ENHANCING PATIENT EQUITY FOR PEDIATRIC PATIENTS IN THE EMERGENCY DEPARTMENT

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ABSTRACT

The United States pediatric population is unique in that the epidemiological trends differ from those seen in the adult population. When discussing the pediatric emergency department (ED), this is typically a setting with high patient flow which requires swift diagnoses and treatment. Ideally, all patients should have equal opportunity to receive their highest possible level of quality healthcare, regardless of social determinants of health (SDOH) such as patient race/ethnic background, preferred spoken language, socioeconomic status, and insurance status. This is essentially the concept of health equity. The goal is to provide responsible and ethical healthcare to patients. If healthcare delivery is disproportionate, this may result in the overcrowding of EDs, delays in patient care, economic burden on the healthcare system, and increased morbidity and mortality. Some scholars have claimed that both individual and systemic biases have resulted in inequitable healthcare delivery. The following research study investigated health equity in the United States pediatric ED via the following question: What government and organizational policy changes can be made to enhance ED pediatric patient equity by utilizing first-hand information from ED physicians? The selected methodology for this research was qualitative and utilized in-depth semi-structured interviews of 15 pediatric ED physicians via Franklin University's Zoom platform. ATLAS.ti software was used to assist in identifying key themes and sub-themes from the code transcriptions.

Keywords*:* emergency department, emergency room, healthcare, implicit bias, insurance, Medicaid, nurse, pediatric, physician, urgent care

DEDICATION

First and foremost, I must give thanks to my Lord and Savior, Jesus Christ for His grace and mercy throughout my life and entire educational career. To my parents, Mrs. Theresa Nduka-Onyenaka and Mr. Patrick Onyenaka. Thank you for your innumerable sacrifices, unwavering dedication, and demonstration of academic excellence. Words cannot express how grateful I am to my parents for coming to the United States from Nigeria many years ago to create a better future. Thank you for setting the bar high by obtaining your master's degrees and encouraging me in my pursuit for the title of Doctor. I am also thankful to my younger brother, Ikechi Onyenaka, for his incomparable support and advice. Thank you for giving me a reason to set a good example in everything I do. Thank you to every family member and friend who has supported me in any capacity throughout my life. Special thanks to every educator, guidance counselor, academic advisor, and mentor that has played a role in my success as a student. I would also like to thank my peers who reviewed my work over the last two years. Your constructive critiques have made me a better writer and overall scholar.

This dissertation is dedicated to any child who has faced challenges in receiving equitable healthcare. It is my hope that the themes discussed in this research will inspire policymakers and lawmakers to implement the necessary changes to improve the current state of healthcare in the United States. This dissertation is also dedicated to all the pediatric emergency medicine physicians who have advocated passionately for the improvement of healthcare delivery. Thank you for being on the frontlines of what has been a culturally and medically transformative time in our nation. I am proud to count myself among the next generation of physicians.

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I would like to acknowledge all the literary scholars who have contributed to the growing body of academic research regarding health equity in the pediatric emergency department. This concept was initially brought to my attention by a news report of disparities in resource allocation among pediatric patients. As I continued to investigate the matter, I discovered that there were systemic pitfalls that have been addressed but required more awareness. Once I began my doctoral journey at Franklin University, there was never a doubt that this would be my topic from day one. I want to thank every professor who encouraged my pursuit of this dissertation topic. The professors at Franklin University have inspired me to be my best at every juncture.

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Chapter 1: Introduction

In the United States (U.S.), more than 30 million children visit the emergency department (ED) each year (Camargo et al., 2018). Approximately 83% of these visits take place at nonchildren's hospitals, or facilities not specializing in pediatric care (Newgard et al., 2023). Over the last decade, scholars have increasingly cited examples of inequitable healthcare delivery. In comparison to other countries with high-income status, the U.S. has the highest infant and youth mortality rates (Khan et al., 2018). This finding might be alarming for some considering the annual expenditures on healthcare within the U.S. (Khan et al., 2018). Across the many examples of inequity found in the literature, some consistent themes have emerged. For example, healthcare disparities were magnified by the COVID-19 pandemic, leaving racial and ethnic minorities as well as governmental and noninsured patients with lower quality of care and higher mortality rates (APM Research lab, 2021; Campbell et al., 2022). The literature has demonstrated demographic, socioeconomic, systemic, and political parameters which may explain, at least in part, why inequities persist.

When it comes to the pediatric emergency department (ED), trends in inequitable healthcare delivery can be accentuated by social constructs such as systemic racism, socioeconomic stratification, and current healthcare delivery models based on patient flow (Berkowitz et al., 2018). According to scholars, racial and ethnic minorities frequently receive lower quality of healthcare and suffer disproportionately from chronic illness (Egede et al., 2020; Ma et al., 2022; Rees et al., 2022; Trent et al., 2019; Zook et al., 2019; Zhang et. al, 2016). Low-income status as well as noninsured status, which are often not mutually exclusive, can contribute to limited access to healthcare for these communities (Guo et al., 2022; Kortz et al. 2022). There are policies in place which are meant to ensure equitable treatment in the ED, such as The

Emergency Medical Treatment and Labor Act (EMTALA). However, violations often go unpunished, leading to prolonged wait times and avoidable hospital transfers (Hsuan et al., 2018; Huang et al., 2017; Kwon et al., 2018; Nguyen et al., 2017). Finally, serving urban or rural communities which are often dominated by patients receiving Medicaid often results in lower insurance reimbursements and essentially limited profit. This can decrease the incentive hospitals and providers have in serving these communities (Downey et al., 2019; Paul et al., 2019). These trends may contribute to a persistent cycle of inequitable healthcare delivery. With the current insurance model in the U.S., children often rely on their parents or guardians for coverage and overall health advocacy (Ravi et al., 2021). Furthermore, caring for this population requires specific guidelines for diagnostic imaging and medication dosing as they differ physiologically from adults (Ohana et al., 2018). Therefore, ensuring that healthcare facilities are operating with standardized techniques is crucial for promoting the well-being of the children who not only visit pediatric EDs, but also nonchildren's hospitals or general EDs (Foster & Hoffmann, 2023). While the pediatric population is diverse in the spectrum of health status and demographics, every child should receive their highest level of individualized care possible. This standard of care in relation to children is often referred to as pediatric health equity (Mulchan et al., 2022).

Background of the study

Importance of the pediatric ED

The healthcare setting that was selected for this research was the pediatric ED. The pediatric ED is a department that handles the treatment of urgent health conditions in the pediatric population, which typically consists of children 0-17 years of age. Some of these include traumatic injury, exacerbation of chronic illnesses such as asthma, allergic reactions, and infections (Michelson et al., 2020). There is a constant sense of urgency in this setting because if treatment is delayed, patient morbidity and mortality may increase (Khan et al., 2018). For this reason, the ED staff enforces strict triage protocols from intake to discharge of the patients. The pediatric ED may be distinguished from a general ED in the level of specialization of the staff as well as the patient population. For example, while a general ED tends to receive visits from patients of all age groups, the patient demographic that presents to pediatric EDs is primarily children aged 0-17 (Samuels-Kalow et al., 2021). Usually, the physicians and nurses in a pediatric ED are extensively trained in pediatric specialties. The treatment protocols used for children who present to general EDs may not always align with the guidelines recommended for the pediatric population (Ohana et al., 2018). This may result in variable clinical outcomes than those observed in specialized pediatric EDs (Takagi et al., 2022). Furthermore, when children present to a general ED with conditions that exceed the scope of practice of the staff, they are often transferred to a pediatric ED for further evaluation (Samuels-Kalow et al., 2021).

Interaction between healthcare administrators, physicians, and allied health professionals in the pediatric ED

In the pediatric ED, there is often an interdisciplinary approach to overseeing the care of children. This involves hospital administrators, physicians, nurses, and other allied healthcare professionals (Brumme et al., 2022). One role which integrates the skillsets of frontline providers and administrative leaders is called the Pediatric Emergency Care Coordinator (PECC). Oftentimes, the role of PECC is filled by a physician coordinator or registered nurse coordinator (Brumme et al., 2022; Remick et al., 2018). According to Remick et al. (2018), the presence of a PECC helps increase pediatric readiness in the pediatric ED. The physician PECC is board-certified in pediatric emergency medicine and has met the qualifying credentialing criteria to evaluate and care for critically ill children (Remick et al., 2018). Furthermore, the nurse PECC is a registered nurse that has met the competency requirements for providing care to critically ill children (Boggs et al., 2023). Oftentimes, hospitals will have more than one PECC working simultaneously to streamline patient flow efforts (Remick et al., 2018). The PECC is charged with the following responsibilities: working in collaboration with hospital leadership to improve the quality of policy enforcement in the pediatric ED, performing periodic reviews of standards of medication administration and resource allocation, facilitating education initiatives for pediatric ED providers and staff, and solidifying emergency preparedness plans for pediatric patients in the pediatric ED (Remick et al., 2018). Ultimately, the multifaceted nature of the PECC role provides a nuanced understanding of pediatric care for pediatric ED physicians and nurses as they are not only on the frontlines but also in positions of leadership in the pediatric ED.

Organizational stakeholders in pediatric emergency healthcare

When it comes to developing guidelines pertaining to the emergent care of pediatric patients, there are many organizational bodies involved. To name a few key organizations, first, the American Academy of Pediatrics (AAP) is an organization comprised of pediatricians across the United States who have trained in both generalized and specialized care of children (Calabrese et al., 2022). They often provide recommendations for acute and chronic illness of the pediatric population (Calabrese et al., 2022; Khoury et al., 2022). Second, the American College of Emergency Physicians (ACEP) and the American Board of Pediatrics (ABP) provide the guidelines for training future pediatric emergency medicine physicians (Schmitz, 2021). Third, the National Academy of Medicine (formerly called the Institute of Medicine) is an organization which has set the precedent for quality in the fields of healthcare and medicine since the 1960s

(IOM, 2006). Fourth, the Agency for Research and Quality (AHRQ), the Joint Commission on the Accreditation of Healthcare Organizations, and the Centers for Disease Control and Prevention (CDC) are organizations which prioritize the enforcement of quality metrics in various healthcare settings based on trends in epidemiology (Baltrus et al., 2017; McDermott et al., 2020). In addition to these organizations, there are federal bodies such as Congress and Centers for Medicare and Medicaid Services (CMS) which dictate the financial implications of healthcare in the United States (Chung et al., 2019).

In 2006, the National Academy of Medicine released a publication with recommendations for quality improvement in the United States emergency health system (IOM, 2006). Among these recommendations was a call to action for the Joint Commission on the Accreditation of Healthcare Organizations to enforce stricter guidelines to address overcrowding, as well as for Congress to provide more funding for disaster preparedness and reimbursements to hospitals caring for uninsured patients (IOM, 2006). As previously mentioned, hospital administrators and Pediatric Emergency Care Coordinators (PECCs) work locally and regionally. Oftentimes, their efforts rely on the guidelines of federal agencies to inform their local policies (Remick et al., 2018). Therefore, understanding what these individuals have identified as trending issues in pediatric emergency healthcare might be crucial in optimizing quality improvement efforts and addressing necessary policy enhancements.

Current trends in pediatric ED utilization

As previously mentioned, there are several organizations concerned with pediatric emergency healthcare. Many of their recommendations and policies are based on metrics that may not directly reflect an active push towards promoting pediatric health equity among different demographic groups (IOM, 2006). For example, the possibility for reimbursement is often predictive of compliance with certain policies (Remick et al., 2018). Trends in pediatric ED utilization can provide insight on communities who might not be receiving the resources they require. An estimated 82.7% of pediatric ED visits are characterized as general ED visits (Newgard et al., 2023). National initiatives such as the 2013 National Pediatric Readiness Project were implemented to improve the standardization of care for pediatric patients who present to the general ED (Newgard et al., 2023). Children of varying racial and ethnic backgrounds, cultural norms, socioeconomic status, insurance status, and language proficiencies often require emergency medical services. Given the diverse spectrum of patient demographic backgrounds, it is important to ensure that equitable healthcare delivery is enforced (Thornton et al., 2023). According to the Centers for Disease Control and Prevention (CDC), health equity occurs when everyone in the population has equal ability to achieve their maximum level of health (CDC, 2022). In this case, one’s maximum level of health is achieved when their health concerns have been addressed to the point that their quality of life is improved as much as possible, despite historical restraints as experienced by racial and gender minority groups (CDC, 2022). Failure to achieve health equity may result in health disparities (CDC, 2022). The study highlighted in this dissertation identified strategies to improve the equity and quality of care for patients of low-income, under/noninsured background, and racial and ethnic minorities in the pediatric emergency department (ED).

In recent years, an increasing volume of research has been published regarding the most common examples of disparities of care. Some of these include higher morbidity and mortality rates, higher transfer rates, lower admission rates, disproportionate assignment of pediatric triage scores such as the Emergency Severity Index (ESI), and longer wait times for patients defined as racial and ethnic minorities living in rural or urban communities that might be Medicaid-insured, or noninsured (Guo et al., 2022; Hartford et al., 2022). According to McDermott et al. (2018), the lowest quartile of community-level income individuals accounted for the highest percentage of all pediatric ED visits at 36.4%. Additionally, pediatric patients covered by Medicaid made up 61.6% of all pediatric ED visits when compared to privately insured, uninsured, or other categories of insurance (McDermott et al., 2018). Goyal et al. (2017) found that Black patients received the least antibiotics for acute respiratory tract infections (ARTIs) at 1.9% compared to 4.3% White patients and 2.6% Hispanic patients (Goyal et al., 2017). Zook et al. (2016) found that Black, Hispanic, and American Indian patients were given lower triage scores than White patients. Furthermore, Dixit et al., (2020) discovered disparities in prescription of analgesic medication after surgery based on patient preferred spoken language.

These trends are specifically detrimental to the pediatric population as they can result in the development of chronic illness (Egede et al., 2021). Some of the observed disparities in care have been attributed to lack of access to specialized pediatric care in general EDs (Ellbrant et al., 2020). However, similar trends have also been observed in pediatric EDs (Zhang et al., 2019). Another point of consideration is lack of regular access to preventative health services. Without regular contact with primary care services, many of these patients have chronic illnesses that, when unmanaged, result in acute emergencies (i.e., asthma attacks, cardiac arrest) (Mudd et al., 2020). Due to their limited access to primary care, they often turn to the ED (Giannouchos et al., 2021). Pediatric ED physicians are directly involved in the clinical decision-making process for patients every day (Ly et al., 2021). Consequently, they are privy to the unique needs of patients in this setting. Thus, pediatric ED physicians were selected as the sample population for this study to address the primary research question: What government and organizational policy changes can be made to enhance pediatric ED patient equity by utilizing first-hand information from ED physicians? The research provided a qualitative explanation for these findings by interviewing pediatric ED physicians about their perception of healthcare equity given the current state of healthcare. The goal was to improve the well-being of pediatric patients of all demographic backgrounds requiring emergency medical services.

Statement of the problem

Some hospitals have started implementing quality improvement measures to enhance health equity for the pediatric population. Despite these efforts, gaps in equitable healthcare persist (Castro et al., 2022). When it comes to obtaining equitable healthcare, there are demographic and systemic factors that might impede access for the pediatric population. Demographic factors, often referred to as social determinants of health (SDOH) may include a patient's race, ethnicity, insurance status, preferred spoken language, sexual orientation, patient sex, gender identity, the education level of their caregivers, health literacy, environment in which they reside (i.e., urban, rural, suburban), and distance from the nearest hospital (Pines et al., 2021). According to Egede et al. (2021) systemic factors may include provider implicit bias, limited staffing, shift fatigue, proximity to specialized pediatric facilities, and budgeting constraints within a hospital network. When general EDs require more specialized assistance in caring for children who present to their facilities, they may rely on pediatric EDs to take over definitive treatment (Lieng et al., 2021). That notwithstanding, most hospitals caring for emergent pediatric cases are nonchildren institutions (Newgard et al., 2022). As such, it could be extrapolated that when general EDs are more prepared to handle pediatric cases, patient outcomes are likely to be more favorable. This phenomenon has been referred to by the literature as pediatric readiness (Foster et al., 2023). Therefore, since the standard of pediatric emergency care is often dictated by specialized pediatric facilities, the goal should be to optimize care in this setting (Newgard et al., 2022).

Purpose of the study

The purpose of this study was to utilize the perspectives of pediatric ED physicians to better understand the current trends in health equity in the pediatric ED. The selected participants were unique in that they had firsthand experience with treating diverse patient populations. Furthermore, some pediatric ED physicians have encountered pitfalls of the U.S healthcare system, especially when patients are unable to receive care due to systemic and individual barriers (Zamor et al., 2020). These instances often delay diagnosis and treatment of patients, leading to both acute and chronic adverse effects (Trent et al., 2019). This study aimed to provide a nuanced presentation of pediatric ED providers by including commentary from pediatric physicians from facilities across the U.S. in the same study on health equity. Thus, by eliciting the most pertinent concerns of pediatric ED physicians, the researcher's intent was to promote equitable healthcare practices in this setting.

Introduction to conceptual framework

Several established concepts and theories in public health and pediatric emergency medicine served as the foundation for this research. First, the Health Equity Measurement Framework (HEMF) consolidates guiding principles from the World Health Organization (WHO) on health equity (Dover & Belon, 2019). Second, highlighting the concept of health equity and potential limiting factors, such as social determinants of health (SDOH), was crucial to understanding current trends (Thornton et al., 2023). Next, the idea that the pediatric ED is a necessary facility charged with specialized care of children delineated this setting from the general or non-children's ED (Samuels-Kalow et al., 2021). Finally, discussing the potential implications of systemic barriers to care such as provider biases, staff shortages, and patient flow helped frame a holistic view of the issue at hand. The contents of this conceptual framework will be elaborated upon in Chapter 2.

Research question

Given the cited examples of inequitable healthcare delivery in the pediatric ED and the outlined introduction to the conceptual framework, the following question was the primary focus of the research: What government and organizational policy changes can be made to enhance patient equity in the pediatric ED by utilizing first-hand information from pediatric ED physicians? There are several mitigating efforts that have been introduced by scholars such as addressing staffing shortages (Berkowitz et al., 2018), streamlining patient flow (Menon et al., 2021), routinely incorporating telemedicine in the admission process **(**Rademacher et al., 2019**)** and ensuring that patients have access to primary care so that the ED is utilized for urgent cases alone (Mudd et al., 2020). The most insightful source of innovation for answering the primary research question were the physicians who work directly with patients in the pediatric ED every day.

Significance of the study

The significance of this study was that through the semi-structured interviews with the pediatric ED physicians, the themes of concern that arose provided guidance to improving pediatric health equity. The pediatric ED can serve as a microcosm for the issues being encountered by many Americans on a national level (Zhang et al., 2019). Children of varying racial and ethnic backgrounds, socioeconomic status, insurance coverage status, and language proficiencies present to the ED seeking care. Many of these communities lack access to readily available healthcare services, resulting in delayed medical attention and further perpetuating the morbidity and mortality of disease (Campbell et al., 2022). The information shared by the physicians during the interviews highly contributed to identifying key themes and ways to help improve healthcare equity for care provided to pediatric ED patients.

Population and sample

The population of interest for this study included pediatric ED physicians from the pediatric ED at hospitals across the U.S. The sample included 15 pediatricians working in the pediatric ED. All but one physician completed a fellowship in Pediatric Emergency Medicine (PEM). This was a general pediatrician working in a pediatric ED. After interviewing 15 participants, the researcher assumed that no significantly new findings would be found with additional interviews based on the themes that were arising among participants. In terms of recruitment, both purposive and snowball sampling were utilized with the help of the researcher's professional network. The population and sampling methods will be expounded upon in Chapter 3.

Assumptions

One assumption for this study was that when it came to pediatric emergency medicine, pediatric EDs were the pinnacle of quality healthcare for children living in the U.S. Given that the majority of emergent cases in the pediatric population are handled by general EDs, and proximity to specialized pediatric EDs may improve health outcomes, the researcher assumed that quality improvement measures for the former would be beneficial to the latter (Brumme et al., 2022). Another assumption for this study was that pediatric ED physicians were among the primary stakeholders when it concerned ensuring pediatric health equity in this setting.

Limitations

Limitations in qualitative research are those factors in the methodology or design which may influence conclusions of research findings (Ross & Bibler Zaidi, 2019). These factors may limit the scope of generalizability of results. In this study, one limitation regarding sampling was the fact that not all pediatric ED physicians were from the same hospital or geographic region. This limited the extent to which pediatric health equity was viewed by physicians in one facility, which may have been impacted by organizational culture (might need new reference) (Lewis-O'Connor et al., 2023). Another limitation was the fact that some themes such as patient preferred spoken language, race, and ethnicity may have been influenced by the geographic location of the hospital. As such, while a lack of language interpretation services may have been a major theme for one hospital, it might not have been for another hospital, thus potentially affecting the scope of generalizability (Tenny et al., 2023). Finally, the economic standing of the community where the selected hospitals were located also may have impacted the trends in insurance coverage, ability to pay out-of-pocket expenses, hospital access to funding and reimbursement models. Essentially, while the selected interviewees were standardized in their professional backgrounds, the researcher was unable to control for the effects of geographic location, socioeconomic and demographic makeup of the patient population.

Delimitations

Delimitations on qualitative research are intentional boundaries the researcher places on a study to better define the scope of the research project (Im et al., 2023). It helps to ground the study expectations and focus on the primary research question. For the purposes of this study, the researcher chose to focus on the pediatric ED. General EDs were not selected as the researcher was concerned with those facilities specialized in pediatric care. Furthermore, physicians that were board-certified in pediatrics were selected as the researcher wanted the expertise on the pediatric population.

Definition of Constructs

The main constructs of this study were the perceptions of pediatric ED physicians on health equity. These were captured by semi-structured interviews which lasted approximately 45 minutes. Semi-structured interviews have been demonstrated to allow for in-depth analyses of participant perspectives (Tenny et al., 2023). Some of the parameters the researcher was interested in measuring included the perspectives on potential barriers to quality and equitable healthcare in the pediatric ED as well as suggestions from ED staff on methods for quality improvement.

Definitions of terms

Analgesic is medication used for eliminating pain (Dixit et al., 2020).

Diagnostic imaging is any modality that is meant to identify the cause of illness by viewing internal body parts (Ross et al., 2020).

Emergency Department (ED) is designated space in a hospital that receives and treats patients who require urgent medical attention including, but not limited to, cases of traumatic or intentional injury (Cag et al., 2019).

Emergency Severity Index (ESI) is score assigned to a patient which represents the level of urgency their condition warrants in being treated in the ED (Ebrahimi et al., 2020).

Equity is the concept that every individual has the right to achieve their optimum health (CDC, 2022).

Explicit bias is the formation of assumptions or beliefs that are concluded upon consciously, often reflective of long-standing belief systems (Schnierle et al., 2019).

Gender identity is one’s internal sense of being male, female, both, on a spectrum or neither that results from an interaction of their environment, culture, and biological traits (Rafferty et al., 2018).

Health literacy is one’s ability to understand a medical provider through verbal instruction or written literature (Dorsey et al., 2022).

Implicit bias is the formation of unconscious stereotypes that may affect the way one acts or makes decisions (Schnierle et al., 2019).

Morbidity is the state of suffering from a disease or medical condition. When used as a rate, it is a statistical measure that is typically used in epidemiology (Cardet et al., 2022).

Mortality is the state of being subject to death. When used as a rate, it is a statistical measure that is typically used in epidemiology (Rees et al., 2022).

Multisystem Inflammatory Syndrome in Children (MIS-C) is a medical condition which typically follows SARS-Co-V2 infection and is thought to be immune-mediated (Das et al., 2023).

Pediatric is anything relating to infants, children, or adolescents aged 0-17 (Cag et al., 2019).

SARS-CoV-2 is the virus that causes the coronavirus disease (COVID-19) (CDC, 2021).

Sex is the assignment of either female or male at birth based on anatomy of external genitalia, internal gonads, hormone levels, or chromosomes (Rafferty et al., 2018).

Chapter 1 summary

Chapter 1 introduced the current climate of the pediatric ED in the U.S., including the study background as well as current trends in pediatric ED utilization. The problem being addressed by the study as well as the purpose of the study were introduced. As previously stated, the problem being addressed by this study was the need for improvement in pediatric health equity in the pediatric ED. The purpose of the study was to utilize the perspectives of pediatric ED physicians to better understand the current trends in health equity in the pediatric ED. As previously mentioned, these individuals had hands-on experience with the setting for the research study, thus providing valuable knowledge. Then, the research question and significance of the study were mentioned. To reiterate, the primary research question was as follows: What government and organizational policy changes can be made to enhance pediatric ED patient equity by utilizing first-hand information from ED physicians? The significance of the study was to provide a nuanced approach to improving pediatric health equity. Next, the population and sample characteristics were introduced. The population of interest included pediatric ED physicians currently working in pediatric EDs in the U.S. The study sample was 15 pediatric ED physicians. Methods of sample selection included purposive and snowball sampling; these will be discussed in greater detail in Chapter 3. Next, assumptions, limitations, and delimitations were introduced. The definition of constructs and introduction to conceptual framework provided further information about the study and what it could potentially add to the field. Finally, the definitions of terms that were pertinent to the research were provided. Looking ahead to Chapter 2, the literature review, the following sections will be highlighted: conceptual framework, the financial impact of the U.S. health system on pediatric health equity, pediatric emergency readiness, social determinants of health (SDOH) in the pediatric ED, the impact of the Emergency Medical Treatment and Labor Act (EMTALA) on pediatric health equity, and institutional barriers to pediatric health equity.

Chapter 2: Literature review

In recent years, scholars have identified trends in pediatric emergency medicine that demonstrate a need for improvement in the equitable delivery of care (Thornton et al., 2023). For example, certain statistics such as wait times in the ED, admission rates, frequency of diagnostic imaging, and overall health outcomes appear to vary based on patient demographics (Thornton et al., 2023). When discrepancies in health occur based on one's background, this is referred to as social determinants of health (SDOH). SDOH may refer to one's race, ethnicity, preferred spoken language, insurance coverage status, or education level (Huang et al., 2019; Zhang et al., 2019). Some studies have also attributed the variable delivery of healthcare in the pediatric ED to factors such as pediatric emergency readiness, provider implicit bias, shift fatigue, and substandard patient flow models (Brumme et al., 2022; Li et al., 2019; Schnierle et al., 2019). The following literature review will elaborate upon these concepts.

Conceptual framework

To preface the literature review, the researcher sought out the most relevant themes in current literature pertaining to pediatric health equity in emergency medicine. Some of the most pertinent themes included the definitions of health equity, social determinants of health (SDOH), and implicit bias. Defining health equity for the pediatric population can be complex due to the diverse spectrum of health status and associated treatment modalities (Thornton et al., 2023; Wakefield et al., 2023). The research aimed to focus on the following forms of equity: cultural, embodying race, ethnicity, and language, and financial, which acknowledges different levels of socioeconomic status and insurance coverage. Two established theories provided the conceptual framework for the research. The first was the Health Equity Measurement Framework (HEMF) (Dover & Belon, 2019) and the second was the concept of social determinants of health (SDOH).

First, it was important to distinguish between equity and equality. Equity examines an individual’s right to their best level of health, whereas equality implies that everyone should get the same type of treatment, although actual health outcomes can vary for a variety of reasons (Dover & Belon, 2019). This research study was primarily concerned with a discussion on health equity rather than health equality. The HEMF was pertinent to the research as several studies cited differences in the quality of and access to healthcare based on population demographics (Castro et al., 2022; CDC 2022; Thornton et al., 2023). Second, understanding the definition of SDOH and the implications on health equity was crucial to determining the state of health equity and potential need for improvement.

Health Equity Measurement Framework (HEMF)

Dover and Belon (2019) created the HEMF by synthesizing the guiding principles of the World Health Organization (WHO) Commission on Social Determinants of Health (SDOH) conceptual framework. These guiding principles included improving the daily living conditions of vulnerable populations, promoting equitable distribution of power, resources, and money, and creating ways to measure inequity and create a plan of action (WHO, 2008). Castro et al. (2020) defined inequity as unbalanced allocation of resources which results in unmet needs for disadvantaged populations. Oftentimes, discrimination is at the root of inequitable delivery of resources, and this is typically based on one’s social location. Dover and Belon (2019) defined social location as race/ethnicity, income level, gender identity, age, and sex. Social location results from social stratification, which is one’s place in society quantified by status from educational, financial, or other prestigious attributes (Dover & Belon, 2019). As will be demonstrated in the literature review, there was a wealth of scholarly evidence which demonstrated the disparities in healthcare trends among racial and ethnic minorities, those whose preferred spoken language is other than English, and those with governmental insurance or those who are uninsured. Thus, providing synthesized guiding principles from the WHO and SDOH helped to address the primary research question and obtain the important perspectives from pediatric ED physicians on pediatric health equity. Additionally, by acknowledging that there is a difference in how certain populations access care in the pediatric ED, the need for health equity was further emphasized.

The impact of social determinants of health (SDOH) on pediatric health equity

The principles of equity introduced by the WHO highlighted the impact that one's social location can have on their lived experiences in society. Regarding the pediatric population, social determinants of health (SDOH) often result in unmet social needs such as health services, education, dependable housing, and regular meals (Selvaraj et al., 2022). While many children do have some social needs that are unmet, there are certain groups which are disproportionately affected by these deficits (Selvaraj et al., 2022). Furthermore, these children are at a higher risk of developing chronic illness (Trent et al., 2019). According to the literature, the culmination of unmet social needs for a child is referred to as adverse childhood experiences (ACEs). Selvaraj et al. (2022) reported that more than 30 percent of children in the U.S. have experienced ACEs. The main issue with ACEs is that over time, these may result in chronic stress and development of chronic illness (Trent et al., 2019). The American Academy of Pediatrics has recommended that pediatricians screen for both ACEs and SDOH to improve the care of children (Selvaraj et al., 2022). While this practice has not yet been adopted universally, the fact remains that a positive rapport between providers and their patients can be helpful in allowing families to divulge this information. This can often be hindered by provider bias or failure to maintain open communication with families and patients (Ma et al., 2022).

Ma et al. (2022) discussed the strain that biases may have on the patient-physician relationship, as well as the impact that bias-based decision making can have on resource allocation among patients. Wakefield et al. (2022) claimed that stigma is the foundation of health inequity. This may result in a variety of biases, such as attentional bias, implicit bias, and explicit bias. Attentional bias occurs when a provider focuses more on the needs of one patient over another based on their demographics such as sex, race, insurance status, or socioeconomic background (Wakefield et al. (2022). Implicit biases are those which are indirectly expressed via unconscious beliefs, such as the notion that one patient population is more pain-tolerant than another, but not necessarily acting on this belief to guide their clinical decision-making process (Schnierle et al., 2019). Explicit biases are those that are purposefully expressed. For example, providers outwardly expressing their belief that female patients have a higher sensitivity to pain, thus the pain of male patients should be scrutinized more intently (Wakefield et al., 2022). These biases lead to inequitable healthcare delivery as patient care may be hindered by their SDOH. Ultimately, equitable treatment of patients in the pediatric ED should be based on their individual needs rather than provider perceptions of their patients based on demographics.

The financial impact of the U.S. health system

Healthcare expenditures

As previously mentioned, one’s financial standing in society may have an impact on the resources available to them. The connections between the primary research question and the overall economic burdens of the U.S. health system are multifaceted. The U.S. health care system is one of the most expensive systems in the world. In 2008, the U.S. had the highest health expenditures as a percentage of growth domestic product (GDP) with a value of 15.2% (Hicks, 2014, p.40). Upon evaluating the contributing factors to the U.S. GDP, pharmaceutical research and development ranked highly on the list of priorities for the allocation of funds (Vogenberg, 2019). Unfortunately, the GDP increases in the U.S. have not been observed to improve the health of the population. This can be attributed to the economic burden of chronic diseases such as heart disease, diabetes, cancer, and arthritis (Hicks, 2014). In comparison to other countries with high-income status, the United States has the highest infant and youth mortality rates (Khan et al., 2018). This finding might be alarming for some considering the annual expenditures on healthcare (Khan et al., 2018). Individuals of racial and ethnic minority background suffer from chronic illness at disproportionately higher rates than their White counterparts (Mudd et al., 2020).

Insurance models

Some communities have been unable to access the care they require due to logistic and socioeconomic factors. Rural communities and those of racial and ethnic minority backgrounds have experienced challenges which have been evidenced by their susceptibility to develop chronic illness (Mudd et al., 2020). When preventative health care services pertaining to primary care are inaccessible, the result is worsening of preexisting conditions or the progression from acute to chronic stages of illness (Zook et al., 2019). There are several delivery models in health care in the U.S. They include Medicare, Medicaid, Health Maintenance Organizations (HMOs) and Preferred Provider Organizations (PPOs) (Atkinson & Saghafian, 2023). Medicaid is primarily meant to support low-income citizens and those of the following categories: the unemployed, children, the elderly, those with disabilities or visual impairments, those with dependent children, and pregnant women (Hicks, 2014, p.409). Medicaid differs from Medicare in that it is a partnership between the state and federal levels. Medicaid coverage varies state-by-state for children.

The Medicaid Federal Medical Assistance Percentage (FMAP) assists states with predominantly low-income citizens so that the federal government covers Medicaid costs (Mitchell, 2020). Some states expanded their Medicaid program coverage to include all individuals who fall below specific income levels. Additionally, CHIP assists families who may be ineligible for the typical marketplace insurance plans but have a higher income than required for Medicaid (Hicks, 2014). There are eligibility restrictions with Medicaid pertaining to citizenship status and income level which make it harder to access care (Mitchell, 2020). Despite the most recent Medicaid expansion efforts, the number of children who did not have health insurance was about 5 percent in 2017. This was reflective of a 0.3% increase since 2016 (Adeyinka et al.,2023). Texas was reportedly the state with the least health coverage for children in the United States. Furthermore, states with large populations of Alaskan natives and Native Americans also had higher numbers of uninsured children when compared to other states (Adeyinka et al., 2023). Twersky (2022) claimed that CHIP is a determining factor in health outcomes for low-income children as it increases the access this population has to the care they need.

Pediatric emergency readiness

As the previous section demonstrated, having health insurance helps increase the level of access pediatric patients have to the care that they need (Twersky, 2022). Not only is having access to healthcare services important, but it is also crucial that these services are efficient and timely. Typically, hospital administrators are privy to having an appreciation for important trends in the level of preparedness in their facilities. In the last decade, national initiatives such as the 2013 National Pediatric Readiness Project (NPRP) have been implemented to improve health outcomes for children requiring emergency services (Brumme et al., 2022). The initiative was made possible by a collaboration between members of the Emergency Nurses Association, American Academy of Pediatricians, and the American College of Emergency Physicians. According to Brumme et.al (2022), weighted Pediatric Readiness Scores (wPRS) are used to assess how capable EDs are in providing quality care for children. Recent studies have shown that when hospitals are equipped with care that addresses the unique needs of the pediatric population, health outcomes are improved (Foster et al., 2023). This can be achieved by either staffing nonchildren's hospitals with physicians and nurses trained in pediatric specialties or promoting the immediate transport of emergent pediatric cases to specialized facilities (Foster et al., 2023). Furthermore, nonchildren's hospitals that are near specialized pediatric facilities, such as pediatric EDs, have demonstrated higher weighted Pediatric Readiness Scores (wPRSs) and subsequent lower overall pediatric mortality (Brumme et al., 2022).

When evaluating pediatric emergency care services in the U.S., the resulting statistics have often varied due to the skewed availability of EDs prepared to handle high-acuity pediatric patients (Brumme et al., 2022). One argument was made that when general EDs are near facilities which specialize in pediatric care, the wPRS is increased and morbidity and mortality are reduced (Newgard et al., 2022). The geographic distribution of general EDs and children's hospitals is important to consider as the proximity of patients from these facilities often dictates where they are taken to in emergent situations. For example, if a child needed to be transported by emergency medical services (EMS), there is often a preference to prioritize the closest facility over the most specialized facility (Brumme et al., 2022).

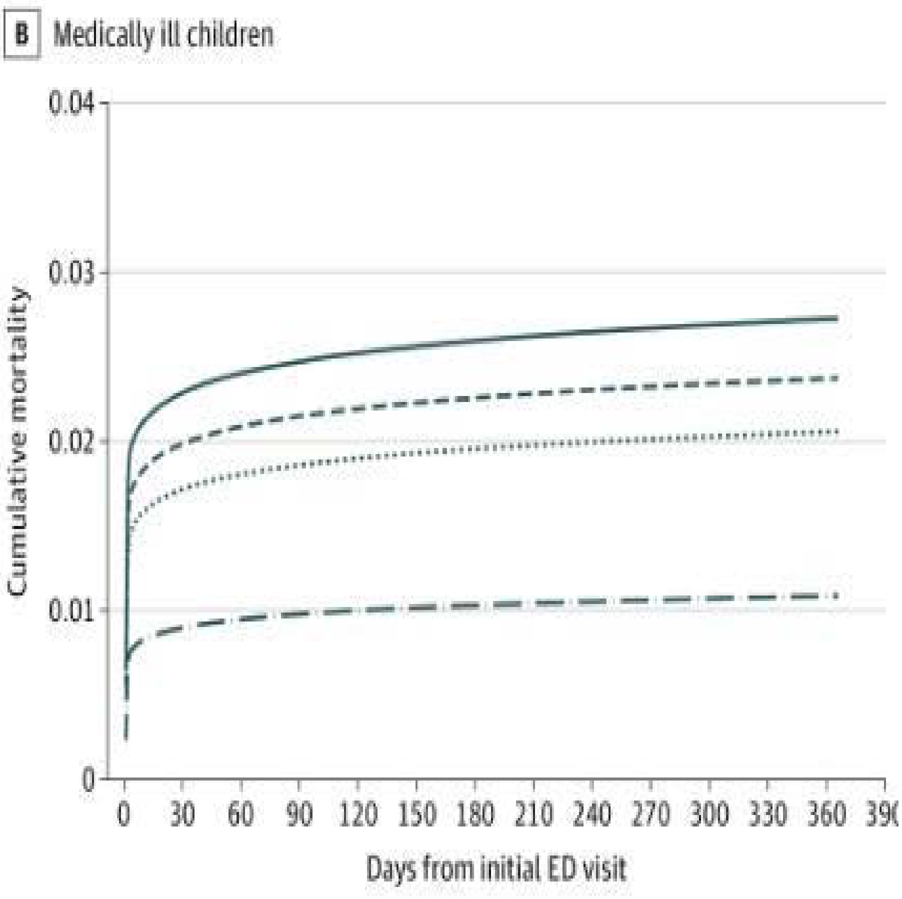
In a study conducted by Brumme et al. (2022), pediatric-capable EDs were delineated from general EDs by services provided such as neonatal and pediatric intensive care units and designated wards for the pediatric population. EDs were classified as nearby if they were located half an hour away via car. According to the authors, the half-hour timeframe was selected as prior literature had demonstrated that this was the maximum amount of time families would travel when seeking acute care for their children (Brumme et al., 2022). Four categories of quality improvement indicators were identified as variables for measuring patient safety. The study included 204 high-acuity pediatric EDs and 3,933 general EDs. Subclassifications of neighboring, non-neighboring, rural, suburban, and remote were applied to the selected facilities (Brumme et al., 2022). The results demonstrated a wPRS of 76.3 for general EDs located close to pediatric EDs when compared to a score of 65.3 for general EDs that were located further away. One of the contributing factors noted by the authors was the increased presence of pediatric emergency care coordinators in general EDs that were located close to pediatric EDs (Brumme et al., 2022). More specifically, there was a 7.3% increase in nurse-only pediatric ED care coordinators at non-neighboring EDs and a 0.7% decrease in physician-only pediatric ED care coordinators at non-neighboring EDs. While the study was limited by the omission of hospital network affiliation to uphold confidentiality, the results did demonstrate the impact that location has on ED pediatric emergency readiness (Brumme et al., 2022).

A study by Newgard et al. (2023) echoed the concerns raised by Brumme et al. (2022) regarding pediatric ED readiness. Their study evaluated the implications of high wPRS on 1-year pediatric mortality. Using a retrospective cohort study, the health outcomes of 796,937 pediatric patients from 983 EDs were evaluated with the weighted Pediatric Readiness Score (Newgard et al., 2023). The authors looked at the National Pediatric Readiness Project (NPRP) assessments for the participating EDs which detailed reports on the weighted pediatric readiness scores and respective patient demographics. Some of the variables examined were severity of illness, insurance status, patient race, patient ethnicity, patient sex, and clinical procedures performed

(Newgard et al., 2022). A myriad of standardized quality scales was assigned to the study variables including the Agency for Healthcare Research and Quality (AHRQ), Abbreviated Injury Scale (AIS) score, and Injury Severity Scale (ISS).

A medical cohort and injury cohort were distinguished to specify the reason for visit. Ultimately, 11.4% of the sample population were classified in the injury cohort while 88.6% were classified in the medical cohort (Newgard et al., 2022). Mortality rates were calculated by dividing the number of deaths by the cohort size. The results showed that children who were treated at hospitals with high readiness scores had lower mortality than those who were treated at hospitals with low readiness scores (Newgard et al., 2022). The wPRS were ranked by quartiles, where the first quartile represented the control group and quartiles two through four represented wPRS in ascending order. These scores are depicted in Figure 1. Based on this figure, the cumulative mortality of medically ill children increased when the number of days from initial ED visit increased. In other words, prolonged stays in the ED were directly correlated with increased mortality. In synthesizing the contributing factors to pediatric readiness introduced by Brumme et al. (2022) and Newgard et al. (2022), pediatric readiness should ideally result in lower morbidity and mortality and favorable patient outcomes. This concept suggests that facilities with higher pediatric readiness can produce optimal results. Based on the findings by Neward et al. (2022), this would been that if a child stayed in the ED for a significant number of days, they would be more likely have a lower wPRS score. Thus, the authors concluded that there was a direct correlation between high weighted pediatric readiness scores and lower mortality rates.

Figure 1



Adjusted time to death for medically ill children, by emergency room (ER) readiness

Source: Newgard et al., 2023

ED overcrowding effects on quality of care

Pediatric EDs become overcrowded for different reasons. For pediatric EDs, the admission rates are excessive. However, oftentimes these admissions do not result in hospitalizations (Cag et al., 2019). Cag et al. (2019) found 65% of ED visits were non-urgent in 2005. Additionally, many of the non-urgent cases were health conditions that could have been treated in outpatient clinics. ED overcrowding has been shown to decrease the quality of care for patients due to increased waiting time and more expensive treatments. As mentioned in the preceding section, Medicaid and uninsured patients utilize the ED more frequently than those with private health insurance (Nahhas et al., 2017). According to Salway et al. (2017), some of the negative consequences of overcrowded EDs include: increased wait time, increased patient walkout prior to treatment, decreased quality of care, increased medical errors, and increased mortality.

In recent years, new research has emerged demonstrating that having more physicians who are specialists in pediatric emergency medicine in the ED can help decrease patient wait time and increase quality of care. Pediatric ED physicians are more likely than general pediatricians working in the ED to provide high-quality care in less time. Using a retrospective study, Cag et al. (2019) found that diagnostic tests were performed for 49.43% of admitted patients in the ED and 42.03% of patients admitted to outpatient clinics. The reason for the higher rate of diagnostic tests in the ED is due to the low number of available specialists in the ED and the fast-paced environment requiring physicians to examine as many patients as possible. Diagnostic tests add to the ED expenditures and increase patient wait time as their results are pending (Cag et al., 2019). Therefore, one possible solution to cut the rate of diagnostic testing is to ensure that there are more specialists present in the ED. Shortage of beds due to patient overload can also contribute to delayed treatment (Lee et al., 2017). Another factor in overcrowding is the fact that the ED is convenient for parents who seek care for their children after hours of operation for primary care offices (Salway et al., 2017). This factors into the increased presentation of non-urgent cases that could otherwise be handled at a PCP or urgent care clinic.

Social determinants of health (SDOH) in the pediatric ED

As the preceding section demonstrated, patient proximity to the nearest ED often influences the access to care (Brumme et al., 2022; Newgard et al., 2023). Based on current literature, there are additional factors that may play a role in the access to and quality of emergency care services for the pediatric population. These factors are referred to as social determinants of health (SDOH). SDOH are often based on patient demographics (Thornton et al., 2023). Patient demographics may include, but are not limited to, race, ethnicity, methods of communication (i.e., language interpretation for those who speak a language other than English, American Sign Language (ASL) for the hearing impaired, clear patient-provider communication based on level of health literacy), level of insurance coverage (privately insured, publicly insured, uninsured), and geographic location (i.e., urban, rural, suburban). According to the literature, these factors may play a role in the type of care a patient may have access to, as well as the quality of care received. As previously mentioned, inequitable healthcare delivery has been shown by the literature to potentially result in overcrowding, avoidable transfers, delayed treatment, delayed diagnoses, development of chronic illness, and increased morbidity and mortality (Li et al., 2019).

Implications of race, ethnicity, and culture on quality of care received

When looking at the epidemiological framework of the pediatric ED, there are certain populations that are at a higher risk of suffering from acute and chronic health conditions. For example, certain SDOH may account for disparities in pediatric trauma, such as exposure to gun violence, child abuse, and head trauma (Kayton et al., 2023). Scholars have also cited varying trends in the quality of and access to care in the pediatric ED. Das et al. (2023) explored the implications of patient race and ethnicity on clinical outcomes of hospitalizations due to

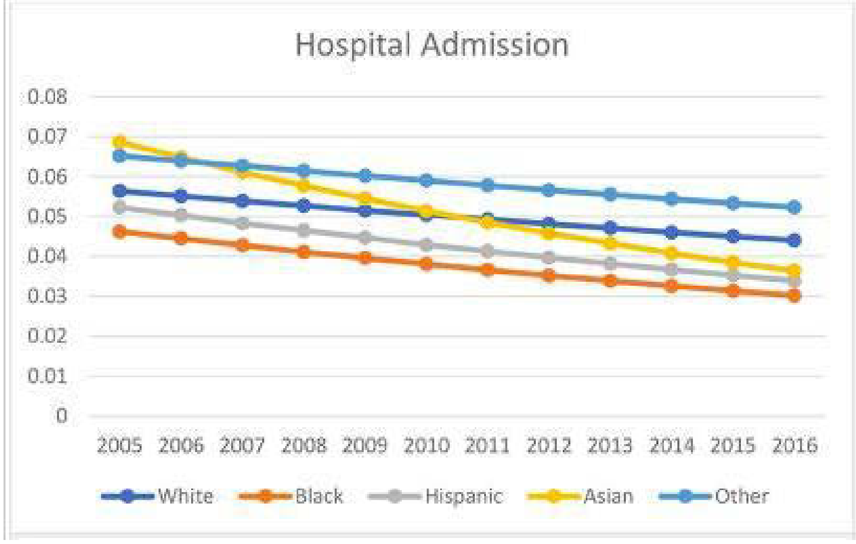
Multisystem Inflammatory Syndrome in Children (MIS-C). MIS-C is a medical condition which typically follows SARS-Co-V2 infection and is thought to be immune-mediated (Das et al., 2023). Some of the variables they examined included the timing between symptom onset and hospitalization, length of hospital stays, disparities in prevalence of MIS-C, and relationship between SARS-CoV-2 infection and resultant MIS-C diagnosis (Das et al., 2023). Time between symptom onset and hospitalization was defined as the number of urgent care visits the patient had prior to hospital admission. The results demonstrated that it took longer to hospitalize Black children following MIS-C symptom onset than it did for White children, with the median number of pre-admission urgent care visits being two for the former and zero for the latter (Das et al., 2023). Additionally, Black children had a longer hospital stay and more severe cases necessitating intense medical treatment when compared to White patients, with a median of eight days for Black patients and five days for White patients (Das et al., 2023). The authors concluded that while the disproportionate incidence of MIS-C among each patient population may have played a role in the variable length of stay and time to admission, preexisting disparities in therapeutic approach based on patient race could not be negated. They suggested that further study would be required to understand why certain populations were more prone to having MIS-C than others (Das et al., 2023).

Like Das et al (2023), Zhang et al (2019) further elaborated on the healthcare disparities in pediatric EDs for children of varying race and ethnic background. They conducted a cross-sectional study which was based on a sample from the National Hospital Ambulatory Medical Care Survey (NHAMCS) ranging from the years 2005 to 2016. The authors evaluated several parameters such as patient ED wait time, resource utilization, and hospital admission rates. The results showed that in comparison to White patients, hospital admission rates were 28% and 3%

lower for Black and Hispanic patients, respectively. Asian patients were 1.08 times more likely to be admitted to the hospital than White patients. Black pediatric ED patients received 8% less emergent care than their counterparts (Zhang et al, 2019). Black patients received blood tests 24% and CT scan 28% less frequently than White patients (Zhang et al, 2019). Additionally, Black pediatric patients were admitted to the hospital after visiting the ED 28% less frequently than White patients. Based on these results, the authors concluded many of the trends in disproportionate pediatric ED disposition were attributed to patient race (Zhang et al., 2019). Figure 2 provides a visual representation of the trends in ED outcomes and resource utilization listed in the NHAMCS 2005-2016 study period. The authors suggested that further research was required to postulate the long-term effects of these inequitable trends in health care (Zhang et al, 2019).

Figure 2

Racial and ethnic-specific ED health outcome and medical resource utilization rate from 2005 to 2016: NHAMCS 2005-2016



Source: Zhang et al., 2019

Communication as a barrier to equitable healthcare

In addition to racial and ethnic disparities, communication barriers further contribute to the burden on the healthcare system from the perspective of treatment plans. Therefore, employing interpreter services in the ED setting, when applicable, is crucial (Hartford et al., 2022). Some languages are more difficult to find interpreters for as they are not commonly represented in the population. In addition to the availability of language interpreters, Showstack et al. (2019) pointed out that the quality of language interpretation is also important to consider. They studied the health outcomes of the Hispanic/Latino population in Kansas and found that limited access to high-quality Spanish interpreters had resulted in worse health outcomes in several categories. Examples included increased infant mortality rates, increased number of premature births, increased rates of obesity and increased mortality from cancer (Showstack et al., 2019). Showstack et al. (2019) also highlighted the need for cultural sensitivity, enforcement of standardized training requirements for interpreters, and reimbursement models for facilities that meet the requirements for language interpretation needs in their region.

Another barrier to communication in the pediatric ED concerns members of the deaf community who require American Sign Language (ASL) interpretation, as well as those who may have limited health literacy. Addressing the former population, Velarde et al. (2022) discussed the need for healthcare workers trained in ASL as well as the incorporation of video remote interpretation technology to assist with communication outcomes. Any delay in interpreter services can result in increased wait times and readmission rates for patients of this population (James et al., 2022). Communication barriers also exist when considering health literacy. Dorsey et al. (2022) used a qualitative methodology to identify various forms of communication barriers that occur in the pediatric emergency department (ED). Some of these included the complex nature of physicians assessing pediatric patients with the parent/caregiver as the primary spokesperson, varying levels of health literacy in the population of interest, language barriers, and use of medical jargon by physicians (Dorsey et al., 2022). Using a cross-sectional survey, 220 participants at a Level 1 trauma center were asked about the use of medical jargon or unclear communication from physicians. The results showed that discharge instructions given to patients following their ED visit were the highest ranked for difficulty comprehending the physician. The study also identified issues with using specific and clear language between patients and caregivers (Dorsey et al., 2022).

Insurance coverage status and the impact on ED utilization patterns

Patient demographics such as race, ethnicity, and preferred spoken language have been shown to affect health outcomes. Another contributing factor is patient insurance status and access to primary care services, which ultimately dictate ED utilization patterns. When it comes to pediatric health insurance coverage, there are many tiers that fall within the realms of private and public plans (Supanick, 2021). Children and adolescents are typically covered under their parents' insurance, provided their parents are insured. Parental insurance status is largely dependent on employment status. Individuals who have limited insurance coverage may have higher out-of-pocket medical expenses than those with full insurance coverage, thus limiting the access to the primary care services available to them (Huang et al., 2021). According to Terlizzi et al. (2022), 4.1% of children were uninsured, 42.9% had public insurance coverage, and 55.1% had private insurance coverage. Limited insurance coverage decreases access to primary care physicians and shifts the utilization from these services to emergency services.

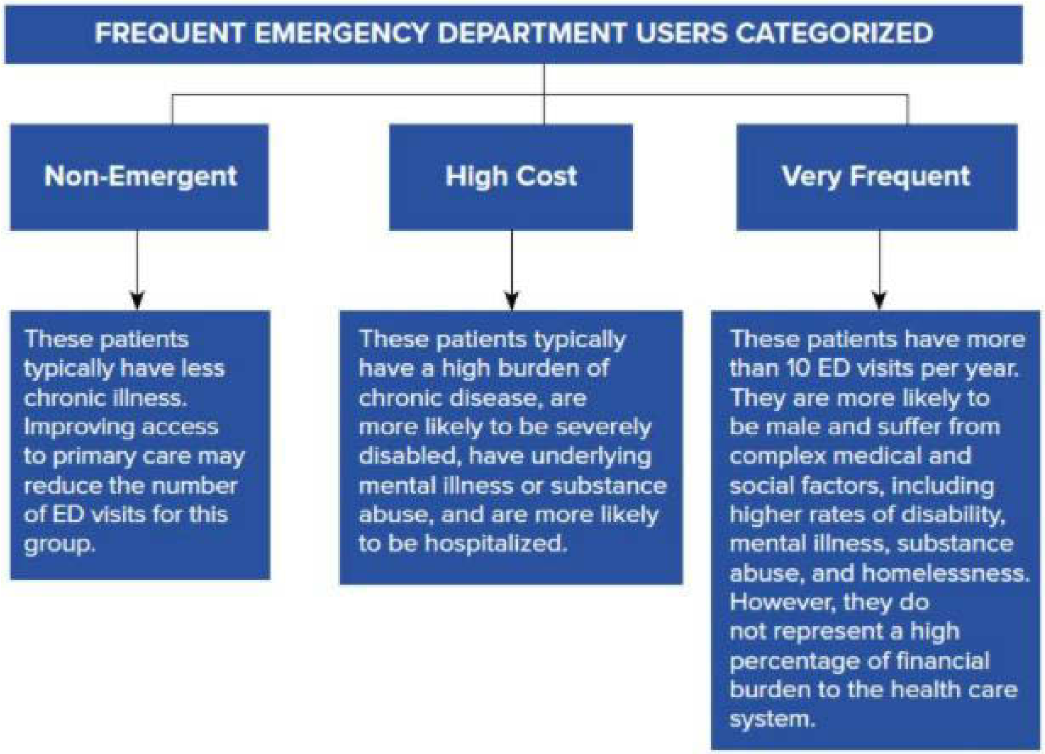
Pediatric ED utilization patterns are largely dependent on patient access to primary care physicians and insurance status. Being insured does provide patients with more opportunities to obtain the care they need compared to those who are uninsured (Sen et al., 2022; Supanick, 2021). However, this does not negate the reality of increasing out-of-pocket expenses faced by those with public insurance such as the Children's Health Insurance Program (CHIP) under Medicaid. Furthermore, patients who fall under such criteria are less likely to be admitted locally and more likely to be transferred to a different hospital upon arrival (Huang et al., 2021).

Some patients either lack access to a primary care physician or access to any type of insurance coverage. These patients typically visit the pediatric ED more frequently than those who have access to a primary care physician and are covered by insurance (Ellbrant et al., 2020). Having a primary care physician is important because it provides regular health maintenance for children. This is especially important for those with chronic medical conditions such as asthma, diabetes, cardiac or renal disease. Mudd et al. (2022) demonstrated the link between children who live in urban settings with limited access to primary care and the increased rate at which they depend on the pediatric ED for medical care. One of the main reasons why patients with low-acuity or non-emergent health conditions present to the ED is due to lack of access to a primary care physician (Ravi et al., 2021). Nevertheless, some families who do have access to a primary care physician opt to visit the ED out of convenience. Parents do not have to make appointments for their children to go to the ED, nor are they restricted by set timeframe of business operation as the ED is constantly open (Ravi et al. 2020).

Ellbrant et al. (2020) discussed the benefits of integrating a primary care unit with a hospital. By triaging less severe cases to hospital-integrated primary care units (HPCUs), they helped reduce the burden of patient care (Ellbrant et al., 2020). Ellbrant et al. (2020) investigated the effects that integrating a primary care unit with the hospital would have on overcrowding in the pediatric ED. Through a retrospective cross-sectional study, the number of pediatric ED visits prior to, during, and following integration of the primary care units were compared. Patient flow patterns on different days of the week and blocks of time in the day were also evaluated. Lower-ranked triage groups were sent to the HPCUs, while higher-ranked triage groups remained in the ED (Ellbrant et al., 2020). The results of the study demonstrated that lower-acuity cases presented to the ED at a higher rate when the HPCU was not active than when it was active. Thus, the authors concluded that integrating HPCUs with urban pediatric EDs helped alleviate the patient burden, especially outside office hours (Ellbrant et al., 2020). Based on the study conducted by Ellbrant et al. (2020), one might postulate that patient ED utilization patterns influence patient flow. Figure 3 outlines the categories of ED users.

Figure 3

Categorization of frequent emergency department users



These patients typically have less chronic illness. Improving access to primary care may reduce the number of ED visits for this group.

These patients typically have a high burden of chronic disease, are more likely to be severely disabled, have underlying mental illness or substance abuse, and are more likely to be hospitalized.

These patients have more than 10 ED visits per year. They are more likely to be male and suffer from complex medical and social factors, including higher rates of disability, mental illness, substance abuse, and homelessness. However, they do not represent a high percentage of financial burden to the health care system.

Source: Gordon et al., 2019

The impact of the Emergency Medical Treatment and Labor Act (EMTALA) on pediatric health equity

The Emergency Treatment and Labor Act (EMTALA) is a mandate created by the Centers for Medicare and Medicaid Services (CMS) for emergency departments (EDs) and their approach to treating patients. Of note, there are three requirements for hospitals to be in alignment with the goals of EMTALA. First, they must perform a thorough examination of patients presenting to the ED to determine if an emergent medical condition (EMC) exists. Then they must stabilize the patient by providing the necessary treatments for their EMC. Finally, if transfer is required, they must do so after the patient has been stabilized. The aforementioned goals should apply to patients regardless of their ability to pay for emergency services (CMS, 2021).

The establishment of EMTALA was initiated to prevent patients from being denied medical evaluation and care in emergency situations based on their ability to pay. Moreover, patients must be stabilized before being transferred to another facility (CMS, 2021). EMTALA is a statute which is codified at section 1867 of the Social Security Act, 42 U.S. C. 1395dd (CMS, 2021). In the past, organizations such as the Joint Commission on Accreditation of Hospitals and the American College of Emergency Physicians have included equitable and nondiscriminatory care in their bylaws and mission statements. Additionally, federal and state-level mandates for increasing equitable access to emergency medical care existed in the form of the Hospital Survey and Construction Act of 1946 (also known as the Burton-Hill Act) and individual state laws, respectively (Hicks, 2014). One of the most renowned national laws for patient transfers is EMTALA. For historical context, the U.S. Congress passed EMTALA in 1986 as a portion of the Consolidated Omnibus Reconciliation Act (COBRA) to address issues with Medicare

(Zibulewsky, 2001). The legal duties imposed upon hospitals by EMTALA include medical screening examinations for patients who request urgent care regardless of their ability to pay, prompt stabilization of the patient or transfer if the hospital lacks the capacity to do so, and either acceptance of transferred patients who require specialized treatment if the hospital can do so or transfer to another facility once stabilized (Zibulewsky, 2001).

The establishment of EMTALA was initiated to prevent patients from being denied medical evaluation and care in emergency situations based on their ability to pay. Scholars have attributed the following problems to EMTALA: overcrowding, decline in on-call specialist physicians, and persistent violations due to lack of mandate clarification. Pediatric EDs become overcrowded for different reasons. For pediatric EDs, the admission rates are excessive. However, oftentimes these admissions do not result in hospitalizations (Cag et al., 2019). Cag et al. (2019) found 65% of ED visits were non-urgent in 2005. Additionally, many of the non-urgent cases were health conditions that could have been treated in outpatient clinics.

Political and economic factors

CMS is part of the Department of Health and Human Services (HHS). There are several federal offices which deal individually with issues such as minority health, information technology, clinician engagement, Medicaid, and CHIP services. As far as the political hierarchy goes, CMS answers to Congress which is typically represented by varying political parties. Based on the votes of the members of Congress for applicable legislation, CMS must abide by the majority ruling. One recent example would be the establishment of the Affordable Care Act (ACA), which ultimately affected funding for EMTALA (Zibulewsky, 2001). The primary funding concern for EMTALA pertains to the Disproportionate Shares Hospitals (DSHs) (Zibulewsky, 2001). Brenner et al. (2021) touched upon the financial implications of increasing access to emergency care services in the U.S. When looking at the funding priorities pertaining to EMTALA, it is important to recall that Congress established a DSH program and reimbursement mechanism years after the mandate was enacted (Moffat, 2019). This resulted in the federal government allocating funds to the states for the coverage of low-income patients. The states are then charged with the responsibility of selecting eligible hospitals to disburse these funds to. The issue at hand is that funds are being reassigned from the DSH program to support the ACA, and the result has been a 75% reduction in funds for DSH (Moffat, 2019). By 2025, the total estimated amount of reduction in DSH funding will be $43,000,000,000 (Zibulewsky, 2001). If this trend continues, public hospitals which sponsor the emergency care of uninsured patients will suffer the most. Academic Health Centers (AHCs) may often oppose the mandates requiring them to be on call for free because of the high demands of their shifts. Shift fatigue can increase the likelihood of medical errors (Krueger & Halperin, 2010).

Socioecological factors

Patients in rural and urban communities that either lack the proximity or financial access to EDs are less likely to receive the care they require. Mudd et al. (2020) found that when patients lack access to primary care resources, they are more likely to utilize ED services and be hospitalized when they do not require this level of medical attention. Primary care services are crucial in the prevention of chronic illness and hospitalization because they promote regular patient follow-ups and may reduce disease progression (Mudd et al., 2020). Avoidable hospitalizations and ED visits ultimately hinder progressive patient care and place a burden on the health care delivery system. According to the Agency for Healthcare Research and Quality (AHRQ) 108,300 potentially preventable pediatric hospitalizations resulted in an unnecessary $561.6 million expenditure (McDermott & Jiang, 2020).

When communities lack access to primary care services, they tend to utilize the ED as an alternative. In their study concerning this trend, Zook et al. (2018) examined the implications of race in rural settings for resource allocation. They conducted a study that revealed health disparities among American Indian and White patients in obtaining care in rural settings. Zook et al. (2018) concluded that American Indian children in rural areas living below the poverty level frequented EDs more than White children due to limited access to primary care services. In many instances, the American Indian children who presented to the ED did not have emergent health care needs; however, they did have symptomatic chronic illnesses requiring follow-up. Socioeconomic barriers such as patient proximity to health centers and insurance status can diminish the long-term health of pediatric patients requiring urgent care (Mudd et al., 2020).

Technological factors

Horner et al. (2016) also noted variations in patient access to advanced diagnostic imaging based on insurance status. They found that patients with self-pay or uninsured status received diagnostic imaging less frequently than those who were insured. Dotson et al. (2019) evaluated the treatment outcomes of children and adolescents with Crohn's disease based on their race and insurance status. Like the aforementioned authors, it was found that patients who were classified as African American or had an insurance status of Medicaid received fewer treatments and relied more on the ED for routine care. Young et al. (2019) also found disparities in care for pediatric patients with osteomyelitis based on insurance status and race. Failure to treat patients based on insurance status has been linked to higher mortality following non-accidental trauma (Sonderman et al., 2018). Additionally, rural community hospitals often lack specialized on-call physicians and are left with the choice of transferring their patients to more equipped facilities (Krueger & Halperin, 2010).

Decline in on-call physician specialists

Crowded EDs increase the complexity of patient care, resulting in an increased need for the presence of specialist physicians in the ED (Li et al., 2019). In recent years, new research has emerged demonstrating that having more physicians who are specialists in pediatric emergency medicine in the ED can help decrease patient wait time and increase quality of care (Berkowitz et al., 2018). Pediatric ED physicians are more likely than general pediatricians working in the ED to provide high-quality care in less time. Using a retrospective study, Cag et al. (2019) found that diagnostic tests were performed for 49.43% of admitted patients in the ED and 42.03% of patients admitted to outpatient clinics. The reason for the higher rate of diagnostic tests in the ED is due to the low number of available specialists in the ED and the fast-paced environment requiring physicians to examine as many patients as possible. Diagnostic tests add to the ED expenditures and increase patient wait time as their results are pending (Cag et al., 2019). Therefore, one possible solution to cut the rate of diagnostic testing is to increase the number of specialists present in the ED.

Issues with EMTALA specifications

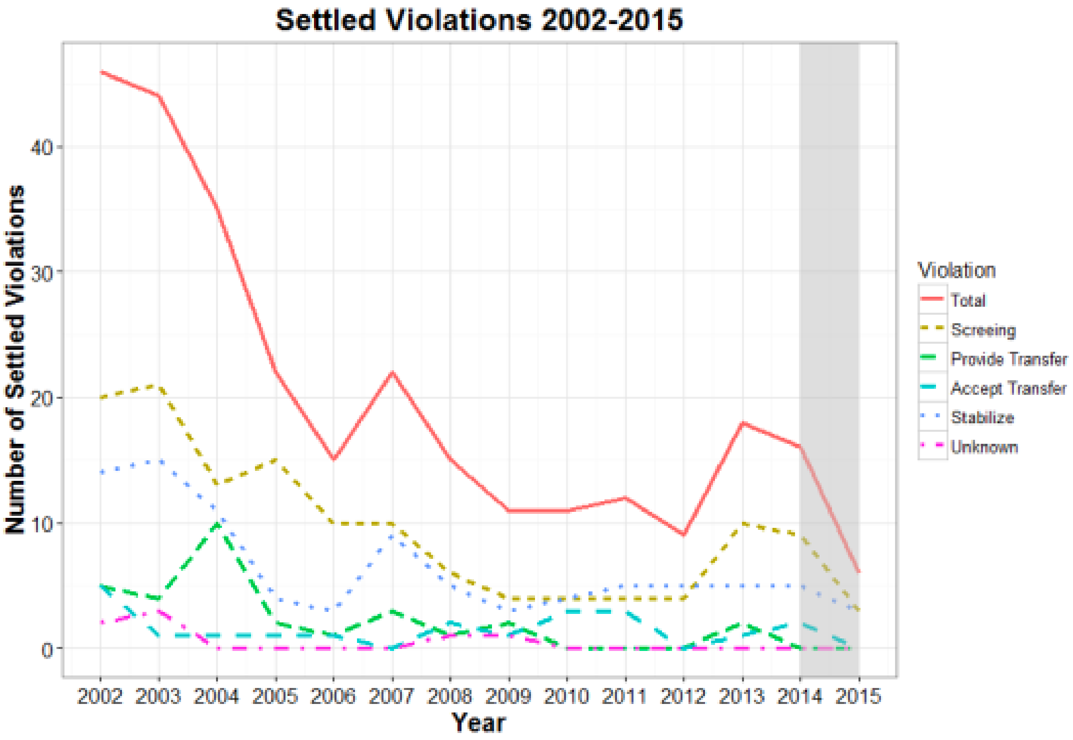
In addition to the increasing requirement for specialist physicians in the ED, there is also a need for clarification with EMTALA enforcement in the same setting. TenBrink et al. (2019) cited a recent policy by Anthem Blue Cross/Blue Shield that made patients financially responsible for an ED visit, which the American College of Emergency Physicians (ACEP) is currently fighting. There is also a lack of standardized criteria for moving patients to other facilities, reflected by the need for more liability protection for emergency practitioners as outlined in H.R. 548 “Health Care Safety Net Enhancement Act of 2017”.

Persistent EMTALA violations

The literature demonstrates EMTALA violations and the health consequences faced by affected patients. (Hsuan et al., 2018). McKenna et al. (2018) explore instances of EMTALA violations in hospitals considering the installment of the Patient Protection and Affordable Care Act (ACA). They created a dataset of EMTALA violations which led to civil settlements between 2002 and 2015. After matching this data with the hospital data from Thomson Healthcare, they discovered that the most common causes of violations pertained to lack of screening and stabilizing emergent patients (McKenna et al., 2018). Additionally, urban locations in the Southern U.S. demonstrated the highest number of settlements from violations. At the end of the study period, a $5,299,500 expenditure was attributed to the annual settlements of violating hospitals (McKenna et al., 2018). More discouragingly, there appears to be a discrepancy in the rates at which patients are transferred to other hospitals based on their racial and ethnic background as well as citizenship status (Brenner et al., 2021). With the pediatric population, there has been an increasing trend of children visiting hospitals that are incapable of providing definitive care for them. Michelson et al. (2020) found that hospitals with high pediatric volume had median Hospital Capability Index (HCI) scores, and there was a decrease in definitive care for both rural and urban settings. Additionally, the population of avoidable transfers is primarily comprised of patients of racial and ethnic minority background with non-private insurance, with 25% of admissions being avoidable (Boyle et. al, 2020). Prior to transferring a patient, a physician must submit documentation demonstrating that the benefits of transfer outweigh the risks. Figure 4 demonstrates the extent of settled EMTALA violations and per-capita average EMTALA fines in the U.S. from 2002 to 2015.

Figure 4

Settled EMTALA Violations 2002-2015



Source: McKenna et al., 2018

Institutional barriers to pediatric health equity

In addition to social determinants of health (SDOH), there are institutional factors that may contribute to inequitable delivery of healthcare in the pediatric ED. The first factor is patient flow, which refers to the processes initiated to treat a patient from the time they arrive in the ED to the time they are discharged. This has been described by scholars as input-throughput-output (Savioli et al., 2022). The second factor is the staff-to-patient ratio which, in recent years, has decreased due to a shortage of hospital staff (Johnson, 2022). This often results in shift fatigue, further hindering the patient-provider relationship and ultimately, the clinical decision-making process. The third factor is provider implicit bias which occurs when decisions are impacted by unconscious prejudices (Schnierle et al., 2019).

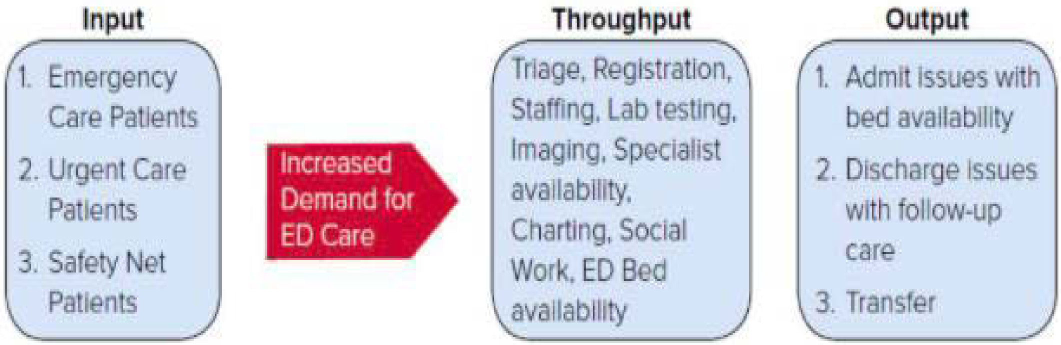
How input-throughput-output affects patient health equity

Patient flow relies on the number of patients presenting to the ED and the staff available to attend to them. Regarding the pediatric ED, the demand is increased as patients present to this setting at a high rate. Level 1 trauma EDs can treat up to 100,000 patients or more annually (Carney et al., 2020). When the demand exceeds the number of staff available, longer wait times and overcrowding may result. Savioli et al. (2022) classified the contributing factors of overcrowding by outlining an input, throughput, and output model. The input factors pertain to the level of access to the pediatric ED, such as the time it takes to be seen by a provider, how many patients present to the ED, and triage score (Savioli et al., 2022). Input factors have the least impact on overcrowding. Throughput factors are classified as the interval between initiating patient care and the aftermath. This includes any diagnostic testing required to make a clinical decision, and may be affected by bed availability, staffing, consultations, quality of shifts, and burnout. Finally, output refers to factors for patients leaving the ED. This includes bed shortages for inpatients, delays in internal and external transport, required higher level care, and staffing ratios. Of note, there has been a reduction of beds by over 50% in the past 20 years which has compounded the issue of overcrowding (Savioli et al., 2022).

Patient flow can be affected by diagnostic imaging and testing, as these procedures often take time to conduct and receive results from the lab. These procedures help to narrow down the differential diagnosis for patients in the pediatric ED. The literature has demonstrated disparities in the rates at which patients receive diagnostic imaging. Ross et al. (2020) conducted a multivariable logistic regression model which revealed that White patients were 8% more likely to receive medical imaging than their non-White counterparts (Ross et al., 2020). Like Ross et al. (2020), Zhang et al. (2019) also explored the inequitable patterns in diagnostic imaging among pediatric ED patients. They found that Black patients were 28% less likely than White patients to receive a CT scan (Zhang et al., 2019). Failure to perform diagnostic imaging and testing may lead to delayed diagnosis and treatment for patients (Zhang et al., 2019). These trends can also be attributed to suboptimal patient flow models (Carney et al., 2020). Figure 5 outlines an example of patient flow via input-throughput-output in the ED.

Figure 5

Input-Throughput-Output model of emergency department



Source: Li et al., 2019

The effect of provider implicit bias on pediatric health equity

The World Health Organization (WHO) recently stated that there is a shortage of over 4 million physicians, nurses, and others working in healthcare worldwide (Makkar et al., 2020). These effects have been observed in several healthcare facilities, including pediatric EDs in the United States (Woolridge et al., 2019). This trend has been attributed to the fact that many pediatricians who become board-certified in emergency medicine often go on to practice in academic children's hospitals. These facilities tend to be in urban settings, resulting in a deficit in board-certified pediatric ED physicians in rural communities (Wooldrige et al., 2019). Staffing shortages result in longer wait times for patients and overcrowding. Furthermore, the pressures of keeping up with patient quotas and limited available time can put a strain on the patient-provider relationship (Schnierle et al., 2019). Two domains that the literature has demonstrated to be impacted are patient-provider communication and provider implicit bias. Communication barriers may compound physician implicit biases, thus hindering the clinical decision-making process. When physicians and other healthcare providers record a patient's history upon presentation, they typically take note of demographic features such as age, sex, racial and ethnic background. These factors can help the provider to narrow down the most likely diagnosis when supplemented with medical tests and physical evaluation. However, race and ethnic background may vary based on the provider's personal interpretation. Schnierle et al. (2019) suggested that this interpretation may be subject to implicit bias. If a physician has an unconscious preference for one population over another, they are more likely to provide better healthcare to that group (Schnierle et al., 2019). According to Schnierle et al. (2019), it is important to note that implicit biases may not be reflective of a provider's explicit thoughts or opinions.

To elaborate upon the concept of implicit bias and the potential effects it may have on the provision of quality healthcare, exploring the research presented by Schnierle et al. (2019) may be beneficial. According to Schnierle et al. (2019) the clinical decision-making process has a feature of duality in which it is partially cautious and intentional versus automatic and hasty. External conditions such as the urgent nature of the pediatric ED might lead one to rely on the latter, more abbreviated form of decision-making to enable expedient care to be delivered (Schnierle et al., 2019). According to the Institute of Medicine Committee on Understanding and Eliminating Racial and Ethnic Disparities, implicit bias plays a significant role in the morbidity and mortality of racial and ethnic minorities. Furthermore, racial and ethnic minorities are the most likely to experience high rates of morbidity and mortality in the pediatric ED (Zhang et al., 2019).

According to Schnierle et al., (2019), objective measures of implicit bias are the most reliable for research purposes. The reported best practices for identifying implicit bias include functional MRI, electromyography of the face, monitoring cardiovascular response, and the Implicit Association Test (IAT). Of note, the IAT has received some criticism due to associated bias with those who took the test. Nevertheless, Schnierle et al. (2019) claimed that the IAT was overall both reliable and valid. Implicit bias within the context of healthcare provision in the United States is an area of research that is ever-changing. This is evidenced by the various versions of the IAT that question participants on a myriad of features such as race preference, compliance, and quality of care (Schnierle et al., 2019).

Mulchan et al. (2022) presented a nuanced view of that presented by Schnierle et al. (2019) when it comes to implicit bias, particularly in the assessment of pain in pediatric patients. The authors developed a framework for promoting equitable pediatric pain care using virtual patient (VP) vignettes. These are essentially animated, hypothetical clinical scenarios used for training purposes. In their study, the VP vignettes were presented using videos of virtual avatar patients that represented three virtual Black adolescent male patients and one White virtual adolescent male patient. Each patient presented alone without a parent or caregiver, and they were dressed similarly with standardized facial expressions of pain. These expressions were developed with the help of actual multimedia of adolescents who were in a similar medical predicament. Some of the expressions included the patient lying in fetal position with a grimace, perspiration, and changes in lip movement indicating discomfort (Mulchan et al., 2022). The pain scales predominantly were derived from each clinical vignette which described the patient's vital signs, such as blood pressure, mental status, temperature, respiratory rate, and their pain rating from 1 to 10, with 10 being the highest level of pain. Then, each provider was asked to select a recommendation for managing the patient's pain based on the clinical scenario and physical expressions of pain by the patients.

There were three total virtual Black patients, two with sickle cell disease and one with acute lymphoblastic leukemia. Additionally, there was one White patient with acute lymphoblastic leukemia. The researchers utilized a 3:1 ratio for Black to White patients represented in the visual analog scales (VAS) (Mulchan et al., 2023). When reviewing the VAS for patients with sickle cell disease, the reaction to pain by participants was highest for White patients with acute lymphoblastic leukemia with a rating of 6.04 and lowest for Black patients with sickle cell disease with a rating of 5.23. Mulchan et al. (2022) claimed that most of the responses for visual analog scales (VAS) were concordant with best practices for all patients. The authors concluded that further modifications to the VP vignettes should also explore the role of clinical diagnosis as well as a parent or caregiver being present. While the incidence of sickle cell disease is higher in the Black population that the White population, with 73.1 cases per 1,000 Black newborns and 3.0 cases per 1,000 White newborns in 2010, the exclusion of a White sickle cell patient in the study was of interest as this may have been a limiting factor in the research for comparison between each group (CDC, 2023). Nevertheless, the findings by Mulchan et al. (2022) implied that at least for patients with acute lymphoblastic leukemia, there may be some clinically significant variance in the way providers rate patient pain based on their race.

The effect of cognitive stressors on provider implicit bias on pediatric health equity

As previously mentioned, implicit bias is an unconscious prejudice that may affect the decisions one makes. Provider implicit bias can negatively impact the diagnostic decisions being made for pediatric patients in the ED. Implicit bias can be accentuated by cognitive stressors such as shift fatigue (Schnierle et al., 2019). In general, the ED is a high-stress environment. Oftentimes the patient volume exceeds what the staff can effectively handle. Such conditions may hinder the provision of quality care for patients that are subconsciously preferred, and such preferences are frequently based on race or ethnic background (Chelimsky et al., 2022). Chelimsky et al. (2022) implemented an online version of the Implicit Association Test (IAT) which assessed physician implicit bias. The survey posed several clinical vignettes with scenarios meant to determine any preferences for certain demographic factors. They determined that both racial and socioeconomic biases were present in the sample population, which ultimately influenced their decision-making process. Choshen-Hillel et al. (2022) supplemented the discussion on cognitive stressors in their study by examining the significance of shift time on the likelihood of a physician prescribing analgesics for pain management. While it may not be possible to eliminate factors such as heavy patient load and ED burden, it appears that addressing physician implicit racial bias might increase health resource equity among pediatric patients in this setting (Thornton and Yang, 2023).

Chapter 2 summary

Chapter 2 provided the literature review for the research. First, the conceptual framework highlighted the founding principles of the Health Equity Measurement Framework (HEMF) and social determinants of health (SDOH) in relation to the concept of pediatric health equity. Next, the financial impact of the U.S. health system was discussed. This section outlined key trends in healthcare expenditures and insurance models for the pediatric population. Then, pediatric emergency readiness was defined, further emphasizing the importance of specialized institutions such as the pediatric emergency department and the need for standardized pediatric care nationwide. Next, social determinants of health (SDOH) were expounded upon, including the implications of race, ethnicity, and culture on quality of care received, communication as a barrier to equitable healthcare, and insurance coverage status and the impact on ED utilization patterns. Then, the impact of the Emergency Medical Treatment and Labor Act (EMTALA) on pediatric health equity was framed within the scope of the validity of certain patient transfers and resultant overcrowded EDs, which may have political, economic, socioecological, and technological factors. EMTALA violations, patient flow models, patient-provider rapport, and provider biases were discussed among the many potential systemic barriers to obtaining equitable healthcare in the pediatric ED. Chapter 3 will focus on key points in the methodology, including the research design, description of participants, sampling design, recruitment strategy, data collection methods, data preparation, data analysis, trustworthiness, accuracy, reliability, validity, researcher's potential bias, and ethical considerations.

Chapter 3: Methodology

Overall research design

This was an exploratory qualitative study, and interviews were utilized to obtain the necessary data to answer the primary research question. The researcher found it appropriate to explore the perspectives of pediatric ED physicians using qualitative methods due to the ability to access in-depth participant views (Im et al., 2023). Not only did qualitative research allow for a profound understanding of an individual's lived experiences, but it also permitted the researcher to synthesize various perspectives of the same topic (Im et al., 2023). Semi-structured interviews were used and summarized physician perspectives on health equity in the pediatric ED. As previously mentioned, the physicians working on the frontlines had a unique perspective on pediatric health equity as they interacted with the patients directly every day. Furthermore, the interview process enabled interviewees to provide comprehensive responses to open-ended questions (Coleman, 2021). The researcher felt that she was able to earn the trust of the participants in the study. The informed consent assisted in establishing trust with participants in a variety of ways including that a participant could decline answering any question and could voluntarily withdraw from the interview at any time.

Description of participants

The population was comprised of 15 pediatric ED physicians. 14 physicians were board-certified in Pediatrics and had specialized in Pediatric Emergency Medicine. One physician was a general pediatrician that worked in the pediatric ED. Interviewing 15 participants resulted in obtaining diverse perspectives and was believed to satisfy participant saturation (Neville et al., 2020). According to Bennet et al., (2021), in 2020 there were 2,403 clinically active pediatric ED physicians in the United States. The researcher recruited participants for the research study by seeking the permission of sections of the American Academy of Pediatrics (AAP), the American College of Emergency Physicians (ACEP), and the National Med-Peds Residents Association (NMPRA). The researcher also contacted pediatric emergency fellowship programs, posted on social media such as LinkedIn, and sent emails to individual physicians. The specifics of these recruitment efforts will be detailed in Chapter 4.

Sampling design

The sampling types for the population of interest included both purposive and snowball sampling. The researcher specifically sought out board-certified pediatric ED physicians to participate in the study. Subsequently, the researcher asked participants to refer others who fit the selection criteria (Hollo et al., 2022). Interviewing 15 participants resulted in obtaining diverse perspectives and was believed to have satisfied participant saturation as new information was unlikely emerge beyond this point (Neville et al., 2020). Pediatric ED physicians were selected because the researcher believed that these individuals would provide the most reliable perspectives on health equity in the pediatric ED. Furthermore, employing snowball sampling assisted the researcher in identifying other participants with similar professional experiences that were relevant to answering the primary research question (Johnson et al., 2020). According to Johnson et al. (2020), data saturation is reached when no new information is likely to result with further data collection. The researcher found this to be true once 15 participants had been interviewed.

Recruitment strategy

The researcher did not have any relationship established with any of the participants prior to study commencement. During the recruitment process, prospective participants were informed that the purpose of the study was to document their thoughts on health equity in the pediatric ED based on their personal experiences. However, the specific personal goals of the researcher were not disclosed to participants prior to the study. The researcher used 10 email listservs and word-of-mouth to recruit pediatric ED physicians. As a member of the American Academy of Pediatrics (AAP), the researcher had access to email listservs which included hundreds of pediatricians. The researcher was a member of the American College of Emergency Physicians (ACEP) and utilized their message board to contact members. The researcher also sent personal invitations via email, LinkedIn, and posted a flyer on social media platforms such as LinkedIn and Twitter to garner interest from those who met the inclusion criteria but may have been outside of her immediate professional network. The culmination of these recruitment strategies resulted in 15 pediatric ED physicians participating in the interview process. The results of the researcher's recruitment efforts will be provided in Chapter 4.

Data collection methods

The data collected for this study was in the form of responses given by pediatric ED physicians in semi-structured interviews. The data collection period took place between September 2023 through March 2024. The interview questions were developed to assess each participant's views on the equity and quality of care provided to their patients. The interview protocol and questions utilized in this study are listed in Appendix A. Informed consent was obtained prior to all interviews, and participants were informed that this was a voluntary process and that they could opt out at any time. The researcher used her personal laptop, which was password-secured, to conduct all the Zoom interviews. The researcher downloaded the recordings and transcripts from the Cloud and subsequently deleted them from the Cloud. This material was then saved from the cloud to the researcher's personal, password-protected computer in an encrypted folder. Codes were not stored with the corresponding de-identified data. Strong passwords were used to protect data pertaining to the research as this supplemented the encrypted storage. Each encrypted file was protected with its own strong password. The researcher did not reuse passwords from site-to site or app-to-app to minimize security breaches.

According to the Institutional Review Board (IRB) at Franklin University, Zoom is an acceptable platform to utilize for interviews provided that the researcher appropriately uses and follows the security and safety protocols. The researcher did follow the applicable security and safety protocols throughout the entire interview and subsequent analysis process. Additionally, it was readily accessible from a logistical and financial standpoint for both the researcher and selected research participants. Furthermore, Zoom was deemed a HIPAA compliant software, as technical and security problems have been addressed as of February 2022 (Adler, 2023).

The researcher's Franklin University Zoom account was used for the interviews so that the recordings could be uploaded to a secure cloud for transcription. Privacy and confidentiality were upheld throughout the duration of the interview process. The names of each participant were coded throughout the interview transcripts by their participant number (i.e., Participant 1, Participant 2, etc.) The recordings and transcripts were stored in encrypted folders on the researcher's password-protected, personal laptop. No other individuals had access to the researcher's laptop and only the researcher had knowledge of their password. Prior to each interview, the researcher obtained informed consent detailing the voluntary nature of the interview. Once the participant accepted the terms, the researcher provided the participant with a unique Zoom meeting ID and password. The researcher logged onto Zoom from her home office and invited the participant into the secured Zoom session for the interview. The researcher used headphones so that the conversation would not be audible to anyone except the researcher. The Zoom meeting was also password-secured. The researcher created a unique password for each interview so that no other participant or outside individual would have access to the meeting. The interviews took about 45 minutes each to conduct. Follow-up questions were posed at the discretion of the interviewer when further elaboration was required in a prior response. The interviews were recorded on Zoom and the transcript was downloaded and stored on the researcher’s personal laptop following the interview. The transcription files were stored in a secure folder on the researcher’s laptop. Also, the researcher’s laptop was password protected and only accessible in her home so no one else could access any files on it.

Data preparation

Following the interview process, the researcher downloaded the transcript of the audio files from each interview from the Franklin University Zoom Cloud and opened them in Microsoft Word to revise any errors. This was done by listening to the interview audio and concurrently reading the interview transcript. While each interview lasted for about 45 minutes, it took about two hours for the researcher to validate the transcripts. This was because the researcher often paused the interview recordings to make any corrections to the transcripts (i.e., words that were incorrectly captured by the Zoom audio recording). This process facilitated the cleaning of the interview data. Following this step, the researcher uploaded the revised interview transcript files into ATLAS.ti for coding. To increase security, accuracy and/or trustworthiness of data and their findings, a unique identification number was assigned to every participant (Tenny et al., 2023). Data were managed using Excel spreadsheets. The researcher used these spreadsheets to organize codes manually created by herself and automatically created by ATLAS.ti AI. Coding the interview responses promoted participant anonymity and maintained a high level of organization for the researcher. The researcher used a two-pronged approach to assign themes for the transcripts. The first approach involved the researcher reading through each revised interview transcript and coding certain phrases in themed groups. The second approach involved the researcher using the artificial intelligence (AI) feature on ATLAS.ti for automated thematic coding. Using the AI feature minimized any potential bias because the automated system took the transcripts at face value without any preconceived notions that the researcher may have had. The data was coded by the researcher and by ATLAS.ti. Themes were identified in advance to help create the interview questions.

Data analysis

The data analysis process for this study required the researcher to be thorough and maintain an unbiased approach to interpretation. Documents analyzed by the researcher were separated from documents analyzed by ATLAS.ti AI by project files. The researcher's interpretation of each interview was informed by both the conceptual framework and the expertise provided by each participant. Additional themes were derived from the data, making for a more robust data set. After the interview phase of the study, the researcher cleaned and coded the transcripts. The researcher manually coded each interview prior to utilizing the ATLAS.ti AI coding system. To reiterate, the primary themes of the conceptual framework included the Health Equity Measurement Framework (HEMF) and social determinants of health (SDOH) (Dover & Belon, 2019; Egede et al., 2021). To simulate the role of a second data reviewer, the researcher used the ATLAS.ti AI system to assist with coding. Several qualitative studies in the medical field have demonstrated the utility of ATLAS.ti in analyzing data, especially using thematic analysis. Tenny et al. (2023) listed ATLAS.ti among the standard forms of Computer Assisted Qualitative Data Analysis Software (CAQDAS). According to Soratto et al. (2020), ATLAS.ti was first developed to assess the effects of the Chernobyl nuclear event. The software became available commercially in 1993. Some of the most common features in

ATLAS.ti include document storage, codes, quotations, and project management. Several processes within ATLAS.ti are automated. The researcher provided the element of critical thinking and framed the data in a way that made sense to the intended audience (Soratto et al., 2020).

For this research, ATLAS.ti was utilized for analyzing and coding the interview transcripts. Soratto et al. (2020) outlined three generic phases involved in content analysis using ATLAS.ti. The individual steps are outlined in Table 1. The first phase, titled pre-analysis, involved the researcher assigning documents to designated projects (Soratto et al., 2020). For this research, the researcher created one project titled “Researcher-created codes” and another project titled “AI-created codes”. The documents that were uploaded to each project included all the interview transcripts form the 15 participants. The second phase, titled material exploration, required the researcher to read through the data, select important phrases as quotations and write reflective comments about certain sections of the data (Soratto et al., 2020). The third phase, interpretation, involved the researcher creating meaningful connections between the quotations, codes, and notes. Following this, the researcher had the opportunity to create data visualization which reflected the codes such as histograms, pie charts, and line graphs (Soratto et al., 2020).

Table 1.

Applying the various stages of content analysis in ATLAS.ti

Phases of thematic content analysis	**Steps in ATLAS.ti**
First phase: Pre-analysis	• Creating the project • Adding the documents • Grouping documents on the overall project aim • Including research questions
Second phase: Material exploration	• Reading the data, selecting data segments, and creating quotations • Creating and applying codes

	• Writing memos and comments. • Grouping codes and memos

Phases of thematic content analysis	Steps in ATLAS.ti
Third phase: Interpretation	• Exploring the coded data using carious analysis tools • Linking quotations, codes, and memos on the conceptual level • Continuing memo writing • Generating network views • Extracting reports

Source: Soratto et al., 2020

The researcher manually assigned themed codes for all interview transcripts and utilized the artificial intelligence (AI) software on ATLAS.ti to enhance data reliability. Access to all data collected was password-protected and secured. All Cloud recordings were stored, encrypted, and deleted from the Cloud once the researcher downloaded them to a secure folder. Additionally, the researcher deleted the local downloads of the audio recordings following the completion of the research phase. Codes were created by grouping commonly used phrases or words under the same term. For example, if the word "insurance" appeared several times from various respondents answering the same question regarding potential barriers to patients accessing emergency services, "insurance" was deemed a coded theme for the subject of barriers to patient care. The researcher determined that codes with high frequencies demonstrated patterns and themes. As previously stated, data visualization was helpful in illustrating the themes created by both the researcher and the AI.

Trustworthiness and accuracy

In qualitative research, the trustworthiness of results relies upon credible, transferable, dependable, and confirmable methods (Johnson et al., 2020). Credibility is increased when the researcher's study is based on evidence from scholarly literature. Credibility for this study was increased by verifying participant responses in real-time. For example, after a participant provided their answer to a question, the researcher asked the participant if their interpretation of the response was correct. Once the researcher determined that no new data would be elicited by additional interviews, saturation for the recruitment phase of the study was assumed to be met. Transferability is the ability to apply the results to other circumstances. Dependability is when the process conducted by the researcher can be duplicated (Im et al., 2023). And finally, confirmability is when the researcher has arrived at conclusions that reflect ideas expressed by the participants rather than their own biases (Johnson et al., 2020). Trustworthiness is also achieved when the sampling technique and methods for data collection embody ethical and logical practices. Examples of this would be member checking, defining data saturation, and clarifying reasons behind the sampling technique (Johnson et al., 2020). As previously mentioned, purposive and snowball sampling was selected to target the desired research demographic.

Reliability and validity

Reliability

The definition of reliability in qualitative research has been described as providing consistent, dependable, and confirmable data and conclusions (Coleman, 2021). Some strategies for increasing reliability include detail and transparency, multiple coding, and replicability.

Researcher transparency helps because when the researcher discloses how the data were collected and why certain choices were made, it allows readers to better understand the investigative process (Coleman, 2021). The researcher used the artificial intelligence (AI) coding feature on ATLAS.ti and compared the auto-generated themes to the ones manually created to increase reliability. Replicability, which in the context of qualitative research relies on the trustworthiness of research procedures, is another way to promote reliability. Providing recordings and complete transcripts of the interview would be an example of this. The researcher uploaded the complete transcripts from each interview into ATLAS.ti for coding, thus providing themes for what the interviewees said verbatim.

Validity

The definition of validity in qualitative research has been described as a study employing appropriate methods for studying the topic it states it is expounding upon, as well as presenting accurate information (Coleman, 2021). Some strategies for increasing validity include mechanical recordings of the interviews, providing verbatim transcripts, member checking, and neutrality (Coleman et al., 2021). The researcher used audio and video recordings of the interviews to provide raw data. This was achieved via Zoom recording to the Franklin University Zoom Cloud. As will be discussed in the Facilities, Equipment Measurement, and Instrumentation section, Zoom has been documented as secure, HIPAA compliant software, provided that the user follows the appropriate security and safety measures. Furthermore, the use of verbatim transcripts from the interview, which were automatically created by Zoom, provides an in-depth perspective of the interview when compared to interviewer notes (Coleman, 2021). This is primarily because a verbatim transcript does not selectively omit data and documents everything that was said by both the interviewee and the interviewer. Another method for data validation is member checking, which essentially involves paraphrasing what the interviewee has stated during the interview and asking for further clarification to ensure that the interviewer has effectively understood what has been said.

Researcher's potential bias

According to Johnson et al., (2020), the best way to minimize researcher bias in qualitative research is to be aware of any potential risks to being biased and acknowledge them early on. The researcher's own lived experiences had the potential of influencing the direction of the interview questions. Therefore, the researcher based the questions on an objective, evidence-based conceptual framework. This framework was the culmination of relevant scholarly literature pertaining to pediatric health equity, pediatric emergency medicine, and social determinants of health. The conceptual framework defined current theories and standards for the academic and professional disciplines pertaining to pediatric health equity. It also left room for inductive reasoning which, according to Johnson et al. (2020) is quintessential to the spirit of qualitative research. Additionally, being aware of the potential ethical considerations of the research was vital in minimizing researcher bias (Johnson et al., 2020). Thus, all questions asked of the participants were prefaced by pre-established ideas and concepts with flexibility for formulating appropriate conclusions.

Ethical considerations (or human participant considerations)

One of the top priorities for qualitative research via interviewing is avoiding any actions that could harm the participant (Putra, 2023). An example would be maintaining the confidentiality of participants. In accordance with the Health Insurance Portability and Accountability Act (HIPAA), personal health information should be protected by receiving agencies such as hospitals, healthcare providers, and researchers (Lee, 2022). Thus, safeguards would be implemented for the entire interview process. If the necessary precautions are not taken when transmitting health data online, the data might be susceptible to security breaches (Lee, 2022). For this research, all Zoom interviews were password-protected so that the only individuals with access to the Zoom meetings were the interviewer and the participants. Also, personal identifiers such as patient name, address, phone number, and email address were not disclosed for public viewing at any point during the research phase or after completion of the study.

When it came to conducting interviews, there were a few ethical considerations to note. First, providing adequate informed consent to each participant was done so that the voluntary nature was made known prior to the start of the study. Participants were made aware of how their personal information and viewpoints would be used in the research (Shah et al., 2023). It was important for the researcher to reassure the participants that they would not be penalized for withdrawing from the study at any point. Furthermore, participants were informed that they could refuse to answer any questions they were uncomfortable with or stop the interview at any time (Shah et al., 2023). Second, ensuring that participant confidentiality and anonymity were upheld for the entire study and beyond was of utmost importance. This was achieved by using coded aliases instead of the participants' name in the transcription process and ultimate writing of this dissertation. Participant anonymity was especially crucial as the researcher wanted to avoid any adverse consequences from taking place with the participants' place of employment due to any comments they had made. These items were coded in such a way that anonymity was maintained (Das et al., 2023).

Reporting the results truthfully was another example of best ethical practice. If the researcher were to falsify the results from the interviews in any way, the viewpoints of the participants would not be adequately reflected and the research would not be credible for the field of study (Johnson et al., 2020). Finally, the researcher felt it appropriate to maintain a level of empathy with the participants, understanding that some of the questions had the potential of causing a wide variety of emotions given the nature of the questions and their expression of personal experiences. Some of the observed emotions included frustration, sadness, anxiety, and apprehension. Nevertheless, the researcher handled each unique reaction with respect and confidentiality.

Chapter 3 summary

Chapter 3 discussed the overall research design for the study. As previously stated, this was an exploratory qualitative study, and interviews were utilized to obtain the necessary data to answer the primary research question. The description of participants was provided. Again, 15 physicians working in the pediatric ED participated in the study. The sampling types utilized for the study were listed as purposive and snowball sampling. With these approaches, the researcher’s professional network was key in successful participant recruitment. Next, data collection methods were discussed, and these consisted of semi-structured interviews. Then, trustworthiness, accuracy, and researcher’s bias were highlighted. Reliability and validity methods were also expounded upon. Data preparation and analysis were discussed. To reiterate, data was prepared by downloading the Zoom transcripts from the Franklin University Zoom cloud, opening the files in Microsoft Word, and uploading them to ATLAS.ti. Then, data were analyzed by both manual and automated assignment of relevant codes in ATLAS.ti. Finally, ethical considerations were addressed in relation to the study. Chapter 4 will discuss the study findings in relation to the research question and identify key themes.

Chapter 4: Findings

Chapter 3 discussed the methodology employed for the study. Chapter 4 outlines the various themes and subthemes that resulted from the 15 semi-structured qualitative Zoom interviews that were conducted by the researcher. The interviews took place from September 2023 to March 2024. All participants were pediatricians currently working in pediatric EDs or with pediatric patients in general EDs located in the U.S. 11 states were represented. Table 2 depicts the number of participants represented per state. All but one physician completed a fellowship in Pediatric Emergency Medicine (PEM). This was a general pediatrician working in a pediatric ED. Fellowship is a period of three years dedicated solely to treating pediatric patients in the ED setting. The physician who did not complete this fellowship was a general pediatrician who had worked in the pediatric ED for several years. There were 11 physicians identifying as female and four physicians identifying as male.

Table 2

Number of participants represented per state

State name	Number of participants per state
California	1
Connecticut	1
Florida	1
Georgia	1
Illinois	2
Louisiana	2
Massachusetts	1
Missouri	1
Ohio	2
Oklahoma	1
Texas	2
Total	15

Physician recruitment efforts

The researcher made a robust effort to contact physicians across the U.S. for participation in the study. The researcher requested permission to send an email blast to sections of the American Academy of Pediatrics (AAP), American College of Emergency Physicians (ACEP), and the National Med-Peds Residents Association (NMPRA). Of note, the researcher was a student member of these organizations but did not personally know any of the participants that were recruited prior to the interviews. Of these organizations, the AAP was the most responsive to this request, with four out of nine sections permitting the researcher to contact members. Table 3 outlines the sections of the AAP that were contacted and recruitment results.

Table 3

American Academy of Pediatrics (AAP) section recruitment efforts

AAP Section Name	Reply Received from Section Leaders	Permission granted to contact members	Number of individuals on the ListServ	Number of individuals who participated
Section on Global Health (SOGH)	Yes	Yes	1122	2
Section on Emergency Medicine (SOEM)	Yes	Yes	1703	3
Section on Minority Health Equity and Inclusion (SOMHEI)	Yes	Yes	797	3
Council on Clinical Information and Technology (COCIT)	Yes	Yes	452	0
Council on Immigrant Child and Family Health (COICFH)	No	No	1200	0

AAP Section Name	Reply Received from Section Leaders	Permission granted to contact members	Number of individuals on the ListServ	Number of individuals who participated
Section on Cardiology and Cardiac Surgery (SOCCs)	Yes	No	Unavailable	0
Section on Uniformed Services (SOUS)	Yes	No	Unavailable	0
Section on Radiology (SORA)	Yes	No	Unavailable	0
Section on LGBT (Lesbian, Gay, Bisexual, Transgender) Health and Wellness (SOLGBTHW)	No	No	Unavailable	0

The researcher also attempted to email other professional medical organizations in her recruitment efforts. These organizations included the National Med-Peds Association (NMPRA) and the American College of Emergency Physicians (ACEP). NMPRA agreed to send an email to members on the researcher's behalf. They also confirmed that there were 5,382 total members registered on the listserv. However, the researcher did not receive any confirmations for interviews from prospective participants. The researcher contacted the ACEP Section on Pediatrics for permission to send an email to their members for physician recruitment. However, the researcher was denied permission to do so. ACEP Section on Pediatrics had 920 members on the listserv. Additionally, the researcher reached out to four state chapters of ACEP to request permission to send an email to members (Maryland, New York, Ohio, Pennsylvania), but did not receive a response. Table 4 details additional recruitment efforts made by the researcher.

Table 4

Additional recruitment efforts

Method of Outreach	Number of requests sent	Reply Received	Number of Individuals who Participated
ACEP Member Director Direct Message	19	2	1
LinkedIn	8	2	1
Email	19	1	0

The researcher attempted to recruit current pediatric emergency medicine (PEM) fellows by searching U.S. PEM program websites for contact information associated with program coordinators. If individual fellow emails were provided, the researcher sent out emails requesting participation. The researcher contacted 17 PEM fellowship program directors via email. Two program coordinators agreed to forward the researcher's recruitment request to their fellows. However, the researcher did not receive any emails from fellows at these programs to schedule an interview. Two physicians contacted the researcher on their own after being referred by a physician on a listserv or by word-of-mouth. One did not follow up to schedule an interview and the other dropped out of the study. The researcher also contacted Diversity, Equity, and Inclusion offices at Children's Hospital of Philadelphia (CHOP) and Penn State Hershey but did not receive a reply. The researcher contacted the Pediatric Emergency Medicine Collaborative Research Committee (PEM CRC) but a request to contact members via Listserv was denied. In total, 10 physicians were recruited through the AAP sections, three physicians were referred to the researcher, one physician was recruited via a direct invitation from the researcher on LinkedIn, and one physician was recruited via a direct message on the ACEP message board. After conducting interviews with the 15 participants, the researcher recognized that no new additional ideas were forthcoming. However, interviewing additional participants may or may not have provided any additional significant findings.

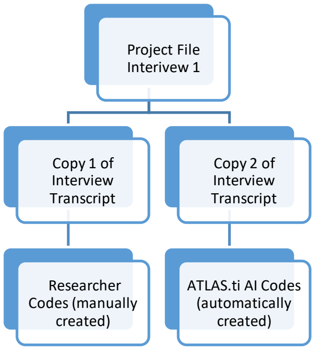
Coding process and results

Researcher coding process

As discussed in Chapter 3, the researcher relied on ATLAS.ti Artificial Intelligence (AI) Coding as a form of multiple coding to increase reliability. The researcher purchased a monthly subscription to maintain access to the projects that were created on ATLAS.ti. After the interviews were successfully uploaded to the Franklin University Zoom cloud, the researcher listened back to each interview recording while reading through the transcripts to make sure that the transcripts accurately reflected what each participant said. To separate the codes created by the researcher and the ATLAS.ti AI system, the researcher uploaded two copies of each transcript to a project file for each interview. There were 15 project files total, and each file was assigned to its respective interview. Then, the researcher manually coded each transcript in ATLAS.ti by assigning codes to applicable quotations. Figure 6 visualizes how the two sets of codes per interview were separated.

Figure 6

Visualization of researcher and ATLAS.ti code organization



The researcher created several Excel workbooks to organize the codes and code frequencies for each interview separately. After creating themes and subthemes for the resultant data, the researcher assigned codes to individual subthemes based on their relevance to the subject matter. The assignment of the codes to the subthemes at this juncture were based on the researcher's interpretation of the participant's comments in relation to the interview questions. Therefore, this process was subjective in nature. This is why the researcher enlisted the assistance of ATLAS.ti AI coding to verify the themes that arose in the interviews. A detailed description of the ATLAS.ti coding process is provided in the proceeding section.

Table 5 outlines all the codes developed by the researcher and the subthemes they were assigned to. The themes the researcher created were Theme 1: Social determinants of health, Theme 2: Epidemiology, Theme 3: Patient flow, and theme 4: Physician-level factors.

Table 5

Codes assigned to each theme and subtheme by the researcher

Researcher Themes and Subthemes
Social determinants of health: Race/ethnicity: ED demographics, demographic changes since pandemic, demographic makeup of ED, Hispanic population, marginalized communities, patient demographics, patient perception of care, quality language interpretation, patient demographic, race, racism, racial bias, sociodemographic makeup of ED, Spanish as preferred spoken language, systemic racism
Social determinants of health: Preferred spoken language: Language, language as a barrier to care, language and cultural barriers, language interpretation, language interpreter, language interpreter services, Spanish as a preferred spoken language
Social determinants of health: Insurance status: American sign language (ASL), cost of chronic illness, CHIP, Indian health services insurance program, insurance, insurance level as a barrier to specialized care, Medicaid, States that did not expand Medicaid, reimbursement, reimbursement patterns, states that did not expand Medicaid
Social determinants of health: Citizenship: Citizenship, impact of immigration on resource allocation, undocumented patient access to care

Researcher Themes and Subthemes
Social determinants of health: Patient Sex and Gender identity: Patient sex, trans population
Social determinants of health: Health literacy: Health literacy, discharge instructions, difficulty with patient discharge instructions, recommendation to improve patient-physician communication
Social determinants of health: Access to services: Access to care, access to resources by facility, addressing parental needs, barriers to care, faith in the quality of care, geographic distribution of EDs, parent/guardian hurdles, proximity of pediatric ED to families, regional differences in quality of EDs, resource allocation in society, transportation,
Social determinants of health: Mental Health: Behavioral health, domestic violence, mental health, post-partum depression, self-harm injuries
Social determinants of health: Socioeconomic status: Low-income
Epidemiology: Disease prevalence After visit compliance, antibiotic stewardship, changes during COVID-19, chronic illness, continuity of care, disease patterns in ED, disparities in care, geographic disparities in presenting illness, epidemiological makeup of peds ED, incidence of illness in rural communities, impact of pediatric care on society, issues with continuity of pediatric care, lack of primary care, lack of prioritization of health equity, morbidity and mortality by race, patients with physical impairments, rating of health equity, respiratory illness, seasonal distribution of disease, temporal distribution of disease
Epidemiology: Adverse Childhood Events (ACEs): Adverse Childhood Events (ACEs), firearm injuries, gun violence, food insecurity, housing insecurity, impact of social justice on health equity
Patient flow: Factors affecting optimal patient flow: Acuity level, adjunct facility for low acuity cases, bed availability, burnout, integration of healthcare systems, ED closures, ED hours of operation, hospital funding, hospital wellness initiatives for staff, impact of mid-level providers on primary care, inequitable delivery of care, inter-facility communication, lack of pediatric-specific protocols, leaving without being seen, low-acuity cases, mid-level providers, multi-disciplinary team, overcrowding, patient flow, patient overflow department, patient navigators, patient volume, physician burnout, physician shortage, readmission, resource allocation in the ED, scheduling issues, scoring system, severity of illness, shift fatigue, shortage of ED resident applicants, staffing, staffing shortage, structural barriers to equity, treatment algorithms, triage, triage scores, triage scoring, triage system, wait times
Patient flow: Transfers and EMTALA: Patient transfers, transfers, EMTALA, ESI, shortage of ambulances, transfer patterns
Patient flow: ED utilization: Age range, age distribution of ED, ED utilization patterns, ED utilization patterns, lack of primary care, patient expectations, patient factors in ED utilization
Physician-level factors: Implicit/Explicit bias: Bias, implicit bias, disagreement with health equity gap, disagreement with issue of lack of access to PCP, privilege, VIP patients

Researcher Themes and Subthemes
Physician-level factors: Training background: Academic versus private pediatrics, benefit of pediatric specific hospitals, employee benefits, impact of one's training background in pediatric ED, Impact of level of physician specialization on patient care, pediatric readiness, pediatric specialists, personal training background, reasons why an equity gap might exist at other hospitals, role of academic institutions
Physician-level factors: Physician definitions of health equity in the pediatric ED: Definition of pediatric health equity, rating of hospital equity
Physician-level factors: Solutions offered by physicians to resolve ongoing equity issues: Administrative barriers, community outreach, community outreach initiatives, comparing global healthcare solutions, comparing global healthcare systems, diversifying the workforce, education about structural racism, Education on available resources, effect of voting on healthcare quality, effective communication, importance of having role models of color, need for federal regulation of pediatric readiness, physician backlash for speaking out, need for root cause analysis, need for social workers, optimizing pain management, organizational culture, patient advocacy, patient-centered care, patient-physician relationship, policy advocacy, policy changes, quality improvement, quality improvement projects, recommendation to improve patient discharge instructions, recommendation to improve patient-physician communication, relationship between hospital administration and physicians, representation in medicine, screening for social determinants of health, social determinants of health screen, social work, suggestions for improving health equity, tracking patient insurance status, universal healthcare, use of AI in community outreach

Table 6 lists the themes and subthemes created by the researcher, as well as the total frequencies per subthemes. The frequencies were calculated by adding the number of times a code was assigned to a quotation in the interview transcript.

Table 6

Researcher themes, subthemes, and total frequencies per subthemes

Researcher Themes and Subthemes	Total Frequencies per subthemes
Social determinants of health: Race/ethnicity	24
Social determinants of health: Preferred spoken language	50
Social determinants of health: Insurance status	57
Social determinants of health: Citizenship	9

Researcher Themes and Subthemes	Total Frequencies per subthemes
Social determinants of health: Sex and Gender identity	3
Social determinants of health: Health literacy	7
Social determinants of health: Access to services	49
Social determinants of health: Mental Health	24
Social determinants of health: Socioeconomic status	1
Epidemiology: Disease prevalence	39
Epidemiology: Adverse Childhood Events (ACEs)	8
Patient flow: Factors affecting optimal patient flow	116
Patient flow: Transfers and EMTALA	18
Patient flow: ED utilization	19
Physician-level factors: Implicit/Explicit bias	20
Physician-level factors: Training background	26
Physician-level factors: Physician definitions of health equity in the pediatric ED	22

Based on the findings in Table 6, Theme 3: Patient Flow, Subtheme 1: Factors affecting optimal patient flow, was the most frequently discussed topic among participants. While Theme 1: Social determinants of health subtheme “Socioeconomic status” had the lowest frequency, the researcher assumed that there was some crossover between other subthemes such as “Insurance status”, “access to services” and “ED utilization” as socioeconomic status was determined by most participants to impact each of these subthemes.

ATLAS.ti coding process

After completing the manual coding for an interview, the researcher ran the transcript through ATLAS.ti’s AI coding program which automatically generated codes. The researcher ran the AI coding program after the manual coding to minimize the chance of being influenced by the automated codes from ATLAS.ti. The researcher used two approaches to run the interview data through the ATLAS.ti AI system. In the first approach, the researcher ran the individual interview transcripts through the ATLAS.ti AI coding system. However, the themes that resulted were unique to each interview and largely unrelated to each other. The researcher then combined all the interview transcripts into one Word document, uploaded the document into ATLAS.ti AI coding system, and ran the coding process. This process resulted in a total of 1,240 codes and 10 themes. The researcher downloaded an Excel file from ATLAS.ti containing all the themes and subthemes. While ATLAS.ti permitted the researcher to download Excel files for the data, it only provided the names of the themes and subthemes. However, the file provided by ATLAS.ti did not list the frequencies of each theme. The researcher subsequently created an additional Excel workbook, dedicated separate sheets to each theme, added the total frequencies of each subtheme, and attributed these totals to the primary theme frequencies. In other words, the frequency of themes was determined by adding the individual subtheme frequencies together. For example, Theme 1: Barriers had 105 subthemes each with their own frequencies. The subtheme frequencies were added together, and the total was determined by the researcher to be the frequency of the Barrier theme. Table 7 demonstrates the themes developed by ATLAS.ti AI, the frequency of themes, and number of subthemes per theme. Theme 7: Healthcare was the most frequent theme, while Theme 9: Workload management, was the least frequent theme.

Theme 7: Human experience had subthemes that were primarily assigned to quotations evoking emotion. Some examples of these subthemes included “admiration”, “fear of judgement”, “mistrust”, “positive bias”, and “willpower”. While the researcher did not feel that these subthemes impacted the overall results of the study, it was interesting to observe how ATLAS.ti coded certain points of each interview. Theme 8: Patient care was another highly discussed topic according to ATLAS.ti, followed by the miscellaneous category described by Theme 4: Diverse topics. The researcher noticed that some of the codes included in this theme by ATLAS.ti could have been assigned to other themes. The codes “interpretation services”, “language barrier”, “multilingualism” could have been assigned to a theme about language, but instead were assigned to Theme 4: Diverse topics by ATLAS.ti AI.

Table 7

ALTAS.ti AI Themes, theme frequencies and number of subthemes per theme

Theme Name	Frequency of themes	Number of subthemes per theme
Theme 1: Barriers	189	98
Theme 2: Career development	99	61
Theme 3: Community health	167	61
Theme 4: Diverse topics	220	141
Theme 5: Diversity and equity	154	54
Theme 6: Healthcare	400	117
Theme 7: Human experience	152	89
Theme 8: Patient care	321	158
Theme 9: Workload management	57	40
Theme 10: Youth development	196	101

Table 8 demonstrates an abbreviated list of the subtheme frequencies for Theme 1: Barriers. A complete list of the subtheme frequencies developed by ATLAS.ti. AI is included in the Appendix.

Table 8

Sample of ATLAS.ti AI subthemes and frequencies

Subthemes	Frequencies
Barriers: Access barriers	8
Barriers: Access to resources	3
Barriers: Administrative burden	3
Barriers: Administrative challenges	2
Barriers: Availability of resources	1
Barriers: Barriers to access	1
Barriers: Challenges of research	1

Subthemes	**Frequencies**
Barriers: Challenges with translation	1
Barriers: Communication breakdown	1
Barriers: Communication gaps	1
Barriers: Concerns	1
Barriers: Concerns about accuracy	1
Barriers: Concerns about competence	1
Barriers: Concerns about confidentiality	1
Barriers: Concerns about priorities	1
Barriers: Concerns about regulations	1

There was some variance between the ranking of the researcher and the AI system on ATLAS.ti. The researcher created themes which represented the focus of each participant in their dialogue. The ATLAS.ti AI system analyzed every aspect of the interview and in some cases, the resultant themes did not make sense for the research. Many of the themes created by the ATLAS.ti AI were based on coded emotions and behavior (i.e. classifications such as “respectful” and “generosity”). For example, the most frequent code from ATLAS.ti AI coding was “Passion shift”. Upon reviewing the quotations assigned to this code, the researcher determined that “Passion shift” was applied by ATLAS.ti AI when a participant expressed changes in their career paths. The researcher was also interested in Theme 10: Youth Development created by ATLAS.ti AI as this theme included some codes that could have been better suited for other themes. Some standout codes in this theme were “cultural competence”, “socioeconomic factors”, “social determinants of health”, and “work environment”. Nevertheless, the ATLAS.ti AI served as a vital tool as it was meant to provide a second perspective to combat potential researcher bias. One reassuring aspect of the cross-check of themes with ATLAS.ti AI was that while the frequency rankings differed, both the researcher and AI listed equity, barriers in healthcare, insurance, and cultural references as common themes.

While the codes created by ATLAS.ti AI were structured differently than that of the researcher, the primary themes were similar.

Research question

As a reminder, the primary research question for the study was as follows: What government and organizational policy changes can be made to enhance health equity in the pediatric ED by utilizing first-hand information from pediatric ED physicians? The themes and subthemes created by both the researcher and ATLAS.ti AI addressed various contributing factors to the current state of health equity in the pediatric ED. The researcher synthesized the most important themes from their own codes and those created by ATLAS.ti. Major barriers to equitable healthcare identified in the themes and subthemes were the broad categorization of social determinants of health, insurance status, Medicaid reimbursement models and their impact on accessing subspecialty care, quality improvement mechanisms, and the current state of healthcare in the U.S. The proceeding section will elaborate on each of these.

Themes and subthemes

Themes and subthemes were selected and organized by the researcher based on the emphasis on topics expressed by participants. Based on the interview results, four common themes arose. Each theme had its own set of subthemes identified by the researcher. The following section will provide a synopsis of the resultant themes and subthemes with supporting quotations from the study participants.

Theme 1: Social determinants of health

Subtheme 1: Race and ethnicity

When asked about potential barriers to equitable healthcare in the pediatric ED, five participants listed race and ethnicity as a barrier. The researcher did not specifically ask the participants about race unless it was brought up by them. One participant did not believe that race was a barrier to equitable healthcare. The participants who cited race as a barrier to equitable healthcare noted disparities in morbidity and mortality among pediatric patients, the likelihood of prescribing pain medications for patients exhibiting severe pain symptoms, rates of diagnostic imaging, and perceived treatment from hospital staff. Participant 2 stated that providers were more likely to be empathetic towards patients with the same racial or ethnic identity as them:

> I think when you have [physicians] managing [patients] of different races, it naturally comes with a different level of empathy that I think a lot of people don't want to admit, but that is just true. Asians are going to feel particularly softer when they see Asian patients. Black doctors are going to feel particularly softer when they are managing Black kids, and it will just continue to be like that. I think everyone [should be] aware of how systems of oppression and racism continue to impact medicine and how we treat certain patients over others and being honest about that. A couple days ago a 15-year-old that came in was shot multiple times. He did lose a lot of blood and was already complaining that he was sleepy. Before giving certain medications, we must think about side effects. My attending wanted to hold off on giving him pain medication, but I [said] “He was shot 7 times. How would we? He needs something.” And my team said, “But he's already

> sleepy." I thought it was probably a response to escape the pain. [Giving] Morphine when someone's been shot 7 times is not going to [completely] take away the pain, but it will curb it. Eventually, after some coercion, my [attending] was said "Okay, yeah, let's give him some pain medication." But it really kind of bothered me that I had to do so much coercion to give any amount of pain medication to a child who was just shot.

Participants 2, 9 and 14 expressed that there were differences in pain management based on patient race and ethnicity. Participant 9 stated:

> There's growing literature and evidence to suggest that there are disparities in the way that we practice in the pediatric emergency department with respect to pain management and application of physical restraints and various dimensions of pediatric emergency care. There probably [are] some aspects of racism and discrimination occurring at the individual level that are ongoing.

Participant 5 cited an incident in which a family that had immigrated from a country in Africa filed a formal complaint against their facility, claiming that they had received discriminatory treatment when their child was getting diagnostic imaging. Participant 5 explained that on the facility's part, this had been a miscommunication with the family. The facility had a standard practice of prohibiting family members from entering the X-ray suite. However, Participant 5 claimed that the way in which this information had been relayed to the patient's family was perceived as racist:

> When we think about [whether] patient experiences [are] equitable in the ED, I think [that] is a bigger challenge. Maybe part of what we need to do is be clearer [that when] patients [are] getting a particular imaging study, families are not allowed in the X-ray

> suite, and that's a standard. But they perceived that we were not allowing them in because of their race and [that] they were immigrants.

Participant 8 recalled their facility’s ongoing dedication to understanding and addressing issues with health equity. Participant 8 suggested that while some discrepancies in equity could be due to racism or bias, in some cases these trends might be attributed to a lack of awareness of available resources:

> We know that another driver of a lot of these issues is just that some physicians, nurse practitioners and nurses will provide different care to different people. Sometimes that's because of overt racism. Sometimes it's because of implicit bias or prejudices that are held and not recognized. And sometimes it's simply because there are resources that folks don't know exist that they could be using to help their patients and just aren't.

Participant 13 was the only physician who expressed a contrary view to the previously mentioned five participants. When asked if there were any barriers when it came to patients receiving the care they need, Participant 13 stated:

> No, not at all. And that's why I wanted to participate in this interview, because I get very frustrated every time I read how the African American population is neglected. I think everyone gets very good care, and everyone gets the same care, and I have not noticed any discrepancies towards anyone. You always have the trouble with some of the wealthier suburban families that get more demanding. But I think everyone gets the same care. I think the only difference is that we have a large pediatric ED staff, and we all manage patients differently. So, there is provider variance, but not based on any social, economic, racial kind of fun facts that I could tell. I truly do believe that now we've had patients who start swearing that we were being racist for various reasons. I think all the staff have been

> hit up with that from time to time, when patients don't necessarily get what they want, or expectations aren't met. I do think some people pull out the race card. But I think it's also always unfair on their part. Because I don't think any decision is ever made due to a person's race. A lot of the perceived inequities that individuals feel may exist, in my opinion it is due to the patients' unrealistic expectations of the services provided in the ED.

The remaining nine participants did not mention race throughout their interviews and were therefore not probed for their thoughts on this parameter.

Subtheme 2: Preferred spoken language

Five participants cited experiences where they had difficulty with utilizing language interpreter services in their facilities. Overall, there appeared to be a decline in in-person language interpreter services and an increase in remote services via tablet and telephone. Several participants mentioned that the trend in reduced in-person interpreters had been exacerbated by cuts in funding for these services following COVID-19. Some participants stated that they did not have 24-hour access to language interpreter services, and this resulted in delays in the visit when patients requiring an interpreter presented to the ED and an interpreter was not available. Additionally, while certain patient populations were highly represented in the community, there were often insufficient numbers of qualified in-person or remote interpreters. Spanish interpreters were the most readily available resource for those whose primary language was not English. However, certain languages from African and Asian countries with specific dialects were limited or unavailable. This often led to physicians relying on using family members to assist with the interpretation process. In addition to issues with getting a qualified interpreter, there were also some challenges with securing a clear phone connection or stable Wi-Fi for the tablets being used for remote language interpretation. Participant 1 stated that the language interpretation process was potentially prolonging patient length of stay in the pediatric ED:

> Discharge instructions must be translated into Spanish before patients can go home. A lot of our residents don't speak Spanish, so they must wait a few more minutes for the interpreter to walk over and then go in the room. And you're repeating everything twice when you're speaking in English and Spanish. So, I think lengths of stay probably are greater for patients who require interpretation.

Participant 3 expressed concerns regarding the effectiveness of the language interpreter services available at their facility:

> You never really know if the information that you're receiving is exactly what the parent or child has told you. It can't be verified if you don't understand the language and it creates a different type of relationship than you have with a family in which they are comfortable using English as a language for that interaction.

The other form of language interpretation that was brought up by participants was American Sign Language (ASL) used to aid in communication with the deaf community. Participant 3 expressed that while there were some occasional delays in getting an ASL interpreter, there were never instances where this service could not be provided:

> The other group that sometimes gets delayed and sort of is a little bit of a different category are those patients who use American Sign Language. We have an American school for the deaf in our town, and a very active deaf community. When those patients come to the emergency department, they usually bring an interpreter, or can get an interpreter [to] come in, but that may not be immediate, so it's preferred to have somebody

> in person. That may create some delay. So that happens on occasion. But otherwise, I've never been in a situation where we couldn't get someone to interpret.

Overall, ASL was not cited as a major barrier for patients in the pediatric ED.

Subtheme 3: Insurance status

There was a consensus among participants that the pediatric populations they served were predominantly of Medicaid insurance status, specifically Children's Health Insurance Program (CHIP), which often proved to be a barrier to equitable healthcare. Furthermore, those participants working in states that had not expanded Medicaid expressed more challenges for patient access to primary care physicians and accessing certain prescription medications. Participants cited insurance as a barrier to care for several reasons. Insurance type served as a double-edged sword in that while it limited the facilities that a patient could be treated, it also dictated a physician's willingness to see a patient. This was primarily due to reimbursement systems in the U.S. favoring higher reimbursement rates for private insurance over Medicaid. Seven participants noted that subspecialists were less likely to accept patients with Medicaid due to low reimbursement rates, in some cases refusing to see Medicaid patients, which might have been classified as EMTALA violations if the patient was not medically stabilized prior to the consultation request. Participant 7 stated:

> If you have Medicaid, then it's harder to get an appointment with a specialist. I think the biggest barrier is insurance and that Medicaid is often not taken, or those patients end up being deprived. In [my state], 70% of kids are covered by Medicaid. So, we need to do better. We found some of the adult orthopedists in the past have been very willing to

> come in if it's a private insurance patient and not so willing to come in if it's a Medicaid patient with very similar injuries.

Participant 8 echoed these sentiments, stating:

> “There are nuances in the way that insurance is administered in different states, and it’s up to each state [to determine] the criteria that qualify children for things like CHIP and Children's Medicaid and [my state] is notoriously a state where there are a lot of children who do not qualify. I take care of many patients in the ER, and they have had disparate outcomes compared to their peers who live nearby them because they don't have insurance and because they have limitations in access to subspecialties.

While none of the physicians that were interviewed admitted to turning patients away based on their insurance type, they did note that some subspecialty physicians were more likely to do so. Most of the physicians that were interviewed cited the Emergency Medical Treatment and Labor Act (EMTALA) as the main reason why they could not turn patients away. However, it was unclear if similar legislation protecting patients from being turned away based on their ability to pay applied outside of the pediatric ED. Other challenges noted were scheduling delays with subspecialists due to high patient volume or facilities not being available in certain regions, resulting in families having to travel far for appointments. Participant 1 stated that while EMTALA was strictly enforced at their facility, a patient’s insurance company could call and request a transfer to another hospital. Furthermore, other facilities were hesitant to accept patients unless they confirmed that the insurance company would be paying them:

> When we transfer patients out, it's either because their insurance calls us and asks for them to be transferred to another hospital or if a patient is an adult and we don't have the services [they require] then we'll transfer them out. I ran into a situation like this last night.

> I had a 22-year-old patient with sickle cell disease who was there with pain crisis and had been transitioned out of pediatric care. The patient came to us, and then we couldn't admit her because the hematology team had already transitioned to an adult facility. We called the two places that she was technically [qualified for] and they both denied transfer. We had to call a third place and go through this entire acceptance process where initially she was accepted to the ED through their access center. But then the ED thought that it was more appropriate to admit her to the inpatient team. We had to call an inpatient doctor and make sure that they admitted her, and then get back in touch with the access center. She was in our ED for probably nine or 10 hours, just waiting, even though we knew that she needed admission, probably after the first two hours and it was all just because the insurance was talking to different places, and the hospitals wanted to make sure that if they accepted her that the insurance company would pay.

Participant 15 detailed a unique circumstance for the indigenous population in their state. This community had a special insurance set up by the government which required them to be seen at a rural clinic prior to being seen at the pediatric ED:

> We see within the native communities they must go to the native clinic or hospital first, and then be transferred to be covered and so sometimes that can lead to a delay in care if it’s not something that the other hospital or clinic has the capability to take care of.

When asked for clarification on why the native communities had to be seen at a native clinic, Participant 15 stated:

> It's insurance coverage. They have very great medical care or coverage through the State. I don't know if it's tribe-specific or not, but I know that when they end up coming to our

> ED, they must go through the native clinic ED setting first before they can come for it to get covered by the insurance.

Participants 3 and 6 stated that patient insurance status did not impact the clinical decision-making process during triage. Furthermore, participants noted that social workers in their facilities were typically able to assist patients with any immediate issues regarding insurance or payment.

Subtheme 4: Citizenship

Three participants discussed ways that a patient's citizenship might affect their experience in the pediatric ED. Participant 4 stated that some families might be afraid to use language interpreter services for fear of retaliation as they are non-citizens:

> Families who have a language barrier [and] don't have access to care [are] afraid that they're going to get kicked out of this country because they are not legally here. How do we affect them? How do we make our care better for them? How do we get an in-person interpreter to be able to talk to them, and affect those changes and have someone who's going to support them in getting [to] those visits?

Participant 9 expounded upon some of the limitations faced by patients who had recently migrated to the U.S.:

> I practice in a state where all children are eligible for Medicaid, even if they're undocumented. But the process to obtain that card takes several weeks at best and so often we have newly arrived patients who don't yet have a medical card in order to obtain prescriptions. We have to think about various workarounds, such as instead of giving oral medications for antibiotic treatment for strep throat or an ear infection, we might give a

> one-time intramuscular injection of antibiotics, which is really not the best practice, because those are often broader spectrum antibiotics. It's kind of against the principles of antibiotic stewardship in terms of giving the antibiotic that's the least [potency] necessary to treat the condition. And then there are other times where we have to work with our social work team to get them a free supply of medications. But there are many barriers to that process as well. It's not straightforward, because our outpatient pharmacy isn't open 24/7. And so sometimes patients are expected to return to the hospital the next business day, but they don't have transportation. And again, all these barriers either lead us to be more likely to admit patients or when they are discharged, there are so many barriers to their care that they seem to be more likely to return to the emergency department again within the next week.

Participant 10 also expressed challenges with recent legislation passed in their state regarding immigration:

> I think one of the other barriers facing children coming to our ED right now is sort of the general political state of [my state]. [My state] passed a law recently requiring hospitals to ask about immigration status when you check in. You don't have to respond, but I don't know [if] people know that.

Subtheme 5: Patient sex and gender identity

Three participants cited patient sex or gender identity as a barrier to receiving equitable healthcare. Overall, neither patient sex nor gender identity were not brought up by the other 12 participants as an area of concern for their facility. Participant 7 discussed challenges faced by transgender youth in their facility:

> We're seeing more pediatric mental health chief complaints and a lot of gender identity patients as well. Unfortunately, our state is not one that has been very friendly to the trans population. And so that's something we're having to address in the ER. It's not the best place for those patients to have to come to get care. Many of them come in with depression and suicidal ideations and for various reasons, some for bullying. It's overwhelming these thoughts that they have. [They are] trying to adjust to "I felt this way for however long, and now, I can do something about it, or should I do something about it", or that kind of thing. [For] a lot of them, it's [the] stress of dealing with their families. Some kids have very supportive families, which is wonderful. But that's not the norm and [for] so many of these kids, it's just that weight of "My family doesn't accept who I am". They feel quite lost and hurt.

Participant 10 stated:

> There [are] legislative restrictions on transgender care. It's not a huge thing in the emergency department, but it's still, I think, a big barrier for people who are thinking about how they access the health system and what they get out of the health system.

Participant 8 detailed ongoing projects in their facility to help optimize their EMR to help this patient population:

> We're working with our EMR to figure out if we can also do some tracking for patients who are in a gender minority. Patients who either have a transgender identity or patients who identify as anything besides heterosexual as an adolescent or things like that. Because we know that there are also some increased rates of certain diseases and certain sort of burdens on those kids and teens.

One participant discussed the role that patient sex played in disparate testing of HIV in their pediatric population. Patient sex was not brought up by any of the other participants in their interviews as a determinant of access to equitable healthcare. Participant 14 said the following regarding patient sex:

> Two-thirds of the patients that are getting tested that are girls, but [most of] the positive HIV tests come from the boys. We need to first test more boys. [Secondly], why are we biasing against testing the boys? Why are we favoring testing the girls? I think that we're just starting to get the data now [and] ask these questions. Once you have those questions answered, then you'll start to be able to make some changes on equity.

None of the remaining 14 participants cited patient sex or gender identity to be a barrier to equitable healthcare.

Subtheme 6: Health literacy

The concept of health literacy in the pediatric ED was elaborated upon by three participants. Participant 3 stated that poor health literacy could be mistaken for patient noncompliance, especially when evaluating whether discharge instructions were effectively communicated to patients or their families:

> I think that it takes a while for trainees to recognize the sort of fallacy of this term that we use sometimes called noncompliance. That a patient or a family is noncompliant with the recommendations that maybe are given by their primary care physician, or another facility, or us with the assumption that it's a choice that the family is making not to follow the instructions. And sometimes we [could] do a better job at anticipating and exploring what may be barriers to patients and families being able to understand what the diagnosis

> is, follow the instructions, receive next steps [of] care, things like that. But unfortunately, there is a belief that as medical providers, we give instructions and anything that results in a patient not being able to follow those instructions is the patient's fault.

Participant 9 further discussed health literacy within the context of ED utilization patterns:

> I think, aside from just the language, there's also a health literacy component as well for some of the patients we see. There's not a direct correlation. It’s not one to one in terms of preferred language and lower health literacy. But we do see some patients who may not be able to access their primary care as easily and therefore come to the emergency department for more minor illnesses or injuries that might have been better treated in other settings. For example, a simple fever. I think some parents are also dealing with [the fact that] they can't really take time off from work during the day when their primary care office is open. Factors like that lead them to come to the emergency department as well, in addition to health literacy. But I think having the combination of the two, a language preferred other than English and low health literacy, it's harder for those families to be able to access the information they need to make the right decision, whether it's difficulties in speaking to the triage nurse at their primary care office because they don't speak the same language or other factors.

Participant 12 reflected on the impact of struggling school systems on the health literacy level of patients who were old enough to read and advocate for themselves:

> That's a whole other issue about the average reading level when we do patient education and [as] a hospital, you must write on the second [or] third grade reading level. That's how low the bar is. I can't tell you how many teenagers I see born in the United States that cannot speak good English, much less read English [proficiently].

Subtheme 7: Access to services

Many participants cited lack of access to transportation as a barrier to healthcare for patients and their families. Most participants worked at pediatric EDs that were in urban settings attached to academic centers. Furthermore, the pediatric EDs in question were often the only specialized facility for miles. Therefore, patients who lived in rural settings still relied on the services provided by the pediatric EDs located in major cities. When it came to transportation, there were several parameters highlighted by participants. First, a family might have access to one vehicle that was shared by two parents in the household. Thus, if one parent took the vehicle to get to their job, the other parent was unable to transport the child to the ED. Second, a family might not have a vehicle, so they primarily utilized public transportation. But some cities had more reliable forms of public transportations than others in terms of the time it took to get to one's destination. Participant 11 discussed federal initiatives to assist families with transportation barriers:

> Right now, the government is taking the expenses of the refugee program or the immigrant program, because the shelters themselves are kind of covering the Uber costs for them. The hospital does have a fund, and we started using that initially. I think it just wasn't sustainable. And now they've gotten a bit more [of a] structured transportation fund.

Participant 11 also brought up a unique perspective to accessibility of the ED regarding children with medical complexity and physical disabilities:

> I think there are some logistical challenges to every single facility accommodating for all kinds of disability. There has been an outcry from certain doctors and other providers to [default to referring] these patients to specialists that [are knowledgeable] about their disability which is not [always required]. A patient with cerebral palsy, for example, can

> have colds and things like that. We know that they are more vulnerable to other complications. But I think that there is a slight sense of complacency from other physicians to [say] it's not kind of my area of expertise, so I shouldn't see them. I think the more society stops seeing disability as a disease in and of itself, we can create systems that work better for them.

Subtheme 8: Mental health

Mental health was another commonly cited barrier to equitable healthcare listed by participants. 11 participants agreed that while mental health is not a new phenomenon in the pediatric ED, it has been on the rise in recent years. Some participants noted that the change in frequency of mental health crises was preceded by the COVID-19 pandemic and the isolating conditions for children staying home from school away from their peers. Participant 15 suggested that a lack of qualified mental health counselors in schools might have also contributed to current trends in mental health crises. Additionally, since mental health services typically fall in the realm of subspecialty care, patients with certain insurance types were often limited in terms of access to mental health providers. Participant 9 discussed regional disparities in mental health chief complaints in the pediatric ED:

> My research so far has used large existing databases of emergency visits. And I've done some work looking at both trends over time and disparities in presentations focusing on geographic level disparities. We found that emergency department visits by children for mental health conditions are increasing over time over the last decade. And one study found that there were differences in presentations in rural versus urban areas of the country. There were more ED visits by youth for self-harm injuries in rural areas,

> particularly for self-inflicted firearm injuries. I have also done some follow up work to see that youth living in areas of the country with greater shortages of mental health professionals are at higher risk for suicide in those counties that have greater shortages. I've also done quality improvement work within the emergency department setting. We've developed care pathways for management of acute agitation among children with behavioral health needs as well as for suicide prevention.

Theme 2: Epidemiology

Subtheme 1: Disease prevalence

Participants noted trends in disease prevalence observed in the pediatric ED. Each participant highlighted the temporal nature of disease presentations such as respiratory ailments during fall months. Some of the most common conditions seen in the pediatric ED were traumas, acute exacerbation of chronic illness, fevers, and mental health emergencies. The chief complaints also ranged in acuity level and were often influenced by ED utilization patterns. This ultimately affected patient flow in the ED, as elaborated upon in Theme 4: Patient Flow. Participant 2 spoke specifically about trends they had seen in exacerbations, and indicated that morbidity and mortality of this illness was due to patient race:

> Asthma is very “bread and butter”, as we call it, in pediatrics. Of all the pathologies, it’s something nationwide that every pediatrician knows how to manage well. But when we look at outcomes of death due to asthma mortality or ICU visits or ICU admissions for complicated asthma diagnoses, African American males are most at risk to die from asthma. However, asthma is a very treatable disease process. It's very manageable both in the home and outside of the home.

Participants noted that shifts in epidemiology were also observed during the COVID-19 pandemic. Participant 15 stated that societal changes during the pandemic had a negative impact on the mental health of the pediatric population: “A lot of things changed. I think being isolated, being thrown back in [to school], then going back and forth and dealing with all the other stresses of life that came with COVID [was] significantly traumatic on children.”

Participant 7 mentioned that patients who identified as transgender were more likely to experience mental health crises due to lack of support from their state. Participant 8 also echoed sentiments to this effect: “We know that there are also some increased rates of certain diseases and certain burdens for patients who are either have a transgender identity or patients who identify as anything besides heterosexual as an adolescent.” Participants also agreed that adequate continuity of care beyond the pediatric ED impacted patient outcomes. Limited or no access to a regular primary care physician (PCP), disparate access to health resources such as subspecialty consultations, suboptimal pediatric readiness in general ED settings, or poor prioritization of equitable healthcare delivery were noted as perpetuating factors of disease prevalence.

Subtheme 2: Adverse Childhood Experiences (ACEs)

Participant 4 specifically mentioned a concept known in the pediatric world as Adverse Childhood Experiences (ACEs) which were repeated, stressful situations children encountered that negatively impacted their future health outcomes. Participant 4 mentioned that during their residency training, their program specifically screened for ACEs:

> When I was a resident, we would do gaps evaluations for kids in schools which was really eye opening and very telling, especially when [there was a push] for

> [identifying] ACEs. It's always been there, kind of like autism. We're just recognizing it. It's always been lurking. But when the push came around to really start identifying those kids who had adverse childhood events, there were multiple positives on that. I think it brought more awareness to [the fact that] we really need to continue our outreach projects and really help support and advocate for these kids that are having these experiences and the difficulties in accessing care.

The researcher expounded on this subtheme by including other adverse events mentioned by participants that could hinder a child's well-being, such as witnessing or being a victim of gun violence, abuse, familial dysfunction, or housing insecurity. Participant 6 suggested that health equity in the pediatric ED was largely impacted by societal factors beyond the control of physicians or hospital administrators: "There [are] many other issues that are happening. If a child doesn't have food at night, how do you affect health equity in that?". Participant 8 discussed the impact that legislation on firearms has on the propensity towards firearm injuries in the pediatric population:

> I took care of a teenage boy last week who was shot multiple times by a firearm, and I think just the availability of firearms and the number of firearm related injuries that we see in [my state] are clearly correlated. There are studies that show that in states where there is more legislative control around the possession of firearms, there are lower numbers of fatalities and shootings.

Participant 8 also discussed some ongoing projects being carried out by their organization to raise physician awareness on how they can affect legislative change regarding gun control:

> Another example is firearm, violence, and firearm safety. When there was a recent piece of legislation that had been brought up as pediatric emergency medicine physicians, there

> was something that we thought was really going to be detrimental for children's health, because we take care of so many kids who have been the victims of firearm violence. And so we sent out sort of a [memo] kind of like, “Hey everybody in our division. This is what's going on. This is how you can contact your elected representatives and please make sure to do so from your private email”. Because we can't ever send things out from our work email from a legislative advocacy standpoint.

Participant 4 recounted a project they did in their fellowship program regarding gun violence that further explored the trends of firearm injuries they were seeing in the pediatric ED:

> When I was a fellow, my fellowship project was on gun violence in [my city]. It’s very unfortunate how easy it was to do that project because of how much penetrating trauma we saw there. But part of my project was not only the statistics piece, but then, if we broke down injury type by area, we could predict what kind of ballistic injury [and] the circumstances surrounding ballistic injuries based on zip code. There were hunting accidents, there was a lot of recidivism, and all kind of things that played into that. But then the next piece was if we identified those kind of conflict issues in your area, how can we develop a program to start talking about conflict resolution in those areas to discuss further utilization, gun locks and all those [related issues]?

Participants 2 and 9 also endorsed having a high rate of firearm injuries present to their pediatric ED. Of note, both participants reflected on their experiences in predominantly urban and metropolitan locations. Participant 9 linked the increasing trend in firearm injuries, particularly those categorized as self-inflicted, to mental health crises.

Theme 3: Physician-level factors in health equity

Subtheme 1: Implicit and explicit bias

As demonstrated in Theme 1: Social Determinants of Health, several participants spoke at length about implicit and explicit biases towards patients. These included disparate experiences and/or access to care for patients based on their race/ethnicity, patient sex, gender identity, sexual orientation, insurance type, preferred spoken language, citizenship, and health literacy. Some of the biases were exhibited by individual physicians in the pediatric ED or the physician seeing the patient from the subspecialist referral. Other forms of biases were determined by participants to be innate to the structure of the U.S. healthcare system. Participant 10 reflected on potential implicit biases that they may have had when interacting with patients and their families. Participant 10 also discussed the role that privilege might play in prefacing implicit biases in healthcare:

> I think one thing [about] implicit biases [is] they're so latent that I think it's hard to identify them and think about them. It's something I hope I am thinking about when I'm taking care of kids. Am I making my decisions differently because of your race and ethnicity, because of the parents age, because of the assumptions I'm making about the parents' education level? Am I making those assumptions about the parents' education level because of something like their race and ethnicity, or their language? I think about those things a lot as a guilt-stricken, liberal white woman. I probably overcompensate, and then I overthink it and overdo it. I don't know [if] that corrects for any biased actions that I may not even recognize that I'm doing. It is, I think, a little easier sometimes to notice them in other people.

Another scenario brought up by Participant 10 was the disparate response to parents or guardians who were grieving a child’s death based on their race or ethnicity. According to Participant 10, they had witnessed members of their team being more likely to blame parents of racial and ethnic minority groups for traumatic injuries. Finally, Participant 10 discussed the role of tools such as the Implicit Association Tool in educating physicians and other healthcare providers on implicit bias:

> One of the things I have found really striking is how our healthcare team responds sometimes when there's a child's death and what the attitudes towards the family are after the child's death. I think there's probably a lot of racial bias and discrimination that goes into how our team responds to a family who's grieving. I think there's some [degree to which] we, as the medical team, decide if we trust the parent. Was the parent implicated in it at all? Were the parents responsible to some degree? And I think there's probably a lot of racial bias in how our team makes those assumptions. There are certainly tools like the Implicit Association Test, and I think that those can be useful for educating people and increasing their awareness overall. I think what is difficult about those tools is the emergency department doesn't leave a lot of room for taking a moment to take a breath.

Another feature of bias was raised by Participants 5, 8, and 14. Participants 5 and 14 cited an example of how the healthcare system could be biased toward individuals with a medical background. Participant 5 admitted that given their race and the fact that they worked at the hospital as a physician, they felt that bias was in favor of their demands for more optimal care for their daughter:

> At the end of the day, I've been sort of persnickety about some things around my daughter's care. But I have privilege that lets me do that. And I have talked to some of my

> physician colleagues who aren't white, and they do think a lot more carefully about how they present themselves both in terms of their appearance and their actions. So that's a barrier for some people.

Participant 14 discussed a time when they were able to better advocate for their father's healthcare given their medical background in a way that patients without this knowledge might not be able to do:

> I remember when my dad had a stroke and I met with the doctor when he came in to do his rounds. He was not mean, but he just wasn't as engaged. And then when he walked out, I walked out, and I asked him, "So why didn't he get TPA?"[tissue plasminogen activator, used for breaking up clots in blood vessels]. And he looked at me and you could see going off his in his brain, he was like, "Hold on. This guy knows medicine." And he says, "Are you in medicine?" I'm like, "Yeah, I'm an ED doctor." And you could see the face of terror, because by the book he should have probably gotten TPA. I look at that as a blessing because a day later he had a slight bleed, and it could have been much worse if he had been given the TPA. So, it's good that he didn't get it. But by the book he should have gotten it. I always feel like I see a difference when people know I'm a physician versus not. And so, I'm in a privileged position where I can always pull out that trump card whereas I know my patients can't.

Participant 8 discussed how their facility had a very important person (VIP) system of prioritizing patients. For example, those who had made financial contributions to the hospital or knew someone from administration or the front desk were explicitly prioritized over the other patients without those connections:

> There used to be a system called the Friends and Family System that used to function in our EDs. I've been told that it's not supposed to impact the emergency department anymore. If someone checks in and [they] know the people who work at the front desk of the ED, that’s one of those things that can also impact their care. There are many private hospitals that will allow you to pay to be a VIP to wait less time. It's a tricky equity question, right? Because on the one hand, you will say, well, maybe [they made] a charitable donation to be able to be a VIP. Maybe that's allowing the hospital the money that it needs to then provide care to these patients who can't afford it. But at the same time, in the moment they may be jumping the line of a patient who's just as acute, or maybe even a little bit more acute than they are. It raises really, really challenging ethical and equity questions.

As stated in Theme 1 Subtheme 1: Race/ethnicity, Participant 13 did not agree with the notion that any bias existed in their pediatric ED or anywhere else. Rather, this participant attributed any perceived bias by patients to a mismatch in patient expectations of the care they would receive in the ED and what the physician’s ultimate clinical judgement ruled appropriate for that situation.

Subtheme 2: Training background (i.e., PEM trained versus general and results)

Across the board, participants agreed that the training background of a physician in the pediatric ED had a significant impact on their clinical decision-making process. Furthermore, some physicians went as far as to say that those who had not completed a fellowship in Pediatric Emergency Medicine (PEM) were more likely to have poor outcomes than those who had completed the fellowship. In terms of the physicians that were interviewed, two were currently in a PEM fellowship, 12 were established Pediatric Emergency Physicians who had already completed their fellowship programs, and one physician was a General Pediatrician who had not completed a PEM fellowship. However, that participant had been working in the Pediatric ED for several years and had gained experience in that respect. Furthermore, Participant 11 stated that if any case exceeded their training expertise, they referred the patient to a physician with PEM training or the appropriate subspecialist to ensure optimal patient outcomes. Participant 3 was one of the physicians that believed that while a physician's training background might influence their clinical decision-making in the pediatric ED, it might not necessarily affect patient outcomes in a negative way:

> We have an emergency department with trainees from several different specialties. We do have a couple of emergency medicine physicians who did PEM fellowships. And you can see a difference in their priorities and approach to the care of children in a pediatric emergency department. I don't look at one as being better than the other. But it's just different priorities. I find emergency medicine residents are usually very focused on disposition. Where is the patient going? Is the patient going to be admitted? What do I have to do so that the admission process is as quick and efficient as possible? Pediatricians, especially pediatric residents who are undifferentiated as far as subspecialty, are usually more focused on the patient's diagnosis, and then how that diagnosis will drive their care in the emergency department, and what comes next rather than. like I said, being disposition focused. I do think how someone is trained can influence the way in which they attempt to address competing interests. But I don't see a significant difference in real true outcome. And that's probably because it gets normalized by all the attendings who sort of have a somewhat similar approach and have been doing it for several years and have gone through a pediatric emergency medicine fellowship.

Participants 2, 7, and 12 believed that physicians who had trained in a PEM fellowship had better patient outcomes than those who had not completed a PEM fellowship because they had more exposure to and experience with the pediatric population during their training. Participant 2 stated:

> ACGME, which is the American College of Graduate Medical Education, mandates that adult EM [Emergency Medicine] providers spend a certain number of hours in a pediatric emergency room. But over the span of three years that may only be about three months' worth. You get three months of training on how to treat a child, and then you're just out in the world, versus three years [in a Pediatric Emergency Medicine Fellowship program]. So [adult-trained EM providers] have 36 months of training overall, and 33 of your months are dedicated to adult medicine, and three of your months are dedicated to pediatrics. The proof is in the pudding of why they don't feel as comfortable for the most part managing extremely sick pediatric patients. That's why we end up getting so many transfers. But if you're somewhere where you cannot transfer a child to a pediatric hospital, I'm curious to see what the outcomes look like.

Participant 7 highlighted the differences in emphasis of pediatrics in training for PEM fellowships and general emergency medicine residencies:

> In some of these critical access hospitals, you have internal medicine physicians that are working in the emergency department. Well, that's fine for adult patients. But those physicians don't ever get pediatric training. Same with surgeons. Some surgeons are working as emergency physicians. They don't get trained in pediatrics. During their residency, they might do a few months of pediatric surgery. But that's it. With healthcare going to these large corporate groups that just need a body to staff a department so they

> can generate revenue, there's little thought to pediatric readiness. And there was just that article in the Wall Street Journal about children dying in community emergency departments because of inappropriate pediatric readiness.

Participant 12 referred to a recent publication regarding differing patient outcomes based on one's training background:

> The Wall Street Journal published an article that made national headlines about the differences in morbidity and mortality when going to a non-pediatric facility. Anecdotally, I very much have seen similar results and outcomes and [I'm] very passionate, albeit biased, because I'm a Pediatric medicine fellow, that people should seek pediatric care in pediatric facilities if they have the luxury of [doing so].

Participant 13 believed that even if a physician had completed a PEM fellowship, the type of program they attended, or the location of their program might have some bearing on patient outcomes:

> I think some of the doctors who end up practicing in [urban settings] have limited options for where they can practice due to inexperience. [They] tend to be maybe younger staff, not as well-trained, from lesser programs, maybe foreign programs. And if they're less trained staff, they may provide less adequate care and you get that trickle down. Well, then, the patients are getting less care than elsewhere.

Participant 15 stated that when other facilities lacked pediatric readiness, it resulted in excessive measures that resulted in preventable expenses:

> Regular community ED doctors, etc., family medicine, wherever they may be in the community, they may not be as comfortable with children, and so I think that there is a lot more sending [children] by ambulance, or sending them to a high level of care,

> sometimes sending them via helicopter, whatever it may be, when it’s not necessary. That ends up incurring more costs and more stress on the family because those community providers are just not as comfortable with caring for children in general.

Subtheme 3: Physician definitions of health equity in the pediatric ED

Every participant was asked to provide a definition of what health equity meant to them. Overall, most participants agreed that health equity was achieved when patients had fair access to the healthcare services they required, regardless of their socioeconomic or demographic background. Participant 1 referred to the atmosphere of the pediatric ED itself: “It’s creating an environment that’s accessible to all patients and that attempts to, or that effectively addresses, our patient’s needs, no matter where they come from.” Participant 2 focused on resource allocation:

> Equity [is] leveling the playing field and providing the same high-end resources that are provided in more white spaces, parts of the city where white populations primarily exist. Typically, those types of areas have more restaurants, better hospitals, better clinics, more gyms, diversity of activities and things like that, just providing those same provisions and neighborhoods that we know are predominantly black and brown.

Participant 3 provided a generalized description while considering structural barriers: “I would define it by a child's ability to receive appropriate care for their perceived health concern, regardless of location, socioeconomic background, language, skin color, or any of the things that as a society we use to divide people.” Participant 4 believed that it was the community’s responsibility to ensure equitable access to healthcare: “It's [whether] we as a community are allowing for access to care on an equal level to everyone who wants to access it. And I don't think that that's in place right now.” Participant 5 echoed Participant 3’s sentiments: “It's that everybody has the same opportunity to access what they need. Everybody should have the same opportunity. [Healthcare] should be just as accessible for one person as the next person."

Participant 6 reflected on other parameters such as food insecurity and low socioeconomic status:

> It really depends on what social determinants of health are affecting that population. I think too often we do health equality because we want everyone to have the same thing. But it doesn't really help with the equitable amount of care. I think equity would come with funding and money, and we just don't have a lot of that. But there's many other issues that are happening like a child doesn't have food at night. Those are all things that are going to affect equity, that are going to be difficult to affect in the hospital setting.

Participant 7 highlighted the importance of providing quality care to promote equity: "The quality of pediatric care should not be defined by the zip code these kids live in, or the insurance that covers them. I think that all kids should have access to appropriate and well-trained pediatric care, regardless of their insurance status or where they live."

Participant 8 noted that patients should be able to access equitable, quality care in a timely fashion:

> Pediatric health equity in the pediatric emergency center is the idea that all children, regardless of their racial and ethnic background, the language they speak, the financial resources they have, or the geographic location they come from, or their gender identity, their sexuality, regardless of all of those sort of socio demographic characterizing factors, that they would all be able to access high quality, care and receive the right care at the right time.

Participant 9 focused on measuring health equity by examining patient outcomes:

> I think that health equity means that access to care and patient outcomes are similar, regardless of patient characteristics. and those include preferred language, race and ethnicity, insurance status, the neighborhood where the child lives. And I think there's a distinction between equitable care and receiving the same care. With equity, some patients may need more resources than others to achieve the same health outcomes. I think that's a key principle of equity.

Participant 10 highlighted the importance of considering the patient-physician interaction when examining health equity:

> Health equity is this broad topic that can encompass so many things. There are so many different levels. There's community level, society levels. There are individual levels. I'm really interested in what's going on in the patient-physician interaction that contributes to inequities or how can we use that interaction to contribute to equity. Health equity in the pediatric emergency department is the ability for all children who seek emergency care to receive thoughtful, evidence-based, best practice. clinical care that's delivered in a patient-centered manner with all their caregivers’ concerns and needs assessed and addressed.

Participant 11 emphasized the importance of individualized patient care:

> Pediatric equity would be where all children, regardless of their country of origin, the color of their skin, or the background that they're coming from, are receiving the best quality of care. That those who come from populations that have been chronically marginalized that we are able to identify and offer a preferential option to kind of tackle social determinants of health or other barriers of access. So, it is not just about providing all patients the same care but recognizing that some patients coming from chronically

> marginalized populations, may need to receive some additional types of care based on their circumstances.

Participant 12 pointed out that existing biases are detrimental to providing equitable healthcare: “Whether it's cultural, whether it's financial, whether it's race or gender, the data clearly shows that there [are] subconscious biases. This [leads] to differences in equity regarding gender and race.” Participant 13’s definition was more congruent with a definition of equality rather than equity as defined by the researcher: “Everyone gets treated the same. Every patient's complaint gets treated to the extent that it needs to be treated.” Participant 14 discussed equity across facilities in a hospital network: “As a general principle, we try to make sure that every child receives the same care regardless of their background or their current situation for whichever campus they come to us because we have multiple campuses.” Finally, Participant 15 believed that health equity not only applied to the patient, but their family or caregivers as well: “Health equity to me is just every patient getting exactly what they need to be healthy and safe. Not just for them, but for their family too. Having all the available resources, evaluation, explanation, medication, all of it.”

Subtheme 4: Solutions offered by physicians to resolve ongoing equity issues

When asked what government and policy changes should be implemented to improve health equity in the pediatric ED, many physicians who were interviewed admitted that they were not well-versed on specific policies that addressed pediatric health equity or what actions needed to be taken by hospital administrators. However, there was a resounding call to action for reform in the context of Medicaid reimbursement, enforcing regular screening of social determinants of health in the pediatric ED, standardizing pediatric readiness in both pediatric and general EDs, and increasing support from hospital administrators in prioritizing the optimization of equitable delivery of care. Participant 11 expressed the fact that their facility did not see health equity as a priority:

> I think the biggest problem is that it's not being seen as a priority, because there are so many other really pressing problems. There's understaffing and there's COVID, and there's overall growing discontent from the staff at different emergency departments, etc. The issues of equity keep being pushed down the do list. I understand it from an administration standpoint. But it is quite concerning.

Two physicians had leadership positions in their facilities that gave them more insight on how to create actionable change. Participant 8 oversaw equity initiatives at their facility. Participant 14 was a project leader for quality improvement models at their facility. Participant 8 discussed the Pediatric Emergency Care Applied Research Network (PECARN), a network of health professionals at facilities that provide pediatric care, and the objectives they were working on:

> They [are] facilities that provide pediatric emergency care. Some of them are freestanding children's hospitals. Some of them are children's hospitals that are affiliated, or sort of within a broader hospital but we do some research work with those groups. We know that one of the ways to get funding for equity initiatives and to make cases to folks that are in charge in administration is to [present] data.

Participant 14 mentioned projects they were working on regarding providing equitable access to flu shots and HIV testing. Participant 14 also discussed a hair equity project in which the hospital was providing hair care products for children who would be staying in the hospital for longer periods of time to support their dignity as patients. Another area of expertise which Participant 14 was able to share was regarding funding for these projects. According to Participant 14, the equity initiatives launched at their facility were primarily influenced by the social justice movement that garnered popularity in 2020, particularly with the death of George Floyd:

> We have a scorecard that all the major areas create. For the emergency department, our leadership team meets every other month across our three EDs, and we go over our scorecard results. Our quality team looks at how well we are meeting quality metrics, and that will be reported annually to start. I think this is the first year they're really going to report it. Hopefully we'll be able to get some IT support [so] we can report on these figures more regularly. The projects are funded differently. Ultimately it will end up being [added] to the hospitals operational cost. But for this HIV project, we got industry funding from a company that does a lot of anti-viral medications for HIV. They have a vested interest in it, [which] gives us some money to start the project, hire staff, and prove that it's a worthwhile investment of energy. With the Hair Care Equity project that is solely within the hospital that our equity and inclusion department is championing this year. We've got some that are privately funded, some that are federally funded, whether it's through a grant, and then some that must be hospital funded.

Other participants mentioned projects geared towards addressing social determinants of health such as providing resources for families with food insecurity, transportation needs, and community health clinics. Participant 15 suggested that schools and parents be educated on how to handle certain emergency situations to minimize morbidity and mortality prior to arriving in the ED. Participant 15 shared a project their facility was working on which would provide on-site showers for patients awaiting mental health evaluations. Participant 15 also mentioned that it might be difficult for hospital administrators to understand seasonal changes in patient flow since they are not typically on the frontlines:

> When you're trying to address flow and what's best going to work and where to put people the approach changes throughout the year, [it] is weird for the administrators at the hospital that aren't necessarily used to it. They would like to be just one thing all the time, but it doesn't always work that way. I think there are several things that can be improved for patient flow, and it's something that I think every hospital is constantly working on.

It appeared that those physicians who had already enacted quality improvement projects were in tandem with their hospital administrators. However, Participant 7 discussed an instance where they were terminated by new administrators at their facility after voicing their opinions on suggestions for change:

> I was a very outspoken leader. I'm always going to advocate for my team, my patients, and their safety. We had kind of new administration come in, and of course, non-clinical [healthcare] administrators always think that they can do things better than the clinical side, and that they know more. I was abruptly terminated without cause. In almost every physician’s contract, there is a termination without cause clause especially if you're in an at-will state they can do this. It had a very big trickle-down effect because several of my staff left after that happened to me. And now, they're really struggling to find staff who will work in that department. Now the physicians are having do 12-hour shifts because there's not enough coverage, and it affects patient care. I'm very tired of the way healthcare is going and it used to be a very noble profession, and it still could be. It can be. But physicians just feel [like their] hands are bound, and they're gagged. They can't speak out about things without fear of retaliation or termination. We need to be able to

> speak out to advocate for our kids, especially with what you're doing [research study] is super important.

Theme 4: Patient flow

Subtheme 1: Factors affecting optimal patient flow

Most participants agreed that wait times in the pediatric ED were universally prolonged. Some of the factors noted to contribute to prolonged wait time were seasonal fluctuations in patient volume, staffing shortages, and low bed capacity. Summer and Winter were noted to be the seasons with the highest patient volume. Patient volumes were particularly increased during periods of high incidence of respiratory illnesses, including what participants referred to as the "triple-demic" of COVID-19, Influenza, and Respiratory Syncytial Virus (RSV). Participant 15 mentioned how initial cases of Multisystem Inflammatory Syndrome in Children (MIS-C) were mistaken for Kawasaki disease at their facility the beginning of the COVID-19 pandemic. Participants agreed that having an efficient triage scoring system such as the Emergency Severity Index (ESI) helped optimize patient flow. All participants endorsed using some form of a triage scoring system in their facility, with 14 specifically citing use of ESI system of 1 to 5 and one participant using a utilization-based triage system. The ESI system was characterized by having the most severe cases were ranked 1 and the least severe cases were ranked 5. Another strategy that facilities utilized to tackle prolonged wait times was by having an adjunct space for low-acuity cases. This helped to minimize the number of patients that would have otherwise left without being treated due to the amount of time they had to wait compared to higher-acuity cases. Patients requiring language interpretation also had longer wait times if an interpreter was not readily available in person or remotely. Participant 1 stated:

> 2021 to 2022, that was the worst crowding that we had. I think what was contributing was that patients had been out of school for two years during the pandemic and hospitals had started reducing staff. And then suddenly, kids started going back to school. They started coming back to the ED in droves, and we were just really understaffed. It had a lot to do with not having sufficient nurses available. [My hospital] has done a lot of work on improving compensation and retaining nurses that were travelers before but pay for nurses went up like crazy right after the pandemic.

Participant 6 discussed how staffing shortages outside of the pediatric ED affected patient flow:

> The thing is in emergency medicine, since it's a piece of a larger puzzle, if the nurses on the floor are short, that means I can't get patients that are admitted up quick enough. They hold up my bed so that we have a longer wait time, or we have a lot of psych patients, and there's not enough psych beds we're holding at any given time, then that will shorten the number of beds I have, and as a result we have longer wait times. It's not only shortages in the ED; it's shortages in other places that affect us, too. We've had shortages of physicians. We've had greater needs. They demand more of us these days. I mean, just putting in electronic medical records, which is a great thing, it reduced our productivity by about 40%. You need more staff to cover for that 40%, but you're not generating that much more revenue. We used to have guidelines where you had to have five years of experience to work in our ER. Now you can come right out of school because we're so short-staffed. We'll take pretty much anybody, and that then makes it so we don't have experienced nurses [that can] make decisions or help as readily. The shortages have hit the ER hard.

Participant 8 discussed the concept of leaving without being seen and their facility’s protocol for this:

> We also have a system whereby we call patients and families who leave without being seen. We know we have long wait times. And we want to make sure that patients and families who are critically ill get seen even if we didn't see them. If there are patients who leave without being seen, we have a system where they try to follow up with them.

Participant 9 discussed patient volume and bed capacity as barriers to patient flow:

> We have high volumes. We have high acuity, and we also have long wait times, and overcrowded waiting rooms. Particularly for the last few years we've had significant surges of viruses that have led there to be periods during the Winter when our hospital is full and that's when there are no beds available upstairs. Then we have some patients who must remain in the emergency department for hours to days, which is called boarding, and then because those rooms are filled with patients waiting for beds, that leads to longer wait times in the waiting room. That's where triage becomes important. [However], some of the patients who receive lower acuity triage scores do end up waiting for sometimes many hours to be seen.

Participant 10 highlighted the challenges to patient flow in their facility:

> I think wait time, staffing, and availability is one of the biggest barriers right now. We have a great community resource called pediatric after hours, which is an urgent care clinic. It's staffed by many of the local pediatricians as well as the pediatric residents. You must be a patient of one of the participating clinics that the staffing pediatricians works at, but that includes all the rest and community clinics in town. If you're a patient in one of those places, you can call and get an appointment after hours. I think it's from like 5

> PM to 10 PM on weeknights and then on weekends, there's a good 6-to-9-hour chunk of time that staff [are available]. It is available to most children within our local community.

Participant 14 discussed a new facility being built to handle the influx of new pediatric patients in their region:

> Our city is growing, and we have outgrown our facilities. For the last three years we've been building a new Children's Hospital to replace our current. One main location is going to be opening in September. It's going to have a capacity almost three times of what we have now because we're just full every night. And so, you [have] patients waiting for beds upstairs, hanging out in the ED for hours and hours waiting for the beds to become available. I think capacity is a big thing. Traditionally, most children's hospitals had lower volumes. And what we see is a lot of general EDs and general hospitals don't really take care of kids that much, and [subsequently] close their children's floors the pediatric floors. Whereas we could disperse some of this pediatric volume around the region with the Children's Hospital being the hub, and then the other hospitals being kind of the spokes, those spokes are going away and so capacity is going to be a real challenge for children's facilities in the future. We tend to be at the tip of the spear in [my city]. Whatever happens here, you start to see spreading in other parts of the country.

Participant 15 talked about delays in mental health evaluations:

> There are a lot of borderline cases where we don't necessarily manage medications. We don't necessarily do that other side of that evaluation, so they'll have to wait a long time to see whether they would require inpatient placement or not, so say they've waited a while. They finally got a provider to evaluate them. And then they need inpatient placement. All the facilities are so full that sometimes they must wait days just to be able

> to be admitted even if they meet the requirements. So, they're sitting in an emergency department not getting really any sort of psychiatric help at that time.

Some participants highlighted the growing reliance on other allied health professionals due to physician shortages and impact on health outcomes. Participant 4 discussed how the staffing shortages can lead to shift fatigue and physician burnout:

> You’re getting pulled in 87 different directions, [which] leads to burnout and fatigue. And when you're burning out, are you really, truly able not just physically, but emotionally, to be there for that patient to support them, and really give them your part of that, too? It's exceedingly difficult.

Participant 12 pointed out that patient outcomes might not be optimal with other mid-level practitioners staffing clinics:

> A lot of your Medicaid clinics are being run by nurse practitioners or Physician Assistants (PAs) who have very little training in pediatrics and honestly give [substandard] care. [Patients] see a different provider every time they go. There's no continuity in these clinics, and these [providers] aren’t practicing evidence-based medicine. They don't know that the guidelines update every 10 years. I have worked with some amazing APPs [Advanced Practice Providers] throughout my time, and they're phenomenal. The system is broken. That is where your social determinants of health have really come into play in medicine; the failure of the primary care role due to lack of funding and the inappropriate use of APPs. They say PAs and Nurse practitioners (NPs) are cheaper to use for [the] primary care world, but they also provide a lot of inappropriate care, refer unnecessarily, and overprescribe antibiotics. At the end of the day when you factor all those other things in, [they provide] more expensive care.

Participant 15 noted the benefits of mid-level providers in the pediatric ED, stating that they helped improve patient flow by triaging lower-acuity cases:

> We do have PAs and NPs that try to focus on moving the lower acuity patients out. Otherwise, we all see the higher acuity [cases]. We try to obviously see anybody that's higher acuity first. But when you have a lot of high acuity patients, you don't want the low acuity patients to be just waiting for 10 hours. So that's why we kind of have the tiered system providers as well.

Subtheme 2: Transfers and EMTALA

When asked about the protocol for transferring patients out to other facilities or accepting new patients, most participants cited EMTALA as the guiding principle for this process. Patients were stabilized prior to being transferred out, and no physicians admitted to denying treatment to any patients transferred to their EDs. If a pediatric ED was the only available facility for miles or attached to an academic center, they were more likely to accept transferred patients. If an ED relied on secondary subspecialty evaluation of patients for chief complaints such as mental health crises, severe exacerbation of chronic or genetic ailments, or traumas exceeding the capacity of their staff, they were more likely to send patients out to the appropriate departments or facilities. Participant 5 discussed some of the limitations in the pediatric ED with mental health cases:

> The biggest reason we transfer out is for inpatient psychiatric care is because we don't have an inpatient psych unit or facility within our hospital system. That [is] the biggest barrier. There is just that availability which is, I think, an issue everywhere. So those patients stay in the ED for sometimes days waiting for a bed to open.

Several physicians noted that they ran into some issues with transferring patients out due to insurance. Participant 1 recalled an experience related to this:

> By EMTALA we can't deny someone coming to our ED if they need it. We tend to be an open door. When we need to get the patient out, then insurance questions come up. If they're high acuity kids, they'll stay. The only time I haven't seen that happen is when kids have, for example, [company name] insurance. [Company name] insurance will frequently call and ask for the patient to come back to a [name] hospital if possible. I've seen it all depend on insurance and less on EMTALA.

Most participants agreed that a common reason why outside facilities sent pediatric cases to their ED was due to a lack of familiarity or confidence with handling pediatric-specific cases. Participant 2 highlighted this phenomenon:

> When outside hospitals get kids that they feel are just kind of above their level of expertise to manage, they will transfer them to us. We get a lot of transfers. The only time we ever transfer out would be to [OUTSIDE FACILITY] because they have a genetics team that's highly sought after, or they're just well known for their medical genetics. Anytime we get children with metabolic disorders or any sort of complicated genetic syndromes, we will transfer them to [OUTSIDE FACILITY] because they can be just better managed with the team there. We manage congenital heart disease, but they have a more robust cardiac management team. Depending on the degree of the child's cardiac severity, we may stabilize and then transfer them there.

Participant 10 had a unique case among all participants in that their high-level pediatric traumas were treated in the adult ED, while the pediatric ED operated primarily as a referral center for low-acuity cases: "The highest-level pediatric traumas go to the adult emergency department where the pediatric surgery team [and] the pediatric critical care team respond. I get the lower acuity traumas on my side. But the highest acuity [cases] across the street."

Subtheme 3: ED utilization

Many participants identified patient ED utilization as a major contributing factor to patient flow. In most cases, patients with Medicaid insurance, families who had restrictive work schedules, and patients who were not regularly seeing a primary care physician were the most frequent visitors in the pediatric ED. Additionally, there was a consensus that this demographic were more likely to present with low-acuity chief complaints. Participant 13 attributed any reported inequities in healthcare delivery to patient ED utilization patterns:

> It does seem there's a lot of Medicaid type of population that does come in the middle of the night. The lower social economic [patients] definitely use us more as an urgent care. They don't see their PCP. They come to us. They know they get everything they need from us. They come to us because they ran out of Motrin or Tylenol. It gets frustrating. But they get the care that they need and came for. There is no copay, just a lack of understanding. I think there's a lot of factors that can go into the abuse of the ED. If I show up in the ED, I think a few times before I show up. When there's no barrier to show up, then there's no barrier to not come. And they make use of it.

Participant 2 recounted how some of the non-urgent cases they had seen were due to older children and adolescents who had fallen off the pediatric immunization schedule due to inconsistent visits to their primary care physician:

> Older children tend to fall off from having a primary care pediatrician. A lot of families are under the belief that once a child has received all their vaccines, that they've kind of

> capped on the frequency in which they need to see their pediatrician So sometimes we were seeing kids in the emergency room for things [like] asthma exacerbations that could be managed at like an outpatient pediatrics office.

Chapter 4 summary

Chapter 4 outlined the coding process used by the researcher and ATLAS.ti AI, and discussed how the themes, subthemes, and codes applied to the primary research question. Data visualizations were provided to demonstrate the frequencies of codes determined by both ATLAS.ti AI and the researcher. The significance of using ATLAS.ti AI as a second researcher to minimize bias was detailed. Then, the researcher expounded upon the themes and subthemes created by the researcher synthesizing their own codes and those created by ATLAS.ti. Applicable quotations from the 15 semi-structured interviews were provided to highlight the essence of each participant's perspectives on health equity in the pediatric ED. Chapter 5 will further discuss the themes and subthemes identified in Chapter 4, followed by in-depth analyses of the results. Recommendations for future research and recommendations for enhancing care for pediatric ED patients will also be highlighted.

Chapter 5: Conclusions and recommendations

Pediatric health equity is a multifactorial concept with applications in the pediatric ED and beyond. It is influenced by one's social determinants of health (SDOH), the political structure of their local and national government, and systemic constructs that have been embedded in society for decades. While physicians in the pediatric ED often encounter patients facing barriers related to SDOH, the responsibility of addressing these barriers should not rest solely on their shoulders. Rather, there should be a joint effort between physicians, hospital administrators, insurance companies, and government officials to address any shortcomings in the provision of care. Given this reality, the purpose of this study was to provide a qualitative analysis of pertinent barriers to equitable healthcare in the pediatric ED and explore solutions offered by physicians working in this setting. To reiterate, the goal was to answer the following question: What government and organizational policy changes can be made to enhance health equity in the pediatric ED by utilizing first-hand information from pediatric ED physicians?

The interviews that were conducted in Chapter 4 provided further insight on the trends that were summarized in the Chapter 2 literature review. Most of the observed trends had been outlined by the literature from an epidemiological framework, but the unique stories from pediatric ED physicians amplified the need for action. Ultimately, the researcher wanted to understand what physicians working on the frontlines had to say about pediatric health equity based on their personal experiences and training. No two interviews were the same; however, there was a general sense of dedication to serving the pediatric population to the best of one's ability. After speaking candidly to each participant, the researcher gained a more profound perspective of why inequities in care might exist. Chapter 5 summarizes the key study findings.

Discussion of findings

The results of the study represented the answers to the semi-structured interview questions posed by the researcher, highlighting the exploratory and qualitative nature of the research. The open-ended nature of the interview questions encouraged participants to elaborate on their personal experiences with health equity in the pediatric ED. Furthermore, the researcher successfully garnered the trust of each participant and established a positive rapport during the introductory phase, which created a safe space for candid discussion. The conceptual framework, which was introduced in Chapter 1 and expounded upon in Chapter 2, was comprised of the Health Equity Measurement Framework (HEMF) (Dover and Belon, 2019) and a summary of the impact of social determinants of health (SDOH) on pediatric health equity. These concepts provided the foundation for the literature review, which summarized scholarly examples of how one's sociodemographic background and elements of patient flow could affect the access to and provision of equitable healthcare, respectively.

The researcher understood that neither themes discussed in the literature review nor those that emerged from the interviews were new to the medical community. However, by unifying the first-hand accounts of pediatric ED physicians with current trends in pediatric emergency medicine, the resultant themes successfully addressed the primary research question: What government and organizational policy changes can be made to enhance health equity in the pediatric ED by utilizing first-hand information from pediatric ED physicians? It became overwhelmingly apparent that a standardized approach to addressing SDOH, acknowledging disparate pediatric epidemiological trends, optimizing patient flow, and addressing both implicit and explicit biases among providers would be crucial in improving pediatric health equity. Furthermore, there was a need to support those physicians that were already working on policies to improve pediatric health equity, while educating those who might not be familiar with this process. The proceeding sections reflect on the findings from Chapter 4 through the lens of potential action steps that can be taken going forward.

Discussion of Theme 1: Social determinants of health

When asked about possible barriers to care in their facilities, participants cited elements of SDOH which the interviewer then broke down into individual subthemes. This included race/ethnicity, preferred spoken language, insurance status, citizenship, patient sex, gender identity, health literacy, access to services, and mental health. More specifically, access to services included food insecurity, housing insecurity, and limited access to a primary care provider (PCP).

Subtheme 1: Race and ethnicity

Certain aspects of pediatric emergency care, such as pain management, patient-physician interactions, and patient outcomes appeared to be influenced by patient race or ethnicity. Physicians linked variable approaches of pain management or application of physical restraints in the pediatric ED to varying levels of empathy based on one’s ability to identify with their patients’ race or ethnicity. Physicians also noted that they had observed disparate patient experiences, exposure to Adverse Childhood Experiences (ACEs), rates of disease, and overall health outcomes based on race. These findings are reflective of the studies conducted by Zhang et al (2019), which implied that ED wait times, resource allocation, and hospital admission rates were all impacted by patient race and ethnicity. As mentioned in Chapter 4, there was one contrary claim that pediatric health equity was not influenced by patient race or ethnicity, and that any reported disparities were due to unmet patient expectations. Trent et al (2019) listed race as a core social determinant of health given the historical context of political and economic disadvantages experienced by racial minorities in the U.S.

Subtheme 2: Preferred spoken language

Another limitation to accessing care was language barriers between providers and patients. American Sign Language (ASL) was also included in this category as language interpreter services were often required for this mode of communication. While language interpretation services were available in almost all facilities, they were often remote (i.e., via telephone or iPad) and were most beneficial to Spanish-speaking populations. As a result, populations whose languages or dialects were less common often experienced delays in care. These trends were increasingly true after budget cuts in the pediatric ED during the COVID-19 pandemic, which reduced the number of in-person language interpreters. Chapter 2 discussed the importance of quantity of interpreters but also quality language interpretation in reducing readmission and mortality rates in the pediatric ED (Showstack et al., 2019).

Subtheme 3: Insurance status

Based on the findings presented in Chapter 4, insurance status was the biggest social determinant of health, followed by preferred spoken language, access to services, mental health and a patient's race or ethnicity. Many children utilizing the pediatric ED were classified as using Medicaid or CHIP for their insurance. Additionally, many children lived in states that had either refused to expand Medicaid or had reimbursement rates that were not appealing to providers, thus limiting their access to care. Most physicians claimed that patient insurance status did not impact their personal assignment of Emergency Severity Index (ESI) during triage. However, physicians did note that insurance companies could request that patient be transferred to other facilities prior to admission at their hospital, which could classify as a violation of the Emergency Medical Treatment and Labor Act (EMTALA) if the patient had not been medically stabilized prior to being transferred. Additionally, patients with Medicaid had longer wait times for subspecialty consultations than those with private insurance. These reported trends by physicians mirrored the studies conducted by Li et al (2019) with a decline in on-call physician specialists and McKenna et al (2018) with persistent EMTALA violations.

Subtheme 4: Citizenship

The recent influx in migrants from countries experiencing political unrest has also played a role in pediatric health outcomes. Some states have facilitated their transition into the U.S. healthcare system by providing Medicaid for undocumented patients. Given the state-by-state basis of this process, there has been inequitable access to healthcare for those who are not U.S. citizens. Additionally, given the variable political climate in each state, some migrants have been hesitant to utilize language interpreter services for fear of deportation, likely due to protocols such as the citizenship verification systems discussed by Mitchell (2020).

Subtheme 5: Patient sex and Gender identity

Patient sex and gender identity appeared to serve as social determinants of health (SDOH) in unique ways. Two physicians reported that patients with transgender identities that lived in more conservative states had a higher propensity to present to the pediatric ED with mental health crises. One physician mentioned that their facility was exploring ways to integrate screening for at-risk LGBTQIA+ (lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual or ally, other non-heterosexual individuals) youth into their hospital electronic health record (EHR). As was mentioned in Chapter 4, there were disparate patterns in testing for HIV among boys and girls in one participant's hospital. Even though HIV rates were higher in boys, girls were being tested more frequently for reasons that were unclear according to the reporting physician. Upon further investigation, the literature demonstrated that sexual and gender minority youth had disproportionately higher risks of facing stigmatization by society, rejection by parents, and isolation (Wood et al., 2016). According to Hafeez et al (2017), LGBTQIA+ patients had higher risk for contracting sexually transmitted diseases (STDs) and developing chronic illnesses. Hafeez et al (2017) attributed these trends to a lack of transparency between providers and LGBTQIA+ youth that could be remedied by increasing healthcare provider awareness and having open, nonjudgmental communication with patients. Recent reports of nine states prohibiting gender-affirming care, or mechanisms that assist individuals in developing the secondary sex characteristics of their choice, have been on the rise (Redfield et al., 2023). Additionally, some states have enforced penalties for healthcare practitioners or facilities that provide gender affirming care. The impact of sex and gender identity on health equity in the pediatric ED was not extensively explored in the Chapter 2 Literature Review. However, after these concepts were discussed at length by three of the 15 participants, the researcher concluded that this might be an area for future research.

Subtheme 6: Health literacy

Physicians listed health literacy as a barrier to equitable healthcare. Health literacy could be viewed from the lens of the parents or guardians of young children who could not make health decisions for themselves. In some instances, lower health literacy was mistaken for noncompliance with discharge instructions. Physicians reported that health literacy for pediatric patients who were old enough to advocate for themselves was also detrimentally impacted by the shift from in-person learning to having class online during the COVID-19 pandemic. Dorsey et al (2022) listed poor health literacy as a communication barrier.

Subtheme 7: Access to services

Access to the pediatric ED was influenced by transportation mechanisms or the geographic location of the facility itself. Some physicians worked at facilities that were the only specialized pediatric ED for miles, and this was reflected by their high patient volumes. Other physicians worked at academic facilities that serviced predominantly urban neighborhoods but still received transfers from rural neighborhoods. Furthermore, families requiring childcare services for their other children due to demanding work schedules were also limited to accessing the pediatric ED in the early hours of the morning. Mudd et al (2020) provided information on pediatric ED utilization patterns based on physical access to facilities for rural and urban demographics. Additionally, the level of access to a primary care provider (PCP) was often more limited for patients in rural settings (Mudd et al., 2020). One physician championed the need for EDs to become more accessible to patients with medical complexity or physical disabilities. This meant dispelling the myth that this patient demographic always required specialists in their conditions to treat acute conditions like the common cold. Hirt et al (2023) offered tips for creating more inclusive environments in healthcare facilities for children with medical complexity.

Subtheme 8: Mental health

Mental health crises were predominantly seen in the pediatric ED, with affected patients often having prolonged stays in the ED while waiting for psychiatric evaluation and treatment. The rise in mental health crises were attributed to the social isolation and a disrupted school year during the onset of the COVID-19 pandemic. This notion was reiterated by Magklara et al (2023). As previously mentioned, sexual and gender minority youth also comprised many of the mental health crises presentations. Low bed capacity for mental health patients was also an issue brought up by participants. Kronish et al (2024) discussed the recent declaration of a national emergency in pediatric mental health by the American Academy of Pediatricians (AAP), the American Academy of Child and Adolescent Psychiatry, and the Children's Hospital Association. Kronish et al (2024) also provided guidance on how pediatric residents could best approach cases of acute agitation in the pediatric ED. Mental health as a social determinant of health (SDOH) was another perspective that was not thoroughly explored by the researcher in the literature review but would serve as another point of future research.

Discussion of Theme 2: Epidemiology

The epidemiological patterns in the pediatric ED had regional, temporal, and sociodemographic factors. Physicians noted that some of these factors could potentially be controlled by addressing structural disadvantages faced by certain patient populations. Other factors could be managed by increasing patient education on disease management or early symptom recognition.

Subtheme 1: Disease prevalence

Disease prevalence in the pediatric ED varied by time of year, geographic location, and patient demographics. Physicians noted temporal trends in respiratory illnesses such as the triple-demic of COVID-19, Influenza, and Respiratory Syncytial Virus (RSV), and Multisystem Inflammatory Syndrome in Children (MIS-C). Asthma was listed as one of the conditions that disproportionately affected Black patients, specifically adolescent Black males. The disparate rates of asthma among Black patients were thought to be linked to limited access to regular primary care visits and lack of updated prescription rescue inhalers. One physician noted that while asthma is generally a very treatable disease process, Black patients were more likely to experience asthma exacerbations and had a higher mortality rate from the disease. Cardet et al (2022) found that Black and Hispanic patients had higher morbidity and mortality from asthma than White patients and attributed this trend to lower socioeconomic status with stress level as a mediator.

Subtheme 2: Adverse Childhood Experiences (ACEs)

Another contributing factor to observed epidemiological trends was Adverse Childhood Experiences (ACEs), or repeated stressful situations that led to negative health outcomes. These included financial constraints, housing insecurity, witnessed violence, familial dysfunction, or abuse. One of the most reported ACEs was gun violence and resultant firearm injuries in the pediatric ED. Gun violence tended to be more prominent in states with more lenient gun laws. Selveraj et al (2022) discussed how over time, ACEs can increase a child's risk of developing chronic disease. The American Academy of Pediatrics (AAP) has provided guidance on screening for ACEs, and there are several surveillance tools available for parents to report on these in relation to their children. However, there were previous concerns that ACE screening tools did not completely fulfill the World Health Organization (WHO) screening principles including the provision of standardized single outcome measures, clear cutoff values, or clinical guidelines for intervention or treatment (Barnes et al., 2020). SmithBattle et al (2021) recommended that ACE screening tools move beyond the categories of family and household factors and explore potential influence of systemic and community items to facilitate widespread screening.

Discussion of Theme 3: Physician-level factors in health equity

Subtheme 1: Implicit and explicit bias

Some of the physician-level factors in health equity that resulted from the study were implicit biases, explicit biases, training background, and physician definition of health equity in the pediatric ED. Biases exhibited by physicians were reported to occur with patients of racial or ethnic minority groups, non-U.S. citizenship, health literacy, patient sex, and insurance type. While it was often difficult for physicians to recognize or admit their own potential biases towards patients, it did appear to put a strain on the patient-physician relationship and ultimate patient perceptions of the healthcare field. For example, low health literacy was mistaken for noncompliance in some cases. Physicians also discussed examples of how they benefited from bias by receiving preferential care given their status in the medical field. This and the practice of hospitals incentivizing VIP patient programs were examples of privilege in the healthcare setting. Schnierle et al (2019) warned of the negative impact that physician implicit biases, which can also reinforce explicit biases, can have on the clinical decision-making process.

Subtheme 2: Training background (i.e., PEM trained versus general and results)

Training background was listed as a factor in health equity. Five out of the 15 physicians believed that pediatric EDs staffed by physicians who completed a pediatric emergency medicine (PEM) fellowship were more pediatrically ready than those staffed by physicians with limited exposure to pediatric training. Remick et al (2018) stated that the presence of a Pediatric Emergency Care Coordinator (PECC) helped increase pediatric readiness in the pediatric ED. There was one general pediatrician who worked in a pediatric ED that was interviewed for the study. This individual reported that they referred cases that exceeded their level of expertise to their colleagues who had completed a PEM fellowship. Another physician claimed that while training backgrounds often varied among physicians in the pediatric ED, the overall patient outcomes were not negatively affected because the PEM-trained attendings often made the final clinical decisions.

Subtheme 3: Physician definitions of health equity in the pediatric ED

There were similar definitions given by physicians to describe pediatric health equity. Definitions typically referred to a fair level of access to quality health resources and optimum patient care outcomes regardless of patient background. However, when it came to who was responsible for improving or ensuring pediatric health equity, there were some varying perspectives from interviewees. Overall, it appeared that the concept of pediatric health equity was multifactorial in that there were structural elements such as systemic racism, the political landscape of a state, or limitations based on resource allocation (i.e. where pediatric EDs were located in relation to the populations that required them, logistics of living conditions and educational resources). As a result, while some physicians claimed that enforcing equitable healthcare was the responsibility of healthcare providers, others believed that it also required a community effort to minimize social determinants of health outside the walls of the hospital. One physician asserted that until social determinants of health could be significantly impacted, physicians would be limited in what they could do to affect pediatric health equity. Furthermore, another physician implied that reported inequities in pediatric healthcare could only be combatted by patients having more realistic expectations of the care they would be receiving.

Subtheme 4: Solutions offered by physicians to resolve ongoing equity issues

Physicians offered their solutions to resolve ongoing equity issues; however, it should be reiterated that one physician disagreed with the notion that equity issues existed. There was a consensus that physicians and hospital administrators must collaborate to address any pitfalls in equitable healthcare delivery. Two physicians were directly involved in large-scale quality improvement and equity projects at their facilities. However, the remaining physicians were unsure of how to directly impact equity in the pediatric ED in a way they could consider to be significant. This was particularly true when physicians were asked about specific policy or governmental changes that could be made to improve pediatric health equity. Hence, most solutions offered pertained to screening for and addressing social determinants of health, getting hospital administrators to prioritize efforts to improve pediatric health equity, conducting evidence-based research to create practical solutions for inequitable healthcare delivery, and protecting physicians' rights to speak out against questionable practices without punishment. Additionally, one physician suggested that incorporating education on recognizing implicit and explicit biases into medical school curriculums would help improve outcomes once students became physicians.

Discussion of Theme 4: Patient flow

Theme 4: Patient flow explored factors affecting optimal patient flow, transfers and

EMTALA, and ED utilization patterns. These were often influenced by patient demographics and resource allocation in the pediatric ED.

Subtheme 1: Factors affecting optimal patient flow

Patient flow was another multifactorial concept which significantly impacted health equity in the pediatric ED. Participants noted both systemic and patient-level factors of patient flow. Systemic factors included triage scoring systems such as the emergency severity index (ESI), staffing shortages, adjunct clinics for acute cases, bed capacity, ambulance shortages and delayed subspecialty consultations. Participants emphasized the importance of staffing pediatric EDs with physicians with effective clinical decision-making skills. Some of the patient-level factors affecting patient flow included ED utilization patterns based on access to primary care physicians (PCPs), work schedules, and the need for childcare services. When the pediatric ED became overcrowded, patients were more likely to leave without being seen. Physicians noted that having an adjunct facility to handle less acute patients was helpful in streamlining patient flow. In response to the growing patient population, one hospital was building a new children’s hospital to replace their current facility. The new facility was reported to expect three times the capacity of the current hospital. Ellbrant et al (2022) discussed the benefit of adjacent primary care facilities in reducing nonurgent pediatric ED visits. One physician noted that other allied health professionals, such as physician assistants (PAs) and nurse practitioners (NPs), could also be helpful in triaging lower-acuity cases. However, two physicians reinforced the importance of physician supervision of PAs and NPs to ensure quality and evidence-based practices in the pediatric ED.

Subtheme 2: Transfers and EMTALA

The topic of the Emergency Medical Treatment and Labor Act (EMTALA) and patient transfers also arose when discussing patient volume. Pediatric EDs that were higher level trauma centers (i.e., Level 1 Trauma) typically received more patients than they sent out. Conversely, hospitals that were lower-level trauma centers either transferred patients out to more specialized pediatric facilities or transferred patients to another department in their own facility. One physician mentioned that their most complicated pediatric emergencies were referred to the adult ED which was unique in comparison to the other interviewees. One reported trend of concern was the limited access of Medicaid patients to timely subspecialist consultations in the pediatric ED. It was unclear if this was due to scheduling conflicts or claims by participants that lower reimbursement from Medicaid insurance dissuaded subspecialists from seeing Medicaid patients. McKenna et al (2018) discussed the ongoing physician and hospital settlements from EMTALA violations.

Subtheme 3: ED utilization

Patient ED utilization patterns often contributed to crowding as many cases were non-emergent. Furthermore, Medicaid patients, families from lower socioeconomic backgrounds, racial minorities, and families whose preferred spoken language was not English were the most likely to utilize the pediatric ED for non-emergent complaints. Oftentimes, these patient demographics used the pediatric ED in lieu of a primary care physician (PCP) due to convenience in hours of operation or proximity to their residence. Lack of regular PCP evaluation was related to more frequent exacerbations of chronic illness, such as asthma. Ellbrant et al (2020) reported on the benefits of integrating a primary care unit in hospitals to offset overcrowding with preventable admissions.

Limitations of the study

One limitation encountered by the researcher occurred when seven participants reported that they had encountered instances where subspecialists were refusing to see Medicaid patients due to low reimbursement from this insurance type. The researcher did not have the option of interviewing the subspecialists in question to further investigate the circumstances surrounding the claims made by the participants. Another limitation was that the researcher did not ascertain specific demographic information from participants such as race, ethnicity, patient sex, identity, or sexual orientation. Individual physician demographics could have impacted their responses to the interview questions, particularly those pertaining to social determinants of health. That notwithstanding, the researcher believes that diverse perspectives on the research question were represented due to the inclusion of participants from various geographic locations and training backgrounds.

Recommendations to stakeholders in pediatric health equity

As evidenced by the Chapter 2 Literature Review and resultant findings in Chapter 4, the themes discussed by the participating physicians have been extensively documented in scholarly research. However, there is a growing need for clear and applicable action plans to address disparate healthcare delivery in the pediatric ED and beyond. First, by obtaining firsthand accounts from the frontlines of the pediatric ED, the researcher illustrated a narrative for the objective data on pediatric health equity that has been reported by scholars in recent years. Second, the researcher integrated the findings from the literature review with the resultant themes from the 15 semi-structured interviews that were conducted. The following are recommendations to relevant stakeholders for improving pediatric health equity.

Develop universal guidelines for the use of social determinants of health (SDOH) and Adverse Childhood Experiences (ACEs) screening tools in clinical practice for all pediatric facilities

Based on the personal accounts of the interviewees, social determinants of health (SDOH) play a significant role in one's ability to access equitable healthcare in the pediatric ED. Some participants cited their own facility-specific tools for addressing SDOH, while others expressed interest in adopting similar mechanisms. Furthermore, ACEs were linked to a higher incidence of chronic disease. Given the predominance of patients with significant SDOHs and ACEs that comprise the pediatric ED, there could be some benefit from standardizing the use of screening tools that would be utilized across these settings in the U.S. The American Academy of Pediatrics (AAP) currently has a Screening Tool Finder on their website which provides the links to several categories of screening tools. However, it could be beneficial for a revised statement from the AAP on which situations would require a physician to use a specific tool. Developing a universal tool would require more evidence-based documentation of the advantages of early intervention and specific guidelines for how physicians should proceed when patients score high during screening. Additionally, incorporating universal screening mechanisms for SDOH and ACEs into the hospital electronic health record (EHR) could make it easier to identify at-risk patients and tailor their treatment plans accordingly (LeLaurin et al., 2024). Finally, educating physicians on the role of SDOH and ACEs in patient health outcomes and reimbursing physicians for utilizing these screening tools would promote this public health initiative.

Restructure Medicaid and CHIP coverage for patients and reimbursement models for physicians

This is a call to action for hospital administrators to serve as an ally to their physicians as well as a liaison between the Centers for Medicare and Medicaid Services (CMS) and their staff. There is a need for increased reimbursement for physicians treating patients with Medicaid and CHIP. Medicaid typically provides reimbursement rates to children's hospitals that are lower than the cost of care, which has partially been attributed to a reduction in pediatric bed capacity. This resulted in a loss of $42 million in potential revenue for children's hospitals in 2009 (Heller et al., 2023). Additionally, states decide how to reimburse out-of-state Medicaid patients, which is often common for children's hospitals that provide care to larger regions. As of 2022, 11 states had not expanded Medicaid, leading to increased uninsured rates. Furthermore, many lost Medicaid coverage during the COVID-19 pandemic due to state-mandated periodic eligibility confirmations, which often fluctuated with changes in income level. Since most patients who present to the pediatric ED are on Medicaid insurance, lower reimbursement rates for this patient demographic threaten their access to subspecialty care as physicians are not being adequately compensated for their services (Heller et al., 2023).

Freestanding children's hospitals also receive less funding for graduate medical education (GME), which is meant to train resident physicians. According to Heller et al (2022), the financing of standard GME programs is based on the number of Medicare patients, and children's hospitals often see more Medicaid than Medicare patients. In 2022, the Children's Hospitals Graduate Medical Education (CHGME) program was provided $79,813, while the Medicare GME was provided $156,128. In other words, the CHGME program received $76,315 less than the Medicare GME in 2022 (Heller et al., 2023). Incoming residents have been paying attention to the earning potential of the pediatric specialty, which appears to have impacted the number of applicants in the 2024 Residency Match (Schering, 2024). In 2023, the categorical pediatric specialty filled 97.1% of resident positions. This fill rate decreased to 91.8% in 2024. Additionally, there were 252 unfilled pediatrics positions. The future of the pediatric workforce and access to quality care for children in the U.S. will depend largely on steps taken by policymakers, CMS, and hospital administrators to reform these parameters.

Reauthorizing the Emergency Medical Services for Children (EMSC) Program

In recent months, the AAP urged Congress to pass the Emergency Medical Services for Children Program Reauthorization Act of 2024 (H.R. 6960/S. 3765). This act would result in a 5-year authorization of the EMSC Program. The AAP claims that the EMSC promotes high-quality pediatric emergency care by providing grant programs for U.S. states and territories, conducting research on best practices via the Pediatric Emergency Care Research Network (PECARN), and improving health outcomes by allocating EMSC Targeted Issues (TI) Grants to study how Pediatric Emergency Care Coordinators (PECCs) influence patient outcomes (Haro, 2024). Through EMSC, there is a state partnership program which allocates funds to U.S. states and territories. These funds are meant to address the unique needs of emergency care systems across the country. As demonstrated in earlier chapters of this dissertation, equity is a measurable construct that can be examined through the lens of epidemiology. Another way to define equity is through quality research. This has been accomplished by organizations such as the EMSC data center and the pediatric emergency care applied research network (PECARN). The EMSC data center is a collection of data pertaining to emergency care services in the U.S. PECARN is a collaborative of physicians across the country who are dedicated to optimizing the pediatric healthcare delivery system in the U.S. The findings of the studies have contributed to the most updated recommendations on standardized pediatric care in emergency settings. Thus, these organizations are crucial for the progression of child health initiatives and funding is imperative.

The targeted issues (TI) grants, and innovation and improvement center are entities which generate funding for converting research outcomes into tangible improvements in patient care. Some recent accomplishments of TI grants include furthering understanding of how pediatric emergency care coordinators impact prehospital outcomes. Also, the outcomes that result from research done by PECARN are typically adopted as standardized guidelines. According to the AAP, EMSC has enabled the inclusion of pediatric appropriate medications and equipment, as well as ensuring proper training for staff at facilities that see children (Haro, 2024). Additionally, guidelines pertaining to the transfer of children between facilities have been optimized. The national pediatric readiness project has challenged facilities and providers to strengthen their capability in the provision of high-quality pediatric care.

Incorporating education on health equity in medical education

Medical students and resident physicians should be instructed on the effects of social determinants of health (SDOH), adverse childhood experiences (ACEs), and explicit and implicit biases on the health of their future patients. Early recognition of the structural disadvantages that racial, sexual, and gender minorities face in the U.S. healthcare system is key in improving patient outcomes. Physicians are increasingly being called upon to not only diagnose and treat medical conditions, but also advocate for patients who face social injustices as these experiences have been documented to cause toxic stress and lead to chronic illness (Trent et al., 2019). There are already advocacy conferences that students can get involved in, such as the AAP Advocacy Conference and the American College of Emergency Physicians (ACEP) Leadership and Advocacy Conference, where students, residents, and established practicing physicians can speak to Congress about pertinent policies. As a medical student, the researcher attended the 2024 AAP Advocacy Conference and found this event to be both educational and empowering.

Recommendations for future research

This research study was conducted with the goal of providing a narrative for frontline pediatric ED physicians amid the current health equity landscape. Through an extensive literature review and the 15 semi-structured Zoom interviews, the researcher achieved more clarity on potential explanations for trends in patient care outcomes. These were largely impacted by social determinants of health, epidemiological patterns in the pediatric ED, physician-level factors, and patient flow. There will need to be greater efforts to adequately compensate current physicians and improve funding for training future pediatricians. These efforts will improve access to care for children, specifically those who depend on Medicaid and CHIP insurance coverage. The researcher would recommend future study exploring the unique challenges faced by Medicaid patients in accessing subspecialty care. This would entail interviewing pediatric subspecialists and potentially the families of Medicaid patients that had experienced barriers to subspecialty care. The researcher would also recommend future study on the implications of the rise in violence in the ED, improving medical facility accessibility for children with medical complexity, mental health crises, and disparities in disease presentation and patient outcomes based on patient sex and gender identity.

Chapter 5 Summary

Chapter 5 summarized the research goals for the study and how they were accomplished through the 15 semi-structured interviews. A summary of the discussion of findings was presented by themes and subthemes. The researcher integrated key components from the literature review, interview results, and recent developments in pediatric emergency medicine.

The limitations of the study were presented with consideration for potential impact on the study outcomes. The researcher provided recommendations to stakeholders in pediatric health equity on how to improve patient health. These included developing universal guidelines for the use of social determinants of health and adverse childhood experiences screening tools in clinical practice for all pediatric facilities, restructuring Medicaid and CHIP coverage for patients and reimbursement models for physicians, reauthorizing the Emergency Medical Services for Children (EMSC) Program, and incorporating education on health equity in medical education. Finally, recommendations for future research were provided, including conducting further study on barriers to accessing subspecialty care, the implications of the rise in violence in the ED, improving medical facility accessibility for children with medical complexity, mental health crises, and disparities in disease presentation and patient outcomes based on sex and gender identity.

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Appendix A: Interview protocol and interview questions

1. Prior to conducting the interviews, each participant will receive a description of the purpose of the interview as well as an informed consent form. The informed consent form details the purpose of the research and the voluntary nature of the interview providing a response or opting out at any time during the interview.
2. The interviewees will be informed that they will be asked 10 questions over the course of approximately 30-60 minutes.
3. The interviews will be conducted remotely via Zoom.
4. Once these steps have been taken, the researcher will begin the interview process.

Interview Questions

1. How many years have you been in practice as a pediatric ED physician or pediatric ED nurse?
2. How would you describe your patient demographic?
3. What pediatric age group is most represented in the patients you see in your facility?
4. Please describe possible barriers to care for patients at your facility.
5. How does your facility categorize and handle the insurance status of patients?
6. What criteria must patients meet to be transferred from your facility to another facility?
7. What is your facility's system for prioritizing patient severity of illness?
8. In addition to severity of illness, what other factors can impact patient prioritization in terms getting treated by a physician in the ER?
9. Describe how patient insurance coverage status impacts the care received in the ER at your facility.

10. What are your thoughts on the current state of pediatric healthcare in your facility and on a national level?
11. What are your thoughts on the current state of pediatric healthcare in your facility and on a national level?

Appendix B: Informed consent form

Consent to Participate in a Research Study

Adaola Onyenaka, Principal Investigator

Project Title: Enhancing Patient Equity for Pediatric Patients in
the Pediatric Emergency Department

Hello, my name is Adaola Onyenaka, MBA, MHA, MHI, and you are invited to take part in a research study. I am a doctoral candidate in the Doctor of Healthcare Administration program at Franklin University in Columbus, Ohio. As part of the requirements for earning my doctorate, I am doing a research project. Before you decide whether to participate in the study, you should read this page and ask questions if there is anything that you do not understand.

Why is this study being done?

The purpose of the study is to better understand the perspectives of pediatric ED physicians and nurses on pediatric health equity and how can these perspectives enhance policy improvements. I am inviting you to participate in my project because as a pediatric ED physician or pediatric ED nurse, you have a unique perspective on the delivery of healthcare for the pediatric population.

What am I being asked to do?

If you participate in this project, I will meet with you via Zoom for an interview at a time that is convenient for you.

Taking part in this study is your choice.

Your participation in this project is completely voluntary. You may stop participating at any time. If you stop being in the study, there will be no penalty or loss of benefits you would normally have.

What will happen if I decide to take part in the study?

If you decide to participate in this study, you will be asked to complete an interview consisting of some scripted questions as well as appropriate follow-up questions. The interview should take less than one hour to complete. Some of the questions and topics include assessing the demographic determinants of health as well as the physician or nurses' perspective on their facility's performance level.

With your permission, I will also audio and video record the interview so that we can see each other and have a comfortable conversation. If you would like only audio recording to occur during the interview, that will be fine.

What are the risks and benefits of taking part in this study?

I believe there is little risk to you for participating in this research project. You do not have to answer any questions or provide details you do not want to share. If you become stressed or uncomfortable, you can skip the question or take a break. You can also stop the interview, or you can withdraw from the project altogether.

There will be no direct benefit to you for taking part in this study. The results of this project may contribute to physician understanding of the quality of and access to emergency medical care pediatric patients have. Your volunteer participation could help improve the current state of healthcare.

Privacy and Confidentiality:

The interviews are confidential and any private, personal information you may share will be removed from the transcript and anonymized prior to data analysis. The researcher will keep all data stored in a secure location on her personal laptop which is password-protected. Only my Franklin University dissertation chair and the researcher will have access to research data. Other agencies that have legal permission have the right to review research records. The Franklin University IRB has the right to review research records for this study.

After the researcher has transcribed all the interviews, she will erase or destroy the recordings. When the researcher reports the results of her research project, she will not use the participants' names. The researcher will not use any other personal identifying information that can identify participants. She will use codes (such as Participant 1, Participant 2, etc.) and report her findings in a way that protects participant privacy and confidentiality to the extent allowed by law.

Future Research Studies

Identifiers will be removed from your identifiable private information and after removal of identifiers, the data may be used for future research studies or distributed to another investigator for future research studies and we will not seek further approval from you for these future studies.

Questions:

If you have questions about this research study, please contact Adaola Onyenaka (Principal Investigator) at onyena01@email.franklin.edu. You may also contact my dissertation chair, Dr. David Meckstroth, at david.meckstroth@franklin.edu. If you have any questions regarding your rights as a research participant, please contact the Franklin University IRB Office at 614-9476037 or irb@franklin.edu.

If you agree to participate in this project, please sign and date the following signature page and return it to: Adaola Onyenaka at onyena01@email.franklin.edu.

Keep a copy of the informed consent for your records and reference.

Consent to Participate in a Research Study

Adaola Onyenaka, Principal Investigator

Project Title: Enhancing Patient Equity for Pediatric Patients in the Pediatric Emergency Department

Signature(s) for Consent:

I agree to join the research project entitled, "Enhancing Patient Equity for Pediatric Patients in the Pediatric Emergency Department. "

Please initial next to either "Yes" or "No" to the following:

_____ Yes _____ No I consent to be audio recorded for the interview portion of this research.

_____ Yes _____ No I consent to being video recorded for the interview portion of this research.

Name of Participant (Print): ____

Participant's Signature: ____

Date: __________________________

Signature of the Person Obtaining Consent: _________________________________

Appendix C: List of themes and subthemes created by ATALS. ti

Subthemes	Frequencies
Barriers: Access barriers	8
Barriers: Access to resources	3
Barriers: Administrative burden	3
Barriers: Administrative challenges	2
Barriers: Availability of resources	1
Barriers: Barriers to access	1
Barriers: Challenges of research	1
Barriers: Challenges with translation	1
Barriers: Communication breakdown	1
Barriers: Communication gaps	1
Barriers: Concerns	1
Barriers: Concerns about accuracy	1
Barriers: Concerns about competence	1
Barriers: Concerns about confidentiality	1
Barriers: Concerns about priorities	1
Barriers: Concerns about regulations	1
Barriers: Concerns about staffing	1
Barriers: Conflict management	1
Barriers: Conflict resolution	2
Barriers: Cost effectiveness	1
Barriers: Cultural barriers	2
Barriers: Decreased productivity	1
Barriers: Economic barriers	1
Barriers: Economic considerations	1
Barriers: Economic stress	1
Barriers: Effects of staffing shortages	1
Barriers: Ethical concerns	3
Barriers: Ethical considerations	1
Barriers: Ethical dilemmas	1
Barriers: Ethical violations	1
Barriers: Financial barriers	3
Barriers: Financial burden	1
Barriers: Financial concerns	3

Subthemes	Frequencies
Barriers: Financial incentives	1
Barriers: Financial pressure	1
Barriers: Financial stress	4
Barriers: Financial struggle	1
Barriers: Food insecurity	1
Barriers: Geographical barriers	3
Barriers: Geographical constraints	1
Barriers: Immigrant challenges	1
Barriers: Impact of funding	1
Barriers: Impact of pandemic	2
Barriers: Implementation challenges	1
Barriers: Inadequate resources	2
Barriers: Inefficiency	1
Barriers: Insurance barriers	1
Barriers: Insurance issues	3
Barriers: Insurance limitations	3
Barriers: Interpretation challenges	2
Barriers: Job instability	1
Barriers: Knowledge gap	3
Barriers: Lack of coherence	1
Barriers: Language barriers	18
Barriers: Legal concerns	1
Barriers: Legal ramifications	1
Barriers: Limited options	1
Barriers: Limited resources	1
Barriers: Need for flexibility	1
Barriers: Need for resources	1
Barriers: Need for transport	1
Barriers: Nursing shortage	1
Barriers: Pandemic effects	1
Barriers: Perceived limitations	1
Barriers: Political factors	1
Barriers: Recruitment difficulties	1
Barriers: Resource accessibility	1
Barriers: Resource availability	11
Barriers: Resource consciousness	1
Barriers: Resource constraints	2
Barriers: Resource Discrepancies	1

Subthemes	Frequencies
Barriers: Resource limitation	1
Barriers: Resource Management	1
Barriers: Resource scarcity	2
Barriers: Resource shortages	1
Barriers: Resource utilization	9
Barriers: Restrictions	1
Barriers: Risk perception	1
Barriers: Safety concerns	1
Barriers: Seasonal fluctuations	1
Barriers: Shortage	1
Barriers: Socioeconomic barriers	1
Barriers: Specialists availability	1
Barriers: Staff retention	1
Barriers: Staffing	5
Barriers: Staffing issues	4
Barriers: Staffing shortages	5
Barriers: Structural barriers	1
Barriers: Supply and demand	1
Barriers: System inefficiencies	1
Barriers: Systemic barriers	1
Barriers: Systemic issues	6
Barriers: Technology challenges	1
Barriers: Technology issues	1
Barriers: Transportation issues	2
Barriers: Understaffing	1
Barriers: Vulnerability	4
Barriers: Workforce shortages	1
Total frequency	189

Subthemes	Frequencies
Career development: Academic journey	1
Career development: Career advancement	2
Career development: Career ambitions	1
Career development: Career aspirations	5
Career development: Career change	7
Career development: Career choices	2

Subthemes	**Frequencies**
Career development: Career concerns	1
Career development: Career Development	1
Career development: Career dissatisfaction	1
Career development: Career exploration	1
Career development: Career motivation	2
Career development: Career opportunities	1
Career development: Career orientation	1
Career development: Career path	2
Career development: Career preferences	1
Career development: Career satisfaction	2
Career development: Career transitions	2
Career development: Career uncertainty	1
Career development: Caring profession	1
Career development: Commitment to specialization	1
Career development: Desire for education	1
Career development: Doctorate	1
Career development: Educational background	1
Career development: Future orientation	1
Career development: Educational journey	1
Career development: Interest in medical education	3
Career development: Interest in research	1
Career development: Interest in science	1
Career development: Interest in service work	1
Career development: International experience	2
Career development: Job dissatisfaction	1
Career development: Job termination	1
Career development: Medical career	4
Career development: Mentorship	1
Career development: Need for specialized training	1
Career development: Passion for field of study	1
Career development: Passion for research	4
Career development: Personal growth	1
Career development: Professional awareness	1
Career development: Professional background	3
Career development: Professional boundaries	2
Career development: Professional burnout	2
Career development: Professional challenges	1
Career development: Professional discussion	2

Subthemes	Frequencies
Career development: Professional experience	2
Career development: Professional fulfillment	1
Career development: Professional interaction	1
Career development: Professional networking	1
Career development: Professional perspectives	1
Career development: Professional responsibilities	2
Career development: Professional roles	2
Career development: Professional setting	1
Career development: Research focus	2
Career development: Research interest	1
Career development: Research opportunity	2
Career development: Residency training	1
Career development: Shift in career focus	2
Career development: Work challenges	3
Career development: Work experience	1
Career development: Work responsibilities	1
Career development: Working with teenagers	1
Total frequency	99

Subthemes	Frequency
Community health: Academic centers	1
Community health: Access to services	1
Community health: Advocacy	15
Community health: Billing and payment models	1
Community health: Care allocation	1
Community health: Community care	1
Community health: Community development	1
Community health: Community Engagement	1
Community health: Community health	4
Community health: Community health workers	1
Community health: Community impact	2
Community health: Community influence	1
Community health: Community integration	1
Community health: Community medicine	1
Community health: Community outreach	14
Community health: Community perceptions	1
Community health: Community resources	5

Subthemes	Frequencies
Community health: Community service	1
Community health: Community support	9
Community health: Community-based	1
Community health: Community-based approach	1
Community health: Community-based care	1
Community health: Cost-benefit analysis	1
Community health: Disability accommodations	1
Community health: Educational support	1
Community health: Equity advocacy	1
Community health: Financial assistance	1
Community health: Focus on solutions	1
Community health: Funding sources	1
Community health: Global health	7
Community health: Government regulations	1
Community health: Health interventions	1
Community health: Implementing Programs	1
Community health: Improvement suggestions	1
Community health: Improving facilities	1
Community health: Information sharing	1
Community health: Institutional analysis	1
Community health: Interdisciplinary communication	1
Community health: Interest in quality initiatives	1
Community health: IT support	1
Community health: Language services	2
Community health: Legislative advocacy	1
Community health: Legislative control	1
Community health: Local impact	1
Community health: Long-term benefits	1
Community health: Long-term perspective	2
Community health: Long-term planning	1
Community health: Mental health services	1
Community health: Mental health support	1
Community health: Mutual support	1
Community health: National challenge	1
Community health: Needs assessment	1
Community health: NIH	1
Community health: Openness to collaboration	1

Subthemes	Frequencies
Community health: Organizational processes	1
Community health: Pandemic response	1
Community health: Patient support	1
Community health: Policy and advocacy	1
Community health: Policy change	6
Community health: Policy discourse	1
Community health: Policy recommendation	1
Community health: Political climate	1
Community health: Political involvement	1
Community health: Positive outcomes	1
Community health: Professional support	2
Community health: Provider confidence	1
Community health: Provider perspective	1
Community health: Public awareness	1
Community health: Public health	5
Community health: Public Health	3
Community health: Public safety	1
Community health: Referral networks	1
Community health: Regular meetings	1
Community health: Research evidence	1
Community health: Research projects	1
Community health: School programs	1
Community health: Sense of community	1
Community health: Sharing information	1
Community health: Social medicine	1
Community health: Social services	1
Community health: Social welfare	2
Community health: State Policies	1
Community health: Structural intervention	1
Community health: Suicide prevention	2
Community health: Support needed	1
Community health: Support programs	1
Community health: Support system	1
Community health: Supportive environment	5
Community health: Supportive relationships	1
Community health: System improvement	1
Community health: System organization	1
Community health: Underprivileged communities	1

Subthemes	Frequencies
Community health: Well-being initiatives	1
Community health: Wellness initiatives	1
Community health: Workplace benefits	1
Community health: Workplace policies	2
Community health: Workplace wellness	1
Total frequency	167

Subthemes	Frequencies
Diverse Topics: Abuse	1
Diverse Topics: Accepting transfers	1
Diverse Topics: Accessibility	8
Diverse Topics: Action	1
Diverse Topics: Adjustment	1
Diverse Topics: Administration	1
Diverse Topics: Admission process	1
Diverse Topics: Advancement	1
Diverse Topics: Agreement	1
Diverse Topics: Alignment	1
Diverse Topics: Analysis	1
Diverse Topics: Anonymity	1
Diverse Topics: Asylum seekers	1
Diverse Topics: Authority	1
Diverse Topics: Availability	1
Diverse Topics: Bias	12
Diverse Topics: Bureaucracy	2
Diverse Topics: Capacity	1
Diverse Topics: Care	2
Diverse Topics: Children	5
Diverse Topics: Clear communication	1
Diverse Topics: Comfort	1
Diverse Topics: Complaints	1
Diverse Topics: Confirmation	1
Diverse Topics: Conflict	4
Diverse Topics: Consistency	1
Diverse Topics: Continuity	1
Diverse Topics: Contrast	1
Diverse Topics: Controversy	1

Subthemes	Frequencies
Diverse Topics: Conversation	1
Diverse Topics: Criteria	1
Diverse Topics: Data gathering	1
Diverse Topics: Definitions	3
Diverse Topics: Difference	1
Diverse Topics: Difficulty	1
Diverse Topics: Disconnect	1
Diverse Topics: Discourse	1
Diverse Topics: Discovery	1
Diverse Topics: Discussion	2
Diverse Topics: Documentation	2
Diverse Topics: Ease of communication	1
Diverse Topics: Explanation	1
Diverse Topics: Explicit communication	1
Diverse Topics: Expression	1
Diverse Topics: Facilities	2
Diverse Topics: Fatalities	1
Diverse Topics: Fevers	1
Diverse Topics: Firearm safety	1
Diverse Topics: Follow-up	1
Diverse Topics: Fulfillment	1
Diverse Topics: Geographic analysis	1
Diverse Topics: Geographic distribution	1
Diverse Topics: Geographic Information	1
Diverse Topics: Geographic location	1
Diverse Topics: Geographic Reach	1
Diverse Topics: Geography	2
Diverse Topics: Gray areas	1
Diverse Topics: Guidance	1
Diverse Topics: Gun control	1
Diverse Topics: Health	2
Diverse Topics: Identification	2
Diverse Topics: Imitation	1
Diverse Topics: Immigration	7
Diverse Topics: Importance	1
Diverse Topics: Importance of communication	2
Diverse Topics: Independence	1
Diverse Topics: Injury	2

Subthemes	Frequencies
Diverse Topics: Inquiry	3
Diverse Topics: Intellectual discourse	1
Diverse Topics: Interactions	1
Diverse Topics: Inter-facility transfer	1
Diverse Topics: Interpretation	1
Diverse Topics: Interpretation services	1
Diverse Topics: Interpreter availability	1
Diverse Topics: Interpreter limitations	1
Diverse Topics: Interpreters	2
Diverse Topics: Interpreter services	2
Diverse Topics: Interpreter usage	2
Diverse Topics: Interviewing	3
Diverse Topics: Issues	2
Diverse Topics: Justice	2
Diverse Topics: Language	1
Diverse Topics: Language access	2
Diverse Topics: Language barrier	9
Diverse Topics: Language interpretation	1
Diverse Topics: Listening	2
Diverse Topics: Literature	1
Diverse Topics: Logistics	2
Diverse Topics: Measurement	2
Diverse Topics: Moving for partner	1
Diverse Topics: Multilingualism	1
Diverse Topics: navigating	1
Diverse Topics: None	2
Diverse Topics: Normalcy	1
Diverse Topics: Normalization	2
Diverse Topics: Novelty	1
Diverse Topics: Open dialogue	1
Diverse Topics: Outcomes	1
Diverse Topics: Participant	1
Diverse Topics: Population	1
Diverse Topics: Positive	2
Diverse Topics: Privacy	2
Diverse Topics: Privilege	1
Diverse Topics: Project	1
Diverse Topics: Protocol implementation	1

Subthemes	Frequencies
Diverse Topics: Quantitative data	1
Diverse Topics: Race	3
Diverse Topics: Rambling	1
Diverse Topics: Realization	1
Diverse Topics: Recognition	1
Diverse Topics: Referral	2
Diverse Topics: Refugees	1
Diverse Topics: Relocation	1
Diverse Topics: Revenue	1
Diverse Topics: Role ambiguity	1
Diverse Topics: Role definition	1
Diverse Topics: Routine	1
Diverse Topics: Rural	1
Diverse Topics: Service	1
Diverse Topics: Skills	1
Diverse Topics: Solutions	1
Diverse Topics: Standardization	2
Diverse Topics: Suggestions	1
Diverse Topics: Technology improvement	1
Diverse Topics: Terminology	1
Diverse Topics: Transfer in center	1
Diverse Topics: Transfer process	1
Diverse Topics: Transitioning	1
Diverse Topics: Transportation	6
Diverse Topics: Treatment	1
Diverse Topics: Trends	1
Diverse Topics: Triple demic	1
Diverse Topics: Undocumented immigrants	1
Diverse Topics: Unique position	1
Diverse Topics: Urban area	2
Diverse Topics: Urbanization	1
Diverse Topics: Violence	1
Diverse Topics: Virtual communication	1
Diverse Topics: Voice	1
Diverse Topics: Workflow	2
Diverse Topics: Unity	1
Total frequency	220

Subthemes	Frequencies
Diversity and Equity: Access disparity	1
Diversity and Equity: Concern for equity	1
Diversity and Equity: Cultural diversity	6
Diversity and Equity: Disability perception	1
Diversity and Equity: Disparities	2
Diversity and Equity: Diversity awareness	1
Diversity and Equity: Equal access	1
Diversity and Equity: Equity	41
Diversity and Equity: Ethnic disparities	1
Diversity and Equity: Ethnicity	5
Diversity and Equity: Fairness	2
Diversity and Equity: Gender bias	1
Diversity and Equity: Gender disparities	1
Diversity and Equity: Gender issues	1
Diversity and Equity: Geographical differences	5
Diversity and Equity: Geographical disparities	4
Diversity and Equity: Geographical diversity	1
Diversity and Equity: Health disparities	2
Diversity and Equity: Health equity	23
Diversity and Equity: Implicit bias	1
Diversity and Equity: Inclusivity	8
Diversity and Equity: Inequities	2
Diversity and Equity: Injustice	2
Diversity and Equity: Insurance disparities	2
Diversity and Equity: Interest in language justice	1
Diversity and Equity: Intersectionality	1
Diversity and Equity: Language diversity	1
Diversity and Equity: Language justice	1
Diversity and Equity: Marginalization	1
Diversity and Equity: Minority representation	1
Diversity and Equity: Multiculturalism	3
Diversity and Equity: Oppression	1
Diversity and Equity: Prejudices	2
Diversity and Equity: Race and ethnicity	1
Diversity and Equity: Race inequalities	1
Diversity and Equity: Race relations	2
Diversity and Equity: Racial bias	1
Diversity and Equity: Racial disparities	2

Subthemes	Frequencies
Diversity and Equity: Racism	4
Diversity and Equity: Resource disparity	1
Diversity and Equity: Social inequality	1
Diversity and Equity: Social inequity	1
Diversity and Equity: Societal bias	1
Diversity and Equity: Socioeconomic disparities	2
Diversity and Equity: Stigma	1
Diversity and Equity: Structural inequality	1
Diversity and Equity: Systematic bias	1
Diversity and Equity: Systemic disparities	1
Diversity and Equity: Systemic racism	1
Diversity and Equity: Testing disparities	1
Diversity and Equity: Underrepresented	1
Diversity and Equity: Unequal access	1
Diversity and Equity: Unfairness	1
Diversity and Equity: Workforce diversity	1
Total frequency	154

Subthemes	Frequencies
Healthcare: Access to care	12
Healthcare: Access to healthcare	22
Healthcare: Access to Healthcare	1
Healthcare: Access to quality care	1
Healthcare: AHRQ	1
Healthcare: Barriers to care	4
Healthcare: Barriers to healthcare	1
Healthcare: Barriers to healthcare access	1
Healthcare: Burdens of healthcare profession	1
Healthcare: Challenges in healthcare	2
Healthcare: Challenges in Medicaid care	1
Healthcare: Challenges in providing equitable care	1
Healthcare: Collaborative healthcare	1
Healthcare: Community-based healthcare	1
Healthcare: Community healthcare	1
Healthcare: Comparative healthcare	1
Healthcare: Concerns about healthcare costs	1
Healthcare: Cost of care	2

Subthemes	**Frequencies**
Healthcare: Difference between private and academic healthcare	1
Healthcare: Diversity in healthcare	2
Healthcare: Equity in healthcare	1
Healthcare: Frustration with healthcare system	1
Healthcare: Frustration with limited healthcare services	1
Healthcare: Government-funded insurance	1
Healthcare: Healthcare	103
Healthcare: Healthcare access	22
Healthcare: Healthcare access barriers	1
Healthcare: Healthcare accessibility	4
Healthcare: Healthcare administration	3
Healthcare: Healthcare assistance	1
Healthcare: Healthcare barriers	4
Healthcare: Healthcare challenges	4
Healthcare: Healthcare communication	1
Healthcare: Healthcare compliance	1
Healthcare: Healthcare coordination	1
Healthcare: Healthcare costs	4
Healthcare: Healthcare decisions	1
Healthcare: Healthcare demand	1
Healthcare: Healthcare disparities	46
Healthcare: Healthcare dissatisfaction	1
Healthcare: Healthcare environment	1
Healthcare: Healthcare facilities	1
Healthcare: Healthcare funding	1
Healthcare: Healthcare industry	6
Healthcare: Healthcare inequalities	2
Healthcare: Healthcare initiatives	1
Healthcare: Healthcare innovation	1
Healthcare: Healthcare interventions	1
Healthcare: Healthcare knowledge	1
Healthcare: healthcare-legal compliance	1
Healthcare: Healthcare logistics	1
Healthcare: Healthcare management	1
Healthcare: Healthcare models	1
Healthcare: Healthcare navigation	1
Healthcare: Healthcare operations	1

Subthemes	Frequencies
Healthcare: Healthcare outcomes	1
Healthcare: Healthcare policies	2
Healthcare: Healthcare policy	2
Healthcare: Healthcare Practices	1
Healthcare: Healthcare privilege	1
Healthcare: Healthcare process	1
Healthcare: Healthcare profession	1
Healthcare: Healthcare professionals	1
Healthcare: Healthcare protocols	1
Healthcare: Healthcare quality	2
Healthcare: Healthcare regulations	1
Healthcare: Healthcare resources	1
Healthcare: Healthcare scheduling	1
Healthcare: Healthcare services	2
Healthcare: Healthcare setting	1
Healthcare: Healthcare staffing	1
Healthcare: Healthcare sundquist	1
Healthcare: Healthcare system	37
Healthcare: Healthcare system difficulties	1
Healthcare: Healthcare system experiences	1
Healthcare: Healthcare system inefficiencies	2
Healthcare: Healthcare system issues	1
Healthcare: healthcare systems	1
Healthcare: Healthcare systems	10
Healthcare: Healthcare system stressors	1
Healthcare: Healthcare technology	1
Healthcare: Healthcare trends	1
Healthcare: Healthcare utilization	1
Healthcare: Health education	2
Healthcare: Health insurance barriers	1
Healthcare: Health literacy	3
Healthcare: Health policy	1
Healthcare: Health systems	1
Healthcare: Hospital disparities	1
Healthcare: Hospital reimbursement	1
Healthcare: Immigrant health	1
Healthcare: Importance of healthcare	1
Healthcare: Innovative healthcare	1

Subthemes	Frequencies
Healthcare: Insurance access	2
Healthcare: Interest in global health	1
Healthcare: Interest in healthcare	1
Healthcare: Interest in healthcare policies	1
Healthcare: Leadership in healthcare	1
Healthcare: Limitations in healthcare settings	1
Healthcare: Medicaid	3
Healthcare: Medicaid expansion	1
Healthcare: Medical affordability	1
Healthcare: Navigating healthcare system	1
Healthcare: Need for primary care funding	1
Healthcare: Pharmaceutical costs	1
Healthcare: Physician payment models	1
Healthcare: Political barriers in healthcare	1
Healthcare: Preference for socialized healthcare	1
Healthcare: Primary care challenges	1
Healthcare: Provision of healthcare	1
Healthcare: Quality of healthcare	1
Healthcare: Racism in healthcare	1
Healthcare: Representation in healthcare	1
Healthcare: Rural healthcare	1
Healthcare: Treatment in healthcare	1
Healthcare: Universal healthcare	2
Healthcare: Value-based care	1
Total frequency	400

Subthemes	Frequencies
Human experience: Admiration	1
Human experience: Adventurous spirit	1
Human experience: Affirmation	1
Human experience: Aggressive behaviors	1
Human experience: Ambitious	1
Human experience: Caring	1
Human experience: Challenging	1
Human experience: Challenging situation	1
Human experience: Compassion	3
Human experience: Confusion	5

Subthemes	Frequencies
Human experience: Crisis awareness	1
Human experience: Critical Thinking	1
Human experience: Desire for change	1
Human experience: Desire to help others	1
Human experience: Disillusionment	1
Human experience: Distrust in authority	1
Human experience: Doubt	2
Human experience: Emotion	2
Human experience: Encouragement	4
Human experience: Encouraging	1
Human experience: Equally concerned	1
Human experience: Experience amplification	1
Human experience: Expressing interest	1
Human experience: Fear of judgment	1
Human experience: Fear of retaliation	2
Human experience: Frustration	17
Human experience: Generosity	1
Human experience: Guilt	1
Human experience: Helpfulness	1
Human experience: Hopeful	1
Human experience: Hopefulness	1
Human experience: Human nature	1
Human experience: Humility	2
Human experience: Hurt	1
Human experience: Ignorance	1
Human experience: Impactful	1
Human experience: Impactful work	1
Human experience: Impartiality	1
Human experience: Impatience	1
Human experience: Importance of questioning	1
Human experience: Information-seeking	1
Human experience: Insensitive comments	1
Human experience: Insightful	1
Human experience: Knowledge seeking	1
Human experience: Lack of awareness	2
Human experience: Lack of feedback	1
Human experience: Lack of knowledge	1
Human experience: Learning from others	1

Subthemes	Frequencies
Human experience: Mismatched expectations	1
Human experience: Mistrust	1
Human experience: Naive	1
Human experience: Opinions	1
Human experience: Passion	20
Human experience: Passion shift	1
Human experience: Patient perspective	1
Human experience: Personal perspective	1
Human experience: Perspective shaping	1
Human experience: Perspective Shift	1
Human experience: Positive bias	1
Human experience: Positive perception	1
Human experience: Preparedness	2
Human experience: Problem solving	1
Human experience: Profit mindset	1
Human experience: Profit motive	1
Human experience: Purpose-driven	1
Human experience: Quality time	1
Human experience: Questioning bias	1
Human experience: Rejection	2
Human experience: Resignation	1
Human experience: Respectful	1
Healthcare: Inequality in healthcare provision	3
Human experience: Seeking clarification	1
Human experience: Seeking guidance	1
Human experience: Seeking information	1
Human experience: Self-blame	1
Human experience: Self-discovery	1
Human experience: Self-doubt	1
Human experience: Sensitivity	2
Human experience: Solution-oriented	1
Human experience: Subjectivity	1
Human experience: Suicidal ideation	3
Human experience: Supportive	8
Human experience: Survival mentality	1
Human experience: Sympathetic	1
Human experience: Unexpected passion	1
Human experience: Unsure	1

Subthemes	Frequencies
Human experience: Willingness to help	1
Human experience: Willingness to learn	1
Human experience: Willpower	1
Total frequency	152

Subthemes	Frequencies
Human experience: Admiration	1
Human experience: Adventurous spirit	1
Human experience: Affirmation	1
Human experience: Aggressive behaviors	1
Human experience: Ambitious	1
Human experience: Caring	1
Human experience: Challenging	1
Human experience: Challenging situation	1
Human experience: Compassion	3
Human experience: Confusion	5
Human experience: Crisis awareness	1
Human experience: Critical Thinking	1
Human experience: Desire for change	1
Human experience: Desire to help others	1
Human experience: Disillusionment	1
Human experience: Distrust in authority	1
Human experience: Doubt	2
Human experience: Emotion	2
Human experience: Encouragement	4
Human experience: Encouraging	1
Human experience: Equally concerned	1
Human experience: Experience amplification	1
Human experience: Expressing interest	1
Human experience: Fear of judgment	1
Human experience: Fear of retaliation	2
Human experience: Frustration	17
Human experience: Generosity	1
Human experience: Guilt	1
Human experience: Helpfulness	1
Human experience: Hopeful	1
Human experience: Hopefulness	1

Subthemes	Frequencies
Human experience: Human nature	1
Human experience: Humility	2
Human experience: Hurt	1
Human experience: Ignorance	1
Human experience: Impactful	1
Human experience: Impactful work	1
Human experience: Impartiality	1
Human experience: Impatience	1
Human experience: Importance of questioning	1
Human experience: Information-seeking	1
Human experience: Insensitive comments	1
Human experience: Insightful	1
Human experience: Knowledge seeking	1
Human experience: Lack of awareness	2
Human experience: Lack of feedback	1
Human experience: Lack of knowledge	1
Human experience: Learning from others	1
Human experience: Mismatched expectations	1
Human experience: Mistrust	1
Human experience: Naive	1
Human experience: Opinions	1
Human experience: Passion	20
Human experience: Passion shift	1
Human experience: Patient perspective	1
Human experience: Personal perspective	1
Human experience: Perspective shaping	1
Human experience: Perspective Shift	1
Human experience: Positive bias	1
Human experience: Positive perception	1
Human experience: Preparedness	2
Human experience: Problem solving	1
Human experience: Profit mindset	1
Human experience: Profit motive	1
Human experience: Purpose-driven	1
Human experience: Quality time	1
Human experience: Questioning bias	1
Human experience: Rejection	2
Human experience: Resignation	1

Subthemes	Frequencies
Human experience: Respectful	1
Healthcare: Inequality in healthcare provision	3
Human experience: Seeking clarification	1
Human experience: Seeking guidance	1
Human experience: Seeking information	1
Human experience: Self-blame	1
Human experience: Self-discovery	1
Human experience: Self-doubt	1
Human experience: Sensitivity	2
Human experience: Solution-oriented	1
Human experience: Subjectivity	1
Human experience: Suicidal ideation	3
Human experience: Supportive	8
Human experience: Survival mentality	1
Human experience: Sympathetic	1
Human experience: Unexpected passion	1
Human experience: Unsure	1
Human experience: Willingness to help	1
Human experience: Willingness to learn	1
Human experience: Willpower	1
Total frequency	152

Subthemes	Frequencies
Workload Management: Appointment scheduling difficulties	1
Workload Management: Balancing responsibilities	1
Workload Management: Breaking tasks into smaller parts	1
Workload Management: Busy workload	1
Workload Management: Capacity full	1
Workload Management: Cost efficiency	1
Workload Management: Cycle breaking	1
Workload Management: Demanding schedule	1
Workload Management: Dual program	1
Workload Management: Fast-paced	1
Workload Management: Fast-paced environment	1
Workload Management: Fast track	1
Workload Management: Fast track evaluations	1

Subthemes	Frequencies
Workload Management: Fatigue	4
Workload Management: High demand	1
Workload Management: High volumes	1
Workload Management: High workload	2
Workload Management: Impact on performance	1
Workload Management: Increased demands	1
Workload Management: Matching into program	1
Workload Management: Multitasking	1
Workload Management: Night shift	1
Workload Management: Organizational priorities	1
Workload Management: Overburdened	1
Workload Management: Overwhelmed	1
Workload Management: Pressure from multiple areas	1
Workload Management: Pressure to perform	1
Workload Management: Prioritization	8
Workload Management: Priority setting	2
Workload Management: Progress tracking	1
Workload Management: Scheduling convenience	1
Workload Management: Service-oriented	1
Workload Management: Short-term focus	1
Workload Management: System overload	1
Workload Management: Time constraints	3
Workload Management: Waiting times	1
Workload Management: Work efficiency	1
Workload Management: Workflow efficiency	1
Workload Management: Workflow optimization	2
Workload Management: Workload management	3
Total frequency	57

Subthemes	Frequencies
Youth Development: Adolescent Health	1
Youth Development: Adolescents	2
Youth Development: Age distribution	1
Youth Development: Autism spectrum disorder	1
Youth Development: Behavioral complaints	1
Youth Development: Behavioral disorders	1
Youth Development: Behavioral health	1

Subthemes	Frequencies
Youth Development: Caregiving	1
Youth Development: Child abuse	1
Youth Development: Child care	1
Youth Development: Child development	2
Youth Development: Child Welfare	1
Youth Development: Childcare	1
Youth Development: Complex needs	1
Youth Development: Coping mechanisms	1
Youth Development: Cross-cultural communication	4
Youth Development: Cross-cultural comparison	1
Youth Development: Cross-cultural experiences	3
Youth Development: Cultural awareness	2
Youth Development: Cultural competence	7
Youth Development: Cultural connection	1
Youth Development: Cultural considerations	1
Youth Development: Cultural differences	4
Youth Development: Cultural factors	4
Youth Development: Cultural identity	1
Youth Development: Cultural shift	1
Youth Development: Developmental disabilities	1
Youth Development: Disruptive behaviors	1
Youth Development: Domestic violence	2
Youth Development: Economic perspective	1
Youth Development: Emotional toll	1
Youth Development: Employee safety	1
Youth Development: Employment stress	1
Youth Development: Epidemiology	1
Youth Development: External factors	1
Youth Development: Family commitments	1
Youth Development: Family dynamics	6
Youth Development: Family issues	1
Youth Development: Family relations	1
Youth Development: Family strain	1
Youth Development: Gender identity	2
Youth Development: Generational impact	1
Youth Development: Global perspective	1
Youth Development: Health assessment	1
Youth Development: Influence of role models	1

Subthemes	Frequencies
Youth Development: Institutional culture	1
Youth Development: International relations	1
Youth Development: Interpersonal communication	2
Youth Development: Interpersonal skills	1
Youth Development: Lack of social support	1
Youth Development: Life experience	1
Youth Development: Long-term stress	1
Youth Development: Mental Health	1
Youth Development: Mental health concerns	1
Youth Development: Mental health issues	1
Youth Development: Migrant population	1
Youth Development: Occupational health	1
Youth Development: Occupational stress	1
Youth Development: Parent perspective	1
Youth Development: Parental concerns	1
Youth Development: Parental impact	1
Youth Development: Parental Involvement	1
Youth Development: Parental responsibilities	2
Youth Development: Parental rights	1
Youth Development: Parental stress	2
Youth Development: Pediatric psychology	1
Youth Development: Personal background	1
Youth Development: Personnel management	1
Youth Development: Population demographics	1
Youth Development: Population growth	1
Youth Development: Population health	1
Youth Development: Power dynamics	2
Youth Development: Relationship breakdown	1
Youth Development: Role conflict	1
Youth Development: Sexual orientation	1
Youth Development: Situational stress	1
Youth Development: Social change	5
Youth Development: Social class	1
Youth Development: Social connections	1
Youth Development: Social context	1
Youth Development: Social determinants	1
Youth Development: Social determinants of health	14
Youth Development: Social network	1

Subthemes	**Frequencies**
Youth Development: Social sciences	1
Youth Development: Social work	5
Youth Development: Societal issues	3
Youth Development: Societal perception	1
Youth Development: Socioeconomic background	1
Youth Development: Socioeconomic factors	17
Youth Development: Socioeconomic status	5
Youth Development: Socioeconomics	3
Youth Development: Systemic factors	1
Youth Development: Team dynamics	2
Youth Development: Work dynamics	1
Youth Development: Work environment	12
Youth Development: Work stress	1
Youth Development: Work-life conflict	3
Youth Development: Workplace dynamics	3
Youth Development: Workplace issues	1
Youth Development: Workplace stress	4
Youth Development: Youth testing	1
Total frequency	196

Appendix D: Recruitment Flyer

VOLUNTEERS

NEEDED

DUAL DOCTORAL CANDIDATE LOOKING FOR PEDIATRIC ED PHYSICIANS TO SHARE THEIR EXPERIENCES ON PATIENT EQUITY

Study details

- Participants will be interviewed one-one-one via Zoom for 45 minutes.
- Responses will be confidential.
- Study has received approval for IRB exemption from Franklin University IRB.

Dissertation Research Study

IRB #: IRB-2023-86

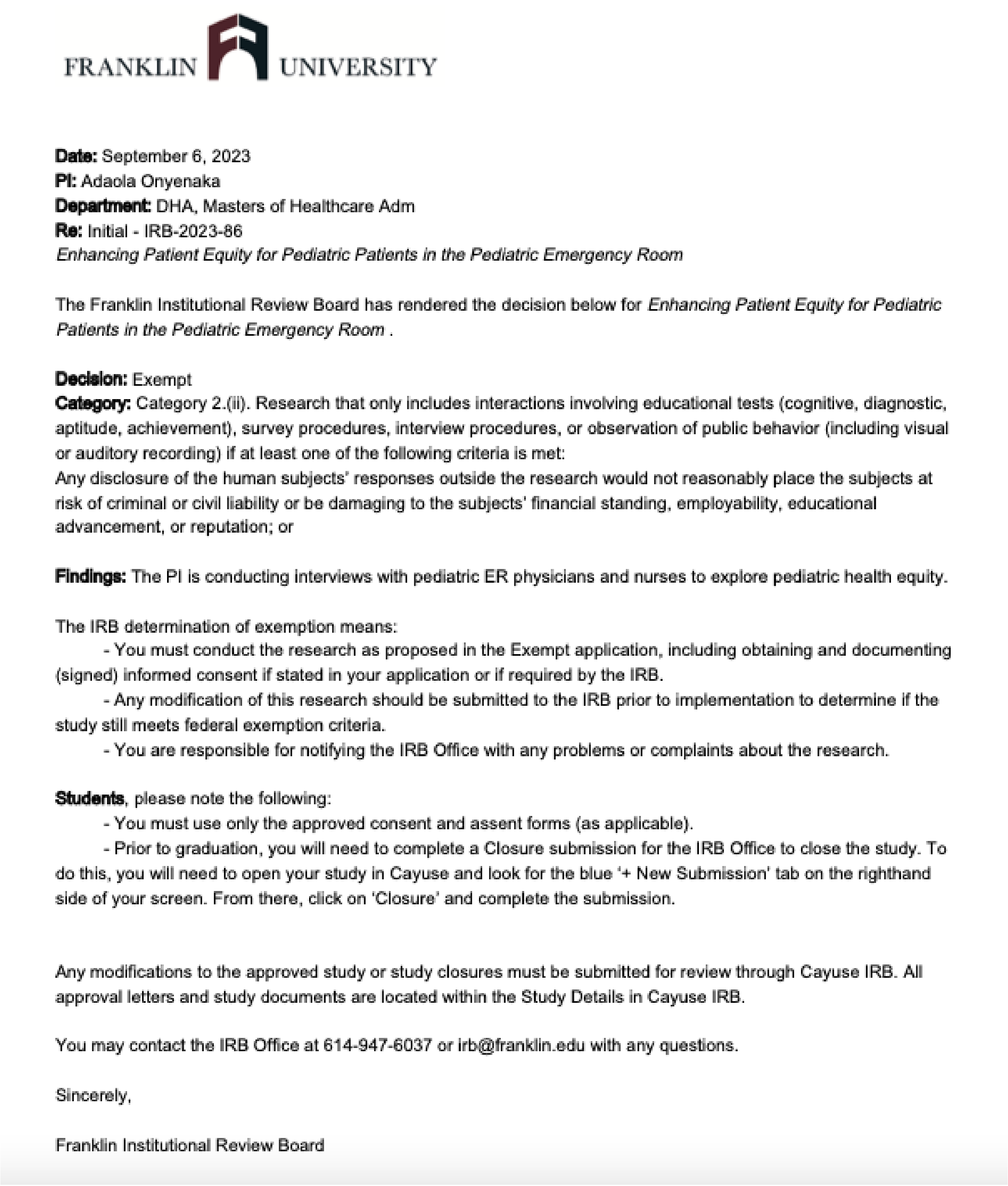
Participant criteria

- ✓ Pediatricians actively practicing in the United States who work in a pediatric emergency department.
- ✓ If interested in scheduling an interview, please email principal investigator: Adaola Onyenaka, MBA, MHA, MHI. onyena01@email.franklin.edu

SCAN THE QR CODE TO REVIEW AND SIGN INFORMED CONSENT FORM

For More Information onyena01@email.franklin.edu

Appendix E: Franklin University IRB Approval Letter



FRANKLIN UNIVERSITY

Date: September 6, 2023
PI: Adaola Onyenaka
Department: DHA, Masters of Healthcare Adm
Re: Initial - IRB-2023-86
Enhancing Patient Equity for Pediatric Patients in the Pediatric Emergency Room

The Franklin Institutional Review Board has rendered the decision below for *Enhancing Patient Equity for Pediatric Patients in the Pediatric Emergency Room* .

Decision: Exempt
Category: Category 2.(ii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or

Findings: The PI is conducting interviews with pediatric ER physicians and nurses to explore pediatric health equity.

The IRB determination of exemption means:
- You must conduct the research as proposed in the Exempt application, including obtaining and documenting (signed) informed consent if stated in your application or if required by the IRB.
- Any modification of this research should be submitted to the IRB prior to implementation to determine if the study still meets federal exemption criteria.
- You are responsible for notifying the IRB Office with any problems or complaints about the research.

Students, please note the following:
- You must use only the approved consent and assent forms (as applicable).
- Prior to graduation, you will need to complete a Closure submission for the IRB Office to close the study. To do this, you will need to open your study in Cayuse and look for the blue '+ New Submission' tab on the righthand side of your screen. From there, click on 'Closure' and complete the submission.

Any modifications to the approved study or study closures must be submitted for review through Cayuse IRB. All approval letters and study documents are located within the Study Details in Cayuse IRB.

You may contact the IRB Office at 614-947-6037 or irb@franklin.edu with any questions.

Sincerely,

Franklin Institutional Review Board