A Mixed Methods Study on Food Insecurity Screening and Patient-Centered Care: Perspectives of Patients and Healthcare Providers on Practices and Barriers to Effective Screening in Outpatient Medical Settings

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A MIXED METHODS STUDY ON FOOD INSECURITY SCREENING AND PATIENT-CENTERED CARE: PERSPECTIVES OF PATIENTS AND HEALTHCARE PROVIDERS ON PRACTICES AND BARRIERS TO EFFECTIVE SCREENING IN OUTPATIENT MEDICAL SETTINGS

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ABSTRACT

The purpose of this study was to better understand the relationship between elements of patient-centered care and patient/provider comfort with conversing about food insecurity and related social determinants of health. A mixed methods study was conducted. Patients and healthcare providers were surveyed on their experiences with patient-centered care and comfort discussing food insecurity and related social concerns. Telephone interviews were conducted to gain a richer understanding of the concepts under investigation. In the survey and telephone interviews, both samples were also asked about changes in communication during COVID-19 times. Quantitative findings show that patient involvement in care and cultural sensitivity are two important patient-centered variables that positively impact patient comfort being screened for food insecurity. Qualitative findings support this inference, and also denote the importance of other patient-centered care elements, such as empathy, trust, and effective communication. For healthcare providers, process-oriented variables, such as having food insecurity screenings built into the patient history assessment and sufficient training administering screenings were important factors that facilitated comfort screening patients for food insecurity and related concerns. Both populations stated several changes in communication resulting from COVID-19. For example, both samples noted an increase in communication through various channels. However, this increased communication did not necessarily reflect an increase in quality of communication. Patients described quicker and less personal interactions with healthcare providers. Providers observed increased difficulty in conveying empathy and support through nonverbal cues because of wearing masks and communicating through computer screens. The findings of this study provide important implications for healthcare practitioners and community
organizations that aim to increase screenings for food insecurity in outpatient medical settings and highlight additional challenges that may be faced resulting from COVID-19.

*Keywords:* patient-centered care, food insecurity, patient-provider relationship, COVID-19
My journey to this degree would not have been possible without the support and encouragement of many people. As such, I dedicate this dissertation to my family.

To my late grandparents, Bill, Sr., and Judy; my parents, Bill, Jr., and Kathy; my brother, Will; my aunts, Janice, Cynthia, Nichole, and Victoria; my uncles, Richard, Chuck, and Timmy; my cousins, Jared, Holly, Luke, and Carina; and all of the babies (though some are not really babies anymore), Landon, Layla, Lacey, Layden, Lawson, Landry, and little Baby C – thank you. Thank you for always believing in me and for teaching me the importance of faith, family, perseverance, and good humor.

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CHAPTER ONE: INTRODUCTION

Background

Food insecurity is defined as having an inconsistent ability to obtain nutritious foods that support an active and healthy lifestyle (Hunger + Health, n.d.). The United States Department of Agriculture (USDA) assesses the state of food security across the nation through an annual survey (Coleman-Jensen et al., 2019). This report estimated that approximately 14.3 million households experienced food insecurity at some point in 2018 (Coleman-Jensen et al., 2019). Food insecure households were characterized as either having low or very low food security (Coleman-Jensen et al., 2019). Those households with low food security were able to circumvent dramatic food restriction within their lifestyles; however, households reporting very low food security (approximately 5.6 million) described the eating habits of one or more household members to be extremely inconsistent and restrictive because of the inability to access food (Coleman-Jensen et al., 2019).

Some demographics are disproportionately impacted by food insecurity (Coleman-Jensen et al., 2019). Particularly, single women, households with a single parent, and households with Black or Hispanic parents or parental figures experienced higher rates of food insecurity than the national rate in 2018 (Coleman-Jensen et al., 2019). Of households with children, about 13.9% experienced food insecurity in 2018 (Coleman-Jensen et al., 2019). Adults ages 60 and older are also vulnerable to the negative effects of food insecurity, given their limited mobility and activity level (Pooler et al., 2018). Individuals abusing substances, as well as those that are uninsured or underinsured, are also more likely to experience food insecurity and its ill effects (Messer & Ross, 2002).
The prevalence of food insecurity also varies geographically (Gundersen & Ziliak, 2018). Metropolitan cities and rural areas are more likely to contain food insecure households compared with suburban neighborhoods (Coleman-Jensen et al., 2019). Additionally, southern states have a higher prevalence of food insecurity compared with other regions of the US (Coleman-Jensen et al., 2019).

Food insecurity is important for healthcare professionals and policymakers to address for multiple reasons. Food insecurity has long been recognized as a social determinant of health, both nationally and globally (ODPHP, n.d.). The social determinants of health are those socioeconomic variables that can positively or negatively impact the health of individuals, such as education, housing, income, transportation, access to healthcare, and access to food (ODPHP, n.d.; WHO, n.d.b.). Unequal distribution of these resources is largely responsible for the health disparities observed in the United States and across the globe (WHO, n.d.b.).

Food insecurity, specifically, has numerous implications for health, and several studies have documented the negative consequences of poor access to healthy foods (Gundersen & Ziliak, 2018). Food insecurity among children has been associated with a variety of health concerns such as chronic illness, obesity, hospitalization, and iron-deficiency anemia (Barnidge et al., 2017; DeMartini et al., 2013). Impaired cognitive and psychosocial functioning has also been noted among food insecure children (Barnidge et al., 2017; DeMartini et al., 2013; Gundersen & Ziliak, 2018). Food insecurity has been shown to be associated with increased mental health concerns, poor nutrition, diabetes and cardiovascular disease, inadequate sleep, and poor health outcomes among adults, as well (Gundersen & Ziliak, 2018; Pooler et al., 2018).

Food insecure families are more likely to report obtaining food from corner and convenience stores than their food secure counterparts (DeMartini et al., 2013). This is
problematic to leading a healthy lifestyle, as nutritious foods are less likely to be carried in convenience stores compared with traditional supermarkets and grocers and purchasing foods at convenience stores can be financially draining to consumers that are already economically disadvantaged, as prices are typically more expensive (DeMartini et al., 2013). Additionally, food insecure households were more likely to report transportation difficulties than food secure households (DeMartini et al., 2013). Families relying on public transportation or social networks may have limitations in where they can travel to obtain food (DeMartini et al., 2013).

Geographic areas with poor access to healthy foods have commonly been referred to as food deserts and “often feature large proportions of households with low incomes, inadequate access to transportation, and a limited number of food retailers providing fresh produce and healthy groceries for affordable prices” (Dutko et al., 2012, p. 1).

Beyond health concerns, food insecurity has been associated with increased healthcare utilization costs. Research has found that food insecure individuals often restrict or forgo their use of medical services, including medications, because of limited resources and income (Berkowitz et al., 2018; Messer & Ross, 2002; Pooler et al., 2018). When financial resources are limited, food is often the first item sacrificed on the list of budgetary concerns for food insecure households (DeMartini et al., 2013). A nationally representative study conducted by Berkowitz and colleagues (2018) found food insecurity, specifically, is significantly associated with increased hospitalizations and emergency room visits, noting “that food insecurity was associated with increased odds of subsequently being a high-cost healthcare user” (p. 6). This suggests that conditions associated with food insecurity, such as diabetes mellitus and various cardiovascular diseases, are not managed to a sufficient degree in outpatient settings and require inpatient services for treatment and stabilization (Berkowitz et al., 2018). Thus, when food
insecure individuals enter the healthcare system, their condition requires more extensive healthcare services and results in higher subsequent healthcare costs than food secure individuals (Berkowitz et al., 2018; Gundersen & Ziliak, 2018).

**Recommendations for Addressing Food Insecurity**

Because of the adverse role food insecurity plays on health outcomes, several national organizations have recognized screening for food insecurity within clinical settings as an important first step in addressing this social problem, including the Center for Medicare and Medicaid Innovation, American Academy of Family Physicians, and the American Academy of Pediatrics (De Marchis et al., 2019). Routine screening for food insecurity within primary care practices could better connect food insecure individuals with community resources and government programs that are designed to alleviate food insecurity among the population (Cutts & Cook, 2017; Pooler et al., 2018). These resources include federal programs such as the Supplemental Nutrition Assistance Program (SNAP), designed to provide financial assistance in the form of vouchers that beneficiaries may use to redeem specified foods at select retailers, and school meal programs, which seek to alleviate hunger in children by offering free and reduced-price meals to qualified families within the school system (Gundersen & Ziliak, 2018). Further, routine screening could normalize conversations around food insecurity and reduce feelings of stigmatization among those who are identified as food insecure (Pooler et al., 2018).

Tools have been developed to aid healthcare providers in conducting regular screenings of food insecurity. An 18-item instrument, the US Food Security Scale (USFSS) is considered the gold standard in assessing food insecurity because of its reliability and validity (Cutts & Cook, 2017). However, implementing the screening within clinical settings has not been feasible
because of the time necessary to complete the lengthy tool (Cutts & Cook, 2017). Thus, the Hunger Vital Sign, derived from the USFSS, is a promising alternative screening option for healthcare providers (Cutts & Cook, 2017). This condensed screening asks patients to reflect “how often within the past 12 months ‘we worried whether our food would run before we got money to buy more,’ and ‘the food we bought just didn’t last and we didn’t have money to get more’” (Cutts & Cook, 2017, p. 1699). Answering affirmatively to one or both questions of the tool indicate a positive screen for food insecurity (Cutts & Cook, 2017). The Hunger Vital sign has demonstrated high sensitivity in identifying food insecurity among respondents who answered agreeably to one or both questions, and researchers have found this sensitivity persists across various patient populations (Cutts & Cook, 2017). The simplicity of the screening tool allows for its implementation in a variety of healthcare settings, including insurance organizations, acute care settings, and outpatient practices (Cutts & Cook, 2017).

Problem Statement and Study Purpose

Despite the simplicity of the Hunger Vital Sign tool and the documented importance of screening for food insecurity within the medical model, screening practices remain inconsistent by practitioners within outpatient settings (De Marchis et al., 2019; Pooler et al., 2018). Research examining screening practices and perceptions is limited and has primarily been conducted within pediatric settings (De Marchis et al., 2019).

Prior research notes that comfort discussing food insecurity may influence screening practices for both patients and healthcare providers (De Marchis et al., 2019). Additionally, there is some evidence that factors of patient-provider interactions, such as effective communication, may positively impact patient and provider comfort when having these conversations
(Palakshappa et al., 2017a; Palakshappa et al., 2017b). The purpose of the current study is to better understand the patient-provider relationship and its impact on screening practices in outpatient settings beyond the scope of only pediatric clinics. As such, this study examined which dynamics of patient-provider interactions influenced patient and provider comfort when discussing food insecurity topics.

**Patient-Provider Interactions: An Introduction to Patient-Centered Care**

Today, patient-provider interactions are largely influenced by the concept of patient-centered care (Rathert et al., 2012; Schiavo, 2007). Though explicit definitions can vary, Epstein and colleagues (2005) assert that patient-centeredness describes a moral philosophy held by clinicians in which patient needs and experiences are valued and prioritized, and patients are invited to actively participate in the treatment planning process alongside clinicians. Patient-centered care is a practice largely accepted by the medical community, including the Institute of Medicine (IOM), which identified patient-centered care as one of the key initiatives in healthcare quality improvement (Beach et al., 2006; Rathert et al., 2012).

Patient-centered care embodies the notion that patients should have a voice in the determination of their care and treatment plans (Epstein et al., 2005; Hawley & Morris, 2017; Kamal et al., 2018; Mead & Bower, 2000; Rathert et al., 2012). Additionally, effective patient-centered communication also requires healthcare providers actively listen to patients and communicate with patients in a manner that is understandable to patients, refraining from using confusing clinical verbiage (Platnova et al., 2019). Thus, patient-centered care “refers to actions in service of patient-centeredness, including interpersonal behaviors, technical interventions and health system innovations” (Epstein et al., 2005, p. 1517). Factors that influence patient-
centeredness can permeate different levels of the healthcare system (See Epstein et al., 2005, p. 1517 for a descriptive diagram). For example, the patient-centeredness of physicians may depend upon personal characteristics, such as their personality, as well as their knowledge of patient-centered care and patient-as-person practice (Epstein et al., 2005). Further, relationship characteristics between patient and clinician may impact the patient-centered care provided and received, including length of the relationship, trust, and cultural cohesion between the two parties (Epstein et al., 2005).

This study investigated elements of patient-centered care and their impact on patient/provider comfort discussing food insecurity screenings. Chapter Two provides further detail on literature investigating these topics.
CHAPTER TWO: LITERATURE REVIEW

A systematic review conducted by De Marchis and colleagues (2019) noted research investigating perceptions of food insecurity screening practices of patients and providers is limited and has primarily been conducted in pediatric settings. Despite increasing literature emphasizing the effects of food insecurity on health outcomes, screening for food insecurity occurs inconsistently among healthcare providers (De Marchis, 2019). Prior research has investigated patient/provider comfort with food insecurity screenings integrated within the medical model, some centered on patient-provider communication and interactions.

The following chapter discusses literature that have assessed healthcare provider and patient perspectives of food insecurity screenings. Additionally, patient-centered care is then considered as a conceptual framework that could assist with our understanding of patient/provider interactions. The historical impact of the Coronavirus (COVID-19) on the development of the present study, food insecurity, and patient/provider interactions are discussed and subsequent study modifications are presented. Finally, the chapter concludes with a discussion of the gaps in present literature, and how the current study adds to the field and knowledge surrounding food insecurity screening practices and patient/provider communication during the time of a global pandemic.

Healthcare Provider Perspectives on Food Insecurity Screening

Several studies have examined various aspects of food insecurity screenings among healthcare professionals, including the prevalence of completing food insecurity screenings (Adams et al., 2017; Barnidge et al., 2017; De Marchis et al., 2019; Garg et al., 2009; Hoisington et al., 2012; O’Toole et al., 2017; Palakshappa et al., 2017b; Pooler et al., 2018; Robinson et al.,
2018; Stenmark et al., 2018). For example, Hoisington and colleagues (2012) quantitatively assessed the extent of clinician monitoring of household food status in Oregon (N = 186). Physicians and nurse practitioners within this sample did not routinely monitor the food status of patient households, though 88% of the providers surveyed indicated a willingness to implement a food insecurity screening component within their routine practice. Garg et al. (2009) found similar results, with most resident pediatric providers of a hospital-based clinic surveyed in Maryland agreeing that screening for social needs, including food insecurity, within the medical practice was both important (91%) and effective (98%). However, despite this agreement, few residents included routine screening as part of their medical practice (Garg et al., 2009).

Numerous factors impact the facilitation of food insecurity screenings (De Marchis et al, 2019). The following subsections highlight research that has investigated various provider perceptions, including barriers to screening, perceived patient comfort/discomfort, and perceived utility of food insecurity screenings.

**Provider Barriers in and Comfort with Conducting Food Insecurity Screenings**

Among the factors most frequently mentioned as barriers to food insecurity screenings are provider time considerations. For example, Barnidge et al. (2017) conducted a survey of pediatric providers and their perceptions of food insecurity and barriers to screening. Time needed to conduct food insecurity screenings within a busy practice caused many providers to feel apprehensive about implementing screenings (Barnidge et al., 2017). Further, some providers asserted that “food insecurity screening is not an appropriate use of time during emergency or specialty evaluations,” stating it was more appropriate for evaluations to take place with primary care providers or registered nurses (Barnidge et al., 2017, p. 52).
Exacerbating this time restraint is a lack of additional support services within the medical practice, such as social workers, that can assist with screenings and connect patients and families to appropriate resources (Barnidge et al., 2017). Social workers and medical assistants have been viewed by some clinicians as support services that could assist food insecure patients, when identified, with referrals for community resources (Pooler et al., 2018). Further, some providers (physicians, physician assistants, and nurse practitioners) have expressed the responsibility to complete such screenings would be better suited to staff, such as social workers or medical assistants, because clinicians are encumbered with the demands of their job (Pooler et al., 2018). Social workers may offer an additional comfort to busy providers with limited time. Stenmark and colleagues (2018) discussed similar provider responses in their evaluation of a food insecurity screening and referral program at Kaiser Permanente in Colorado. Healthcare teams that included experienced social workers were more willing to integrate food insecurity screenings within the medical model (Stenmark et al., 2018). Further, clinicians of these teams were more confident that their food insecure patients would receive community resources as a result of the screening (Stenmark et al., 2018).

Some clinicians have not perceived implementation of a food insecurity screening tool, such as the Hunger Vital Sign, to be a great time burden (O’Toole et al., 2017; Palakshappa et al., 2017b). Rather, several studies found provider concerns instead focused on discomfort in assessing food insecurity and referring food insecure patients to community resources (Barnidge et al., 2017; Palakshappa et al., 2017b; Pooler et al., 2018; Stenmark et al., 2018). Some physicians reported feeling “ill-equipped” to ask and handle food insecurity concerns because they felt they lacked the knowledge to do so, as well as a generalized fear that asking about food insecurity would open “Pandora’s box” to other social needs that they may not be able to assist
with (Barnidge et al., 2017, p. 52). Some providers also expressed a lack of confidence in their ability to provide necessary referrals to food insecure patients and families (Palakshappa et al., 2017b). Inability to properly address food insecurity and provide referrals to community resources left many providers hesitant to implement screenings within routine practice (Pooler et al., 2018).

Messer and Ross (2002) note that discussing food insecurity can elicit an emotional response from patients, stating “food insecurity or hunger is a distressing, painful, and, in some cultural contexts, shameful status and should be approached with great sensitivity” (p. 172). These sentiments are echoed by providers in various studies, and often deter providers from routinely screening patients. For example, Barnidge et al. (2017) found about 22% of the sixty-seven pediatric physicians (primary care and specialty care) they surveyed reported concerns that caregivers would feel judged by the screening. Similar sentiments were echoed among participants within a study conducted by Palakshappa and colleagues (2017b). Focus groups with clinicians (pediatricians, nurse practitioners, and registered nurses) highlighted a discomfort with asking patients personal questions about food insecurity because such questions are directly related to personal finances (Palakshappa et al., 2017b). Other clinicians within pediatric clinics in Colorado have also reported a reluctance to conduct screenings for fear of stigmatizing patients or causing “parental concerns about being reported to social services” (Stenmark et al., 2018, p. 2). One study assessing pediatric emergency department staff (nurses, physicians, registrars, and techs) found staff reported they were more comfortable in assessing for food insecurity and transportation barriers than other social determinants, such as financial concerns, indicating comfort of healthcare providers may vary between social topics (Robinson et al., 2018).
Provider perceptions of screening utility vary across studies. Participants in some studies have indicated that the barriers to screening (i.e., time, adequate training of resources, workflow considerations, etc.) must be addressed before food insecurity screenings can be implemented with any success (Barnidge et al., 2017; Pooler et al., 2018).

However, several studies have highlighted provider perceptions of patient appreciation for food insecurity screenings (De Marchis et al., 2019). Some healthcare providers within the Veterans Administration (VA) said completing the screening with patients helped build rapport between the provider and patient (O’Toole et al., 2017). Further, providers said they believed patients were appreciative of being asked questions about their food security (O’Toole et al., 2017). Palakshappa et al. (2017b) observed similar sentiments, with pediatric providers indicating that though screenings can potentially cause parents to feel embarrassment, especially those who screen positive for food insecurity, most parents indicated relief that healthcare providers could offer some kind of assistance. Providers felt parents perceived the screening to be thoughtful and “felt it showed the practice cared about the broader social issues affecting families” (Palakshappa et al., 2017b, p. 4).

Other research has found some providers evaluate screening as minimally burdensome (O’Toole et al., 2017; Palakshappa et al., 2017b). One study found pediatric emergency department clinicians and staff, despite some initial discomfort in asking personal questions, indicated screening for food insecurity and other social determinants of health was a beneficial use of time and something that could aid in providing patient care (Robinson et al., 2018). Other studies have found providers were more comfortable screening for food insecurity after
undergoing some education and training on the subject. For example, Adams and colleagues (2017) described a pilot study in which resident providers of a pediatric primary care practice were educated on the effects of food insecurity and trained on implementing screening within their practice. Providers gave positive feedback at the end of the pilot study, indicating “they appreciated learning about and intervening in an issue facing many families, but not often covered in medical education” (Adams et al., 2017, p. 26). Stenmark et al. (2018) found training focused on communication skill-building strategies helped to increase provider awareness of the effects of food insecurity. Ultimately, providers found utility in the implementation of food insecurity screening within the pediatric practice and advocated for its permanent inclusion into standard assessments (Stenmark et al., 2018).

**Patient Perspectives on Food Insecurity Screening**

This section discusses literature that has explored different aspects of food insecurity screenings from the patient perspective. Specifically, patient comfort with screenings and various screening modalities are discussed.

**Patient Comfort with Food Insecurity Screenings**

Few studies have assessed patient/caregiver comfort with food insecurity screenings. Those that have been conducted noted patients and caregivers are generally accepting of screenings within medical appointments (De Marchis et al., 2019). Palakshappa et al. (2017a) studied the screening experiences of 23 parents within suburban primary care practices. Through semi-structured interviews, participants disclosed food insecurity screenings did produce some feelings of initial discomfort, though these feelings generally dissipated after further discussion with providers about their unmet social needs (Palakshappa et al., 2017a). Most parents within
the study recognized the importance of addressing food insecurity within a medical context, and the negative implications that food insecurity can have on children (Palakshappa et al., 2017a). Parents advised that framing the conversation in an assuring and supportive way may help alleviate the initial fear and concern experienced by some parents when completing the screening (Palakshappa et al., 2017a). Further, parents within the sample wanted providers to be cognizant of the emotional response that such conversations can induce within the parent; primarily, the feelings of shame and embarrassment that are often associated with difficulty providing necessities for children, such as food (Palakshappa et al., 2017a).

Fleegler and colleagues (2007) found similar acceptance among parents within their study. Parents, recruited from two urban pediatric clinics, were surveyed for the presence of health-related social problems (specifically, access to healthcare, housing, food security, income security, and intimate partner violence), their history with being screened for health-related social problems, and their perceptions on the screening and referral process (Fleegler et al., 2007). Food insecurity impacted 39% of the sample, and history of screening for food insecurity within the last year was low (17%, Fleegler et al., 2007). Most of the parents surveyed within the study (>80%) indicated they would welcome screening for health-related social problems within office medical appointments. Other studies report similar findings, such as parents of a hospital-based pediatric clinic finding practicality in pediatric assessments of social issues (Garg et al., 2009), and youth (ages 15—25) expressing overall positive attitudes toward screenings for the social determinants of health, including food insecurity, within the medical appointment (Hassan et al., 2013).

Barnidge et al. (2017) examined how comfortable child caregivers were discussing food insecurity needs with pediatricians compared to registered nurses. About two-thirds of the
sample (n = 212) were comfortable discussing their food security with their physician, while roughly 18% expressed some level of discomfort discussing with a physician and about 19% expressed some level of discomfort discussing with a nurse (Barnidge et al., 2017). Food insecure caregivers were almost three times as likely to express discomfort with such conversations compared with food secure caregivers (Barnidge et al., 2017).

**Screening Modality Preferences**

Screening modality preference is an important factor to assess when evaluating patient-provider comfort discussing sensitive topics. Some studies have assessed comfort with computer-based systems (though explicit comparison to other screening mechanisms is not available). For example, Fleegler and colleagues (2007) assessed parent acceptance of screenings and modality preference and found most parents (92%) indicated they were not opposed to an electronic-based system to complete screenings.

Wylie and colleagues (2012) assessed the perspectives of young adults about the utility of *The Online Advocate* via semi-structured interviews. The online assessment tool allowed participants to answer questions about possible needs they may have within 10 social areas. Participants then received feedback on areas identified by the questionnaire where they might benefit from further assistance (Wylie et al., 2012). Participants then were able to select which areas they would like referrals to community agencies that might be able to assist with the identified need. A geographic information system (GIS) connected with the program then generated specialized referrals based on their specific needs identified by *The Online Advocate* questionnaire (Wylie et al., 2012).

Participants in the study identified several strengths and weaknesses of the web-based
screening and referral system (Wylie et al., 2012). Strengths included the uniqueness of the questionnaire and referral system, the simplicity of the system and the subsequent referrals received, and preservation of patient privacy (Wylie et al., 2012). Identified weaknesses included the length of the questionnaire and the sensitive nature of the social domains assessed by the questionnaire, with a few participants commenting that such an assessment could prompt negative emotions within the participant (Wylie et al., 2012). Overall, most participants perceived utility of the questionnaire and appreciated the personalized referrals generated by the assessment (Wylie et al., 2012). A small portion of the sample (6%) felt the electronic system would be beneficial to those individuals who find addressing social problems with healthcare providers directly to be uncomfortable. Further, some participants felt this model would be a good way to guide conversations with providers and ease some of the tension caused by discussing such sensitive topics (Wylie et al., 2012). Hassan and colleagues (2013) found similar agreement among the youth surveyed in their study, with 93% of youth endorsing *The Online Advocate* and 90% willing to share a summary of their results with their healthcare provider.

**Conceptual Framework**

Communication and interaction between patients and healthcare providers is heavily influenced by the medical models from which providers typically operate (Schiavo, 2007). Historically, the biomedical model has guided the communication patterns of healthcare providers and provided the context of the patient-provider relationship (Kamal et al., 2018; Schiavo, 2007). A primary characteristic of the biomedical model includes an imbalance of power between patient and physician, with physicians operating from an authoritative position, establishing treatment plans on behalf of the patient with knowledge obtained from years of
study and practice (Kamal et al., 2018; Schiavo, 2007). Within the biomedical model, these treatment plans are derived from the symptoms exhibited by the patient and largely ignore the social determinants that can contribute to poor health of individuals (Schiavo, 2007).

Much of the research examining differences in health outcomes in the late 20th century reflected this medical model; namely, that observed health disparities were in large part a result of individual behaviors and characteristics (Srinivasan & Williams, 2014). However, increasing research has shown the effects of social determinants, such as income, education, or place of residence, on health outcomes (Srinivasan & Williams, 2014). Emphasis on these determinants, along with cultural changes and increased calls for patient involvement in treatment planning, has pushed for the evolution of the biomedical model to what is now known as the biopsychosocial model (Kamal et al., 2018; Schiavo, 2007).

The biopsychosocial model considers those external factors left out of the biomedical model; primarily, those social determinants of health that can impact health outcomes and inhibit patient involvement in the plan of care (Schiavo, 2007). This model considers the biological, psychological, and social backgrounds of patients to ensure assessments are as holistic as possible and “account for the full range of problems presented in primary care” (Mead & Bower, 2000, p. 1088). Communication within the biopsychosocial model strongly differs from the biomedical model, with more importance placed on provider empathy and solicitation of patient involvement in treatment planning (Schiavo, 2007). Ultimately, the biopsychosocial model encourages providers to employ a patient-centered approach in their interactions with patients, in which patients are treated as an equal within the patient-provider relationship (Beach et al., 2006; Epstein, 2005; Schiavo, 2007). This patient-centered approach provides the conceptual framework for this study. The following sections discuss literature exploring elements of patient-
centered care and its impact on various health outcomes.

**Patient-Centered Care**

**Communication and Interactions.** Effective communication between patients and providers is important for several reasons. Prior research has noted that communication can impact a patient’s satisfaction and trust in their healthcare provider, knowledge and understanding of the disease process, and adherence to prescribed treatment plans, all of which may indirectly impact patient health outcomes (Platnova et al., 2019). Several studies have evaluated the implications of patient-centered communication on various health outcomes of interest (Epstein et al., 2005). Underhill and Kiviniemi (2012) utilized patient-centered care as the conceptual framework from which to investigate patient adherence to recommendations of colorectal cancer screenings. Patient perceptions of quality communication from providers had a significant impact on patient compliance with colorectal cancer screening recommendations (Underhill & Kiviniemi, 2012). Paiva and colleagues (2019) conducted a qualitative study investigating patient-centered communication from the perspective of both patients and providers, particularly perceptions of constraining and facilitating factors that impact communication about type 2 diabetes. Within this study, patients identified more interaction-based factors as positive impacts on patient-centered communication, such as respect, use of plain language, and supportive interactions (Paiva et al., 2019). In contrast, providers were more likely to discuss systematic factors that impact communication, such as time constraints, socioeconomic status of patients, and availability of additional support such as diabetic educators (Paiva et al., 2019).

Patient-centered communication, while an important component, represents only one
element of patient-centered care (Rathert et al., 2012). In their systematic review of patient-centered care and various outcomes, Rathert and colleagues (2012) extended this conceptual definition of patient-centered care to include other dimensions (eight in total) as originally operationalized by research of the Picker Institute/Commonwealth Fund and subsequently adopted by the IOM in 2001. These dimensions include the following:

(a) respect for patient preferences, values, and expressed needs; (b) information, education, and communication; (c) coordination and integration of care and services; (d) emotional support; (e) physical comfort; (f) involvement of the family and close others; (g) continuity and transition from hospital to home; (h) access to care and services (Rathert et al., 2012, p. 352).

Prior research has explored the effects of these patient-centered processes and on a variety of dependent variables such as hospital admissions, clinical outcomes, and patient satisfaction (Rathert et al., 2012). Generally, most studies found positive associations between various patient-centered practices and patient satisfaction with care and quality (Rathert et al., 2012). Findings about this association with long-term clinical outcomes were less consistent (Rathert et al., 2012).

In some studies, patient-centered care acted as a mediating variable between the independent and dependent variables. For example, Hong and colleagues (2019) utilized structural equation modeling to analyze the relationships between financial status, geographic location, patient-centered care, and access to healthcare services for adults with health insurance. Patient-centered care was evaluated through patient perceptions of shared decision-making with providers (i.e., the provider elicited patient opinions in selection of a medical treatment) and interaction quality with healthcare providers (i.e., the provider listened to patient concerns,
treated the patient with respect, spent time explaining all topics clearly, etc.). Patient-centered care elements, such as perceived quality of care and shared decision-making with healthcare providers, were associated with greater patient assessments of healthcare access and fewer patient assessments of unmet health needs. Within this study, quality factors of patient-centered care appeared to mediate the undesirable effects of distance and financial hardship on perceptions of patient access to healthcare services, suggesting patients may not see these factors as a hindrance to their healthcare access when they believe the quality and value of their healthcare to be high. Hong et al. (2019) hypothesized one explanation for this might be that patients who perceive greater satisfaction and quality in their care “become loyal to their providers and more adherent to recommended medical treatment, screening, and medication, triggering revisits to the same providers” (p. 47). This demonstrates the potential utility of patient-centered care in overcoming some perceived barriers to care by fostering more collaborative relationships between patients and providers.

**Trust.** Street (2017) states that trust and mutual respect are an integral component of a patient-centered relationship between healthcare provider and patient. Several studies have investigated the effects of patient-centered care and patient trust within the healthcare system. In their qualitative study, Paiva and colleagues (2019) found trust was identified by patients as a facilitating factor for effective patient-centered communication, while mistrust in the provider was viewed as an inhibitor of communication. Cuevas et al. (2019) also examined the relationship between patient-centered care, physician mistrust, and medical mistrust (institutional mistrust). Participants were randomly assigned into one of two groups. Each participant watched one of two versions of a video vignette in which a physician made a clinical recommendation (coronary bypass surgery for a cardiac patient) to a patient (the viewer). In one version of the
vignette, physicians were depicted with high levels of patient-centered communication behaviors, while in the second version physicians demonstrated low levels of patient-centered communication behaviors (Cuevas et al., 2019). Patient-centered communication behaviors included empathy, soliciting patient opinions and inviting patients to express any concerns they may have, providing individualized treatment plans based upon patient needs, and ensuring patients understood the information they received (Cuevas et al., 2019). Participants were surveyed after watching the vignettes. Those participants reporting high medical mistrust also expressed physician distrust. Participants with less trust were also less likely to agree with the recommendation provided by the physician in the video vignette (Cuevas et al., 2019). However, the authors noted these relationships were “weaker among patients who watched the vignette with more PCC behaviors, in which the physician was more responsive to patient needs and concerns,” demonstrating that patient-centered communication may act as a moderating variable between patient mistrust and adherence to treatment recommendations (Cuevas et al., 2019, p. 331).

Platnova et al. (2019) examined the influence of patient-centered communication effectiveness and courteousness of providers on patient satisfaction and trust in healthcare providers at free clinics. Provider communication effectiveness was assessed by specific behaviors, such as frequency of communication and various communication skills, while courteousness assessed the context of the dialogue, such as tone and language (Platnova et al., 2019). Perceptions of effective communication had a greater impact on patient trust than courteousness did, with the authors concluding that negative perceptions of communication may also induce less trust in providers (Platnova et al., 2019). Because of the possible influence of trust within the patient-provider relationship, trust is an important consideration of the current
Culture. Cultural considerations have been identified as an important element when considering a patient-centered approach to healthcare delivery. Culture encapsulates various elements of people including race, ethnicity, spirituality, political affiliation, education, preferences, language, and gender identity (DeWilde & Burton, 2017). Thus, culture influences many aspects of life, including communication styles and decision-making, and can influence patient perceptions of health (DeWilde & Burton, 2017; Platnova et al., 2019). Further, cultural beliefs may influence patient views of illness severity and preferred treatment methods (Arcoleo et al., 2015).

The effects of culture on food insecurity and patient-centered elements are less discussed within the literature. Dutta and colleagues (2013) utilized a culture-centered approach to better understand the feelings and lived experiences of poor and food insecure individuals in impoverished communities. Like community-based participatory research, the culture-centered approach strives to reduce health disparities by giving a voice to marginalized groups through various mediums and communication mechanisms, such as community participation in data collection and analysis of projects investigating community-related problems, building meaningful theories from this communication exchange (Dutta, 2018; Dutta et al., 2013). Dutta and colleagues (2013) utilized PhotoVoice methodology to enable participants to narrate and depict, through photographs, their own stories and feelings surrounding food insecurity. Participants within this study described feelings of stigma, especially when visiting a food pantry. Further, participants felt unheard and unseen in their communities. These negative emotions sometimes deterred participants from using pantry services, despite their hunger (Dutta et al., 2013). Ramadurai et al. (2012) also utilized the culture-centered approach to understand
the effects of food insecurity in rural America, an area they state is understudied in the field of health communication. Focus group interviews revealed cultural preferences about food selection among participants (Ramadurai et al., 2012). Participants also discussed the limitations of the few resources in place, such as grocery stores and food pantries; namely, the insufficient availability of healthy foods (Ramadurai et al., 2012).

Culture may also influence a patient’s willingness and desire to participate in shared decision-making with healthcare providers (Hawley & Morris, 2017). Hawley and Morris (2017) explain minority groups have historically been “disadvantaged when it comes to advocating for their healthcare and they appraise their treatment decision making much less favorably than whites” (p. 18). Centuries of abuse and oppression may deter some marginalized groups from participating fully in communication needed for effective shared decision-making (Hawley & Morris, 2017).

Given the importance of quality healthcare and the impact of culture on delivery of services, education in healthcare fields increasingly requires cultural competence training (Beach et al., 2006; DeWilde & Burton, 2017). The distinction between cultural competence and patient-centered care has been debated in prior literature, with many scholars noting each construct compliments the other (Beach et al., 2006; Campinha-Bacote, 2011). Beach and colleagues (2006) delineate the two concepts by first acknowledging the overall goal for each paradigm lies with improved healthcare quality. However, the authors note that patient-centered care is primarily concerned with ensuring the interactions between the patient and provider, and subsequent plan of care for the patient, is tailored specifically to the patient’s needs, while cultural competence strives to achieve a larger goal of access to inclusive healthcare and improved health equity for all populations, especially marginalized groups (as cited in
Campinha-Bacote, 2011).

Despite this position, some authors conceptualize cultural competence as a specific function of patient-centered care rather than a separate concept. Tucker and colleagues (2017) describe patient-centered culturally sensitive health care as one that:

(a) Emphasizes providing care that displays indicators culturally diverse patients identify as respectful of their culture and that enable these patients to feel comfortable with, trusting of, and respected by their healthcare providers and office staff, (b) understands the patient-provider relationship as a partnership emerging from patient centeredness, and (c) is patient empowerment oriented (p. 129).

In this conceptualization, patient-centered care does not simply include culturally competent healthcare providers. Rather, healthcare providers who are patient-centered culturally sensitive as described by Tucker and colleagues (2017) are responsive to patient needs, including cultural values and beliefs. Campinha-Bacote (2011) also notes that it is not enough for providers to be aware of cultural competence; rather, providers must also become culturally competent, indicating an action must be taken by the provider to ensure the care received by the patient is, in fact, representative of the patient’s preferences and values.

A patient-centered approach to cultural considerations requires that healthcare providers verify with patients to ensure the prescribed treatment plan aligns with the patient’s cultural beliefs and values (DeWilde & Burton, 2017). Culturally sensitive providers understand that care planning with patients is a collaborative effort meant to empower patients and promote feelings of trust and respect between patient and provider (Tucker et al., 2017). Culturally congruent and sensitive healthcare plans may provide patients with treatment that is more effective for their specific needs and ensure better outcomes as a result, such as increased patient satisfaction with
care and adherence to the recommended treatment (DeWilde & Burton, 2017; Tucker et al., 2013). Without this action on the part of the healthcare provider, DeWilde & Burton (2017) assert that though providers may be culturally competent, they may not necessarily be providing care that is culturally congruent to the patient’s needs, writing “without putting provider capabilities within the context of how a patient perceives the care offered, provider cultural competence may not manifest as congruent care to the patient” (p. 335). Thus, an extra step is needed by the provider to ensure the care received by the patient is in alignment with their cultural norms and beliefs (DeWilde & Burton, 2017).

Healthcare plans that are not culturally considerate in this manner can result feelings of cultural distress among patients, defined by DeWilde and Burton (2017) as “a negative response rooted in a cultural conflict in which the patient lacks control over the environment and the practices taking place in the patient-provider encounter” (p. 336). Healthcare delivery that lacks cultural congruence could increase the power differential between patient and provider and undermine any patient-centered efforts made by healthcare providers (DeWilde & Burton, 2017). Lack of cultural awareness could also produce poor communication between patient and provider and work to counteract any efforts made to minimize and eliminate health disparities, especially for marginalized populations (Platnova et al., 2019).

Culturally incongruent care may provoke feelings of “otherness” within patients, leading to increased perceptions of isolation for those affected (DeWilde & Burton, 2017). Othering defined “is the process by which one experiences alienation, marginalization, and exclusion because of visible differences from those perceived as typical and socially acceptable” (DeWilde & Burton, 2017, p. 336). Race/ethnicity, language, gender, and ability are among these visible characteristics (DeWilde & Burton, 2017). DeWilde & Burton (2017) provide examples of
culturally incongruent care within healthcare settings. They note demographic healthcare forms are one example of such a limitation. For instance, gender is typically reserved with “male” and “female” response options and is traditionally less open to other gender identities. In this case, someone identifying as a transgender woman may feel alienated when completing this intake form. Organizational limitations of the demographic form, therefore, may inhibit the healthcare provider from providing care that is sensitive to the patient’s identity. The process of othering underpins the status quo of society and its social structure, while also psychologically damaging one’s perception of their identity in this larger society (DeWilde & Burton, 2017). This process has many negative health consequences for those affected, including anxiety, depression, and decreased life span (DeWilde & Burton, 2017). Additionally, othering can negatively impact utilization of healthcare services, as “those who experience otherness feel unwelcome and are less inclined to seek care” (DeWilde & Burton, 2017, p. 337). If healthcare providers are not checking in with patients and ensuring that the care offered aligns with that patient’s identified culture, providers cannot be sure that the patient will receive the care as intended, and the care may be less effective for that patient, even if the provider is culturally competent (DeWilde & Burton, 2017).

SARS-CoV-2

During the development of this dissertation, SARS-CoV-2, commonly known as COVID-19, began to spread throughout the world. As of September 2020, there are over 31 million confirmed cases of COVID-19 worldwide, with over 900,000 confirmed deaths (WHO, n.d.a.). In effort to minimize transmission of COVID-19, social distancing procedures have been implemented in more than half of the world (Feeding America, 2020; Laborde et al., 2020).
Following these social distancing recommendations, many businesses have been forced to shift their hours of operation, or close entirely, to abide by public health regulations (Laborde et al., 2020). This, in turn, has led to unemployment for millions of individuals (Laborde et al., 2020). With so many people without a stable source of income, food insecurity rates are expected to continue to increase throughout the United States (Feeding America, 2020; Laborde et al., 2020). Further, this rise in food insecurity is expected to continue even after public health regulations no longer enforce social distancing precautions (Leddy et al., 2020). Vulnerable populations, such as low-income individuals, those with chronic illness(es), and the elderly, are expected to feel the effects of COVID-19 more acutely, as many people within these groups experience difficulty obtaining food during “normal” circumstances, let alone during a global pandemic (Feeding America, 2020; Leddy et al., 2020). Panic shopping in preparation for quarantine has led to limited availability of various supplies, such as cleaning products, toilet paper, and nonperishable foods, further disadvantaging vulnerable groups (Feeding America, 2020).

The Central Florida community is at particular risk for increased food insecurity during the COVID-19 crisis, as many workers employed in hospitality and service industries have experienced layoffs during the pandemic (Feeding America, 2020). Second Harvest Food Bank of Central Florida (n.d.c.) has reported an increase of searches on their website for food assistance from 35 to 500 daily. Additionally, Second Harvest has provided more than 300,000 meals per day, equating to double the usual daily amount supplied prior to the pandemic (SHFB, n.d.c.).

As such, COVID-19 has had several impacts on the current study. First, an additional research question was added to the study to assess in what ways patient and provider communication has changed during the COVID-19 pandemic. To understand communication
practices during the time of this global pandemic, study instruments were modified to include additional survey and interview questions.

Second, Institutional Review Board regulations prohibited in-person data collection because of social distancing recommendations. Thus, the study’s survey was limited to online data collection means only. Qualitative interviews were conducted only via telephone. All recruitment methods were restricted to online or by phone.

Third, because of COVID-19 and quarantine recommendations, it was anticipated that many medical services will be provided through telemedicine and/or home health care services. As such, the study was modified to include patients and healthcare providers from other outpatient medical providers beyond physician offices, such as home health care agencies and community paramedic providers. The demand of these companies, which visit patients in their home environments to provide routine services and care, is expected to increase in response to COVID-19. Beyond methodology considerations, COVID-19 has brought unique challenges to this study, which are discussed further in Chapter 5.

The Present Study

The current study adds to the literature in several ways. First, as mentioned previously, most studies assessing patient and provider comfort with food insecurity screenings have been conducted in the pediatric world (De Marchis et al., 2019), with one study assessing VA patients (O’Toole et al., 2017) and one study assessing healthcare settings treating older adults (Pooler et al., 2018). This study expands the literature to include research on other groups. Second, the study formally investigated the influence of patient-centered elements (i.e., empathy, trust, quality communication, and patient involvement in care planning, interest in the patient’s
agenda, and cultural sensitivity) on patient and provider comfort with food insecurity screenings through quantitative and qualitative methodology. Third, the study qualitatively accessed patient and provider perceptions of communication and interactions during COVID-19 to better understand how patient-centered care may be impacted by the current pandemic.

**Research Questions**

Prior literature investigating the effect of patient-centered care elements on various health outcomes has shown promising evidence that patient-centered care may support patient health in indirect ways. This study investigated the effect of patient-centered care on patient-provider comfort with food insecurity screenings, with patient-centered care including effective communication, interest in the patient’s agenda, empathy, patient involvement in care planning, trust, and culture-centeredness. Specifically, the following research questions were assessed:

1. What elements of patient-centered care, if any, predict patient/provider comfort in discussing food insecurity screenings in outpatient settings?
2. What factors do patients and providers identify as important considerations that impact comfort conversing about sensitive topics, such as food insecurity, in outpatient settings?
3. In what ways has communication between patients and healthcare providers changed during the COVID-19 pandemic?

These questions were examined from both patient and provider perspectives. Figure 1 provides a visual of the primary variables of the study: elements of patient-centered care are the independent variables, while patient and provider comfort discussing food insecurity are the dependent variables.
Figure 1: Variables of the Study of Both Patient and Provider Samples

Independent Variables

Patient-centered care has been defined and studied in a multitude of ways (Mead & Bower, 2000; Street, 2017). Most literature agrees that patient-centered care is an essential component of healthcare quality, but the operationalization of the phrase is less consistent (Mead & Bower, 2000; Street, 2017). Measures of patient-centered care are, consequently, varied and sometimes ambiguous (Mead & Bower, 2000; Street, 2017). For example, Street (2017) discusses some studies that conceptualize patient-centered care as a personality characteristic of the clinician, while others describe patient-centered care to be more interactive behaviors, and largely the responsibility of more than just the clinician. To effectively measure patient-centered care, it must first be conceptualized clearly (Mead & Bower, 2000; Street, 2017).

This study conceptualized patient-centered care as described by Street (2017). Following Street’s (2017) conceptualization, patient-centered care therefore: understands the patient’s preferences, including their values; acknowledges biopsychosocial elements of the patient and its implications on the patient’s health; facilitates a trusting and respectful relationship between the
healthcare provider and patient; invites the patient to be involved in deciding the plan of care; and ensures the patient comprehends the topic and plan of care.

To assess patient-centered elements of patient-provider interactions, this study measured the following six variables: effective communication; interest in the patient’s agenda; empathy; patient involvement in care planning; trust; and cultural sensitivity. Patients assessed healthcare providers on the patient-centered elements described. Additionally, healthcare providers self-assessed their own patient-centered behaviors when interacting with patients. Providers also assessed their trust in patients to participate in the patient-provider relationship.

**Dependent Variables**

The primary dependent variables of this study were patient and provider comfort in discussing food insecurity within outpatient medical appointments. This question was coded in a 5-point Likert format ranging from “strongly agree” to “strongly disagree”.

**Control Variables**

Control variables for this study included standard demographic variables (race/ethnicity, age, gender, income, and education level), patient health insurance status (Medicare, Medicaid, private, or none), food security status of patients, and whether patients were parents or caregivers of a child.
CHAPTER THREE: METHODOLOGY

This chapter provides a detailed overview of the methods utilized to carry out this study. The first section specifies the study’s research design. Section two discusses the study populations and sampling strategy. Section three presents the procedures for data collection. Section four covers the instruments included in the study survey, as well as the qualitative questions. Finally, section five provides a discussion of the data analysis plan.

Research Design

This study employed mixed methodology to investigate and answer the research questions. Specifically, this study used a convergent mixed methods research design. A survey containing quantitative and qualitative data was collected simultaneously from both healthcare providers and patients. Additionally, participants were invited to participate in a telephone interview. The quantitative and qualitative data were then merged for comparison and analysis (Creswell & Plano Clark, 2018).

There are several strengths in using a mixed methods research design within this study. First, this design allowed the researcher to collect a large amount of data concerning the research problem in a short amount of time (Creswell & Plano Clark, 2018). Second, this design brings together the strengths of quantitative data (i.e., statistical analysis) with qualitative data (i.e., richer context of the research problem) (Creswell & Plano Clark, 2018). Third, merging the data for analysis allows for a greater comparison and better understanding of the variables of interest, providing a more comprehensive picture of the research problem than if one methodology were used (Creswell & Plano Clark, 2018).
Population and Sample Selection

Two populations were of interest in this study: healthcare providers and patients. Both samples were derived from the Central Florida region. According to Second Harvest Food Bank (SHFB) of Central Florida, one in six people are food insecure within the six counties that make up the Central Florida region (n.d.a.). Additionally, three counties (Volusia, Orange, and Brevard) experienced food insecurity rates higher than the national average (SHFB, n.d.a.). These numbers are expected to increase due to the effects of the pandemic (Feeding America, 2020; SHFB, n.d.c.). Findings derived from this study are relevant to Central Florida communities. The following sections detail the sampling procedures for each population, including power analysis, sampling strategy, sampling frame, and inclusion criteria for each population.

Sampling Strategy

This study employed nonprobability sampling of both study populations. Prior research has noted difficulty in recruiting healthcare providers (Pooler et al., 2018). Additionally, much of the current research is exploratory in nature. As such, this study relied on convenience sampling for recruitment to maximize participation in the study. Though utilization of nonprobability sampling limits the generalizability of the study’s findings (Shadish et al., 2002), this sampling strategy allowed the researcher to collect data more quickly for both populations than with probability sampling (Dillman et al., 2014).

Power Analysis

Prior to the start of this research and the current COVID-19 pandemic, power analysis was approximated utilizing G*Power software (Faul et al., 2009) with an alpha of 0.05, power
level of 80%, and moderate effect size (0.2). G*Power estimated a sample size of 186 participants for each sample to meet these parameters. However, given the conditions of COVID-19 and the restrictions on recruitment of participants reaching this sample size proved difficult. In total, 48 patients and 23 healthcare providers were recruited for this study.

**Sampling Frame**

This project was in large part driven from the work conducted by the Health and Hunger Task Force, led by Second Harvest Food Bank of Central Florida. This Task Force brings together various community partners within the Central Florida region to work collaboratively on health and hunger concerns within the area, including the Department of Health Seminole County, Orlando Health, Advent Health, Healthy Start, and several others (SHFB, n.d.b.). Thus, the Task Force comprised part of the sampling frame for both patients and healthcare providers. Appendix A provides an overview of the organizations included in this sampling frame. Food pantries associated with Second Harvest Food Bank were also included in the sampling frame in order to recruit a more diverse patient sample. Appendix B displays a list of Second Harvest affiliated pantry locations provided to the researcher. Additional healthcare organizations outside of the Task Force were also invited to participate in the study in order to maximize potential participants, including two Central Florida medical associations. Finally, because the study was limited to electronic recruitment and participation due to COVID-19 social distancing recommendations, recruitment flyers for both patient and provider surveys and interviews were shared on social media platforms, including Twitter, Facebook, and Reddit.

**Study Participants and Inclusion Criteria.** Healthcare providers affiliated with clinical organizations within the Central Florida region were eligible to participate in the study if they
had direct patient care and could feasibly be responsible for conducting a food insecurity screening. Provider disciplines included physicians (any specialty), nurse practitioners, nurses, nutritionists, social workers, and nurse case managers.

Patients were eligible to participate in this study if they were 18 years or older, saw a healthcare provider of any discipline within the last 12 months, and could read/write/speak English.

**Data Collection**

Data collection for both samples occurred between May 2020 and December 2020. All study procedures were approved by the UCF Institutional Review Board (IRB).

The researcher sent recruitment emails to the representatives of each clinical organization listed in Appendix A. Clinical organizations (such as the Department of Health, Healthy Start, etc.) were included because the target population (healthcare providers with direct patient contact) work at these facilities. Therefore, other organizations, such as academic institutions, were excluded. Organizations from this sampling frame were included in this study because they work with patients associated with Second Harvest and were likely working with patients recruited for the patient sample. In addition to this sampling frame, the researcher sent recruitment emails to two medical associations within Central Florida, inviting members of the associations to participate in the study. Recruitment emails included Explanation of Research documents and flyers containing study information and access to the website links and QR codes for both patient and provider surveys. Posts on social media platforms included flyers about the study with access to the website links and QR codes for both patient and provider surveys. Finally, the researcher contacted all food pantries on the list provided by Second Harvest. The
researcher brought research materials to interested pantries, including an Explanation of the Research study and a flyer containing the patient study information, which also contained the website link and QR code to access the online survey.

Those patients and healthcare providers interested in participating in the study were able to click on their designated survey. Participants were required to review and acknowledge the Explanation of Research again prior to proceeding with the survey (please see Appendix C for a copy of the Healthcare Provider Explanation of Research document and Appendix F for a copy of the Patient Explanation of Research document). Surveys were completed via an anonymous Qualtrics (2021) link. Surveys assessed demographics, experiences of patient-centered behaviors, comfort with food insecurity screenings, and perceptions of communication changes between patients and providers during COVID-19. Surveys contained quantitative and qualitative questions. Utilizing a web-based approach for administration of the surveys allowed for information to be collected as unobtrusively as possible, minimizing the disruption to participants (Dillman et al., 2014). Reminder emails were sent to participating organizations intermittently throughout the data collection phase. All participation in study activities was strictly voluntary and participants were able to exit the surveys at any time.

In addition to surveys, patients and healthcare providers were invited to complete a telephone interview to provide additional insight on the topics assessed in the survey. Participants were able to call the researcher directly from the flyers distributed in order to schedule telephone interviews. Another way participants could elect to complete a telephone interview was by providing their contact information at the end of the survey. A separate website link at the end of the survey was available for participants to input their contact information if they wanted to complete a telephone interview. This web link was not connected with their
original survey, assuring each survey was anonymous. The researcher then contacted participants to schedule an interview. Telephone interviews were audio recorded with permission of each participant. A total of 8 participants (5 patients and 3 healthcare providers) elected to complete a telephone interview.

**Incentives**

Participants were offered a $10 Amazon gift card as compensation for their time taking the survey or completing a telephone interview. Each participant could be compensated $20 in Amazon gift cards if they elected to complete a survey and a telephone interview. Participants provided their contact information either to the researcher directly or via a Qualtrics (2021) link not associated with their survey. Gift cards were distributed either by physical mail or by email.

**Data Security.** All data was downloaded and stored on an encrypted flash drive. After dissemination of all gift cards, the contact information for participants was deleted and/or destroyed. Surveys and telephone interviews did not collect any personal identifying information from participants. Once telephone interviews were transcribed, audio recordings were deleted.

**Measures**

Several measures were utilized in the study surveys. This study adapted the following measures: the Provider-Patient Relationship Questionnaire (PPRQ) (Gremigni et al., 2016); the Patient-Professional Interaction Questionnaire (PPIQ) (Casu et al., 2019); Physician Trust in the Patient Scale (Thom et al., 2011); Trust in the Physician Scale (Anderson & Dedrick, 1990); the Tucker-Culturally Sensitive Health Care Provider Inventory (T-CSHCPI) (Tucker et al., 2017); and the Tucker-Culturally Sensitive Health Care Provider Inventory – Patient Form (T-CSHCPI-PF) (Tucker et al., 2013). All measures utilized in this study have demonstrated validity and
reliability. The following sections discuss the survey measures for each sample, including the reliability and validity of each measure within this study. For complete copies of the healthcare provider and patient surveys, please see Appendices D and G, respectively.

Provider Measures

**Quantitative Measures.** Provider demographics were collected at the start of the provider survey. Additionally, providers were asked about current food insecurity screening practices within their office, and their comfort assessing for food insecurity and related concerns. Three measures were also adapted for use in the provider survey to assess the independent variables that represent patient-centered care. In total, the quantitative portion of the healthcare provider survey contained 59 items and took participants between 10 and 15 minutes to complete. Table 1 provides an overview of each measure utilized in the provider survey, the variables assessed, and the construct validity and reliability of their use within this study. Providers were asked to reflect upon their most recent encounter with a patient and select their agreement to each statement accordingly.
Table 1: Healthcare provider survey measures and validity and reliability of scales

<table>
<thead>
<tr>
<th>Measure and # of Items Retained in the Survey</th>
<th>Patient-Centered Element and Description</th>
<th>Survey Item (Likert Response)</th>
<th>Reliability and Validity of Scales</th>
</tr>
</thead>
</table>
| • The Provider-Patient Relationship Questionnaire (Gremigni et al., 2016)  
• 16 items retained in survey for provider self-assessment of effective communication, patient involvement in care, empathy, and interest in the patient’s agenda  
• 4 items for each patient-centered element in this measure | • Effective communication (EC)  
• Provider actively listens to patient, asks questions, interacts with patient in calm and clear manner, and demonstrates respect for patient in their communications (Gremigni et al., 2016) | • “I provided clear information.”  
• “I interacted with the patient in a calm and quiet manner.”  
• “I respected the patient as a person.”  
• “I was paying attention to what the patient said.” | • Factor loadings of each item greater than 0.59  
• Alpha of EC subscale: 0.83 |
| • Patient involvement in care (PIC)  
• Provider encourages patient to participate in decision-making process by asking patient to express their views and inviting patient into the conversation (Gremigni et al., 2016) | • “I gave the patient time to ask and to talk about the topic.”  
• “I asked questions that allowed the patient to express his or her views.”  
• “I gave the patient encouragement and transmitted optimism.”  
• “I offered the patient the opportunity to discuss and decide together the ‘things to do.’” | | • Factor loadings of each item greater than 0.82  
• Alpha of PIC subscale: 0.86 |
<table>
<thead>
<tr>
<th>Measure and # of Items Retained in the Survey</th>
<th>Patient-Centered Element and Description</th>
<th>Survey Item (Likert Response)</th>
<th>Reliability and Validity of Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient-Centered Element and Description</td>
<td>Survey Item (Likert Response)</td>
<td>Reliability and Validity of Scales</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>
| • Empathy | • Provider attempts to understand patient’s point of view and feelings, providing patient confidence and assurance (Gremigni et al., 2016) | • “I understood the emotions the patient may have.”  
• “I was able to listen.”  
• “I was able to put myself in ‘his/her shoes.’”  
• “I provided confidence and security when interacting with the patient.” | • Factor loadings of each item greater than 0.73  
• Alpha of Empathy subscale: 0.84 |
| • Interest in the patient’s agenda (IPA) | • Provider is considerate of patient’s concerns, knowledge, wants, and expectations of their care (Gremigni et al., 2016) | • “I was interested in what the patient feels about his/her current health status.”  
• “I was interested in what the patient knows about the topic.”  
• “I was interested in what the patient wants from care.”  
• “I was interested in what the patient expects from care.” | • Factor loadings of each item greater than 0.67  
• Alpha of IPA subscale: 0.82 |
| • Physician Trust in the Patient Scale (Thom et al., 2011)  
• 6 items retained in survey to assess provider trust in the patient | • Provider trust of the patient to participate in the patient-provider relationship (Thom et al., 2011) | How confident are you that your patient will...?  
• “Provide all the necessary information you need.”  
• “Let you know when there has been a major change in his or her condition.”  
• “Understand what you tell him/her.” | • Factor loadings of each item greater than 0.69  
• Alpha of Trust subscale: 0.91 |
<table>
<thead>
<tr>
<th>Measure and # of Items Retained in the Survey</th>
<th>Patient-Centered Element and Description</th>
<th>Survey Item (Likert Response)</th>
<th>Reliability and Validity of Scales</th>
</tr>
</thead>
</table>
| • Tucker-Culturally Sensitive Health Care Provider Inventory (T-CSHCPI, Tucker et al., 2017) | • Cultural sensitivity (CS) | • “Follow the plan you have recommended.”  
• “Be actively involved in managing his or her condition/problem.”  
• “Tell you if he/she is not following the plan.” | • Factor loadings of each item greater than 0.62  
• Alpha of CS subscale: 0.86 |
| • 7 items retained in this survey to assess cultural sensitivity | • Provider self-assessment of their understanding of patient’s values and background, including culture, religious beliefs, family values, and financial status (Tucker et al., 2017) | • “I understand that people of different cultures have and believe in different medical practices.”  
• “I understand that some patients of all races, including majority patients, are not necessarily assertive at a health-care provider’s office.”  
• “I am understanding about the difficulties my patients might have relating to me because of our cultural and/or economic differences.”  
• “I treat my patient’s children well.”  
• “My coworkers are eager to please the patients in our office.” |
<table>
<thead>
<tr>
<th>Measure and # of Items Retained in the Survey</th>
<th>Patient-Centered Element and Description</th>
<th>Survey Item (Likert Response)</th>
<th>Reliability and Validity of Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• “I have training in working with patients of various racial/ethnic backgrounds.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “I ask my patients how they are feeling.”</td>
<td></td>
</tr>
</tbody>
</table>
**Patient-Centered Care.** The first measure, the PPRQ, is a 16-item scale developed by Gremigni and colleagues (2016). This assessment was originally developed to assess various hospital disciplines (physicians, nurses, nursing assistants, rehab therapists, etc.) self-rated behaviors when interacting with patients based on four elements of patient-centered care: effective communication with patients, addressing patient concerns, empathy toward patients, and encouragement of patients to be involved in the planning and decision-making of their care (Gremigni et al., 2016).

Interpersonal trust was measured using an adaptation of Thom et al.’s (2011) Physician Trust in the Patient scale. This scale was originally developed from prior qualitative work with physicians assessing trust within the physician-patient relationship, specifically physicians working with patients receiving opioid treatment for chronic pain (Thom et al., 2011). Only one subscale of this measure was adapted for use in this study. This subscale assesses provider trust in the patient role. Two items were dropped from this subscale as they were not appropriate for the purposes the present study. One of these items assesses medication use, which is clinical in nature and not applicable to every healthcare professional surveyed in the study. The second dropped item assesses provider perceptions that patients will keep their appointment times as scheduled and does not explicitly measure the patient-provider interactions that this study seeks to better understand.

Finally, the third measure utilized in this survey was the T-CSHCPI developed by Tucker and colleagues (Tucker et al., 2017). This measure was designed to allow providers to self-assess their patient-centered culturally sensitive health care behaviors (Tucker et al., 2017). One subscale of the T-CSHCPI questionnaire was utilized for this study: cultural sensitivity. One item was excluded because it is highly clinical in nature (e.g., “I let my patients know about illnesses
and diseases common among members of their race/ethnicity”) (Tucker et al., 2017, p. 134). Additionally, one question assesses the provider’s language skills (i.e., “I speak and understand English well enough to communicate with my patients”) (Tucker et al., 2017, p. 134). Because there is no question assessing provider ability to communicate with other languages that may be patients’ preferred language, such as Spanish, this item was dropped from use in this study.

**Qualitative measures.** Four additional open-ended qualitative questions were included in the survey. These questions are designed to allow respondents to elaborate further on the topics investigated in the quantitative questions. Qualitative questions were aligned with specific quantitative survey questions in order to merge the data for analysis. Below are the open-ended questions providers were asked:

1. What factors do you think help you feel comfortable discussing sensitive topics such as food insecurity with your patients? Please explain your answer.
2. What factors do you think make you uncomfortable discussing sensitive topics such as food insecurity with your patients? Please explain your answer.
3. How do you think cultural values and norms, such as religious beliefs and language preference, impact communication with your patients? Please explain.
4. In what ways has communication with patients changed since the development of Coronavirus and social distancing recommendations? Please explain.

Telephone interviews with providers also went into greater detail about concepts assessed in the survey. Providers were asked to provide examples of when they were comfortable and uncomfortable speaking with a patient about social concerns, such as food insecurity, transportation barriers, and financial concerns. Additionally, providers were asked what was important to them when communicating and interacting with patients and what they thought was
important to patients when communicating and interacting with them. Appendix D provides a copy of the provider survey. Appendix E provides a full list of the questions asked during telephone interviews.

**Patient Measures**

**Quantitative measures.** The patient survey collected demographic information at the start of the survey. Patients were screened for food insecurity via the 2-question Hunger Vital Sign (Cutts & Cook, 2017). Additionally, patients were asked about their comfort discussing food insecurity and related concerns with their healthcare provider. Three measures were adapted for use within the patient survey to assess the independent variables. In total, the quantitative portion of the patient survey contained 63 items. The survey took approximately 10-15 minutes to complete. Table 2 provides an overview of each measure within the patient survey, the variables assessed, and the construct validity and reliability of their use within this study. Patients were asked to reflect upon their most recent encounter with a healthcare provider and select their agreement to each statement accordingly.
Table 2: Patient survey measures and validity and reliability of scales

<table>
<thead>
<tr>
<th>Measure and # of Items Retained in the Survey</th>
<th>Patient-Centered Element and Description</th>
<th>Survey Item (Likert Response)</th>
<th>Reliability and Validity of Scales</th>
</tr>
</thead>
</table>
| • The Patient-Professional Interaction Questionnaire (Casu et al., 2019) | • Effective communication (EC) | • Provider is actively listening to patient concerns, asking the patient questions, providing clear information (Casu et al., 2019) | • “My healthcare provider gave me clear information.”  
• “My healthcare provider was calm and quiet when interacting with me.”  
• “My healthcare provider respected me as a person.”  
• “My healthcare provider paid attention to what I was saying.” | • Factor loadings of each item greater than 0.70  
• Alpha of EC subscale: 0.79 |
| • 16 items retained in survey to assess effective communication, patient involvement in care, empathy, and interest in the patient’s agenda | • Patient involvement in care (PIC) | • Provider is encouraging collaborative decision-making with patient (Casu et al., 2019) | • “My healthcare provider gave me time to talk about the topic.”  
• “My healthcare provider asked me questions that allowed me to express my view.”  
• “My healthcare provider gave me encouragement and optimism.”  
• “My healthcare provider offered me the opportunity to discuss and decide together the ‘things to do.’” | • Factor loadings of each item greater than 0.81  
• Alpha of PIC subscale: 0.88 |
<table>
<thead>
<tr>
<th>Measure and # of Items Retained in the Survey</th>
<th>Patient-Centered Element and Description</th>
<th>Survey Item (Likert Response)</th>
<th>Reliability and Validity of Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Empathy</td>
<td>• Provider demonstrates ability to understand patient’s point of view and feelings (Casu et al., 2019)</td>
<td>• “My healthcare provider understood my emotions.”&lt;br&gt;• “My healthcare provider was able to listen.”&lt;br&gt;• “My healthcare provider was able to put him/herself in ‘my shoes.’”&lt;br&gt;• “My healthcare provider helped me feel confident in my healthcare plan.”</td>
<td>• Factor loadings of each item greater than 0.85&lt;br&gt;• Alpha of Empathy subscale: 0.90</td>
</tr>
<tr>
<td>• Interest in the patient’s agenda (IPA)</td>
<td>• Provider understands patient’s expectations and goals for care (Casu et al., 2019)</td>
<td>• “My healthcare provider was interested in what I feel about my current health status.”&lt;br&gt;• “My healthcare provider was interested in what I know about the topic we discussed.”&lt;br&gt;• “My healthcare provider was interested in what I want from care.”&lt;br&gt;• “My healthcare provider was interested in what I expect from care.”</td>
<td>• Factor loadings of each item greater than 0.82&lt;br&gt;• Alpha of IPA subscale: 0.89</td>
</tr>
<tr>
<td>• Patient Trust in Physician Scale (Anderson &amp; Dedrick, 1990)</td>
<td>• Trust</td>
<td>• Patient trust in patient-provider relationship and provider to act in patient’s best interest</td>
<td>• “My healthcare provider is usually considerate of my needs and puts them first.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Factor loadings of each item</td>
</tr>
<tr>
<td>Measure and # of Items Retained in the Survey</td>
<td>Patient-Centered Element and Description</td>
<td>Survey Item (Likert Response)</td>
<td>Reliability and Validity of Scales</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------------------------------------------</td>
<td>-------------------------------</td>
<td>----------------------------------</td>
</tr>
</tbody>
</table>
| • 7 items retained in survey to assess patient trust | (Anderson & Dedrick, 1990) | • “I trust my healthcare provider so much I always try to follow their advice.”  
• “If my healthcare provider tells me something, then it must be true.”  
• “I trust my healthcare provider’s judgements about my care.”  
• “I trust my healthcare provider to put my needs above all other considerations when addressing my problems.”  
• “My healthcare provider is an expert in taking care of problems like mine.”  
• “I trust my healthcare provider to tell me if a mistake was made in my care.” | greater than 0.79  
• Alpha of Trust subscale: 0.93 |
| • Tucker-Culturally Sensitive Health Care Provider Inventory – Patient Form (T-CSHCPI-PF, Tucker et al., 2013) | • Cultural sensitivity (CS) | • Provider shows understanding of patient’s values and background, including culture, religious beliefs, family values, and financial status (Tucker et al., 2013) | • Factor loadings of each item greater than 0.56  
• Alpha of CS subscale: 0.81 |
<table>
<thead>
<tr>
<th>Measure and # of Items Retained in the Survey</th>
<th>Patient-Centered Element and Description</th>
<th>Survey Item (Likert Response)</th>
<th>Reliability and Validity of Scales</th>
</tr>
</thead>
</table>
| • 5 items retained in this survey to assess cultural sensitivity | | • “My healthcare provider understands my culture.”
• “My healthcare provider gives me information that is racially and ethnically appropriate.”
• “My healthcare provider understands my financial concerns.” | |
**Patient-Centered Care.** The PPIQ, developed by Casu and colleagues (2019), was developed from the PPRQ previously described and consists of 16 items that assess for the same four patient-centered behaviors (effective communication with patients, addressing patient concerns, empathy toward patients, and encouragement of patients to be involved in care planning and decision-making) but from the patient’s perspective (Casu et al., 2019). Again, this measure consists of 4 subscales with 4 items each.

The second measure of the survey, patient trust, is assessed via the Patient Trust in Physician Scale developed by Anderson and Dedrick (1990). Four items of the measure are negatively worded and were dropped from this study. As such, 7 items are included in the patient survey and are adapted to reflect trust in a generalized healthcare provider and services.

The final measure assessed patient perceptions of provider cultural-centeredness and is adapted from the T-CSHCPI—PF (Tucker et al., 2013). Five items from the cultural sensitivity/interpersonal skill subscale of this measure were retained for use in the present survey. These items assessed the provider’s sensitivity to patient cultural norms from the patient’s perspective (Tucker et al., 2013).

**Qualitative measures.** Four open-ended qualitative questions were included in the survey. These questions allowed patients to expand further on the topics assessed in the quantitative portion of the study and were reflective of specific survey questions. The questions included the following:

1. What do you think would help you feel more comfortable talking with your healthcare provider about difficulty getting food regularly? Please explain your answer.

2. What do you think would make you uncomfortable talking to your healthcare provider about challenges accessing food regularly? Please explain your answer.
3. How do you think your cultural values and norms, such as religious beliefs and language preference, impact communication with your healthcare provider? Please explain why or why not.

4. In what ways has communication with your healthcare provider(s) changed since the development of Coronavirus and social distancing recommendations? Please explain.

Telephone interviews with patients also went into greater detail on concepts assessed in the survey. Patients were asked to provide examples when they were comfortable and uncomfortable speaking with a healthcare provider about their social concerns, such as food insecurity, transportation barriers, and financial concerns. Additionally, patients were asked what was important to them when communicating and interacting with their healthcare provider and what they thought was important to their healthcare provider when communicating and interacting with them. Appendix G provides a copy of the patient survey. Appendix H provides a full list of the questions asked during telephone interviews.

**Data Analysis**

Quantitative data was statistically analyzed in Stata14 software (StataCorp, 2015). Qualitative data was entered in Dedoose (2018), a web-based application that allows for the analysis of qualitative and mixed methods research.

**Quantitative Analysis**

Once entered into Stata, the normality of the data was examined (Acock, 2016; Creswell & Plano Clark, 2018). Descriptive statistics were generated (Creswell & Plano Clark, 2018). Additionally, the adapted measures were assessed to confirm their reliability and construct validity within this study (Creswell & Plano Clark, 2018; Stewart et al., 2012). Factor analysis
was conducted to confirm the items of each subscale cluster together and Cronbach’s alpha was 
examined to confirm the reliability of each subscale (Acock, 2016).

**Kendall’s Tau.** Because the healthcare provider sample consisted of too few cases, 
regression analysis could not be conducted. To analyze the association between comfort with 
food insecurity screenings and the patient-centered elements, Kendall’s Tau was utilized. This 
statistical test was selected because the variables of interest were ordinally ranked in Likert 
format (Allen, 2017). Further, this nonparametric test is better selected for small sample sizes 
(Allen, 2017).

**Ordered Logistic Regression.** The patient sample was large enough to support 
regression analysis. After ensuring the subscales of each measure (Measure 1: effective 
communication, interest in patient agenda, empathy, and patient involvement in care; Measure 2: 
interpersonal trust; and Measure 3: cultural-centeredness) contained adequate construct validity 
and internal reliability, subscales were modeled in regression as independent variables to 
determine which, if any, elements of patient-centered care predict patient comfort with 
discussing food insecurity topics in outpatient medical settings. The dependent variable of 
interest (comfort discussing food insecurity screenings) is an ordinally coded variable. Thus, 
ordered logistic regression was utilized to analyze the data, as this regression model accounts for 
ordinal outcome variables (Menard, 2013). Coefficients were evaluated to better determine the 
effect of the independent variables on the dependent variable (Acock, 2016; Menard, 2013). The 
p value was examined to determine if the results of the model were statistically significant 
(Acock, 2016; Menard, 2013). This analytic plan was used to answer research question 1 
concerning the influence of patient-centered care elements on patient and provider comfort 
discussing food insecurity. Post-hoc analysis was conducted to ensure model fit.
Qualitative Analysis

Qualitative data was transcribed and entered into Dedoose (2018) for analysis of the research questions 2 and 3 concerning what factors patients and healthcare providers identify as important considerations of comfort conversing about sensitive topics and how communication has changed between patients and providers because of COVID-19. Grounded theory was the theoretical framework for the qualitative analysis of this study, in which a theoretical model is developed as themes emerge from the coding process (Creswell & Plano Clark, 2018; Padgett, 2012).

The data was first read and initial thoughts from the first reading were recorded (Creswell & Plano Clark, 2018). A codebook was developed in order to categorize themes that emerged from coding (Creswell & Plano Clark, 2018). To ensure the credibility of coding, the researcher initially co-coded passages with the researcher’s supervisor in order to develop a precise codebook and ensure accurate interpretation and coding of passages (Padgett, 2012). Once this codebook was established, the researcher proceeded with solo coding of the data (Padgett, 2012).

Coding involved labeling the data into codes that represented the context of each passage (Creswell & Plano Clark, 2018). Initial open coding allowed the researcher to group the data into labels that are appropriate for each excerpt (Padgett, 2012). Once open coding of all transcripts was complete, the researcher then coded the transcripts via focused coding. This phase of coding allowed the researcher to aggregate codes into subcategories (Padgett, 2012). Coding continued until the data was saturated and no new codes emerged. Codes were analyzed for any patterns and emerging themes within the data (Padgett, 2012).
**Merging of data**

Following independent analysis of each type of data, the data were merged in order to assess how the quantitative and qualitative data compliment or contradict one another (Creswell & Plano Clark, 2018). Appendix I provides a flowchart of the research design, including data collection, analysis, and merging.
CHAPTER FOUR: RESULTS

In total, this study had 71 participants: 23 healthcare providers and 48 patients completed the respective study surveys. The following sections report the results of each research question for each population. Research question 1 provides the quantitative results of the study. Research questions 2 and 3 were analyzed via qualitative methodology. Joint display tables are also presented concerning patient-centered care elements, where participants were asked both quantitative and qualitative questions related to each other. In all qualitative tables, including joint displays with quantitative and qualitative data, the themes are presented in descending order, with those occurring most frequently in the data listed at the top descending to those occurring least frequently.

Provider Sample

Research Question 1

Of the 23 healthcare providers that participated in this study, 47.8% identified as white, 87.0% identified as non-Hispanic, and 82.6% identified as female. The largest portion of the sample were physicians (34.8%). Other disciplines included nurses (17.4%), nurse practitioners (8.7%) and “other” disciplines (30.43%). The “other” discipline category included additional outpatient healthcare providers such as community paramedics, clinical research providers, certified nursing assistants, and home health aides. Providers in this sample report comfort with electronic screenings and face-to-face screenings, with slightly more providers preferring face-to-face conversations with patients regarding patient food security. Table 3 provides additional summary statistics on this sample.
Table 3: Healthcare Provider Descriptive Statistics

<table>
<thead>
<tr>
<th>Healthcare Provider Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>4 (17.4%)</td>
</tr>
<tr>
<td>Female</td>
<td>19 (82.6%)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>3 (13.0%)</td>
</tr>
<tr>
<td>30-39</td>
<td>9 (39.1%)</td>
</tr>
<tr>
<td>40-49</td>
<td>4 (17.4%)</td>
</tr>
<tr>
<td>50-59</td>
<td>7 (30.4%)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>11 (47.8%)</td>
</tr>
<tr>
<td>Black/African American</td>
<td>9 (39.1%)</td>
</tr>
<tr>
<td>Asian</td>
<td>1 (4.4%)</td>
</tr>
<tr>
<td>Bi/multi-racial</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>3 (13.0%)</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>20 (87.0%)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>5 (21.7%)</td>
</tr>
<tr>
<td>Associate of Art’s</td>
<td>4 (17.4%)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>3 (13.0%)</td>
</tr>
<tr>
<td>Graduate degrees</td>
<td>11 (47.8%)</td>
</tr>
<tr>
<td><strong>Household Income</strong></td>
<td></td>
</tr>
<tr>
<td>Between $20,001 and $30,000</td>
<td>3 (13.0%)</td>
</tr>
<tr>
<td>Between $30,001 and $40,000</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td>Between $40,001 and $50,000</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td>Between $50,001 and $60,000</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td>Greater than $60,001</td>
<td>14 (60.9%)</td>
</tr>
<tr>
<td><strong>Discipline</strong></td>
<td></td>
</tr>
<tr>
<td>Physician</td>
<td>8 (34.8%)</td>
</tr>
<tr>
<td>Physician’s assistant</td>
<td>1 (4.4%)</td>
</tr>
<tr>
<td>Nurse</td>
<td>4 (17.4%)</td>
</tr>
<tr>
<td>Nurse practitioner</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td>Social Worker</td>
<td>1 (4.4%)</td>
</tr>
<tr>
<td>Other</td>
<td>7 (30.4%)</td>
</tr>
<tr>
<td><strong>Type of healthcare organization where provider is employed</strong></td>
<td></td>
</tr>
<tr>
<td>Outpatient medical practice/doctor’s office</td>
<td>13 (59.1%)</td>
</tr>
<tr>
<td>Community healthcare agency</td>
<td>3 (13.6%)</td>
</tr>
<tr>
<td>Home health care agency</td>
<td>6 (27.3%)</td>
</tr>
</tbody>
</table>
Because of the small sample size, ordinal logistic regression was not supported within this sample. As such, Kendall’s Tau was employed to examine the association between provider reported comfort screening patients for food insecurity and each patient-centered variable. No statistical association was found between the variables.

The qualitative data were then analyzed for additional insight on the research topic. The following subsections provide the results of research questions 2 and 3.

**Research Question 2**

Of the 23 healthcare providers that participated in the survey of this study, 3 providers elected to complete a telephone interview and 19 participated in the qualitative questions included in the survey. Providers identified several factors that contribute to their comfort discussing food insecurity and related social topics with patients. These factors consisted of two subgroups: process-oriented factors (Table 4) and patient-centered care factors (Table 5). Providers more frequently described process-oriented factors as increasing their comfort with screenings for food insecurity and related social determinants of health (coded 11 times in the
qualitative data). These results are presented first, followed by patient-centered care factors (coded 5 times).

Table 4: Process-Oriented Factors Contributing to Healthcare Provider Comfort Discussing Social Determinants of Health with Patients

<table>
<thead>
<tr>
<th>Process-Oriented Factors Contributing to Provider Comfort</th>
<th>Qualitative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening built-in to provider social history assessment</td>
<td>“I think it makes it more comfortable because it’s built in and also because it is part of my training.”</td>
</tr>
<tr>
<td>Ability to assist patients</td>
<td>“So, like with food insecurity and transportation, I feel like I have some resources I can help people with if they are having struggles. So, I am able to talk to them about food banks that they may not know about in their community. I am able to talk through healthy meal options that are maybe less expensive. A lot of the diagnoses I am dealing with have a dietary component. So, I am able to think through some things that would create less expensive meal options. In terms of transportation, usually with most of our patients if transportation is an issue, they are eligible for some kind of insurance-based transportation, so we can kind of talk through those things.”</td>
</tr>
<tr>
<td>Training</td>
<td>“I am a HIV doctor, this is something I was trained to do in fellowship, given the population I serve.”</td>
</tr>
<tr>
<td>Ancillary support</td>
<td>“[In my residency training], the majority of our patients were Medicaid patients who had many had social determinants of health that impacted the care and health of the child. And so, [screening] was sort of just embedded and engrained. I don’t know that we routinely screened but we worked very closely with our social workers and so I learned a lot from our social workers at that time and so it’s always just been part of my practice.”</td>
</tr>
</tbody>
</table>

Process-oriented factors that contributed to provider comfort included effective process operations such as having the food insecurity screening built-in to the social history assessment (coded 5 times); resources available to provide to patients (coded 3 times); prior training in conducting screenings and conversing about social determinants of health (coded 3 times); and support from ancillary staff (coded once).
Some providers stated that their screenings of food insecurity and other social determinants of health were already built into their patient assessments. The act of screening itself was part of the context of the medical appointment and helped these providers to explain the background of the food insecurity screening to the patient, subsequently increasing the provider’s sense of comfort discussing the topic. Once prompted by the question via the social history assessment, one provider described a general statement she would make to patients in order to help normalize the food insecurity screening. This provider also described framing the conversation of food insecurity around the context of the current COVID-19 pandemic in effort to give space for patients and families to discuss any struggles they may be experiencing, including food insecurity. Having the screening built into the patient history and assessment gave the provider an opportunity to start the conversation and offer greater clarity about the motivation behind the questions.

Providers also stated having resources available helped them feel at ease with screening for social determinants of health. For instance, some providers stated that having information they can readily discuss with patients regarding food insecurity and other social determinants of health helped them feel more prepared for these conversations. Additionally, some providers noted that having such discussions was part of their training as healthcare providers. One physician noted that additional staff support from social workers within the office increased their comfort discussing social determinants of health with patients.
Table 5: Patient-Centered Care Factors Contributing to Healthcare Provider Comfort Discussing Social Determinants of Health with Patients

| Patient-Centered Care Factors Contributing to Healthcare Provider Comfort Discussing Social Determinants of Health with Patients |
|---|---|
| Factor (Quantitative Mean and Standard Deviation of Subscale from Survey, Range 1-5) | Qualitative Quote |
| Trust (Mean = 3.77, SD = 0.71) | “We’ve been here more than about two years, so we know our patients really well. And we are just comfortable asking them stuff like that and they are comfortable being asked because they know that we care, not only about their health but about their financial issues as well.” |
| Effective communication (Mean = 4.40, SD = 0.49) | “I usually pinpoint what makes the patient feel most comfortable and go from there. I put the topic in terms they can understand.” |
| Culture sensitivity (Mean = 4.57, SD = 0.54) | “In general, all people interact better with patients of similar backgrounds.” |
| Empathy (Mean = 4.23, SD = 0.52) | “I am an empathetic listener. I try to listen to what the patients tell me and provide assistance.” |

Beyond office operations and provider training, some providers noted specific patient-centered care behaviors that were helpful in discussing sensitive topics with patients. Table 5 highlights these variables. Quantitative data from survey questions assessing providers’ patient-centeredness are integrated within this joint display table for comparison of the quantitative and qualitative data. On the left side of the table, the mean and standard deviation generated in the quantitative data of each patient-centered variable described in the qualitative data are listed. The possible range for each subscale was between 1 and 5, with higher means equating to more experiences of that patient-centered variable. The patient-centered factors are presented in
descending order of frequency identified in the qualitative data; as such, trust, effective communication, and cultural sensitivity were most frequently described by healthcare providers (coded 2 times each), followed by empathy (coded once in the qualitative data).

Some providers stated that building a relationship with patients facilitated a trust and rapport between the patient and provider, which made having difficult conversations less uncomfortable. Effectively communicating with patients through active listening and clear communications were also cited as actions that facilitated comfort. Providers described cultural values and norms as contributing to comfort, specifically when cultural norms were aligned between patient and provider. Some providers noted cultural similarities tend to result in better interactions and increased comfort when discussing social concerns. Two providers noted that language barriers can be challenging, but they find ways to communicate with their patients effectively, such as taking time to explain questions and elaborate on their necessity. Finally, concern and care for patient needs motivated some providers to listen to patient concerns in effort to offer help where able.

Healthcare providers also noted several factors that elicited provider discomfort discussing patient social needs. Table 6 provides a summary of these factors. Five factors were identified by healthcare providers as contributing to discomfort screening for food insecurity and related concerns: information/resources not readily available to provider (coded 3 times); patient judgment of provider (coded 2 times); telemedicine (coded 2 times); cultural discord between patient and provider (coded 2 times); and patient discomfort (coded 2 times).
Table 6: Factors Contributing to Healthcare Provider Discomfort Discussing Social Determinants of Health with Patients

<table>
<thead>
<tr>
<th>Factor</th>
<th>Qualitative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information/resources not readily available</td>
<td>“But when it comes to personal finances that may be impacting things, like how much visits cost or just other financial needs that might be important to their medical care, I don’t feel like I have as good of resources.”</td>
</tr>
<tr>
<td>Patient judgment of provider</td>
<td>“I think where sometimes my nervousness about asking about things that I don’t have solutions to is that it feels like it might turn a lens on me, or people assume that physicians are in a more privileged financial state and I definitely recognize that… It feels uncomfortable.”</td>
</tr>
<tr>
<td>Telemedicine</td>
<td>“I mean a lot of my patients struggle with body image and things like that so seeing yourself in a screen watching everything you’re doing and talking is very hard for them.”</td>
</tr>
<tr>
<td>Cultural sensitivity</td>
<td>“I relate better with patients that are similar to me. I do not always feel welcome/warm reciprocation from all patients.”</td>
</tr>
<tr>
<td>Patient discomfort</td>
<td>“A lot of patients are uncomfortable with being vulnerable in a virtual space.”</td>
</tr>
</tbody>
</table>

Some providers noted discomfort with discussing social determinants of health when information and resources were not readily available to them. One provider recalled a conversation with a parent of a patient regarding the cost of medical expenses without insurance coverage, stating she only knew the out-of-pocket cost associated with healthcare visits. This provider noted without complete data, she felt uncomfortable discussing the information with the parent. Another provider noted discomfort discussing financial concerns with patients because they were not as sure of what resources could be provided to the patient for assistance, stating that it can cause them to hesitate to even ask patients questions about financial concerns.

Some healthcare providers noted perceptions of patient judgment caused them to feel uncomfortable discussing social needs. For example, one provider discussed an encounter in which a patient made comments about provider livelihoods in relation to the cost of medical expenses. In this example, the healthcare provider noted that perceiving patient judgment about
the provider’s income caused the provider discomfort discussing the topic of finances. The provider stated she understood the patient’s financial struggles but, at the same time, the patient’s judgment of the provider’s financial status elicited provider discomfort in the direction of their conversation.

Communicating about sensitive topics via telemedicine proved to be an additional challenge for some providers adjusting to changes brought on by COVID-19. Some providers felt uncomfortable with the distance of telemedicine appointments, both physically and emotionally, on these occasions.

Although cultural sensitivity was identified as a facilitator of comfort, it was also identified by some providers as contributing to provider discomfort discussing social concerns of patients. One provider stated they feel better interacting with patients of a similar background because they do not always feel welcomed from all patients. Finally, providers also stated they experienced discomfort when they could tell their patients were uncomfortable with the topic of conversation.

Research Question 3

Healthcare providers were also asked how COVID-19 and related social distancing recommendations have impacted their communication and interactions with patients. Table 7 provides a summary of the changes and/or challenges in communication described by healthcare professionals. These changes included an increase in telemedicine appointments (coded 13 times); emphasis on COVID-19 precautions (coded 9 times); decrease in office visits (coded 4 times); increase in communication channels (coded 3 times); difficult communication (coded 3 times); and an increase in patient social and mental health needs (coded 3 times).
Table 7: Healthcare Providers Identified Changes in Communication with Patients Due to COVID-19

<table>
<thead>
<tr>
<th>Change Identified</th>
<th>Qualitative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in telemedicine appointments</td>
<td>“We’re using telehealth way more. I had never used telehealth prior to Coronavirus. And so, we had to learn very quickly how to do telehealth. And it at least increased access during that time.”</td>
</tr>
<tr>
<td>Emphasis on COVID-19 precautions</td>
<td>“There is a heavy focus on careful communication and physical touch, distancing, and cleaning in the office and exam room space. Everyone is more thoughtful and intentional.”</td>
</tr>
<tr>
<td>In-person visits decreased</td>
<td>“We have reduced face-to-face communication.”</td>
</tr>
<tr>
<td>Increased communication channels</td>
<td>“More parents utilize telehealth and messaging through the [electronic medical record] portal than they did before.”</td>
</tr>
<tr>
<td>Difficult communication</td>
<td>“I think that for a lot of my patients, because they are sharing things that they are very vulnerable about, the mask is a little bit of a barrier. You can’t read facial expressions as well, it’s a little harder to communicate empathy without direct verbal communication and so I think those things are a little more challenging.”</td>
</tr>
<tr>
<td>Increased patient needs (social and mental health)</td>
<td>“Well, we’re definitely seeing more kids and parents who are concerned about exposure to the Coronavirus. And definitely more mental health in the adolescents. More anxiety and depression.”</td>
</tr>
</tbody>
</table>

Changes in operation and service delivery were described most by providers as increased telemedicine appointments. Additionally, some providers stated they call patients ahead of appointments to prescreen for COVID-19 symptoms. Some medical offices set up protocols to keep well patients and sick patients separated. Others stated that offering COVID-19 tests in their office changed some of their day-to-day procedures to see patients. Emphasis on COVID-19 safety precautions was described as important to the operations of the office. At the same time, these precautions sometimes hindered providing services in a timely fashion. The process of in-person visits, including the check-in process, calling patients beforehand to screen for COVID-19 symptoms, and ensuring all persons in the office are abiding by facemask protocols were described as sometimes making it difficult for patients to get to their appointments on time.
This was seen as an impediment to patient care and sometimes a cause of frustration for patient and provider, as time with providers is limited due to volume of patients. Wearing face coverings was also noted as impeding provider nonverbal communication cues, such as empathy. Providers also described increasing utilization of varying communication channels with patients, including increased electronic communications through patient portals and increased telephone communications. And though telemedicine provided an additional avenue for seeing patients, some providers described difficulty talking with patients about sensitive topics through telemedicine because of the impersonal nature of communicating through a screen.

Beyond office operations and communication channels, some providers noted that their interactions with patients include increased social and mental health needs resulting from stressors associated with COVID-19. One provider stated described seeing more families struggling financially than prior to COVID-19. Another provider noted more patients are afraid to come in for office visits. In addition, increased mental health needs were noted. However, assessing and providing care for these needs can be challenging in COVID-19 times, as providers stated it can be difficult for patients to be vulnerable through a virtual space.

**Patient Sample**

*Research Question 1*

Of the 48 patients that participated in the study survey 75.0% identified as white, 77.0% identified as non-Hispanic, and 66.0% identified as female. Sixty-seven percent were between the age 30 and 39. About half the sample had experienced food insecurity within the last 12 months. Slightly more participants in this sample reported a comfort with being screened for food insecurity via electronic assessment versus a face-to-face discussion with a healthcare
provider (68.2% vs. 53.3%, respectively). Table 8 provides a detailed breakdown of the descriptive statistics for the patient sample.

Table 8: Patient Descriptive Statistics

<table>
<thead>
<tr>
<th>Patient Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>9 (21.0%)</td>
</tr>
<tr>
<td>30-39</td>
<td>29 (67.4%)</td>
</tr>
<tr>
<td>40-49</td>
<td>1 (2.3%)</td>
</tr>
<tr>
<td>50-50</td>
<td>2 (4.7%)</td>
</tr>
<tr>
<td>60+</td>
<td>2 (4.7%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>16 (34.0%)</td>
</tr>
<tr>
<td>Female</td>
<td>31 (66.0%)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>36 (75.0%)</td>
</tr>
<tr>
<td>Black/African American</td>
<td>6 (12.5%)</td>
</tr>
<tr>
<td>Asian</td>
<td>2 (4.2%)</td>
</tr>
<tr>
<td>Bi/multi-racial</td>
<td>4 (8.3%)</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>11 (23.0%)</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>37 (77.0%)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>14 (29.2%)</td>
</tr>
<tr>
<td>Associate of arts degree</td>
<td>16 (33.3%)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>14 (29.2%)</td>
</tr>
<tr>
<td>Master’s degree or higher</td>
<td>4 (8.3%)</td>
</tr>
<tr>
<td><strong>Household income</strong></td>
<td></td>
</tr>
<tr>
<td>Less than $20,000</td>
<td>3 (6.3%)</td>
</tr>
<tr>
<td>Between $20,001 and $30,000</td>
<td>7 (14.6%)</td>
</tr>
<tr>
<td>Between $30,001 and $40,000</td>
<td>6 (12.5%)</td>
</tr>
<tr>
<td>Between $40,001 and $50,000</td>
<td>11 (22.9%)</td>
</tr>
<tr>
<td>Between $50,001 and $60,000</td>
<td>10 (20.8%)</td>
</tr>
<tr>
<td>Between $60,001 and $70,000</td>
<td>2 (4.2%)</td>
</tr>
<tr>
<td>Greater than $70,001</td>
<td>9 (18.75%)</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>12 (25%)</td>
</tr>
<tr>
<td>Medicaid</td>
<td>7 (14.6%)</td>
</tr>
<tr>
<td>Medicare and Medicaid</td>
<td>3 (6.3%)</td>
</tr>
<tr>
<td>Private insurance</td>
<td>21 (43.8%)</td>
</tr>
<tr>
<td>Veteran’s Administration insurance</td>
<td>1 (2.1%)</td>
</tr>
<tr>
<td>No insurance</td>
<td>1 (2.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (6.3%)</td>
</tr>
<tr>
<td>Patient Characteristics</td>
<td>n (%)</td>
</tr>
<tr>
<td>--------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Children</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>27 (58.7%)</td>
</tr>
<tr>
<td>No</td>
<td>19 (41.3%)</td>
</tr>
<tr>
<td>Food insecure within the last 12 months</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22 (50%)</td>
</tr>
<tr>
<td>No</td>
<td>22 (50%)</td>
</tr>
<tr>
<td>Usual source of medical care</td>
<td></td>
</tr>
<tr>
<td>Primary care office</td>
<td>31 (64.6%)</td>
</tr>
<tr>
<td>Walk-in clinic or urgent care</td>
<td>12 (25.0%)</td>
</tr>
<tr>
<td>Emergency room</td>
<td>2 (4.2%)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (6.3%)</td>
</tr>
<tr>
<td>Comfortable being screened for food insecurity via electronic assessment</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>30 (68.2%)</td>
</tr>
<tr>
<td>No</td>
<td>10 (22.7%)</td>
</tr>
<tr>
<td>Not sure</td>
<td>4 (9.1%)</td>
</tr>
<tr>
<td>Comfortable being screened for food insecurity via face-to-face assessment with provider</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23 (53.3%)</td>
</tr>
<tr>
<td>No</td>
<td>20 (45.5%)</td>
</tr>
<tr>
<td>Not sure</td>
<td>1 (2.3%)</td>
</tr>
</tbody>
</table>

To assess which patient-centered variables, if any, predicted patient comfort being screened for food insecurity by their healthcare provider, ordinal logistic regression was performed. Stata14 was used to assess the approximate likelihood-ratio test of proportionality of odds assumption of the data. Per the results, the proportional odds assumption was not violated. The results of the model with reference categories for nominal independent variables are presented in Table 9.
Table 9: Ordinal Logistic Regression Estimates for Factors Predicting Patient Comfort Being Screen for Food Insecurity by their Healthcare Provider

<table>
<thead>
<tr>
<th>Variables</th>
<th>Patient Comfort Being Screened for Food Insecurity β (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient-centered care variables</strong></td>
<td></td>
</tr>
<tr>
<td>Effective communication</td>
<td>0.06 (-3.06 – 3.17)</td>
</tr>
<tr>
<td>Patient involvement in care</td>
<td>3.94* (0.48 – 7.40)</td>
</tr>
<tr>
<td>Empathy</td>
<td>-5.70* (-10.01 – -1.39)</td>
</tr>
<tr>
<td>Interest in patients’ agenda</td>
<td>0.43 (-2.60 – 3.46)</td>
</tr>
<tr>
<td>Trust</td>
<td>2.63 (-1.57 – 6.84)</td>
</tr>
<tr>
<td>Cultural sensitivity</td>
<td>3.05* (0.64 – 5.46)</td>
</tr>
<tr>
<td><strong>Control variables</strong></td>
<td></td>
</tr>
<tr>
<td>Race (White set as reference category)</td>
<td></td>
</tr>
<tr>
<td>Black/African American</td>
<td>4.71* (0.71 – 8.71)</td>
</tr>
<tr>
<td>Asian</td>
<td>7.13* (1.07 – 13.19)</td>
</tr>
<tr>
<td>Bi/multi-racial</td>
<td>-1.07 (-8.47 – 6.32)</td>
</tr>
<tr>
<td>Ethnicity (Non-Hispanic set as reference category)</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>4.60* (0.43 – 8.76)</td>
</tr>
<tr>
<td>Age group</td>
<td>-0.78 (-1.74 – 0.19)</td>
</tr>
<tr>
<td>Gender (Male set as reference category)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.04 (-2.85 – 4.94)</td>
</tr>
<tr>
<td>Education</td>
<td>2.21** (0.94 – 3.48)</td>
</tr>
<tr>
<td>Income</td>
<td>0.19 (-0.28 – 0.66)</td>
</tr>
<tr>
<td>Food Insecurity Status (Food secure set as reference category)</td>
<td>-1.12 (-3.97 – 1.72)</td>
</tr>
<tr>
<td>Food Insecure</td>
<td></td>
</tr>
<tr>
<td>Children (Not having children set as reference category)</td>
<td></td>
</tr>
<tr>
<td>Have children</td>
<td>-2.77* (-5.43 – -0.12)</td>
</tr>
<tr>
<td>Health insurance (Medicare set as reference category)</td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>2.15 (-5.55 – 1.25)</td>
</tr>
<tr>
<td>Medicare and Medicaid</td>
<td>-4.11* (-8.15 – -0.70)</td>
</tr>
<tr>
<td>Private insurance</td>
<td>-4.32 (-9.45 – 0.80)</td>
</tr>
<tr>
<td>Veteran’s Administration insurance</td>
<td>-2.91 (-9.88 – 4.07)</td>
</tr>
<tr>
<td>Other</td>
<td>-6.24 (-13.29 – 0.81)</td>
</tr>
</tbody>
</table>

Note: *P<0.05; **P<0.01.

Among patient-centered variables, only patient involvement in care, empathy, and cultural sensitivity were significantly associated with patient comfort being screened for food.
insecurity. Patient involvement in care and cultural sensitivity were positively associated with patient comfort, while empathy was negatively associated.

Several control variables were also significantly associated with patient comfort. Compared with the white majority, Black/African Americans and Asians were significantly more likely to report comfort with being screened for food insecurity by their healthcare provider. Hispanics, too, were significantly more likely to report comfort being screened for food insecurity than non-Hispanics. Education was significantly and positively associated with patient comfort, indicating that as a patient’s education level increases, their likelihood of being comfortable with food insecurity screenings in the medical setting also increases. Those patients who reported being parents of children under age 18 were significantly less likely to be comfortable with being screened for food insecurity by healthcare providers than patients that do not have children. Finally, among the health insurance control variable, only patients with Medicare and Medicaid insurance benefits were significantly less likely to be comfortable being screened for food insecurity compared with the Medicare reference category.

**Research Question 2**

Of the 48 patients that completed a survey, 5 elected to complete a telephone interview and 12 participated in the qualitative survey questions. Qualitative data were analyzed and coded to delineate factors that patients identified as impacting their comfort discussing sensitive topics, such as food insecurity, with their healthcare provider. The following paragraphs detail those factors patients identified as facilitating comfort or inciting discomfort with these conversations. Table 10 below provides an example of patient qualitative quotes associated with patient comfort. As with the provider sample, the quantitative means and standard deviations of each
patient-centered care element described by patients in the qualitative data is presented in the left column. Within this sample, patients identified all six of the patient-centered care elements when describing occasions when they have felt comfort discussing their personal, social concerns with healthcare providers. Effective communication was described most frequently (coded 7 times), followed by empathy (coded 5 times); interest in the patient’s agenda (coded 4 times); trust (coded 2 times); patient involvement in care planning (coded 2 times); and cultural sensitivity (coded 2 times).

Table 10: Factors Contributing to Patient Comfort Discussing Social Determinants of Health with Healthcare Providers

<table>
<thead>
<tr>
<th>Patient-Centered Factors Contributing to Patient Comfort</th>
<th>Qualitative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective communication (Mean = 3.95, SD = 0.74)</td>
<td>“I have never had a provider ask me about food security. But I think it would be a more comfortable conversation if the provider normalized it first by saying, ‘Some people have difficulty affording enough food to eat, has this ever happened to you?’”</td>
</tr>
<tr>
<td>Empathy (Mean = 3.65, SD = 0.90)</td>
<td>“They work with laptops and they’re usually writing their notes down. And when I addressed my concerns about needing help, she put everything down and spoke to me, looked me in the eyes, and made me feel comfortable.”</td>
</tr>
<tr>
<td>Interest in the patient’s agenda (Mean = 3.73, SD = 0.90)</td>
<td>“So, like my current physician. Right off the bat she was sincere about asking how I felt personally, and what concerns I had. She did not just go into a generic, like, ‘This is how you should feel about this, and this is how you should feel about this.’ It was more she asked me how I was feeling.”</td>
</tr>
<tr>
<td>Trust (Mean = 3.74, SD = 0.85)</td>
<td>“The relationship I have with my doctor. It just makes it very easy to feel like I’d be able to talk to her in regard to [about personal concerns or information].”</td>
</tr>
<tr>
<td>Patient involvement in care (Mean = 3.68, SD = 0.90)</td>
<td>“Asking leading questions about what exactly the kid's meals look like on a daily basis [would help me feel more comfortable talking to my healthcare provider about challenges obtaining food]. How much variety are they getting, types of options, that sort of thing.”</td>
</tr>
<tr>
<td>Cultural sensitivity (Mean = 3.61, SD = 0.70)</td>
<td>“It is very important I understand the care of my health, reason I prefer Spanish speaker healthcare providers.”</td>
</tr>
</tbody>
</table>
Effective communication was cited frequently by patients. This included listening to patients and normalizing difficult conversations by providing additional context to the importance of the topic. In the quote provided in Table 10, normalizing the conversation was important for the participant’s comfort. Other participants described “open” and “honest” communication as important aspects of effectively conversing. One participant stated that, when communicating and interacting with their healthcare provider, it was important the healthcare provider hear what the patient is saying and understand where the patient is coming from. Listening was an important feature of effective communication described by patients in this sample.

Empathy was also frequently described among patients as contributing to comfort and was operationalized by how approachable the healthcare provider was, often demonstrated through eye contact, providing full attention to the patient, and a kind, caring, and sincere demeanor. For example, one participant stated they would feel more comfortable discussing sensitive topics, such as food insecurity, with their physician if they perceived compassion from their doctor. Another participant described an occasion when she had difficulty affording medication she needed. This participant recalled feeling emotional about the situation, and stated her physician helped ease the conversation by demonstrating empathy towards her and was ultimately able to connect the patient with resources in her community.

Interest in the patient’s agenda was a patient-centered variable characterized by patients as thorough assessments, personalized care plans, and providers taking the time to understand patient concerns and needs. One participant stated that her provider took the time to listen to her concerns and created a care plan reflective of the participant’s specific issues, rather than applying a generic care plan or telling the patient how she should feel about the topic. Another
participant stated that her appointment with her physician could sometimes be greater than an hour, and during this time her physician would be sure to attend to all patient concerns. These behaviors demonstrated to patients the provider’s interest in the patient’s agenda, thereby increasing comfort with discussing food insecurity and related concerns.

Trust between patients and provider was also described as “good relationships.” Additionally, some participants associated trust with the length of time they have known their healthcare provider. One participant indicated that she has seen her doctor for 15 years, noting that her physician has never made her feel uncomfortable during that time. This bond helped this patient feel she could discuss any concern with her doctor. Another patient stated their comfort was determined by the relationship with their provider. Good relationships were associated with increased comfort discussing difficult topics.

Patient involvement in care planning was described by participants as providers actively inviting patients to voice their concerns and opinions through questions. Some patients stated this invitation to participate in the conversation with providers increased their comfort with the topic. One patient described this invitation as providers “asking leading questions” which would allow the patient to participate. Another patient described this as providers asking the patient to weigh in on topics or ask questions to help patients feel at ease with sharing personal information.

Finally, cultural norms and values were described by some participants as having an impact on conversations with providers. One participant noted that she prefers healthcare providers that speak her primary language so she can understand her healthcare plan better. Another noted that they and their healthcare provider are similar in race and income, noting only a differing religious affiliation. Regardless of this difference, the participant stated “we’ve always been courteous towards each other” in interactions and communications.
Patients noted several factors that made them uncomfortable with talking to their healthcare provider about food insecurity or related concerns. These factors tended to be “provider-centered” behaviors and were often the opposite of the patient-centered care elements described above. Provider-centered behaviors consisted of the following: poor approach by provider to discussion (coded 4 times); provider not working with patient on care planning (coded 4 times); provider judgment of patient (coded 3 times); provider displaying cultural insensitivity to patient (coded 3 times); provider displaying an uncaring demeanor (coded 3 times); and provider not attempting to understand patient’s point of view (coded 2 times). Table 11 provides an overview of the provider-centered behaviors that contributed to patient discomfort.

Table 11: Factors Contributing to Patient Discomfort Discussing Social Determinants of Health with Healthcare Providers

<table>
<thead>
<tr>
<th>Factor</th>
<th>Qualitative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor approach to discussion</td>
<td>“Customer service to me is key. So, I guess their approach to me and our conversation, you know what I mean? That can make me very uncomfortable.”</td>
</tr>
<tr>
<td>Not working with patient</td>
<td>“If they told me how to solve my problem.”</td>
</tr>
<tr>
<td>Judgment</td>
<td>“If the provider was judgmental about my priorities or food choices or acted like I should know how to fix the problem.”</td>
</tr>
<tr>
<td>Cultural insensitivity</td>
<td>“I think [cultural values and norms] impact the assumptions a provider makes about you which impacts how much information they communicate and how much they expect you to know and fix on your own. I've had providers quickly suggest huge lifestyle changes during a short visit and expect that I am going to do all of the research on how to implement it without their guidance.”</td>
</tr>
<tr>
<td>Not caring</td>
<td>“She just blatantly said that there were people in society that had worse problems than I did, and I should not be so emotional about it. She was very to the point in her opinion. She did not really have an emotional connection with making me feel comfortable about it. Or that I could talk to her as my son’s pediatrician.”</td>
</tr>
</tbody>
</table>
Factors Contributing to Patient Discomfort

<table>
<thead>
<tr>
<th>Factor</th>
<th>Qualitative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not trying to understand patient’s point of view</td>
<td>“If they were cold and did not understand or attempt to.”</td>
</tr>
</tbody>
</table>

Participants within this sample most frequently cited a poor approach by healthcare providers as a cause for patient discomfort talking about social determinants of health. Poor approach was described as poor customer service or not providing context to the conversation. For example, one participant stated it would make her feel uncomfortable if her healthcare provider directly asked about the food security of her home. Another participant stated noted if they did not feel comfortable with their provider’s competence on the subject, they would not trust their decision-making and would minimize the information they gave to the healthcare provider. This patient noted that they determine this as their providers present and explain information. In this case, the approach of the healthcare provider when engaging the patient is paramount to not only the patient’s comfort, but also the information the patient is willing to trust from the provider.

Providers talking at patients rather than with patients and provider judgment about patient decision-making were two other provider-centered behaviors that caused patient discomfort. Further, perceptions of an uncaring demeanor from healthcare providers inhibited patients from disclosing sensitive information.

Cultural insensitivity was described as a deterrent of patient comfort. In this sample, cultural insensitivity was described as providers making assumptions about a patient’s cultural norms and values. For example, one participant stated that cultural norms and values impact how much a provider assumes about a patient’s knowledge on a particular topic. Another participant stated, “I'm white and look ‘normal’, so no one ever asks if we have any religious barriers to
food or care or anything like that. They assume I am like every other white American mom instead of asking.”

Finally, providers who did not attempt to understand patient points of view were also described as contributing to patient discomfort with sharing personal information with providers. One participant recalled an interaction with her son’s pediatrician in which the physician minimized the participant’s concerns and invalidated the participant’s emotional response, causing the participant to feel unable to speak with the physician about her concerns. In these examples, patients describe situations in which provider assumptions create missed opportunities to better tailor care plans for patients and families in a holistic, patient-centered way.

Research Question 3

Patients were asked to reflect on what changes in communication they experienced with their healthcare providers as a result of the current COVID-19 pandemic. This included changes in effective communication (coded 13 times); increased alternative communication channels rather than traditional face-to-face interactions (coded 9 times); increased telemedicine appointments (coded 5 times); quick interactions with providers (coded 3 times); service changes (coded 3 times); and decreased patient comfort with office visits (coded once). Some patients also disclosed feeling more cautious about in-person visits with their healthcare provider. Table 12 provides a description of each change identified by patients and an accompanying patient quote.

Table 12: Patient Identified Changes in Communication with Healthcare Providers Due to COVID-19

<table>
<thead>
<tr>
<th>Changes Identified</th>
<th>Qualitative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective communication</td>
<td>“Communication has changed due to inability to read facial expressions...mask wearing in offices.”</td>
</tr>
</tbody>
</table>
Communication changes were noted from several perspectives. Nonverbal communication was noted as being inhibited by face masks during in-office visits. Participants also noted availability of increased communication channels with their healthcare providers, including email, telephone, and web-based communication. One participant stated her healthcare providers promptly reached out to patients when COVID-19 lockdown began, sending emails to inquire if patients needed assistance. This patient stated she was able to promptly communicate her concerns of anxiety and stress to her nurse during a check-in phone call and her concerns were immediately addressed.

Because of COVID-19 and social distancing recommendations, the utilization of telemedicine rapidly increased. Additionally, some participants perceived in-office interactions with healthcare providers to be quicker and less personal than usual due to COVID-19 precautions. Additionally, some participants described interactions as “rushed” and “strictly medical” during the COVID-19 pandemic.
Service changes were noted by patients, as well. For example, one participant stated his physician is willing to order labs without requiring an office visit. Another stated in-person office visits are no longer required to receive a medication refill.

Lastly, one participant described reservations about visiting her pediatrician’s office during the pandemic, stating she would seek assistance from friends and family members before pursuing an appointment in the office.
CHAPTER FIVE: DISCUSSION

The purpose of this study was to investigate patient and healthcare provider perceptions and experiences of patient-centered care and its impact on patient/provider comfort with food insecurity screenings. Additionally, this study sought to understand the implications of COVID-19 on patient/provider communication, given that COVID-19 rapidly changed the way patients and providers communicate with each other at the start of this study. Utilizing mixed methods provides a holistic understanding of the patient-centered variables examined and their impact on patient/provider comfort discussing food insecurity screenings. Tables 5 and 10, specifically, provide quantitative and qualitative information of the patient-centered variables side-by side. Further, COVID-19 has brought on some additional barriers to patient and provider communication, which may have implications for discussing and implementing food insecurity screenings in outpatient settings.

Healthcare providers in this sample tended to rate their patient-centered behaviors more favorably than the patient sample rated their experiences receiving patient-centered care behaviors from healthcare providers. This denotes some possible discrepancies between perceptions of care given by providers and care received by patients that warrants further attention. The following sections present a more detailed discussion of the study’s results, its connection to existing literature, and its contribution to the larger field.

Patient/Healthcare Provider Comfort with Food Insecurity Screenings

Research Question 1

The first research question aimed to better understand which patient-centered variables, if any, predict patient and provider comfort discussing food insecurity screenings. For the
healthcare provider sample, multivariate analysis was not supported due to a small sample size. Bivariate analysis did not reveal any association between the patient-centered variables of interest and healthcare providers’ comfort conducting food insecurity screenings.

For the patient sample, patients were generally comfortable with being screened for food insecurity by their healthcare providers, mirroring the findings of previous studies on this topic (De Marchis et al., 2019). The current study adds to this larger body of work in its identification of specific aspects of the patient-provider relationship that can impact this comfort. Patient involvement in care planning and cultural sensitivity were significantly and positively associated with patient comfort being screened for food insecurity by healthcare providers. One of the benefits of identifying these nuanced elements is the opportunity for providers to have increased awareness of patient comfort and tailored training to guide these conversations. It could be that patient involvement in care planning helps patients feel more involved and at-ease with the screening process and the subsequent actions to be taken to address access to nutrition. Further, actions taken by the provider to facilitate patient involvement in care planning could improve the patient’s overall comfort with the patient-provider relationship. A recent study conducted by Manalastas et al. (2020) provides additional support for the importance of encouraging patient collaboration within the medical appointment. Physician verbal cues were examined to better understand their impact within patient-provider interactions. Physicians who actively invited patients to participate in the appointment offered patients the best opportunity to exercise their autonomy within the care-planning process (Manalastas et al., 2020). This denotes the importance of patient-centered care and patient involvement in care planning, specifically, as “the role of clinical communication in facilitating autonomy is not only to support the patient in making an informed decision at the end of a consultation, but a process of actively fostering
partnership throughout the consultation (Manalastas et al., 2020, p. 2276). Providers can utilize this information in their interactions with patients by inviting patients to participate in care planning alongside providers and ensuring patients feel they have a seat at the table to do so.

No study examined in this literature review addressed the element of cultural sensitivity in relation to patient comfort being screened for food insecurity. The quantitative data (and qualitative data, as we will see in the next section) indicate the importance of healthcare providers’ cultural sensitivity in ensuring patient comfort with food insecurity screenings. Because minority groups experience food insecurity and its negative health consequences at greater rates than the white majority (Coleman-Jensen et al., 2019; Odoms-Young, 2018), increased sensitivity and awareness of cultural norms and values on the part of providers is especially important and could help patients feel at ease with conversations of food insecurity and suggestions for addressing this social need. In doing so, providers can avoid unintentionally inducing cultural distress among patients (especially among patients of color) wherein patients feel isolated and ostracized because their cultural needs are not addressed within the patient-provider interaction (DeWilde & Burton, 2017).

Variation was also noted between patient races and comfort in the quantitative analysis. White patients in this sample were less comfortable with food insecurity screenings than Black and Asian patients. Further, patients who identified as non-Hispanic were less comfortable being screened for food insecurity compared with those patients who identified as Hispanic. This finding is important to consider because it demonstrates a need for additional research into the impact of cultural values and norms on patient comfort discussing food insecurity. It could be that, because minority groups are more likely to experience food insecurity and related social issues (Coleman-Jensen et al., 2019; Odoms-Young, 2018), minority groups may be more
comfortable with food insecurity screenings because they may have experienced the screening process more frequently than Whites. As Pooler et al. (2018) and others suggest, routine screening for food insecurity could help normalize these conversations and decrease stigma associated with food insecurity for all patients. However, further research is needed to fully understand the cause for this variation.

Perhaps most surprising of the quantitative patient data is that empathy was significantly and negatively associated with patient comfort. This finding is contrary to prior research (Palakshappa et al., 2017a) and the current qualitative data. There are three considerations for this negative association between empathy and patient comfort that should be explored further. First, when modeled alone, empathy, though not statistically significant, was positively associated with the dependent variable. It could be that, when included in the fully specified model, empathy becomes less important than other patient-centered variables, such as cultural sensitivity and patient involvement in care planning. Second, the small sample size could be affecting the statistical power of the regression model. It is possible that, with a larger sample size, the statistical power would increase, and this relationship may be observed differently. Finally, there could be multicollinearity present among the independent variables causing the sign of effect for empathy to change (Williams, 2015). When modeled without empathy, the signs of effects of other patient-centered care variables also changed from positive to negative, indicating model misspecification. Because it is not theoretically likely that empathy would be negatively associated with patient comfort being screened for food insecurity, and the qualitative data examined in this study and prior studies suggests this to be untrue, it is likely that multicollinearity of the independent variables exists within the model presented here. This warrants further research into the measurement of empathy within patient-centered care.
**Research Question 2**

One of the major benefits of a mixed methods study is examining a research problem with multiple sources of data (Creswell & Plano Clark, 2018). Research question 2 provided an opportunity to qualitatively examine patient/provider variables that impact patient/provider comfort. Though the quantitative analysis for the healthcare provider sample was limited due to a small sample size, the qualitative evidence suggests provider comfort is impacted more frequently by process-oriented factors, such as integrating screenings into patient assessments, knowing what resources are available to assist patients, having sufficient training to conduct screenings, and having ancillary support to assist with providing resources and following up with patients as needed. These findings are similar to those described in existing literature that describe provider barriers to conducting food insecurity screenings within medical settings (Adams et al., 2017; Barnidge et al., 2017; Palakshappa et al., 2017b; Pooler et al., 2018; Stenmark et al., 2018). Some providers found utility in having the screening built into the medical assessment and history, as a way of normalizing the conversation and creating an opportunity to discuss a sensitive topic. This process-oriented factor (screening integrated into medical assessment) helped increase some providers’ comfort by improving their communication with patients. Specifically, having the screening built into the social history of the medical appointment gave providers an opportunity to explain to patients the context of the screening and its relevancy to patient health. Other studies have found similar provider appreciation of screenings integrated within the medical context of patient assessments (Adams et al., 2017).

Patient-centered variables also contributed to provider comfort, though less frequently than process-oriented variables. Only trust, empathy, effective communication, and cultural
sensitivity were identified by providers as impacting their comfort discussing food insecurity screenings. Some providers noted that having a good relationship with their patients enabled them to feel comfortable bringing up sensitive topics, such as food insecurity, with patients. Like the other patient-centered care variables, trust can be both a facilitator and inhibitor of patient comfort.

Cultural similarities between patients and providers were noted to increase some providers’ comfort discussing food insecurity and related issues, where differences were noted to increase some providers’ discomfort. These findings provide some support for additional provider training on communicating with varying cultures. As mentioned in Chapter 2, to be truly effective cultural training needs to move beyond “cultural competence” and instead strive for “cultural congruence”, wherein providers take the time to ensure with the patient that the care provided is culturally congruent with the patient’s values and needs (DeWilde & Burton, 2017). Some providers may benefit from additional training to this end, and workshops and trainings generated to improve provider comfort with addressing cultural needs of patients should also be inclusive and incorporate input from patients. Specifically, the opinions and suggestions of patients of diverse racial and ethnic backgrounds, as well as socioeconomic status, should be included in the creation of any training materials for healthcare providers. In doing so, the intention behind patient-centered and culturally sensitive care would be integrated into the provider training. To this extent, some providers in this sample noted that their past training in these social determinants of health helped them to feel more comfortable with these conversations, while another noted that additional training and research on the importance of the screenings would improve their comfort, highlighting the need for comprehensive trainings and workshops on the topic.
For the patient sample, however, all patient-centered elements were cited as facilitators of patient comfort discussing food insecurity and other social determinants of health with healthcare providers. The qualitative results differed from the quantitative findings regarding the patient-centered variable empathy. Specifically, empathy was one of the most frequently mentioned patient-centered care elements as an important factor of patient comfort. In this sample, patients described caring, kind, and sincere demeanors of healthcare providers as directly related to their comfort. These sentiments are similar to those of prior research investigating parent perceptions of food insecurity screenings in pediatric, suburban settings (Palakshappa et al., 2017a).

Patient emphasis on the other patient-centered variables is similar to qualitative research investigating patient comfort with food insecurity screenings. Patients in this sample described effective communication, interest in the patient’s agenda, and trust as important factors in their comfort. Specifically, providing additional context to conversations surrounding social determinants of health, offering personalized care based on patient concerns, and having good relationships with healthcare providers helped some patients in this sample to feel more at ease with discussing their personal concerns with their healthcare provider. This is congruent with existing literature (Palakshappa et al., 2017a). Finally, patients identified cultural sensitivity of providers as an important factor in patient comfort. Some patients noted that cultural values and norms impact their lifestyle choices, including food. Provider awareness of these implications, as well as guidance when a change was recommended, was noted as important to patient comfort discussing food insecurity and related social determinants of health, as well as patient adherence to the provider’s recommendation. For example, one patient explained her experience with providers suggesting “huge lifestyle changes”, assuming the patient can implement said changes with minimal provider guidance. Provider assumptions of cultural norms and values was cited by
some patients in this sample as contributing to feelings of discomfort when communicating with providers. This finding is congruent with prior literature that stresses the importance of cultural sensitivity in a multitude of patient outcomes, such as satisfaction with providers, adherence to the recommended treatment plan, and other health outcomes (Tucker et al., 2013).

When patients described factors that induced feelings of discomfort surrounding food insecurity screenings and related social concerns, they often described behaviors which were opposite of patient-centered care. Namely, these behaviors, such as providers’ determining the plan of care without patient input and providers’ judgement of patient circumstances, were largely reminiscent of the former biomedical model (Schiavo, 2007). This study, as well as prior literature, suggest that avoiding provider-centered behaviors of the biomedical model and instead implementing the patient-centered care tenants of the biopsychosocial model is integral in ensuring patient comfort with screenings of food insecurity and related social determinants of health.

**Patient/Provider Communication Changes Resulting from COVID-19**

*Research Question 3*

During the construction of this research project, COVID-19 quickly spread across the globe, including the United States. Because of the social distancing recommendations, and subsequent mandatory lockdowns that took place globally, the study was modified to include questions pertaining to COVID-19 and its impact on patient-provider communication and interactions. Research question 3 asked healthcare providers and patients what changes have occurred in their communication and interactions resulting from COVID-19.
Both patients and healthcare providers noted process changes as a direct result of COVID-19. For example, providers noted that the increased prevalence of telemedicine appointments was a major change in their day-to-day operations, having a great impact on their interactions with patients. Providers also noted an increased attention on safety precautions, such as increased cleaning of workspaces, utilization of face masks, and social distancing. Along these lines, patients noted changes in service provisions, with more providers willing to refill medications or order lab tests without requiring an office visit. These changes undoubtedly occurred in response to government recommendations to limit social interactions.

Beyond process changes, both patients and providers responses point to areas where communication may be challenged for healthcare providers and patients. For example, both parties noted increased communication channels between patients and providers, with the use of telephone, email, and web communication platforms. However, increased communication did not necessarily equate to increased quality of communication for participants of this sample. Some providers noted that it has been more difficult to communicate nonverbally with patients, because of safety precautions such as wearing masks during in-person interactions. The impediment of nonverbal cues not only affected the provider’s ability to effectively communicate with patients, but it also limited the amount of empathy a provider could communicate to patients. For example, some providers noted difficulty smiling at patients. Face coverings, although an important safety precaution, may also inhibit a provider’s ability to demonstrate traits of empathy. Additionally, providers stated difficulty communicating with patients through telemedicine for two primary reasons. One, technical difficulties with computer technology of patients and providers made communication sometimes cumbersome and difficult. Second, some providers noted that discussing sensitive topics, such as food insecurity, was difficult through
telemedicine communication because of the physical distance and impersonal nature of the computer. Further, patients noted quick interactions with providers as a change in the current COVID-19 era. These interactions were described as less personal and strictly medical, indicating that some of the interpersonal elements of the patient-provider relationship that enhance patient-centered care may be constrained while complying with COVID-19 safety precautions. This suggests some areas wherein providing patient-centered care and communicating about sensitive matters, such as food insecurity, could be further challenged by the changing landscape of healthcare environments in response to COVID-19. Namely, social distancing and COVID-19 precautions may make it more difficult for providers to effectively communicate with patients on social determinants of health and implement food insecurity screenings if they are not already integrated in the medical assessment.

Finally, providers described seeing increased mental health and social needs of the patients they do see. This makes intuitive sense, as COVID-19 and the subsequent economic recession has had far-reaching implications on daily life for millions of people. The Kaiser Family Foundation conducted a poll in mid-July 2020, where 53% of respondents reported negative mental health consequences because of COVID-19 (Panchal et al., 2020). Further, increasing unemployment rates is projected to have negative implications for millions of Americans, especially low-income communities already at risk for food insecurity (Feeding America, 2020).

**Study Limitations**

This study’s findings should be considered in context of its limitations. Perhaps the greatest limitation is the employment of nonprobability sampling strategy. Although Central
Florida has a diverse population, nonprobability sampling does not guarantee the sample recruited for analysis will be a representation of the larger population (Shadish et al., 2002). The conclusions drawn from this study, therefore, cannot be readily applied to other populations and locations outside of this sample.

COVID-19 brought several additional challenges in recruitment of participants for this study. Safety precautions and social distancing recommendations necessitated data collection be conducted strictly online or by phone. As such, the diversity of the patient sample was limited to those with computer access. Additionally, recruitment of participants was greatly limited. Thus, the small sample sizes of each population limit the statistical power of the quantitative analysis. Additional research with larger sample sizes will yield more adequate statistical power for analysis and interpretation.

Finally, patients and healthcare providers were asked to report on their experiences with patient-centered care, which can contribute to response bias of the study in different ways. Providers were asked to self-report on their patient-centered behaviors, which may put them at risk for selecting socially desirable responses and potentially skewing the data as a result (Villar, 2011). Additionally, patients were asked to recall an encounter with a healthcare provider that they have seen within the last year. As such, it is possible that patients may inadvertently contribute biased data if they recall incorrectly an event or situation (Padgett, 2012).

**Contribution to Field and Practice Implications**

Despite these limitations, this study has several important contributions to offer the larger public health and health communication fields. This study examined specific patient-centered elements and their influence on both patient and provider comfort discussing food insecurity and
related social determinants of health, such as financial concerns and transportation barriers. Most literature examining these topics have been qualitative studies conducted in pediatric settings (De Marchis et al., 2019). This study expands this body of research by including a variety of healthcare professionals and specialties in outpatient settings, including primary care, home health care, and community health agencies.

Additionally, this study utilized mixed methods to investigate the research topic. As mentioned in previous chapters, employing mixed methodologies allows the research study to benefit from the strengths of quantitative and qualitative analysis (Creswell & Plano Clark, 2018). Without the utilization of mixed methods, our understanding the empathy variable in the patient quantitative data, for example, would have been extremely limited. Integrating the quantitative and qualitative data (see Tables 5 and 10) provides a more complete understanding of the concepts under investigation by allowing for comparisons between each type of data to be drawn. Further, by examining the perceptions of patients and healthcare providers, comparison of any discrepancies between responses allowed for more nuanced information and recommendations to be gleaned.

Finally, this study investigated communication changes between patients and healthcare providers during a global pandemic. COVID-19 has wrought extensive changes in daily life for millions across the globe, and the patient-provider relationship has undoubtedly changed as a result. Providing patient-centered care is more important now than ever, and perhaps more challenging, as well. This study provides preliminary insight on what some of those challenges might be, for both patients and providers.

There are several practice implications to consider from these findings. First, for community organizations such as the Health and Hunger Task Force, the results presented here
provide insight to the challenges of patient and provider preferences regarding food insecurity screenings in outpatient settings. Better understanding facilitators and inhibitors of patient and provider comfort, for example, could guide community organizations in their engagement with patients and providers on the implementation of regular food insecurity screenings in outpatient settings. Specifically, some healthcare providers in this study cited research and training as contributing to provider comfort with screening routinely. Developing workshops and webinars that incorporate patient-centered elements into the training, such as cultural sensitivity, could be an area where community organizations could not only foster relationships and trust with healthcare providers they seek to partner with, but also offer support that could help providers to be comfortable facilitating difficult conversations with patients. This partnership between community organizations and healthcare providers will be even more important now, given rise of food insecurity rates because of COVID-19 (Feeding America, 2020).

Second, some providers indicated trainings and resources associated with food insecurity helps them feel more comfortable including screenings in medical assessments. Providers may benefit from the creation of a tool that can be used in the moment to help guide their conversations about food insecurity in a patient-centered manner. For example, the Screening, Brief Intervention, and Referral to Treatment (SBIRT) tool was created to help guide clinicians in assessing patients for substance use and providing education and referrals to treatment where appropriate (SAMHSA, 2017). A similar tool could be developed to assist providers in screening for food insecurity, helping providers integrate food insecurity screenings into their workflow process while also emphasizing the patient-centered care elements that help to bolster patient comfort with screenings.
To be truly effective in eliminating hunger, healthcare providers and community organizations must partner together to provide patient-centered care, ensuring that patients are assisted not only through the healthcare system, but community resources as well. Providing this seamless transition of care would benefit every patient experiencing the negative effects of the social determinants of health, especially those who are food insecure. Further, ensuring that healthcare providers are trained and consistently screening for food insecurity is of utmost importance in reducing racial disparities resulting from health inequity (Odoms-Young, 2018). Reducing health disparities and improving the health outcomes of all populations has long been an endeavor of the Healthy People initiative and is currently identified as such through Healthy People 2030 (ODPHP, n.d.). Ensuring that patients are screened for food insecurity in a patient-centered manner, with cultural sensitivity at the forefront of consideration, is therefore of great importance in the success of this mission and the reduction of health disparities in the United States.
CHAPTER SIX: CONCLUSION

This study sought to better understand patient-provider dynamics that influence patient and healthcare provider comfort discussing food insecurity screenings in outpatient settings. Patients and healthcare providers were recruited in Central Florida and, using mixed methods, were surveyed on their comfort with food insecurity screenings and their experiences with patient-centered care variables. These variables included effective communication, empathy, patient involvement in care planning, interest in the patient’s agenda, trust, and cultural sensitivity. Additionally, patients and healthcare providers were asked what factors impact their comfort conversing about food insecurity and how the global pandemic COVID-19 has impacted their communication with one another.

The findings presented in this study indicate that patient-centered variables can influence patient-provider comfort in different ways. Although no statistical association was found in the bivariate analysis of the healthcare provider sample, quantitative analysis of the patient sample provides some evidence that patient-involvement in care planning and cultural sensitivity are two patient-centered variables that are statistically and positively associated with patient comfort.

One of the main benefits of this study is the utilization of mixed methods to investigate both patient and provider perceptions of this topic (Creswell & Plano Clark, 2018). In this study, qualitative data provided important additional context to the concepts investigated. Findings of this data identified several factors that facilitate and inhibit comfort discussing food insecurity and related social determinants of health. For healthcare providers, process-oriented factors, such as having the food insecurity screening built-in to the patient assessment, resources readily available to provide to patients, and ancillary support staff to assist with screenings and referrals...
made some providers more comfortable screening patients for food insecurity. Additionally, some providers recognized the benefits of patient-centered care (specifically the variables empathy, trust, effective communication, and cultural sensitivity) in their ability to assist providers in ensuring patients are comfortable with the food insecurity screening and subsequent conversation about social determinants of health. At the same time, providers identified some process-oriented factors that can hinder comfort with screenings. These included lacking available resources to provide patients, utilization of telemedicine to see patients, and perceived patient judgment or discomfort. Telemedicine, in particular, was identified by some providers as an uncomfortably vulnerable space for patients, with physical distance decreasing perceptions of empathy and connection between healthcare providers and patients.

While healthcare providers identified process-oriented factors and 4 patient-centered variables, patients identified all 6 patient-centered variables as contributing to their comfort being screened for food insecurity by healthcare providers. Effective communication, empathy, interest in the patient’s agenda, and trust were cited most often by patients as facilitators of comfort. Patients perceived effective communication to be “open” and “honest.” This type of communication helped to provide additional context to conversations around food insecurity, while also normalizing the discussion. Additionally, patients identified compassion, kindness, and sincerity as attributes of empathy that helped them feel more at ease with food insecurity screenings. Trusting relationships were often defined in terms of “good relationships” and were frequently associated with the length of time a patient and provider have worked with each other. In some cases, this history gave providers credibility for patients and increased their comfort with social determinant of health screenings as a result. Conversely, patients identified “provider-centered” behaviors, reminiscent of the biomedical model, as contributing to their
discomfort discussing food insecurity screenings. These behaviors were often described as opposite patient-centered and included poor provider approach to discussions, provider judgment, not working with patients, lack of empathy, and cultural insensitivity. Patients described these behaviors as decreasing their comfort with discussing social determinants of health with their healthcare provider. Further, these variables run counter to the efforts of the biopsychosocial model, which seek to bring patients and providers together to act as joint collaborators in patient care planning and decision-making (Schiavo, 2007).

The unfortunate development of COVID-19 brings additional challenges to the patient-provider dynamic. Further, the pandemic brings new obstacles for community organizations wishing to engage healthcare providers in more consistent screenings for food insecurity in the medical context. Results of this study suggest patient-centered care variables, such as empathy, may be more difficult to achieve because of the restrictions put in place to reduce the spread of the virus. For example, providers cited the use of protective face coverings as an impediment to conveying nonverbal displays of empathy, such as smiling. And, though computers and electronic communication was cited as helpful in such a difficult time, providers also noted that technical difficulties and the impersonal nature of computer screens were often impediments to the facilitation of difficult conversations wherein patients would be asked to be vulnerable with providers.

These findings provide support for previous work in this area. Additionally, they also give suggestions for future research and practice implications. Future studies could seek to increase the sample size of patients and healthcare providers in other areas to increase our understanding of the impact of patient-centered care of patient/provider comfort with food insecurity screenings. Additionally, future research may consider utilizing paper survey
distribution to recruit a larger and more diverse sample of patients (an endeavor that this study could not undertake because of COVID-19 restrictions). Specifically, utilizing paper surveys may help to capture the voices of the most vulnerable patients that may not be comfortable using web-based platforms or do not have computer access.

Finally, healthcare and community organizations may benefit from these findings in their training and professional engagement of healthcare providers. Specifically, providers in this sample identified trainings as an important facilitator of their comfort. Patient-centered trainings on the social determinants of health, including food insecurity, may be a worthwhile pursuit to increase provider comfort. Further, patient-centered trainings should be inclusive of patient outlooks and be culturally sensitive to various racial and ethnic groups, as well as socioeconomic statuses. Along the same lines, community organizations working on endeavors of health and hunger should be cognizant of the implications of patient-centered care and strive to include patient-centeredness within their own initiatives and collaborations.
APPENDIX A:
HEALTHCARE PROVIDER AND PATIENT SAMPLING FRAME
Participating Organizations within the Health and Hunger Task Force

1. Valencia College
2. Community Health Centers of Florida
3. Second Harvest Food Bank of Central Florida
4. University of Central Florida
5. Florida Health Department-Seminole County
6. University of Florida Institute of Food and Agricultural Sciences
7. Orlando Health Hospital
8. Grace Medical Home Clinic
9. Orange Blossom Family Health
10. Osceola Community Health Services
11. Blue Cross Blue Shield of Florida- Guidewell
12. Humana Insurance
13. Department of Children and Families
14. Florida Health Department-Orange County
15. Advent Health
16. Black Nurses Association
17. Hebni Nutrition
18. Shepherds Hope Clinic
19. Nemours Children’s Hospital
20. Health Council of East Central Florida
21. West Orange Healthcare District
22. Healthy Start- Orange County
23. Seniors First
24. Veterans Administration
25. American Heart Association
26. Four Rivers Foundation
27. American Diabetes Association
28. Osceola Community Health Services
29. Primary Care Access Network
30. Aetna Health Insurance
31. Florida Health Department-Osceola County
32. True Health
33. Oviedo Medical Research
34. Primary Partners
35. Metroplan Orlando
APPENDIX B:
FOOD PANTRY SAMPLING FRAME
<table>
<thead>
<tr>
<th>Agency Name</th>
<th>Address</th>
<th>City</th>
<th>Zip</th>
<th>Phone</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ephraim Project, Inc.</td>
<td>24 N. Rosalind Rd.</td>
<td>Orlando</td>
<td>32801</td>
<td>(407) 451-0242</td>
<td>Meal Program 4:30—6:30pm Fridays</td>
</tr>
<tr>
<td>Runway to Hope</td>
<td>189 S. Orange Ave Suite 1800</td>
<td>Orlando</td>
<td>32801</td>
<td>(407) 802-1544</td>
<td>Closed for families with children receiving cancer treatment</td>
</tr>
<tr>
<td>The Salvation Army/Men’s Shelter</td>
<td>624 Lexington Ave</td>
<td>Orlando</td>
<td>32801</td>
<td>(407) 423-8581</td>
<td>Meal Program Mon-Fri 3:45-4:45pm</td>
</tr>
<tr>
<td>Celestial Church of Christ Aladishade Parish</td>
<td>1082 W. Michigan St</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 254-0084</td>
<td>Wed 10am—12pm &amp; Sun 1—3pm</td>
</tr>
<tr>
<td>Christian Service Center</td>
<td>808 W. Central Blvd</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 425-2523</td>
<td>Mon-Fri 9am—4:30pm</td>
</tr>
<tr>
<td>Christian Service Center/Daily Bread</td>
<td>808 W. Central Blvd</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 843-4054</td>
<td>Meals Sun 11am—12pm Mon-Fri 12—1pm</td>
</tr>
<tr>
<td>Covenant Charities</td>
<td>2210 S. Rio Grande Ave</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 425-3001</td>
<td>Mon 1:30—2:30pm Wed 12—12:30pm</td>
</tr>
<tr>
<td>El Bethel Temple of Jesus Christ at Orlando</td>
<td>3000 Bruton Blvd</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 860-0532</td>
<td>Mon &amp; Thurs 3:45—4:15pm</td>
</tr>
<tr>
<td>Episcopal Church of St. John the</td>
<td>1000 Bethume Drive</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 295-1923</td>
<td>Wed 11am—12pm</td>
</tr>
<tr>
<td><strong>Agency Name</strong></td>
<td><strong>Address</strong></td>
<td><strong>City</strong></td>
<td><strong>Zip</strong></td>
<td><strong>Phone</strong></td>
<td><strong>Hours</strong></td>
</tr>
<tr>
<td>----------------</td>
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<td>---------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>Baptist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Church of Faith</td>
<td>306 S. Parramore Ave</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 294-1915</td>
<td>4&lt;sup&gt;th&lt;/sup&gt; Sat 9—11:30am</td>
</tr>
<tr>
<td>International Harvest</td>
<td>2740 Old Winter Garden Road</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 849-2226</td>
<td>Wed 4pm—6pm</td>
</tr>
<tr>
<td>Kings Way Baptist Church</td>
<td>1000 22&lt;sup&gt;nd&lt;/sup&gt; St.</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 422-5044</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; and 4&lt;sup&gt;th&lt;/sup&gt; Wed 9—11am</td>
</tr>
<tr>
<td>National Tabernacle</td>
<td>1000 Bethune Dr.</td>
<td>Orlando</td>
<td>32805</td>
<td>(352) 383-0411</td>
<td>Every other Fri 12—4pm</td>
</tr>
<tr>
<td>Olive Branch Community Development Corp., Inc.</td>
<td>2525 W. Church St.</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 295-6568</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; &amp; 4&lt;sup&gt;th&lt;/sup&gt; Tues 1—3pm</td>
</tr>
<tr>
<td>One Humane, Inc.</td>
<td>1025 S. Orange Blossom Trail</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 734-1980</td>
<td>Wed 5:30—pm Fri 11:30—12:30pm Meals</td>
</tr>
<tr>
<td>Promise Seeds @ Dr. James Neighborhood Center</td>
<td>1723 Bruton Blvd</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 309-1579</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; &amp; 3&lt;sup&gt;rd&lt;/sup&gt; Thurs 2:30—6:30pm</td>
</tr>
<tr>
<td>ROICH</td>
<td>6220 S. Orange Blossom Trail Bldg 305</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 360-1829</td>
<td>Mon 12—2pm</td>
</tr>
<tr>
<td>Shepard Vision Missionary, Inc.</td>
<td>1415 W. Central Blvd</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 402-6585</td>
<td>Fri 12—2pm</td>
</tr>
<tr>
<td>Shiloh Baptist Church</td>
<td>604 W. Jackson St.</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 721-9209</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; &amp; 4&lt;sup&gt;th&lt;/sup&gt; Fri 9—10am</td>
</tr>
<tr>
<td>St. John Baptist Church</td>
<td>2025 W. Central Blvd</td>
<td>Orlando</td>
<td>32805</td>
<td>(407) 781-0700</td>
<td>Tues 12—2pm</td>
</tr>
</tbody>
</table>
EXPLANATION OF RESEARCH

Title of Project: Food Insecurity Screening and Patient-Centered Care: Perspectives of Patients and Healthcare Providers on Practices and Barriers to Effective Screening in Outpatient Medical Practices

Principal Investigator: Christina Bernhardt

Faculty Supervisor: Dr. Su-I Hou

You are being invited to take part in a research study. Whether you take part is up to you.

The purpose of this research is to better understand patient and healthcare provider interactions that may impact patient and provider comfort with discussing food insecurity in outpatient medical appointments. Food insecurity is defined as having an inability to access healthy food regularly in order to support an active lifestyle.

This study has two components: a survey component, and a telephone interview component. You may participate in one or both components. Compensation will be offered to participants who complete one or both components of the study.

If you would like to participate in the telephone interview only, you may contact either Christina Bernhardt at (407) 955-1203 or Dr. Su-I Hou at (407) 823-3344 to schedule a telephone interview with a member of the research team. Additional contact information is listed at the bottom of this form. If you decide to participate in the survey component, you will be asked to complete a survey assessing your experiences with various patient/provider interactions. At the end of the survey, you may provide your contact information in a separate link provided if you are also interested in completing the telephone interview.

Survey:
- The survey is web-based and can be completed at your convenience.
- The survey is expected to take between 10 and 15 minutes to complete.
- No personal identifying information will be collected about you, nor the IP address of the computer you use to complete the survey (the survey will not record IP information or location information from your computer).
- The survey will assess basic demographic questions, your prior experience with food insecurity screenings, and your comfort with talking to patients about food insecurity topics (such as transportation barriers, challenges obtaining food, financial burdens, and food assistance programs). Additionally, you will be asked to self-rate your interactions with patients on various topics such as trust, cultural sensitivity, and communication.
- Compensation: Participants of this survey will be eligible to receive a $10 VISA gift card as compensation for their time taking the survey. At the end of the survey, you will be asked to click a separate link where you may enter your name and email and/or mailing address in order for the gift card to be sent to you after completion of the survey. The contact information you provide will not be linked with the survey you complete.
- Additional Participation: At the end of the survey, you will be asked if you would like to participate in a telephone interview. If you are interested, you will be able to click on a separate link where you may provide your name and contact information. A member of the research team will then contact you to schedule the telephone interview.

Telephone interviews:
- Telephone interviews will take between 20 and 30 minutes to complete.
- Telephone interviews will be audio recorded for the purposes of data analysis.

UCF HIP-254 Form v.1.21.2019
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- If you do not wish to be audio recorded, you may decline to be audio recorded and you may still participate in the interview.
- Audio recordings will be stored on an encrypted flash drive and will be deleted after they are transcribed for data analysis purposes.
- Interview questions will expand upon the topics explored within the survey, including patient/provider communication experiences through the current Coronavirus crisis.
- **Compensation:** Participants who complete telephone interviews will be offered a $10 VISA gift card for their time.

All data will be securely stored on an encrypted flash drive. Only the research team will have access to the data. All contact information collected for the purposes of scheduling the telephone interview and/or disseminating gift cards will be deleted and/or destroyed after all interviews are completed and all gift cards have been distributed, at the end of July 2020. Every effort will be made to send participants gift cards as soon as possible.

You must be a healthcare professional with direct patient contact, speak English, and be 18 years of age or older to take part in this research study.

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or complaints, please contact Christina Bernhardt, Graduate Student, Doctoral Program in Public Affairs, College of Community Innovation and Health Education at (407) 955-1203 or by email at christina.bernhardt@knights.ucf.edu, or Dr. Su-I Hou, Faculty Supervisor, Doctoral Program in Public Affairs/Health Management & Informatics, College of Community Innovation and Education at (407) 823-3344 or by email at su-i.hou@ucf.edu.

**IRB contact about your rights in this study or to report a complaint:** If you have questions about your rights as a research participant, or have concerns about the conduct of this study, please contact Institutional Review Board (IRB), University of Central Florida, Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3245 or by telephone at (407) 823-2901, or email irb@ucf.edu.
Healthcare Provider Survey

The first set of questions collects basic information. Please select or input the best response for each question that is appropriate for you.

1. What year were you born? ____

2. What is your race?
   1. Black/African American
   2. White/Caucasian
   3. Asian
   4. Bi/multi-racial
   5. Other _______ (please specify)

3. Is your ethnicity Hispanic or Latino?
   1. Yes
   2. No
   3. I don’t know

4. What gender do you identify as?
   1. Male
   2. Female

5. What is your professional discipline?
   1. Physician
   2. Physician’s Assistant
   3. Nurse
   4. Nurse Practitioner
   5. Social Worker
   6. Case Manager (Nurse or Social Worker)
   7. Nutritionist
   8. Financial Advocate
   9. Other _______ (please specify)

6. What is the highest education level you have completed?
   1. Less than high school
   2. High school
   3. Associate of Art’s Degree
   4. Bachelor’s Degree
   5. Master’s Degree
   6. Ph.D. or Ed.D.
   7. M.D. or D. O.

7. What is your household income level per year?
   1. Less than $10,000
2. Between $10,001 and $20,000  
3. Between $20,001 and $30,000  
4. Between $30,001 and $40,000  
5. Between $40,001 and $50,000  
6. Between $50,001 and $60,000  
7. Between $60,001 and $70,000  
8. Between $70,001 and $80,000  
9. Between $80,001 and $90,000  
10. Greater than $90,001

8. What is your preferred language?  
   1. English  
   2. Spanish  
   3. Other _______ (please specify)

9. Prior to the Coronavirus crisis, how did you usually communicate with patients?  
   1. During in-office appointments  
   2. Through e-mail  
   3. Through phone calls  
   4. A combination of the above _____ (please specify)

10. Prior to the Coronavirus crisis, how satisfied were you, generally, with your interactions with your patients?  
    1. Very dissatisfied  
    2. Dissatisfied  
    3. Neither dissatisfied nor satisfied  
    4. Satisfied  
    5. Very Satisfied

11. Due to the Coronavirus crisis, has your office increased availability of telemedicine and other virtual appointments?  
    1. Yes  
    2. No  
    3. Other _______ (please specify)

12. During the Coronavirus crisis, how do you now communicate with patients?  
    1. During in-office appointments  
    2. Through email  
    3. Through phone calls  
    4. A combination of all the above (please specify)

13. During the Coronavirus crisis, how satisfied are you, generally, with your interactions with your patients?  
    1. Very dissatisfied  
    2. Dissatisfied
3. Neither dissatisfied nor satisfied
4. Satisfied
5. Very Satisfied

14. In what ways has communication with patients changed since the development of Coronavirus and social distancing recommendations? Please explain.

15. What recommendations do you have to increase effectiveness of communications and interactions between healthcare providers and patients during the Coronavirus crisis? Please explain.

Part of the goal of this study is to assess current food insecurity screening practices in outpatient settings. Please select the most appropriate answer based on the process within your organization.

16. An example of a food insecurity screening is the Hunger Vital Sign. This 2-question screening asks patients to report whether the following two conditions occurred within the last 12 months:

1. The patient worried food would run out before they had the means to purchase more and/or
2. The patient did run out of food before they were able to purchase more.

Does your office of employment currently screen patients for food insecurity during appointments?

1. Yes
2. No
3. I don’t know

17. If your office does screen for food insecurity, which profession within the office is responsible for conducting the screening?

1. Physician
2. Physician’s Assistant
3. Nurse
4. Nurse Practitioner
5. Social Worker
6. Case Manager (Nurse or Social Worker)
7. Nutritionist
8. Financial Advocate
9. Not applicable
10. Other _______ (Please specify)

18. **Which healthcare discipline do you think** is best suited to conduct the food insecurity screening?
   1. Physician
   2. Physician’s Assistant
   3. Nurse
   4. Nurse Practitioner
   5. Social Worker
   6. Case Manager (Nurse or Social Worker)
   7. Nutritionist
   8. Financial Advocate
   9. Other _______ (Please specify)

19. Do you think food insecurity screenings with patients should be conducted via an **electronic** assessment?
   1. Yes
   2. No
   3. I don’t know

20. Do you think food insecurity screenings with patients should be conducted via **face-to-face conversations**?
   1. Yes
   2. No
   3. I don’t know

21. How often do you think food insecurity screenings should be conducted?
   1. At every visit
   2. At every other visit
   3. Once a year
   4. Only if the patient has risk factors (such as diabetes, obesity, malnourishment, etc.)
   5. Only if the patient indicates obtaining food is a problem
   6. Other ______________ (please explain)

22. What kind of healthcare organization do you work for?
   1. Outpatient medical practice/doctor’s office
   2. Community healthcare agency
   3. Home health care agency
   4. Other (please specify)
23. Please indicate your agreement with the following statement: “I am comfortable screening my patients for food insecurity.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

24. Please indicate your agreement with the following statement: “I am comfortable talking with my patients about challenges in obtaining food.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

25. Please indicate your agreement with the following statement: “I am comfortable talking with my patients about any transportation barriers they may have.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

26. Please indicate your agreement with the following statement: “I am comfortable talking with my patients about any financial concerns they may have.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

27. Please indicate your agreement with the following statement: “I am comfortable talking to my patients about food assistance programs, such as SNAP, school lunch programs, and available food pantries in the community.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

The next set of questions assesses ways in which a healthcare provider may interact with a patient. Please think about patients you recently encountered and the topic you discussed. Rate how you behaved according to each statement.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>28. I provided clear information.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29. I was interested in what the patient feels about his/her current health status.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30. I interacted with the patient in a calm and quiet manner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>31. I understood the emotions that the patient may have.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. I was interested in what the patient knows about the topic.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>33. I respected the patient as a person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. I was interested in what the patient wants from care.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. I was able to listen.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. I was paying attention to what the patient said.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37. I was able to put myself in “his/her shoes”.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>38. I gave the patient time to ask and to talk about the topic.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>39. I provided confidence and security when interacting with the patient.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>40. I asked questions that allowed the patient to express his or her views.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>41. I was interested in what the patient expects from care.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>42. I gave the patient encouragement and transmitted optimism.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
43. I offered the patient the opportunity to discuss and decide together the “things to do”.

The next section asks you to consider the trust you have in your patients. Please continue to think about a patient you have recently interacted with and rate your agreement with each statement.

<table>
<thead>
<tr>
<th>Statement: How confident are you that your patient will...</th>
<th>Not at all Confident</th>
<th>A Little Confident</th>
<th>Somewhat Confident</th>
<th>Mostly Confident</th>
<th>Completely Confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>44. Provide all the necessary information you need?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>45. Let you know when there has been a major change in his or her condition?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>46. Understand what you tell him/her?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>47. Follow the plan you have recommend?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48. Be actively involved in managing his or her condition/problem?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>49. Tell you if he/she is not following the plan?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The next section asks you to consider your cultural sensitivity when interacting with patients. Please continue to think about a patient you have recently interacted with and rate your agreement with each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>50. I understand that people of different cultures have and believe in different medical practices.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>51. I understand that some patients of all races, including majority patients, are not necessarily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
assertive at a health-care provider’s office.

52. I am understanding about the difficulties my patients might have relating to me because of our cultural and/or economic differences.  

53. I treat my patient’s children well.

54. My coworkers are eager to please the patients in our office.

55. I have training in working with patients of various racial/ethnic backgrounds.

56. I ask my patients how they are feeling.

The last section asks you to expand on some of the questions you were asked today. Please read each question and explain your response.

57. What factors do you think help you feel comfortable discussing sensitive topics such as food insecurity with your patients? Please explain your answer.

58. What factors do you think make you uncomfortable discussing sensitive topics such as food insecurity with your patients? Please explain your answer.

59. How do you think cultural values and norms, such as religious beliefs and language preference, impact communication with your patient? Please explain.

That concludes the survey. Thank you for your participation!
APPENDIX E:
HEALTHCARE PROVIDER QUALITATIVE TELEPHONE INTERVIEW
Healthcare Provider Qualitative Telephone Interview

Today’s telephone interview is focused on interactions between healthcare providers and patients and how that may impact your comfort talking to your patients about social concerns, such as finances and access to food.

1. Do you or someone in your office talk with patients about their food security? Would you or are you comfortable talking to patients about personal concerns, such as transportation barriers, finances, or challenges obtaining food? Why or why not?

2. Can you give an example of an interaction with a patient in which you felt comfortable talking to the patient about any of their social concerns, such as challenges obtaining food or medication, transportation issues, or financial concerns? What about the situation or the patient made you feel comfortable and relaxed?

3. Can you give an example of an interaction with a patient in which you felt uncomfortable talking to the patient about any of their social concerns, such as challenges obtaining food or medication, transportation issues, or financial concerns? What about the situation or the patient made you feel uncomfortable?

4. What is most important to you when interacting and communicating with your patients? Why?

5. What do you think is most important for your patients when interacting and communicating with you? Why?

6. How has your office’s day-to-day operations changed in response to the COVID-19 crisis?

7. What have been the biggest challenges in communicating with and providing services to patients during the COVID-19 crisis?
8. What strategies have helped you in communicating and providing services to patients during the COVID-19 crisis?
EXPLANATION OF RESEARCH

Title of Project: Food Insecurity Screening and Patient-Centered Care: Perspectives of Patients and Healthcare Providers on Practices and Barriers to Effective Screening in Outpatient Medical Practices

Principal Investigator: Christina Bernhardt

Faculty Supervisor: Dr. Su-I Hau

You are being invited to take part in a research study. Whether you take part is up to you.

The purpose of this research is to better understand patient and healthcare provider interactions that may impact patient and provider comfort with discussing food insecurity in outpatient medical appointments. Food insecurity is defined as having an inability to access healthy food regularly in order to support an active lifestyle.

This study has two parts: a survey part, and a telephone interview part. You may participate in one or both parts. Compensation will be offered to participants who complete one or both components of the study.

If you would like to participate in the telephone interview only, you may contact either Christina Bernhardt at (407) 956-1203 or Dr. Su-I Hau at (407) 823-3344 to schedule a telephone interview with a member of the research team. Additional contact information is listed at the bottom of this form. If you decide to participate in the survey, you will be asked to complete a survey assessing your experiences with various patient/provider interactions. At the end of the survey, you may provide your contact information in a separate link provided if you are also interested in completing the telephone interview.

Survey:
- This survey is web-based and can be completed at your convenience.
- The survey is expected to take between 10 and 15 minutes to complete.
- No personal identifying information will be collected about you, nor the IP address of the computer you use to complete the survey (the survey will not record IP information or location information from your computer).
- The survey will assess basic demographic questions, your prior experience with food insecurity screenings, and your comfort with talking to healthcare providers about food insecurity and related topics (such as transportation barriers, challenges obtaining food, financial burdens, and food assistance programs). Additionally, you will be asked to rate your interactions with healthcare providers on various topics such as trust, cultural sensitivity, and communication.
- Compensation: Participants of this survey will be eligible to receive a $10 gift card as compensation for their time taking the survey. At the end of the survey, you will be asked to click a separate link where you may enter your name and email and/or mailing address in order for the gift card to be sent to you after completion of the survey. The contact information you provide will not be linked with the survey you complete.
- Additional Participation: At the end of the survey, you will be asked if you would like to participate in a telephone interview. If you are interested, you will be able to click on a separate link where you may provide your name and contact information. A member of the research team will then contact you to schedule the telephone interview.

Telephone interviews:
- Telephone interviews will take between 20 and 30 minutes to complete.
- Telephone interviews will be audio recorded for the purposes of data analysis.
- If you do not wish to be audio recorded, you may decline to be audio recorded and you may still participate in the interview.
Audio recordings will be stored on an encrypted flash drive and will be deleted after they are transcribed for data analysis purposes.

Interview questions will expand upon the topics explored within the survey, including patient/provider communication experiences through the current Coronavirus crisis.

**Compensation:** Participants will be offered a $10 VISA gift card for their time completing the telephone interview.

All data will be securely stored on an encrypted flash drive. Only the research team will have access to the data. All contact information collected for the purposes of scheduling the telephone interview and/or disseminating gift cards will be deleted and/or destroyed after all interviews are completed and all gift cards have been distributed, at the end of July 2020. Every effort will be made to send participants gift cards as soon as possible.

You must be 18 years of age or older and speak English to take part in this research study. Additionally, you must have had contact with a healthcare professional in an outpatient setting, such as a clinic or doctor’s office, within the last 12 months. Healthcare professionals can include doctors, physician assistants, nurse practitioners, nurses, social workers, case managers, nutritionists, or financial advocates.

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or complaints, please contact Christina Bernhardt, Graduate Student, Doctoral Program in Public Affairs, College of Community Innovation and Health Education at (407) 956-1203 or by email at christina.bernhardt@knights.ucf.edu or Dr. Su-I Hou, Faculty Supervisor, Doctoral Program in Public Affairs/Health Management & Informatics, College of Community Innovation and Education at (407) 823-3344 or by email at su-i.hou@ucf.edu.

**IRB contact about your rights in this study or to report a complaint:** If you have questions about your rights as a research participant, or have concerns about the conduct of this study, please contact Institutional Review Board (IRB), University of Central Florida, Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3245 or by telephone at (407) 823-2901, or email irb@ucf.edu.
APPENDIX G:
PATIENT SURVEY
Patient Survey

The first set of questions collects basic information. Please write or choose the best response for each question that is appropriate for you.

1. What year were you born? ____

2. What is your race?
   1. Black/African American
   2. White/Caucasian
   3. Asian
   4. Bi/multi-racial
   5. Other _______ (Please specify)

3. Is your ethnicity Hispanic or Latino?
   1. Yes
   2. No
   3. I don’t know

4. What gender do you identify as?
   1. Male
   2. Female

5. What is the highest education level you have completed?
   1. Less than high school
   2. High school
   3. Associate of Art’s Degree
   4. Bachelor’s Degree
   5. Master’s Degree
   6. Ph.D. or Ed.D.
   7. M.D. or D.O.

6. What is your household income level per year?
   1. Less than $10,000
   2. Between $10,001 and $20,000
   3. Between $20,001 and $30,000
   4. Between $30,001 and $40,000
   5. Between $40,001 and $50,000
   6. Between $50,001 and $60,000
   7. Between $60,001 and $70,000
   8. Between $70,001 and $80,000
   9. Between $80,001 and $90,000
   10. Greater than $90,001

7. Do you have any children under the age of 18 that you are a caregiver of?
1. Yes
2. No

8. What is your preferred language?
   1. English
   2. Spanish
   3. Other _____ (Please specify)

9. Please select which health insurance type you have:
   1. Medicare
   2. Medicaid
   3. Medicare AND Medicaid
   4. Private insurance
   5. Veteran’s Administration (VA) insurance
   6. I don’t have health insurance.
   7. Other (please specify)

10. Where do you usually go for health concerns?
    1. Primary care office
    2. Walk-in clinic or urgent care
    3. Emergency Room
    4. Other _____ (Please specify)

11. Prior to the Coronavirus crisis, how did you usually communicate with healthcare providers?
    1. During in-office appointments
    2. Through e-mail
    3. Through phone calls
    4. A combination of the above _____ (Please specify)

12. Prior to the Coronavirus crisis, how satisfied were you, generally, with your interactions with your healthcare providers?
    1. Very dissatisfied
    2. Dissatisfied
    3. Neither dissatisfied nor satisfied
    4. Satisfied
    5. Very Satisfied

13. Due to the Coronavirus crisis, has your healthcare provider increased availability of telemedicine and other virtual appointments?
    1. Yes
    2. No
    3. Other _______ (Please specify)
14. Have you seen a healthcare provider since the Coronavirus was declared a global pandemic (about mid-March 2020)?
   1. Yes
   2. No

15. If you have seen a healthcare provider since the Coronavirus was declared a global pandemic (mid-March 2020), did you see the provider in person or through a virtual (telemedicine) appointment?
   1. In person appointment
   2. Virtual (telemedicine) appointment
   3. Other (please specify)

16. During the Coronavirus crisis, how do you now communicate with healthcare providers?
   1. During in-office appointments
   2. Through email
   3. Through phone calls
   4. A combination of the above (please specify)

17. During the Coronavirus crisis, how satisfied are you, generally, with your interactions with your healthcare providers?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither dissatisfied nor satisfied
   4. Satisfied
   5. Very Satisfied

18. In what ways has communication with your healthcare provider(s) changed since the development of Coronavirus and social distancing recommendations? Please explain.

19. What recommendations do you have to increase effectiveness of communications and interactions between healthcare providers and patients during the Coronavirus crisis? Please explain.
Part of the goal of this study is to assess challenges in obtaining food. These challenges sometimes lead to “food insecurity” if they result in difficulty obtaining healthy foods on a regular basis. Please select the most appropriate answer based on your experience.

20. Within the last 12 months, did you worry whether your food would run out before you got money to buy more?
   1. Yes
   2. No

21. Within the last 12 months, did the food you buy not last and you didn’t have money to get more?
   1. Yes
   2. No

22. Would you prefer to be screened for food insecurity by an electronic questionnaire?
   1. Yes
   2. No
   3. I don’t know

23. Would you prefer to be screened for food insecurity while discussing face-to-face with your healthcare provider?
   1. Yes
   2. No
   3. I don’t know

24. If you would rather speak with a healthcare provider about difficulties accessing food, which provider would you be most comfortable talking to?
   1. Physician
   2. Physician’s Assistant
   3. Nurse
   4. Nurse Practitioner
   5. Social Worker
   6. Case Manager (Nurse or Social Worker)
   7. Nutritionist
   8. Financial Advocate
   9. Other _______ (Please specify)

25. Please indicate your agreement with the following statement: “I am comfortable being screened for food insecurity by my healthcare provider.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree
26. Please indicate your agreement with the following statement: “I am comfortable talking with my healthcare provider about challenges in obtaining food.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

27. Please indicate your agreement with the following statement: “I am comfortable talking with my healthcare provider about my transportation barriers.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

28. Please indicate your agreement with the following statement: “I am comfortable talking with my healthcare provider about my financial concerns.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

29. Please indicate your agreement with the following statement: I am comfortable talking to my healthcare provider about food assistance programs, such as SNAP, school lunch programs, and available food pantries in the community.”
   1. Strongly disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly agree

The next set of questions assesses ways in which a healthcare provider may interact with a patient. Please think about a healthcare provider you recently encountered and the topic you discussed. Rate how your healthcare provider behaved according to each statement.

30. Please select the healthcare provider you recently encountered.
   1. Physician
   2. Physician’s Assistant
   3. Nurse
   4. Nurse Practitioner
   5. Social Worker
   6. Case Manager (Nurse or Social Worker)
   7. Nutritionist
8. Financial Advocate
9. Other _______ (Please specify)

31. Was it your first time seeing this provider?
   1. Yes
   2. No

32. If no, please indicate how often you see your healthcare provider.
   1. Once a year
   2. Every 6 months
   3. Every 3 months
   4. More often than every 3 months

Please think about a healthcare provider you recently encountered and the topic you discussed. Rate how your healthcare provider behaved according to each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. My healthcare provider gave me clear information.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. My healthcare provider was interested in what I feel about my health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. My healthcare provider was calm and quiet when interacting with me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. My healthcare provider understood my emotions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37. My healthcare provider was interested in what I know about the topic we discussed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>38. My healthcare provider respected me as a person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>39. My healthcare provider was interested in what I want from care.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>40. My healthcare provider was able to listen.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>41. My healthcare provider paid attention to what I was saying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>42. My healthcare provider was able to put him/herself in “my shoes”.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
43. My healthcare provider gave me time to talk about the topic.  
44. My healthcare provider helped me feel confident in my healthcare plan.  
45. My healthcare provider asked questions that allowed me to express my view.  
46. My healthcare provider was interested in what I expect from care.  
47. My healthcare provider gave me encouragement and optimism.  
48. My healthcare provider offered me the opportunity to discuss and decide the “things to do”.

The next section asks you to consider the trust you have in your healthcare provider. Please continue to think about the healthcare provider you recently interacted with and rate your agreement with each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>49. My healthcare provider is usually considerate of my needs and puts them first.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>50. I trust my healthcare provider so much I always try to follow their advice.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>51. If my healthcare provider tells me something is true, then it must be true.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>52. I trust my healthcare provider’s judgments about my care.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>53. I trust my healthcare provider to put my needs above all other considerations when addressing my problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>54. My healthcare provider is an expert in taking care of problems like mine.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
55. I trust my healthcare provider to tell me if a mistake was made in my care.

The next section asks you to consider how culturally sensitive your provider is to your needs. Please continue to think about your recent interactions with your healthcare provider and rate your agreement with each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>56. My healthcare provider is respectful of my religious beliefs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>57. My healthcare provider shows care/concern for my children.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>58. My healthcare provider understands my culture.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>59. My healthcare provider gives me information that is racially or ethnically appropriate.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>60. My healthcare provider understands my financial situation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The last section asks you to expand on some of the questions you were asked today. Please read each question and explain your response.

61. What do you think would help you feel more comfortable talking with your healthcare provider about difficulty getting food regularly? Please explain your answer.

62. What do you think would make you uncomfortable talking to your healthcare provider about challenges accessing food regularly? Please explain your answer.
63. How do you think your cultural values and norms, such as religious beliefs and language preference, impact communication with your healthcare provider? Please explain.

*That concludes the survey. Thank you for your participation!*
APPENDIX H:
PATIENT QUALITATIVE TELEPHONE INTERVIEW
Patient Qualitative Telephone Interview

Today’s telephone interview is focused on interactions between healthcare providers and patients and how that may impact your comfort talking to your healthcare provider about social concerns, such as finances and access to food.

1. Has a healthcare provider of any discipline ever talked to you about your ability to obtain food? Would you feel comfortable talking to a healthcare provider about personal information such as transportation barriers, challenges obtaining food, or financial concerns? Why or why not?

2. Can you give an example of an interaction with your healthcare provider in which you felt comfortable talking to the provider about any of your personal concerns, such as challenges obtaining food or medication, transportation barriers, or financial concerns? What kind of healthcare provider were you interacting with (doctor, nurse, social worker, etc.)? What about the situation or the provider made you feel comfortable and relaxed?

3. Can you give an example of an interaction with your healthcare provider in which you felt uncomfortable talking to the provider about your personal concerns, such as challenges obtaining food or medication, transportation barriers, or financial concerns? What kind of healthcare provider were you interacting with (doctor, nurse, social worker, etc.)? What about the situation or the provider made you feel uncomfortable?

4. What is most important to you when interacting and communicating with your healthcare provider? Why?

5. What do you think is most important for your healthcare provider when interacting and communicating with you? Why?

6. What has been the biggest challenge in communicating with your healthcare provider during the COVID-19 crisis?
7. What strategies have helped you in communicating with healthcare providers during the COVID-19 crisis?

8. What challenges have you faced in obtaining medical care and other necessities (for example, food) during the COVID-19 crisis?
APPENDIX I:
OVERVIEW OF DATA COLLECTION AND ANALYSIS PROCEDURES
Overview of Data Collection and Analysis Procedures

The following flowchart is an overview of data collection and analysis procedures, adapted from Creswell and Plano Clark “Flowchart of the Basic Procedures in Implementing a Convergent Mixed Methods Design” (2018, p. 70).

**Quantitative Research Question 1**
- **Data Collection**
  - Recruit from provider and patient sampling frames.
  - Once agencies identified, recruit participants.
  - Provide Explanation of Research and obtain consent.
  - Obtain quantitative data via survey.

**Qualitative Research Questions 2 & 3**
- **Data Collection**
  - Recruit from provider and patient sampling frames.
  - Once agencies identified, recruit participants.
  - Provide Explanation of Research and obtain consent.
  - Obtain qualitative data via survey and/or telephone interviews.

**Analyze Quantitative Data**
- Stata14 Software
- Kendall’s Tau
- Ordinal Logistic Regression
- Ordinal Logistic Regression Diagnostics

**Analyze Qualitative Data**
- Grounded theory
- Dedoose Software
- Open coding
- Focused coding

**Merge Data (Quantitative and Qualitative)**
- Merge data in Dedoose software for analysis.
- Compare results for contradictions or confirmations.

*Figure 2: Overview of Data Collection and Analysis Procedures*
APPENDIX J:
INSTITUTIONAL REVIEW BOARD APPROVAL
EXEMPTION DETERMINATION

April 10, 2020

Dear Christina Bernhardt:

On 4/10/2020, the IRB determined the following submission to be human subjects research that is exempt from regulation:

<table>
<thead>
<tr>
<th>Type of Review:</th>
<th>Initial Study, Initial Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Food Insecurity Screening and Patient-Centered Care: Perspectives of Patients and Healthcare Providers on Practices and Barriers to Effective Screening in Outpatient Medical Practices</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Christina Bernhardt</td>
</tr>
<tr>
<td>IRB ID:</td>
<td>STUDY00001680</td>
</tr>
<tr>
<td>Funding:</td>
<td>None</td>
</tr>
<tr>
<td>Grant ID:</td>
<td>None</td>
</tr>
<tr>
<td>Documents Reviewed:</td>
<td>• Email Script - Version 2, Category: Recruitment Materials; • Email Script to Healthcare Providers, Category: Recruitment Materials; • Explanation of Research (Healthcare Providers), Category: Consent Form; • Explanation of Research (Patients) - Version 2, Category: Consent Form; • Healthcare Provider Survey - Version 2, Category: Survey / Questionnaire; • Patient Survey - Version 2, Category: Survey / Questionnaire; • Phone Script - Food Pantries, Category: Recruitment Materials; • Request for Exempt Determination Protocol - Version 2, Category: IRB Protocol;</td>
</tr>
</tbody>
</table>

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please submit a modification request to the IRB. Guidance on submitting Modifications and Administrative Check-in are detailed in the
Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

Due to current COVID-19 restrictions, in-person research is not permitted to begin until you receive further correspondence from the Office of Research stating that the restrictions have been lifted.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Adrienne Showman
Designated Reviewer
APPENDIX K:
INSTITUTIONAL REVIEW BOARD MODIFICATION APPROVAL
EXEMPTION DETERMINATION

April 29, 2020

Dear Christina Bernhardt:

On 4/29/2020, the IRB determined the following submission to be human subjects research that is exempt from regulation:

<table>
<thead>
<tr>
<th>Type of Review:</th>
<th>Modification / Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Food Insecurity Screening and Patient-Centered Care: Perspectives of Patients and Healthcare Providers on Practices and Barriers to Effective Screening in Outpatient Medical Practices</td>
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<tr>
<td>Investigator:</td>
<td>Christina Bernhardt</td>
</tr>
<tr>
<td>IRB ID:</td>
<td>MOD00000951</td>
</tr>
<tr>
<td>Funding:</td>
<td>None</td>
</tr>
<tr>
<td>Grant ID:</td>
<td>None</td>
</tr>
<tr>
<td>Documents Reviewed:</td>
<td></td>
</tr>
<tr>
<td>- Email Script - Version 4, Category: Recruitment Materials;</td>
<td></td>
</tr>
<tr>
<td>- Email Script to Healthcare Providers - Version 3, Category: Recruitment Materials;</td>
<td></td>
</tr>
<tr>
<td>- Explanation of Research (Healthcare Providers) - Version 5, Category: Consent Form;</td>
<td></td>
</tr>
<tr>
<td>- Explanation of Research (Patients) - Version 5, Category: Consent Form;</td>
<td></td>
</tr>
<tr>
<td>- Healthcare Provider Survey - Version 3, Category: Survey / Questionnaire;</td>
<td></td>
</tr>
<tr>
<td>- Patient Survey - Version 3, Category: Survey / Questionnaire;</td>
<td></td>
</tr>
<tr>
<td>- Phone Script - Food Pantries Version 2, Category: Recruitment Materials;</td>
<td></td>
</tr>
<tr>
<td>- Qualitative Healthcare Provider Interview Questions, Category: Interview / Focus Questions;</td>
<td></td>
</tr>
<tr>
<td>- Qualitative Patient Interview Questions, Category: Interview / Focus Questions;</td>
<td></td>
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</tbody>
</table>
This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please submit a modification request to the IRB. Guidance on submitting Modifications and Administrative Check-in are detailed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

Due to current COVID-19 restrictions, in-person research is not permitted to begin until you receive further correspondence from the Office of Research stating that the restrictions have been lifted.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Adrienne Showman
Designated Reviewer
LIST OF REFERENCES


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