implementation. Expanding the population of patients/caregivers that can receive this health resource is an effective way to decrease local ED burden.

Though this was not the first time this pediatric clinic had worked with a DNP nurse leader, it still provided a great opportunity for collaboration between the staff and this developing nursing role. As DNP nurse leaders further infiltrate health systems, their role will continue to gain clarity and impact.

Summary

In conclusion, an evidence-based, patient care initiative geared towards more properly equipping caregivers of pediatric patients to consume emergency department resources, is both effective and necessary. Moreover, improving a caregiver's ability to manage common conditions of childhood at home with confidence, not only increases overall health literacy, but also promotes the proper utilization of medical facilities. Even in a small population of patients,

the effects of this educational program were measurable via decreased ED use and increased caregiver knowledge. High-risk patients stand to benefit the most from the distribution of educational resources, such as this book. It is the obligation of health-care professionals to promote the progression of health literacy in populations of patients, and their caregivers, who would benefit from such programs.

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Appendix A: Internal Evidence - Emergency Department Data

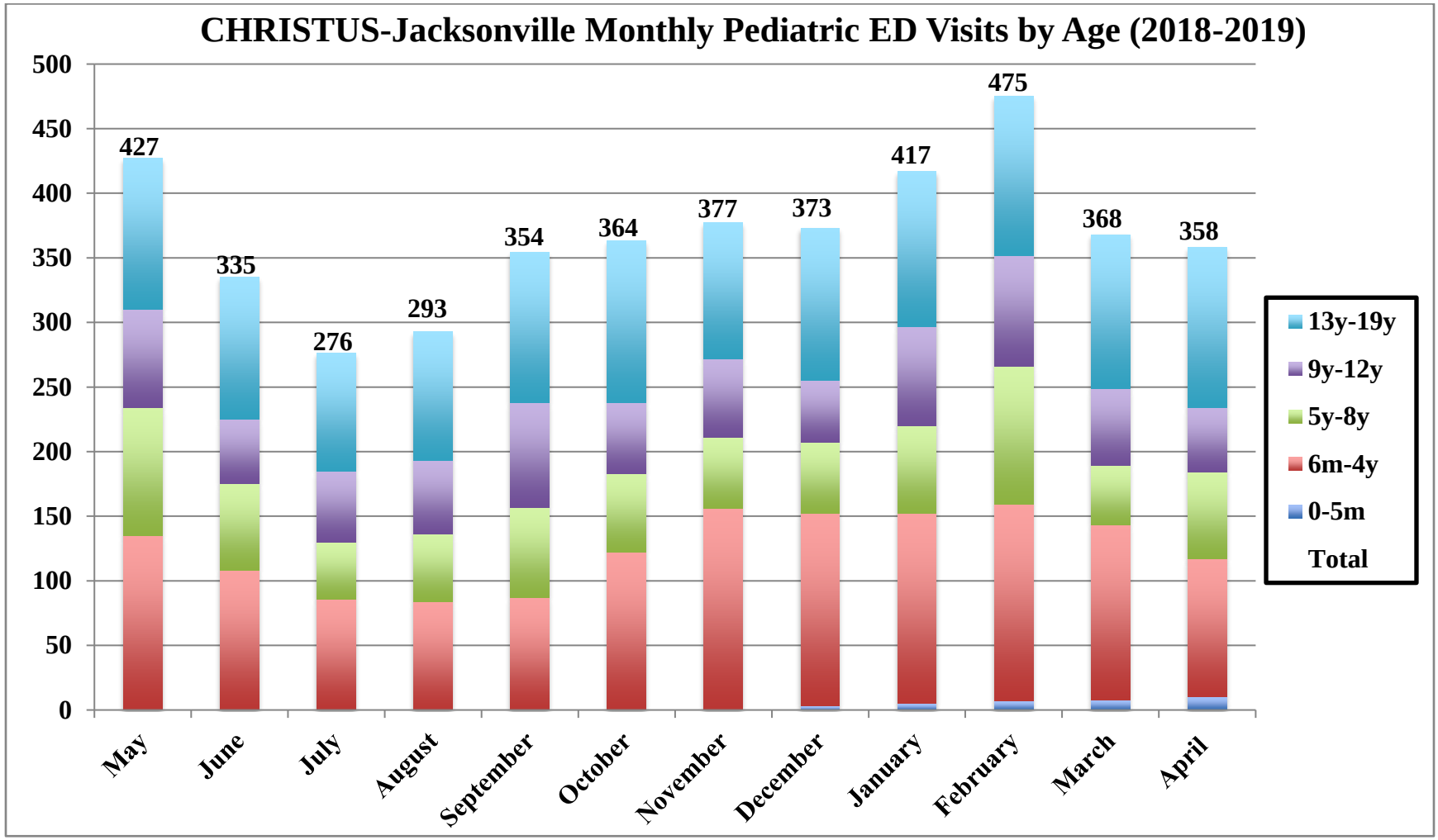

Figure A1. CHRISTUS-Jacksonville Monthly Pediatric ED Visits by Age

Appendix A: Internal Evidence-Emergency Department Data

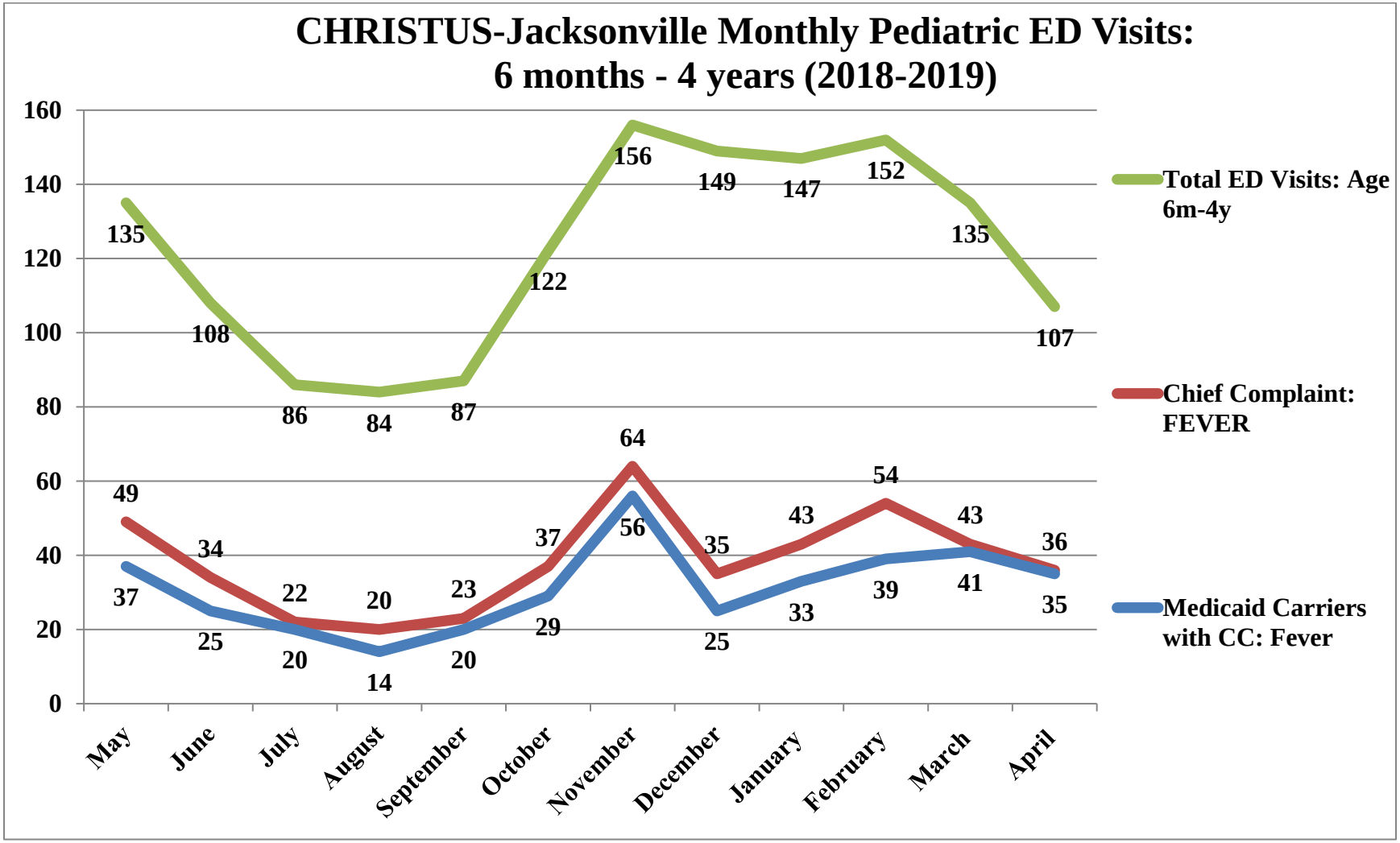

Figure A2. CHRISTUS-Jacksonville Monthly Pediatric ED Visits (6 months – 4 years)

Appendix A: Internal Evidence-Emergency Department Data

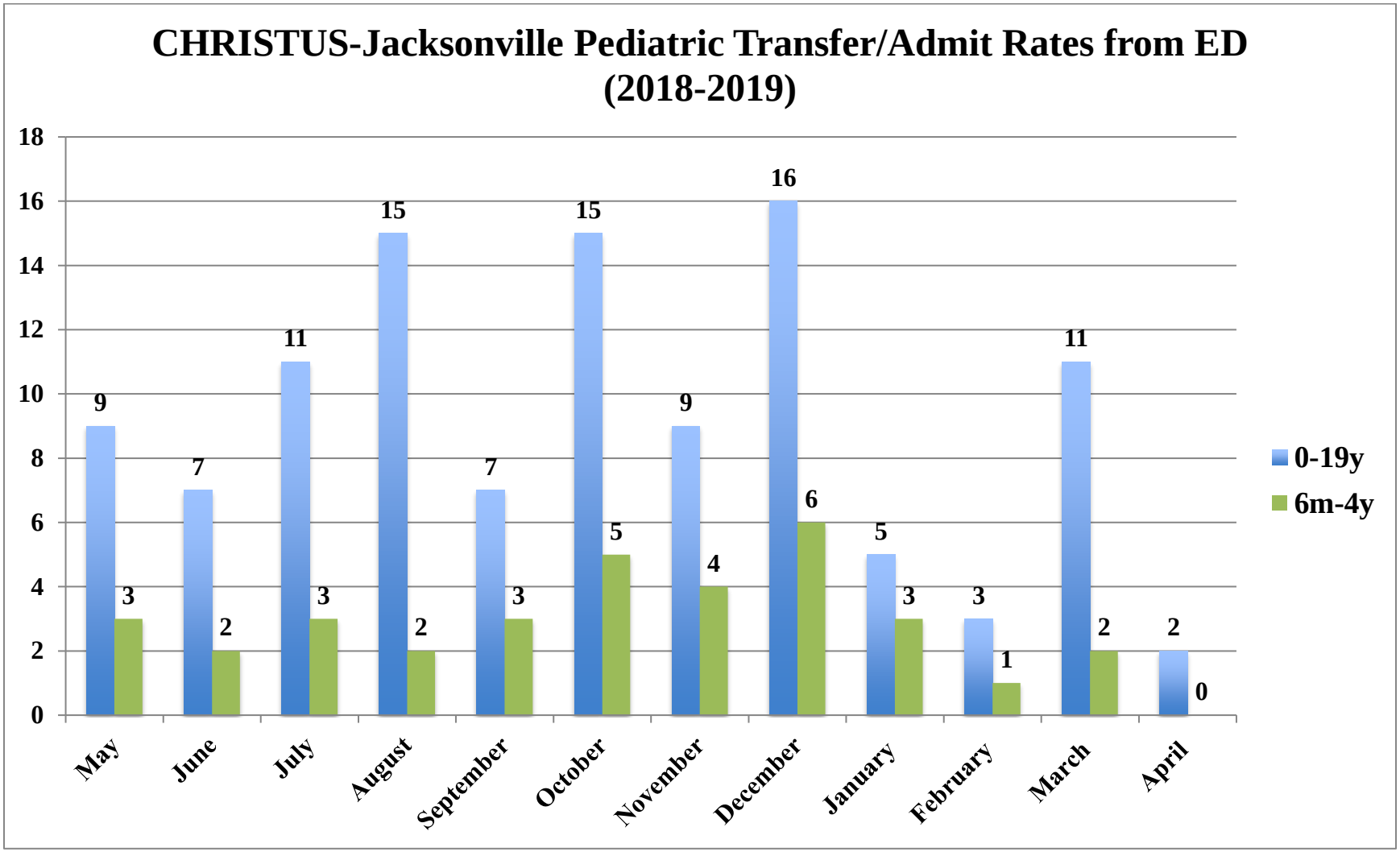

Figure A3. CHRISTUS-Jacksonville Pediatric Transfer/Admit Rates from ED

Appendix B: Systematic Search

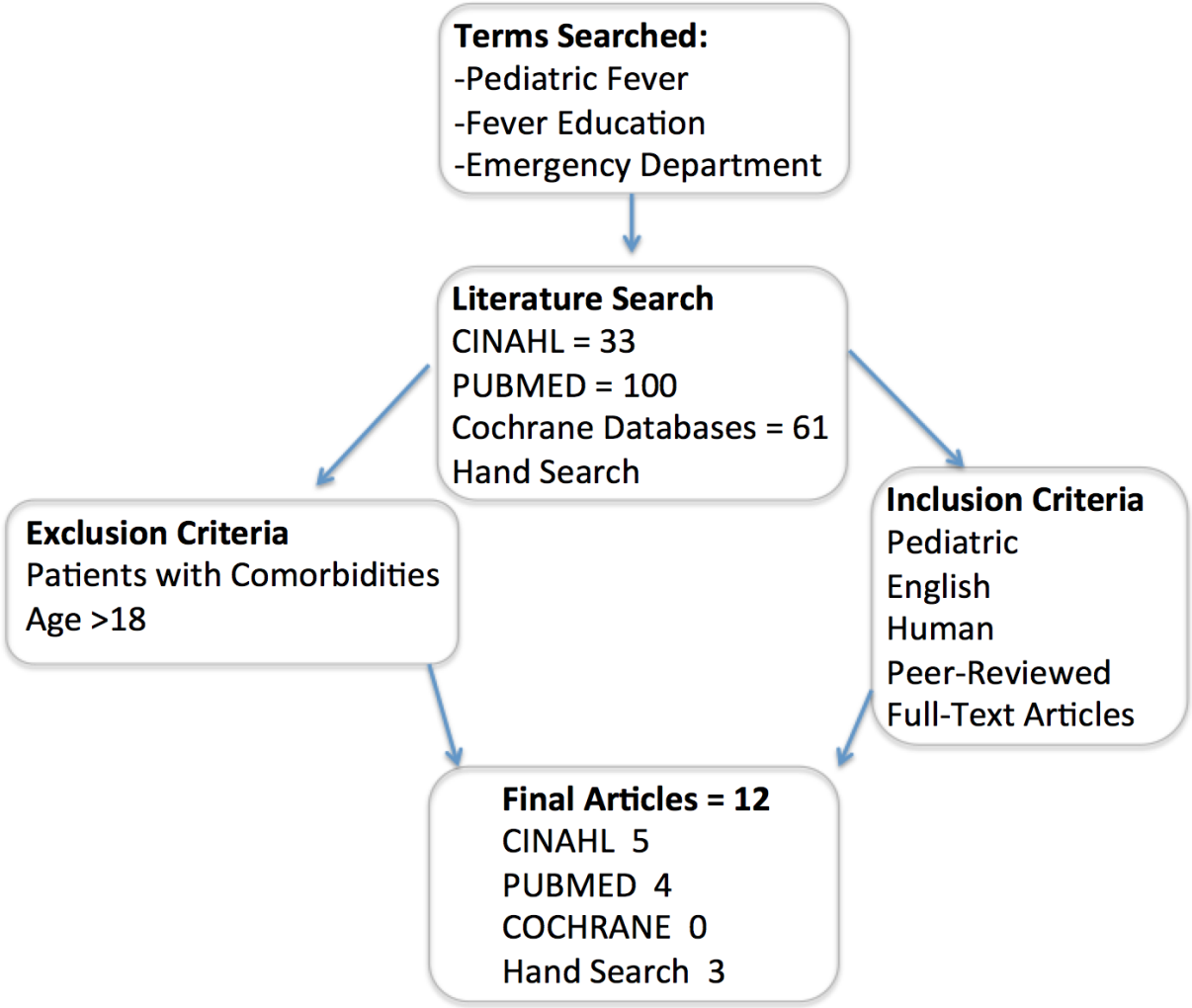

Figure B1. Systematic Search Flow Chart

Appendix C: Critical Appraisal, Evaluation & Synthesis

Table C1- Evaluation Table

CLINICAL QUESTION: In pediatric patients aged 6 to 48 months who present to the emergency room with complaint of fever (P) how does caregiver education about origins, diagnosis, and treatment of fever (I) compared to no education (C) affect valid emergency room visits (O) over a 6 month period (T)?

Citation: author(s), date of publication & title	Purpose of	CF	Design/ Method	Sample/Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS
Herman, H. & Nurshal, D. (2017). The effect of health education to parent's behaviours on managing fever in children. *International Journal of Research in Medical Sciences*, 5*(11)*, 4701-4707. doi: http://dx.doi.org/10.18203/2320-6012.ijrms20174919	Effect of HE on KN, ATT, and ACT of PAR in managing FEV of children	N O N E	CT w/o RND QE w/ nonequivalent CG approach Sample divided into INT & CNT group. CNT: received standard care INT: Health EDUC about FEV EVAL QU given to both groups for measure	**Sample:** Purposive sampling 40 PAR CG=20 IG=20 PAR included had a PEDI with FEV **Setting:** PED ward of General HOSP Pariaman	**IV**: Two 30 MIN sessions (home MGMT of FEV) **DV1:**KN of FEV **DV2: ATT of FEV** **DV3: ACT on FEV** **CG:** standard care from hospital	QU and observation sheets. QU consisting of: characteristics of PAR & PEDI, -10 questions of PAR KN of FEV -14 questions of PAR ATT toward PEDI FEV on 0-4 scale	**Mean/Avg**	**POST Results:** **Mean of KN** **Post-I :** **KN 95% CI** IG **8.35** CG **6.80** **ATT 95% CI** IG **41.60** CG **38.40** **ACT 95% CI** IG **8.40** CG **6.50** **INT:** ↑ KN of FEV ↑ ATT of FEV ↑ ACT on FEV	**LOE:** III **Limitations:** small sample size, international study, no framework **Strengths:** QE, study supports use of EDUC PROG r/t effectiveness **Risks:** cost of implementation **Feasibility:** verbal EDUC program easily implemented **Conclusion:** verbal EDUC program between researcher and PAR increased K, ATT, ACT regarding FEV **Recommendations:** verbal EDUC ↑ K and is CE; implementing HE via didactic discussion with PAR **Note:** well organized tables with results regarding DEMO and CG/IG results

Legend: ACT=action; ANX=anxiety; ART=articles; ATT=attitude; AVG=average BEHAV=behavior; BRONCH=bronchiolitis; BS=behavior skills; CC=chief complaint; CCI=common childhood illness; CE=cost-effective; CG= comparison group; CI=confidence interval; CNT=control; CRG=caregiver; CT=controlled trial; DEC= decrease; DEMO=demographics; DIST=distribution; DR=doctor; DTD=difficult to determine; DV=dependent variable; EBP=evidence based practice; ED=emergency department; EDUC= education; EVAL=evaluation; FEV=fever; GAST=gastroenteritis; HC=healthcare; HCV=health care visits; HE=health education; HOSP=hospital; HSP=head start program; INC=increase; INT=intervention; IV=independent variable; KN=knowledge; MC=medical care; MCH=mother-child handbook; MGMT=management; MOT=motivation; MPS=mean propensity score; PAMP=pamphlet; PAR=parent(s); PCC=primary care clinic; PED=pediatric emergency department; PEDI=pediatric; PostI= post-intervention; PRAC=practice; PreI=pre-intervention; PSM=propensity score matching; QE=quasi-experimental; QU=questionnaire; RND=randomization; SA=school absenteeism; SBE=simulation based education; SDI=standard discharge instructions; SIG=significant; SIM=simulation; SYM=symptoms; VDI=video discharge instructions; VI=verbal instructions

Appendix C: Critical Appraisal, Evaluation & Synthesis

Citation: author(s), date of publication & title	Purpose of	CF	Design/ Method	Sample/Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS
Fieldston, E., Nadel, F., Alpern, E., Fiks, A., Shea, J., & Alessandrini, E. (2013). Effects of an education and training intervention on caregiver knowledge of nonurgent pediatric complaints and on child health services utilization. *Pediatric Emergency Care*, 29(*3)*, 331-336. Retrieved from www.pec-online.com	Impact of an EDUC and training INT about MGMT of CCI on CRG KN	N O N E	QE PREI-POSTI pilot study INT: 90 min VID on FEV MGMT EDUC level measured PRE and POST INT and at the 6 month mark for retention	**Sample:** 32 CRG of urban children aged 7m to 5y **Setting**: 4 PCC of The Children's Hospital of Philadelphia (CHOP)	**IV:** 90 minute EDUC VID on CCI **DV**: CRG KN & skills measured	9 question survey measuring KN & MGMT of common childhood illnesses	**-Mean KN Test Results** **-Mean encounter # per patient**	**Mean KN of:** Fever PostI = ↑ KN 77% Colds PostI = ↑ KN 90% Trauma PostI= INC KN 74% Total PostI = ↑ KN 79% 6m F/U saw small DEC from PostI but remained INC from PreI **INT:** ↑ KN of FEV	**LOE:** III **Limitations:** small sample size, there was no assessment of nonurgent use particularly before and after the intervention, no framework **Strengths:** QE, addresses ED use, not limited to FEV **Risks:** cost of material for implementation **Feasibility:** 90 minute EDUC video INT easily implemented **Conclusion:** video EDUC program lead to ↑ KN of MGMT of common PEDI illnesses; No DEC in ED use **Recommendations:** EDUC video ↑ K and is CE; implementation of EDUC VID **Note:** well organized tables with results showing PostI and Pre I results & f/u results, did not DEC ED visits

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Baker, M., Monroe, K., King, W., Sorrentino, A., & Glaeser, P. (2009). Effectiveness of fever education in a pediatric emergency department. *Pediatric Emergency Care*, 25*(9)*, 565-568. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/19755888	Assess the impact of a brief EDUC VID shown to PAR during an ED visit for FEV	NONE	RAND Prospective cohort study Pre-test and post-test given to assess baseline KN and ATT about FEV after EDUC VID	**Sample**: 280 CRG W/ a child aged 3 to 36 months with FEV and were triaged as nonemergent **Setting**: One PED	**IV:** 11 minute EDUC VID on home MGMT of FEV **DV:** KN of FEV	Pre and post test -8 items drawn from an instrument used by Kramer et al. (1985) 8 open-ended question on FEV definition & MGMT	-Pre & Post test mean -P value -CI -**Mean** SPSS statistical software. -**Z scores** were calculated using Primer of Biostatistics Statistical Software Program	-IV:54% DEC in FEV danger report (z=9.2, P<0.0001; CI 95%) -IV: 28% DEC in MGMT of FEV during sleep (z=5.3, P<0.0001; CI 95%) -NO difference in rate of return FEV ED visit in INT & CNT group	**LOE:** IV **Limitations:** English speaking subjects only, no framework **Strengths:** RND, large sample size, INT group **Risks:** no risks identified **Feasibility:** prospective cohort study design easy to replicate; INT easy to implement **Conclusion:** EDUC video ↑ MGMT of FEV; ↑ KN of FEV**;** ↑ ATT of FEV ; NO DEC ED use **Recommendations:** USE video EDUC TO ↑ K, ATT, MGMT of FEV **Note:** well organized tables with results, EDUC did not DEC ED visits

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Chang, L., Lee, P., Guo, N., & Huang, M. (2015). Effectiveness of simulation-based education on childhood fever management by Taiwanese Parents. *Pediatrics & Neonatology, 57*(6), 467-473. Retrieved from http://www.sciencedirect.com/science/article/pii/S1875957216000309	Assess the long-term effects of SBE on INFO, MOT, BS, and BEHAV r/t PAR FEV MGMT	N O N E	Cluster Random Sampling, pre/post test design w/ IG & CG	**Sample**: 160 PAR 80 in the IG 80 in the CG 6-month follow-up: 79 in the IG 80 in the CG After 1 year, 79 in the IG 79 in the CG **Setting:** Taiwan Community Outreach via CRG Of kindergarten children	**IV**: 30 MIN FEV SIM session **DV**:FEV INFO, FEV MOT BEHAV Skills, FEV MGMT BEHAV **CG**: PAR given FEV EDUC PAMP with brief DISC by PROV	Information - Motivation-Behavioral Skills Model (24 items)	-IBM SPSS - 2 sided p value = statistically SIGN T test In group differences between pre-post test	**Post-I scores** IG: For I, M, Bs, and Mb were significantly better than pretest scores on Day 1 (excluding Mb), Month 6, and Month 12 ($p < 0.001$). **POST-I scores: CG** for I and Bs were significantly better than their pretest scores ($p < 0.01$) **INT:** ↑ KN of FEV ↑ MGMT of FEV	**LOE:** II **Limitations:** not completed in clinical setting, international study **Strengths:** large sample, well reported results; compared 2 methods of EDUC **Risks:** none identified **Feasibility:** SIM is not conducive to clinic setting when time is short and PAR want to leave **Conclusion:** SBE effective at INC KN and MGMT of FEV for long periods of time **Recommendations:** PAMP ↑ KN but not for the length of time as SBE, implement SBE>PAMP for greatest effect **Note:** well organized tables with results proving validity,

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Kawakatsu, Y., Sugishita, T., Oruenjo, K., Wakhule, S., Kibosia, K., Were, E., & Honda, S. (2015). Effectiveness of and factors related to possession of a mother and child health handbook: an analysis using propensity score matching. *Health Education Research*, *30*(6), 935-946. https://doi.org/10.1093/her/cyv048	Effectiveness of and ID the factors r/t possession of an MCH handbook among PAR	NONE	CT w/o RND Community-based cross-sectional survey using a structured QU	**Sample**: 1983 subjects, PAR in w/ children aged 12–23 months **Setting**: Rural western Kenya	**IV**: DIST of a small, 34-page, A5-size MCH hand-book called 'Mother and Child Health Booklet' **DV**: -Health KN -Seeking BEHAV for FEV case -Seeking BEHAV for diarrhea	Survey using a structured QU	PSM, p score & Multivariate Logistic Analyses	**Possession of MCH book =** ↑ KN of PAR Health (AOR: 1.41, 95% CI)	**LOE:** III **Limitations:** International study, not clinic driven, PED age 12-23 months **Strengths:** Findings support use of handbook to INC KN of PAR, high quality data analyses **Risks:** none identified **Feasibility:** MCH use easy in clinic setting and PAR can keep at home **Conclusion:** MCH is an effective tool for INC Health KN and HSB; MCH use for CRG with PEDI **Recommendations:** Strong consideration for book use in clinical setting

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Robinson, J., Schwartz, M., Magwene, K., Krengel, S., & Tamburello, D. (1989). The impact of fever health education on clinic utilization. *American Journal of Diseases of Children, 143*(6), 698-704. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/2471407	Ability of an office health EDUC program to 1) INC PAR KN about FEV in PEDI, 2) improve PAR satisfaction with services, and 3) affect the # of FEV-associated HCV.	NONE	RCT 10 min FEV EDUC video shown to INT group CG & IG given EDUC PAMP Pre-test and post-test completed to measure KN of FEV Post-test measured at several intervals along a 6 month period.	**Sample**: 497 families INT Group: 247 CNT Group: 250 CC of FEV, <13 yrs old **Setting**: PED After Hours clinic	**IV**: 10-minute FEV EDUC VID shown to IG only **DV**: PAR KN of FEV and # of HCV by each group for FEV in child.	10 item QU for testing KN, ATT, and PRAC regarding FEV	**P values of Significance**	**Experimental** vs **Control** P value < .005 = significant **Pre-test** Not significant **Immediate post test** P < .001 **2 wk post test** P < .001 **3 mo post test** P < .001 **6 mo post test** P = .070 ↑ KN of FEV ↑ ATT of FEV ↑ MGMT of FEV ↓ HCV r/t FEV	**LOE:** II **Limitations:** no framework **Strengths:** RCT **Risks:** no significant risk identified **Feasibility:** video EDUC program easily implemented **Conclusion:** video EDUC program INC PAR K, ATT, ACT regarding FEV, and DEC HCV for FEV **Recommendations:** video EDUC ↑ K and is CE; implement VID + PAMP use > PAMP only **Note:** well organized charts provided with breakdown of INT process

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O'Neill-Murphy, K., Liebman, M., & Barnsteiner, J. (2001). Fever education: Does it reduce parent fever anxiety? *Pediatric Emergency Care, 17*(1), 47-51. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/11265909	Evaluate PAR ANX r/t FEV in PEDI & whether this ANX surrounding FEV can be reduced by specific FEV EDUC	NONE	RCT EDUC INT on how to use a health aid book, *What to Do When Your Child Gets Sick* PAR instructed and quizzed on how to use the book at home Lasted 5-10 mins. PAR given a copy to take home and use	**Sample**: 113 families, Only 61 families were able to be contacted on f/u PAR of children <18 years of age **Setting**: PED	**IV**: health aid book, *What to Do When Your Child Gets Sick* + short discussion session **DV**: Degree of PAR ANX using the Anxiety Face Scale	5-point Lickert rating scale (1 no anxiety, 5 extremely anxious)	**Pre & Post Test %**	↓ (30%) in FEV ANX ↑ MGMT of FEV ↑ KN of FEV	**LOE:** II **Limitations:** no framework, small sample size **Strengths:** RCT, compares 2 INT **Risks:** no significant risk identified **Feasibility:** EDUC program easily implemented **Conclusion:** interactive FEV EDUC program is far more beneficial to PAR over the standard written FEV information sheet for educating PAR and reducing ANX **Recommendations:** implement interactive >written EDUC program

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Herman, A., Young, K., Espitia, D., Fu, N., & Farshidi, A. (2009). Impact of a health literacy intervention on pediatric emergency department use. *Pediatric Emergency Care, 25*, 434-438. Retrieved from www.pec-online.com	Measure the impact of a simple PAR health literacy INT on ED and PCC usage patterns	N O N E	CT w/o RND Standard FEV EDUC Program vs The Interactive FEV Program	**Sample**: 87 families IG: 44 CG: 43 Children aged 3m to 5 yrs **Setting**: PED	**IV1**: Standard FEV EDUC Program **IV2**: The Interactive Fever Program **DV**: PAR confidence in managing common low-acuity PEDI conditions (eg, low-grade FEV, vomiting for 1 day, earache, and cough) and their usual source of HC for these complaints	Pre test: 10-MIN QU 6 month Post test: A second 10-MIN QU	**Pre & Post Test %**	-30% DEC PreI & Post I for ED visit -10% DEC PreI & Post I for ED visit >1 time ↑ MGMT of FEV ↓ PAR ANX DTD effect on HCV	**LOE:** III **Limitations:** no framework, small sample size, recall bias, almost half of participants were unavailable for 6m f/u **Strengths:** easy INT, CE, focuses on cost savings for appropriate ED use **Risks:** no significant risk identified **Feasibility:** EDUC program easily implemented **Conclusion:** Book distribution effective for DEC PED use for non-urgent reasons. **Recommendations:** book use is effective at DEC ED use; implement book use in PRAC **Note:** focuses on cost savings for appropriate ED use

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Citation: author(s), date of publication & title	Purpose of	CF	Design/ Method	Sample/Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS
Wood, E., Harrison, G., Trickey, A., Friesen, M.A., Stinson, S., Rovelli, E.,…Presgrave, K. (2017). Evidence-based practice: Video-discharge instructions in the pediatric emergency department. *Practice Improvement*, *43*(4), 317-321. Retrieved from https://illiad.uttyler.edu/illiad.dll?Action=10&Form=75&Value=79987	Effectiveness of VDI c/t SDI in the ED for GAST, FEV, and BRONCH	Johns Hopkins Model of EBP	CT w/o RND **VDI:** 3-5 MIN VID that described SYM assoc w/ the diagnosis, treatment of the SYM, expected illness duration, and when to seek MC SDI: which consisted of a written print-out and VI from their provider/nurse	**Sample**: 42 CRG =SDI 41 CRG =VDI 13= gastroenteritis (4 SDI, 9 VDI), 62 FEV (33 SDI, 29 VDI), 8 bronchiolitis caregivers (5 SDI, 3 VDI). **Setting**: PED	**IV1**: VDI **DV**: CRG KN of PED diagnosis, treatment, illness duration and when to seek further MC **CG**: SDI	Post –I & Pre-I QU 5-question SURV of CRG KN of PED diagnosis, treatment, illness duration and when to seek further MC	Nonparametric Wilcoxon rank sum tests	↑ KN of FEV, GAST, BRONCH MGMT ↑ KN when to seek MC	**LOE:** III **Limitations:** small sample size, English speaking only, no f/u of results, expensive INT **Strengths:** framework, well organized study, statistically significant results **Risks:** no significant risk identified **Feasibility:** d/t expense, Implementation unlikely **Conclusion:** VDI effective for ↑ PAR KN on FEV and when to seek MC **Recommendations:** VDI>SDI **Note:** addresses ED use

Legend: ACT=action; ANX=anxiety; ART=articles; ATT=attitude; AVG=average BEHAV=behavior; BRONCH=bronchiolitis; BS=behavior skills; CC=chief complaint; CCI=common childhood illness; CE=cost-effective; CG= comparison group; CI=confidence interval; CNT=control; CRG=caregiver; CT=controlled trial; DEC= decrease; DEMO=demographics; DIST=distribution; DR=doctor; DTD=difficult to determine; DV=dependent variable; EBP=evidence based practice; ED=emergency department; EDUC= education; EVAL=evaluation; FEV=fever; GAST=gastroenteritis; HC=healthcare; HCV=health care visits; HE=health education; HOSP=hospital; HSP=head start program; INC=increase; INT=intervention; IV=independent variable; KN=knowledge; MC=medical care; MCH=mother-child handbook; MGMT=management; MOT=motivation; MPS=mean propensity score; PAMP=pamphlet; PAR=parent(s); PCC=primary care clinic; PED=pediatric emergency department; PEDI=pediatric; PostI= post-intervention; PRAC=practice; PreI=pre-intervention; PSM=propensity score matching; QE=quasi-experimental; QU=questionnaire; RND=randomization; SA=school absenteeism; SBE=simulation based education; SDI=standard discharge instructions; SIG=significant; SIM=simulation; SYM=symptoms; VDI=video discharge instructions; VI=verbal instructions

Appendix C: Critical Appraisal, Evaluation & Synthesis

Citation: author(s), date of publication & title	Purpose of Study	CF	Design/ Method	Sample/Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS
Kurth, N. (2010). Parent health literacy in congregations & safety net clinics: Final evaluation report. Kansas Head Start Association	Effect of MCH on ED use, SA, and PAR confidence	NONE	Cohort Study Pre-/Post-QE 17 group cohort study EVAL QU given to all cohorts	**Sample:** Purposive sampling 1,241 families participated - 663 families completed program CRG of PEDI in HSP **Setting:** HSP in Kansas	**IV**: MCH **DV1**ED rates, DV2: SA, DV3: PAR confidence DV4: PCC visits	**DV1:** ED rates – visits/month **DV2: SA** school days missed/month DV3: PAR confidence DV4: PCC visits	**Mean/Avg Percent**	■ 55% ↓ ED visits ■ 64% ↓ SA ■ 30% ↑ in PAR confidence ■ 46% ↓ PCC visits INT: 4X # of PAR used book as first step	**LOE:** IV **Limitations:** no framework **Strengths:** evaluates EDUC PROG r/t effectiveness, large sample size, substantial impact at only 3 months , not limited to fever **Risks:** no risks identified **Feasibility:** book DIST easily implemented in a variety of settings **Conclusion:** MCH DIST improved appropriate use of ED, DEC SA, and ↑ PAR confidence in MGMT of CCI **Recommendations:** MCH DIST to high risk populations **Note:** well organized tables with results, 40% Hispanic population, QU given 3 months post INT, INT: 4X # of PAR used book as first step

Legend: ACT=action; ANX=anxiety; ART=articles; ATT=attitude; AVG=average BEHAV=behavior; BRONCH=bronchiolitis; BS=behavior skills; CC=chief complaint; CCI=common childhood illness; CE=cost-effective; CG= comparison group; CI=confidence interval; CNT=control; CRG=caregiver; CT=controlled trial; DEC= decrease; DEMO=demographics; DIST=distribution; DR=doctor; DTD=difficult to determine; DV=dependent variable; EBP=evidence based practice; ED=emergency department; EDUC= education; EVAL=evaluation; FEV=fever; GAST=gastroenteritis; HC=healthcare; HCV=health care visits; HE=health education; HOSP=hospital; HSP=head start program; INC=increase; INT=intervention; IV=independent variable; KN=knowledge; MC=medical care; MCH=mother-child handbook; MGMT=management; MOT=motivation; MPS=mean propensity score; PAMP=pamphlet; PAR=parent(s); PCC=primary care clinic; PED=pediatric emergency department; PEDI=pediatric; PostI= post-intervention; PRAC=practice; PreI=pre-intervention; PSM=propensity score matching; QE=quasi-experimental; QU=questionnaire; RND=randomization; SA=school absenteeism; SBE=simulation based education; SDI=standard discharge instructions; SIG=significant; SIM=simulation; SYM=symptoms; VDI=video discharge instructions; VI=verbal instructions

Appendix C: Critical Appraisal, Evaluation & Synthesis

Citation: author(s), date of publication & title	Purpose of Study	CF	Design/ Method	Sample/Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS
Herman, A. & Mayer, G. (2004). Reducing the use of emergency medical resources among head start families: A pilot study. *Journal of Community Health*, *29*(3). Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/15141895	EDUC HSP PAR to properly manage HC needs of PEDI	N O N E	4 phase Cohort Study PREI-POSTI pilot INT: DIST MCH with EDUC teaching Measured POST INT at the 6 month mark for retention	**Sample:** 406 PAR at PRE-I 224 PAR completed POST -I **Setting**: HSP in Los Angeles	**IV:** MCH DIST with training session regarding use **DV**: ED use by PAR of PEDI	QU given 6 months post INT	**-Mean /Avg** **-% DEC of ED rates**	**POST Results:** **48% ↓ ED visits** **37% ↓ PCC visits**	**LOE:** IV **Limitations:** no framework, no comparison group **Strengths:** addresses ED use, not limited to FEV, large sample size **Risks:** no risk identified **Feasibility:** book DIST easily implemented in a variety of settings **Conclusion:** DEC unnecessary ED rates has positive fiscal impact on all stakeholders involved **Recommendations:** MCH DIST to high risk populations **Note:** 6 month fu, well organized tables with results showing PostI and Pre I results & f/u results

Legend: ACT=action; ANX=anxiety; ART=articles; ATT=attitude; AVG=average BEHAV=behavior; BRONCH=bronchiolitis; BS=behavior skills; CC=chief complaint; CCI=common childhood illness; CE=cost-effective; CG= comparison group; CI=confidence interval; CNT=control; CRG=caregiver; CT=controlled trial; DEC= decrease; DEMO=demographics; DIST=distribution; DR=doctor; DTD=difficult to determine; DV=dependent variable; EBP=evidence based practice; ED=emergency department; EDUC= education; EVAL=evaluation; FEV=fever; GAST=gastroenteritis; HC=healthcare; HCV=health care visits; HE=health education; HOSP=hospital; HSP=head start program; INC=increase; INT=intervention; IV=independent variable; KN=knowledge; MC=medical care; MCH=mother-child handbook; MGMT=management; MOT=motivation; MPS=mean propensity score; PAMP=pamphlet; PAR=parent(s); PCC=primary care clinic; PED=pediatric emergency department; PEDI=pediatric; PostI= post-intervention; PRAC=practice; PreI=pre-intervention; PSM=propensity score matching; QE=quasi-experimental; QU=questionnaire; RND=randomization; SA=school absenteeism; SBE=simulation based education; SDI=standard discharge instructions; SIG=significant; SIM=simulation; SYM=symptoms; VDI=video discharge instructions; VI=verbal instructions

Appendix C: Critical Appraisal, Evaluation & Synthesis

Citation: author(s), date of publication & title	Purpose of Study	CF	Design/ Method	Sample/Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS
Herman, A. & Jackson, P. (2011). Empowering low-income parents with skills to reduce excess pediatric emergency room and clinic visits through a tailored low literacy training interventions. *Journal of Health Communication, 15*(8), 895-910. doi: 10.1080/10810730.2010.522228	Impact MCH DIST w/ training vs MCH only	N O N E	RAND Placebo CNT study PRE-I tracking for 3 months, trained on the fourth month, POST f/u after 6 months	**Sample**: 55 HSP = 9,240 PAR or CRG - 7,281 participants completed program **Setting**: HSP in 35 states	**IV:** MCH DIST with training **DV:** ED rates, SA rates **CG**: MCH DIST only	PRE-I and POST-I self reported number of ED visits and SA	**-Mean /Avg** **-% DEC of ED rates**	**-INT group:** 58% DEC in ED use (p<.001) 41% DEC in PCC visits (p<.001) 29% DEC SA by PEDI (p<.001)	**LOE:** II **Limitations:** no identified framework, **Strengths:** RND, very large sample size, INT group, also assesses SA **Risks:** no risks identified **Feasibility:** book DIST easily implemented in a variety of settings **Conclusion:** high risk populations who receive HE on treatment of CCI become more knowledgeable and efficient in providing for their needs. **Recommendations:** MCH DIST to high risk populations with training of book use **Note:** also addresses SA and PAR work days missed

Legend: ACT=action; ANX=anxiety; ART=articles; ATT=attitude; AVG=average BEHAV=behavior; BRONCH=bronchiolitis; BS=behavior skills; CC=chief complaint; CCI=common childhood illness; CE=cost-effective; CG= comparison group; CI=confidence interval; CNT=control; CRG=caregiver; CT=controlled trial; DEC= decrease; DEMO=demographics; DIST=distribution; DR=doctor; DTD=difficult to determine; DV=dependent variable; EBP=evidence based practice; ED=emergency department; EDUC= education; EVAL=evaluation; FEV=fever; GAST=gastroenteritis; HC=healthcare; HCV=health care visits; HE=health education; HOSP=hospital; HSP=head start program; INC=increase; INT=intervention; IV=independent variable; KN=knowledge; MC=medical care; MCH=mother-child handbook; MGMT=management; MOT=motivation; MPS=mean propensity score; PAMP=pamphlet; PAR=parent(s); PCC=primary care clinic; PED=pediatric emergency department; PEDI=pediatric; PostI= post-intervention; PRAC=practice; PreI=pre-intervention; PSM=propensity score matching; QE=quasi-experimental; QU=questionnaire; RND=randomization; SA=school absenteeism; SBE=simulation based education; SDI=standard discharge instructions; SIG=significant; SIM=simulation; SYM=symptoms; VDI=video discharge instructions; VI=verbal instructions

Appendix C: Critical Appraisal, Evaluation & Synthesis

Table C2 – Levels of Evidence Synthesis Table

	1	2	3	4	5	6	7	8	9	10	11	12
Level I: Systematic review or meta-analysis												
Level II: Randomized controlled trials				X		X	X					X
Level III: Controlled trials without randomization	X	X			X			X	X			
Level IV: Case-control or cohort study			X							X	X	
Level I: Systematic review of qualitative or descriptive studies												
Level VI: Qualitative or descriptive study (includes evidence implementation projects)												
Level VII: Expert opinion or consensus												

1 = Herman & Nushal (2017); 2 = Fieldston et al. (2013); 3 = Baker et al. (2009); 4 = Chang et al. (2016); 5 = Kawakatsu et al., (2013); 6 = Robinson et al. (1989); 7= O'Neil-Murphy, et al. (2001); 8 = Herman, et al. (2009); 9 = Wood et al., 2017; 10 = Kurth et al. (2010) ; 11 = Herman & Mayer (2004); 12 = Herman & Jackson (2010)

PED= pediatric, HOSP= hospital; ED=emergency department; COP=community outreach program; PCC=primary care clinic

Appendix C: Critical Appraisal, Evaluation & Synthesis

Table C3 – Synthesis Table-Types of Educational Interventions Across Studies

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Number of Articles Evaluating Interventions**
Didactic Lecture	Two 30 MIN sessions	45 MIN session	--	--	--	--	Interactive Discussion w/ parents	5-10 MIN instructional discussion	--	EXP of book use and RES	EXP of book use and RES	EXP of book use and RES	**8**
Video	--	--	11 MIN FEV EDUC video	--	--	10 MIN FEV EDUC slide tape video	--	--	3-5 MIN VID	--	--	--	**3**
Skills Demonstration /Simulation	--	45 MIN session	--	30 MIN FEV SIM for PAR	--	--	Demonstration of Thermometer use	--	--	--	--	--	**3**
Pamphlet Distribution	--	Health INFO cards	--	FEV EDUC brochure	--	FEV pamphlet	FEV pamphlet	--	--	--	--	--	**4**
Book Distribution	--	--	--	--	Mother & Child Health Handbook	--	--	INFO on 50 common CDH MED PROB	--	INFO on 50 common CDH MED PROB	INFO on 50 common CDH MED PROB	INFO on 50 common CDH MED PROB	**5**

1 = Herman & Nushal (2017); 2 = Fieldston et al. (2013); 3 = Baker et al. (2009); 4 = Chang et al. (2016); 5 = Kawakatsu et al., (2013); 6 = Robinson et al. (1989); 7= O'Neil-Murphy, et al. (2001); 8 = Herman, et al. (2009); 9 = Wood et al., 2017; 10 = Kurth et al. (2010) ; 11 = Herman & Mayer (2004); 12 = Herman & Jackson (2010)

EXP= explanation; FEV=fever; EDUC=education; MGMT=management; MIN=minute; INFO=information; CDH=childhood; MED=medical, PROB=problem; SIM=simulation; GAST=gastroenteritis; BRONCH=bronchiolitis; RES=resources

Appendix C: Critical Appraisal, Evaluation & Synthesis

Table C4 – Impact of Educational Intervention on Outcomes Across Studies

	1	2	3	4	5	6	7	8	9	10	11	12
KNOWLEDGE OF FEVER	↑	↑	↑	↑	↑	↑		↑	↑		↑	↑
ATTITUDE OF FEVER	↑		↑			↑	↑			↑	↑	
MANAGEMENT OF FEVER	↑			↑		↑	↑					↑
EMERGENCY DEPARTMENT USE							↓	↓		↓	↓	↓

1 = Herman & Nushal (2017); 2 = Fieldston et al. (2013); 3 = Baker et al. (2009); 4 = Chang et al. (2016); 5 = Kawakatsu et al., (2013); 6 = Robinson et al. (1989); 7= O'Neil-Murphy, et al. (2001); 8 = Herman, et al. (2009); 9 = Wood et al., 2017; 10 = Kurth et al. (2010) ; 11 = Herman & Mayer (2004); 12 = Herman & Jackson (2010)

↑= Improved/Increased ↓=Lessened/Decreased

ACT=action; ANX=anxiety; ATT=attitude; BD=book distribution; BRON=bronchiolitis; CCI=common childhood illnesses; DTD=difficult to determine; ED=emergency department; FEV=fever; GAST=gastroenteritis; HCV=health care visit; HSB=health seeking behavior; KN=knowledge; MC=medical care; MGMT=management; PAR=parent; PD=pamphlet distribution; VOM=vomiting

Appendix C: Critical Appraisal, Evaluation & Synthesis

Table C5 – Matrix of Type of Educational Intervention and Fever Outcomes Synthesis Table

	1	2	3	4	5	6	7	8	9	10	11	12	SYNTHESIS
Discussion / Lecture	↑ KN of FEV ↑ ATT of FEV ↑ ACT on FEV	↑ KN of FEV			↑ KN of PAR Health ↑HSB		↑MGMT of FEV ↑ PAR ANX DTD effect on HCV	↓ ED Use by PAR for FEV/VOM		↓ ED Use by PAR for CCI	↓ ED Use by PAR for CCI	↓ ED Use by PAR for CCI	4/4 studies evaluated lecture on ED use showed reduction 2/2 studies evaluated lecture on KN showed improvement
Video			↑ KN of FEV ↑ ATT of FEV			↑ KN of FEV ↑ ATT of FEV ↑ MGMT of FEV ↓ HCV r/t FEV			↑ KN of FEV, GAST, BRON MGMT				3/3 studies evaluated video on KN showed improvement 2/2 studies evaluated video on ATT showed improvement 1 study evaluated video effect on HCV r/t fever showed reduction
Skills Demonstration / Simulation		↑ KN of FEV		↑ KN of FEV ↑MGMT of FEV			↑ MGMT of FEV ↓ PAR ANX DTD effect on HCV						2/3 studies evaluated simulation on KN showed improvement 2/2 studies evaluated simulation on MGMT of fever showed improvement
Pamphlet Distribution		↑ KN of FEV		↑ KN of FEV ↑MGMT of FEV		↑ KN of FEV ↑ ATT of FEV ↑ MGMT of FEV ↓ HCV r/t FEV	↑ MGMT of FEV ↓ PAR ANX DTD effect on HCV						3/3 studies evaluated PD on KN showed improvement 3/3 studies evaluated PD on MGMT showed improvement 1 study evaluated BD on HCV r/t fever showed improvement in
Book Distribution								↓ ED Use by PAR for FEV/VOM ↑ KN of FEV		↓ ED Use by PAR for CCI ↑ ATT of FEV	↓ ED Use by PAR for CCI ↑ ATT of FEV ↑ KN of FEV	↓ ED Use by PAR for CCI ↑ KN of FEV ↑MGMT of FEV	4/4 studies evaluated BD on ED use showed reduction 2/2 studies evaluated BD on ATT & KN showed improvement 1 study evaluated BD on MGMT showed improvement

1 = Herman & Nushal (2017); 2 = Fieldston et al. (2013); 3 = Baker et al. (2009); 4 = Chang et al. (2016); 5 = Kawakatsu et al., (2013); 6 = Robinson et al. (1989); 7= O'Neil-Murphy, et al. (2001); 8 = Herman, et al. (2009); 9 = Wood et al., 2017; 10 = Kurth et al. (2010) ; 11 = Herman & Mayer (2004); 12 = Herman & Jackson (2010)

↑= Improved/Increased ↓=Lessened/Decreased

ACT=action; ANX=anxiety; ATT=attitude; BD=book distribution; BRON=bronchiolitis; CCI=common childhood illnesses; DTD=difficult to determine; ED=emergency department; FEV=fever; GAST=gastroenteritis; HCV=health care visit; HSB=health seeking behavior; KN=knowledge; MC=medical care; MGMT=management; PAR=parent; PD=pamphlet distribution; VOM=vomiting

Appendix C: Critical Appraisal, Evaluation & Synthesis

Table C6 – Insurance provider of PED users Synthesis Table *(percentages are rounded to nearest 0.5%)*

	Private/Commercial	State/Federal-Financed Program (ex. Medicaid/Medicare)	No Insurance	Other
1	174/280 SUBJ 62.1%	63/280 SUBJ 22.5%	19/280 SUBJ 6.7%	13/280 SUBJ 4.6%
2	--	1 ART = MDC > no INS 5 ART = MDC more likely to use	2 ART= POP less likely to use ED 2 ART=POP more likely to use ED	--
3	430/500 86%	55/500 11%	15/500 3%	--
4	69/200 SUBJ 35%	111/200 SUBJ 56%	19/200 SUBJ 9%	--
5	11/113 9.7%	82/113 72.5%	20/113 17.8%	--
8	7/61 11.5%	45/61 73%	9/61 15%	0/61 0%
10	199/663 30%	301/663 45.5%	93/663 14%	86/663 13%
12	x/7,281 </= 10%	x/7,281 >/= 90%	x/7,281 </= 10%	x/7,281 </= 10%

1 = Baker, et al. (2009); 2 = Uscher-Pines et al., (2013); 3 = Wong, et al. (2015); 4= Phelps, et al. (2000); 5 = Herman, et al. (2009) 6 = Robinson et al. (1989); 7= O'Neil-Murphy, et al. (2001); 8 = Herman, et al. (2009); 9 = Wood et al., 2017; 10 = Kurth et al. (2010) ; 11 = Herman & Mayer (2004); 12 = Herman & Jackson (2010)

SUBJ=subjects; ART=articles; POP=population; ED=emergency department; MDC=Medicaid; INS=insurance

Appendix C: Critical Appraisal, Evaluation & Synthesis

Table C7- Setting of Educational Intervention Synthesis Table

	Hospital	**Clinic**	**Emergency Department**	**Other**
1	PED HOSP Ward	--	--	--
2	--	PED PCC	--	--
3	--	--	PED ED	--
4	--	--	--	Public COP
5	**--**	--	--	Public COP
6	--	PED PCC	--	--
7	--	**--**	PED ED	**--**
8	--	--	PED ED	**--**
9	--	--	PED ED	**--**
10	--	PED health clinic	--	--
11	--	PED health clinic	--	--
12	--	PED health clinic	--	--

1 = Herman & Nushal (2017); 2 = Fieldston et al. (2013); 3 = Baker et al. (2009); 4 = Chang et al. (2016); 5 = Kawakatsu et al., (2013); 6 = Robinson et al. (1989); 7= O'Neil-Murphy, et al. (2001); 8 = Herman, et al. (2009); 9 = Wood et al., 2017; 10 = Kurth et al. (2010) ; 11 = Herman & Mayer (2004); 12 = Herman & Jackson (2010)

PED= pediatric, HOSP= hospital; ED=emergency department; COP=community outreach program; PCC=primary care clinic

Appendix D- Organizational Agreement

Form D1. Business Associate Agreement with FCC

Tyler Family Circle of Care
BUSINESS ASSOCIATE AGREEMENT

This document contains Business Associate Agreement as required under the Health Insurance Portability and Accountability Act of 1996 ("HIPAA") and its implementing rules and regulations, and the Health Information Technology for Economic and Clinical Health Act ("HITECH Act") of the American Recovery and Reinvestment Act of 2009 ("ARRA") and its implementing rules and regulations, each as may be amended from time to time, including those regulatory amendments of the Department of Health and Human Services published at 78 Fed. Reg. 5566 (Jan. 25, 2013) ("HIPAA Final Omnibus Rule").

Appendix D- Organizational Agreement

This BUSINESS ASSOCIATE Agreement (this "Agreement") is entered into this __21st day of August___ day of 2019, by and between Tyler Family Circle of Care ("Covered Entity") and Rebecca Shipley, NP-C, ("Business Associate").

RECITALS[1]

A. Covered Entity is a covered entity under the Health Insurance Portability and Accountability Act of 1996 ("HIPAA").

B. Business Associate is a "business associate" under HIPAA.

C. Covered Entity is interested in Business Associate implementing a quality improvement project for pediatric patients evaluated at Family Circle of Care in Jacksonville, Tx.

D. In order for Business Associate to furnish services to Covered Entity in accordance with the Agreement, Covered Entity intends to disclose certain Protected Health Information ("PHI") of Covered Entity's patients to Business Associate and expects Business Associate to use or disclose the PHI to perform its obligations under the Agreement.

C. In using or disclosing such PHI, Covered Entity and Business Associate are required to comply with the Standards for Privacy of Individually Identifiable Health Information and for the Security of Electronic Protected Heath Information, pursuant to the Health Insurance Portability and Accountability Act of 1996 ("HIPAA") and its implementing rules and regulations, and the Health Information Technology for Economic and Clinical Health Act ("HITECH Act") of the American Recovery and Reinvestment Act of 2009 ("ARRA") and its implementing rules and regulations, each as may be amended from time to time, including those regulatory amendments of the Department of Health and Human Services published at 78 Fed. Reg. 5566 (Jan. 25, 2013). Both parties are committed to complying with these statutes, rules, and regulations.

NOW, THEREFORE, the parties, in consideration of the mutual agreements herein contained and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, do hereby agree as follows:

Article 1: Definitions

1.1 **HIPAA Rules**. HIPAA Rules shall mean the Privacy, Security, Breach Notification, and Enforcement Rules at 45 CFR Part 160 and Part 164.

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[1] The parties may need to add additional recitals to appropriately describe the arrangement between the parties.

Appendix D- Organizational Agreement

1.2 **Terms in HIPAA Rules**. The following terms used in this Agreement shall have the same meaning as those terms in the HIPAA Rules: breach, business associate, covered entity, data aggregation, designated record set, disclosure, health care operations, individual, minimum necessary, notice of privacy practices, protected health information, required by law, secretary, security incident, subcontractor, unsecured protected health information, and use.

1.3 **Business Associate**. Business Associate shall generally have the same meaning as the term "business associate" at 45 CFR §160.103, and in reference to the party to this Agreement, shall mean Rebecca Shipley, NP-C.

1.4 **Covered Entity**. Covered Entity shall generally have the same meaning as the term "covered entity" at 45 CFR §160.103, and in reference to the party to this Agreement, shall mean Tyler Family Circle of Care.

Article 2: Business Associate Use and Disclosure of PHI

2.1 **Purpose**. The purposes for use and disclosure of PHI by the Business Associate are as necessary for Business Associate to perform quality improvement services to the Covered entity. Such services will include, but not limited to training of ancillary staff, use of electronic medical record to review patient information, use of phone lines in clinic to contact patient caregivers, distribution of health books to caregivers.

2.2 **Receipt and Use of PHI**.

2.2.1 Satisfactory completion of these services by Business Associate will require Business Associate to receive and use PHI obtained from Covered Entity, particularly, specimens that will have PHI.

2.2.2 Business Associate may use PHI internally to carry out its legal responsibilities, for proper management, internal auditing, and administration.

2.3 **Disclosure of PHI**.

2.3.1 Satisfactory completion of these services by Business Associate may require Business Associate to disclose PHI to third parties, such as Federal and State agencies that request the data, billing companies, and other third parties that are required for Business Associate to receive payment for it's services.

2.3.2 Business Associate also may disclose PHI to its subcontractors to carry out its legal responsibilities, for proper management, internal auditing, and administration.

Article 3: Duties of Business Associate

3.1 **Limitations on Use and Disclosure of PHI**. Business Associate shall not use PHI except as permitted or required by this Agreement or as required by law.

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Appendix D- Organizational Agreement

3.2 Use Minimum Necessary. Business Associate agrees to limit the request, use, and disclosure of PHI to the minimum necessary to accomplish the intended purpose of the use, disclosure, or request in order to fulfill the purpose described above.

3.3 Use and Disclosure Cannot Violate Subpart E. Business Associate may not use or disclose PHI in a manner that would violated Subpart E of 45 CFR Part 164 if done by Covered Entity, except:

3.3.1 Use of PHI for Administration and Legal Responsibilities. Business Associate may use PHI for the proper management and administration of Business Associate or to carry out its legal responsibilities.

3.3.2 Disclosure of PHI for Administration and Legal Responsibilities. Business Associate may disclose PHI for the proper management and administration of Business Associate and to carry out its legal responsibilities, provided (i) the disclosure is required by law or (ii) the Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will be held confidentially and used or further disclosed only as required by law or for the purposes for which it was disclosed to the person and the person notifies Business Associate of any breach of the confidentiality of the information of which it becomes aware.

3.3.3 Data Aggregation Services. Business Associate may use PHI to provide data aggregation services related to the health care operations of the Covered Entity.

3.4 Safeguarding PHI. Business Associate shall use appropriate safeguards to prevent the use or disclosure of PHI other than as permitted by this Agreement. With respect to electronic PHI, Business Associate shall comply with Subpart C of 45 CFR Part 164.

3.5 Report Inappropriate Uses or Disclosures, Security Incidents, and Breaches of Unsecured PHI. Upon discovery, Business Associate agrees to report to Covered Entity in writing any use or disclosure of PHI by Business Associate not permitted by this Agreement; any Security Incident; and any breach of unsecured PHI as required by 45 CFR §164.410 as follows:

In the event that Business Associate discovers a breach of unsecured PHI, Business Associate agrees to notify Covered Entity without unreasonable delay, and in no case later than 60 calendar days after Business Associate first becomes aware of the incident. Business Associate is deemed to have become aware of the breach as of the first day such breach is known or, with the exercise of reasonable diligence, would have been known to any person, other than the person committing the breach, who is an employee, officer, or other agent of Business Associate. The notice must include, to the extent possible, the identification of each individual whose unsecured PHI was the subject of the breach; a brief description of what happened; the date of the breach and the date of the discovery of the breach, if known; a description of the types of unsecured PHI that were involved in the breach (such as full name, social security

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Appendix D- Organizational Agreement

number, date of birth, and home address); any steps the individuals should take to protect themselves from potential harm resulting from the breach; and a brief description of what Business Associate is doing to investigate the breach, mitigate losses, and protect against further breaches.

3.6 **Mitigate Harmful Effects**. To the extent practicable, Business Associate agrees to mitigate any harmful effects known to Business Associate that are caused by the use or disclosure of PHI in violation of this Agreement.

3.7 **Require Compliance of Subcontractors**. In compliance with CFR §§164.502(e)(1)(ii) and 164.308(b)(2), Business Associate agrees to obtain from any subcontractors that create, receive, maintain, or transmit PHI on behalf of Business Associate satisfactory assurances that the subcontractor will appropriately safeguard the PHI and agree to the same restrictions and conditions that apply to Business Associate with respect to such information.

3.8 **Access to Information**. Within [twenty (20) days] of Covered Entity's written request, Business Associate shall provide Covered Entity with access to PHI in a designated record set as necessary for Covered Entity to satisfy its obligations under 45 CFR §164.524. If Business Associate receives a request for access to PHI in a designated record set directly from an individual, Business Associate will promptly forward the individual's request to Covered Entity to fulfill the request.

3.9 **Incorporate Amendments**. The parties acknowledge that the Privacy Standards permit an individual who is the subject of PHI to request certain amendments of their records. Upon Covered Entity's written request, Business Associate agrees to make any amendment(s) to PHI in a designated record or take other measures as necessary to satisfy Covered Entity's obligations under 45 CFR §164.526. If Business Associate receives a request for amendment to PHI in a designated record set directly from an individual, Business Associate will promptly forward the individual's request to Covered Entity to fulfill the request.

3.10 **Accounting of Disclosures**. Upon Covered Entity's written request, Business Associate shall make available information to Covered Entity concerning Business Associate's disclosure of PHI for which Covered Entity needs to provide an individual with an accounting of disclosures as necessary to satisfy Covered Entity's obligations under 45 CFR §164.528. If Business Associate receives a request for an accounting of disclosures directly from an individual, Business Associate will promptly forward the individual's request to Covered Entity to fulfill the request.

3.11 **Availability of Practices, Books, and Records**. Unless otherwise prohibited by applicable law, Business Associate agrees to make available to the secretary its internal practices, books, and records relating to the use and disclosure of PHI received from Covered Entity or created or received by Business Associate on behalf of Covered Entity for purposes of determining compliance with the HIPAA Rules.

Appendix D- Organizational Agreement

3.12 **Compliance with Subpart E**. To the extent Business Associate is to carry out one or more of Covered Entity's obligations under Subpart E of 45 CFR Part 164, Business Associate agrees to comply with the requirements of Subpart E that apply to the Covered Entity in the performance of such obligations.

Article 4: Duties of Covered Entity

4.1 CE shall not agree to any restrictions on the use or disclosure of PHI that might adversely affect Business Associate's ability to perform the services described above.

4.2 Covered entity shall notify business associate of any limitation(s) in the notice of privacy practices of covered entity under 45 CFR §164.520, to the extent that such limitation may affect business associate's use or disclosure of protected health information.

4.3 Covered entity shall notify business associate of any changes in, or revocation of, the permission by an individual to use or disclose his or her protected health information, to the extent that such changes may affect business associate's use or disclosure of protected health information.

4.4 Covered entity shall notify business associate of any restriction on the use or disclosure of protected health information that covered entity has agreed to or is required to abide by under 45 CFR §164.522, to the extent that such restriction may affect business associate's use or disclosure of protected health information.

4.5 CE shall not request that Business Associate use or disclose PHI in any manner that would not be permissible under Subpart E of 45 CFR Part 164 if done by Covered Entity.

Article 5: Term and Termination

5.1 **Basic Term**. This Agreement shall be effective as of the date set forth above ("Effective Date"). Except as otherwise provided herein, the term of this Agreement shall auto renew unless 90 days' notice is given by each party to terminate the contract.

5.2 **Termination for Cause**. Upon Covered Entity's knowledge of a violation of a material term of the Agreement by Business Associate, Covered Entity shall provide an opportunity for Business Associate to cure the breach or end the violation. Covered Entity may terminate this Agreement if Business Associate has violated a material term of this Agreement and cure is not possible.

5.3 **Return of PHI at Termination**.

5.3.1 Upon termination of the Agreement, Business Associate shall, where feasible, [destroy or return] to Covered Entity all PHI received from Covered Entity or created

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or received by Business Associate on behalf of Covered Entity in connection with the performance of its services. Where such return or destruction is not feasible, the duties of Business Associate under this Agreement shall be extended to protect the PHI retained by Business Associate. Business Associate agrees to limit further uses and disclosures of the information retained to those purposes which made the return or destruction infeasible.

5.3.2 Notwithstanding any other limitation in this section, Covered Entity agrees that it is not necessary for Business Associate to [return or destroy] PHI received from Covered Entity, or created or received by Business Associate on behalf of Covered Entity if patient authorizations permitting such retention have been executed.

5.4 Survival. The obligations of Business Associate under this Section shall survive the termination of this Agreement.

Article 6: General Provisions

6.1 Governing Law. This Agreement shall be governed in all respects, whether as to validity, construction, capacity, performance or otherwise, by the laws of the State of Texas, notwithstanding any conflict of interest rules that might otherwise apply.

6.2 Regulatory References. A reference in this Agreement to a section in the HIPAA Rules means the section as in effect or as amended.

6.3 Interpretation. Any ambiguity in this Agreement shall be resolved in favor of a meaning that permits compliance with the HIPAA Rules and other applicable law.

6.4 Enforceability. If any provision of this Agreement shall be held invalid or unenforceable, such invalidity or unenforceability shall attach only to such provision and shall not in any way affect or render invalid or unenforceable any other provision of this Agreement.

6.5 Waiver. The waiver by either party of a breach or violation of any provision of this Agreement shall not operate as, or be construed to be, a waiver of any subsequent breach of the same or other provisions of this Agreement.

6.6 Independent Contractors. In the performance of the duties and obligations of the parties pursuant to this Agreement, each of the parties shall at all times be acting and performing as an independent contractor, and nothing in this Agreement shall be construed or deemed to create a relationship of employer and employee, or partner, or joint venture, or principal and agent between the parties.

6.7 The Agreement. This Agreement, including any exhibits attached hereto, constitutes the entire Agreement among the parties hereto with respect to the subject matter hereof, and supersedes any and all prior agreements or statements among the parties hereto, both oral and written, concerning the subject matter hereof. This Agreement may not be amended, modified, or terminated except by a writing signed by both

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Appendix D- Organizational Agreement

parties. The parties agree to take such action as is necessary to amend this Agreement from time to time for the parties to comply with the requirements of the HIPAA Rules. This Agreement may be executed in any number of counterparts, all of which together shall constitute one and the same instrument. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. Neither party shall assign or delegate its rights, duties, or obligations under this Agreement, without the prior written consent of the other party.

6.8 Notice. All notices or communications required or permitted pursuant to the terms of this Agreement shall be in writing and will be delivered in person or by means of certified or registered mail, postage paid, return receipt requested, to such party at its address as set forth below, or such other person or address as such party may specify by similar notice to the other party hereto, or by telephone facsimile with a hard copy sent by mail with delivery on the next business day. All such notices will be deemed given upon delivery or delivered by hand, on the third business day after deposit with the U.S. Postal Service, and on the first business day after sending if by facsimile.

As to Covered Entity:

Tyler Family Circle of Care

523 S. Fannin Ave, Tyler TX 75702
(T) 903-525-7497
(F) 903-531-9490
(E) Erich.Koch@txfcc.org

As to Business Associate:

Rebecca Shipley, NP-C
In Association with The University of Texas at Tyler Doctoral Nursing Program

7610 Morning Star
Tyler, Tx 75703
(T) 903-388-6708
(E) rtaylor9@patriots.uttyler.edu

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

Tyler Family Circle of Care COVERED ENTITY (print)	Rebecca Shipley, NP-C BUSINESS ASSOCIATE (print)
By: Erich Koch	By: Rebecca Shipley, NP C
Date: 8-25-2019	Date: 08/22/19

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Appendix E: Project Clinical Protocol

Form E1. Clinical Protocol

Clinic Protocol

1. Caregiver enters clinic with patient aged 6 months to 12 years of age.
2. Front desk, checks patient in and enrols caregiver in an educational program aimed at improving caregiver management of fever and reduced ER visits via a health information book.
    a. Each caregiver enrolment will consist of an information sheet that includes items such as:
        i. Understanding of outcomes of program with signature
        ii. Contact information for post program follow-up about ER use
        iii. Age/Gender of child
        iv. Reason for visit today
        v. Number of trips to ER in the past 6 months prior to evaluation date
3. Patient takes enrolment sheet into room with them for visit.
    a. Sheet can be filled out in waiting room or visit room depending on time.
4. Nurse takes completed paper from caregiver, acknowledges their participation in educational program verbally.
    a. Makes certain phone number is provided by caregiver
5. Nurse places signed outcome form in black folder for record.
6. After provider evaluates patient for visit, nurse returns to patient room with Educational book in language of choice.
7. Brief discussion (1-2 mins) with caregiver, as scripted, regarding book contents and intended outcomes, such as decreasing ER visits.
8. Caregiver given book for home use and discharged.
9. Nurse logs book distribution in blue folder confirming book was given to caregiver.

Appendix F: Project Implementation

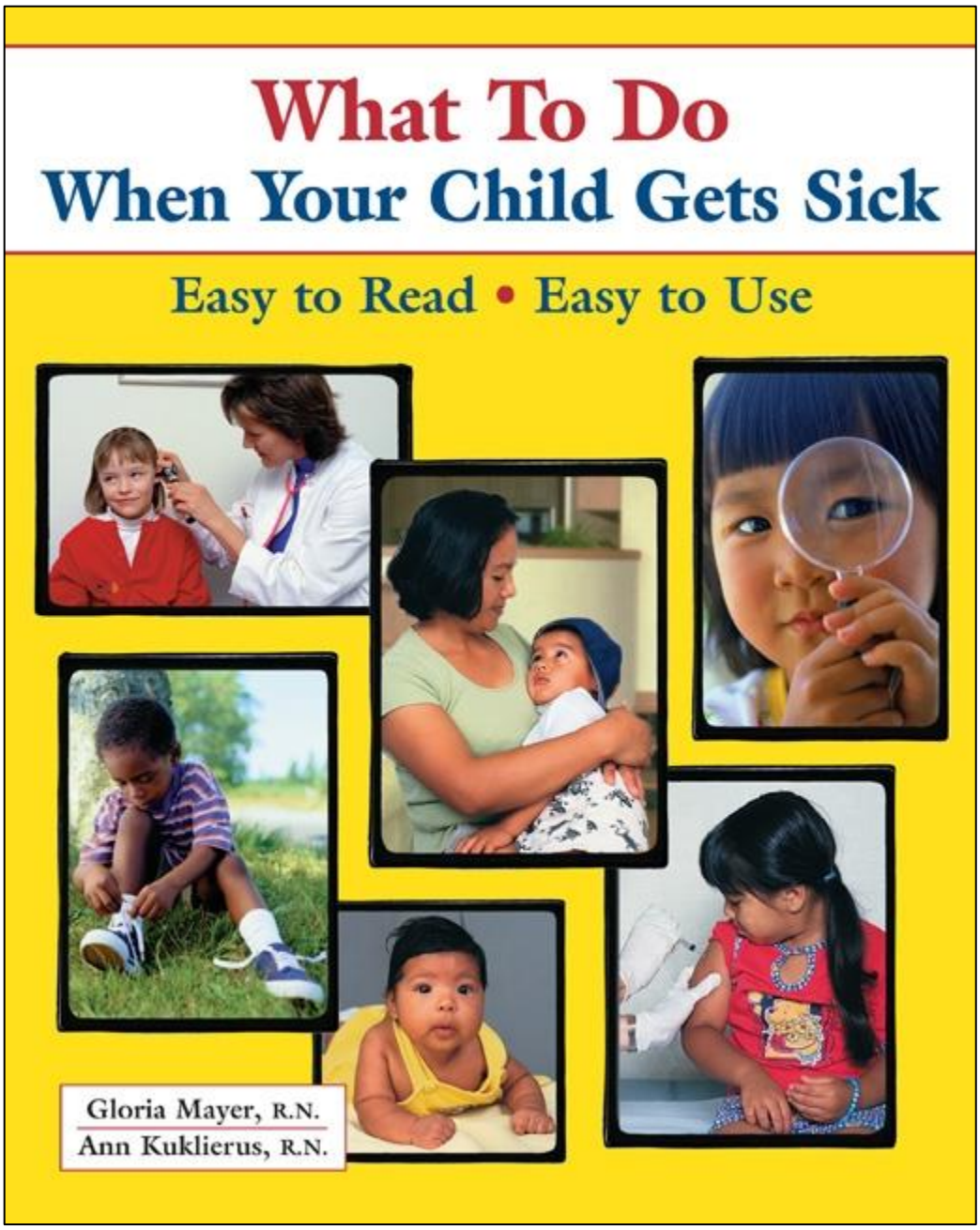

Figure F1. What to do When Your Child Gets Sick – Health Information Book (Photo copied from IHA, 2020)

Appendix F: Project Implementation

Form F1. Patient Information Sheet

PATIENT INFORMATION:

Age of Patient:_____

Gender of Patient: *Male* *Female* *Other*

Ethnicity of Patient: *African American/Black* *Hispanic/Latino*

Asian *Middle eastern* *Caucasian/White* *Other*

Insurance Provider of Patient:
(For example: MOLINA, BCBS, SUPERIOR, AETNA, Self-Pay, etc.)

_____

To your knowledge, how many trips to the ER has this patient had in the past 6 months?

_____

Do you remember any of the reasons for these visits? (For example: Fever, Cough, Abdominal Pain, etc.)

_____

_____

CAREGIVER INFORMATION:

Are you the Caregiver of this patient? **YES** **NO**

What is your preferred language? **English** **Spanish** Other: _____

Please provide a working phone number(s) below at which you can be reached.

Caregiver Phone Number(s): _____

Understand that you will **only be contacted **one time** at the end of a 6-month period to discuss number of trips to the Emergency Department.

Appendix F: Project Implementation

Form F2. 5-Question Fever Survey

1. What do you do **first** when your child has a fever.
    a. Call family/friends
    b. Look in health book
    c. call doctor of health phone line
    d. call 911 or go to ER

2. In a child over 6 months of age, which of the following is considered a fever
    a. 100.4 F
    b. 99.9 F
    c. 98.8 F

3. Which of the following about fever in children is **true**:
    a. antibiotics will cure a fever
    b. most fever in children last about 2-3 days
    c. Fever in children means there is a serious infection

4. Fever **often** causes
    a. brain damage and mental retardation
    b. worse infections of the body
    c. better ability to fight infections

5. The doctor should be called when a child has a fever **and**
    a. the child is very sleepy and hard to wake up
    b. feels warm to touch
    c. the child is happy but the fever returned after a dose of Tylenol

Appendix G: Ethical Review

Form G1. Faculty Attestation of Ethical Review

Faculty Attestation of Compliance with the UTT DNP EPIP Ethics Form

I attest that I have reviewed the **UTTYLER DNP EPIP ETHICS FORM** that the DNP student has completed based on justification using the **UTTYLER DNP PROGRAM IRB DISCERNMENT FORM**. I agree that the need for ethics review determination is correct and this DNP EPIP requires:

X Faculty Mentor Review Only

☐ HIPAA ethics review only

☐ (HIPAA review form completed

☐ IRB review (based on policies of the organization in which the EPIP will be implemented)

__*Dr. Ellen FIneout-Overholt* ___ __*12-03-2018*__

Faculty Mentor Signature Date

Appendix H- Project Timeline & Gantt Chart

Table H1: Project Timeline

PICOT Question: In pediatric patients aged 2 to 48 months who present to the emergency room with complaint of fever (P) how does caregiver education about origins, diagnosis, and treatment of fever (I) compared to no education (C) affect valid emergency room visits (O) over a 6 month period (T)?			
Team Leader: Rebecca Shipley			
Team Members: Pediatric clinic staff			
Agency Contact/Mentor Contact Info: DR. Kathleen Helgesen 903-566-7146 ***Progress Indicators Used: Gap Analysis & Check Sheets***			
Preliminary Checkpoint A: Spring 2018	○ **Lewin's Change Model** This theory model will be useful in influencing enhancement of literacy (regarding fever management especially) in certain at-risk populations. Improving literacy (through specialized education interventions) will reduce the burden of pediatric illness on caregivers and the healthcare system in general, by decreasing misuse of emergency services.	**Notes:** In this schematic, Health Literacy can be seen and addressed at the MOVEMENT stage 2. This is where health literacy is increased during this plan.	OUTCOMES (Process & Completion): Systematic approach to implementing organizational change
Preliminary Checkpoint B: Spring 2018	○ **Stakeholders for your project** ○ Active (nursing staff and providers whose patients are included in project) & Supportive (faculty mentor) ○ **Identify project team roles & leadership:** nursing staff will be responsible for explaining information on fever pamphlet at discharge. Clinic provider will be responsible for making certain nurses understand information in pamphlets to explain to caregivers.	**Stakeholders**: Clinic Provider, nursing staff, front desk staff, caregivers **Roles**: front desk staff: encourage participation by caregivers in presentation day meetings, book distribution/use Provider and nursing staff: encourage use of books and participation at presentation	All stakeholders aware of project & their roles within project Important for all parts to understand their role for buy-in and correct implementation Buy-in secured Letters of approval from clinic staff obtained

	○ **Begin acquisition of any necessary approvals for project implementation and dissemination : (e.g., system leadership, unit leadership, ethics board [IRB]):** Support obtained form providers to implement project with their patients. Clinic manager approval for using television in waiting room to run fever mgmt video. ○ ***Consult with Agency Contact/Mentor:*** consistent contact throughout EPIP steps	days. Reference books when caregivers phone in with questions. Front desk: encourage participation of presentation day. Caregivers: verbalize understanding book use **Approvals**: awaiting agency mentor approval, will get confirmation in July 2019 For FCC clinic Will require EMR access	
Checkpoint One: Spring 2018	○ **Hone PICOT question & assure team is prepared**: PICOT question crafted with revisions ○ **Build EBP knowledge & skills:** readings and guidance from professors integrated ○ ***Consult with Agency Contact/Mentor:*** consistent contact throughout EPIP steps	In pediatric patients aged 2 to 48 months who present to the emergency room with complaint of fever (P) how does caregiver education about origins, diagnosis, and treatment of fever (I) compared to no education (C) affect valid emergency room visits (O) over a 6 month period (T)?	Clinical staff know PICOT question and WHY it is important via presentation: agreement by clinic staff that there is an identified problem and need for change
Checkpoint Two: Spring 2018	○ **Conduct systematic search for evidence & retain studies that meet criteria for inclusion**: Three databases searched for evidence on topic using key words*: pediatric fever, fever education, emergency department* Results yielded 12 keeper studies relevant to PICOT ○ **Connect with librarian:** open line	Research also states that multiple methods of fever education have proven to increase comfort levels of caregivers in managing fever at home and identifying when a child needs to be seen for febrile illnesses. (See Appendix C)	Clinic staff readily see how PICOT question drove systematic search Search results presented to board of directors who provide facility approval

	of communication via email and phone ○ **Meet with implementation group - TEAM BUILD** ○ ***Consult with Agency Contact/Mentor*** :consistent contact throughout EPIP steps		
Checkpoint Three: Fall 2018	○ **Critically appraise literature:** GAO/RCAC completed for each keeper study. Synthesis and evaluation table completed for ease of interpretation ○ **Meet with group to discuss how completely evidence answers question and drives the project plan**: meet with nurses and staff to discuss research and implementation plan at clinic ○ Continuous evaluation of literature ○ ***Consult with Agency Contact/Mentor***: consistent contact throughout EPIP steps	**Recommendation from Evidence :** The most effective method, per research, has been distribution of a health book to caregivers (given with a description of the material and how to use it) for the caregivers to take home and reference.	Synthesis tables tell the tale See Appendix C: Levels of evidence displayed along with synthesized study results. (See Tables C2-C5)
Checkpoint Four: Spring 2019	○ **Meet with group:** review any questions from staff ○ **Summarize evidence with focus on implications for practice & conduct interviews with content experts as necessary to benchmark:** waiting room video and hand out information on fever management ○ **Begin formulating detailed plan for implementation of evidence:** television access in waiting room or clinic rooms depending on access ○ **Include who must know about the project, when they will know, how they will know:** supportive and	**YOUR PLAN FOR IMPLEMENTATION:** -Book distribution with brief discussion to caregivers by nursing staff. Staff will be educated by myself regarding how to present book to caregivers and contents of book which warrant further explanation. This will be completed verbally over a lunch break and exemplary narrative speech will be typed for nurse to reference for comfort.	Collection of data in organization to compare post intervention results and further emphasize problem. All internal evidence collected including: demographic information and reason for visit to PCC. Furthermore, participation pages, distributed to each caregiver prior to involvement in project, will have a blank space for caregivers to indicate how many times patient has been taken to the

	active stakeholders ○ ***Consult with Agency Contact/Mentor*** consistent contact throughout EPIP steps	For example, section on fever will require a 2-3 min discussion by clinic nurses to caregivers on measurement, definition, and symptoms of concern. Will use Levin's Change Theory and the EBP model (see Appendix I, Figure I2) for change to guide organized implementation.	ER in the previous 6 months for indicator.
Checkpoint Five Fall 2019	○ **Define project purpose- connect the evidence & the project**: purpose includes decreasing avoidable ER visits, improving caregiver confidence and ability to treat common childhood via providing evidence based resource for them to reference at home ○ **Define baseline data collection source(s) (e.g., existing dataset, electronic health record), methods, & measures:** frequency of ER visits (via shared EMR with hospitals and clinic) on EMR and patient recall interviews ○ **Define post project outcome indicators of a successful project (process & completion):** percentage of visit frequency over 6 month course c/t previous 6 months prior to intervention ○ **Gather valid & reliable outcome measures:** most studies saw a 30% decrease in clinic or ED utilization post fever educational programs ○ **Write data collection protocol:**	**LAUNCH PLAN FOR IMPLEMENTATION: Provide what is to happen when you launch, when and how do you know it is successful (i.e., protocol specific, dates & progress outcomes):** close monitoring of change and necessary adjustments, listen to staff suggestions for ease of flow or potential patient barriers. Meetings being held every 2 weeks with clinic staff. Date determined (October 2019) with providers and clinic staff in mind.	**Careful collection of baseline data (these would be your project completion outcomes)** Completed via EMR extraction from Christus Jacksonville ED and facility EMR which shares data (via EPIC) **HOW do the baseline data influence your plan – do they demonstrate your clinical issue?** Based on evidence and internal data collection, will raise the age of patients included to 4 years of age. Baseline data collection continues to identify new barriers or changes necessary to implementation project. Also identifies high risk populations to focus initiative on.

	retrieval via EMR ○ **Write the project protocol (data collection fits in this document)** ○ **Finalize any necessary approvals for project implementation & dissemination (e.g., system leadership, unit leadership, IRB)** No additional approval needed. ○ ***Consult with Agency Contact/Mentor:*** consistent contact throughout EPIP steps		
Checkpoint Six: Fall 2019	○ **Meet with implementation group** ○ **Discuss known barriers & facilitators of project:** Check in with clinical staff every 2-4 weeks in person to discuss potential barriers. Open line of communication via email or phone. ○ **Discuss strategies for minimizing barriers & maximizing facilitators** ○ **Finalize protocol for implementation of evidence, include timeline.** Discussed over lunch with clinic staff. ○ **Identify resources (human, fiscal, & other) necessary to complete project** Budget made and confirmed with clinic staff. ○ **Supply Agency Mentor (& Faculty) with written IRB approval & managerial support** ○ **Begin work method of dissemination of initiation of project & progress to date to educate stakeholders about project - get help from support**	✓ **Identify project barriers**: discussed with clinic staff, they have great suggestions for making the project run smoothly and not interfere with transition of patients through clinic. ✓ **Identify project facilitators:** team leader, facility mentor ✓ **Review your timeline** – dates, measures, plans.: 6 Months pre and post. Will consider stakeholders in timeline ✓ **Communicate with key stakeholders about the plan – be creative – maybe a newsletter, flyer, -- yes, email will do, but will it be memorable?** Send memo out to clinic with desert or candy ✓ **Is your data collection plan complete?** Review data collection for baseline	Calendar year of ED data extracted for Jacksonville Tx CHRISTUS. Presented to Board of Directors and clinical staff .

	staff ○ **Include specific plan for how evaluation will take place: who, what, when, where & how and communication mechanisms to stakeholders** Folder will be kept with participant names, agreement to participate, and pre-involvement hand out sheets ○ ***Consult with Agency Contact/Mentor:*** consistent contact throughout EPIP steps		
Checkpoint Seven Fall 2019	○ **Meet with implementation group to review proposed stakeholder dissemination** ○ **Make final adjustment to dissemination plan with support staff** ○ **Inform stakeholders of start date of implementation** ○ **Address any concerns or questions of stakeholders (active & supportive)** ○ ***Consult with Agency Contact/Mentor*** : consistent contact throughout EPIP steps	**Review pertinent protocol specifics, dates & progress outcomes:** continuously compare implementation course with Lewin's Change Theory and EBP Model for Change. This will help to consider stakeholders and continued communication efforts between staff and facilitators.	Collect data on progress outcomes include in report. Data collection regarding project measures will continue until January 2020. Data is being re-evaluated from Jacksonville ED and also collected from patient surveys/questionnaires.
Checkpoint Eight Fall 2019	○ **LAUNCH EBP implementation project** ○ Follow project protocol rigorously ○ Collect Baseline Data ○ Deliver Evidence-based Intervention ○ Record process outcomes & lessons learned ○ ***Consult with Agency Contact/Mentor:*** consistent contact throughout EPIP steps	**Progress Outcomes – are things working as you thought they would – why or why not?** Higher volume of patients was anticipated, however d/t cold/flu season, there are higher numbers of sick visits in clinic currently c/t well child checks	Be present for staff in regards to questions and implementation steps. Keep a journal of lessons learned and my responses to them. Data collected and reviewed every 2 weeks.

		How are the interventions working? *Are staff getting feedback from caregivers? Good or Bad?* Feedback from caregivers is favourable. Assessed by myself bi-monthly by face-to-face or electronic check in with nursing staff. Check-in time will also be used to collect patient data forms.	
Checkpoint Nine Fall 2019	○ Mid-project: Schedule meeting with all key stakeholders to review progress outcomes and lessons learned (and associated adjustments to protocol) to date. ○ Don't forget to include any issues, successes, aha's, & triumphs of project to date. ○ ***Consult with Agency Contact/Mentor:*** consistent contact throughout EPIP steps	**Progress Outcomes – are things working as you thought they would – why or why not?** At this point or checkpoint #8, 6 month re-eval via patient interview on telephone. This will be completed by myself to have pre and post data for comparison of project efficacy. *Has the intervention made an impact on ED use?* Still pending	Collect data on further progress outcomes to date and include in report Journal lessons learned and response.
Checkpoint Ten January 2020	○ Complete final data collection for project evaluation ○ Analyze baseline compared to final data; create graphics for distribution of results ○ Present project progress and completion results via poster presentation to stakeholders ○ ***Consult with Agency Contact/Mentor & Agency***	Completion Outcomes data collection. Analyze the baseline to completion data change? Did your implementation work? Evaluate progress outcomes - report on success of project implementation process	Completion outcomes (analyze pre/post) -Compare ER rates of participants pre and post intervention. Process outcomes (did project process go well/not) -Assess rates for rate reduction post intervention.

Appendix H- Project Timeline & Gantt Chart

	Leadership: consistent contact throughout EPIP steps		
Checkpoint Eleven Fall2019-Spring 2020	○ Review project success, including progress & completion outcomes, lessons learned, and any new questions generated from process ○ ***Consult with Agency Contact/Mentor & consider new questions:*** consistent contact throughout EPIP steps	Provide Final Evaluation Report to Faculty & Agency contact, including Next Steps for sustainability: Grant applications and transfer of grant formatting to office assistant	✓ Pending completion in January

Appendix H- Project Timeline & Gantt Chart

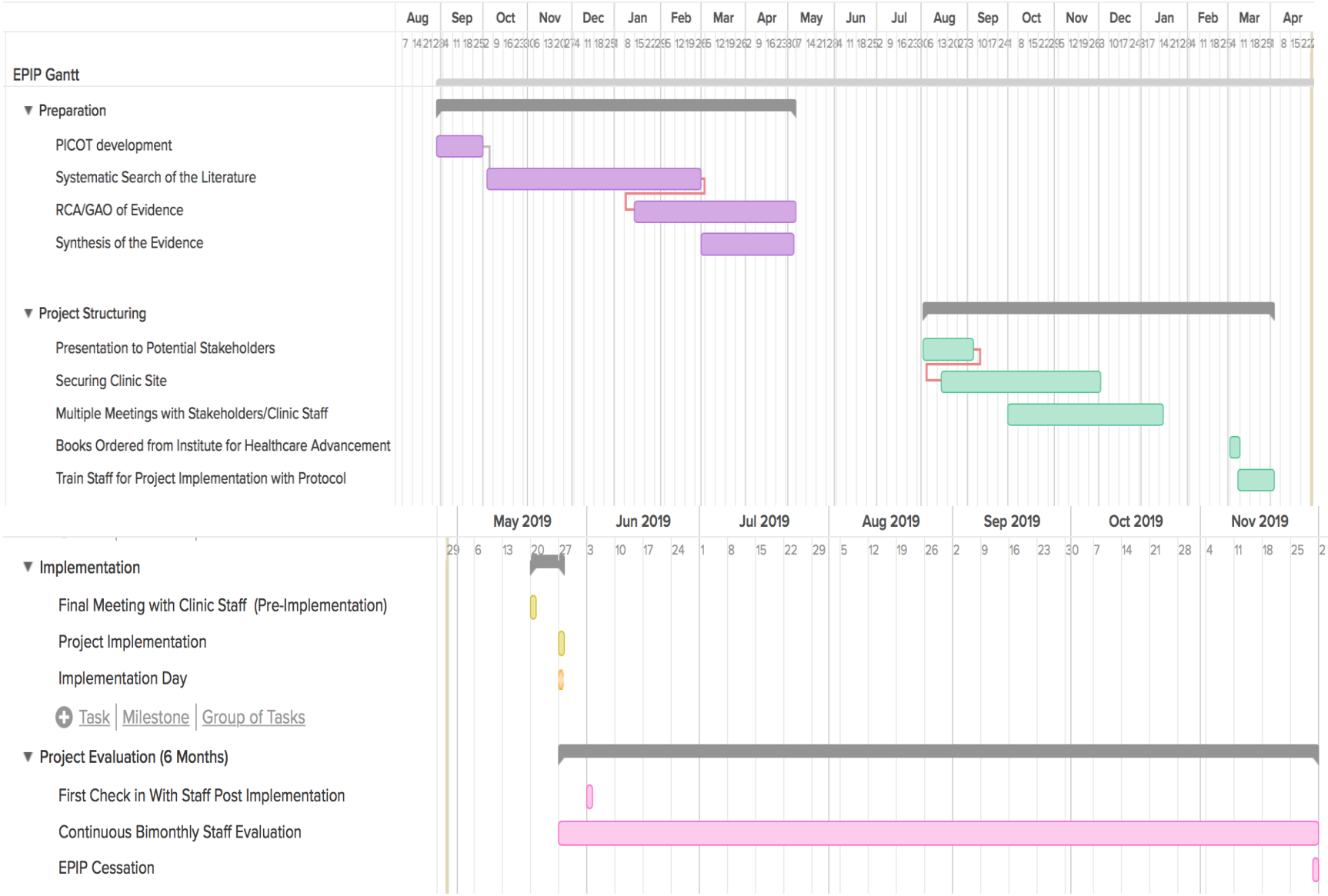

Figure H1. Gantt Chart

Appendix I: Project Models

Table I1. Logic Model

Program Name: Improving Caregiver Health Literacy of Pediatric Febrile Illness: A Patient Care Initiative

Program Goal: To improve caregiver knowledge and management of febrile illness at home, in order to reduce the rate of Emergency Department use for non-emergent fever conditions in this population within a sixth month period

Resources/Inputs:

- Health Education Book – *What to Do When Your Child Gets Sick*
- Caregiver population willing to participate in intervention
- Healthcare facility willing to allow their patient populations to be used for program (Pediatric Primary Care Clinic)
- Report produced by CHRISTUS IT for local ED stats
- Organization Board meeting for approval of EMR use
- Access to EMR records for patient contact information and ED use rates
- Grant approval by the Institute for Healthcare Advancement (IHA) for health education books
- Self-funding for book purchase
- Spanish translator for follow up calls and translation of survey text
- Computer program, such as Excel, to track progress and distribution of resources, as well as pre/post test results
- Pediatric clinic staff engagement in program
- Clinic manager engagement for future grant application
- Office supplies: large envelopes for private information, 3 ring binders, stapler, printer and copier for survey sheet production

Constraints:

- Busy clinic schedule
- Funding for sustainability d/t FQHC status
- Staff understanding regarding need for change
- Organizational limitations (ie Board approval, time restraints)
- Patient population at high risk for low compliance
- Float staff at front desk
- New primary provider (new to clinic)
- Language barriers

Appendix I: Project Models

OUTPUTS		OUTCOMES		
Activities	**Audience(s)**	**Short-Term** At Launch	**Mid-Term** 1 month	**Long-Term** After Completion
-Extract Data from Local ED for statistical emphasis of problem	CHRISTUS IT Department	Extract and synthesize data for statistical significance of problem	Continue monitoring local ED use	Compare data at 1 year mark
- Receive approval from Clinical Board of Directors for use of clinical site and patient population	FCC Board of Directors, Medical Director	Receive confirmed approval BOD to use the FCC patient population for project	-Share program information with BOD if requested -Compliant with any request from BOD regarding program methodology	Endorsement and encouragement from clinic staff for presentations to include patients/caregivers of all ages that are seen at clinic
- Present educational plan and clinic protocol to clinic staff members	1 Nurse Practitioner, Nurse Manger, 2 office assistance, 1 medical assistant	Staff educated on new clinic protocol. Questions are answered. Aware of program start date.	-Check-in with clinic staff to make certain no new concerns have developed and previous concerns remain addressed - Staff encourage caregivers to use book -Program is continued per protocol	-Clinic manager continues educational program via protocol -Adjustments made to protocol as necessary -New staff members educated on protocol
-Order and receive books from IHA for discounted pricing	Institute for Healthcare Advancement	Reception of books by IHA for $5.50 each, self funded	-Secure grant funding for future book purchasing over next year -Educate manager on method of grant	-Project sustained through annual grant application and reception for book purchasing

			application	
Bi-monthly check-ins with clinic staff for updates and to address needs	1 Nurse Practitioner, Nurse Manger, 2 office assistance, 1 medical assistant	-Inform nurse manager of "check-in" schedule -Address any staff questions prior to implementation date	-Continue bi-monthly check in during 3 week program length - Continued communication via email in between appearances	-Remain a source of reference for program moving forward -Continue communication with nurse manager for updates and changes.
Implement educational program for caregivers for behavioral and attitude modification regarding pediatric fever	Caregivers with children aged 6 months to 48 months who routinely use FCC Jacksonville as a primary clinic	Provide book as an easy to use reference for home guidance when health questions regarding fever in pediatrics may arise	-Increase caregiver confidence in managing fever at home to reduce frequent misuse of the ED for non-emergent conditions -Use encouraged by clinic staff	-Increase caregiver knowledge of fever -Improve caregiver management of fever at home -Minimize the negative financial impact on local EDs -Cut down on overcrowding of EDs -Decrease federal and state government spending for federally/state funded public insurance users

Appendix I: Project Models

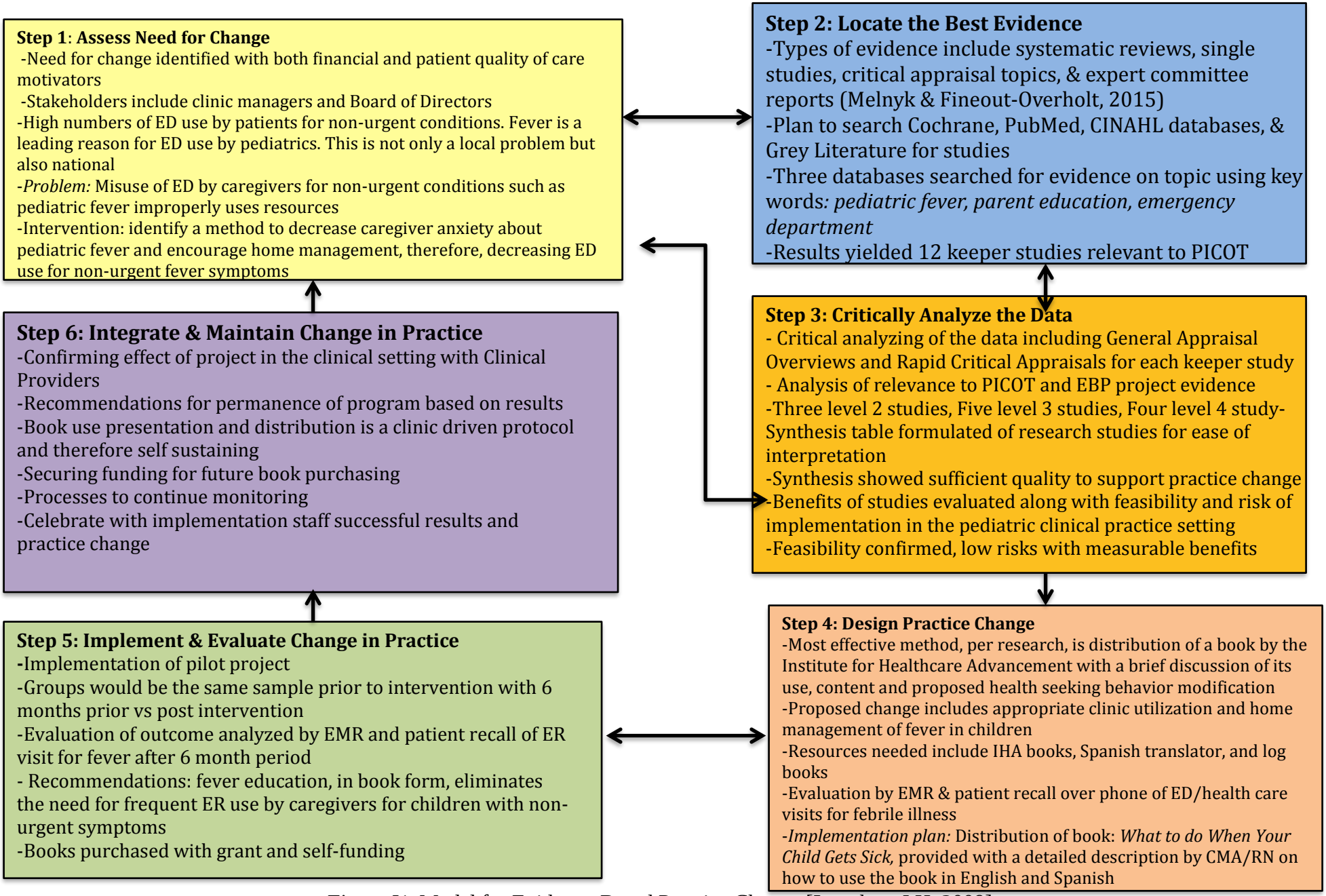

Figure I1. Model for Evidence-Based Practice Change [Larrabee, J.H. 2009]

Appendix I: Project Models

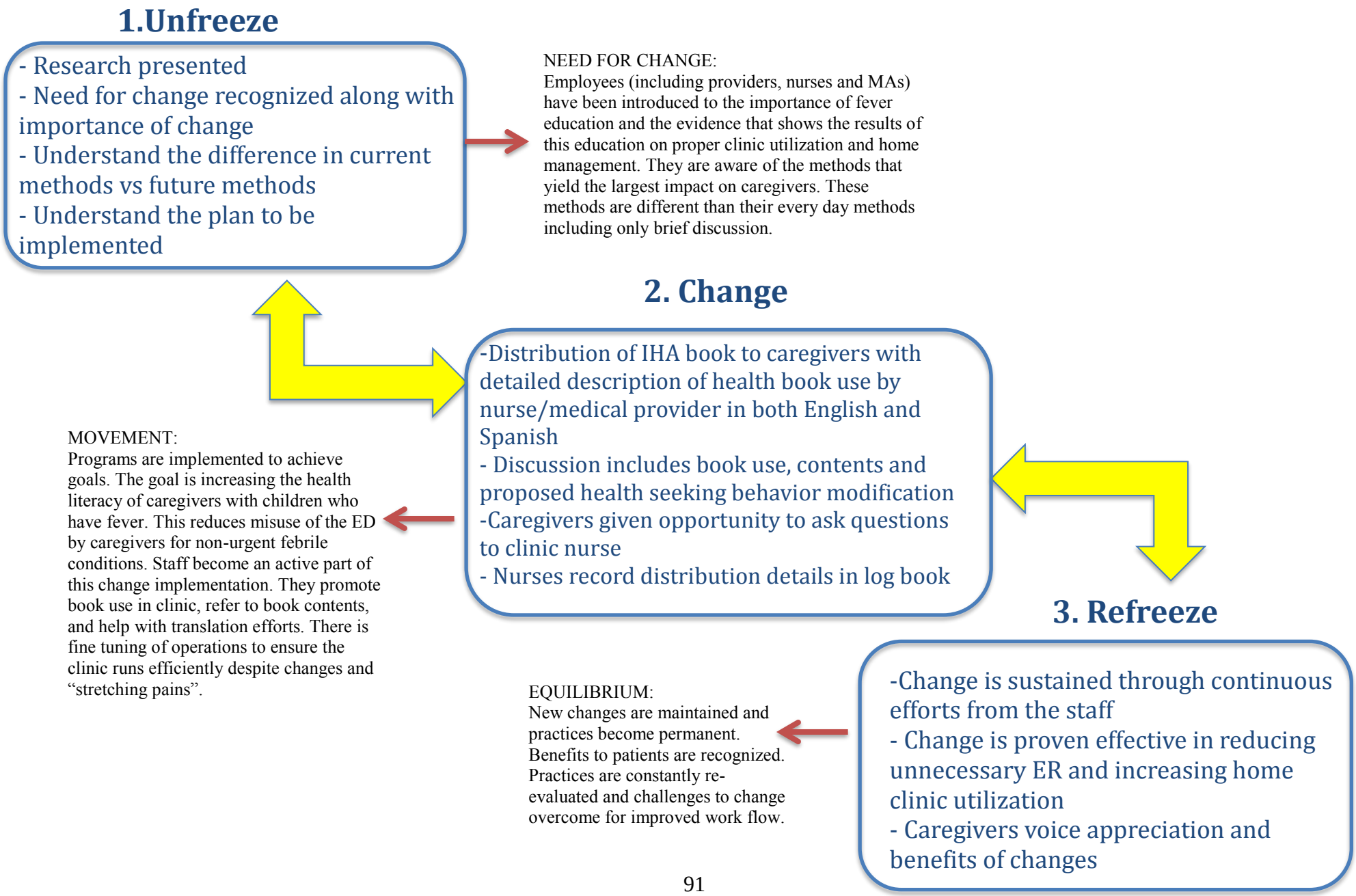

Figure I2. Modification of Lewin's Change Theory for EBP Project

Appendix J: Project Budget

Table J1. Educational Program Budget

Expenses				
Implementation	**Description**	**Quantity**	**Cost**	**Total**
Staff/Faculty time in clinic	**% of Time on Project:** Logging patient information after book distribution - 1 min per patient / 3 patients per week / $11 hour for ancillary staff / 3 mins per week / 25 weeks	75	0.18	$13.50
Staff/Faculty time in clinic	**% of Time on Project**: Distributing books - 5 mins per patient / 3 patients per week / $11 pay per hour for ancillary staff / 15 mins per week / 25 weeks	75	0.92	$69
Spanish Interpreter	Translating information sheets and making follow up calls in Spanish	3	12	$36
Lunch for Staff	Lunch for staff on status-check in days	2	50	$100
Sub - total Salaries				$219
Planning	**Description**	**Quantity**	**Cost**	**Total**
Lunch for Staff	Lunch provided for planning/training days	5	50	$250
Time Training	Avg APP hourly pay for Texas ($70/hr) with estimated 70 hrs spent training staff. CMA hourly pay at TNHC ($11/hr) with estimated 70 hours spent in training. Receptionist hourly pay at TNHC $10/hr. 1 CMAs at this setting, 2 receptionist. Total: 210 hrs: 70 for APP + 70 for CMA1 + 70 for Recep1 + 70 for Recep2	210	34	$7,140
Sub-total Training				$7,390
Supplies	**Description**	**Quantity**	**Cost**	**Total**
Health Books	25 English / 25 Spanish	50	5.95	$297
Paper	Participation papers to be signed by caregivers willing to participate in initiative			
Folder and Organizer	Binder for log to be completed by CMA	1	4	$4
Sub-total Supplies				304
Post-Implementation	**Description**	**Quantity**	**Cost**	**Total**
Follow-Up Calls	Follow Up calls to caregivers to inquire about ED usage - Completed by myself - Avg APP hourly pay for Texas ($70/hr) with estimated 5 hours for follow-up calls.	5	70	$350
Sub-total Evaluation				$350
Total Expenses				**$8,263**
Program Income	**Description**	**Quantity**	**Savings**	**Total**
Reduction in Low Acuity ED visits-Commercial Insurance	1 avoided ED visit saves family $700. If a pediatric patient avoids 1 visit to the ED in a 6 month period...	15	$700	$10,500
Reduction in Low Acuity ED visits -Federal Insurance	1 avoided ED visit saves federal government $400. If a pediatric patient avoids 1 visit to the ED in a 6 month period...	30	$400	$12,000
Reduction In Low Acuity ED visits- Self Pay	1 avoided ED visit saves family $300. If a pediatric patient avoids 1 visit to the ED in a 6 month period...	5	$300	$1,500
Total Income				**$24,000**
Net Income	**Estimated Total Cost Avoidance**:			**-$15,737**

Appendix K: Project Results

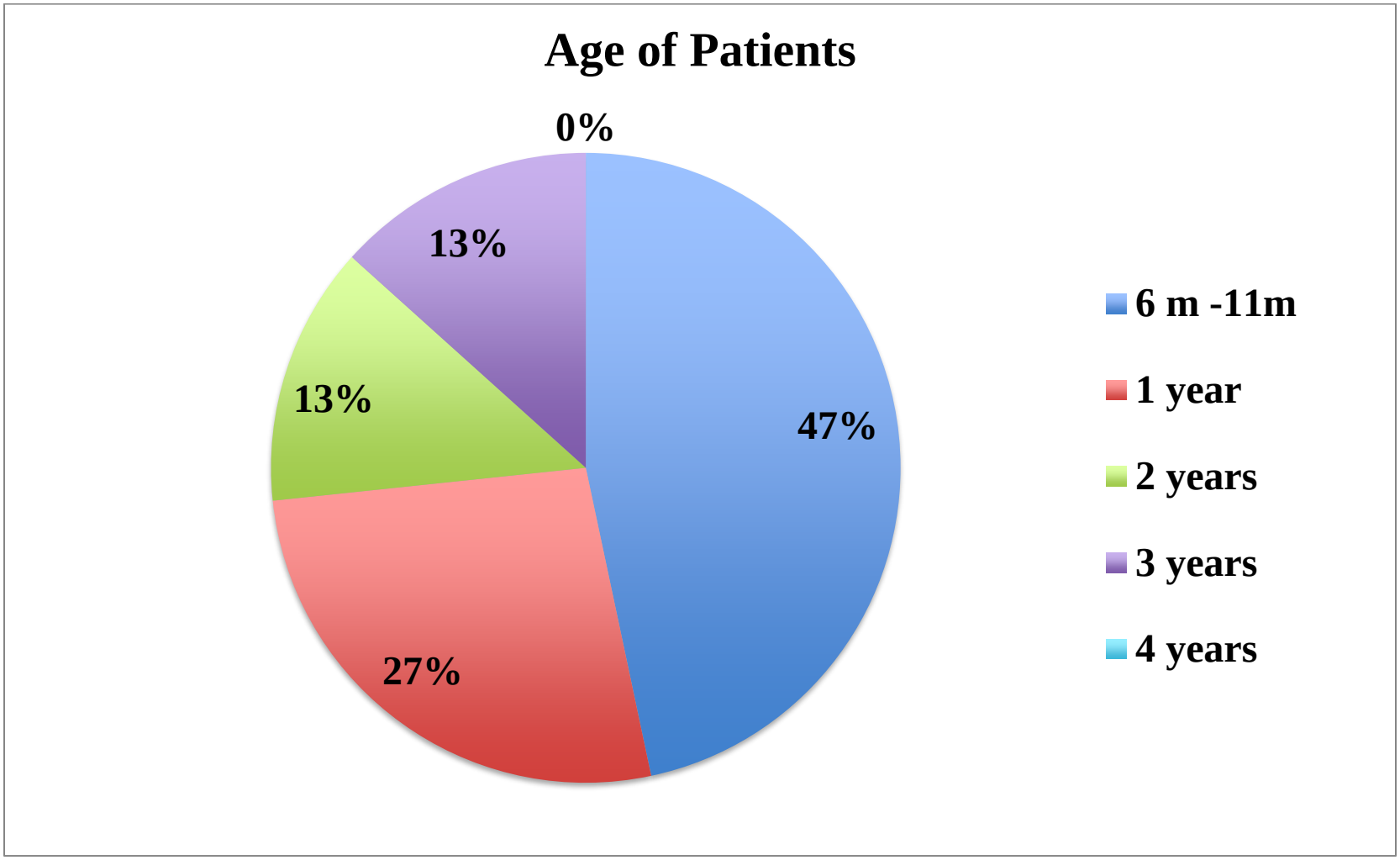

Figure K1. Demographic Data Collection- Age

Appendix K: Project Results

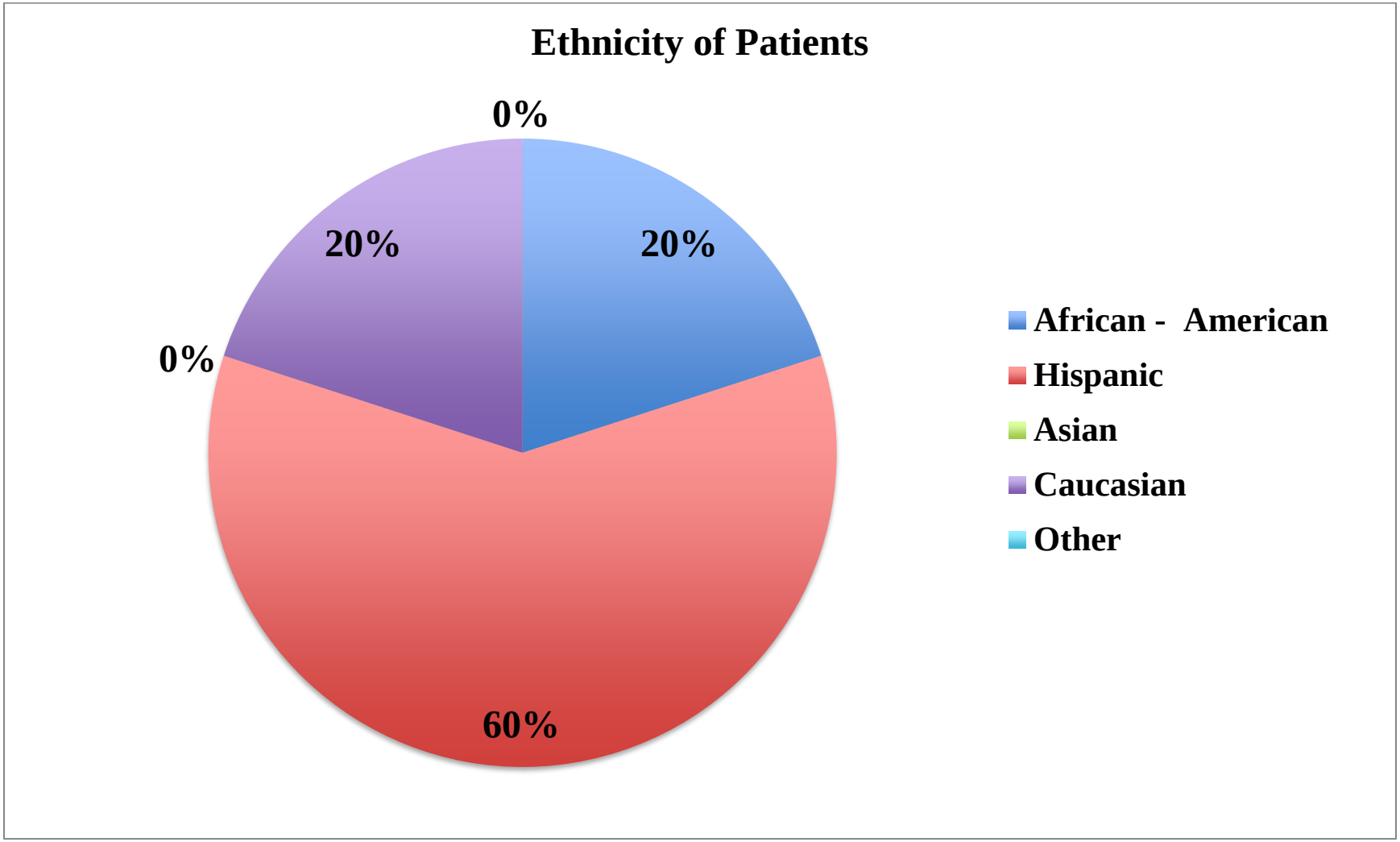

Figure K2. Demographic Data Collection- Ethnicity

Appendix K: Project Results

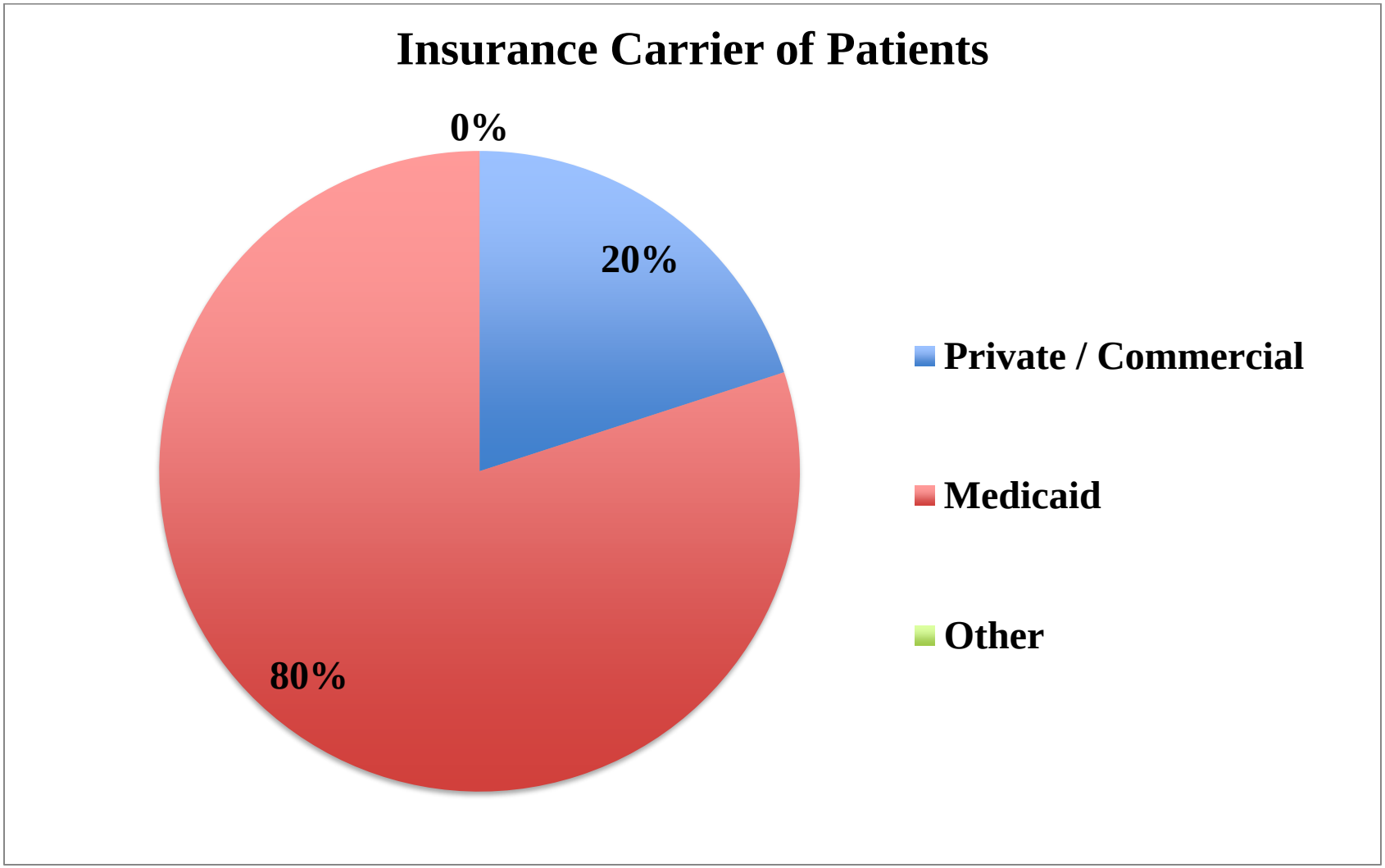

Figure K3. Demographic Data Collection- Insurance Carrier

Appendix K: Project Results

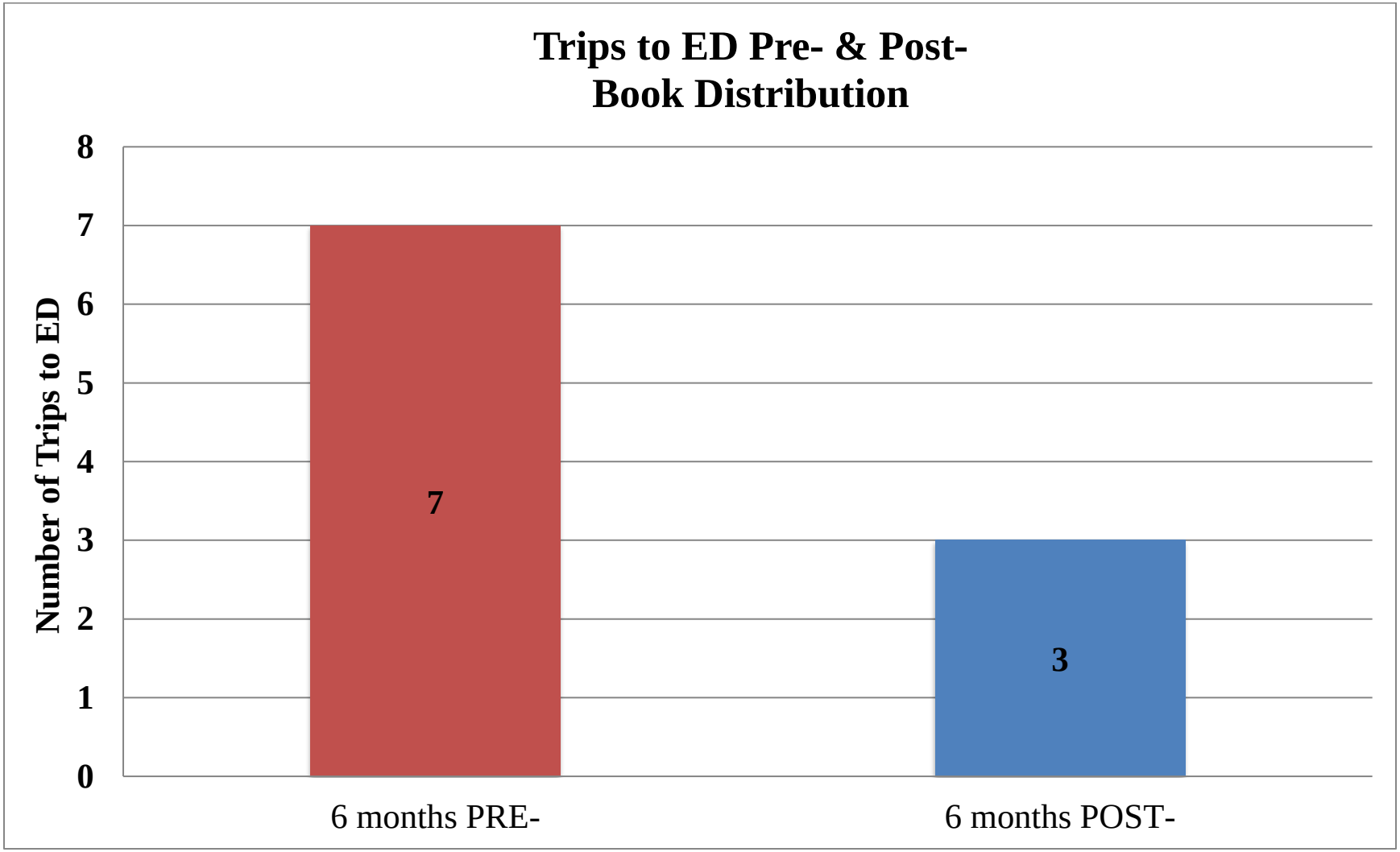

Figure K4. Comparison of ED Visit Rate Pre- & Post- Book Distribution

Appendix K: Project Results

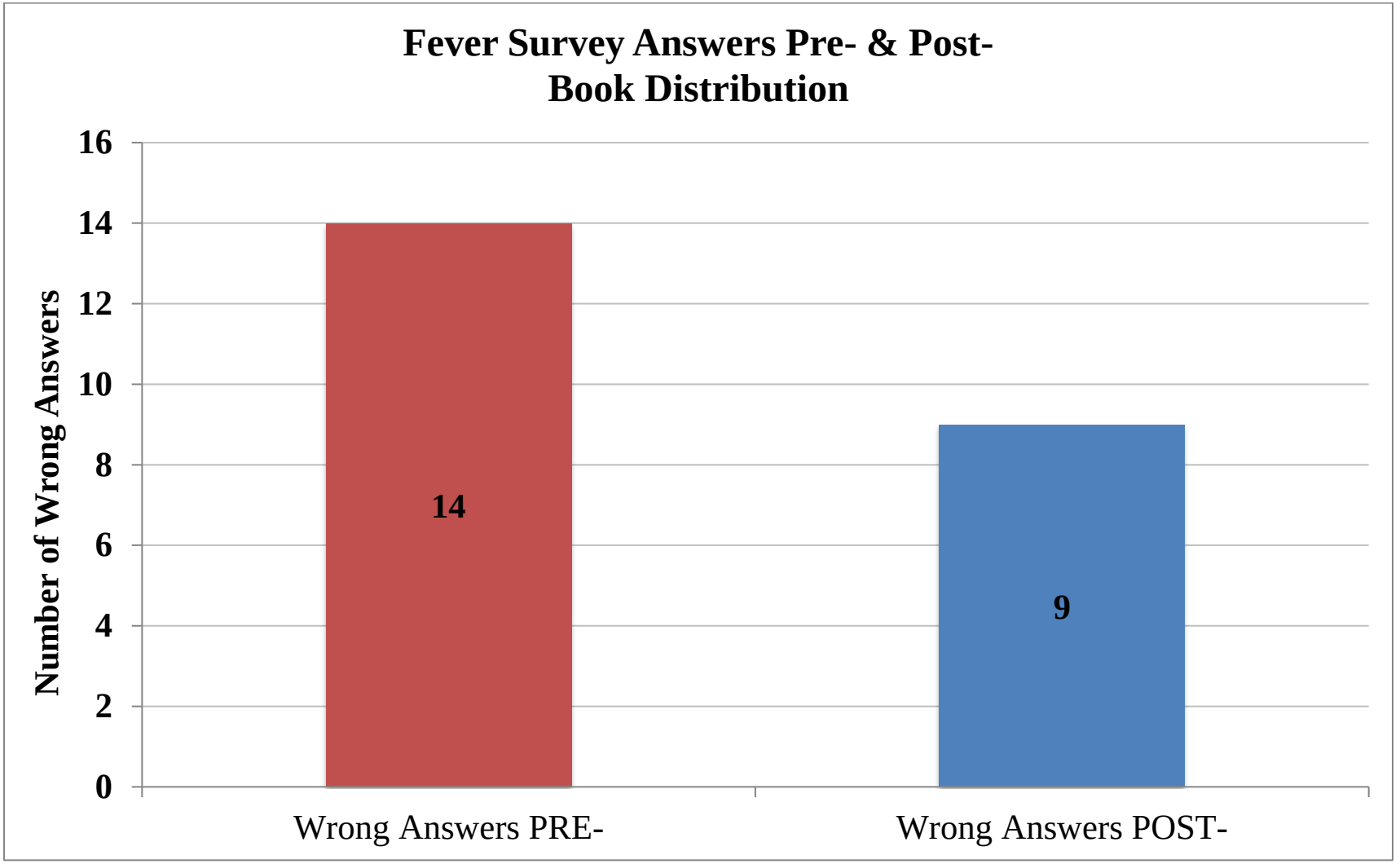

Figure K5. Comparison of Survey Results Pre- & Post- Book Distribution

Appendix K: Project Results

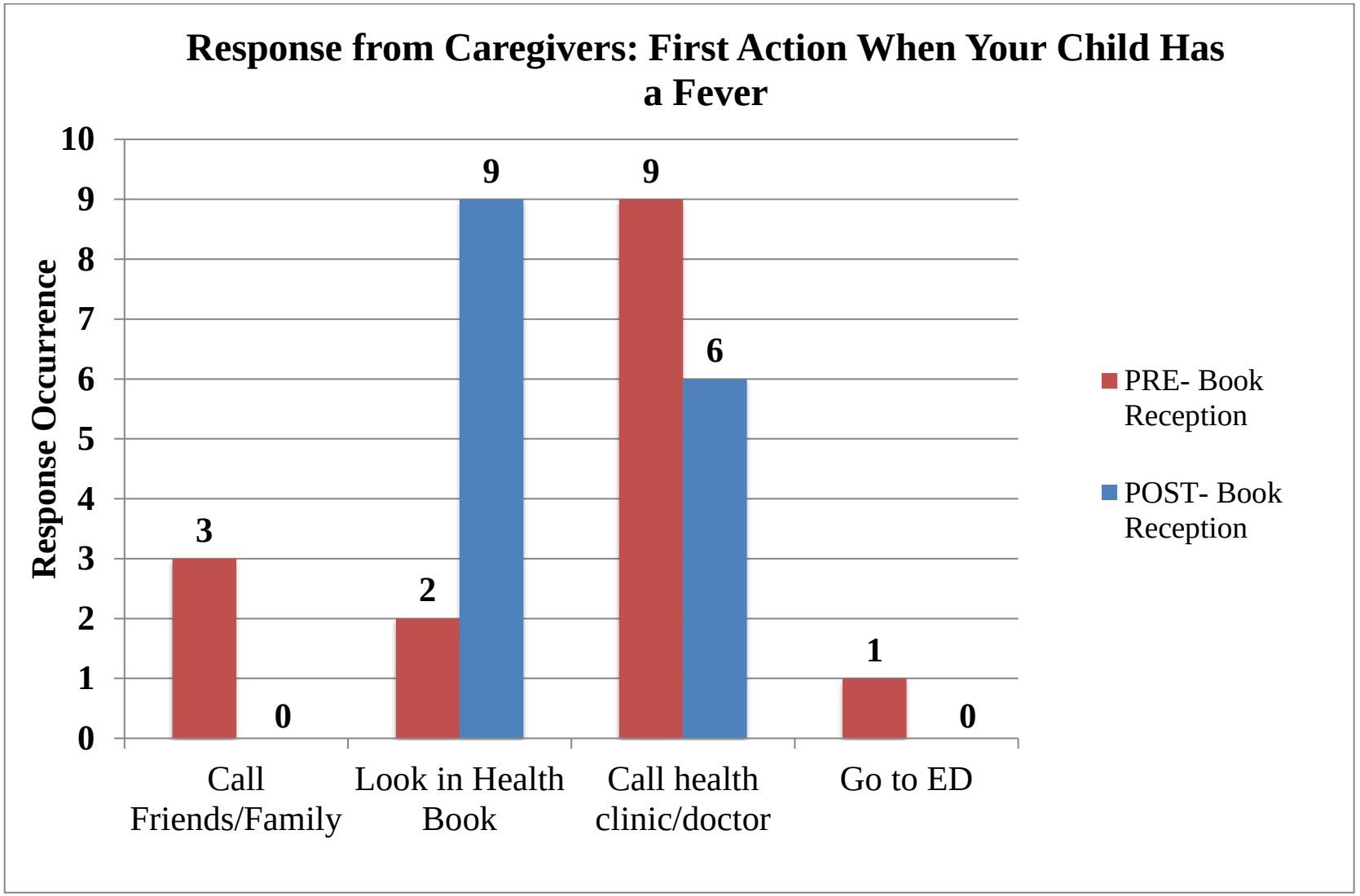

Figure K6. Caregiver Response: First Action When Your Child has a Fever

Appendix L-Industry Mentor Agreement

Form L1. Industry Mentor Agreement

The University of Texas At Tyler

College of Nursing and Health Sciences School of Nursing

Doctor of Nursing Practice Program

DNP Industry Mentor Agreement

I have reviewed the industry mentor guidelines. I can provide the student with advanced experiences that meet the DNP Scholarly Project (aka EPIP) goals as agreed upon by the student, the faculty mentor, and me. I understand that there will be no remuneration for this service. I will facilitate and review the student's learning activities and will submit the required evaluations to the DNP Program.

I, Dr. Kathleen Helgesen, agree to serve as an Industry Mentor for the DNP student, Rebecca Shipley ,

from 5/1/2019 to 5/1/2020

OR

☐ For ALL Semesters

OR

For specifically indicated semesters: ☐ Fall ☐ Spring ☐ Summer

Please indicate if UT Tyler may disclose your contact information for future students seeking mentors:

☐ Yes

☐ ***X No***

Industry Mentor Signature Kathleen Helgesen Date 12/05/19

For office use only:

Reviewed by_____Date _____

Approved as a DNP Industry mentor ☐ Yes ☐ No

Appendix L-Industry Mentor Agreement

COLLEGE OF NURSING AND HEALTH SCIENCES

SCHOOL OF NURSING – DOCTOR OF NURSING PRACTICE PROGRAM

Industry Mentor Biographical Data

(**Please note** that an updated resume or curriculum vitae is also required in addition to this form)

Name: Dr. Kathleen Helgesen

Current Agency Family Circle of Care –Jacksonville, Tx & UT Tyler School of Nursing

Position or Title: Pediatric Provider; Nursing Professor

Office Address: 510 E Commerce St (street)

Jacksonville, Tx 75766
(city) (state) (zip)

Office phone with area code 619-838-6855

Fax number

Email (personal or office) KHelgesen@uttyler.edu

Alternate email

Preferred Method of Contact:_____Phone_____**X Email**

Type of position you currently hold Pediatric Nurse Practitioner, Nursing Professor

Designated rural health site?_____**X yes**____no

Designated health professional shortage area?**yes**___no

Designated medically underserved area?_____**X yes**_____no

IM Signature: Kathleen Helgesen

Date submitted: 12/05/19

The UT Tyler School of Nursing complies with all federal and state laws related to the confidentiality of patient medical information including the Privacy Regulations issued pursuant to the Health Insurance Portability and Accountability Act of 1996. Students are required to comply with such laws and the medical record confidentiality policies and procedures of any health care facility where they are engaged in DNP Scholarly hour attainment. All DNP student mentors are tracked in a database for the purpose of ensuring and validating qualifications

*This document is designed to be used in conjunction with the UT Tyler Student Handbook.

Biosketch

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME	POSITION TITLE
Rebecca Taylor Shipley	Family Nurse Practitioner
eRA COMMONS USER NAME	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Texas at Tyler: Tyler, Texas	Bachelor of Science	2011	Nursing
University of Texas at Tyler: Tyler, Texas	Master of Science	2014	Nursing- Family Nurse Practitioner

A. Positions and Honors.

a. Sigma Theta Tau, Delta Theta Chapter

B. Selected peer-reviewed publications

- Grigsby, S., Chapman, B., Kelley, C. B., Shipley, R., Garrett, C., & Davis, C. (2018). DNP and PhD: Complementary Roles. *American Nurse Today*, *13*(7), 8-13. https://americannursetoday.com/Digital/EducationGuide18-19/#p=10
- Shipley, R., Chapman, B., Davis, C., Garrett, C., Grigsby, S., & Kelley, C. B. (2019). DNPs: Healthcare Change Agents. *American Nurse Today - Education Edition 2019-2020*, 16-18. https://americannursetoday.com/Digital/EducationGuide19-20/#page=18