

PEDIATRIC CLINICIANS' PRACTICE OF ADDRESSING UNMET NEEDS OF  
SOCIAL DETERMINANTS OF HEALTH IN AN OUTPATIENT SETTING: AN  
EVALUATION STUDY

by

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ABSTRACT

Children living in families that faced challenges with social determinants of health (SDOH) are at higher risk of having adverse childhood experiences (ACEs). Children exposed to abuse, witness domestic violence, and grow up in a household where family members are mentally ill, substance abusers or imprisoned, are substantially more likely to have attempted suicide, become alcoholics, and use injected street drugs by the time they are adults. One way to prevent and mitigate the impacts of ACEs and substantial risks is to screen for SDOH in the pediatric care setting. SDOH screening is uncommon in pediatric clinical settings. Yet, interventions in pediatric primary care settings are feasible and can favorably affect clinical practices and patients' and their families' outcomes. Most pediatric outpatient clinical models are not set up to adequately address these potential risks to health. Pediatric clinicians' practice of screening, recognizing, and referring high-risk patients and their caregivers with psychosocial issues related to SDOH to community resources is not widely studied. The present study aims to evaluate and understand the current practice of screening and addressing SDOH in a

pediatric care setting. After chart reviews and data analysis with a randomly selected sample (N=376), this dissertation identified 39% (149 charts) presented unmet concerns for SDOH identified compared to 48% (179) without a concern. Of the 39% presenting with unmet needs, only 6.5% (33 charts) had some form of help provided by the clinician. There were 126 (82%) patients who demonstrated missed opportunities and the necessity for pediatric clinicians to address the unmet needs of SDOH. To address the identified knowledge gaps among clinicians, the researcher suggests that recommendations should include ongoing training of the protocol and procedure to address the SDOH identified based on the Family Resource Survey (FRS), prompting functions as a hard stop in the EPIC electronic health records, documentation of FRS concerns, and response as a quality metric in the primary care clinic. Pediatric clinicians could vastly benefit from the suggested recommendations aimed at improving their ability to aid in the mitigation of health disparities for at-risk families by addressing SDOH.

**Abbreviations:**

ACEs — Adverse Childhood Experiences

SDOH — Social Determinants of Health

FRS – Family Resource Survey

**INDEX WORDS:** Child poverty, Toxic stress, Health effects of poverty and toxic stress, Social determinants of health (SDOH), Adverse childhood experiences (Aces), Health disparities, Health inequities, Behavioral health, Food insecurity, Pediatric clinician's role,

Screening, Intervention, Unmet needs, Missed opportunities,  
Primary care clinical setting

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## CHAPTER 1 INTRODUCTION

In the United States, nearly 20% of all children live in poverty, including those in rural, urban, and suburban areas (Fox et al., 2020). A rapidly expanding body of research has documented that adverse childhood experiences (ACEs), defined as traumatic experiences occurring before the age of 18, have long-term health outcomes and result in continued intergenerational toxic stress, ultimately impacting personal and family physical and mental health, and socioeconomic status (Esther K Chung et al., 2016; Shonkoff & Garner, 2012). The ACE study, instrumental in demonstrating the association between childhood adversity and an increased risk for medical and psychosocial morbidity (Esther K Chung et al., 2016; Felitti et al., 1998), has encouraged other public health practitioners and researchers to study the association between ACEs and health-related problems that affect impoverished families (Chung et al., 2008; Chung et al., 2010; Felitti et al., 1998; Wade et al., 2014). There is a consistent dose-response effect whereby those with more ACEs, or a higher ACE score, have a greater likelihood of adverse health outcomes in childhood and adulthood (Chung et al., 2008; Chung et al., 2010; Felitti et al., 1998; Wade et al., 2014).

ACEs are potentially traumatizing experiences or events during childhood that can have negative, lasting effects on health and well-being (Mersky et al., 2017; Schickedanz et al., 2018). ACEs can vary from physical, emotional, or sexual abuse to parental divorce, a parent with a substance abuse problem, or the incarceration and absence of a parent or guardian (Mersky et al., 2017; Schickedanz et al., 2018). Research suggests that children living in poverty subjected to

ACEs are vulnerable to toxic stress and adverse outcomes of various child and adult health, such as asthma, developmental delay, diabetes, and heart disease.

Health disparities are defined by race, ethnicity, geography, orientation, socioeconomic status, among others. A crucial public health issue in the United States is poverty. There are direct correlations between education and socioeconomic status and health status, with those impoverished having the most inferior health outcomes (Currie, 2009). Pediatric clinicians should be concerned about the effects of poverty on health and understand associated, preventable, and modifiable social factors that impact health (Esther K Chung et al., 2016). Researchers define social determinants of health (SDOH) as specific causes of medical problems. There are numerous concerns such as family social support, child maltreatment, substance abuse, family mental illness, child care and education, firearm exposure, maternal depression, intimate partner violence, family financial support, and the physical environment are SDOH for which pediatric clinicians may play an instrumental role to alleviate the health-related consequences for families living in poverty (Esther K Chung et al., 2016). Despite the detrimental concerns of SDOH, a modest number of pediatric clinicians frequently address the unmet needs affecting children and their families during primary care visits. In spite of the detrimental effects of SDOH, few child health clinicians routinely address the unmet social and psychosocial factors negatively impacting children and their families during medical visits (Esther K Chung et al., 2016). Pediatric clinicians need tools to screen for SDOH and be familiar with available resources to address these issues (Esther K Chung et al., 2016). One way to do that is to screen at well-child visits in a pediatric primary care clinical setting. Findings suggest that pediatric primary care settings interventions are feasible and can favorably affect clinical practices and families' outcomes (Flynn et al., 2015). As such, screening for SDOH can lead to

clinicians discovering that families have unmet needs. The clinicians then have the opportunity to intervene by addressing the unmet social needs with resources. Resource intervention modality can range from consulting in-house professional staff like a social worker, providing community resource handouts, having a collaborative community partnership with an agency, or a combination of these.

However, research supports the claim that there is a lack of resources to address SDOH. Also, many clinicians do not feel they have the time to address SDOH. These are reasons clinicians give for not wanting to address SDOH. Studies have found that in these cases, just providing a community resource handout as the intervention modality is still more effective than doing nothing at all (Berman et al., 2018; Fierman et al., 2016; Vasan & Solomon, 2015).

## **History/Background**

### **Social Determinants of Health Background:**

The World Health Organization (WHO) defines SDOH as follows:

"The conditions in which people are born, grow, live, work, and age. The distribution of money, power shapes these circumstances and resources globally, at national and local levels. SDOHs are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries" (Garg & Dworkin, 2016; Health, 2008). Social determinants—"the circumstances in which people live and work—powerfully affect health. Social and environmental factors are estimated to have twice the impact of quality health care on the overall health of an individual" (Garg & Dworkin, 2016; Health, 2008). Furthermore, research in various fields including epidemiology, neuroscience, genomics, and molecular and developmental biology is advancing our knowledge of how social risks influence, manifesting as toxic stress, get "under the skin" of vulnerable children via epigenetic deviations and disruptions

to key physiological and neurocognitive pathways (Health, 2008). Mitigating the effect of potential toxic SDOHs is critical for fostering children's optimal health and development throughout their life span (Garg & Dworkin, 2016).

Pediatric practices need to adopt improved and effective methods to identify poverty related SDOHs and provide effective interventions to mitigate them. Identification of needs can be accomplished with screening instruments. Interventions may include resource handouts, in collaboration with local/regional public health, community, and professional organization/agency; programs entrenched in the service practice (e.g., Reach Out and Read, APEX, Medical-Legal Partnership-HeLP, Health Leads); and partnership with home visiting programs (Fierman et al., 2016).

One such screening instrument is the Family Resource Survey (FRS), used to address SDOH for the families in the primary care clinic evaluated in this study (Figure 1). This primary care clinic serves some of Atlanta's most vulnerable children. The level of trained pediatric clinicians offers families medical services care teams, pediatricians, mid-level/nurse practitioners, and medical residents/interns. Given the overwhelming body of evidence of the impact of SDOH on child health outcomes, the clinic's primary care team created a comprehensive SDOH screening tool in 2011, the FRS, for implementation in the clinic. Parents complete the survey during well-child visits at the newborn, 1 month, 4-month, 6-month periods, and then annually. The FRS was developed based on multiple separate screens addressing various risk factors (i.e., housing and food insecurity). Validated questions were utilized where they existed, but non-validated questions existed for some of the risks.

This survey consists of 18 questions that caregivers answer before being seen by their provider. The questions cover topics including literacy/educational level, parental depression,

food insecurity, housing instability, intimate partner/domestic violence, and barriers to coming to appointments. Examples of FRS questions are, “Over the last 2 weeks, how many days have you felt down, depressed or hopeless?”, “Within the last 12 months did you run out of food before you could get money to buy more?”, and “In the past year has your partner or other family member pushed you, punched you, kicked you, hit you, or threatened to hurt you?”. Resource intervention modalities are available to address each identified risk factor. Modalities include internal referrals to professionals such as a social worker, chaplain, behavioral health consultant, legal consultant, or handouts with community-based referrals and resources. The FRS follow-up protocol provides guidance to the clinicians on when and how to address identified psychosocial concerns screened on the FRS. When an identified housing unmet need is identified on the FRS, pediatric clinicians' intervention modality can be either or both, refer to the medical social or provide the family with a housing resource handout. Likewise, when a mental/behavioral unmet need is identified on the FRS, pediatric clinicians' intervention modality can be either or all, refer to the behavioral health consultant, chaplain, or provide the family with a mental/behavioral health resource handout. Families can present with a legal concern (housing, guardianship, education, etc.) identified on the FRS. In that case, pediatric clinicians' intervention modality can include referring to HeLP (Health Law Partnership), providing the family with the community resource handout, or the HeLP pamphlet. Thus, this clinic has options of intervention modality, which could increase the possibility of adequately addressing SDOH to mitigate childhood adversities and negative health outcomes.

### **Significance**

SDOH has significant effects on the well-being of patients and their families. The survey responses identified major issues such as food insecurity, unstable housing, needing daycare or

job assistance, family mental and behavioral health needs, and lack of transportation. More research is required to expand knowledge on how to best address SDOH in the pediatric setting. This study's goal in focusing on these issues is to provide more information for pediatric clinicians to address SDOH more effectively. Managers and leaders can use this information to inform the process used to train pediatric providers to assist families with identified issues most effectively. More specifically, better policies, more training, improved practices, and protocols can be developed to correct deficiencies identified with discrepancies in how the different medical training levels, pediatricians, mid-level/ nurse practitioners, and medical residents/interns address SDOH.

### **Research Aims**

The study aims to review the pediatric clinicians' current clinical practices utilization of the FRS to identify and address SDOH with intervention modalities in a primary care clinic. Hence, this research intends to discover and improve public health policies and practices needed to address social injustices and inequities embedded in SDOH by enhancing how pediatric clinicians identify and address these concerns in a pediatric primary care clinic.

*Moreover, the following research question will be addressed: In the survey, if any SDOH was identified, what intervention modality did pediatric clinicians use to address SDOH, and did the modality differ by clinician level?*

*First Hypothesis: It is hypothesized that pediatric clinicians prefer to use the community resource handouts as the most preferred intervention modality to address social determinants of health.*

*Second Hypothesis: Compared to other pediatric clinicians, Mid-level Nurse Practitioners will be more likely to use the community resource handouts as the most preferred intervention modality to address social determinants of health.*

## CHAPTER 2 REVIEW OF LITERATURE

### **Social Determinants of Health Defined**

The WHO defines health “as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity” (Grad, 2002; Huber et al., 2011; Kühn & Rieger, 2017; Organization, 2010). In the same regard, SDOH is defined in relation to “access to power, money, and resources and the conditions of daily life — the circumstances in which people are born, grow, live, work, and age” (Health & Organization, 2008; Marmot et al., 2008; Organization, 2010) Such conditions can affect a person’s health and vulnerability to disease. While all health practitioners have the potential to address socioeconomic status as a contributor to suboptimal health status, pediatric clinicians working in underserved communities are more familiar with the imperativeness to mitigate the potential risks of SDOH for their patients (Esther K Chung et al., 2016). For their most vulnerable patients, pediatric clinicians need to be familiar with the effects of poverty on health and understand associated, preventable, and modifiable social factors affecting their health. SDOH are known associated causes of child and adult medical problems. Their patients living in poverty and exposed to ACES are susceptible to toxic stress and a variation of child and adult health problems and diseases, including developmental delay, asthma, and mental health (Nelson et al., 2020).

Furthermore, research shows that the social determinants can be more important than health care or lifestyle choices in influencing health (Marmot et al., 2008). Numerous studies suggest that SDOH account for between 30-55% of health outcomes. Therefore, pediatric clinicians screening for SDOH appropriately is fundamental for improving health and reducing

longstanding inequities in families' health (Esther K Chung et al., 2016; Garg et al., 2015). For this study, an extensive review of the literature was conducted to learn what research related to this study's questions are available and discover the gaps in knowledge.

### **Health Disparities**

Furthermore, much of the focus around the benefits of addressing SDOH is related to reducing health disparities over the life course. Lessening health disparities has been associated with increasing access, coverage, and quality of healthcare. In their research, Williams et al. (2008) gathered evidence documenting that addressing SDOH can lead to reductions in health disparities over the life course. They focused both on interventions within the healthcare system that addresses some of the SDOH, as well as interventions of issues such as housing, neighborhood conditions, and increased socioeconomic status that can lead to improvements in health. Their reviewed findings illustrated that policies in many areas other than healthcare services can have decisive health consequences (Williams et al., 2008). As such, they concluded that it was essential that more focus should be on the systematic evaluation of policies targeting social and economic impacts that might have health consequences. More importantly, their findings emphasized the need for leaders from the healthcare and governmental and societal sectors to use relevant data, results, and information from research to enhance the health of populations. As such, they emphasized that these approaches have the possibility to enhance health for all, reduce disparities in health and create more productive and gratifying lives.

It is well documented that as trusted, respected medical professionals, pediatric clinicians are in optimal roles to assist with health disparities faced by many of their patients (DeVoe et al., 2016). There is a direct correlation between health inequalities and poor health outcomes. The

American Academy of Pediatrics enlisted guidelines that recommend all pediatricians screen for SDOH to identify families in need and link them to available resources (Vasan et al., 2020).

Despite evidence and knowledge regarding the importance of SDOH, recognizing and responding to the psychosocial circumstances of high-risk children and their families is not well established in routine pediatric clinics (Pinto et al., 2019; Tallon et al., 2017). Hence, the "Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, Fourth Edition" stresses the importance of engaging families in identifying parental strengths and discussing SDOH (Earls et al., 2019). Despite this advice, pediatric providers under-identify these risk factors in the primary care setting. As such, there is an important cross-cutting priority for this descriptive study evaluation: health disparities, health equity, and SDOH.

### **Screening For and Addressing Social Determinants of Health**

SDOH leads to health outcome disparities through increased risk for illness, decreased access to health care, and fewer opportunities for health promotion and disease prevention (Lane & Dubowitz, 2021). The literature states that pediatric practitioners can establish a system to implement and foster screening even though there is no standard recommended screening tool. Thus, the screening can identify unmet needs requiring a referral to resources in the local community for further assessment and the best treatment (Earls et al., 2019; Morone, 2017; Selvaraj et al., 2019). Although SDOH—including socioeconomic conditions such as income, wealth, and education—are by definition outside the training scope of standard medical care, there is a relevance to public health practitioners and medical care providers. Reviews of studies also considered the evidence of the feasibility and benefits as well as barriers of pediatric clinicians screening and addressing SDOH (Palakshappa et al., 2017; Tong et al., 2018). In addition, general practice recommendations to help the health care provider connect patients to

the community are insufficient (Fazalullasha et al., 2014). One study was conducted to establish the incidence of and demographic characteristics correlated with toxic stress risk factors by universal screening, the effect of screening on referral rates to resources, and the feasibility and acceptability of screening. They found that further evaluation and modification of the screening protocol are needed to increase screening and identification (Selvaraj et al., 2019).

### **Barriers to Screening and Addressing SDOH**

There are often adverse experiences within the home and environment for our nation's most impoverished children and families, preventing them from having the fullest potential of success in life and health. The opportunities outside of their homes and environment to mitigate suffering (e.g., child maltreatment, food insecurity and inadequate or unstable housing) are typical in the school and healthcare setting. Screening for SDOH in the pediatric clinical setting can help to improve consequences related to adverse experiences for patients that include family social support, child maltreatment, substance abuse, family mental illness, child care and education, firearm exposure, maternal depression, intimate partner violence, family financial support, and the physical environment by addressing these unmet needs with community resources and interventions. For example, identification of child maltreatment can result in parenting classes, connection to financial and nutritional aid that include Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and referrals to behavioral health providers for counseling. Economic, environmental, and psychosocial needs are common among children and their families cared for in pediatric primary care settings. Yet, it has been studied that pediatric care delivery models are not set up to systematically address these fundamental risks to health (Henize et al., 2015).

Other than not being systematically set up to address unmet needs, there are concerns about the clinician's attitudes, knowledge, and barriers to addressing SDOH with screening tools (Schickedanz et al., 2019). Schickedanz (2019) found that overall, most health professionals (84%) supported social needs screening in clinical settings. However, only a minority of clinicians (41%) reported confidence in their ability to address unmet social needs, and less than a quarter (23%) screen routinely for SDOH unmet needs currently (Schickedanz et al., 2019). It was perceived by clinicians that lack of time to ask (60%) and resources (50%) to address social needs as their most substantial barriers (Schickedanz et al., 2019). This study found variances by health profession in attitudes toward and barriers to screening for SDOH unmet needs, with physicians more likely to report time constraints as a barrier (Schickedanz et al., 2019). Pediatric residents cited time constraints, lack of knowledge about available resources, and discomfort with screening questions as barriers to screening (Klein et al., 2011; Vasan et al., 2020). Yet, as future pediatricians, it is critical that pediatric residents learn to effectively screen families for active and addressable social needs (i.e., negative social determinants of health) (Colvin et al., 2016). The National Academies of Sciences has stated that SDOH should be integral to health professional education and training to understand better the context of a patient's illness (National Academies of Sciences & Medicine, 2016). Other studies support this notion to include the recommendation to provide education and training to medical, nursing, allied health and human services students as well as practicing clinicians to have an improved understanding of and comfort with assessing, discussing, and responding to trauma (Corvini et al., 2018). Moreover, clinicians identified their time, limited resources, poor communication, lack of knowledge of needs and resources, and inability to bill insurance as barriers to address SDOH.

### **Health Risks and Ethical Implications of Not Addressing Unmet Needs**

Additionally, the availability of community-based support for referrals is often unequal based on geography, transportation, and language, leading to unequal access to services as well as hesitance by some pediatricians to participate in screenings (Garg, Cull, et al., 2019; Palacio et al., 2018; Palakshappa et al., 2017). For example, pediatricians in rural communities, where the availability of community-based supports can be more limited than in metropolitan areas, may find universal screening mandates more challenging to implement ethically. Scholars are stating that there are unintended consequences of universal screening of SDOH (Byhoff et al., 2019; Solberg, 2016). Unintended consequences may exist in situations where screening for any condition alone without the capacity to guarantee referral and linkage to appropriate treatment is ineffective and, arguably, unethical (Perrin, 1998). The literature highlighted a viewpoint on unintended consequences of screening for SDOH identifying needs and not meeting them would be crucial (Garg, Homer, et al., 2019). Similarly, the Garg et al. study noted that screening for SDOH has the potential to be unethical if done without safeguarding that identified needs are met (2019). Yet, they implied that they hope that this does not discourage clinicians from implementing social screening but instead motivates more significant efforts to act on the information screening presents and evaluate the effect of doing so on the well-being of the patient, health care utilization, and costs (Garg, Cull, et al., 2019).

There are ongoing debates within the literature that it is essential to understand the barriers of standardized SDOH screening and referral practices. Studies are presenting the ethical issues of unintended consequences of not addressing the unmet needs of identified SDOH. Many are related to the barriers clinicians find as the reasons that they are not screening for SDOH. Moreover, it is well documented that universal screening for SDOH in pediatric primary care

improved identifying and managing family needs. SDOH screening has helped to identify a population not previously detected, known as a “rising risk” population of patients, who are socially but not yet medically complex (Meyer et al., 2020). Also, in support of screening, studies found that the screening was feasible and acceptable to families (Meyer et al., 2020; Selvaraj et al., 2019).

### **Adverse Childhood Experiences as a SDOH**

Adverse Childhood Experiences (ACEs) are traumatic experiences in childhood such as neglect, abuse, and household dysfunction that have been proven to have a negative impact on both short- and long-term health and well-being (Felitti et al., 1998). The ten ACEs types are sexual, emotional, and physical abuse, physical and emotional neglect, mother treated brutally, household substance abuse and mental illness, parental separation or divorce, and incarceration of a household member (Felitti et al., 1998). Including ACEs as SDOH, the policy statement enacted from the American Academy of Pediatrics outlines the vital role of pediatricians in screening for and addressing precipitants of toxic stress (e.g., adverse experiences) (Bright et al., 2015). As such, numerous scholarly articles have studied how pediatric practices are addressing this and the public health impacts of SDOH and ACEs. A few studies wanted to learn the feasibility of screening for ACEs in different pediatric settings. Others were interested in the pediatric provider's knowledge about the prevalence of ACEs and the need to have it addressed in pediatric settings. Findings suggested that pediatric clinicians serving primarily low-income families recommend screening to help mitigate these (Bright et al., 2015). Yet, some clinicians may underestimate the prevalence of ACEs in their practice and may not be equipped to screen or address these matters consistently as a SDOH (Bright et al., 2015).

Other studies were also conducted to identify and respond to ACEs and SDOH in primary care settings caring for children. Namely, in response to the Endowment for Health and SPARK New Hampshire funded the New Hampshire Pediatric Improvement Partnership (NHPIP) to develop recommendations to address identifying and responding to ACEs and SDOH in New Hampshire primary care settings caring for children. Methods included conducting a review of the literature and Key Informant Interviews (KII). Themes from these were identified, and the findings were summarized in their report with recommendations for clinicians to address SDOH in pediatric practice (Corvini et al., 2018). The results from this study revealed that implementing a quality improvement approach to address ACEs and SDOH requires examining both factors within the clinic and systems issues outside of the clinic (Corvini et al., 2018).

Another study examined 1) how often pediatricians ask patients' families about ACEs, 2) how familiar pediatricians are with the original ACEs study, and 3) physicians' practice characteristics, mental health training, and attitudes or beliefs that are associated with them asking about ACEs. The results found that only 4% of pediatricians usually asked about all ACEs; but 32% did not usually ask about any. Less than 11% of those pediatricians reported being very or somewhat familiar with the ACEs study. Pediatricians who screened for ACEs usually asked about maternal depression (46%) and parental separation/divorce (42%) (Kerker et al., 2016).

Likewise, another related study was conducted to evaluate the effect of a pediatric clinical screening and referral system of ACEs and SDOH. The study evaluated the Well Child Care, Evaluation, Community Resources, Advocacy, Referral, Education (WE CARE) evaluated families' receipt of community-based resources linkage for unmet basic needs. The researchers performed a cluster randomized controlled trial at eight urban community health centers,

recruiting mothers of healthy infants. They concluded that systematically screening and referring for SDOH during well-child medical care can lead to the receipt of more social and economic community resources for families (Garg, Cull, et al., 2019; Garg et al., 2015). Other previous research has highlighted the importance of addressing the SDOH to improve child health outcomes. However, significant barriers exist that limit the pediatrician's ability to adequately address these concerns and unmet needs. Barriers include a lack of clinical restraints with their time, in-clinic resources availability, training, and education about ACEs as a SDOH; awareness of resources in the community; and case-management capacity.

These and other studies concluded that the importance of SDOH shapes both children's immediate health and their lifetime risk for disease, just as ACEs. Increasingly, pediatric health care organizations are intervening to address family social adversity. However, not much evidence exists on the success of related interventions and the clinician's practice of addressing the unmet need.

### **Why Pediatric Practices Should Discuss Childhood Trauma in Addressing SDOH**

Many consider childhood trauma or ACEs a critical social determinant of adult health. The WHO specifies of SDOH begins with “early years’ experiences” (Organization, 2011). Research supports a strong correlation between childhood adversity and adult health has grown since the Felitti and Anda landmark study published in 1998 (Felitti et al., 1998). The ACE study discovered that childhood abuse, neglect, and household dysfunction are incredibly prevalent and are substantial risk factors for later deleterious health behaviors and adverse health outcomes. ACE risks are cumulative and affect mortality – for instance, a person with six or greater categories of ACEs has a 20-year decrease in life expectancy compared to a person with no

ACEs (Brown et al., 2009). The most vulnerable patients are disadvantageously affected by ACEs, health problems, and other adverse SDOHs in adulthood (Miller-Cribbs et al., 2016).

An ACE score of four or more indicates a substantially increased risk of heart disease, cancer, autoimmune disease, diabetes, substance abuse, mental illness, to name just a few of the 40+ conditions linked to ACEs by the CDC (Merrick et al., 2019). A trauma history also puts individuals at risk for other SDOH, including poverty and lower educational attainment. The neurobiology of trauma was not studied well by researchers at the time of the original study. There is now increasing knowledge of how brain development is affected by ACEs and how those effects can be reversed (Nemeroff, 2016). Understanding how childhood trauma affects adults is the first step in helping them gain resilience and overcome the adversity from their childhood and past. Therefore, policies and pediatric practices should include childhood trauma in discussing SDOH to help educate clinicians about this critical topic.

### **Benefits of Addressing SDOH**

The benefits of addressing SDOH to mitigate negative life and health outcomes can range from immediate to long-term and from family to community to national. The pediatric healthcare system recognizes that addressing a family's social conditions is necessary to promote health and prevent disease. Those children in impoverished families residing in poor social conditions face the most significant risk of poor healthcare. In 2018, nearly 12 million children (about twice the population of Arizona) in the United States lived in poverty, representing over 16% of the child population. While children represented 23% of the population, they made up 31% of people in poverty (Semega et al., 2019). Children facing and living in poverty are at a greater risk of having physical, mental health, and developmental conditions than children not living in poverty. Examples include higher rates of asthma, dental caries, language delays, poor growth,

depression, and conduct disorders (Doidge et al., 2017). It is not uncommon for families living in poverty to have stressors related to reduced ability to provide for their children's basic needs, including food, shelter, and health care. Several studies have shown temporal associations between poverty and child maltreatment (Lane & Dubowitz, 2021). There is an interest in pediatric healthcare to help address SDOH to promote health and well-being for high-risk children and children in general, as well as to prevent children from being abused or neglected. This interest has resulted in some interventions that have successfully identified and ameliorated some of the adverse effects of SDOH for many children and families (Lane & Dubowitz, 2021).

Low-income children are faced with systematic generational poverty that research suggests feeds on itself and has far-reaching immediate and long-term economic and societal implications. Taking education for an example, according to the U.S. Department of Education, one-fifth of young adults ages 18 to 24 high school dropouts were twice as likely as college graduates to live in poverty. Lack of high school education only fuels America's annual \$80 billion (about \$250 per person in the US) prison system, which costs taxpayers about \$260 per resident annually (Kearney et al., 2014).

Other studies show that high school dropouts tend to have more chronic health problems (Vaughn et al., 2014) and higher mortality rates (Krueger et al., 2015). The nation would save \$7.3 billion (about \$22 per person in the US) in Medicaid spending if the number of high school dropouts was cut in half, according to a 2013 Alliance for Excellent Education report (DeBaun & Roc, 2013). After including improved productivity at work, reduced needs for acute-care services, and the elimination of pain caused by illness and disease into this calculation, the report shows that benefits increase even more: "\$12 billion (about \$37 per person in the US) in heart

disease-related savings; \$11.9 billion (about \$37 per person in the US) in obesity-related savings; \$6.4 billion (about \$20 per person in the US) in alcoholism-related savings; and \$8.9 billion (about \$27 per person in the US) in smoking-related savings” the report claims (DeBaun & Roc, 2013). Thus, good education is associated with good health.

Just as there is a focus on recognizing the importance of addressing SDOH for improving individuals' health, the advantages are more extensive in the health care system. There is an increasing interest in addressing SDOH within the health care system scope for the benefits of decreasing costs and improving population health. In fact, a Medicare Advantage plan study found that surveyed representatives reported preferring to address SDOH (Thomas et al., 2019). Their aim in addressing SDOH is to have resources within the community to tackle unmet needs like access to mental health resources, food, and healthcare to reduce illnesses and hospitalization and the associated cost. The Medicare Advantage addressed SDOH by introducing a formal benefit or supporting and referring members to community agencies (Thomas et al., 2019). As people age, there is a necessity for more healthcare dollars. For some of the poorest aging citizens, the healthcare cost continues to be associated with not addressing unmet SDOH needs. One study found that individuals who experienced ACEs had significant and sustained losses in health-related quality of life as adults compared to those who had not (Corso et al., 2008). Therefore, the Medicare Advantage plan is looking to address SDOH for this population with the hope of yielding a return on investment. They and others think that focusing on addressing adverse social and economic conditions will aid in advancing the best possible health and well-being of children, adults, communities, and society. Since the impacts of unmet needs of SDOH range from the individual to global reach, the benefits of addressing SDOH range from a governmental, health care, and societal perspective. Action and policies on

the SDOH must involve government, society, local communities, business, and health care. Pediatric clinicians, practice managers, and organization leaders could embrace the knowledge of the benefits of addressing SDOH to improve patient care and thus the overall health care of future populations.

### **Knowledge Gap in the Science**

The literature provided several studies that discussed a lack of resources as a barrier to addressing SDOH. Yet, when resources were available, these resources consisted of a partnership with community agencies, on-site support clinical professionals, local community resource handouts, and a comprehensive wrap-around family support resource program. In addition, there were options for in-person support or written resources. This research poses to understand when the barrier of resource availability is not of concern for screening for SDOH, whether there is a preference that pediatric clinicians have when addressing unmet needs. Based on the review of the literature, this focus of the research topic is not well studied. The knowledge gap is not having information on pediatric clinicians' resource preference to address unmet needs with the option of a community resource handout or in-person helping professionals. The scope to which intervention modality is preferred to address SDOH is largely unevaluated (Sokol et al., 2019). Clinicians' practice and choice of addressing unmet needs can be evaluated by looking at the resource intervention referral rates to either the clinical support professional, community resource handout, doing neither, or doing both. This information can add knowledge to the science by assessing how screening practices influence resource referrals (Boch et al., 2020) and the pediatric clinician's preference and identifying best practices and policies. Science and healthcare leaders agree that they integrate solutions of SDOH in different facets (E. K. Chung et

al., 2016; Garg, Cull, et al., 2019). These approaches to improving health equity could be implemented using public health policy, data, partnerships, capacity building, research and evaluation, and capacity building on best practices. Moreover, acknowledging SDOH and addressing unmet needs is one pillar of correcting health disparities with public health policies. As such, public health practices can ensure equal access to economic opportunity and health for all in this nation by protecting its most vulnerable population, children.

## **CHAPTER 3 METHODOLOGY**

### **Study Design**

University of Georgia's IRB Committee reviewed and approved this study, ID: PROJECT00003666. This research is defined as non-human, and therefore no consent was required. The primary aim of the research study was to analyze and evaluate pediatric clinicians' use of the family resource survey (FRS) (Figure 1) to address the SDOH in the clinical practice of the primary care clinic. A randomized chart review was conducted to assess the utilization of the FRS during the months of January – December 2018. In 2011, the FRS and a protocol (Figure 2) were developed for a metro Atlanta children's hospital primary care clinic as a tool for the clinicians to screen for SDOH. The FRS also captures some basic demographics of the caregivers. The FRS quantified families' responses to various SDOH. The pediatric clinicians review the responses of the FRS during medical visits to identify if there are unmet needs. This study was conducted to evaluate the practice of the clinicians addressing the unmet needs with the intervention resources at this clinic.

### **Study Population**

The study population consists of pediatric clinicians serving patients in a metro Atlanta children's hospital primary care clinic. Well-child visits are completed in the primary care clinic by pediatric clinicians. Pediatricians (15-20), Mid-level Nurse Practitioners (4), and medical residents/interns make up pediatric clinicians' medical practicing level for this outpatient clinic. Upwards of 20-30 medical residents train in this clinic.

### **Data Source**

This research used a retrospective descriptive study design using quantitative methods. It was based on secondary data analysis by extracting data from randomly selected patients' medical

charts from the medical records. This study was conducted using quantitative methodology with correlation design of the clinic's completed FRS screening using chart reviews. The total included a statistically significant sample of medical charts of children seen by a pediatrician, mid-level nursed practitioner, or resident for a medical visit within 2018 with a completed FRS.

Thus, the data source includes secondary data resulting from the medical chart reviews for the study and publicly available data from journal articles on pediatric screening for SDOH and evaluation. Necessary data collection tools include literature review from existing peer-reviewed articles and publications, notes in medical records (EPIC EHC), and data extracted from the FRS.

### **Study Setting**

The study data collection setting was at a children's hospital primary care clinic in Atlanta, Georgia. The hospital is one of the three affiliated Atlanta hospital locations that manages more than 90,000 patients annually. More than 30 pediatric specialties include Asthma, Emergency Department, Primary Care Clinic, and the Aflac Cancer and Blood Disorders Center. Over 80% of the patient population falls under the federal poverty level, and nearly 90% of the patients are Black/African American. Only the primary care clinic (PCC) is used for this study as this clinic is the only clinic currently using the FRS.

#### **Insurance coverage**

- 81% Medicaid/Medicaid HMO
- 10% S-CHIP or other state children's health insurance program
- 5% private insurance
- 4% self-pay/uninsured

#### **Race/Ethnicity**

- 88% Black/African American
- 8% Hispanic/Latino
- 2% White/Caucasian
- 2% more than one race

Figure 1: Insurance Coverage and Race/Ethnicity of Population

### **Inclusion and Exclusion Criteria**

Inclusion criteria include medical charts for patients seen for a well-child visit by primary care pediatric clinicians; pediatricians, mid-level nurse practitioners, and medical residents, with a completed FRS in 2018. Practicing policy protocol specifies FRS screening at each well-child visit for all patients in the primary care clinic except for patients seen for sick visit and patients seen for a 2-month well-child check.

<b>Inclusion criteria for the review of the medical charts</b>
<ul style="list-style-type: none"> <li>• Patients seen for a well-child visit seen by primary care pediatric clinicians; pediatricians, mid-level nurse practitioners, and medical residents, with a completed FRS</li> </ul>

Figure 2: Inclusion Criteria for the Review of the Medical Charts

Exclusion criteria are medical charts of patients who did not complete the FRS and patients seen for a 2-month well-child visit.

<b>Exclusion criteria for the review of the medical charts</b>
<ul style="list-style-type: none"> <li>• 2-month well-child check</li> </ul>
<ul style="list-style-type: none"> <li>• Incomplete FRS</li> </ul>

Figure 3: Exclusion Criteria for the Review of the Medical Charts

### **Recruitment**

For this study, using 2018 medical visits data, the selection/ recruitment consisted of pediatric clinicians and a random sampling of patients' medical charts proper to inclusion criteria from the chart review. Sample size calculations and study power was decided based on the number of medical visits seen in the pediatric primary care clinic from January –

December 2018. A random sample of medical charts of children of all age ranges seen by a pediatrician, mid-level nursed practitioner, or resident for a medical visit January – December 2018 with a completed FRS was used.

A census report was created from January – December 2018 in the EPIC electronic medical records to obtain the tally of 9197 unique patients' medical charts. There was a total of 11,435 actual medical visits (not all unique) in 2018 for the population. The census report was pulled to only include well-child visits and no sick visits. The statistical calculator on the Select Statistical Services ([select-statistics.co.uk/calculators/sample-size-calculator-population-proportion/](http://select-statistics.co.uk/calculators/sample-size-calculator-population-proportion/)) website was used to determine the appropriate sample size. The determining sample size is 372 or more (95% confidence level, 5% margin of error) was needed to be sufficient. A total of 376 unduplicated medical charts were reviewed and data extracted.

Sample size:

The following steps were used and adapted from statistical techniques used for descriptive studies to calculate the sample size that was statistically valid for this chart review.

- The study sample only included patients seen in 2018 for a well-child visit in the primary care clinic for a total of 9197.
- Total of 11,435 actual medical visits (not all unique) in 2018
- 2252 duplicate visits existed, but no duplicates were selected as a result of the randomization
- The process used a statistical calculator to identify the desired number using the statistical calculator on the Select Statistical Services ([select-statistics.co.uk/calculators/sample-size-calculator-population-proportion/](http://select-statistics.co.uk/calculators/sample-size-calculator-population-proportion/)) website. This

calculator uses the following formula for the sample size  $n$ :  $n = N * X / (X + N - 1)$ , where  $X = Z_{\alpha/2}^2 * p * (1-p) / MOE^2$ , and  $Z_{\alpha/2}$  is the critical value of the normal distribution at  $\alpha/2$  (e.g., for a confidence level of 95%,  $\alpha$  is 0.05 and the critical value is 1.96), MOE is the margin of error,  $p$  is the sample proportion, and  $N$  is the population size. Computation used to determine the appropriate sample size: Therefore, to calculate the sample size of 372, the parameters needed and added to the calculator were a for a confidence level of 95%,  $\alpha$  is 0.05, and the critical value is 1.96 for the 11,435-population size for a 50% desired sample population as a default.

#### Calculator

<b>What margin of error do you need?</b>	<b>5%</b>
<b>What confidence level do you need?</b>	95%%
<b>How big is the population?</b>	11, 435
<b>Desired likely sample proportion to be?</b>	50%
<b>Your recommended sample size is</b>	372

Figure 4: Sample Size Computation

A manual audit of all charts with medical visits meeting inclusion criteria from the randomized list was then completed. The manual chart review was conducted starting from top to bottom and one by one, using the assigned medical record number associated with the Random ID. The researcher selected the associated medical record number and used the medical number to look at the associated well-child visit date. Whether or not the FRS was completed for the well-child visit excluding 2 months visits would determine if the chart review for that visit was conducted to be counted in the sample towards the goal of 372 or more. As such, the process

started with 11,435 medical record numbers associated with the medical visit, and then these medical record numbers were randomized. After the randomization, I selected the first chart that was at the top and then moved to the second chart with the second medical record number, then third, etc. This process was continued until at least 372 charts stratified the inclusion criteria. To allow a few additional, the process continued until a total of 500 charts were reviewed. The process of selecting each medical record number and reviewing the chart for a completed FRS was repeated for a total of 500 charts, with only 376 being used for the study sample. There were 124 charts excluded due to missing/incomplete FRS or 2 months well visit.

Regarding the consent process, the chart review was a blind randomization sample, and therefore a consent process was not needed. The University of Georgia IRB (Institutional Review Board) waiver was granted for this study.

Flow chart showing calculated total sample, sample size, how many actual records were chart reviewed and data extracted, the number of final records:

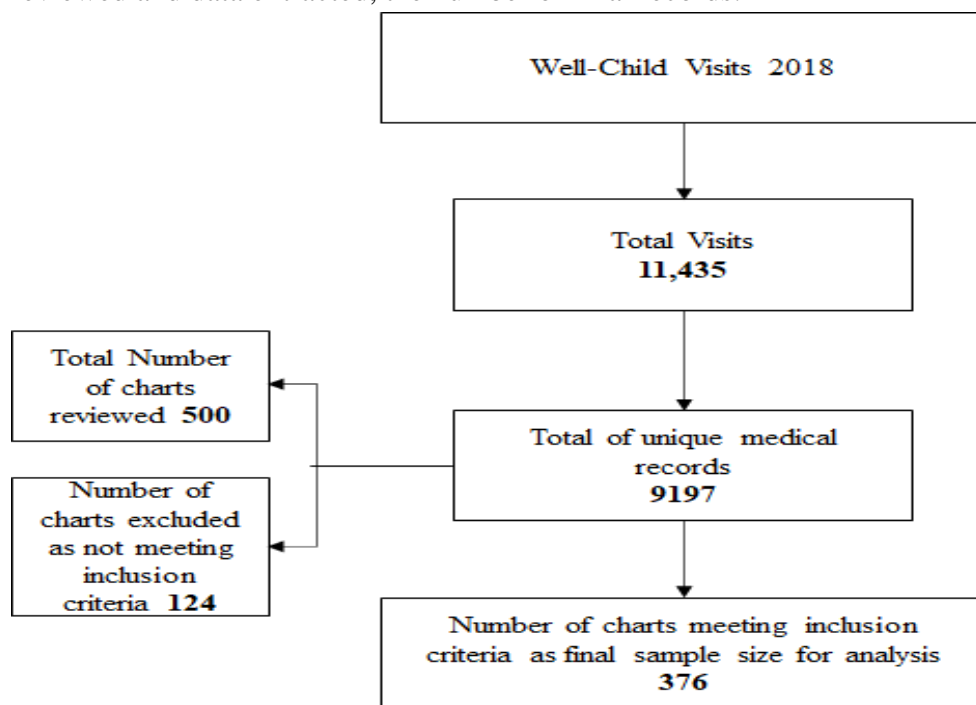


Figure 5: Sample Size Flow Chart

*Total sample* 11,435 well-child visits

<i>Recommended sample size</i>	<b>372</b>
<i>To meet sampling size with inclusion criteria, charts reviewed of 11,435</i>	500
<i>Total number of charts extracted for the sample size used for study sample size meeting inclusion criteria</i>	376
<i>Excluded charts with incomplete FRS</i>	124

Figure 6: Calculated Sample Total and Exclusion

All 11,435 medical record numbers were entered into Microsoft Excel to generate a randomization sample size to satisfy the assumption of independent and identically distributed variables and represent the sample. The medical record numbers were randomized in Microsoft Excel to obtain the study sample. To randomize the list of medical record numbers in Excel, the researcher combined the ‘RAND’ function and the ‘SORT’ feature. To start, the ‘RAND’ syntax was entered into the cell beside the first entry of the list. After that, the syntax down the column was copied and pasted. The column beside the medical record numbers column was filled with random numbers from 0 to 1. Selected the whole “RAND” column by clicking on the column header (Random ID). Lastly, the researcher clicked on the ‘Sort & Filter’ button and selected ‘Sort Smallest to Largest’. The researcher clicked the ‘Sort’ button, and the list shuffled. This randomized the list by generating random numbers beside my list using the ‘RAND’ function, and then ‘Sort’ shuffled the list.

The Excel assigned a Random ID that was associated with the Medical Record Number column. Columns titled –‘Date of Well-Child Visit’ and ‘FRS Completed Y/N’ were added for tracking. To calculate the statistically significant sample number with a completed FRS of at least 372. There were 500 medical charts reviewed to reach the 376 sample after those were excluded as not having completed FRS surveys and 2 months well-child visit. There was a

power analysis of patients, and a randomized sample in all age ranges seen in this primary care clinic from January – December 2018.

Medical Record Number	Date of Well-Child Visit	FRS Completed Y/N	Random ID
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Figure 7: Excel Spreadsheet Headings for Randomization

Randomization:

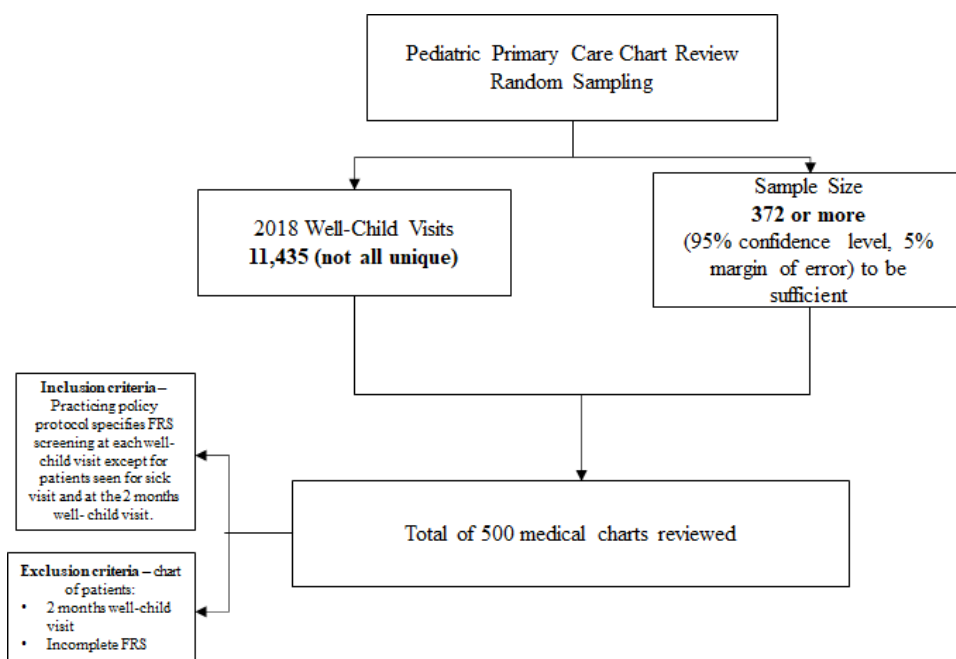


Figure 8: Randomization Sampling

## Methods and Procedures

The researcher examined the current practice of screening and addressing SDOH in a pediatric care setting utilizing chi-square analysis and logistic regression models. The sample size was derived as a statistically significant sample of the number of well-child clinic visits from January – December 2018. A total of 376 chart reviews were conducted to evaluate the

provider's use of the FRS to address SDOH in the primary care clinic at a pediatric hospital in metro Atlanta. For the study sample, the researcher needed to access 500 medical charts of well-child visits in the primary care clinic to review the utilization of the FRS for all age groups visits excluding 2 months old for the year of 2018. The FRS is distributed to each family at each well-child visit except for the 2-month-old medical visits. After the medical visit, the FRS is scanned into EPIC under Patient Questionnaire (document information) and becomes a part of the medical chart.

Using EPIC to conduct chart reviews, this study was done quantitatively with correlation design using completed FRS screening and related referrals indicated in the medical record. Multivariate logistic regression is used to estimate associations between the pediatric clinician's use of the screening FRS and their practice of referral intervention, adjusted for covariates and sociodemographic characteristics.

The study sample included patients seen in 2018 for a well-child visit to the primary care clinic. The researcher conducted a detailed chart review using the EPIC electronic health records to extract data from FRS that was captured in the Epi Info database. A database modeled as an electronic FRS replica was built in EPI Info to construct the chart review to collect the data. Additional questions pertaining to other variables for this study were included in the Epi Info database to include the clinicians' medical practicing level.

The researcher entered all the responses from the patient's paper scanned FRS in their medical charts onto the electronic replica FRS in the Epi Info database for each completed FRS. Data were collected to determine characteristics of the patient population, the identified related SDOH (e.g., social, legal, behavioral health), and the description of intervention resource provided by type (handout, referral professional, both, neither, none needed). The descriptions of

the pediatric clinician (Pediatricians, Mid-level nurse practitioners, or Residents) were also obtained from the medical chart review and entered into the database. Data were collected on which referral intervention (handout or referral professional) was used to address the unmet needs of SDOH. This data consisted of; referral orders the clinicians made to the resource professional (Behavioral Health Consultant, Medical Social Worker, Nurse Navigator), information entered and noted into the clinician's EPIC clinical documentation (provided the family a resource handout), or as recorded on the back of FRS (checked of which intervention was used). Yes/No variables were used when there was an identified unmet need. Yes/No variables were used if the clinician addressed the unmet need with an intervention.

### **Measures and Data Analysis**

As indicated, this study aims to review the pediatric clinicians' current clinical practices utilization of the FRS to identify and address SDOH in a pediatric primary care clinic. To test the primary research hypothesis, analyses were conducted to examine the practice of addressing SDOH, see Table 1. The outcome variable - which resource intervention modality, are the families referred to address the risk 1 represents handouts intervention services or referral professional intervention resources of SDOH was measured. Based on the chart review, the clinical level of the providers was entered in Epi Info to indicate if they are either a medical intern/resident, nurse practitioner, or medical doctor. This study's independent variable includes all pediatric clinicians who utilized the FRS in this primary care clinic. Whether families were referred to intervention services to address the risk of SDOH by the pediatric clinician is in two categories for the variable of resource intervention: and 0 represents nothing done. There are two categories for the variable of whether an unmet was

addressed using the FRS handout used. This variable was broken down simply into "Yes" or "No" categories.

To test the second research hypothesis, analyses were conducted to examine the outcome measure of which pediatric clinician level is more likely to use the FRS to address the unmet needs of SDOH. The independent variable is all pediatric clinicians in the clinic. Pediatric clinicians' level includes pediatricians, mid-level/nurse practitioners, and medical residents. Which pediatric clinicians' level used the FRS to address unmet needs of SDOH are in three categories for the variable with their practice preference of intervention: 2 represent pediatricians, 1 mid-level/nurse practitioners, and 0 represent residents.

Other covariates addressed and controlled related to the possibility of confounding the associations under this study such, as the type of unmet need, age, educational level, and caregiver relationship to the patient. These covariates are chosen to help identify if these factors influence the pediatric clinicians' preference when addressing SDOH. Including these covariates in the analysis can increase the precision or eliminate alternative explanations for the findings. For example, if the analysis demonstrates that pediatric clinicians use one intervention compared to another for newborns compared to older patients or caregivers. In that case, this study can provide implications around these differences.

Table 1. Variable, Concept/Definition, Statistical models/tests, Instrument/Source

Variable		Concept/Definition	Statistical models/tests	Instrument/Source
Hypothesis #1	Dependent Variable	Resource Intervention: 0 = nothing done 1= handouts intervention services or referral professional intervention resources	Chi-square	Family Resources Survey

Hypothesis #2	Dependent variable	Provider most likely to address patient unmet needs by: 0 = Referral made 1 = Handout was given 2 = Both 3 = Neither	Chi-square	Family Resources Survey
Primary independent variable		Provider type: 0 – Medical intern/resident 1 - Nurse practitioner 2 – Medical doctor	Chi-square	Family Resources Survey
Covariates				
Covariate #1	Unmet need	Patient concern identified was addressed by provider: 0 = No 1 = Yes	Logistic regression	Family Resources Survey
Covariate #2	Age	Date of birth/age of child 0 = <1 1 = 1-<5 2 = 5 - <12 3 = Older than 12	Logistic regression	Family Resources Survey
Covariate #3	Educational level	Highest grade completed 0 – Less than high school 1 – High school or GED 2 – Some College 3 – College or vocational school 4 – College grad or above	Logistic regression	Family Resources Survey
Covariate #4	Caregiver relationship to the patient	Relationship to child 0 = Mother 1 = Father 2 = Grandparent 3 = Foster parent 4 = Other relative 5 = Other/Not Indicated	Logistic regression	Family Resources Survey

## Statistical Analysis

This research performed descriptive analysis. The statistical analysis started with quantitative descriptive analysis to describe the sample characteristics based on the pediatric clinician level and the resource intervention preference. Bivariate and multivariate analyses were conducted. Chi-square tests were conducted to assess the pediatric clinician's level variations and referral resource intervention modality, handout or referral professional. A chi-square test explored whether the distribution of variables was significantly different referred persons by pediatric clinician level. Logistic regression was used to acquire odd ratios for referral modality, comparing handouts or referral professionals. Logistic regression was used to acquire odd ratios for non-referral (status quo) to consider both and neither option. Logistic regression also estimated associations between pediatric clinicians and the FRS adjusted for sociodemographic characteristics.

All analyses were completed using SAS (Statistical Analysis Software) 9.4 and Epi Info™ 7. SAS 9.4 and Epi Info™ 7 were used as the database for data input.

- Outcomes
  - Pediatric clinicians by numbers (Pediatricians, Mid-level nurse practitioners, or Residents)
  - Pediatric clinician by numbers uses of screening survey by Family resource survey
  - Pediatric clinician by numbers uses of screening survey by referrals and interventions
  - Resources and referrals by number of the pediatric clinician (Pediatrician, mid-level nurse practitioners, resident) and type of resource (handout vs. Referral professional) provided
    - Outcomes can be used to infer pediatric clinicians' current utilization of PCC SDOH resources/knowledge
    - Use to propose potential plans to implement better strategies within the PCC related to SDOH
    - Descriptions of how different levels of pediatric clinicians assess and address SDOH

- Resource needs related to unmet needs to address social determinants of health on Family Resource Survey (Income, food insecurity, transportation, housing, safety, behavioral/mental health, family violence, alcohol/substance abuse, parenting concerns, health insurance, caretaker health, childcare, concerns about child's education, concerns about child's health (behavior), car seat, medical equipment, parent education/job, child custody/ legal needs, spiritual concerns)
- Resource provided by type (handout, referral professional, both, neither, none needed)
- Resources handouts by number (Resource Handouts provided (General Community, Behavioral Health, Housing, Daycare, Working with your child's school, others)
  - Number types and concerns identified
  - If no concerns are identified
  - Demographic on patient's age
  - Demographic explanations of caregiver by relationship
  - Demographic explanations of caregiver's highest educational level

## Chapter 4 – Results

The sample for this study included patients seen in 2018 for a well-child visit to the primary care clinic. This chapter presents descriptive statistics and results based on the two study hypotheses. The research hypotheses that will be tested are ‘Do pediatric clinicians prefer to use the community resource handouts as the most preferred intervention modality to address SDOH?’ and ‘Compared to other pediatric clinicians, are Mid-level Nurse Practitioners more likely to use the community resource handouts/referral as the most preferred intervention modality to address SDOH?’

Table 2 presents the patient and caregiver’s sociodemographic characteristics in the family resources survey (FRS) and how clinicians address potential SDOH concerns. Three hundred seventy-six medical charts were reviewed that had completed the FRSs between January and December 2018. Among them, 46.5% of the patients were between the ages of one and five; 89.9% of the patient’s caregivers were a parent; 95.7% of the patients live with their caregiver; 41.1% of the caregivers had completed high school or received a General Educational Development (GED). Regarding if the income supported the family’s basic needs, 10.5% reported their income does not. For housing problems, 2.1% were at risk of losing housing, 1.6% were currently homeless, 0.8% had unhealthy conditions in the home. 1.6% responded yes to the home environment not safe for their child; 7.8% worried that food would run out before they got money to buy more in the past 12 months; 6.8% stated that they ran out of food before they could get money to buy more in the last 12 months. For the report of mental and emotional needs, when asked where they get emotional support, 5.6% reported no support. One (0.3%) caregiver

responded yes to family violence; 0% of the caregivers responded no to being worried about the child being physically or sexually abused; 0.6% of caregivers replied that they or their partner have a drinking or drug problem; 2.6% answered that they tried to cut down on alcohol in the past year; 17.6% stated 'once in a week or less', 2.4% 'many days', and 1.4% 'nearly every day' to how often they spank their child. When caregivers were asked the various reason that makes it difficult to get medical care, 5.9% stated insurance or Medicaid, 0.8% their health condition, 4.0% transportation, 0.8% their job, 1.1% childcare, and 0.5% problem scheduling with the doctor. Thirty-eight (10.1%) caregivers requested help finding daycare when asked if they would like help with a list of issues, 3.5% finding childcare, 1.6% child's school/IEP, 2.4% car seat, 0.8% medical equipment, 1.6% their own schooling, 0.5% child custody issues, 2.7% faith concerns, and 5.6% requested help dealing with a denial of Supplemental Security Income (SSI) or public benefits.

Results based on chart review data show the one hundred seventy-seven (47.8%) of the pediatric clinicians who completed the FRS surveys were medical interns or residents; 8.8% provided some form of help with 9.0% providing handouts to address noted concerns and 6.4% providing referrals and only 0.01% providing both. However, 10.4% of the providers responded that those concerns were addressed when a concern was noted on the FRS survey. Overall, 37.6% of providers completed and signed the back of the survey. Among those who had an identified concern, providers completed and signed the back of the form 34.6% of the time. The researcher defined SDOH using the following variables: whether family income supports the family's basic needs, whether having any major housing problems, whether the environment is safe for the child, whether respondent was worried that food would run out, whether food ran out within the last 12 months, days feeling down/depressed or hopeless, days feeling no interest or

pleasure in doing things, family violence, child abuse, whether spanking the child, drinking problems and having difficulty getting medical care. In total, a SDOH was identified in 38.9% of all observations.

Table 2. Patient, caregiver demographics and responses to the Family Resources Survey and clinicians address of noted concerns (N=376)

<b><u>Characteristic</u></b>	<b><u>N (%)</u></b>
Child's Age	
< 1	90 (24.6)
1 – 5 years old	170 (46.45)
6-12 years old	92 (25.1)
Older than 12	14 (3.8)
Missing	10
Child's Caregiver	
Parent	338 (89.9)
Other relative	32 (8.5)
Missing	6
Does the child live primarily in your home?	
Yes	357 (95.7)
No	16 (4.3)
Missing	3
Caregiver's highest grade completed	
Less / some high school	76 (20.3)
Completed HS / GED	154 (41.1)
Some college or more	145 (38.7)
Missing	1
Where do you get emotional support?	
Family	330 (88.2)
Other sources outside of family	23 (6.2)
No support	21 (5.6)
Missing	2
Does your income support your family's basic needs?	
Yes	331 (89.5)
No	39 (10.5)
Missing	6
Do you have any major housing problems	
No	353 (94.4)
At risk of losing housing	8 (2.1)

Currently homeless	6 (1.6)
Unhealthy conditions in home	3 (0.8)
Not answered / missing	5 (1.3)
Missing	1
Environment is not safe for your child?	
Yes	6 (1.6)
No	366 (98.4)
Missing	4
Within the past 12 months have you worried that your food would run out before you got money to buy more?	
Yes	29 (7.8)
No	343 (92.2)
Missing	4
Within the last 12 months did you run out of food before you could get money to buy more?	
Yes	25 (6.8)
No	343 (93.2)
Missing	8
Over the last 2 weeks, how many days have you felt down, depressed, or hopeless?	
No days	335 (89.6)
More than half the days	10 (2.7)
Several days	24 (6.4)
Nearly every day	3 (0.8)
Not answered	2 (0.5)
Missing	2
Over the last 2 weeks, how many days have you felt almost no interest or pleasure in doing things?	
No days	329 (88.4)
More than half the days	9 (2.4)
Several days	25 (6.7)
Nearly every day	4 (1.1)
Not answered	5 (1.3)
Missing	4
Partner or other family member pushed, punched, kicked, hit or threatened to hurt you	
Yes	1 (0.3)
No	372 (99.7)
Missing	3
Worry child been physically / sexually abused	
Yes	0 (0.0)

No	374 (100.0)
Missing	2
You or your partner have a drinking/drug problem	
Yes	2 (0.6)
No	345 (99.4)
Missing	29
Tried to cut down on alcohol in the past year	
Yes	9 (2.6)
No	334 (97.4)
Missing	33
How often do you spank your child?	
Not at all	265 (71.6)
Once in a week or less	63 (17.0)
Many days	9 (2.4)
Nearly every day	5 (1.4)
Not answered	28 (7.6)
Missing	6
What makes it difficult to get medical care (Select all that apply)	
No problems getting care	293 (77.9)
Insurance / Medicaid	22 (5.9)
My health condition	3 (0.8)
Transportation	15 (4.0)
My job	3 (0.8)
Childcare	4 (1.1)
Problem scheduling with my doctor	2 (0.5)
Other	0 (0.0)
Missing	34
Would you like help with any of these issues? (Select all that apply)	
Finding daycare	38 (10.1)
Finding preschool	13 (3.5)
Child's school / IEP issues	6 (1.6)
Car seat	9 (2.4)
Medical equipment	3 (0.8)
My own schooling	6 (1.6)
Child custody issues	2 (0.5)
Job training	10 (2.7)
Faith concerns	1 (0.3)
Denial of SSI or public benefits (e.g., food stamps, TANF, WIC, etc.)	21 (5.6)
Other	6 (1.6)
Missing	261
Provider type (missing = 6)	
Medical doctor	122 (33.0)
Medical intern / resident	177 (47.8)

Nurse practitioner	71 (19.2)
Missing	6
Was a concern identified? (missing = 1)	
Yes	149 (41.1)
No	221 (58.9)
Missing	6
Some form of help (referral or handout) was provided	
Yes	33 (8.8)
No	343 (91.2)
Where concern was identified (149), how provider addressed concern:	
Handout	21(9.01)
Referral	10 (6.4)
Both	2 (0.01)
Not applicable / not answered	116(92.2)
When there was a concern denoted on the survey, did provider document that they addressed the concern?	
Yes	38 (24.6)
No	107 (73.8)
Missing	4
Did provider complete and sign back of survey?	
Yes	140 (37.6)
No	232 (62.4)
Missing	4
When there was a concern denoted, did provider complete and sign back of survey?	
Yes	53 (34.6)
No	96 (65.4)
Social determinant of health identified?	
Yes	149 (38.9)
No	179 (47.7)
Missing	48

The sum of frequencies of each variable presented in Table 3 may not add up to the total number of complete observations due to missing data.

Table 3. Comprehensive List of the Unmet SDOH Needs That Families Reported in the Clinic

No support	21 (5.6)
No income basic needs	39 (10.5)
At risk of losing housing	8 (2.1)
Currently homeless	6 (1.6)
Unhealthy conditions in home	3 (0.8)
Yes – environment not safe	6 (1.6)
Yes – worried food would run out	29 (7.8)
Yes – ran out of food	25 (6.8)
More than half the days	10 (2.7)
Several days	24 (6.4)
Nearly every day	3 (0.8)
More than half the days	9 (2.4)
Several days	25 (6.7)
Nearly every day	4 (1.1)
Yes – family violence	1 (0.3)
Yes – substance problem	2 (0.6)
Yes – tried to cut down	9 (2.6)
Many days spanking	9 (2.4)
Nearly every day spanking	5 (1.4)
Insurance / Medicaid	22 (5.9)
My health condition	3 (0.8)
Transportation	15 (4.0)
My job	3 (0.8)
Childcare	4 (1.1)
Problem scheduling with my doctor	2 (0.5)
Finding daycare	38 (10.1)
Finding preschool	13 (3.5)
Child's school / IEP issues	6 (1.6)
Car seat	9 (2.4)
Medical equipment	3 (0.8)
My own schooling	6 (1.6)
Child custody issues	2 (0.5)
Job training	10 (2.7)
Faith concerns	1 (0.3)
Denial of SSI or public benefits (e.g., food stamps, TANF, WIC, etc.)	21 (5.6)
Other	6 (1.6)

Table 4 is a comprehensive list of the most common unmet SDOH needs that families reported. Emotional support, finances, food insecurity, depression/mental health, insurance, transportation, childcare, employment/job training, and public assistance.

Table 4. Comprehensive List of the Most Common Unmet SDOH Needs

No support	21 (5.6)
No income basic needs	39 (10.5)
Yes – worried food would run out	29 (7.8)
Yes – ran out of food	25 (6.8)
More than half the days	10 (2.7)
Several days	24 (6.4)
Several days	25 (6.7)
Insurance / Medicaid	22 (5.9)
Transportation	15 (4.0)
Finding daycare	38 (10.1)
Job training	10 (2.7)
Denial of SSI or public benefits (e.g., food stamps, TANF, WIC, etc.)	21 (5.6)

Table 5 describes multivariate logistic regression of SDOH identified across age group, education, and living with a primary caregiver. With SDOH as the dependent variable in the logistic model, this was conducted to see if there are any factors more apparent to explain whom the individuals are affected by SDOH. Controlling for other covariates, the odds of at least one adverse SDOH presenting was 4.66 times among children aged 1-5 years old of the odds among children older than 12 years (Odds Ratio: 4.66 [2.38,9.12]. Compared with not living with primary caregiver were less likely of having at least one adverse SDOH (OR=0.17, 95% CI: 0.0404,0.8484). Therefore, it would be recommended that clinicians give special attention and consideration to those with significance in this group since they are more likely to report unmet needs of SDOH.

Table 5. Multivariate Logistic Regression of Factors Affecting SDOH Status

Covariates	Odds Ratio	Std. Err.	z	p-value	[95% CI]
Constant	3.11	2.61	1.36	0.175	[0.60,16.06]
Age Group (ref = Older than 12)					
<1 year	1.58	.48	1.51	0.132	[0.87,2.85]
1-5 years	4.66	1.60	4.49	0.000	[2.38,9.12] ***
6-12 years	1.38	0.64	0.70	0.485	[0.56,3.40]
Education (ref = 0)					
1	0.68	0.22	-1.17	0.243	[0.35,1.29]
2	0.74	0.21	-1.06	0.289	[0.43,1.29]
Living with Primary Caregiver (ref = No)					
Yes	0.17	0.14	-2.18	0.030	[0.04,.84]***

Table 6 presents the bivariate analyses describing the characteristics of the patients, their caregivers by whether a SDOH concern was identified. A Chi-square test was performed to determine if there was an association between the characteristics of patients, caregivers and if the pediatric clinicians identified the concerns denoted on the FRS by the caregivers. The researcher assessed the association between pediatric clinician type and how concerns from the FRS survey were identified using Fisher's Exact test of association as 25% of values for cells with sample size below 5. Significant associations were found between concern identified and "whether or not the child lived with primary caregiver" (p-value = 0.0012, Fisher's Exact Test), "where the patient gets emotional support" (p-value <0.0001, Fisher's Exact Test), and "whether the provider documented that they addressed the concern" (p-value <0.0001, Fisher's Exact Test). Signing the back of the FRS per the protocol signifies that the provider reviewed and acknowledged if there were unmet needs. The clinician signed the back of the FRS for 40% of those without any adverse SDOH issue and 35% of those who had at least one adverse SDOH

need. However, because it is not documented that the provider addressed the unmet, this may mean that signing the form is purely a random event. Therefore, the percentage may not be statistically significant. One rationale for them signing is that the FRS is scanned into the medical records as a part of the clinic visit documentation and, as such, is signed.

Table 6. Patient and caregiver demographics and pediatric clinicians' responses by concern identified

Characteristics	Concern Identified N (%)		$\chi^2$ (p-value)
	Yes	No	
Child's Age (missing = 10)	Yes - 149 (1)	No- 227 (9)	
< 1	37 (41.1)	53 (58.9)	2.21 (0.53)
1 – 5 years old	65 (38.2)	105 (61.8)	
6-12 years old	42 (45.7)	50 (54.4)	
Older than 12	4(28.6)	10 (71.4)	
Child's Caregiver (missing = 7)			
Parent	134 (39.6)	204 (60.4)	1.30 (0.25)
Relative	15 (49.0)	16 (51.0)	
Child live primarily in with caregiver (missing = 7)			
Yes	140 (39.2)	217 (60.8)	(0.0012) [Fisher's Exact Test (FET)]
No	9 (81.3)	3 (18.8)	
Caregiver's highest grade completed (missing = 7)			
Less / some high school	37 (51.3)	36 (48.7)	4.22 (0.12)
Completed HS / GED	57 (37.7)	96 (62.3)	
Some college or more	55 (39.3)	88 (60.7)	
Where do you get emotional support? (missing = 15)			
Family	122 (37.0)	208 (63.0)	(<0.0001) [FET]
Other sources outside of family	8 (66.7)	4 (33.3)	
No support	3 (30.0)	7 (70.0)	
Provider type (missing = 9)			
Medical doctor	44 (36.9)	77 (63.1)	1.48 (0.48)
Medical intern / resident	74 (42.4)	102 (57.6)	
Nurse practitioner	31 (45.1)	39 (54.9)	
When there was a concern denoted on the survey did			

the provider document that they addressed the concern? (missing = 6)				
Yes	36 (97.4)	1 (2.6)	(< 0.0001) [FET]	
No	113 (34.5)	220 (65.5)		
Did provider complete and sign back of survey? (missing = 6)				
Yes	50(37.9)	87 (62.1)	0.99 (0.32)	
No	99(43.1)	132 (56.9)		

Results of bivariate analyses with patient and caregiver characteristics and completion of the FRS survey by referral type are summarized in Table 7.

Table 7. Cross-Tabulation of Signature Provided by Identified by Referral Type

Characteristics	Referral Type N = 10 (%)			
	Behavioral Health Coordinator 2 (20.0)	Social Work 4 (40.0)	Other Resource 4 (40.0)	
Provider complete and sign back of survey (missing = 366)				n/a
Yes	2 (20.0)	4 (40.0)	4 (40.0)	
No	0	0	0	

Due to only an exceptionally low percentage (8.8%) of families receiving some form of help, either a referral or handout, bivariate analyses were done between patients' and caregivers' characteristics and whether some form of help was provided to caregivers shown in Table 8.

Caregivers who reported emotional support from family (0.02, Fisher's Exact Test) were associated with receiving some form of help from pediatric clinicians. A significant association was identified between some form of help and where patients get their emotional support (p-value < 0.0001, FET). Caregivers who identified a concern on the FRS survey were also associated with receiving some form of help from pediatric clinicians (< 0.0001, FET).

Clinicians who documented that the concern was addressed were associated with pediatric clinicians providing a form of help to caregivers (< 0.0001, FET). The clinician completing and

signing the back of the survey was associated with providing some form of help to caregivers ( $\chi^2 = 25.4$ , p-value =  $<0.01$ ).

Table 8. Patient and Caregiver Demographics and Pediatric Clinicians' Responses Where Concern was Identified by Some Form of Help Provided

Characteristics	Some form of help (referral/handout) was provided N = 149 (%)		$\chi^2$ (p-value)
	Yes 33 (21.4)	No 116 (78.6)	
Child's Age			
< 1	4 (10.8)	31 (89.2)	0.80 (0.67)
1 – 5 years old	11 (16.9)	52 (83.1)	
6-12 years old	11 (23.9)	33 (76.1)	
Older than 12 years	7 (100)	0 (0)	
Child's Caregiver			
Parent	32 (23.9)	102 (76.1)	(0.02) [Fisher's Exact Test, FET]
Relative	1(0.07)	14 (.93)	
Child live primarily in with caregiver			
Yes	33 (23.57)	107 (76.43)	(0.07) [FET]
No	0 (0)	9 (100)	
Caregiver's highest grade completed			
Less / some high school	7 (17.9)	31 (82.1)	0.38 (0.83)
Completed HS / GED	13 (22.4)	43 (77.6)	
Some college or more	13 (22.8)	42 (77.2)	
Where do you get emotional support?			
Family	22 (18.0)	96 (82.0)	(<0.0001) [FET]
Other sources outside of family	5 (45.5)	6 (54.6)	
No support	6 (30.0)	14 (70.0)	
Provider type			
Medical doctor	8 (17.8)	34 (82.2)	0.65 (0.72)
Medical intern / resident	17 (22.7)	58 (77.3)	
Nurse practitioner	8 (25.0)	24 (75.0)	

Did the provider document that they addressed the concern?				
Yes	33 (86.8)	5 (13.2)	(< 0.0001) [FET]	
No	0	111 (100)		

Table 9 provides descriptive statistics of patients, caregivers, by provider type when a need was addressed. No significant associations were identified at an alpha level of 0.05.

Table 9. Patient and Caregiver Characteristics by Provider Type When Some Form of Help was Provided

Characteristics	Provider Type			Fisher's Exact Test (p-value)	
	Medical doctor	Medical intern / resident	Nurse practitioner		
	2 (20.0)	7(70.0)	1 (10.0)		
Child's Age (missing = 1)					
< 1	0	2 (100)	0	(0.28) n/a	
1 – 5 years old	0	4 (100)	0		
6 – 12 years old	1 (33.3)	1 (33.3)	1 (33.3)		
Older than 12 years	0	0	0		
Child's Caregiver					
Parent	2 (20.0)	7 (70.0)	1 (10.0)	n/a	
Relative	0	0	0		
Does the child live primarily in home					
Yes	2 (20.0)	7 (70.0)	1 (10.0)	n/a	
No	0	0	0		
Caregiver's highest grade completed					
Less / some high school	1 (100)	0	0	(0.48)	
Completed HS / GED	1 (14.3)	5 (71.4)	1 (14.3)		
Some college or more	0	2 (100)	0		
Where do you get emotional support					
Family	2 (25.0)	5 (62.5)	1 (12.5)	n/a	
Other sources outside of family	0	1 (100)	0		
No support	0	1 (100)	0		
Was a concern identified?					
Yes	2 (20.0)	7 (70.0)	1 (10.0)	n/a	

	No	0	0	0		
When there was a concern denoted on the survey did provider document that they addressed concern						
	Yes	2 (22.2)	7 (77.8)	0	(0.10)	
	No	0	0	1 (100)		
Provider complete and sign back of survey						
	Yes	2 (20.0)	7 (70.0)	1 (10.0)	n/a	
	No	0	0	0		

Table 10 reflects how missing values were dealt with. Regarding any missing values for key SDOH measures, a total number of records identified through chart review: n=376. Seven of the records were excluded. Regarding any missing values in other demographic factors, a total of 369 records. Final sample included in the regression analysis is 359.

Table 10. Flowchart Dealing with Missing Values

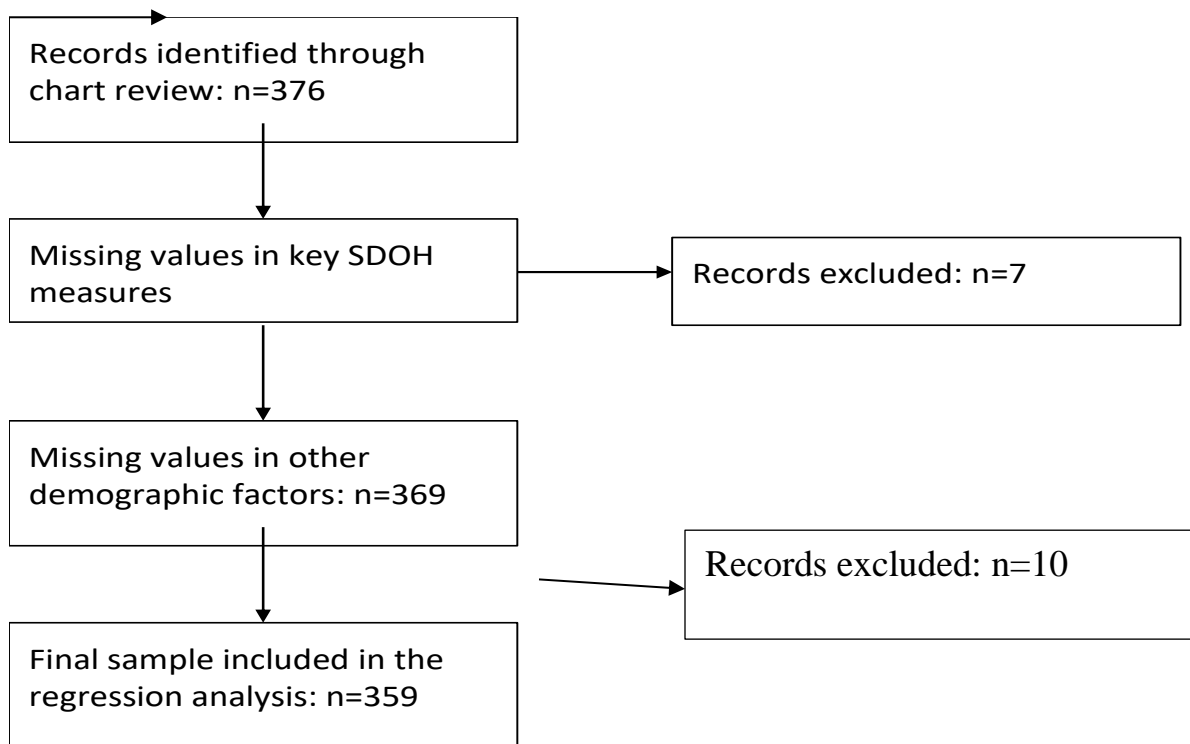


Table 11 describes multivariate logistic regression of SDOH identified across age group, education, living with a primary caregiver, family support, faith support, friends support, and whether the provider signed the FRS form. Controlling for other covariates, the odds of getting handouts/referral when a SDOH was identified were 3.28 times among children aged 1-5 years old of the odds among children older than 12 years (Odds Ratio: 3.28 [1.70,3.56]. Compared with medical interns, medical doctors were less likely to provide handout/referral help when a SDOH was identified (OR=0.57, 95% CI: 0.33,0.97).

Table 11. Multivariate Logistic Regression of Social Determinant of Health across covariates (missing = 7)

Covariates		Odds Ratio	p-value	[95% CI]
Constant		1.50	0.55	[0.394,5.712]
Age Group (ref = Older than 12)				
<1 year		1.36	0.320	[0.74,2.47]
1-5 years		3.28	<0.0001	[1.70,6.34] ***
6-12 years		1.43	0.447	[0.57,3.56]
Education (ref = 0)				
1		0.66	0.210	[0.35,1.26]
2		0.83	0.527	[0.48,1.46]
Living with Primary Caregiver (ref = No)				
Yes		0.40	0.101	[0.137,1.19]
Family Support (ref = no)		0.70	0.319	[0.35,1.41]
Faith Support (ref = no)		0.83	0.541	[0.74,1.48]
Friends Support (ref = no)		1.32	0.272	[0.81,2.15]
Provider signed (ref = no)		0.93	0.760	[0.57,1.51]
Provider Type (ref = Medical Intern)				
Nurse Practitioner		0.73	0.326	[0.39,1.36]
Medical Doctor		0.57	0.039	[0.33,0.97] ***

In summary, adjusting for child's age, clinicians provided some form of help (referral/handout); the outcome is <1 year of age - 25%; 1 – 5 years old - 40%; 5-12 years – 25%; and 12 years or older - 8% with 2% missing values. For the outcome of some form of help (referral/handout) provided when adjusting by caregiver's highest grade completed; some high school - 21%; completed HS/GED - 39%; and some college or more - 39%. Of those with some form of help (handout/referral), when a concern was denoted on the survey, the clinician documented that they addressed it 100%. However, with the total sample 376, the clinician acknowledged addressing the SDOH by completing and signing back of survey only 61% and 39% did not sign. Of the total 149 identified unmet social needs by provider type; Medical doctor 45 (36.9), Medical intern/resident, 75 (42.4), and Nurse Practitioner 32 (45.1). Regarding the practice of acknowledging the opportunity of SDOH on the survey, medical doctor 79 (65.3), medical intern/resident 116 (66.3), and nurse practitioner 34 (47.9) did not complete and sign back of survey.

## **CHAPTER 5-CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS**

This research explored pediatric clinicians' current clinical practices regarding the utilization of the FRS to identify and address SDOH in a primary care clinic. Of the 500 charts reviewed, 376 met the inclusion criteria. The statistical calculator on the Select Statistical Services website was used to determine the appropriate sample size. The determining sample size of 372 or more (95% confidence level, 5% margin of error) was needed to be sufficient. A total of 376 charts were reviewed and data extracted. This study outcomes infer a need for improvement of the pediatric clinicians' current utilization of the SDOH resources. As such, the outcomes should be used to propose potential plans to implement better strategies within this clinic related to addressing SDOH concerns. The results further describe how different levels of pediatric clinicians acknowledge and address unmet needs related to SDOH. In addition, this study brings awareness of how different types of SDOH and associated factors are more likely acknowledged and addressed by pediatric clinicians.

The chart review indicated that of the study sample, 39% (149 charts) presented unmet concerns for SDOH identified compared to 48% (179) without a concern. There were missing values for 13% (50 charts). Of the 39% presenting with unmet needs, only 6.5% (33 charts) had some form of help provided by the clinician. Of the 149 with an identified concern, the provider addressed concerns with handout 12% (20 charts), referral 8% (3 charts), and one of those charts received both (handout and referral) 1%. Although 33 providers gave handouts or referred the patients, 140 providers signed the form acknowledging the unmet need. Bivariate analysis

between the practice of referring to intervention and whether or not providers signed the form showed that those who signed the form are significantly more likely to give handouts or refer patients.

Moreover, upon further chart review of the medical record, 10.4% of clinicians documented those concerns were addressed, and 37.6% of the clinicians signed that they completed and signed the back of the survey. Some form of help (referral/handout) was provided by Provider type; 24% Medical doctor, 52% Medical intern/resident, and 24% Nurse practitioner. Results from the logistic regression model showed that children aged 5 to 12 years old as compared to those aged below 1-year-old were more likely not getting the handouts or referral, though they had at least one SDOH issue. In addition, compared to medical interns, medical doctors were more likely to give handouts or refer the patients when they had a SDOH concern.

### **Recommendations**

As stated, compared with medical interns, medical doctors were less likely to give handouts or refer patients to social services. We did not find a significant difference between medical interns and nurse practitioners in the odds of giving help. Yet, a far greater number of unmet social needs were not acknowledged and addressed with resources by the provider. Consequently, it is essential that any public health SDOH training or policy developed for pediatric clinicians requires them to make a significant and meaningful systematic approach of intentionally acknowledging and addressing SDOH. As such, recommendations should include ongoing training of the protocol and procedure to address the SDOH on the FRS, prompting

functions as a hard stop in the EPIC EHR, documentation of FRS concerns and response as a Quality Metric in the primary care clinic.

For pediatric clinicians to provide competent, comprehensive medical care and effective leadership to mitigate SDOH, that competency begins with understanding and addressing health inequity and disparities associated with SDOH. Being aware of and acknowledging potential risks of unmet needs of SDOH is the crucial first step for any pediatric clinician's focused training protocol. The enhanced training protocol is critical to helping pediatric clinicians and leaders understand and communicate effectively without key stakeholders' best practices for at-risk families. The results of this study support data and previous research. This study, as did the literature review, identified that despite the detrimental concerns of SDOH, a modest number of pediatric clinicians frequently address the unmet needs affecting children and their families during primary care visits. In spite of the detrimental effects of SDOH, few child health clinicians routinely address the unmet social and psychosocial factors negatively impacting children and their families during medical visits (Esther K Chung et al., 2016). This also adds further evidence that pediatric clinicians still do not entirely understand their essential ability to serve as a potent profession to address the potential adverse health effects of SDOH on their patients and their families. Pediatric clinicians' training protocols must facilitate their understanding of how their increase in knowledge about SDOH risk may contribute to decreases in potential adverse psychosocial and health impacts on their patients' and families' lives. Current literature lacks studies that quantify public health training participation among pediatric clinicians' opinions about the beneficiality of training regarding more directly addressing SDOH as a standard model of care that ensures that identified unmet social needs are properly

addressed. For example, one study found that more than one-fourth of survey participants indicated never participating in a public health training (Jeffries, Sutton, & Eke, 2017). Since pediatric clinicians have direct and consistent access to some of the most vulnerable families daily, they have unique opportunities to reach these families that traditional public health practitioners might not. Specific medical home community-based health interventions cannot succeed without the participation of pediatric clinicians addressing the whole child, whole family. Continuing to enrich the body of knowledge, the results of this study identified that pediatric clinicians had missed opportunities to help mitigate the potential impacts of unmet needs of SDOH when resources were available. These results indicated a need to develop training and enact policies to provide interventions protocol for the unmet need in appropriate and serviceable ways to clinicians. There is a lack of studies describing pediatrician clinicians' comfort in communicating with at-risk families or specific SDOH ACEs topics. In addition, there is limited evidence about pediatric clinicians' attitudes related to addressing psychosocial stressors as a model for their standard of practice. Previous studies indicate that pediatric clinicians have profound impacts on the lives of their patients and their families. For pediatric clinicians to wield their influence to address SDOH, they must acknowledge the identified unmet need and be familiar with the resources to refer families. Adding additional context to previous research, the results of this current study identify that most pediatric clinicians did not acknowledge unmet needs as they either did not denote there was a concern and did not sign the survey to confirm they reviewed the survey. Without that acknowledgment, they will continue to be unable to identify the potential risk of unmet needs to address the SDOH related disparities present in this vulnerable population. The FRS protocol ensures that families are linked to

tangible referral resources for this primary care clinic, yet there were many missed opportunities. Additional training and protocol refreshers could help ensure the pediatric clinicians follow the protocol to connect families with needed resources and referrals.

The chart reviews in this current research identified that the Mid-level/Nurse Practitioner pediatric clinicians utilized the community resource handouts as the preferred intervention modality. Any public health training or policy developed for pediatric clinicians must allow for the clinicians to have resource handouts as an option for similar clinical practices. For other pediatric clinics creating community resource handouts could increase pediatric clinicians' practice of addressing unmet needs of identified SDOH with these most-at-risk populations. Other studies in previous literature maintain that developing community resource handouts and providing them to the family as intervention resources are imperative to address SDOH within this pediatric population and beyond. In addition to previous research, this study posits that pediatric clinicians' training protocols and policies should ensure that their training pediatric clinicians result in an increased awareness of their ability to identify and address SDOH. Pediatric clinicians must also understand how support for families at risk for ACEs from their unmet social needs and SDOH helps improve their health decision-making. Supporting families adversely facing health disparities can enhance health and quality of life for their patients and families. The chart review results completed as the basis for this research clearly indicated a need for the development of additional training. Although available information is minimal, the overall evaluation of the clinician's practice tends not to be positive (primarily based on quantitative data). This suggests that there are arguments to be made for enhancing and improving the current practice to promote further and implement the use of the FRS.

The knowledge gap is evaluating pediatric clinicians' resource preference to address unmet needs with the option of a community resource handout or in-person helping professionals. To address the identified knowledge gaps, the researcher recommends that future research study the practice retrospectively with a mixed-method approach using interviews and surveys to answer better whether they prefer to utilize the provided resources to address SDOH. Several components of the providers' perception and preference are unanswered in the descriptive study that would be enhanced with qualitative data from the providers. Given the overwhelming body of evidence of the impact of SDOH on child health outcomes, the FRS was created as a comprehensive SDOH screening tool. A protocol was developed as well as interventions, in-person and community handout resources, are available when an unmet need is identified. Considering the results of this study indicate there are missed opportunities for the clinics to acknowledge and address those needs, it becomes an ethical concern not to address those needs. Incorporating relevant SDOH modules at the beginning of each academic training year and utilizing training snippets as refreshers to promote the importance of addressing SDOH for continued awareness and engagement are a few components that make an enhanced FRS protocol training more effective.

Secondly, the researcher further recommends that pediatric clinicians be required to address an unmet need by utilizing prompting functionality such as a hard stop in the EPIC EHR. Moreover, educational and training opportunities can be asserted to counter these missed opportunities and implement system changes and policies such as a hard stop and build-ins in the EPIC EHR. Electronic health records provide new opportunities for assessing and managing social needs in clinical settings, particularly those serving vulnerable populations (Gottlieb et al.,

2015). Thus, another component of enhancing training is implementing a policy that includes the development of a built-in hard stop for acknowledging the completion of the FRS in EPIC, the EHR. If barriers related to incentives, training, and privacy can be bypassed, electronic health records can improve the integration of SDOH into healthcare delivery systems (Gottlieb et al., 2015). From these case studies, multiple functions were identified, indicating that electronic medical records can perform to facilitate the integration of SDOH into clinical systems, including screening, triaging, referring, tracking, and data sharing (Gottlieb et al., 2015).

The clinic's managers and leaders can adopt and implement updated policies and procedures after the training has been completed to include the hard stops. They should consider the build-in as a buy-in for the pediatric providers by including them on the less change option that will enhance the practice of addressing SDOH by adding additional responsibilities and greater time spent since lack of time is an identified barrier for addressing SDOH. Therefore, a strategic plan should be developed with all key stakeholders to ensure everyone is vested and their opinions and concerns are considered. The purpose of this strategic plan will be to develop tangible steps that the leaders and managers can take to better support families facing unmet social needs and barriers to healthcare as a practice while maintaining optimal medical clinical practices. As time constraints are often mentioned as barriers to addressing SDOH, suitable measures for dealing with this issue should be taken into account, where possible.

Moreover, implementing proven strategic planning results with systematic procedures and policies such as a built-in hard stop in EPIC would serve as attempts to decrease missed opportunities for clinicians to acknowledge and address unmet needs related to SDOH with available resources. The current practice of screening for SDOH in this clinic is a novel practice

for a pediatric outpatient clinic that intends to decrease health disparities and inequities with this population and increase the cultural competency of the clinicians and leaders required to decrease adverse health outcomes of at-risk families. Pediatric clinicians are respected and trusted by their patients and patients' families to promote health and wellness as well as interventions that benefit the family and their quality of life. Therefore, families are likely to adhere to the clinician's position and power as influencers and advocates in their lives to produce outcomes and change the can deter ACEs and the negative consequences of SDOH. Leaders and managers involved in enhancing the collective and comprehensive clinical improvement of addressing SDOH can be the clinicians and operational. Their buy-in will yield favorable results in improved health outcomes. According to one study, addressing SDOH within the pediatric primary care and PCMH represents a high-value benefit to the health care system and has the potential to reduce the long-standing socioeconomic disparities in health that continue to persist (Garg et al., 2013). Furthermore, being more intentional and collaborative to assist families would allow the families to see these leaders and managers as credible and trustworthy allies. As such medical compliance and adherence will also influence a decrease in the negative factors of SDOH and ACEs.

Lastly, a recommendation is to document FRS concerns and response as a Quality Metric in the primary care clinic. Selecting and implementing SDOH screening and provision of applicable community resources as a quality measure in the primary care clinic setting would give all clinical stakeholders (administrators, clinical staff, and healthcare providers) the opportunity to be engaged in the process. It would highlight its importance and allow the clinical team to demonstrate their commitment to ensuring improvement. This quality metric would

measure clinical processes. For every chart that documented an applicable ICD 10 code for the social problem(s), the following elements would be required to be documented in the medical record to be considered compliant:

- Documentation of Family Resource Survey review – by the healthcare provider
- Documentation of whether a concern(s) was identified on the survey (yes/no) – by the healthcare provider
- If yes, documentation of the area(s) of concern – by the healthcare provider
- Documentation of resource(s) provided – by nursing staff
- Provider signature on the survey – by the healthcare provider

Research shows that most health system providers believe social risks impact health outcomes and quality metrics (Palacio et al., 2018). Having this as a quality metric ensures that the administrators review a random number of charts at least monthly, and frequent feedback is given to the staff and providers. This will allow for incremental improvement in assessment and provision of applicable community resources for the patients. Also, allowing different members of the medical team to be a part of the process enables the group to operate as a team and highlights the need for a team approach for complex problems.

### **Public Health Implications**

This study hoped to demonstrate that evaluating the utilization of survey screening and referring practices of pediatric clinicians for SDOH can lead to a systematic approach for best practice related to the protocol and education within this clinic practice. Also, this study hoped to add a level of understanding of pediatric clinicians' feasibility of using interventions to mitigate the impacts of SDOH with different modalities of resources for families. The results of this study

will provide further evidence that public health training is an effective strategy that can be utilized to increase the viability of pediatric clinicians and clinical practices as a potentially invaluable resource to address adverse public health outcomes within their patient population and the greater community. The researcher believes that the results of this research will help to mitigate ACEs and the negative potential health outcomes of SDOH by increasing the uptake of public health trainings within this pediatric clinic and similar clinics. Additionally, these results can yield education and training requirements in nursing and medical schools as well as leadership programs like graduate public health schools. The research found that the educational intervention increased interns' comfort and knowledge of SDOH and intervention resources.

Similarly, studies found that documentation of unmet needs questions also increased (Klein et al., 2011). Medical schools can use community and other training rotations focusing on social justice and cultural competency to educate and train on SDOH. With a public health approach to medical education, residents gain the knowledge, attitudes, and skills to address child health problems such as ACEs and SDOH from a population perspective. Residents in such a curriculum are documented to still resulted in high passage rates on the ABP examination (Kuo et al., 2011). In these and other higher learning public health settings, trainings on the importance and benefits of addressing SDOH will be implemented within post-graduate programs where our nation's pediatric leaders, managers, and champions receive their formal education.

Future evaluation studies of pediatric clinicians could lead to more effective ways of issues related to addressing SDOH in a pediatric clinical setting to provide early intervention to the family to prevent and mitigate ACEs and SDOH. This and future research and evaluation

studies clinician's practice could also lead to policy implications of best practice/gold standard for other similar practices or ways to undertake this task better. Another potential public health impact is the opportunity to apply systems-level thinking to impact policies and strategies to address public health issues related to health disparities in pediatric practices. This study could help pediatric clinicians increase their knowledge base on SDOH and focus on health equities issues in public health. It can also allow pediatric primary care clinic leaders and managers to capitalize on lessons learned to increase patients '/familys' care and improve bottom-line costs related to these health disparities.

Moreover, this project would contribute to the knowledge of addressing SDOH to mitigate ACES in pediatric settings. Such information could be used to inform better interventions, including policy change recommendations, address SDOH with more feedback from the pediatric clinician's input about their practice of addressing SDOH with surveys and resource options. Due to this study's findings, public health leaders and managers can advocate for resources for future research to further investigate best practices related to addressing SDOH within this population.

### **Limitations**

The researcher has identified some limitations. Understanding why the FRS concern is not addressed is difficult to infer without information from the providers. Yet, measures were taken with the chart review to learn if addressing the unmet need was documented in the clinic documentation versus not documented on the FRS. However, there might be interventions made but were not documented. For the medical world – what was not documented did not happen, so

in the clinical field, documentation is imperative. This clinic is a training clinic for medical residents—the number of residents outnumbers the pediatrician and nurse practitioners/mid-levels. The medical residents are supervised and precepted by the attending pediatrician. Therefore, there is a chance the practice and preference of acknowledging and addressing SDOH will be like the supervisor's, positively or negatively. Also, there is no way to determine when a referral to an unmet need was for which unmet as multiple could be applicable. Having specific information regarding if one compared to more than one unmet need might have provided an inference by which the researcher could have prevented this outcome results in efforts to see if clinicians increase their willingness to intervene with resources. The researcher neglected to include questions related to the sex of the patient, but the information of the caregiver was used instead. Having specific information regarding the gender of the patient might have provided an inference by which the researcher could have presented the gender results in an effort to see if clinicians increase their willingness to intervene with resources. One additional limitation was that the number of identified unmet needs in corrections referred to intervention was not statistically significant. This information prevents the researcher from accepting or rejecting the null hypothesis.

### **The Way Forward**

Looking forward with planning to increase the rate at which identified SDOH needs are addressed, efficiency must be integrated into the process. However, increasing efficiency can prove challenging in a clinical setting where social needs are frequent. One approach is to maximize the use of current EHR SDOH documentation. The EHR template has a section to document findings on the FRS. It could be expanded to document findings and responses to any

identified needs. This information could then be automatically pulled into subsequent patient visits where the healthcare provider would review it. This recommendation would decrease the need to complete the questionnaire repeatedly. The provider would merely ask if there were any changes or updates from the last visit pertaining to the subject matter on the FRS. This review would be needed, for instance, in the case of change of caregiver, which we see at a higher rate in our practice. If there are no changes, the provider would simply indicate that by clicking the option in a dropdown menu. Overall, it would help narrow our discussions and should make the process more efficient. This, in turn, should allow the healthcare providers to more accurately document assessment needs identified and the response to those needs.

While our second hypothesis was that Nurse Practitioners would be more likely to use written community resource handouts to address identified SDOH needs, our research revealed that the pediatric residents utilized this modality at the highest rate. A possible explanation for this finding is that each patient seen by a resident is also supervised by an attending physician. Part of this supervision includes a review of resident documentation, including the FRS. Omissions on the survey (failure to identify positive screen or failure to sign the form) are more likely to be found and corrected when two physicians are involved in the process. Another possible reason is that the residents have more time to see each patient and therefore are less likely to omit FRS information secondary to time constraints.

Since SDOH have a significant impact on health outcomes, it should be urgent that healthcare providers and hospital systems be reimbursed for providing the services that mitigate their effects. There are currently ICD 10 codes for social problems like homelessness and food insecurity. If there was payment for identifying and responding to these needs, it would be more

likely that this would be included as a quality indicator by hospital systems and physician groups. Incentives would be tied to meeting the quality metric, likely resulting in a more comprehensive documentation of the SDOH assessment and response. It would be helpful to investigate current reimbursement practices for SDOH assessments/responses. Then advocate for more robust reimbursement where indicated. If reimbursed for this service, pediatric providers would have more financial resources to implement screening and response processes in their practices. The rationale would be better overall long-term health outcomes for children. As new policies are instituted to address health disparities and inequities in regard to SDOH, similar to the policy statement enacted from the American Academy of Pediatrics that outlines the vital role of pediatricians in screening for and addressing precipitants of toxic stress (e.g., adverse experiences) (Bright et al., 2015), managers and leaders in pediatric clinics will play a more critical role in the support and implementation of these strategies. In order to ensure that these pediatric clinicians are aligned to address public health and healthcare issues, more SDOH training modules and protocols must be developed for future and current clinicians.

Implementing enhancement strategies such as hard stops in EPIC EHR that are simple, direct, and not time-consuming, linking clinicians to ongoing SDOH education and training will lead to increased uptake of the importance of acknowledging and addressing SDOH.

Furthermore, with the extent of the potential negative health outcomes of SDOH and the results of this study, which appear to point to the missed opportunities for pediatric clinicians to address unmet needs of SDOH and ACEs, several options can be deployed to share the potential implications of this research with other pediatric outpatient clinics and clinicians. One way the

researcher would like to utilize this finding from this study is by sharing the results with the leaders and managers at this clinic.

The leaders and managers can highlight the findings and implement quality improvement practices to increase clinicians' frequency of utilizing the FRS and provider resources to address SDOH. Another target audience will be the Georgia American Academy of Pediatrics leaders located in Atlanta, GA. The GA-AAP is a non-profit organization with the mission to advance the health and welfare of all children in Georgia, study the scientific, educational, social, economic, and legislative characteristics of medicine to secure and maintain the maximum standards of practice in pediatrics, promote excellence in pediatric care by organizing programs of post-graduate education, unite skilled primary care clinicians and pediatric subspecialists of the state into a characteristic organization for the improvement of the practice, further the policies and the objectives of the AAP (American Academy of Pediatrics) at the state and local level, complete and enhance this study, further research with a higher representative sample of those presenting with unmet needs is needed.

As public health and healthcare professionals, we should strive to create opportunities for systematic changes that address adverse public health outcomes by encouraging frontline respected and trusted influential professionals to mitigate the potential hurtful, harmful, and fatal consequences of SDOH. Pediatric clinics and clinicians are not exempt from the need to implement psychosocial changes. Rare in the literature are studies that identified observed preferences and practice of pediatric clinicians of addressing SDOH. It is imperative that we understand these preferences and practice to identify strategies that can be used to increase the viability of these clinicians as potentially valuable resources to address adverse public health outcomes with

future generations. Policymakers and credentialing boards should promote the creation of more dynamic curricular programming that incorporates SDOH considerations to ensure that prospective health care trainees are adept and consistent in their screening and response to unmet social needs (Sisler et al., 2019). Additionally, evaluating similar clinics addressing SDOH with available resources might be worthwhile.

## Figures



2-Hole 1/4 2 3/4 c-to-c

3-



Hole 1/4 4 1/4 c-to-c

## FAMILY RESOURCES SURVEY



Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

AFFIX LABEL

Medical Record #: \_\_\_\_\_

Date of Service: \_\_\_\_\_

PATIENT IDENTIFICATION

This clinic is dedicated to providing the best possible care for your child. In order for us to serve you better, please take a few minutes to answer the following questions. Your answers will be kept strictly confidential as part of your child's medical record. **If more than one of your children is being seen today, you only need to fill out this questionnaire once.** Please circle your answer.

1. **Are you the child's** Mother Father Grandparent Foster parent Other relative Other  
\_\_\_\_\_
2. **What is the highest grade you completed?** 1 2 3 4 5 6 7 8 9 10 11 12 High School GED Some College or Vocational School College grad or above
3. **Does this child live primarily in your home?**  
Yes No
4. **Does your income support your family's basic needs?**  
Yes No
5. **Do you have any major housing problems?**  
No  Currently homeless At risk of losing housing Unhealthy conditions in home
6. **Do you worry that your environment is not safe for your child?**  
Yes No
7. **Within the past 12 months have you worried that your food would run out before you got money to buy more?**  
Yes No
8. **Within the last 12 months did you run out of food before you could get money to buy more?**  
Yes No
9. **Where do you get emotional support? (Circle all that apply)** Family Friends Faith or religious group Other \_\_\_\_\_ No support
10. **Over the last 2 weeks, how many days have you felt down, depressed or hopeless?**  
A) No days B) Several days C) More than half the days D) Nearly every day
11. **Over the last 2 weeks, how many days have you felt almost no interest or pleasure in doing things?**  
A) No days B) Several days C) More than half the days D) Nearly every day
12. **In the past year has your partner or other family member pushed you, punched you, kicked you, hit you, or threatened to hurt you?**  
 Yes No
13. **Do you worry that your child has been physically or sexually abused?**

**14. Do you or your partner have a drinking or drug problem?**

Yes No

**15. Have you tried to cut down on alcohol in the past year?**

Yes No Don't drink

**16. How often do you spank your child?**

a. Not at all B) Once in a week or less C) Many days D) Nearly every day

**17. What makes it difficult to get medical care for your child?**

**(Circle all that apply)**

a. No problems getting care B) Insurance/Medicaid C) My health condition  
 D) Transportation E) My job F) Childcare G) Problem scheduling with my doctor  
 H) Other \_\_\_\_\_

**18. Would you like help with any of these issues? (Circle all that apply)**

a. Finding daycare B) Finding preschool C) Child's school/IEP issues D) Car seat  
 E) Medical equipment F) My own schooling G) Child custody issues H) Job training  
 I) Faith concerns J) Denial of SSI or public benefits (e.g. food stamps, TANF, WIC, etc.) Other \_\_\_\_\_

**Parents stop here. Thanks!** Section below is for healthcare provider to complete.

**Provider:** In the Sick Visit section of problem list, record "FRS complete" with visit data. Note "no concerns" or relevant concern(s) which were identified along with any acute illnesses. Note action(s) taken below:

Handout given (check which ones) ○  
 General Community Resources (Handout 1) \_\_\_\_\_  
 Choosing Daycare \_\_\_\_\_  
 Working With Your Child's School \_\_\_\_\_  
 Other (list topic) \_\_\_\_\_  
 Referral to Behavioral Health Coordinator  
 Referral to Academic Success Coordinator  
 Referral to Social Work  
 Referral to Health and Law Partnership (HeLP)  
 Referral to Family Resource Library (list issue)  
 Other (list): \_\_\_\_\_  
 No concerns identified ○

\_\_\_\_\_  
 Provider Signature      Date      Time

Figure 9. Family Resource Survey

## FAMILY RESOURCES SCREENING FOLLOW-UP PROTOCOL

PCC Social Worker (contact information provided)  
 Behavioral Health Coordinator (contact information provided)  
 Reach Out and Read Coordinator (contact information provided)  
 Health and Law Partnership – (contact information provided)  
 Family Resources Library (contact information provided)

### **FAMILY RESOURCES SURVEY (w/ related child & adolescent survey items)**

#### **#1 Father**

Give father *Fatherhood Toolkit* if this is his first time bringing his child to an appointment. Note that **We think it's very valuable for fathers to be involved in their children's lives and healthcare. This toolkit contains many resources, not all of which may apply to you. Feel free to share information with other fathers in your community.**

#### **#4, 5, 6, 7, 8 Income, Housing, Safety, Food Concerns**

**On your survey, you indicated concerns about ( ). Tell me more about your situation.**

**If WIC issue**, refer to nutritionist (contact information provided)

**If risk of foreclosure**, refer to HeLP (contact information provided).

**For most other issues, give *Handout 1: Community Resources (pg 1)* and/or *Handout 3: Affordable Housing*. Refer to SW -e.g. alternative housing needs, utilities problems, benefit programs (food stamps, TANF), environmental safety or health hazards. SW will address and/or refer to HeLP (contact information provided).**

#### **# 9, 10, 11 Support, maternal depression ("More than half days" or "nearly every day" on both Questions)**

##### **What is contributing to your (depression, stress)?**

Provide brief support, page Behavioral Health Consultant (BHC), and complete a referral/consult in EPIC. BHC will screen and assist with mental health (MH) referral. If BHC not available, provide Behavioral Health Purple Handout and *Handout 2: Family Support Resources*, and complete a referral/consult in EPIC for BHC to follow-up with family (get release signed if possible). Or consider referral to chaplain (contact information provided) who may sometimes be available for immediate spiritual support and note this in treatment plan & complete written consult. If concerned re acute risk of maternal suicide, have security and Behavioral Health Consultant (SW as backup person) accompany parent to ED where if judged an acute risk, he/she will be evaluated on crisis unit at Psychiatry (13<sup>th</sup> floor)(Need to revisit this with consideration for the minor age patient).

#### **#12, 13 Family Violence (also Child Health #12, Adolescent Health #15)**

(Consider interviewing parent or child alone) **It sounds like you have faced some situations that may have made you concerned about your personal safety. Tell me who was involved, when and where this happened.**

If ongoing domestic violence at child's home (or within past 6 months or other high risk aspects), refer to SW. If concerns about possible child abuse, refer to SW. Refer to Child Protection Clinic if clearly remote incident with no ongoing risk but family could benefit from FU (w/ written referral). If there is a past or resolved issue assess if family would benefit from therapy and refer to BHC.

**#14, 15 Adult Alcohol/Substance Abuse**

For Yes to #14, **You indicated concern about a drinking or drug problem in the family. Can you tell me more about that?**

If primary caretaker has possible alcohol/drug problem, tell parent **It sounds like you may be (drinking) more than is healthy for you. I'm going to refer you to Social Work to get some help with this.** If family member who is not primary caretaker has drinking/substance abuse problem, refer to Behavioral Health Consultant who will help family access resources.

**#15 Parenting Concerns (Spanking "many days" or "nearly every day")**

**It sounds like your child's behavior is challenging and you are having to discipline him/her often.**

- If spansks "many days", consider anticipatory guidance re alternative discipline strategies and give discipline-related handout.
- If spansks "most days" (D), refer to Behavioral Health Consultant for further assessment and referral to parenting groups or family counseling.
- If spank "most days" (D) and/or child comments or injuries suggest abuse, refer to SW

**I'd like to refer you to BHC to better understand the situation and offer you some help with parenting.**

**#17B Health Insurance Problems** Refer to Financial Counseling

**#17C Caretaker Health Condition** If parent does not have medical care, provide with *Handout 2: Family Support Resources (pg 2)*.

**#17D Transportation to Appointment Problems**

Provide *Handout 1: Community Resources (pg 4)* which includes transportation van # 404-209-4000. Refer to SW if transportation is problematic.

**#16F, 17A, 17B Childcare Concerns**

For childcare questions, provide *Choosing Your Child's Daycare Handout*. For children approaching 3<sup>rd</sup> birthday and eligible for Head Start or Pre-K, provide *Early Childhood Ed* handout by zip code from Child Dev/Ed notebook. Or call Academic Success Coordinator (59952) to help find preschool.

**#17C Concerns about Child's Education (also Child health 1-3)**

**Tell me more about your concerns about x's schooling? (behavior and/or academic problems, retention)**

**Has your child been tested by a psychologist at his/her school?**

**Does your child have accommodations (through 504 Plan or Student Support Team/SST) or special services through an IEP (Individual Educational Plan)?**

- If child has had previous psych eval or has IEP in place, request that parent bring those forms to next appt. Parent has legal right to get copies of those documents from the school if they do not already have a copy. Maybe a referral for HeLP or teacher if appropriate.
- If child does not have previous testing or IEP
  - If behavioral problems in school – a) Give parent and teacher Vanderbilt questionnaires if ADHD is primary question (see ADHD protocol), b) make referral to nurse navigator to manage family's progress through diagnostic process, and c) Consider referral to BHC for screen or to Psych Assessment Clinic if there are likely learning comorbidities
  - If developmental/learning problems – a) encourage parent to ask for referral to Student Support Team (SST), b) if child has been receiving remedial or SST services with limited

Figure 10. Family Resources Screening Follow-Up Protocol

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