A People-Centered GIS Analysis of Healthcare Accessibility and Quality-of-Care

Dissertation

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Geographers play important roles in public health research, particularly in understanding healthcare accessibility and individual healthcare experiences. Most geographers recognize the multi-dimensionality of accessibility, including distance to provider, cost, provider availability, service accommodation, and service satisfaction. Most accessibility studies have benefited from the increased sophistication of Geographic Information Systems (GIS) and the availability of geocoded data. Some studies have been enhanced with semi-structured in-depth interviews to understand individual experiences of people as they access healthcare. However, few accessibility studies have explicitly utilized individual in-depth interview data in the construction of new GIS accessibility measures. Using mixed-methods including GIS analysis and individual data from semi-structured in-depth interviews, I offer satisfaction-adjusted distance (SAD) as a new way of conceptualizing accessibility in GIS. Based on my fieldwork in a predominantly lower-income community in Columbus, Ohio, I find that many residents felt neighborhood healthcare facilities offered low-quality care. Such comments suggested residents may have an added psychological distance as they attempt to access high-quality healthcare facilities. The satisfaction-adjusted distance measure, based on individual level data, accounts for the psychological distance some residents feel as they search for high-quality healthcare in urban neighborhoods. In moving beyond conventional GIS and re-conceptualizing accessibility in this way, I offer a more realistic portrayal of the issues lower income urban residents face as they attempt to access high-quality healthcare facilities. The work has theoretical implications for conceptualizing healthcare accessibility, advances the mixed-methodologies literature, and argues for a more equitable distribution of high-quality healthcare services in urban neighborhoods.
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CHAPTER 1: INTRODUCTION TO RESEARCH

Introduction

The structure of urban areas in the United States has changed in recent years. With this change in urban structure, the geographic distribution of social services such as healthcare has also changed. Central city locations, once the dominant employment and residential cores of American cities, are experiencing significant losses in population, employment opportunities, incomes and tax bases. Such changes can be directly linked to the expansion of American urban areas as cities spread outward into suburban and exurban locations. As this outward expansion occurs, central city locations also lose access to a variety of social services, such as high quality, affordable healthcare and amenity resources such as parks and recreational opportunities. While these services follow populations out of American central cities, central city residents are left farther distances from health-related services. Without access to affordable and high quality healthcare, central city locations with their predominantly lower income populations and lack of investment opportunities are home to large health disparities and significantly lower health outcomes than in more suburban and exurban locations.

With troubling health outcomes and poor healthcare accessibility in American central cities, there is an opportunity for geographers to study these conditions and make the public more aware of the plight of lower income, central city residents. One way to
do this is through community-based research that talks directly with lower income residents who are experiencing poor central city conditions and having trouble accessing high quality, affordable healthcare services. By talking to individuals living through these experiences, geographers can uncover rich, contextualized stories of healthcare accessibility that seek to uncover hidden silences in the central city healthcare landscape. Such a community-based agenda also offers the opportunity to combine qualitative and quantitative data to reveal a complex and multi-faceted healthcare landscape in central city communities. Mixed-methods research that includes Geographic Information Systems (GIS) and in-depth interviews can facilitate such a community-based agenda.

The Role for Geographers and GIS in Health Research

In the past few decades, geographers have made significant contributions to health studies and research on healthcare accessibility. Health research by geographers continues to grow with the increased sophistication of GIS as well as the increased availability of geocoded health data. Much of this work focuses on health and illness, disease transmission and spread, accessibility to healthcare, healthy landscapes, and peoples’ experiences with health and healthcare. Geographers utilize two differing research perspectives in their health research: the dominant medical geography approach and the less prominent, but growing health geographies approach. Although these two approaches are explored in greater detail in Chapter 2, here it is useful to introduce their major difference. In the medical geography approach, researchers focus mainly on quantitative methods and the pragmatic. In contrast, qualitative/mixed methods and the theoretical are focused on in health geographies perspectives.
In this dissertation, I utilize a health geographies perspective with a mixed-methodology to analyze healthcare accessibility in the Near East Side of Columbus, Ohio (USA). I challenge conventional understandings and conventional GIS measures of healthcare accessibility that focus largely on geographic distance and the observed geographies of health from the dominant medical geography perspective. Instead, I examine healthcare accessibility through a health geographies approach to offer a new theory of accessibility grounded in fieldwork data collected from individuals in the Near East Side of Columbus. Through the fieldwork data, I offer a new way of thinking about health and healthcare accessibility characterized as satisfaction-adjusted distance (SAD). This new measure is constructed from data collected from local residents, including: 1) their geographic distance to healthcare based on street network distance from home to facility and 2) their individual healthcare experiences based on their satisfaction with a primary healthcare provider and their opinions of the quality-of-care received at their regular healthcare facility.

In combining these quantitative and qualitative data from individuals in the study site, I offer a new GIS-based measure of accessibility that adjusts street network distance from healthcare based on an individual’s healthcare experiences and satisfaction with a provider. Through these newly created satisfaction-adjusted distance measures, I identify significant differences in the observed geographies of health in places like the Near East Side (found from a medical geography approach using only quantitative methods) and the everyday experiences of lower income individuals as they attempt to access high-quality healthcare facilities (discovered from a health geographies approach with mixed-methods). As I discuss in the later chapters of this dissertation, the landscape of
healthcare accessibility revealed from the fieldwork data offers a much different interpretation of healthcare accessibility for lower income residents in the study area than what could be concluded from a medical geography approach focused only on larger, quantitative datasets.

This work makes important contributions to four related literatures: healthcare accessibility, health geographies, mixed-methods and feminist theory, and critical GIS. Each of these literatures is discussed more thoroughly in Chapter 2. It is important to point out that work, such as this dissertation, at the intersections of these four literatures can challenge and improve conventional geographic research on healthcare accessibility.

At the broadest level, utilizing a health geographies approach with mixed-methods can expose conceptual and methodological shortcomings in the geographic literatures on health. More specifically, such work can challenge and extend: 1) analyses which focus too prominently (or solely) on the premise of distance decay in explaining accessibility (i.e. equating access with distance between provider and patient); 2) analyses which fail to recognize the complexity and multi-dimensionality of factors and experiences that influence accessibility; 3) analyses which fail to incorporate the highly varied and individual experiences of quality-of-care found at low-cost healthcare providers; 4) analyses which fail to adjust distance to healthcare based on an individual’s satisfaction with care; and 5) analyses which value quantitative data over qualitative data. In working at the intersection of the four literatures introduced above, I offer a more contextualized and individualized understanding of healthcare accessibility that focuses on distance from provider to patient and individual healthcare experiences.
**Statement of Problem**

Much of the healthcare accessibility literature, with some notable exceptions which will be discussed in Chapter 2, overestimates and oversimplifies accessibility for individuals based on their geographic location (mainly home residence) in relation to healthcare facilities. Many conventional accessibility measures and medical geography methods fail to consider the multiple dimensions of accessibility and fail to adjust for an individual’s satisfaction with the healthcare experience. This is even more problematic given that much of the GIS-based accessibility research fails to integrate any pertinent discussion of the acceptability of services, the quality-of-care perceived by an individual, and the level of satisfaction experienced by an individual as s/he accesses healthcare facilities. For example, many researchers often suggest that individual’s perceptions to quality-of-care and their actual healthcare experiences are important to explaining accessibility (McLafferty 2003). However, few studies from medical geography perspectives actually examine individuals’ experiences of healthcare and one’s feelings about the quality-of-care received. Some notable exceptions, discussed in Chapter 2, include studies by Takahashi 2001; Baltussen, Ye et al. 2002; Akinci and Sinay 2003; Fone, Christie et al. 2006.

In moving beyond conventional geographic distance-based measures from provider to patient, I expand access measures to include peoples’ experiences with healthcare and data about the quality-of-care received using satisfaction-adjusted distance. Such a rethinking can have major implications for future public policies and funding related to healthcare distribution, and can also help improve the healthcare experiences of lower income central city residents (Akinci and Sinay 2003).
While improving GIS-based conceptualizations of accessibility and improving healthcare experiences in a lower income central city community are at the core of this work, this dissertation also demonstrates the dual role of academic geographers. On the one hand, academic geographers serve the discipline through the production of new knowledge. On the other hand, academic geographers have an obligation to serve the people with which they work in ways that extend beyond their research projects, grants and publication interests. In this work, I serve the discipline at the conceptual level with a mixed-methodology and the new SAD measure to improve existing knowledge about healthcare accessibility. These results are discussed more in-depth in Chapters 5 and 6. The work also attempts to serve residents at the local and practical level in the Near East Side of Columbus, Ohio by offering a community-based agenda designed to expose hidden spatial inequalities in the geographic distribution of accessibility to facilities that provide high quality care. As part of the community-based component of this work, I also introduce three related pedagogical and community outreach projects (see Chapter 7) that were not initially thought to be a part of the dissertation, but upon further consideration fit quite well into the broader community-based agenda of the work.

Research Questions

The following questions drive this research and help to specifically address the problem statement outlined above. Questions 1-5 are discussed in Chapters 4, 5 and 6. Question 6 and the related projects are discussed in Chapter 7. These questions developed from my own critical readings of the healthcare accessibility, health
geographies, mixed-method and feminist theory, and critical GIS literatures discussed in Chapter 2.

**Research Question 1:** Are there significant differences between conventional measures of accessibility which consider street network distance and the individualized, satisfaction-adjusted distance measures which integrate individual healthcare experiences and quality-of-care received at healthcare facilities?

**Research Question 2:** In what ways can we combine the strengths of geographic distance and individual healthcare experience data to re-conceptualize accessibility and more accurately reflect the relationship between actual utilization of a facility and an individual’s overall satisfaction with healthcare experiences and quality-of-care?

**Research Question 3:** By considering individual experiences with quality-of-care, can we offer more critical and alternative representations of accessibility that more accurately characterize differences among and between different economic groups, racial groups and genders?

**Research Question 4:** Are there significant geographic differences and spatial inequalities in the geographic distribution of individual accessibility to healthcare facilities that offer high quality-of-care and satisfying individual healthcare experiences?

**Research Question 5:** Can satisfaction-adjusted distance (SAD) measures of healthcare accessibility contribute to a new critical discourse which highlights invisible inequalities in the healthcare accessibility landscape?

**Research Question 6:** In what ways does positionality affect geographic research and how can one’s positionality be partially mitigated by expanding one’s thinking about what “counts” in the research agenda?
Introduction to Research Methodology

The specific methodology and related research methods are discussed in detail in Chapter 4. Yet, it is still important to introduce these methods prior to the critical review of the related literatures in Chapter 2. The methodology utilizes a health geographies perspective focused on developing a new GIS measure and understanding of healthcare accessibility (discussed in Chapter 4). I use mixed-methods with both quantitative and qualitative data and analytic techniques, including: 1) an in-depth quality-of-care study with 65 Near East Side residents to collect data about accessibility and individual healthcare experiences and 2) a mixed-method GIS approach that expands street network distance based measures of healthcare accessibility by adjusting for the level of satisfaction experienced by individuals at their healthcare facility.

The above research methods are carried out in the Near East Side of the City of Columbus located within Franklin County, Ohio (USA). The study area is labeled as an empowerment zone meaning the area has high unemployment rates, high poverty rates, business disinvestment and shrinking populations. Within the study area, I collect healthcare accessibility data in the form of street network distances from provider to patient and individual data about healthcare experiences and quality-of-care at local facilities. In discussing the local landscape of healthcare accessibility learned from fieldwork in the study area, I seek to make significant contributions to the healthcare accessibility, health geographies, mixed-method and feminist theory, and critical GIS literatures.
Importance of Research

This research makes several important contributions to the health geography and accessibility literatures by examining an understudied dimension of accessibility: acceptability of services. First, I focus on acceptability of services from the perspective of local residents. I speak with 65 residents to assess their healthcare experiences and their overall satisfaction with the quality-of-care received. The call for health geographers to consider quality-of-care issues has increased over the past few years as evident by Akinci and Sinay (2003):

Understanding the determinants of perceived access is essential for promoting patient-centered care in a managed care era. For healthcare providers and plans to provide high quality care to their patients, patients’ perceptions of access to care and the factors contributing to their satisfaction with access must be assessed periodically by local (regional) authorities, and local (regional) policies should be changed accordingly based on the information available from studies (94).

This research addresses the calls of Akinci and Sinay and others by offering a more contextualized understanding of accessibility as it relates to individuals’ satisfaction with their overall healthcare experience at local healthcare facilities. In so doing, the research exposes critical shortcomings and problematic assumptions in the medical geography and healthcare accessibility literatures. Second, my work makes an important methodological point about accessibility. I offer a new measure of accessibility that still includes a spatial component (street network distance), but also focuses more explicitly on acceptability of services, quality-of-care and individual healthcare experiences (the satisfaction-adjusted distance [SAD] measure). The research builds upon the limited
representations of accessibility which rely too heavily on geographic distance-based measures and fail to discuss the differences in individual healthcare experiences.

My conceptualization of accessibility attempts to improve understanding of quality-of-care experiences as these experiences relate to the geographies of healthcare accessibility. It is my belief based on a critical reading of the literatures that there are many differences in the amount and availability of care between and within various social, demographic, racial and ethnic groups. Yet, differences in the quality-of-care received between and within these groups are not well conceptualized in conventional GIS measures. Identifying these differences not only helps expose inequalities in healthcare access, but also exposes the variations in healthcare experiences for certain groups and individuals. Thus, this research has the potential to make new and insightful contributions to the healthcare accessibility, health geographies, mixed-method and feminist theory, and critical GIS literatures.

The dissertation is structured as follows. In Chapter 2, I review the health geographies, healthcare accessibility, mixed method and feminist theory, and critical GIS literatures. Chapter 3 links changes in urban structure to changes in healthcare accessibility for central city neighborhoods. I discuss the conceptual framework, study area, methodology and research methods in Chapter 4. Chapter 5 discusses the satisfaction-adjusted distance GIS measure and uncovers important differences between this measure and conventional GIS measures. Chapter 6 discusses the qualitative results of the in-depth interviews and reveals a local landscape of healthcare accessibility based on data collected from fieldwork with Near East Side Columbus residents. Chapter 7 focuses on the dual roles of academic geographers, considers questions of positionality,
and discusses three community-based projects born from the healthcare piece of this research. Conclusions, broader implications and future research directions are discussed in Chapter 8.
CHAPTER 2: A REVIEW OF THE LITERATURES

Introduction

This dissertation is mainly situated within the framework of healthcare accessibility research in geography; however, it also cuts across a variety of other related literatures in such a way that multiple contributions can be made at the intersections of these literatures. This research rethinks accessibility to combine the strengths of: 1) geographic distance-based conceptualizations found in conventional GIS measures of accessibility and 2) a person-centered health geographies perspective centered on mixed-methods. By using such an integrated approach, I seek to develop a richer understanding of healthcare accessibility that highlights individual healthcare experiences using satisfaction-adjusted distance GIS measures.

The novelty of the SAD measure lies in the fact that it can conceptually move facilities that are perceived to offer lower quality healthcare experiences farther from participants. In this way, the new SAD measure can account for the added psychological distance many individuals feel as they search for high-quality healthcare providers in their central city neighborhoods. The measure stands in stark contrast to conventional GIS measures which map and analyze access based on straight line distances, street network distances, and travel times from facility to the individual without considering individual healthcare experiences and quality-of-care.
In section one of this chapter, I discuss the core concepts and methods used by geographers in studies of healthcare accessibility. In doing so, I also show how my newly proposed SAD measure of accessibility improves upon shortcomings in the literature. By extending measures of accessibility to include adjustments for individual healthcare experiences, I also contribute to theoretical and methodological debates between medical and health geographers. These two geographic approaches and their respective methods are discussed in-depth in section two of this chapter.

This dissertation also incorporates knowledge, methodologies and methods of feminist geographers and critical GIS researchers. These literatures emphasize mixed-methods, expose inequalities and unequal power relations, and reveal hidden silences in conventional research conceptualizations, methods and data. These two related literatures examine the social and political processes in and across particular places that marginalize certain groups such as lower income populations, women and racial minorities. To explore how my work contributes to these literatures, I review the feminist theory and critical GIS literatures in section three of this chapter.

I offer a more complete and people-centered understanding of healthcare accessibility by intersecting knowledge, methodologies and research methods found in the healthcare accessibility, health geographies, feminist theory and critical GIS literatures. Combining the strengths of each literature allows this work to move beyond the problematic assumptions of geographic distance carried forth in most conventional GIS research on healthcare accessibility. Instead, the work moves toward a more contextualized understanding of access that adjusts geographic-distance based measures of accessibility by individuals’ experiences with healthcare providers. Work done at the
intersection of the literatures discussed in this chapter offers the potential for uncovering a powerful and alternative representation of healthcare accessibility in predominantly lower income neighborhoods such as the Near East Side of Columbus.

Section 1: A Review of the Healthcare Accessibility Literature

For decades geographers have made significant contributions to the literature on accessibility to healthcare facilities and services. Given the variety of approaches in healthcare research, it is important to define the conceptualizations of accessibility and to review the methods. This is particularly important given the concern that researchers often assume a definition of accessibility without specifying it in their writings (2004; Gulliford 2004).

McLafferty in her review of the role of GIS in healthcare research argues that accessibility “describes people’s ability to use health services when and where they are needed” (2003: 28). She rightly notes that geographers are focused on the geographic dimensions of accessibility to healthcare services. However, she also stresses that such spatial and non-spatial factors as the type and quality of services offered, distance to facilities, service cost, travel times, and other individual concerns, all play a role in one’s decision to utilize a facility.

Many researchers such as Cromley and McLafferty (2002) consider accessibility to be a multi-dimensional concept. While discussing different approaches for analyzing access to health services in GIS and Public Health, Cromley and McLafferty (2002) reiterate the five dimensions of accessibility provided by Penchansky and Thomas (1981). The first dimension, availability, asks whether the healthcare needs of the
population can be met by the supply of services. *Accessibility*, the second dimension, looks at the location of the population in relation to facilities offering the services. *Accommodation* examines whether the services meet the needs of the population. The fourth dimension, *affordability*, considers the link between the cost of the service provider and the ability of the client to pay for the given service. The final (and I would argue extremely understudied) dimension of accessibility, *acceptability*, considers patient satisfaction with services provided.

Like Cromley and McLafferty, I argue for a broadly defined healthcare accessibility in geographic research. However, much of the literature, particularly those studies focused on GIS methods, fails to explicitly analyze the multiple dimensions of accessibility and fails to consider how individual healthcare experiences influence accessibility. This is particularly problematic given that a complexity of factors which impact one’s decision to access healthcare is often missed.

Within the health literature written by geographers, there are a variety of additional conceptualizations of access including: potential accessibility, revealed accessibility and space-time measures of accessibility (Kwan 1999; Takahashi 2001; Brabyn 2002; McLafferty 2003; Guagliadro 2004; Higgs 2005; Lin 2005; Mobley, Root et al. 2006). At the most basic level in the literature, researchers differentiate between potential and revealed accessibility (Brabyn 2002; McLafferty 2003; Guagliadro 2004; Gulliford 2004; Luo 2004; Lin 2005; Fone, Christie et al. 2006). Potential accessibility conceptualizes access as whether or not an individual in need of a certain service is within a given distance to a facility which offers that service (Guagliardo 2004; Gulliford et al. 2004; Luo 2004). Revealed accessibility considers the actual utilization of health
services by the population (Higgs 2005). Space-time measures developed by Kwan (1999) consider the travel patterns of individuals as they attempt to access urban services (like healthcare) within their space-time constraints. Researchers using these measures suggest that individual accessibility is limited by the locations of and time spent at a fixed set of activities.

Higgs (2005) suggests that most geographic research is on potential accessibility. He argues that few researchers have explored the actual utilization of health services and even fewer have looked at the link between service utilization and health outcomes (Higgs, 2005: 120). Historically, such a limited focus can be partially explained by data restrictions and privacy concerns of individualized health datasets. A lack of detailed patient information and patient confidentiality constraints often limit the ability of researchers to analyze large patient datasets (Ricketts 2003; Kwan 2004a; Kwan and Schuurman 2004b). Such limitations are lessening as geocoded data become more prominent and researchers collaborate with corporations, organizations and facilities that collect such individualized, patient-centered data.

**Distance-Based Measures of Healthcare Accessibility**

Geographers utilize a variety of distance-based methods in their accessibility studies. It is important to review these approaches to studying accessibility and to understand their limitations.

*Population to provider ratios:* A basic approach for measuring potential accessibility involves the use of population to provider ratios (Haynes, Bentham et al. 1999; McLafferty 2003). This approach totals the population of a geographic area and
then divides the population by the total number of healthcare providers. For example, suppose a researcher looks at a small rural town with 9,630 residents and 10 medical providers. To calculate the population to provider ratio, one would take the total population of 9,630 residents and then divide by the total number of healthcare providers (10) to show the population served by each provider. In the above example, it could be concluded that each provider is responsible for 963 patients.

While the population to provider approach is often used in measuring potential accessibility, the method does have some shortcomings (Haynes, Bentham et al. 1999; McLafferty 2003; Guagliandro 2004). One limitation of this approach is that it fails to account for border crossing of patients (Guagliardo, 2004). For example, residents of a small town may perceive healthcare options as better in urban areas with more specialized physicians and then choose to cross administrative boundaries. The population to provider method also does not consider patient travel time and distance between patient and facility (McLafferty 2003; Guagliandro 2004).

This method also creates a very static measure of accessibility with no variation across the area of interest (McLafferty 2003; Brabyn 2004). The health literature suggests both subtle and extreme inequalities in access to healthcare within counties, cities and even neighborhoods (Goddard and Smith 2001; Juarez 2002; Ashton, Haidet et al. 2003; Jordan, Roderick et al. 2004; Luo 2004; Fulcher 2005; Prentice 2006). Brabyn and Gower (2004) show that using the population to provider method with choropleth mapping smoothes the data in such a way that high concentrations of general practitioners and population clusters are invisible, which leads to ecological fallacies across areas.
**Euclidean distance measures:** An improvement to the population to provider approach utilizes Euclidean straight line (“as the crow flies”) distances. In this approach one’s accessibility is calculated by taking the distance from home to healthcare facility (McGregor 2005). The major limitation of such an approach is that traveling along a straight line given the complexity of street networks is unrealistic. Roads go around and over rivers and lakes and must negotiate large infrastructure such as buildings and power lines which makes straight line travel difficult in most contexts. A second problem with this approach is that in some areas (mainly urban areas) there are often multiple facilities that are the same distance from residents (Cromley and McLafferty 2002). If facility $a$ is the same distance as facility $b$ from patient $x$’s house, then there is no way to differentiate between the accessibility measures of these facilities based on Euclidean distance measures.

**Street network distance measures:** Street network measures consider the routes used by an individual to arrive at his/her facility (Brabyn 2002; McGregor 2005). For example, an individual who lives in the downtown of a major city and wants to access one of the city’s hospitals would have an accessibility measure based on the calculation of the total length of streets in the network traveled between their location and the facility location. One limitation of street network measures is that they have been criticized for their unrealistic portrayal of travel times.

**Travel time measures:** Some researchers have made street network measures more realistic by including travel times (Martin, Wrigley et al. 2002; McLafferty 2003). Considering travel times rather than Euclidean or street network distances allows for a more accurate portrayal of the time it takes an individual to access healthcare. Improved
street network measures can include additional information such as speed limits, traffic lights, stop signs, and travel direction (whether one way or two way streets). This method allows for the differentiation of accessibility between two individuals living the same distance from a facility. For example, suppose two individuals both live 10 miles from a healthcare facility. If patient \( x \) lives within a half mile of a major highway that takes her directly to the facility and patient \( y \) lives in a congested suburban area with multiple side streets that have posted 35 mile per hour speed limits, then these two individuals will have different travel times even though they live the same distance away. Using this definition of access, patient \( y \) is much less accessible to the facility than patient \( x \).

**Floating catchment method:** This method extends the gravity model (Joseph and Bantock 1982) to consider spatial and non-spatial factors of healthcare accessibility (Wei 2003; Luo 2004; Luo 2004; Wang 2004; Wang and Luo 2005; Luo and Qi 2009; McGrail and Humphreys 2009). The floating catchment method considers physician supply, population demand, and travel times to examine healthcare accessibility. For each provider’s location in step one, the ratio of providers practicing at that location to a population within a certain travel time of the location is identified. For example, one could compute a 30 minute catchment area around a provider’s location. In step two, a spatial accessibility score is created for each census tract centroid. This is done by determining the physician to population ratio for those provider locations that are within a certain travel time threshold from a census tract centroid. According to Luo, the first step creates “an initial ratio to each service area centered at a physician location, and the second step sums up the initial ratios in the overlapped service areas to measure
accessibility for a demand location, where residents have access to multiple physician locations” (2004, 289). In this way, the method uses moving “windows” to account for the fact that patients cross administrative borders to lower their travel times. The method offers an improvement of the gravity model, which masks poor accessibility at more local scales (Joseph and Bantock 1982).

*Space-time measures of accessibility:* An individual’s space time constraints are also considered in conceptualizations of accessibility (Kwan 1999; Kwan 2000; Weber 2002; Kwan 2004). Kwan argues that one’s potential accessibility is limited by a set of fixed activities, which must be performed at fixed locations and/or times on a daily basis. The space-time constraints associated with these activities form what Kwan calls an individual’s “daily potential path area” (DPPA). The DPPA refers to the area that a person can reach given his or her space-time constraints. Kwan characterizes an individual’s DPPA as one that is constrained by fixed activities such as taking children to school and going to work. Applying Kwan’s DPPA concept to studies of healthcare accessibility, an individual may be located within fifteen miles of a primary care provider; however, this does not guarantee that this person can access the provider given individual space-time constraints.

As the above discussion suggests, most GIS measures for studying healthcare accessibility focus on conventional distance-based conceptualizations and do not consider data about individual healthcare experiences and satisfaction with quality-of-care. While Kwan’s space-time measures help to contextualize accessibility better than other distance-based measures, more geographic research is needed to create GIS measures that explore patient satisfaction and quality-of-care.
Section 2: A Review of Medical Geography and Health Geographies Approaches

Geographers studying health and healthcare accessibility are faced with two distinctive paths (the medical geography perspective or health geographies perspective) as they design their research plans, collect data, and analyze results (Kearns 1993; Kearns 1994; Kearns 1995; Gesler and Kearns 2002; Kearns and Moon 2002). The choice between the two approaches is important given the different ways each approach conceptualizes health and healthcare accessibility; values the pragmatic and the theoretical; represents people; and uses data and methods to answer major research questions.

The medical and health geographies perspectives developed out of a broader social critique within the discipline of geography during the 1990s (Kwan 2002a; Kwan 2002b; Kwan 2004; Sheppard 2005). In the 1990s, geographers and social theorists in particular critiqued the discipline while arguing for a cultural turn in geographic research. During this time, some geographers called for integration of more social theory in research; utilization of a variety of research approaches; and a rejection of knowledge production based on “objective truths” (Crang 2002). With this shift in the discipline as a whole, distinctions between the subfields of medical geography and a more critical health geographies emerged (Kearns and Moon 2002).

In the medical geography approach, geographers focus their efforts on applied research and value the pragmatic over the theoretical (Kearns and Gesler 1998). Medical geographers emphasize the classification of disease, spatial analyses/mapping of disease patterns, and analyses of the provision of healthcare services (Litva and Eyles 1995; Kearns and Barnett 1997; McLeod 2000; Kearns and Moon 2002; Parr 2002; Parr 2004).
According to Kearns and Gesler (1998), such a focus has led “people to be viewed as patients, diseases to be disembodied from human subjects, and for geographies of disease and health care to be reduced to dots on maps” (3).

In recent health research, conceptualizations of health have shifted from more “than simply absence of disease to complete physical, social and emotional well-being” (Elliott 1999: 240). Under a health geographies perspective, an individual’s health is now thought to be influenced by social, political, cultural and economic situations that affect an individual and her/his experiences with health and healthcare (Elliott 1999; Gesler 2005; Castleden, Crooks et al. 2009). Geographers now focus on social models of health in which an individual’s well-being, health and healthcare experiences are emphasized.

With this move towards a critical and more social understanding of health, place has emerged as an important theme (Dorn and Laws 1994; Kearns 1994; Dyck 1995; Wilton 2000; Gesler and Kearns 2002; Kearns and Moon 2002; Gesler 2005; Castleden, Crooks et al. 2009). As Kearns and Moon (2002) note, “place has been seen as an operational ‘living’ construct which matters as opposed to being a passive ‘container’ in which things are simply recorded” (609). Health geographers view place as a construct that people can actively shape to impact their lives. In addition, place and the social processes occurring in place also motivate and/or impede an individual’s everyday life experiences.

A study by McLafferty (2002) shows the importance of place by discussing how affected women organized a collaborative effort to map breast cancer cases in New York. Through grass-roots mapping efforts, the women identified local environmental factors
which increased the likelihood of women having breast cancer in the area. These women attempted to limit the spread of future breast cancer incidents by educating and publicizing their findings to policy makers and other women that might be affected.

Social theory is also important in the health geographies perspective (Dorn and Laws 1994; Litva and Eyles 1995; Gesler and Kearns 2002; Gesler 2005). Unlike earlier medical geography research which lacked social theory, the health geographies perspective pays close attention to “socio-theoretical” context (Kearns and Moon 2002). Health geographers are cognizant of the fact that they actively produce new ways of thinking about health and are committed to utilizing social theory.

Unlike medical geography perspectives which focus almost exclusively on quantitative methods, critical health geographers call for the utilization of qualitative methods (Dyck 1995; Kearns 1997; Wilton 1999; Barnes, Baxter et al. 2002; Dyck 2003; Parr 2004; Dyck 2006; Castleden, Crooks et al. 2009; Dean and Wilson 2010). Health geographers suggest qualitative methods allow for understanding the context of health and individual healthcare experiences in a way that is not possible using quantitative methods (Kearns and Gesler 1998). Additionally, health geographers utilize complementary research methods and strategies, including mixed-method approaches (Baer 2002). In this way, health geographers recognize the situatedness of knowledge and are committed to listening to “the other” similar to researchers that utilize critical, feminist approaches (Kwan 2002a).

The social production of bodies is also an emerging theme in the health geographies perspective (Dorn and Laws 1994; Longhurst 2000; Longhurst 2001; Gesler and Kearns 2002; Kearns and Moon 2002; Parr 2002; Longhurst 2005). Parr contends
that medical geographers have historically “othered” bodies by marking “different bodies” as out of place. Longhurst (2000) and Parr (2002) argue that bodies are both materially and socially constructed. This can be seen in Longhurst’s (2000) study of a swimsuit contest where pregnant women challenge societal norms by exposing their pregnant bodies in public.

As noted above, a health geographies perspective can shift the focus away from classifying disease, analyzing clusters and performing spatial analysis. The approach offers a more nuanced and contextualized geographies of health where understanding individual experiences in specific places is valued. Further, a health geographies perspective offers the opportunity to do health research: 1) driven by social theories about health and people in place; 2) focused on health and place as active constructs in the everyday lives of individuals; 3) committed to exposing the social production of bodies; and 4) informed by complementary research methods and a renewed commitment to qualitative methods.

Utilizing a health geographies perspective in this work helps develop an alternative landscape of healthcare accessibility that recognizes the importance of (and variation within) individual healthcare experiences in lower-income neighborhoods. By highlighting individual experiences through a health geographies approach, this research shows that while many facilities may be nearby, the quality-of-care at healthcare facilities may be of a lower quality than residents would like. Conventional GIS approaches mask these important differences in accessibility to facilities that offer high quality-of-care and satisfying individual healthcare experiences. A health geographies perspective using satisfaction-adjusted distance in GIS can help reveal important differences between the
observed geographies of health and the everyday experiences of individuals as they access healthcare in lower income communities.

Section 3: A Review of Critical GIS and Feminist Geography

This research contributes to the subfields of critical GIS and feminist geography, while also intersecting with the accessibility and health geographies literatures. Critical GIS refers to a body of work that: 1) actively challenges the limitations of GIS technology and its multiple uses; 2) acknowledges the value-laden nature of and power relations embedded in all geographic research; 3) recognizes the positionality of researchers as they engage with and promote the technology; and 4) seeks to eliminate the disconnect between qualitative and quantitative methods and data in GIS (Kwan 2002a; Kwan 2004; Sheppard 2005).

The subfield of Critical GIS was born out of the 1990s GIS and Society debates and subsequent discussions of Public Participation GIS (PPGIS) (Sheppard 2005). During the early 1990s, social theorists and GIS researchers argued about the role of GIS in society. The social theorist camp accused GIS researchers of promoting a masculinist technology in which hegemonic practices were upheld or strengthened by uses of the technology (Kwan 2002a). Their arguments centered on the objective view of knowledge production promoted by GIS researchers. In this view of knowledge production, GIS analysis reduced facts, processes and people into quantifiable measurements. Social theorists challenged such a view arguing that researchers should recognize the situatedness of all knowledge and reject objective truths. In this claim, social theorists stressed that context, power relations, social relations and axes of difference played a
large role in how knowledge was produced, how data was collected, and how people, places and processes were interpreted. In a sense, these researchers considered GIS as a technology that reduced the complexity of situations and failed to incorporate lived experiences of individuals in analyses. As Sheppard (2005) notes, critics of GIS believed the technology further promoted inequalities throughout society due to: 1) the digital divide between those who knew the technology and those who did not; 2) the lack of alternative viewpoints represented in GIS; and 3) the Boolean logic systems inherent in GIS.

GIS researchers countered these attacks from social theorists as nothing more than simplistic and ill-informed attempts to tear down a growing subfield of geography (Sheppard 2005; Schuurman 2006). These researchers argued that social theorists were unwilling to engage with the technology and knew little about the capabilities of GIS.

Over time the polarized reactions between social theorists on one side and GIS researchers on the other softened. The Friday Harbor National Center for Geographic Information and Analysis (NCGIA) meeting in 1993 brought together the two camps to discuss the issues and forge common ground. A list of emergent themes came out of these meetings, including discussions of the social history of GIS as a technology; the use of GIS by community organizations; issues of geo-privacy; the gendered nature of GIS research; and alternative uses/conceptualizations of GIS (Sheppard 2005). Today, social theorists and GIS researchers continue the debates about GIS and society, but are more willing to actively collaborate to shape a new agenda for GIS research.

In more recent work, Kwan (2004) suggests hybridity as a common ground for bringing together the views of social theorists and GIS researchers. Kwan argues for a
radical departure in thinking about knowledge production. She challenges Thomas Kuhn’s definition of scientific inquiry in which Kuhn argues dominant paradigms supplant other paradigms in scientific revolutions. Kwan contrasts Kuhn by arguing that a complete discarding of one paradigm for another is unhelpful for geography as a whole and GIS specifically. She proposes the concept of hybridity for recognizing the strengths and weaknesses of two or more ways of thinking. Kwan, taking a more moderate view of disciplinary change than Kuhn, suggests that the key to successful research and disciplinary growth is in the search for commonality between competing paradigms. In critiquing Kuhn, Kwan states that: “through these processes of polarization and boundary enforcement, alternatives are less likely to emerge, and geographers tend to be conveniently identified in terms of rigidified, incompatible, stereotypical, and binarized identities” (Kwan 2004: 757). Such a hybrid approach recognizes the potential for unique findings and innovative ways of thinking at the intersections of seemingly incompatible knowledge bases.

Many geographers have moved toward a search for commonality in conceptual frameworks and research methods. Hybrid, mixed-method approaches that recognize the situatedness of knowledge and challenge dominant, hegemonic uses of GIS technology are gaining prominence within the discipline (Pavlovskaya 2002; Cieri 2003; Heasley 2003; Jiang 2003; Bell and Reed 2004; Matthews, Detwiler et al. 2005; Dennis 2006; Knigge and Cope 2006; Pain 2006; Pavlovskaya 2006). Many of these approaches are also evident in feminist GIS research.

Feminist geography shares some of the concerns discussed above. There is a well-documented concern in the feminist theory literature that the work of feminist
scholars is marginalized within the discipline of geography. This is due mainly to the fact that some believe the work of feminist geographers has already been done through the critiques of geography by social theorists (Sharp 2005; McDowell 2006; Dias and Blecha 2007). Dias and Blecha suggest this is not the case, particularly since there is a continued lack of diversity within geography. Citing a willingness to engage with a diversity of approaches, methods, and scholars, many feminist geographers argue they offer new knowledge to the discipline.

Some feminist scholars suggest that the subfield’s utility and ingenuity have been questioned due to the way in which previous feminist critiques have been organized (Schuurman and Pratt 2002). For example, Schuurman and Pratt (2002) suggest that feminist critiques of GIS have failed mainly because of the critique’s focus on broader disciplinary problems rather than specific GIS/technology problems. Criticism of feminist geographers has also been fueled by the fact that many feminists are unwilling to engage with GIS technologies. Critics of feminist geography argue that without a basic understanding of the technology’s limitations, feminist critiques are less valuable. Commenting on the major failure of earlier feminist critiques, Schuurman and Pratt (2002) argue that “there was little effort to specify how GIS could be improved or made more rigorous through a shift in epistemology. Instead, social scientist critics focused on a strategy of questioning the credibility of GIS by exposing perceived epistemological weakness” (294). Learning from the past failures of feminist critique, today’s feminist geographers more actively engage with the technology and attempt to improve upon the technology’s limitations (Schuurman and Pratt 2002).
The work of Kwan (2007), for example, uses GIS to create 3D visualizations of emotions and feelings for a Muslim woman as she travels around Columbus, OH after 9/11. In these 3D visualizations, the woman’s feelings and perceptions of safe and unsafe spaces in the city are revealed in a way that has not been done in conventional GIS research. Such an example shows how feminist researchers are actively engaging with the technology, while offering alternative uses of GIS technology for increased knowledge production.

Like critical GIS researchers, feminist scholars often seek to uncover silences in methods and data that marginalize particular groups such as women, minorities and lower income populations (McLafferty 2002, 2004). In exposing these silences, researchers seek to empower these populations in new and creative ways (Kwan 2002b, 2007; McLafferty 2002) and formulate more activist-based research (McLafferty 2002; Lawson 2007). For example, McLafferty’s previously mentioned study of breast cancer incidents in New York reveals an empowering project where women are able to explore their community and visualize the risks that affect their lives. McLafferty demonstrates how at different times and at different scales the level of empowerment shifts. In her study, state agencies eventually took over the GIS project and controlled it for their own purposes. Thus, women in the community were disempowered in that they no longer controlled the data and the questions to be asked.

Feminist geographers, like Critical GIS researchers, acknowledge the situatedness of all knowledge and challenge “objective truths” (McLafferty 2002; Pavlovskaya 2002; Schuurman and Pratt 2002; Knigge and Cope 2006; Dias and Blecha 2007). In feminist research, data objectivity is called into question and instead replaced with a view that all
knowledge offers a partial representation of the phenomenon being studied. By assuming that all knowledge is situated, these researchers move towards more context-specific analyses of people, places and spatial processes. For example, Dyck (2003) argues that analyses must move from thinking about subjects as dots on a map to an emphasis on understanding individuals’ healthcare experiences.

Related to ideas of situated knowledge, Knigge and Cope (2006) suggest that using only quantitative data fails to show important processes occurring in local neighborhoods. In their research on community gardens, qualitative interviews with participants, participant observation and GIS analysis of land use data are used together through a grounded theory approach in which “contextualized cartographic narratives in geographic discourse” are created (Knigge & Cope 2006: 2023).

Another example of situated knowledge is evident in Pavloskaya’s 2002 study of economic restructuring in Moscow. Pavloskaya shows how GIS is used in a period of economic transition to understand the city’s economic structure. She notes that informal economies at the micro level (i.e. the household scale) are not considered in official statistics of the city. Through qualitative interviews with individual households, she uncovers the importance of these informal activities and complements official economic statistics of urban change. Such data suggest to policy makers that they may be missing an important component of the city’s survival.

Feminist researchers also call for the elimination of binary thinking (Kwan 2002a, 2004, 2007). Valuing one method such as quantitative analysis over a qualitative approach such as in-depth interviewing is an example of binary thinking. Feminist geographers eliminate this type of thinking and instead attempt to merge their methods of
analysis to uncover the partiality of all knowledge. Referring to the belief among feminist geographers, Kwan (2002a) argues:

The representational possibilities of GIS can be used for enacting creative discursive tactics that disrupt the dualist understanding of geographical methods—where visual images (albeit generated and composed with digital technology), words and numbers are used together to compose contextualized cartographic narratives in geographical discourse (273).

One of the major impediments to integrating multiple methods rests in the often divergent goals of GIS and feminist research (McLafferty 2002). McLafferty summarizes the goals of feminist research as: discussing hidden power relations, recognizing positionality, giving voices to subjects, and discovering situated knowledges. She notes that GIS researchers, however, are more interested in considering subjects as objects and more focused on positivist, quantitative methods. She suggests that we look past these incompatibilities and focus on the similarities in two seemingly different agendas. As she suggests, both types of research are concerned with “the grounded concepts of everyday life and in the dealing, either implicitly or explicitly, with conceptions of power and empowerment” (McLafferty 2002: 265).

As the above review of the critical GIS and feminist geography literatures shows, researchers are actively seeking to change the way GIS conceptualizations and methods represent people, places and processes. These researchers are cognizant of past failures in their critiques of geography and GIS. Their work provides an opportunity to challenge objective truths; to consider issues of empowerment and activism; to expose the partiality of all situated knowledges; and to combine multiple methods and data sources.

Each of these themes makes critical GIS and feminist theory important to this dissertation, which seeks to combine the strengths of existing distance-based
conceptualizations of accessibility in GIS with data about individual healthcare experiences and quality-of-care data. Such a combination of methods and data sources offers the opportunity to create an alternative (and largely hidden) representation of accessibility.

**Contributions to the Related Literatures**

This research makes useful contributions to the above literatures in the following ways. First, this research proposes a more individual-centered understanding of accessibility by examining the multiple dimensions of patient satisfaction and quality-of-care from one-on-one discussions with local residents. The research moves from seeing participants as dots on a map and instead looks at their experiences with the healthcare system to improve research on accessibility. Second, this research implements a mixed-methods approach in which quantitative methods are utilized to formulate initial measures of accessibility and qualitative methods are used to gain insight into individual healthcare experiences and adjust conventional GIS distance-based measures. Data collected from each of these approaches are combined in GIS to create new conceptualizations of accessibility, the satisfaction-adjusted distance measure, that highlight individuals’ access to healthcare providers offering high quality-of-care. Third, the research exposes inequalities in the overall healthcare experience that have not been considered more fully at the local level. As noted earlier, the dominant discourse in local conversations states that the Near East Side is an area that has high potential accessibility to healthcare. What is not mentioned in such a discourse is the perceived lack of high-quality care occurring in these facilities.
Residents in this study, as shown through the satisfaction-adjusted distance measure, have an added psychological distance to care as they attempt to locate high quality healthcare facilities. By adjusting for individual satisfaction with the quality-of-care experience in GIS, this work is committed to the notion of transformative politics found in the critical GIS, feminist geography and critical health geographies literatures. Highlighting the largely undocumented spatial differences in quality-of-care throughout the study area can lead to an empowering situation for local community members. Through this study, residents are able to voice concerns about the quality-of-care they receive at local healthcare facilities and show that there is more to the local healthcare landscape than what appears at first sight.
CHAPTER 3: THE IMPACT OF URBAN SPATIAL STRUCTURE CHANGE ON HEALTHCARE ACCESSIBILITY

Introduction

In this chapter, I trace the changing structure of American urban areas by focusing on the work of geographers, planners, and economists. Such a discussion is important given that the changing structure of urban areas also has a significant impact on the accessibility of social services such as healthcare.

Since the mid twentieth century, many American cities have spread outward from the original central business district (CBD) (Anas, Arnott et al. 1998; Nechyba and Walsh 2004). These changes in urban spatial structure have been explained from a variety of perspectives. Economists have focused on the cost minimization strategies of firms and households as transportation and communication changes occur. Planners have focused on land use policies and growth management strategies to explain these changes. Geographers also discuss the impacts of social processes across multiple scales on urban spatial structure change. Such processes as social stratification, urban blight, white flight, and social reproduction through lifestyle and gentrification discourses have all been cited by geographers as motivating factors for urban structure change. Given these processes and their resulting impacts on urban decentralization, significant accessibility issues to basic social services such as healthcare and amenity resources such as parks and
recreational facilities have developed for lower income, central city residents (Giles-Corti and Donovan 2002; Cutts, Darby et al. 2009; Dahmann, Wolch et al. 2009).

In section one of this chapter, I first explore the major processes and arguments for urban decentralization focusing on the monocentric and polycentric models of urban spatial structure. I then discuss the role of information technology in the outward expansion of urban areas. Later in section one, I discuss the roles of social stratification, land use planning and social reproduction in urban spatial structure change. In section two of this chapter, I connect changes in urban spatial structure to changes in accessibility to basic social services and amenity resources. In section two I also focus on the ways in which these spatial changes in accessibility negatively and disproportionately impact lower income central city inhabitants.

**Section 1: Changes in Urban Spatial Structure**

**The Monocentric Model of Urban Spatial Structure**

Economists often cite transportation and communication enhancements as the driving forces of changing urban spatial structure in many American cities. Early models used to explain the decentralization of U.S. cities were based on monocentric development (Alonso 1964; Mills 1967; Muth 1969; Mieszkowski and Mills 1993; Anas, Arnott et al. 1998; Nechyba and Walsh 2004; Kim 2007; Lee 2007). In the monocentric model, U.S. cities of the early twentieth century developed around a central business district where employment was clustered (Mieszkowski and Mills 1993). This initial centralization was necessary due to limitations in transportation and communication,
which forced businesses to locate near one another in close proximity to abundant natural resources or near a major transportation hub such as a river, harbor or port. Centralization in these ways helped minimize costs for processing freight and moving goods.

As the central business district developed, the households of workers clustered near the CBD to minimize travel costs (Anas, Arnott et al. 1998). Small, compact housing began to form in American cities, which created high urban population densities. In turn, the highest land values were found near city centers. Neighborhoods were stratified by income with the wealthiest living in homes nearest the CBD, while lower income residents lived farthest from the CBD. Cities expanded outward as improvements in transportation (railroads, horse and wagon, street car lines and eventually mass production of automobiles) and communication (telegraph, telephone, and eventually information technologies) occurred (Anas, Arnott et al. 1998; Nechyba and Walsh 2004).

These transportation and communication advances allowed the CBD to remain important although the dominant sectors shifted. However, jobs and upper and middle class residents migrated outward to the suburbs given the lower population densities and larger plots of land for homes. Additionally at this time, wealthier residents migrated to the suburbs to avoid the poor environmental conditions, pollution, overcrowding, and proximity to the urban poor found in central cities (Tiebout 1956; Anas, Arnott et al. 1998; Nechyba and Walsh 2004). Such outward moves away from the central city became more economical for those with higher incomes due to the lowering transportation costs resulting from technological enhancements.
The monocentric model, based on circular residential and business development outward from the central business district, lost much of its explanatory power as cities began to develop in a more polycentric fashion with multiple subcenters (Kwan and Weber 2003; Nechyba and Walsh 2004; Boschmann and Kwan 2010). Such polycentric development is best illustrated by older towns being incorporated into larger cities or newly created edge cities developing along transportation nodes (Anas, Arnott et al. 1998).

Anas, Arnott and Small (1998), Brueckner (1979), Henderson and Mitra (1999), McDonald and McMillan (2000) identify certain assumptions of the monocentric model that further limit its usefulness for explaining new polycentric development patterns. In particular, these authors argue that the monocentric model assumes all land use decisions result from the negotiation between the desire for space and the need to minimize commuting costs. Such an assumption fails when one considers additional social factors such as desire to escape conditions of urban blight and neighborhoods in close proximity to lower income residents. The model also assumes that all jobs disperse in a circular and symmetrical pattern. Furthermore, the model is weak in that it does not focus on the agglomeration advantages businesses have to locate in a particular area. Finally, the model underestimates the durability of buildings as many buildings outlast the timeframe of change proposed in the monocentric model.

The monocentric model also suffers from its use of the density gradient to measure urban development (Anas, Arnott et al. 1998). Density gradients consider the proportional rate at which population density falls with increasing distance from a central area (Anas, Arnott et al. 1998). The density gradient rests on the assumption that as
transportation costs are minimized and incomes rise, people can move farther away from
the central city. The basic premise is that decreasing gradients equal increasing
decentralization. Such logic is problematic for a variety of reasons.

First, small urban areas may not be measured well since they often have larger
gradients due to higher densities in the center. Thus, in smaller cities population density
is forced to decline quickly (Mieszkowski and Mills 1993). Gradients also do not work
well in more recently developed American cities including Sunbelt cities in the south and
west. These cities often have highly fragmented and highly dispersed development
patterns, so their overall development patterns are different than monocentric cities
(Mieszkowski and Mills 1993). A final problem with density gradients is their failure to
account for polycentric development and the creation of edge cities along major
transportation nodes. Such limitations of the density gradient approach have led to a new
perspective for understanding urban structure change.

**Toward a Polycentric Model of Urban Spatial Structure**

Economists contend that recent urban spatial structure has taken on more of a
polycentric pattern (Brueckner 1979; Mieszkowski and Mills 1993; Anas, Arnott et al.
1998; Henderson and Mitra 1999; McDonald and McMillan 2000; Audirac 2002;
Nechyba and Walsh 2004; Lee, Seo et al. 2006; Lee 2007). Anas and his co-authors
suggest that:

Urban subcenters are formed from the tension between agglomerative and
dispersive forces. For example, downtown congestion, along with the excessive
residential decentralization caused by underpriced transport, may give rise to
excessive employment decentralization (because jobs follow households), which
may in turn spawn excessively large secondary agglomerations (1455).
In polycentric development multiple employment and population centers develop in addition to the central business district (Anas, Arnott et al. 1998; Dear and Flusty 1998; Nechyba and Walsh 2004). Anas and his co-authors suggest that multiple subcenters form an interdependent system across metropolitan areas where different types of specializations exist. For example, some cities have specialized office park development on the outer edges and a financial sector in the central business district.

In stark contrast to earlier monocentric models of city growth, the polycentric model contends that households often do not choose their location based on access to one particular subcenter. Instead, households tend to locate an average distance from the majority of employment subcenters. This is largely due to the fact that households switch employment often; therefore, they want to maximize their opportunity to secure employment in other subcenters and also minimize commuting trips between multiple subcenters (Anas, Arnott et al. 1998).

Polycentric development is also tied to agglomeration effects from the changing economic relationships between and within firms due to telecommunications and global competition (Anas, Arnott et al. 1998; Audirac 2002; Sohn, Kim et al. 2002). Agglomeration in its simplest form refers to the cost minimization strategies of firms as they congregate in a particular geographic area. There are a variety of agglomeration strategies that lead to polycentric development.

Spatial inhomogeneities and internal scale economies offer the most basic explanations of why firms locate where they do (Anas, Arnott et al. 1998). Some places have an abundance of natural resources; some have waterways and ports; yet others have
greater access to transportation networks. Such spatial inhomogeneities lead firms that rely on these particular activities to concentrate in these locations. Internal scale economies also lead to agglomeration. In such economies certain activities due to their sheer cost and volume are forced to locate near one another to maximize profits (i.e. port activities and container shipments). Internal scale economies also develop in cities that have a large amount of public goods. Cities with capitals, religious centers or large government buildings survive, since the infrastructure and activities present in these cities are cost prohibitive to move resulting in agglomeration (Anas, Arnott et al. 1998).

Linkages between different firms are also important to agglomeration and create external scale economies. As Anas and his co-authors suggest, some industries produce goods that are expensive to ship but are needed by another firm. Therefore, these firms locate near each other to minimize cost. Growth dynamics also play a role in agglomeration and polycentric development. When cities become too large, the central city becomes unstable and groups migrate outward forming new subcenters. Non-economic dynamic models, another explanation of agglomeration, focus on positive feedback generated from development at one location, which enhances development potential in another nearby location (Anas, Arnott et al. 1998). As the above discussion suggests, a variety of agglomeration effects help cities develop multiple employment and population subcenters.

**The Role of Information Technology in Urban Spatial Structure**

Information technology (IT) advances have also been suggested as a major explanation for polycentric development (Audirac 2002; Sohn et al. 2002). IT helps
expand urban areas as network connectivity mitigates the effects of spatial distance for firms and populations (Sohn et. al 2002). Information technology has allowed some cities to become “electronic communication hubs” (Audirac 2002). Two general theories, the deconcentration approach and the restructuring approach, explain the role of IT in polycentric development.

In the deconcentration approach, IT development is likened to earlier technological and communication advances and is used to explain internal changes in urban areas (Audirac 2002; Lee 2007). IT lessens the impact of distance for firm locations. Firms can expand outward to cheaper subcenter locations provided there is strong IT infrastructure (Audirac 2002; Sohn et al. 2002). However, firms still need to centralize in areas with IT infrastructure (Sohn et al. 2002). Thus, there is agglomeration and an expansion of the city into multiple nodes as firms locate near one another in places with digital connectivity.

IT advances have also affected the population structure and commuting patterns of urban areas (Audirac 2002; Lee et al. 2006). In general, commutes ending in the suburbs are on the rise, while commutes ending in the traditional central city are declining (Sohn et al. 2002; Lee et al. 2006). As telecommuting allows people to work from remote locations, people are able to move farther from their employment particularly toward exurban locations. While the number of commuting trips to work may decrease from telecommuting, the length traveled on any given day may increase due to farther distances between work and home and more exurban and suburban to suburban commuting (Audirac 2002).
The restructuring approach of IT considers urban structure change as part of a broader re-organization of capitalist production across multiple scales (Audirac 2002; Lee 2007). This re-organization focuses less on distance and the spatial reconfiguration of cities, and more on the connections between multiple scales (the global, the local, the regional) through spaces of flows (a city’s ability to become part of the global information network). In the restructuring approach, cities change due to IT developments, the international division of labor, and re-organization of capitalist production through global capital. Information technology allows some cities to become part of the global information network (Audirac 2002).

The restructuring approach recognizes internal urban structure changes resulting from connections into IT infrastructure. This approach suggests exurban, suburban and fringe locations are housing new office complexes, technology parks and logistics operations. With information technology, these firms can move farther away from the central city to take advantage of cheaper land prices, yet still remain connected to these locations through digital networks (spaces of flows). The restructuring approach, like the deconcentration approach, recognizes changing commuting patterns based on telecommuting, off-peak commuting and flexible work schedules (Sohn et al. 2002). While the role of information technologies is conceptualized differently in the deconcentration and the restructuring approaches, both acknowledge the importance of IT in polycentric development.

As the above discussions suggest, American cities have recently engaged in polycentric rather than monocentric development. The prevailing theories discussed above focus largely on economic arguments where firms and households attempt to
minimize their costs while choosing locations farther from the original central business district. Below, an alternative approach for conceptualizing urban spatial structure change focused on social stratification is discussed.

**The Role of Social Stratification in Urban Spatial Structure**

Geographers agree that the changing urban spatial structure is related to infrastructure and communication advances as well as economic decisions of firms and households. However, their analyses do not end with a discussion of internal structural changes or the failures of neoclassical policies (Leitner and Sheppard 2003). Instead, many geographers recognize the importance of neighborhood stratification based on social (and often racial) processes that seek to create homogenous neighborhoods (Kleniewski 1984; Kasarda 1989; Smith 1996; Holloway, Bryan et al. 1998; Gotham 2000; Powell 2001; Leitner and Sheppard 2003).

Neoclassical perspectives of trickle down effects assume that new investment and capital will eventually lead to greater demand for goods and services, which will create more jobs for all. While this ideal assumes job creation and a weakening of inequalities, it fails to stress that new employment is 1) often created in global markets where manufacturing and industry are cheaper and 2) often in low-paying service and retail sectors in American cities (Kasarda 1989). Furthermore, new investment in the American city is often in corporate, banking and financial sectors of employment, which leaves uneducated lower class residents with few nearby employment options. The restructuring of urban areas is often viewed as a result of economic market processes that
hope to create trickle down effects to benefit the urban poor; however, there are a variety of social processes at work in urban restructuring that challenge this explanation.

Geographers recognize social processes that help construct stratified neighborhoods by racial, social and economic groups (Kleniewski 1984; Kasarda 1989; Smith 1996; Holloway, Bryan et al. 1998; Gotham 2000; Powell 2001). The segregation of urban areas into different social and racial classes has historically occurred through racist attitudes of residents. As Gotham (2000) notes, historically, a pro-white, anti-minority attitude encouraged wealth and capital to separate from the (mainly minority) lower class. Gotham (2000) also notes that homeowner associations have helped to construct racially segregated areas. Historically, these associations restricted sales to blacks and raised money to buy homes from landlords who rented to blacks. Associations also used their political power to lobby local governments to enact zoning regulations that would restrict African Americans.

Holloway and his co-authors (1998) also suggest social processes are important to consider in urban restructuring. They suggest that social stratification is a direct result of 1) selective lifestyle choices of middle income groups leaving the inner city and leaving the poorest of the poor (particularly African Americans) in the inner city; 2) exclusionary racial segregation that still exists; and 3) a structure of poverty caused by often immovable public housing and employment decentralization. Such beliefs are in some ways linked to the seminal work of Tiebout (1956) outside of geography. Tiebout (1956) discusses the sorting of urban areas based on the push and pull factors experienced by urban residents. According to Nechyba and Walsh (2004),
The pull side of the Tiebout coin emphasizes how relatively mobile families form new cities in the suburbs in part to create communities comprised of households with similar willingness to pay for the provision of public goods or with other characteristics considered “desirable.” The push (or “flight from blight”) side of the Tiebout coin, on the other hand, refers to the hypothesized propensity of relatively high-income residents to leave the central city in response to higher inner city crime rates, lower quality schools and general fiscal distress within the central business district (183).

Geographic perspectives, informed by the premise of Tiebout sorting, suggest residents actively seek locations outside of the central urban area for their attractiveness in comparison to blighted central city areas.

As Holloway and his co-authors (1998) note in their case study of Columbus OH, public housing structurally anchors poverty into inner city neighborhoods. They find that public housing concentrates poverty in three ways. First, the most vulnerable populations are attracted to these houses. Such attraction is problematic given the fact that the non-poor slip into poverty and the poorest of the poor cannot get out of poverty. Second, the presence of public housing in a neighborhood lowers nearby property values due to the negative connotations of this housing type. Wealthier populations often choose to move out of the neighborhood due to the negative stereotypes of public housing. Third, well-paying employment opportunities have moved farther from public housing locations in the central city. In many cases, only low paying service sector jobs or jobs that require higher education remain. This structure of poverty exacerbated by the social stratification of American cities is particularly problematic for African Americans since public housing was historically built and largely remains in predominantly African American communities (Holloway, Bryan et al. 1998).
The discussion above suggests that geographers understand the role of economics and technological enhancements, but also rely heavily on the role of social stratification in their explanations of urban spatial structure change. Geographers and planners also cite the role of land use planning and growth management strategies in the reconfiguration of American cities. The section below discusses the role of such geographic processes in evolving American cities.

The Role of Land Use Planning in Urban Spatial Structure

Land use planners and geographers suggest that the politics of land use planning and growth management policies across multiple scales affect urban spatial change. Such policies can either exacerbate or lessen urban expansion and sprawling development (Anas, Arnott et al. 1998; Carruthers and Ulfarsson 2002; Jonas and Ward 2007; Purcell 2007).

Many local land use planning and growth management strategies are political responses designed to control decentralizing growth and sprawling urban areas. Most of these strategies also aim to maintain attractive and competitive urban areas. Urban sprawl is any type of low density suburban development that forms from fragmented or leap-frog development patterns (Carruthers and Ulfarsson 2002; Nechyba and Walsh 2004). This type of development contributes to large social and economic stratification across American cities.

A variety of political and economic factors contribute to sprawling and decentralizing urban areas (Carruthers and Ulfarsson 2002). Publicly funded infrastructure development, like the interstate highway system, and national policies that
provide deductions for home mortgage interest help encourage growth away from central urban areas (Glaeser and Kahn 2003; Nechyba and Walsh 2004). Local infrastructure investments such as extending sewage lines beyond the currently developing portion of cities also exacerbate sprawling development. Further, the unequal enforcement of restrictive land use planning policies across jurisdictions encourages developers searching for lower land prices to develop new sites on the urban fringe.

Carruthers and Ulfarsson (2002) suggest local governments acting on their own have little incentive to consider the effects their local policies may have on nearby locations. Anas and his co-authors outline a variety of problems that make local land use planning policies ineffective (Anas, Arnott et al. 1998). Anas and his co-authors (1998) suggest that if a local area limits the types of land uses, then travel congestion will increase and a visual monotony of the same land use will result in specific locales. They further suggest that local land use preservation efforts often do not consider that development will simply shift to another location. Furthermore, exclusionary zoning in suburban locations (such as minimum lot size requirements) keeps certain social groups and lower income people from these areas. If such exclusionary policies were eliminated, lower income groups could benefit from public goods, social services and other amenities, while paying lower property taxes.

Researchers suggest that centralized growth management policies across multiple jurisdictions might help combat uncontrolled and decentralized growth exacerbated by local policies (Carruthers and Ulfarsson 2002). Recognizing the importance of political decisions at various scales through the concept of the city-region is one such strategy (Jonas and Ward 2007; Purcell 2007).
The city-region, discussed by Jonas and Ward (2007), refers to the “functional relationships between cities and their surrounding regions and hinterlands” (170). The city-region offers a new way of thinking about urban development. City-regions are “simultaneously downscaled from the global scale to the level of conditions within the communities and neighborhoods of city-regions and upscaled from the local geographies of competition across the city-region” (Jonas and Ward 2007: 172). Thus, city-regions can serve as sites of cooperation where multiple scales share assets, resources, alliances and infrastructure (Jonas and Ward 2007). These multiple scales working together can help create cooperative land use planning and growth management strategies to control urban area expansion.

Purcell (2007) suggests city-regions are shaped by a variety of political forces across multiple scales. He suggests that one must consider the different democratic processes occurring at multiple scales that actively produce and reproduce city-regions. He cautions that decisions at one scale cannot be privileged over decisions at another scale. Applying the shared decision-making, including cooperative land use policies, of the city-region can help mitigate the negative effects of sprawling development as urban areas expand and improve upon decisions made only at the problematic local scale.

The discussion above suggests that geographers and land use planners recognize the role of land use planning decisions across multiple scales in urban spatial structure change. Some of these researchers further suggest that considering the broader regional or city-region unit rather than the specific local unit can help alleviate some of the major problems related to sprawling urban/suburban development.
The Role of Social Reproduction in Urban Spatial Structure

Geographers also point to the role of social reproduction in urban change (Leitner and Sheppard 2003; Jonas and Ward 2007; McCann 2007). Researchers are particularly interested in examining re-investment strategies that promote quality of life discourses and gentrification to attract wealthier people back into urban areas (Jonas and Ward 2007; McCann 2007). Spatial changes have forced many central city governments to seek reinvestment opportunities for their failing residential neighborhoods. Lifestyle discourses and gentrification are used to stimulate growth in the central city. Such strategies are problematic however in that they do not eliminate inequalities brought on by the changing internal structures of cities and by the social stratification of neighborhoods.

Jonas and Ward (2007) suggest there is a “politics of distribution taking place across city-regions on an everyday basis, including material demands for collective consumption, social movements around living place, and the like” (175). According to these geographers, to fully understand urban changes, one must consider issues of social reproduction (tied to quality of life discourses) that result from a particular set of social, economic and political relations. McCann (2007) suggests that quality of life discourses create a tension and political struggle over everyday issues like housing affordability and infrastructure development and improvements. Such discourses focus on livability and urban design targeted at a particular group: the wealthier, knowledge class. This is problematic in that issues of social reproduction and inequality at the heart of urban restructuring problems are masked. McCann suggests at the city-region scale (although
other scales also fit his argument) livability discourses must be challenged and contested since:

the struggle to stabilize a city-regional coherence revolves around fundamental-and often racially inflected – questions of social reproduction including wage inequality, increasing costs of housing, fears of displacement, the destruction of longstanding community structures, the character, purposes and class relationships underlying environmental policy, and the unequal provision of recreational opportunities (2007: 195).

A more specific example of social reproduction influencing changing urban structures rests in discussions of gentrification. Gentrification is an attempt to redirect investment back into failing central city neighborhoods. It is often touted as having the ability to break up poverty and provide trickle down effects to the urban poor (Newman and Wyly 2006). Oftentimes however, gentrification displaces the urban poor out of neighborhoods they could once afford. Displacement occurs through housing demolition, the conversion of rental units into ownership units, increased property taxes, and landlord harassment (Smith 1996; Newman and Wyly 2006). These factors are problematic since the displaced urban poor are unable to benefit from an improved tax base in these gentrified neighborhoods.

The key point to recognize in urban restructuring, according to the points raised by geographers above, is that social reproduction related to livability and gentrification discourses is reshaping urban areas. These geographers are quick to note that social reproduction does attract re-investment to urban areas; however, they recognize that these processes also perpetuate social, racial and economic inequalities for the urban poor.

In the sections above, different perspectives about urban spatial structure from economists, geographers and planners were discussed. As illustrated above, many of
these perspectives focus on particular explanations or motivating factors for the changing spatial structure. Some overlap of perspectives is evident; however, the different perspectives discussed above remain inadequate on their own for understanding urban spatial structure changes. It is hoped that in the future geographers can utilize the strengths of multiple perspectives to better explain urban spatial structure change. Each perspective discussed above has merits, and when combined offer a much more powerful explanation of the changing spatial structure of urban areas.

Section 2: The Impacts of Urban Decentralization on Social Services

This section connects the major points from above to this research on healthcare accessibility of urban disadvantaged populations, including the urban poor and minority groups. Three main points discussed above are useful to consider when thinking about healthcare accessibility for the urban poor. First, the spatial restructuring of employment opportunities greatly lowers accessibility to basic social services such as quality, affordable healthcare for these disadvantaged urban populations. Second, as population decentralizes to polycentric destinations, the urban poor are faced with greater travel distances to newly-built, high quality healthcare facilities. Third, re-investment strategies targeted at lower income central city neighborhoods have the potential to improve quality of life (including access to healthcare), although in a manner that might not necessarily benefit these disadvantaged populations. Each of these arguments will be discussed in greater detail below.
The Impact of Employment Restructuring on Urban Healthcare Accessibility

As urban areas decentralize and employment opportunities move farther from lower income residents of central city areas (Anas et al. 1998; Gotham 2000), survival of the urban poor, including low income minorities, is compromised (Law and Wolch 1993). In the paragraphs above, it was noted that well-paying jobs, once located predominantly in the central city, are no longer available to the urban poor. Without these opportunities the urban poor are particularly vulnerable to lower accessibility to basic social services such as affordable, high quality healthcare.

Well-paying jobs continue to decentralize into polycentric sub-centers far from the urban poor who are left in the central city. These lower income populations are often tied to central city neighborhoods through a variety of processes such as social stratification (Kleniewski 1984; Kasarda 1989; Smith 1996; Holloway et al. 1998; Gotham 2000; Powell 2001) or the structure of poverty from public housing (Holloway et al. 1998). The urban working poor have been greatly impacted as larger firms have decentralized from central city locations as well as to international locations through the development of global capital and an international division of labor.

As better paying jobs migrate away from the central city, the urban poor, (minorities in particular) are forced to take jobs that pay an insecure hourly wage rate in low-paying service or retail sectors (Kasarda 1989; Law and Wolch 1993). Further, employment decentralization has led to the development of specialized labor through sub-contracting, which uses contingent workers (part time, temporary, seasonal) during times of high demand (Law and Wolch 1993). Wages gained from these jobs are insecure. Low and sporadic wages limit the affordability and accessibility of healthcare
for the urban poor and other disadvantaged groups. To make the situation even worse, the employment opportunities available to the urban poor offer minimal or no healthcare benefits (Law and Wolch 1993). Without healthcare benefits, the urban poor are left with few options for affordable healthcare other than free clinics or government-sponsored low-cost healthcare centers. As will be discussed later in this dissertation, such healthcare options present the urban poor with less than ideal quality-of-care and further limit their accessibility to affordable, high quality healthcare.

As the above discussion suggests, low paying, and in many cases sporadic, employment as well as a lack of healthcare benefits brought on by the restructuring of once well-paying central city jobs to polycentric subcenters and global locations severely limit healthcare accessibility for the urban poor. As the decentralization of urban structure continues, the urban poor left in central city locations are finding it increasingly difficult to access high quality, affordable healthcare.

The Impact of Social Stratification on Urban Healthcare Accessibility

The discussion of urban structure from a social stratification perspective earlier in this chapter suggests that people tend to create homogeneous neighborhoods of similar incomes and racial, ethnic groups. From these socially segregated areas, the distribution of public goods and services to maintain basic quality of life also becomes segregated (Kleniewski 1984; Kasarda 1989; Holloway et al. 1998; Leitner and Sheppard 2003). Accessibility to affordable and high quality healthcare can be included in the discussion of quality of life issues. Investment in public goods and services (such as healthcare) does not just naturally occur in areas that have wealthier populations and higher tax
bases. Unfortunately for the urban poor, severe inequalities to basic quality of life provisions exist due to the stratification and uneven development of urban areas.

Considering the spatial location of medically underserved areas/populations (MUA/P) and health provider shortage areas (HPSA) throughout urban areas further reveals the inequality gap to basic quality of life provisions presented by changing urban structure (Figures 1 and 2). Such geographic areas contain too few providers and health services to meet the needs of the population. These shortage areas disproportionately affect central city, urban locations as well as more rural areas (Juarez 2002). The two maps of Franklin County, Ohio (below) show the problematic distribution of healthcare services across this urban area and confirm the point made by Juarez and colleagues. The maps below are created from data found on the U.S. Department of Health and Human Services site. When considering the larger Franklin County area and the central city of Columbus, the maps show that the majority of MUAPs and HPSAs are in or near central city locations rather than in wealthier suburban locations. The study areas of this research (zip codes 43203 and 43205) are designated as medically underserved areas, but not as healthcare provider shortage areas. The two maps offer further proof that central city residents, mainly the urban poor, suffer from a lack of social services such as healthcare. This lack of social services is a direct result of urban decentralization, wealth and employment migrating toward suburban and exurban communities.
Figure 1: Health Provider Shortage Areas in Franklin County OH

Figure 2: Medically Underserved Areas/Populations in Franklin County OH
While new healthcare facilities are being built farther from the urban poor in suburban and exurban locations, their accessibility is further limited by the closing of local, neighborhood-based facilities due to shrinking central city populations. A local example demonstrates this point. A 2004 Columbus Public Health (CPH) neighborhood report for the East Side of Columbus, which includes the 43203 and 43205 study sites, discusses the recent closure of the Billie Brown Jones Health Center. This local community health center (located on Mt. Vernon Avenue: a central location for many in the 43203 zip code) was consolidated into a new and expanded East Central Health Center facility on Broad Street in the 43205 zip code. This new facility moved farther away from many 43203 residents who needed healthcare in the study site. This closure is particularly problematic in an area that is already suffering from a severe shortage of providers. Interviews with residents included in the CPH report (and later confirmed in this dissertation research) suggest that residents north of Broad Street feel abandoned by local healthcare providers as they lose their neighborhood facility and are forced to seek care elsewhere. As illustrated in this example, the closure and consolidation of underperforming central city care facilities further exacerbates healthcare inequalities and lowers accessibility for the disadvantaged urban poor.

As populations expand outward in urban areas and new healthcare facilities follow a similar development pattern, the physical distances to healthcare facilities for the urban poor continue to increase. Further, as many of the urban poor remain dependent on slow and sometimes unreliable public transportation their accessibility to healthcare continues to decrease. This is due to the fact that public transit travel times will increase as they access healthcare in suburban locations. As the above discussion suggests,
population and employment decentralization and a subsequent shift in healthcare facilities to locations away from the central city presents major limitations to the urban poor’s geographic distance-based accessibility to care and perpetuates further inequalities.

The Impact of Urban Re-Investment Strategies on Urban Healthcare Accessibility

Earlier in this chapter it was noted that urban government officials are trying to re-invest in declining urban neighborhoods and attract wealthier populations back into the city through lifestyle discourses and gentrification. For successful central city re-investment, basic public services and amenities must be provided to attract higher income populations back into the central city. People value high quality and affordable healthcare; therefore, it can be assumed that new healthcare facilities are a valid component of central city re-investment. This is true in the study area as well. The Ohio State University and City of Columbus recently announced the most ambitious neighborhood development plan in the city’s history. The plan rests on the expansion of University Hospital East and the gentrification of nearby neighborhoods to attract new investments in the community. While such development and investment strategies may appear beneficial to the disadvantaged urban poor, the earlier discussion in this chapter suggests such strategies may be more complicated. As central city locations attract wealthier residents back to the city, the urban poor are often displaced from their neighborhoods, thus unable to benefit from improved quality of life through such services as healthcare facilities. This discussion applies directly to the study sites of 43203 and 43205.
Columbus empowerment zones (including the 43203 and 43205 zip codes) contain high levels of unemployment, disinvestment from business, a shrinking population, and a poverty level of at least 20 percent. These areas have been targeted for (re)investment by city officials to boost local economies and improve overall quality of life for residents in these areas. However, if these empowerment zones do attract new investments, the urban poor may be displaced (due to rising land values and higher property taxes). Any improvements to quality of life (such as new healthcare providers designed to attract a wealthier population) may not directly benefit disadvantaged populations. The problems of the urban poor in Columbus, including their low accessibility to quality affordable healthcare, may simply shift to other areas.

Conclusions

In this chapter I discuss the linkages between urban spatial structure changes (focused on urban decentralization) and low accessibility to basic social services such as healthcare accessibility in largely lower income, central city communities such as the 43203 and 43205 zip codes. As discussed above, it is important to keep in mind how and why the shifting structure of urban areas impacts accessibility to social services such as high quality, affordable healthcare. Urban spatial structure change not only impacts healthcare accessibility for disadvantaged urban populations, it also is likely to have a negative impact on their overall quality-of-care experiences.

As noted in Chapter 2, distance to nearest healthcare provider is known to have a profound impact on patient satisfaction with healthcare services. In general, patients who have to travel farther to their primary health providers report lower levels of satisfaction
Related to travel times, transportation options also influence accessibility. It is noted throughout the literature that those without access to their own cars often have difficulty getting to their facility. One of the major reasons for this is the lengthy commute times involved in using public transportation. These points are important to remember in this research on satisfaction-adjusted distance to healthcare accessibility given that changes in urban spatial structures have not only led to a movement of wealth and employment opportunities away from the central city, but have also led to a movement of social services such as healthcare providers away from the central city. By connecting broader urban spatial structure change to the changing landscape of healthcare accessibility, researchers can better understand some of the main reasons behind the urban poor’s struggle to find accessible, affordable and high quality healthcare.
CHAPTER 4: RESEARCH METHODOLOGY AND METHODS

Introduction to Research Problem and Objectives

As discussed in Chapter 2, much of the GIS-based healthcare accessibility literature focuses on geographic distance without considering the healthcare experiences and quality-of-care of individuals. Conventional GIS measures fail to integrate analyses focused on quality-of-care and individual healthcare experiences. These shortcomings severely limit the ability of conventional GIS accessibility measures to adequately represent the healthcare experiences of individuals as they attempt to access facilities that offer high quality-of-care.

This dissertation research addresses these literature shortcomings through a health geographies approach with mixed-methods. The methodology is designed to specifically examine the individual experiences and perceptions of care at healthcare facilities, while bringing these experiences to the forefront of conceptualizations and measures of healthcare accessibility in Geographic Information Systems.

The major contribution of this work to the relevant literatures is to re-conceptualize the analysis of accessibility by health researchers in general and by geographers in particular. This is accomplished through a new satisfaction-adjusted distance (SAD) measure of healthcare accessibility. The work reveals spatial inequalities to healthcare facilities that offer high quality-of-care across the study area through a
collaborative research agenda developed in conjunction with local community leaders in the Near East Side of Columbus, Ohio. Thus, the research offers a critical analysis of conventional accessibility measures and methods and a form of transformative politics for local marginalized community members. A health geographies approach with mixed-methods including a community-university collaboration, GIS analysis based on street network distance, in-depth interviews, qualitative data analysis, and a newly constructed satisfaction-adjusted distance (SAD) measure are used to help answer the major research questions outlined below.

The contribution of this research methodology is that it moves beyond geographic distance-based measures, and integrates quantitative and qualitative data about individual healthcare experiences collected from local residents to create new GIS measures that adjust for an individual’s satisfaction with his/her healthcare facility. Doing this allows for the strengths of quantitative and qualitative data to be fused in one GIS measure that can offer a more contextualized representation of healthcare in lower income neighborhoods such as the Near East Side. In this sense, the goals of this research are similar to that of the space-time work introduced by Kwan and her colleagues. Those studies and this one move away from the seemingly primitive views of accessibility to include individualized data that adjust access measures based on individual life experiences.
Research Questions

The following questions drive this research and help to specifically address the problem statement outlined above. The specific research methods used to answer these questions are also discussed in this chapter.

Research Question 1: Are there significant differences between conventional measures of accessibility which consider street network distance and the newly created satisfaction-adjusted distance measures which integrate individual healthcare experiences and quality-of-care received at healthcare facilities?

For research question 1, the literature review in Chapter 2 suggests conventional measures of accessibility will differ from the newly created satisfaction-adjusted distance measures. To test this proposition, I compare street network distance measures for the 65 participants with the SAD measures. These results are discussed in Chapter 5. Comparing these methods to inform the other in successive steps similar to Knigge and Cope’s (2006) grounded visualization helps expose differences in accessibility not previously revealed. In particular, I show that conventional street network measures overestimate accessibility to facilities that offer high quality-of-care.

Research Question 2: In what ways can we combine the strengths of geographic distance and individual healthcare experience data to re-conceptualize accessibility and more accurately reflect the relationship between actual utilization of a facility and an individual’s overall satisfaction with healthcare experiences and quality-of-care?

For research question 2, the literature review in Chapter 2 suggests that accessibility is a multi-dimensional concept that is explained by more than just geographic distance from patient to provider. In-depth interviews (Method 2) with local
residents allow for data to be collected about the multiple dimensions of accessibility including patient satisfaction data. This quality-of-care data from participants is analyzed and fused with current distance-based measures to provide a new conceptualization of satisfaction-adjusted distance. Merging these two data types (GIS street network and qualitative fieldwork data) using mixed-methods allows for a more contextualized and realistic portrayal of the psychological distance residents experience between their home locations and providers that offer high quality-of-care.

**Research Question 3:** By considering individual experiences with quality-of-care, can we offer more critical and alternative representations of accessibility that more accurately characterize differences among and between different economic groups, racial groups and genders?

**Research Question 4:** Are there significant geographic differences and spatial inequalities in the geographic distribution of individual accessibility to healthcare facilities that offer high quality-of-care and satisfying individual healthcare experiences?

For questions 3 and 4, I use satisfaction-adjusted distance measures to uncover a highly varied and unequal distribution of accessibility based on quality-of-care data and individual healthcare experiences. Such a geography of healthcare accessibility, I argue, cannot be revealed using conventional accessibility measures given their large focus on geographic distance and lack of focus on individual healthcare experiences. Research Method 4 merges a variety of data sources collected in Methods 1 through 3 to address questions 3 and 4. As discussed in Chapter 5, the new SAD measures reveal a highly nuanced and contextualized geography of accessibility to facilities that offer high quality-of-care.
Research Question 5: Can satisfaction-adjusted distance (SAD) measures of healthcare accessibility contribute to a new critical discourse which highlights invisible inequalities in the healthcare accessibility landscape?

For question 5, I offer an alternative conceptualization of accessibility based on quality-of-care revealed through the research methods discussed below. In turn, silences in the healthcare accessibility landscape are revealed in a way that is not possible with conventional distance-based measures. By studying experiences of care at the individual level (particularly through the use of in-depth qualitative interviews), this research serves as an advocacy tool for improving high quality, accessible healthcare within the study area.

Research Question 6: In what ways does positionality affect geographic research and how can one’s positionality be partially mitigated by expanding one’s thinking about what “counts” in the research agenda?

As a white male, academic geographer working in a predominantly lower income, African American community, I was faced with many questions about my research agenda. Early on, it was suggested that my presence in the neighborhood might be challenged by my positionality and multiple identities as a privileged white male researcher. Some local leaders suggested I not only work closely with local residents on the healthcare piece of this work, but also show a broader and sustained commitment to the community beyond my own immediate dissertation and publication interests. From these suggestions, I gladly became involved in three community-based projects that benefited local community members and helped to facilitate my own dissertation research experience. These projects and their outcomes are discussed in detail in Chapter 7. The
discussion in Chapter 7 helps to show how academic geographers can expand their research agendas, confront and partially mitigate their positionality, and engage in broader and long-lasting community changes.

**A Conceptual Framework for Satisfaction-Adjusted Distance**

Figure 3 below diagrams the conceptual framework for satisfaction-adjusted distance (SAD). Three major groups of factors influence the healthcare accessibility experience as noted in the diagram. Many of these groups have geographic components and are discussed in the literature review of healthcare accessibility in Chapter 2. Geographic factors, individual factors, and experiential factors all play a role in defining who has access to high quality, accessible healthcare. However, as this conceptual framework shows, only a few of these factors are currently included in conventional GIS measures of accessibility.

Geographic and individual factors on the left hand side of the diagram are important in measures of potential accessibility and in measures of revealed accessibility. To a lesser extent, perceptual factors such as perception of care, facility reputation, media portrayals of a facility and targeted advertising campaigns also influence one’s decision to actually utilize a facility. However, the third grouping of factors (what I call experiential factors) are mentioned in the healthcare accessibility literature, but not explicitly included in conventional GIS measures of accessibility. Thus, this conceptual framework offers an additional grouping of factors to consider in measures of healthcare accessibility. In adding this information to conventional measures, it is possible to offer more contextualized and extended measures of accessibility. Further, it is possible to
adjust geographic distance to account for individual healthcare experiences and rankings of quality-of-care. Such an adjustment can shift the focus of GIS analysis away from just geographic distance toward an analysis informed by individual healthcare experiences and distance. Therefore, this conceptual framework can merge the geographic distance-based components found in the healthcare accessibility literature, the attention to the individual found in the health geographies literature, and themes of mixed-methods and alternative representations found in the critical GIS and feminist geography literatures. Since geographic, individual and perceptual factors of accessibility have been discussed in Chapter 2, it is important to now discuss the role of experiential factors in the proposed framework.
This dissertation research is particularly interested in expanding healthcare accessibility research to include analyses of individual quality-of-care experiences. Considering the multiple dimensions of satisfaction in new satisfaction-adjusted distance GIS measures and uncovering an alternative landscape of accessibility told by data collected from local residents are two ways to accomplish this goal. In the healthcare literature (largely outside of the discipline of geography), a variety of factors which affect a person’s decision to obtain healthcare and also continue with their healthcare provider...
are discussed. These experiential factors can be considered dimensions of customer satisfaction and serve as the third group of factors in the conceptual framework for satisfaction-adjusted distance measures of healthcare accessibility (Figure 3).

As Akinci and Sinay suggest, “the measures of effectiveness and value of services received expand the interest beyond the historical concern over coverage, system entry and aggregate utilization” (2003: 87). Dimensions of satisfaction are important as many healthcare providers are moving toward a more client-centered approach to care. In this approach individual patient concerns are having dramatic impacts on the evaluation of care (Caan, Rutherford et al. 1996; Williams, Coyle et al. 1998; Moutoussis 2000; Akinci and Sinay 2003; Pollock 2004).

Many survey instruments evaluate satisfaction and quality-of-care experiences with a single measure of satisfaction often based on a single question such as: how would you rank your quality-of-care on a scale of 1 to 10? Such a measure is said to encompass all aspects of the healthcare experience. Such a measure is problematic since it simplifies the complexity of factors influencing satisfaction and fails to explain which aspects of care patients value most (Draper, Cohen et al. 2001). Given the issues with singular measures/questions about satisfaction, this dissertation research asks participants a series of questions about the multiple dimensions of satisfaction to create a more complete measure of quality-of-care for use in GIS analysis.

The healthcare literature suggests that seven dimensions of care affect overall patient satisfaction and the quality-of-care experience. These dimensions include: 1) geographic access to nearest primary healthcare provider; 2) access to transportation; 3) ability to get care when needed with minimal waiting times between referral and first
appointment and minimal waiting times between arrival at appointment and seeing the
doctor; 4) interaction with primary care provider; 5) interaction with support staff; 6) information about medications and side effects; and 7) individual factors such as demographics, overall rating of general health, length of relationship, and number of visits to provider. Each of these dimensions plays a large role in determining the level of satisfaction experienced by a patient at a healthcare facility (Williams, Coyle et al. 1998; Eisen, Shaul et al. 1999; Moutoussis 2000; Field 2001; Takahashi 2001; Baltussen, Ye et al. 2002; Adamson, Ben-Shlomo et al. 2003; Akinci and Sinay 2003; Gigantesco, Morosini et al. 2003; Levinson Miller, Druss et al. 2003; Gulliford 2004; Pollock 2004; Buchanan, Schiffer et al. 2006; Valentine, Darby et al. 2008; Berke and Xun 2009).

Distance to nearest provider has been noted as an important factor affecting satisfaction with services. In general, patients who have to travel farther to their primary health providers report lower levels of satisfaction (Buchanan, Schiffer et al. 2006). Related to travel times, transportation options also influence accessibility. It is noted throughout the literature that those without access to their own cars often have difficulty getting to their facility. One of the major reasons for this is the lengthy commute times involved in using public transportation (Jordan et al. 2004).

Waiting times also play a significant role in the care experience. The time between referral and first appointment has an impact on the level of satisfaction reported by the user of the healthcare facility (Druss, Rosenheck et al. 1999; 1999). Waiting times between arriving at an appointment and seeing the primary provider are shown to have an impact on patient satisfaction as well. In a study of patient satisfaction, Lawthers and
others (1999) found that patients waited more than 45 minutes from arrival at appointment to see a doctor and this long wait time negatively impacted satisfaction.

Interactions with primary physicians and support staff also play an important role in patient satisfaction. Researchers show that courtesy and respect from doctors, receptionists, and support staff all impact satisfaction (Oermann 1999; Pellegrin, Stuart et al. 2001; Jenkinson, Coulter et al. 2002; Levinson Miller, Druss et al. 2003). In particular, researchers show that patients want to have their voices heard in the treatment plan (Segal, Redman et al. 2000; Pellegrin, Stuart et al. 2001). Patients also want doctors who listen to their questions in a respectful manner and provide timely and easy to comprehend explanations to these questions (Jenkinson, Coulter et al. 2002; Pollock 2004). For example, Jenkinson and colleagues (2002) show that the highest percentages of dissatisfaction with care were related to the inability of providers to listen to patient concerns such as anxieties about health conditions.

Another factor influencing patient satisfaction is the explanation of prescribed medications and potential side effects. One study suggests that an alarming number of patients are prescribed medications, given a quick explanation of the drug, and are then expected to take the medication regularly (Pollock 2004). For example, Jenkinson and colleagues (2002) found that many patients were not told which dangerous side effects to watch for after taking a medication at home.

Individual factors are also important in overall satisfaction with healthcare. Factors such as length of relationship with the doctor, number of visits, overall rating of one’s health, and demographic information such as age, income, race, and gender also
influence individual experiences of care (Lawthers, Rozanski et al. 1999; Oermann 1999; Rahmqvist 2001).

Considering each of the dimensions discussed above alongside more traditional factors (geographic and individual factors in the conceptual framework) may offer a more contextualized and individualized framework for exploring accessibility. Such a framework has the potential to bring patients’ experiences with healthcare to the forefront of accessibility studies and GIS measures in a way that is not particularly prominent in the literatures. Thus, such a framework can offer an alternative and powerful way of conceptualizing accessibility and measures of accessibility in GIS.

**Research Methodology and Analytical Methods**

This research utilizes a health geographies approach with a mixed-methodology in order to understand individual experiences with healthcare and offer new conceptualizations of healthcare accessibility. Additionally, the research uses mixed-methods similar to Knigge and Cope (2006) to explore the complex geographies of healthcare accessibility in the Near East Side of Columbus. As shown by Knigge and Cope (2006), using only GIS data, only qualitative data or only personal knowledge of a study site does not allow a researcher to fully comprehend or explain what is occurring in a place. Applying a mixed-methodology similar to Knigge and Cope, I hope to develop a more realistic understanding of healthcare accessibility through a series of successive research methods and data sources. By combining multiple research methods and data sources, it is hoped that a new understanding of satisfaction-adjusted healthcare accessibility can be developed.
A health geographies approach with mixed-methods is being proposed for a variety of reasons. As Dyck (2003) expresses in relation to the move from medical geography to a patient-centered health geographies, many geographers are no longer interested in looking at people as dots on a map. Instead, they are emphasizing the understanding of individual healthcare experiences. Dyck also stresses that many geographers are attempting to understand how gender, race, and the complex linkages between power relations and individual experiences shape an individual’s health and healthcare experiences.

This research agrees with the assertions made by Dyck and others in the health geographies literature. As such, complementary qualitative and quantitative methods are used to more adequately include residents’ healthcare experiences in measures of accessibility in a GIS environment (the specifics of these methods are outlined below). The health geographies approach with mixed-methods can assess individual experiences with healthcare, including particular factors and power relations encountered in the care experience that either strengthen or weaken individuals’ feelings about the quality-of-care received at a facility. Further, such a mixed-method approach allows for newly constructed satisfaction-adjusted distance measures of accessibility to move beyond geographic distance and to include an adjustment for individual rankings of healthcare experiences.

**Introduction to Research Methods**

While an overview of the major research methods is included here, a more detailed discussion will follow in later sections of the chapter. The methodology includes
in-depth interviews with local healthcare professionals and community organization leaders to assess the current state of healthcare accessibility in the study area. A second component of the research implements in-depth interviews (Appendix A) with 65 local residents to assess their quality-of-care experiences at local healthcare facilities. From the in-depth interview data, street network distance to healthcare facilities is measured for each participant. A series of questions about quality-of-care is then used to create a composite quality care score for each individual. Answers to open-ended questions from in-depth interviews are transcribed, coded and explored with content analysis to provide additional understandings of healthcare experiences and to develop an alternative representation of accessibility to healthcare in the study area based on data from local residents. The critical GIS component of the research process maps and compares the new satisfaction-adjusted distance (SAD) measures with conventional street network measures. Additionally, I discuss a variety of other community-based projects focused on health, quality of life and neighborhood history that stemmed from the original healthcare component of this work. Each of the successive steps related to the healthcare component of the study is discussed in greater detail below. The related community-based projects that came about from the healthcare piece of this work are discussed in Chapter 7.

Study Area

The study area for this dissertation research is located within Franklin County, Ohio. Franklin County is home to the City of Columbus, Ohio’s state capital. Being a sprawling urban community, the city and county are experiencing a simultaneous surge in
property values and commercial/residential development largely in suburban outer-belt locations, while experiencing a loss of population and lack of investment in communities near the traditional downtown of Columbus.

While these post-industrial processes occur, residents within certain areas near the downtown are facing unequal access to basic services that impact their overall quality of life. Within many urban areas throughout the City of Columbus, unemployment rates are high, education attainment goals are not being met, median incomes are lower, overall health is lower, and residents face fewer choices for affordable and accessible healthcare (Dietsch and Davis 2007).

To help understand and address these inequalities across the city and county, local community leaders have identified certain geographic areas as “Columbus Empowerment Zones”. Figure 4 shows the location of the eight zip codes that have been identified as empowerment zones (43201, 43203, 43205, 43209, 43211, 43215, 43219, 43222). These zones, created under the Empowerment Zones and Enterprise Communities Act of 1993, contain high levels of unemployment, disinvestment from business, a shrinking population, and a poverty level of at least 20 percent (Dietsch and Davis 2007).
Within designated empowerment zones, relaxed business tax incentives are made possible to encourage business investment and development as well as stimulate economic growth. A desired goal of these policies is to increase the overall quality of life for residents within these communities (Dietsch and Davis 2007). Thus, these empowerment zones offer a unique setting for empirical research designed to study inequalities to healthcare accessibility in an urban area. These zones also present a research site where practical results from an academic project studying healthcare
inequalities can move beyond an academic exercise and help to achieve a broader community goal: improving the overall quality of life.

While there are eight empowerment zones within Columbus, this research is focused within two of the zones. The total population of the eight empowerment zones according to the 2000 US Census is 148,695 persons. Implementing an in-depth interview study is challenging with a population of this size given the fact that one of the main research goals is to understand the experiences of residents as they attempt to access local healthcare providers. Focusing on two of the most economically disadvantaged areas in Columbus (43203 and 43205) allows for a more manageable study site and also allows for research that benefits the most economically disadvantaged populations. The total population of the 43203 and 43205 zip codes is 24,730 and represents 16.6 percent of the total population within all Columbus empowerment zones.

Basic population, economic, education and healthcare data for the study area zip codes are included in Table 1 below. Compared to other Columbus empowerment zones, these two areas have the lowest and the third lowest median incomes, the two highest poverty rates, and two of the largest percentages of African American populations.
### Table 1: Characteristics of 43203 and 43205 Zip Codes

<table>
<thead>
<tr>
<th>Zip Code</th>
<th>43203</th>
<th>43205</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>10,573</td>
<td>14,157</td>
</tr>
<tr>
<td>% White</td>
<td>8.2%</td>
<td>13.7%</td>
</tr>
<tr>
<td>% African American</td>
<td>86%</td>
<td>82.1%</td>
</tr>
<tr>
<td>% Asian</td>
<td>.6%</td>
<td>.5%</td>
</tr>
<tr>
<td>% Hispanic or Latino</td>
<td>1.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Median Income</td>
<td>21,607</td>
<td>24,495</td>
</tr>
<tr>
<td>% in Poverty</td>
<td>39%</td>
<td>34.6%</td>
</tr>
<tr>
<td>Not a High School Graduate</td>
<td>32%</td>
<td>30%</td>
</tr>
<tr>
<td>At Least High School</td>
<td>67%</td>
<td>70%</td>
</tr>
<tr>
<td>Hospitals in Zip Code</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Medicaid Assistance</td>
<td>36.5%</td>
<td>30.3%</td>
</tr>
</tbody>
</table>

The 43203 and 43205 zip codes are part of the Near East Side of Columbus. Although this neighborhood was once a thriving, predominantly African American and Jewish business district and residential community, today’s Near East Side typifies the American urban blight experience. Significant portions of the Near East have high poverty rates, large public housing developments, low household incomes, poor health conditions, and low residential owner occupancy rates. The City of Columbus is in the process of revitalizing a portion of the neighborhood with the hope of future development following. The lynchpin of these efforts is the King-Lincoln District in the central portion of the neighborhood where small business growth is occurring along with the
recent re-opening of the Lincoln Theatre (a historically significant African American performance hall).

The Near East has been identified as a Medically Underserved Area by the U.S. Department of Health and Human Services, meaning the health needs of the area’s population are not being met. The Near East is home to a handful of low-cost healthcare clinics with long waiting times and overburdened staff and University East Medical Center run by The Ohio State University. The University East emergency room sees many Near East residents for non-emergency healthcare. The 2002 closing of The Billie Brown Jones Health Center in the Mt. Vernon Avenue Plaza (northern portion of the Near East) has long been a source of contention in the neighborhood. Residents and local leaders cite the moving of this facility to the southern portion of the Near East as a major barrier to healthcare. For lower income Near East residents, the main sources of primary care are free or low cost clinics, mobile health units, or health fairs at local community centers. Given the perceived lack of quality care at these locations, residents and local leaders often suggest a further marginalization from healthcare facilities. Thus, the Near East Side and the 43203/43205 zip codes offer an interesting study site for research about healthcare accessibility due to the area’s poor socio-economic conditions and its limited number of healthcare providers.

Research Methods

Research Method 1: In-Depth Interviews about Local Healthcare Accessibility

The first step of the research design includes in-depth interviews with individuals knowledgeable of healthcare accessibility and quality-of-care in the study area. I met
with doctors, nursing staff, hospital administrators, Columbus Public Health officials and local community organization leaders to assess their specific opinions about healthcare accessibility and quality-of-care. These interviews helped ensure the content validity and completeness of the quality-of-care in-depth interview questions (discussed below and included in Appendix A).

Patricia Dietsch and Sean Huber of Columbus Public Health served as initial contacts for the work. They repeatedly mentioned that healthcare access within the study area was poor. They noted the lack of hospitals and the lack of high quality care at local clinics. In their words, the needs of local residents are not being met. Initial discussions with these two contacts suggested that there was an interest at the organizational level in examining the particular factors impacting quality-of-care and individual healthcare experiences for Near East residents.

Meetings with leaders at the OSU African American and African Studies (AAAS) Community Extension Center also helped formulate the research objectives. Dr. Judson Jeffries (Center Director) and Carla Wilks (Program Coordinator) were involved in planning the research design and survey questions. They noted a dire need for studying healthcare access inequalities throughout the Mt. Vernon Avenue area (a predominantly African American community at the heart of the 43203 zip code). Early on, they expressed interest that the work could lead to greater quality of life, improved health outcomes and additional collaborations that could benefit community residents.
Research Method 2: In-Depth Interviews with Local Residents

The second research method implements a smaller in-depth survey with 65 local residents to assess their quality-of-care and individual healthcare experiences with local providers. The in-depth interview questions are compiled from a careful reading of the healthcare and patient satisfaction literatures. The first section of the survey focuses on demographics of study participants. These questions are taken directly from the 2006 Behavioral Risk Factor Surveillance System (BRFSS) survey. The questions related to accessibility and transportation are compiled from careful readings of the health geography and GIS accessibility literatures. The remaining questions concerning the various dimensions of patient satisfaction are borrowed from a 1999 Department of Defense survey of patient satisfaction with U.S. veterans and from the 2007 Consumer Assessment of Healthcare Providers and Systems (CAHPS) developed by the United States Department of Health and Human Services. While the majority of questions are taken directly (or slightly modified) from these surveys, various other sources and surveys discuss similar dimensions of patient satisfaction.

Face to face in-depth interviews were chosen as the main method of data collection for their advantages over mail and telephone surveys. One advantage of the face to face approach is that interviewers can help build some level of trust with the participant in order to gauge their true feelings about patient satisfaction. The face to face approach also offers the opportunity for an increased response rate, since confusing questions and wording can be explained by the interviewer (as opposed to being ignored in telephone and mail surveys) (Moutoussis 2000). Given that this survey includes a number of open-ended questions about satisfaction, the face to face approach offers the
best method for further probing of responses. AAAS researchers noted that in the past mail surveys had poor return rates due to high illiteracy rates throughout the study area, a moving population that led to high “return to sender” rates of mailed surveys, and a community skepticism that viewed university researchers as searching for “lab rats.”

Participants for the study were recruited through fliers containing study details and contact information. To be eligible for the study, a resident had to live in the 43203 or 43205 zip codes, be 18 years of age or older, and have been to a primary healthcare provider in the past year. Fliers were posted in community gathering places such as a local library, local churches, a community block party, community centers, and public housing lobbies. In addition, a local nurse handed out fliers to residents at free health screenings. Interviews lasted between 30 and 45 minutes on average, and were conducted in a participant’s home or at a community gathering place. Participants were asked to identify their preferred meeting location in order to make them most comfortable. The majority of interviews took place in participants’ homes. Home interviews were particularly useful given the busy schedules of participants as well as the limited mobility of many older residents. Interviewing participants at a healthcare facility was also considered; however, this option was dismissed since biases might occur due to the location of survey completion and due to the fact that unhappy people may no longer attend the facility. Participants were compensated with a $20 gift card to a local grocery store or gas station for their time and knowledge. Interviews were audio recorded with permission of the participant and transcribed.

In the end 65 residents (24 males and 41 females) shared their time and knowledge about healthcare accessibility and their healthcare experiences. Seven
participants identified as White or Caucasian (10.8%), 52 as African American or Black (80%), and 6 as other (9.2%). While this study has a small sample given the time consuming, in-depth nature of the interviews, the survey demographic is similar to the population of the Near East. According to 2000 US Census population estimates, the area is about 12% White, 83% African American and 5% other. Of the 65 residents interviewed, 10 are employed, 25 are unemployed, 16 are retired and 4 are categorized as other. Forty four of the 65 residents interviewed earn less than $10,000 a year from all income sources.

Data Collection Steps for Research Method 2

Calculating Street Network Distance Measures of Accessibility

The first step in Research Method 2 takes the geocoded locations of all participants and creates a street network distance measure from home to the healthcare facility identified by each participant as the one visited most often for primary care. Later in Chapter 5, these street network distance measures are merged and compared with the satisfaction-adjusted distance measures to offer a new conceptualization of healthcare accessibility.

Calculating Individual Scores for each Dimension of Quality Care

Results of Likert scale questions from in-depth interviews are collected, organized and quantified in SPSS for creation of individual quality care scores. Originally it was hoped that these scores could be weighted by each dimension of quality care. However, during the interviews it became apparent that participants, when asked to rank the
importance of each individual dimension of quality care, interpreted the question in many different ways that did not allow for the desired weightings to be applied.

Each dimension of patient satisfaction has a number of questions related to it. For example, participants are asked to rank their satisfaction of communication skills and interaction with their primary provider. Participants are given 7 possibilities on a Likert scale to rank their satisfaction in each dimension (see Table 2 below).

<table>
<thead>
<tr>
<th>Ranking 1 (Lowest)</th>
<th>Completely unsatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranking 2</td>
<td>Mostly unsatisfied</td>
</tr>
<tr>
<td>Ranking 3</td>
<td>Somewhat unsatisfied</td>
</tr>
<tr>
<td>Ranking 4</td>
<td>No opinion/neutral</td>
</tr>
<tr>
<td>Ranking 5</td>
<td>Somewhat satisfied</td>
</tr>
<tr>
<td>Ranking 6</td>
<td>Mostly satisfied</td>
</tr>
<tr>
<td>Ranking 7 (Highest)</td>
<td>Completely satisfied</td>
</tr>
</tbody>
</table>

To calculate the score for each individual dimension, the Likert scale questions are converted to numbers (1-7). Equation 1 below summarizes the method for calculating scores for each individual dimension. Scores for each question in the dimension are summed and then divided by the total possible score of all questions in the dimension. The results for each dimension are then transformed to a 1-100 scale for analysis similar to the quality of outpatient care measures calculated by Lawthers et al. 1999.
Equation 1: Calculating Satisfaction Scores

\[
(x) = \text{Individual Dimension Score} = \left[ \frac{(s_1 + s_2 + s_3 + \ldots + s_n)}{7n} \right] \times 100
\]

Where:
- \( s_i \) = Score for dimension question \( i \)
- \( n \) = Total number of questions for dimension
- \( x \) = Individual dimension score

**Calculating a Composite Quality Care Score for Individuals**

The composite quality care score for each individual is calculated by combining all averages for each dimension and then dividing by the total number of dimensions ranked by the participant. Equation 2 below summarizes how the composite quality score is calculated. For example, if a person ranks and completes questions related to six dimensions of quality care, then their composite quality care score comes from the average of all six dimensions. This composite quality care score is based on satisfaction questions, including some about distance and access. However, conventional geographic measures of accessibility at this point are largely absent from the composite quality care score. Later in the research process (Research Method 3), individual quality care scores are integrated with street network distance measures to create new measures of satisfaction-adjusted distance.
Equation 2: Calculating Composite Quality Scores

\[
(q) = \frac{\text{Individual composite quality score} = \left( x_1 + x_2 + x_3 + \ldots + x_n \right)}{y}
\]

Where:
- \(x_i\) = Individual dimension score
- \(y\) = Total completed dimensions by participant
- \(q\) = Individual composite quality score

Qualitative Analysis of Open-ended Survey Questions

In addition to analysis of the Likert scale questions, open-ended questions help to further understand participants’ individual healthcare experiences. All responses to open-ended questions are transcribed and coded in NVivo, a qualitative data analysis package. Interview transcripts are analyzed to identify important concepts and themes pertinent to the major research questions. Thematic analysis of the interview codes allows for counting the instances of a particular theme and for identifying qualitative data representative of that theme. Analysis of qualitative data in NVivo helps to avoid one major criticism of qualitative research in general. Qualitative researchers have been criticized for their over-reliance on finding the right quote to back up their main hypothesis or preconceived notions about the research topic without documenting the number of times a particular quote or theme occurred (Baxter 1997; Crang 2002).

The themes and related quotes gathered from coding and content analysis are used in the final step of the research process to further elaborate on an alternative landscape of healthcare accessibility based on knowledge gained from residents in the study area. This qualitative data is used to triangulate results obtained from the satisfaction-adjusted
distance measures and to offer a new way of thinking about healthcare accessibility. While responses to open-ended questions are not directly included in the satisfaction-adjusted distance GIS measures, they can be included in the critical GIS component as ancillary data in hyperlinked text for each participant. Combining multiple data sources in this way helps further understand the reasoning behind peoples’ overall rankings of quality care.

Research Method 3: Creating Satisfaction-Adjusted (SAD) Measures of Healthcare Accessibility

Combining data and results from Method 2, Research Method 3 provides a new conceptualization of accessibility that integrates individual quality care scores with street network distances to facilities. This new conceptualization seeks to improve understandings of accessibility by including the multiple dimensions of patient satisfaction in GIS measures of healthcare accessibility. Such results are discussed in Chapter 5.

Street network distance measures along with composite quality care scores from Method 2 are integrated into a new measure that uses a psychological distance from provider to patient. The main premise behind the satisfaction-adjusted distance (SAD) measure of accessibility is that a psychological distance (to account for perceptions of quality-of care received) is added to an individual’s actual street network distance when the individual’s composite quality care score is lower than the mean of all quality care scores in the study area. Conversely, psychological distance is subtracted from an individual’s actual street network distance when the individual’s composite quality care
score is above the mean quality care score. Thus, an individual who is 2 miles from a facility and has a composite quality score of 55 percent would be farther away from that facility than a person who is 4 miles with a composite quality care score of 90 percent.

The rationale for including a psychological distance based upon an individual’s satisfaction with healthcare services is born out of conversations with local healthcare leaders and local residents, and our in-depth interview data. Residents suggest that while a variety of healthcare facilities are located in close proximity to the Near East, many of these facilities are perceived to offer substandard care. Thus, conventional GIS street distance measures to these facilities will highlight good accessibility to healthcare in this urban area, yet such measures will mask the poor quality-of-care many residents experience at these facilities.

Additionally, satisfaction-adjusted measures are useful given that some residents suggest they feel even more marginalized from healthcare since they are located so far from healthcare facilities that are perceived as offering higher quality care. These two important points, learned from local conversations, suggest that a perceived lack of quality care at many nearby facilities may in fact lead residents to feel even farther from healthcare than they are in reality. Equation 3 below summarizes how individual SAD measures of accessibility are calculated.

Individual composite quality care scores \((q_i)\) are compared to the mean of quality care scores for all 65 participants \((m)\). Each individual’s composite quality care score \((q_i)\) and the mean of quality care scores \((m)\) are used in the calculation of psychological distance from home to healthcare facility. This psychological distance accounts for the
role of patient satisfaction and individual quality-of-care experiences in measures of healthcare accessibility.

Working through an example may help to clarify the SAD measure. Assume the mean of all quality care scores is determined to be 70 percent for all surveyed individuals in the study area. A person with a composite quality score of 50 percent would psychologically move farther away from a facility. A person with a composite score of 90 percent would be psychologically closer to a facility.

In the satisfaction-adjusted distance measure, I propose a psychological distance adjustment of 0.1 miles to account for individual satisfaction with his/her provider. This 0.1 mile distance proposes that for every 1% deviation from the mean of all individual composite quality care scores a participant will have a psychological distance of 0.1 miles added to or subtracted from her/his street network distance. Thus, if a person is less satisfied with her/his quality of care than the average person then s/he will move a psychological distance of 0.1 miles farther from her/his healthcare facility. If a person is more satisfied than the average person then s/he will move a psychological distance of 0.1 miles closer to her/his healthcare facility. By adjusting street network distance in this way, individual healthcare experiences are included in the conceptualization of healthcare accessibility. In so doing, patient satisfaction with quality-of-care is placed at the forefront of the satisfaction-adjusted distance GIS measure. Using a 0.1 mile adjustment appears reasonable given the urban study site with many street routes to healthcare, and given that this study is the first attempt I have found in the literature to adjust street network distance to account for in-depth interview data about quality-of-care experiences.
Equation 3: Calculating Satisfaction-Adjusted Distance

\[
\text{Satisfaction-adjusted distance (SAD) = 0.1} \times (m - q_i) + d_i
\]

where:  
- \( m \) = Mean of quality care scores for all participants  
- \( q_i \) = Individual composite quality score  
- \( d_i \) = Street distance from provider to patient

Continuing the example discussed above and using the equation for satisfaction-adjusted distance (Equation 3), a person with a composite quality score of 55 percent would be 15 points below the mean, thus adding a psychological distance of 1.5 miles to his/her healthcare facility. If the individual was 4.5 miles from a facility using conventional street network distance measures, the person would now be 6.0 miles away using the SAD measure with psychological distance. Assume another individual also lived 4.5 miles from a facility, but had a composite score of 90 percent. This person would be 20 points above the mean, thus subtracting a psychological distance of 2.0 miles from his/her street network distance to a healthcare provider. This individual would now be a psychological distance of 2.5 miles from a facility as opposed to 4.5 miles using the conventional street network measure.

As conventional GIS measures of accessibility do not adjust for satisfaction with quality-of-care, the new SAD conceptualization has no foundation from which to build a relationship between actual geographic distance and psychological distance based on individual quality-of-care experiences. However, from a careful reading of the accessibility literature and from the fieldwork data it becomes apparent that adjustments should be made for quality-of-care in measures of accessibility and to account for the
perceived psychological distances individuals have to facilities that offer lower quality-of-care. Such adjustments can identify important differences in access to facilities with high quality-of-care between and within different social, economic and racial groups. It is expected that since the calculations of satisfaction-adjusted distance are conceptually new, they may be subject to further refinement as they are studied in future applications of accessibility. Some suggestions for future modifications are made in Chapter 8.

Research Method 4: Toward a Critical GIS Analysis of Satisfaction-Adjusted Distance

While conventional measures of accessibility show variations in access across a geographical area, these measures do not show the variations in quality-of-care experienced by individuals. As noted in Chapter 5 of this dissertation, the satisfaction-adjusted distance measure can show a more nuanced and problematic distribution of access to quality care across the study area. For these reasons critical GIS mapping and analysis becomes a powerful tool for visualizing and comparing conventional measures with the newly constructed SAD measures. Such an exercise can show a dramatic difference in accessibility to facilities that offer high quality-of-care within and between different social, economic and racial groups.

SAD measures from Method 3 are compared with conventional street network distance measures to identify significant spatial differences and inequalities within the study area. From this comparison the importance of combining quality-of-care data from individual and GIS street network distance measures is revealed. Furthermore, this step shows the importance of experiential data collected from local residents to inform and build new knowledge about a particular problem such as healthcare accessibility.
Additionally, the themes and related quotes gathered from coding and content analysis can be used as hyperlinked text to further elaborate on healthcare accessibility based on knowledge gained from residents in the study area. This information can help highlight the differences between the observed geographies of healthcare identified through conventional GIS measures of accessibility and the everyday experiences of individuals as they attempt to access local healthcare facilities that offer high quality-of-care. Thus, Research Method 4 ties together various data sources and research methods to show how this new conceptualization of accessibility improves existing knowledge, offers alternative and silenced representations of healthcare accessibility, and exposes the shortcomings of conventional distance-based measures.

Research Method 5: Toward a Broader Community-Based Agenda

One of the major goals of this dissertation research is to contribute to a broader community-based research agenda that exposes the poor healthcare experiences of some Near East Side residents and leads to positive community change. Through interactions with different community leaders and organizations as part of the healthcare piece of this work, a variety of other community-based projects developed. These experiences are discussed in Chapter 7. The experiences are highlighted by Geography 580S: Serving the Community with Cartography; the Columbus Food Access Network; and a historical mapping and youth choir project.

Geography 580S, the first-ever OSU geography service learning course taught in Winter 2009, had 35 undergraduates work with community organizations and residents to map accessibility to basic services such as food pantries, stores that sold healthy fruits
and vegetables, after-school activities for children, and employment agencies. Additionally, students created maps highlighting historical points of pride in the neighborhood. This related community-based pedagogical component is important to discuss in this dissertation because of its focus on improving the quality of life in the Near East Side, and because it highlights how the dual roles of academics (researchers and community advocates) can lead to additional unexpected collaborative opportunities that push for social change.

The Columbus Food Access Network is a community-university partnership where I, other students, community residents and local youth discuss and map urban gardens. Local urban gardens are designed to improve the lack of food accessibility in the Near East Side. Maps of these gardens are useful to residents as they search for affordable and accessible food in their local communities.

A final community-based project discussed in Chapter 7 involves a community-university collaboration that attempts to create youth learning modules focused on maps of neighborhood history. The maps are needed for educating local youth about the area’s rich history and will be used by local youth as they develop a neighborhood choir.

**Conclusions and Importance of Proposed Research**

Certain urban areas are portrayed as having adequate access when in fact many residents may feel psychologically farther from facilities that offer high quality-of-care. Conventional distance-based measures in GIS may miss subtle variations in access to high quality care within geographic areas and within and between different, racial, ethnic, gender, and socio-economic groups.
The satisfaction-adjusted distance measures introduced in this research provide a more integrated framework for capturing the diversity of individual healthcare experiences in particular geographic study areas such as the Near East Side of Columbus. Mapping and visualizing an individual’s accessibility based on a psychological distance developed from a fusion of individual quality care scores and street network distance offers a unique and alternative opportunity for exposing hidden silences in the geographic landscape of accessibility to high quality healthcare facilities. By exposing these silences and offering alternative representations of healthcare accessibility, research such as this can contribute to a broader community-based agenda in which knowledge collected from residents and theory grounded in fieldwork data can help make a case for policy changes related to the distribution of healthcare facilities. Such community-based work can also lead to additional collaborative research and pedagogical opportunities that share similar goals of improving quality of life and contributing to positive social change.
CHAPTER 5: TOWARD A HEALTHCARE ACCESSIBILITY BASED ON SATISFACTION-ADJUSTED DISTANCE

Introduction

As noted in Chapter 1, many GIS researchers equate healthcare accessibility with distance (i.e. the closer one is to a facility, the more accessible s/he is) without regard for the quality-of-care experienced by the individual. In so doing most GIS distance-based approaches fail to substantively explore the multiple dimensions of accessibility (like acceptability or satisfaction with services) in their conceptualizations of distance from individual to healthcare provider. Such limitations in conventional GIS lead to misleading landscapes of healthcare accessibility particularly in lower income, central city communities such as the Near East Side of Columbus. Often, conventional GIS measures reveal adequate accessibility to healthcare services in lower income communities given the relatively short travel distances and travel times to nearby healthcare clinics. However, conventional measures fail to explicitly account for: 1) the varied individual experiences of quality-of-care perceived by individuals accessing nearby healthcare providers and 2) the added psychological distances to high quality healthcare facilities many lower income residents experience as they access care.

The results presented in this chapter demonstrate a novel approach for incorporating quality-of-care and patient satisfaction data in GIS to measure healthcare accessibility and for considering psychological distance to healthcare. The concept of
satisfaction-adjusted distance (SAD), first introduced in Chapter 4 and discussed in further detail below, adjusts street network distance to account for the added psychological distance many residents feel as they access healthcare in lower income communities. Using the satisfaction-adjusted distance measure, I add individual experiences of quality-of-care as a component of the overall evaluation of access in Geographic Information Systems. In this way, the SAD measure utilizes a health geographies approach to reveal alternative landscapes of healthcare accessibility that better characterize the plight of lower income residents as they search for access to high quality healthcare experiences.

In section one of this chapter, I discuss how satisfaction data can be brought into healthcare accessibility studies using mixed-methods. In section two, I introduce Likert scale questions about quality-of-care and satisfaction used to formulate the satisfaction-adjusted distance measure. I reveal important differences between the conventional GIS street network distance measure and the satisfaction-adjusted distance measure in section three. In section four, I offer some interpretations of what the satisfaction-adjusted distance measure means for the study area. I conclude with a discussion about the added value of satisfaction-adjusted distance in the healthcare accessibility literature.

Section 1: Bringing Satisfaction into Healthcare Accessibility through Mixed-Methods

It is important to remember that the concept of accessibility is one that is multi-dimensional. Cromley and McLafferty (2002) reiterate the five dimensions to accessibility (availability, accessibility, accommodation, affordability, and acceptability)
outlined by Penchansky and Thomas in 1981. The distance-based focus and lack of mixed-method approaches driving conventional GIS measures of accessibility limit the opportunity to include a substantive analysis of the multiple dimensions of accessibility, including patient satisfaction or acceptability of services. Further, the medical geography perspective (discussed in chapter 2) driving most conventional GIS research limits analysis of the multiple dimensions of satisfaction from individual healthcare experiences. By utilizing a health geographies perspective, geographers can introduce a variety of conceptual frameworks and methodologies for improving studies of healthcare accessibility and for exploring the multiple processes shaping individual healthcare experiences.

Recall from the discussion in Chapter 2 that much of the conventional GIS research on healthcare accessibility still utilizes a medical geography perspective focusing on distance between provider and patient, travel times to facilities, and the location-allocation of facilities (Cromley and McLafferty 2002; Brabyn 2004; Kwan 2004; Higgs 2005). Such an emphasis has limited the opportunity for GIS researchers to discuss the multiple dimensions of access from an individual’s perspective, and in some cases has led to misleading landscapes of accessibility in lower income communities.

A GIS research direction with a more explicit focus on mixed-methods and a health geographies perspective, as I argue below, can include individual experiences with healthcare and offer a multi-dimensional approach to studying accessibility as outlined by Penchansky and Thomas (1981). These qualities make mixed-method approaches ideal for expanding GIS measures of healthcare accessibility.
My mixed-method rationale rests on the concept of hybridity introduced by Kwan (2004). Kwan notes that in much geographic research (GIS work included), quantitative/analytical approaches are often perceived as incompatible with qualitative/critical approaches, and there is a failure in recognizing the complementarity of seemingly incompatible perspectives. She suggests hybridity as a way to apply innovative uses of GIS and to bridge seemingly incompatible paradigms.

In following the call made by Kwan for more hybrid approaches, I offer a mixed-method approach to show how satisfaction-adjusted distance measures of accessibility can merge the strengths of existing GIS accessibility measures that focus mainly on geographic distance, and data from in-depth interviews about individual healthcare experiences. The satisfaction-adjusted distance conceptualization focuses on accessibility from a person-centered health geographies perspective in which quantitative and qualitative data are combined to uncover rich understandings of accessibility and individual healthcare experiences.

My conceptualization for studying healthcare accessibility through satisfaction-adjusted distance was first introduced in Chapter 2 (see Figure 3). Recall that four major groups of factors influence the healthcare accessibility experience. Geographic factors, individual factors, perceptual factors, and experiential factors all play a role in defining access to quality healthcare. However, as the conceptual framework in Chapter 2 shows, only a few of these factors are currently examined in conventional GIS distance-based accessibility measures. Dimensions of satisfaction (or experiential factors) are noticeably absent from most conventional GIS studies of accessibility, yet these factors are important as many healthcare providers move toward a more client-centered approach to
care (Caan, Rutherford et al. 1996; Williams, Coyle et al. 1998; Moutoussis 2000; Akinci and Sinay 2003; Pollock 2004). Seven dimensions affect overall patient satisfaction and quality-of-care experiences. These dimensions include: 1) geographic access to nearest primary provider, 2) access to transportation, 3) ability to get care when needed with minimal waiting times, 4) interaction with primary care provider, 5) interaction with support staff, 6) information about medications and side effects, and 7) individual factors such as demographics, overall rating of general health and number of visits to provider.

This work focuses explicitly on the multiple dimensions of satisfaction by including a distance adjustment in GIS based on one’s experiential factors and one’s rankings of satisfaction. The satisfaction-adjusted distance measure, as I demonstrate below, shifts the focus of GIS analysis toward an individual’s experiences with healthcare and rankings of quality-of-care at particular facilities. Further, the measure accounts for the added psychological distance many lower income residents experience as they search for facilities that provide high quality healthcare experiences. In so doing, the new SAD measure merges the strengths of geographic distance-based components found in the healthcare accessibility literature and the focus on individual experiences found in the health geographies literature. With satisfaction-adjusted distance based on data from mixed-methods, I present an alternative landscape of accessibility in lower income communities.

**Section 2: Understanding Individual Satisfaction with Quality-of-Care**

I integrate quantitative and qualitative data about individual healthcare experiences from in-depth interviews with conventional GIS street network measures of
accessibility. I extend GIS street network distance measures by adding or subtracting a psychological distance to healthcare based on an individual’s satisfaction with his/her healthcare experiences. The specific methods, discussed in greater detail in Chapter 4, include: analysis of street network distance between healthcare facility and participant home, analysis of 65 quality-of-care in-depth interviews, and a new psychological distance-based analysis of healthcare accessibility derived from the fieldwork data. This new psychological distance measure combines conventional street network distance and Likert scale questions about quality-of-care experiences.

To gain a better understanding of quality-of-care and satisfaction with healthcare experiences, I asked participants about their satisfaction with the primary provider, nursing support staff and receptionists. In addition, I asked participants about their satisfaction with medications, treatment plans and waiting times. Questions related to satisfaction were ranked using a seven point Likert scale. The full list of questions is included in Appendix A. Some example questions included: What do you feel your primary provider does well? What does he or she not do well? How do you feel about the listening skills of the provider? Why did you rank your healthcare the way you did?

A variety of individual differences across people and across the dimensions are revealed when examining the responses for each satisfaction dimension. Much of the data are positively skewed toward higher levels of satisfaction. Such a trend is consistent with other satisfaction studies, which on average demonstrate positively skewed rankings of quality care and patient satisfaction.

To create the new satisfaction-adjusted distance measure, I first geocode the home locations of all 65 participants and the healthcare facility identified by each participant as
the one he/she visits most often. I then quantify street network distances from home to healthcare facility for each participant in GIS. I adjust conventional street network distance based upon the extent to which a participant is satisfied with the quality-of-care s/he receives from her/his primary healthcare facility. The SAD measure adds or subtracts a psychological distance to an individual’s healthcare facility based upon her/his satisfaction with care. The satisfaction-adjusted (SAD) measure takes the following form:

\[
\text{Satisfaction-adjusted distance (SAD)} = 0.1 \times (m - q_i) + d_i
\]

where:
- \( m \) = Mean of quality care scores for all participants
- \( q_i \) = Individual composite quality score
- \( d_i \) = Street distance from provider to patient

Each participant’s composite quality care score \( (q_i) \) sums the rankings for each patient satisfaction dimension (waiting times; distance; primary provider; nursing support staff; receptionists; and medications, side effects and treatment plans). To calculate the ranking for each individual patient satisfaction dimension, the Likert scale questions are converted to numbers (1-7). Scores for each question in the dimension are summed and then divided by the total possible score of all questions in the dimension. The results for each dimension are then transformed to a 1-100 scale for analysis (similar to the quality of outpatient care measures calculated by Lawthers et al. [1999]). Thus, an average of
responses for each dimension is calculated for inclusion in the measure. After calculating the average for each satisfaction dimension, the composite quality care score is calculated by combining all averages for each dimension and dividing by the total number of dimensions ranked by the individual.

Individual composite quality care scores ($q_i$) are then compared to the mean of quality care scores for all 65 participants ($m$). Each individual’s composite quality care score ($q_i$) and the mean of quality care scores ($m$) are used in the calculation of psychological distance from home to healthcare facility. This psychological distance accounts for the role of patient satisfaction and individual quality-of-care experiences in measures of healthcare accessibility.

In the satisfaction-adjusted measure, I propose a distance adjustment of 0.1 miles. This 0.1 mile distance suggests that for every 1% deviation from the mean of all individual composite quality care scores a participant will have a psychological distance of 0.1 miles added to or subtracted from her/his street network distance. Thus, if a person is less satisfied with the quality-of-care than the average person then s/he will move a psychological distance of 0.1 miles farther from her/his healthcare facility. If a person is more satisfied than the average person then s/he will move a psychological distance of 0.1 miles closer to her/his healthcare facility.

Recall from the earlier discussion in chapter four the rationale for including a psychological distance based upon an individual’s satisfaction with healthcare services is borne out of conversations with local healthcare leaders and local residents and our in-depth interview data. Residents suggest that while a variety of healthcare facilities are located in close proximity to the Near East, many of these facilities are perceived to offer
substandard care. Thus, conventional GIS street distance measures of access to these facilities highlight adequate accessibility to healthcare in this urban area, yet mask the poor quality-of-care many residents experience at these facilities.

A closer look at the in-depth interview data (described in detail in Chapter 6) also suggests that a psychological distance-based measure may be useful to account for perceived differences in quality-of-care. As part of our in-depth interviews, residents were asked to assess how far they felt they were from their healthcare facility. The response choices are listed in Table 3.

<table>
<thead>
<tr>
<th>Category</th>
<th>Perceived Access to Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Up to 15 minutes</td>
</tr>
<tr>
<td>Category 2</td>
<td>16 to 30 minutes</td>
</tr>
<tr>
<td>Category 3</td>
<td>31 to 45 minutes</td>
</tr>
<tr>
<td>Category 4</td>
<td>46 minutes to 1 hour</td>
</tr>
<tr>
<td>Category 5</td>
<td>More than 1 hour</td>
</tr>
<tr>
<td>Category 6</td>
<td>I am unsure/ I don't know</td>
</tr>
</tbody>
</table>

31 of 65 participants overestimate the time it takes them to get to a healthcare facility. 14 of these 31 participants had below average quality-of-care rankings. 17 of
these 31 participants had above average quality-of-care rankings. Interestingly of the 14 participants who had below average quality-of-care rankings, 10 of these participants (71.4%) significantly overestimated the time it takes to get to their healthcare facility. In this case, significant overestimation means 2 or more categories from an individual’s actual access to care (i.e. if an individual was actually 10 minutes away [category 1], s/he estimated it to be 31 or more minutes away [categories 3-5]). Even more strikingly, of the 17 participants with above average quality-of-care experiences, only 3 (17.6%) significantly overestimated the time it takes to get to their healthcare facility. These overestimations coupled with local conversations about quality-of-care experiences suggest that conceptualizations of accessibility could benefit from adjusting for satisfaction and quality-of-care experiences.

Results of the satisfaction-adjusted distance measure are discussed in the next section. The next section also includes a discussion comparing satisfaction-adjusted distance with the conventional street network distance measure to uncover important differences between the two measures in the study area.

**Section 3: Representing Healthcare Accessibility with Satisfaction-Adjusted Distance**

In this section I first work through an individual example of accessibility for an African American male in the Near East Side of Columbus. I then present the results of satisfaction-adjusted distance and compare these results to the conventional street network distance measure.
An Example of Healthcare Accessibility Based on Satisfaction-Adjusted Distance

In Figure 5 below, the potential accessibility of an African American male is mapped. The black circle represents the man’s home. The purple squares represent health facilities near his home. The red outline represents a one mile street network buffer around his home location. This potential accessibility measure, arguably the most common measure of accessibility, considers only the number of facilities within the street network buffer around this participant’s home. From the buffer, it can be concluded that five healthcare facilities are within one mile of this individual’s home. Notice though that the actual facility this individual visits (determined from his in-depth interview) is outside the 1 mile buffer in the southeastern corner of the map. Thus, the measure fails to reveal this individual’s actual accessibility. Also, the measure is unable to account for satisfaction with quality-of-care and the added psychological distance to facilities offering high quality care.
Figure 6 presents the same individual’s home location and healthcare clinics, only this time as a measure of revealed accessibility. The black line represents the street network which this individual can follow to gain access to his healthcare provider, which is 2.4 miles from his home location when driving his personally owned vehicle. Note though that this measure, much like the potential measure of accessibility, fails to account for the quality-of-care at the given facility and fails to adjust for this individual’s healthcare experiences.
To account for the quality-of-care experience of this individual and to adjust his street network accessibility, the satisfaction-adjusted distance measure is applied. Recall from the earlier discussion that Likert scale questions about satisfaction are used to create a composite quality care score ($q_1$) for each individual. This score is compared with the average quality care score ($m$) of the 65 individuals interviewed in the study area.

The sample of 65 individuals has an average quality care score of 80.17 (out of 100). The African American male included in the previous two figures has a composite quality care score of 68.52%. Thus, he is much less satisfied than average with his healthcare experience (11.65% below the mean). Based on the 0.1 mile satisfaction adjustment in the satisfaction-adjusted distance equation, this individual has an added psychological distance of 1.165 miles to his healthcare facility. His satisfaction-adjusted
distance is 3.565 miles compared to his original street network distance of 2.4 miles.

With this adjustment, the SAD measure accounts for the added psychological distance this individual experiences as he accesses a facility that he feels does not offer a high quality healthcare experience. Figure 7 includes the new location of his healthcare facility accounting for the perceived limitations in quality-of-care based on his satisfaction-adjusted distance. Having worked through an example, I now turn to a discussion of key findings from this new accessibility measure.

Figure 7: Satisfaction-Adjusted Distance Accessibility for an African American Male
Results of Satisfaction-Adjusted Distance

The conventional street network distance measure reveals an average street network distance of 2.61 miles from home to primary healthcare facility for the 65 participants. Females (n=41) are farther from healthcare at an average distance of 2.99 miles compared to males (n=24) at 1.97 miles. Based on the satisfaction-adjusted distance measure, 27 (13 males and 14 females) of the 65 participants are farther from home to healthcare facility than the conventional street network distance measure suggests. Interestingly, a larger percentage of males are farther away from healthcare than females when adjusting for satisfaction with quality-of-care. 54.17% of men (13 of 24) surveyed are farther from their healthcare when applying the SAD measure rather than the street distance measure. 34.15% of women (14 of 41) surveyed are farther using the SAD measure. This finding suggests a reversal of the gender trend in conventional GIS-based research where women are typically farther than men from urban services such as healthcare.

Using satisfaction-adjusted distance also reveals that among participants with lower than average quality-of-care rankings, males on average are farther from quality healthcare than females. Males (n=13) are a psychological distance of 4.00 miles to healthcare based on the SAD measure, while females (n=14) have an average psychological distance of 3.27 miles.

These findings suggest a dramatic and important difference between the SAD measure and the conventional street network distance measure. Of participants with lower quality-of-care rankings in the study area, the differences between the two measures put males (n=13) on average a psychological distance of 1.71 miles farther
away from their healthcare facility than conventional street distance measures (SAD measure of 4.0 miles; street distance measure of 2.29 miles). In addition, females (n=14) are a psychological distance of 1.10 miles farther from their healthcare facility using the SAD measure (3.27 miles) compared to their street distance measure of 2.17 miles.

Taking the entire sample (n=65) of participants in the study area (rather than focusing solely on the subset of individuals which fall below the average level of satisfaction) confirms the satisfaction-adjusted distance measure as a more nuanced measure explicitly focused on patient satisfaction. When looking at the entire sample, one sees an interesting trend related to gender and access to quality care. Males (n=24) are a psychological distance of 0.47 miles farther from healthcare compared to street distance measures. Females (n=41) are now 0.28 miles closer to healthcare compared to street distance measures. Using street network distance, men are on average 1.97 miles away from healthcare, while their SAD measure puts them 2.44 miles away from care. The opposite effect is true for women in this study. Using street network distance, women are 2.99 miles on average away from healthcare. Their satisfaction-adjusted distance puts them on average 2.71 miles away from care and moves them closer to healthcare when considering psychological distance. This finding suggests that men are having more difficulty than women accessing quality healthcare, and men are having an additional psychological distance to healthcare in the study area. This finding suggests that important gender differences in accessibility to quality, low-cost healthcare facilities are being masked by conventional GIS measures that rely solely on street network distances.
An interesting trend related to employment status is also revealed through satisfaction-adjusted distance. When considering only those individuals with lower than average quality care scores (a farther satisfaction-adjusted distance from healthcare) there are clear differences between those that are employed and unemployed. Using the SAD measure, 8 unemployed males are farther from healthcare, while only 3 employed males are farther from care. A similar trend is revealed for women when using satisfaction-adjusted distance. Nine unemployed women are farther from care using satisfaction-adjusted distance, while only 3 employed women are farther from care. This finding suggests that satisfaction-adjusted distance measures are particularly useful for representing healthcare accessibility in lower income communities given that many residents in these neighborhoods are unemployed or underemployed. Based on this result, it appears that the SAD measure can uncover important differences in quality-of-care and accessibility in lower income communities that may not be as apparent in conventional GIS-based measures that fail to adjust for satisfaction.

When looking at age differences between satisfaction-adjusted distance and conventional street network distance, there appears to be an interesting trend for seniors over the age of 55. 21 of 31 participants over the age of 55 are psychologically closer to healthcare. This is a distinct finding for this age group compared to other adults. For adults younger than 55, it is difficult to ascertain a difference between the satisfaction-adjusted distance measure and the conventional street network distance measure given that 15 of these individuals are psychologically closer to a healthcare provider, while 16 are psychologically farther from healthcare. Such a finding is consistent with the in-depth interview data and the composite quality care scores, which suggest that seniors are
happier with their healthcare on average than younger adults. The finding also makes intuitive sense given that many seniors in our study area are inclined to visit only healthcare providers offering high quality care recommended by their friends and social service agencies. Also, many seniors in the study recognize their previous poor healthcare experiences at other locations, and actively seek out facilities that offer high quality healthcare.

Examining other characteristics, such as relationship status and number of family members, does not reveal any interesting differences between satisfaction-adjusted distance and conventional street network distance. However given the space-time constraints particularly of individuals in families and relationships, a future study may benefit from more closely examining the space-time constraints of these groups along with their views of healthcare satisfaction.

Open-ended questions from the in-depth interviews also provide some interesting information to support the satisfaction-adjusted distance measure and to further explain healthcare experiences in the study area. These qualitative findings are explored more in-depth in Chapter 6, but a few points are important to mention here. Many residents, particularly those individuals with an added psychological distance from healthcare, suggest that their primary provider gave them the feeling that they were in a hurry to move onto the next patient. Some residents also suggest that this made them feel as if their individual healthcare needs were not the priority. An African American female’s comment typifies this theme. She notes that: “I don’t want to rush the other patients, but scheduling the appointments so everybody is not bunched [would be helpful]. It’s about…how much time you are going to spend with each patient.” One African
American male’s comments also represent this theme: “sometimes I think he puts…the pressure to see so many other people above me and he may compromise my care…that is not right. It is unacceptable really.”

Other participants are more understanding of the time limitations of their doctors. A number of participants suggest that they understand the system and recognize that others need to be seen as well. One African American male’s sentiments represent this perspective well: “[Waiting times] are not so bad, you would love to go right in and come right out…it’s a facility to take care of sick people, so that’s why it’s that way. It isn’t that horrible.”

Many participants, particularly those found to be a psychological distance farther from care through SAD, further explain their feelings about primary provider communication skills using the open-ended questions. A large group of participants feel strongly that their voices are not heard by their primary provider. In regards to the doctor, the comment “he/she hears me, but isn’t listening to me” was voiced numerous times. One African American female’s comments represent the feelings expressed by many in the study: “when you try to tell him something it’s like he already wants to finish your sentence and already feels like they know so much about one thing. They feel like everybody is in the same criteria.”

Interestingly, the qualitative data also suggest that perceptions of low-cost clinics may not only factor into the decision of whether or not to seek healthcare, but also lead to lower rankings of patient satisfaction. Some residents suggest that clinics in their neighborhood have a certain stigma that makes people want to look elsewhere for care. One African American female’s comments summarize this theme: “I just chose to travel
the [extra] distance because when you have the clinics in the urban area (I would call it the hood) a lot of times you find a lot of people with very cranky attitudes and they label you. I mean it turns you off.”

Others suggest that the quality-of-care received in Near East clinics is not as comprehensive as in other places. One African American male suggests that the care is “not as comprehensive as it should be simply because of the cost involved…once you say you don’t have insurance you are put in a different category automatically….we are talking about human healthcare, we are not talking about credit ratings.” Variations of this theme are evident throughout many of the interviews.

Section 4: Interpreting Satisfaction-Adjusted Distance

The conventional distance measure of all participants finds females on average 2.99 miles from healthcare compared to males at 1.97 miles. This gender difference is consistent with other studies of accessibility, which note that women are often less accessible to basic urban services than men due mainly to women’s higher space-time constraints. As noted in the previous section however, the satisfaction-adjusted distance (SAD) conceptualization of healthcare adjusts street network distance with a psychological distance to account for satisfaction with quality-of-care. Comparing the two measures offers some striking findings and reveals important differences.

By adjusting street network distance measures to healthcare based upon patient satisfaction rankings, this works shows that there is a gender gap to quality accessible healthcare in this lower income urban neighborhood. The satisfaction-adjusted measures show a larger percentage of males than females are a farther psychological distance from
quality care. Additionally, the new measure shows that men are farther from quality care than women in the study area when considering psychological distance.

These findings are explained in part by discussions with residents, local healthcare providers, and community organization leaders. Comments from these discussions suggest that lower income women with children are given “preference” to low-cost healthcare care over men around the City of Columbus. Given that many residents mentioned this in their interviews and local healthcare leadership also suggest this is occurring, it seems likely that such preferences are negatively impacting access to high quality care for lower income males in the study area.

The findings are also explained by perceptions of healthcare held by males in the study area. It is well documented in the literature and in my discussions with local healthcare leaders that lower income males (particularly African American males) are often hesitant to visit the healthcare system and at times distrusting of the medical system. Such perceptions could lead to fewer visits to primary health facilities as well as less patient satisfaction with the quality-of-care received for lower income males in the study area.

The findings are also explained by the fact that men are less satisfied with healthcare than women in this study. The lower satisfaction with healthcare for men has a dramatic impact on the findings given that the SAD measure adjusts street network distance based on an individual’s satisfaction with the quality of healthcare received.

When considering employment through satisfaction-adjusted distance an interesting trend is revealed for those individuals with lower than average quality care scores. More unemployed men and women are a psychological distance farther from
healthcare than employed men and women (3) in the study area. This finding makes sense given the fact that most of the unemployed participants in the study area visit free or low-cost healthcare clinics, which the fieldwork data suggest to have low quality healthcare experiences. The employed individuals in our study have a few more choices with their healthcare options given their relative purchasing power compared to the extreme urban poor without jobs. There is also some evidence in the fieldwork data that suggests employed residents may have more flexibility in moving to other healthcare providers if they have low quality healthcare experiences at a nearby healthcare clinic.

The satisfaction-adjusted distance measure also reveals that for adults over the age of 55, 21 of 31 individuals are psychologically closer to a healthcare provider. The finding is understandable given that many seniors in our study area are more satisfied with their healthcare than younger adults, and are more inclined to visit only healthcare providers that have been recommended as offering high quality care by their friends and social service agencies.

**Conclusions**

The satisfaction-adjusted distance measure using fieldwork data from the Near East Side of Columbus makes useful contributions to the healthcare accessibility literature in a variety of ways. First, it proposes a more patient-centered understanding of accessibility by a) examining the multiple dimensions of patient satisfaction and b) including these multiple dimensions in GIS analyses of healthcare accessibility. Second, it moves away from the medical geographic perspective in which individual perceptions and emotions are excluded from the analysis. Instead, satisfaction-adjusted distance
includes individual experiences with the healthcare system in conceptualizations of accessibility and adjusts conventional GIS measures using in-depth interview data related to quality-of-care.

Further, the work utilizes a mixed-method approach in which the strengths of qualitative and quantitative methods are combined to more fully explain the multiple dimensions of healthcare accessibility. Satisfaction-adjusted distance offers the potential to expose greater inequalities in healthcare accessibility and quality-of-care in a manner that has not been substantively done in the healthcare accessibility literatures. Highlighting the spatial differences in acceptability of services and quality-of-care differences between individuals may eventually lead to an empowering experience for society’s disadvantaged members struggling to access healthcare services. It is hoped that mixed-method approaches such as this one become the norm rather than the exception as geographers continue to contribute to studies of healthcare accessibility and help to improve access to quality healthcare for residents in lower income, urban neighborhoods like the Near East Side of Columbus.
CHAPTER 6: UNDERSTANDING HEALTHCARE ACCESSIBILITY WITH QUALITATIVE INQUIRY OF INDIVIDUAL HEALTHCARE EXPERIENCES

Introduction

Many geographers examine health and healthcare issues with a medical geography perspective where mapping and spatial analysis are placed at the forefront. However during recent times and as a result of the cultural turn in geography in the 1990s, studies utilizing a health geographies perspective have increased.

In this chapter, I incorporate a health geographies perspective to explore the multiple experiences of healthcare accessibility and patient satisfaction in the Near East Side of Columbus, Ohio. The discussion in this chapter seeks to complement and contextualize the results of the satisfaction-adjusted distance measures of healthcare accessibility outlined in Chapter 5. The qualitative inquiry uses the fieldwork data to give voice to the local knowledge of lower income residents as they access local healthcare providers.

Qualitative inquiry of the fieldwork data: 1) uncovers powerful stories related to the quality-of-care lower income residents receive in the Near East Side of Columbus; 2) offers unique insights into the major forces driving accessibility to and patient satisfaction with healthcare; and 3) reveals a problematic and varied landscape of accessibility to low cost, quality healthcare facilities in Near East Columbus neighborhoods. Furthermore, the qualitative findings from the fieldwork data challenge a
local belief that Near East residents (predominantly lower income African Americans) have adequate accessibility to free and low-cost healthcare clinics simply because of the high volume of clinics in and around Near East neighborhoods. The qualitative results along with the satisfaction-adjusted distance measure discussed in Chapter 5 help advance an alternative discourse of healthcare accessibility in predominantly lower income neighborhoods. Such a discourse can challenge the observed geographies of healthcare accessibility and move toward a greater emphasis on revealing the everyday individual experiences of local residents as they search for high quality healthcare experiences.

Results of the qualitative inquiry demonstrate that Near East residents may be geographically close to healthcare facilities. However, there are a variety of issues with the quality-of-care many receive at these facilities. As noted in Chapter 5, when satisfaction is accounted for in GIS measures of accessibility, many lower income residents are actually at farther psychological distances from healthcare than what is revealed through conventional geographic methods. While the results of satisfaction-adjusted distance discussed in Chapter 5 reveal important differences in the varied local landscape of healthcare accessibility, this chapter considers some of the major reasons behind these differences in patient satisfaction.

The chapter is structured as follows. In section one, I discuss the major tenets of the health geographies approach to geographic research. I also introduce the study area, data collection and research methods in section one. The qualitative results of the fieldwork are considered in section two. In section three, I contextualize the healthcare experiences of Jake, a 61 year old African American male, by discussing his in-depth
interview responses. I end with some conclusions about the value added from a qualitative inquiry into healthcare accessibility and quality-of-care.

Section 1: Toward A Health Geographies Perspective for Understanding Healthcare Accessibility and Quality-of-Care Experiences

As noted in Chapter 2 of this dissertation, geographers studying health and healthcare accessibility are faced with two distinctive paths (the medical and health geographies perspectives) as they design their research plans, collect data, and analyze results (Kearns 1993; Kearns 1994; Kearns 1995; Gesler and Kearns 2002; Kearns and Moon 2002). In the medical geography approach, geographers focus their efforts on applied research and value the pragmatic over the theoretical (Kearns and Gesler 1998). Medical geographers emphasize the classification of disease, spatial analyses/mapping of disease patterns, and analyses of the provision of healthcare services (Litva and Eyles 1995; Kearns and Barnett 1997; McLeod 2000; Kearns and Moon 2002; Parr 2002; Parr 2004). According to Kearns and Gesler (1998), such a focus has led “people to be viewed as patients, diseases to be disembodied from human subjects, and for geographies of disease and health care to be reduced to dots on maps” (3).

Through a health geographies perspective, social, political, cultural and economic situations are said to impact an individual and her/his experiences with health and healthcare (Elliott 1999; Gesler 2005). Place has emerged as an important theme in healthcare work (Dorn and Laws 1994; Kearns 1994; Dyck 1995; Wilton 2000; Gesler and Kearns 2002; Kearns and Moon 2002; Gesler 2005). As Kearns and Moon (2002) note, “place has been seen as an operational ‘living’ construct which ‘matters as opposed
to being a passive ‘container’ in which things are simply recorded” (609). Health geographers view place as a construct that people can actively shape to impact their lives. In addition, place and the social processes occurring in place motivate and/or impede an individual’s everyday life experiences.

Unlike medical geography perspectives which focus almost exclusively on quantitative methods, critical health geographers call for the utilization of qualitative methods (Dyck 1995; Kearns 1997; Wilton 1999; Barnes, Baxter et al. 2002; Dyck 2003; Parr 2004; Dyck 2006). Qualitative methods allow for understanding the context of health and individual healthcare experiences in a way that is not possible using quantitative methods (Kearns and Gesler, 1998). Additionally, health geographers utilize complementary research methods and strategies (Baer 2002). In this way, health geographers recognize the situatedness of knowledge and are committed to listening to “the other” (Kwan 2002a).

Commonly observed geographies of healthcare accessibility and dominant local discourses reveal some interesting traits in the Near East Side of Columbus. Recall from the earlier discussion in Chapter 4 that the Near East Side is identified as a Medically Underserved Area/Population (MUA/P) by the U.S. Department of Health and Human Services, meaning healthcare distribution is far from adequate. The area is home to one hospital (The Ohio State University East Medical Center) where many residents use the emergency room for non-emergency care. The 2002 closure of The Billie Brown Jones Health Center in the Mt. Vernon Avenue Plaza has long been cited by residents and some local leaders as a barrier to adequate and affordable healthcare. The major sources of
primary care for Near East residents are free or low cost clinics, mobile health units, or health fairs at local community centers.

In looking at a map (Figure 8 below) of free and low cost health clinics, the study area appears to be well-served by low-cost and free health clinics compared to other lower income neighborhoods of Columbus. Such clinics are largely supported by Columbus Public Health, local hospitals, churches, and other non-profit funding agencies. Quality-of-care at these clinics is perceived by many in the community as lower quality due to: 1) the limited financial support of clinics in the community; 2) the fact that many doctors are volunteering their time at these clinics; 3) the support staff being overburdened and understaffed; and 4) the fact that costly, non-life threatening follow-up procedures are not typically ordered for patients that cannot afford such procedures. Of the 25 free or low cost clinics identified on the map, 8 are within a two mile buffer of the 43203 and 43205 zip codes. Such a simplified look at health clinics around Franklin County is useful for visualizing the distribution of providers and for showing people where they can access care. However, such a map masks the quality-of-care and patient satisfaction issues found in Near East facilities. Given that many residents perceive local free or low-cost facilities as offering low quality-of-care, many suggest that healthcare experiences and healthcare accessibility are even worse than what is observed on common maps and through official statistics.
Data Collection and Method

I use in-depth interviews with local residents to better understand the healthcare experiences of Near East residents. The majority of in-depth interview questions focused upon participants’ satisfaction with their primary provider, nursing support staff and receptionists. In addition, I asked participants about their satisfaction with medications, treatment plans, waiting times and distance. Each of these themes is commonly cited in patient satisfaction studies (Williams, Coyle et al. 1998; Eisen, Shaul et al. 1999; Field 2001; Takahashi 2001; Baltussen, Ye et al. 2002; Akinci and Sinay 2003; Levinson Miller, Druss et al. 2003; Gulliford 2004; Pollock 2004). I asked participants about their
satisfaction using two different question types: Likert-scale questions and open-ended questions.

In total 65 residents (24 males and 41 females) shared their healthcare experiences. Seven participants identified as White or Caucasian (10.8%), 52 as African American or Black (80%), and 6 as other (9.2%). Of the 65 residents interviewed, 10 are employed, 25 are unemployed, 16 are retired and 4 are categorized as other. Forty four of the 65 residents interviewed earn less than $10,000 a year from all income sources.

Participants were recruited using fliers containing study details and contact information. Fliers were placed at community gathering places such as a local library, local churches, a community block party, community centers, and public housing lobbies. In addition, a local nurse passed out fliers at local health screenings. A resident had to live in the 43203 or 43205 zip code areas, be 18 years of age or older, and have been to a primary healthcare provider in the past year to be eligible for the study. The in-depth interviews were completed on an individual basis and lasted between 30 and 45 minutes on average. Each participant was given a $20 gift card to a local grocery story or gas station for their time and knowledge. Interviews were audio recorded with permission of the participant and transcribed.

Developing an alternative discourse of healthcare experiences in the Near East Side through qualitative inquiry of the fieldwork data is important given the complexity of healthcare accessibility for lower income residents. As noted in Chapter 2, conventional research methods conceptualize accessibility to low-cost healthcare facilities by considering the number of facilities in and around local neighborhoods. These methods for studying healthcare accessibility fail to mention the quality-of-care
many lower income residents experience at these facilities. To improve upon this shortcoming, qualitative inquiry of the fieldwork data helps better understand and contextualize local healthcare accessibility and the everyday experiences of individuals as they search for facilities that offer high quality-of-care.

Qualitative inquiry also fills a major need identified by local healthcare leaders. As groups such as the Near East Health Advisory Committee (NEHAC) continue to make a political case for improving access to quality, affordable healthcare facilities in lower income neighborhoods such as the Near East Side, they need new types of data to make their case. At the earliest stages of this research, NEHAC was most interested in having a detailed qualitative analysis of residents’ healthcare experiences. As one local leader in NEHAC said, “your qualitative data is appealing to this group because it would likely not only shed light on the poor experiences many of our residents have at these places, but it might also give a more human element to this widespread problem.”

Qualitative inquiry, thematic coding, and conceptual ordering are used to analyze this fieldwork data. These qualitative methods are designed to understand the complexities of human experiences in particular places (Strauss 1987; Strauss and Corbin 1998; Knigge and Cope 2006). Such methods allow researchers to “obtain the intricate details about phenomena such as feelings, thought processes, and emotions that are difficult to extract or learn about through more conventional research methods” (Strauss and Corbin 1998: 11).

I construct a thematic coding structure for the in-depth interview data using the computer-aided qualitative data analysis software (CAQDAS) package NVivo 8. Qualitative themes are developed from a careful reading of the patient satisfaction
literature, my discussions with local healthcare leaders and residents, and my interpretations of responses from the in-depth interview data. As with any qualitative analysis, multiple rounds of coding were needed as new themes developed. The results of this qualitative inquiry are discussed in Section 2 below.

Section 2: Learning about Healthcare Accessibility and Quality-of-Care from Qualitative Inquiry

Qualitative inquiry of the fieldwork data reveals some interesting themes related to the challenges lower income residents face as they access healthcare. The data also answer an important question missing from many local discussions/discourses: how do residents view the quality-of-care at Near East healthcare facilities? The fieldwork data expose a landscape of accessibility in the Near East Side where multiple low-cost healthcare clinics are nearby to many lower income residents, yet in many cases these facilities offer less than ideal quality-of-care experiences. The qualitative data discussed below support the key findings related to satisfaction-adjusted distance from Chapter 5. In the paragraphs that follow, I discuss some of the major themes of patient satisfaction expanded on in the open-ended questions from the in-depth interviews.

Distance and Travel Time

Responses to open-ended questions generated a variety of insights into the role geographic distance plays in the satisfaction of Near East residents. I asked residents to “rank how satisfied you are with the distance that you typically have to travel to your primary healthcare facility” using a 7-point Likert-scale from completely unsatisfied
(lowest ranking) to completely satisfied (highest ranking). Of the 65 responses, a strong majority were satisfied by some degree (somewhat satisfied \(n=14\), mostly satisfied \(n=18\) or completely satisfied \(n=23\)). A small minority were unsatisfied by some degree (somewhat unsatisfied \(n=4\) and completely unsatisfied \(n=4\)). Two participants were neutral or had no opinion about distance. While analysis of the Likert-scale question suggests that residents are generally satisfied with accessibility (based purely on geographic distance), qualitative analysis of the open-ended question: “why did you rank distance the way you did” reveals a more varied and problematic explanation of accessibility.

Thirty-eight individuals responded to the open-ended question: “why did you rank distance the way you did?” Sixteen of these responses discussed distance in positive terms. These 16 responses are coded into three themes in Appendix B: Table 4. The most prominent positive response was some variation of Theme 1: “I am close to my healthcare provider, so I am happy.” This theme is evident in the comments of a 58 year old African American male who says “some people don’t go because it takes so long. For me it is easy because she is right down the street. That is the greatest thing. On those days when I don’t feel good, I can walk in and talk to them.” This response is representative of other comments about distance that also mention how important it is to be in close proximity to a facility. A subtle point can be made from the latter part of this comment. This participant suggests that he not only wants a provider close to his home, but also wants one that will listen to his health concerns. This point becomes more prominent in other questions about patient satisfaction discussed later in this section.
Theme 1 is also summarized by a 34 year old African American female who notes that “distance is important because it is right on Broad Street and I am right here (like Main and Broad). It’s the closest.” It is important to point out that responses in this theme specifically mention being close to a healthcare facility, which makes individuals very satisfied with the distance they have to travel. This is in contrast to Theme 2: “I am pleased with the distance I have to travel” where respondents make no reference to the proximity of their healthcare facility.

Nine participants responded with some degree of negativity to the open-ended question about distance. Five of these 9 participants note that they did not like the distance they have to travel. A 43 year old African American male typifies this theme by saying “you don’t want to spend all day to get there…two hours to get there, gotta wait 4 hours, then 2 hours back, that’s a whole 8 hour day.”

Two participants rank distance negatively because sometimes they are forced to walk to their healthcare facility due to a lack of private transportation. As one 58 year old African American female suggests “sometimes I have to walk and it takes me a long time and I have a bad respiratory system, so sometimes my ride don’t come so I have a problem with that.” Two other participants rank distance negatively because it impacts other activities. This is best exemplified by a 34 year old African American female who says “distance is important since it is usually during the work day and I have to get back quickly. So it helps to not have to deal with traffic and all that, and go right over.”

These negative responses to questions about distance offer some interesting insights into healthcare access in the area. Many participants say that distance and travel time (time budget constraints) take away from other daily activities (particularly in
Theme 4). This is an important point to mention given the lower income status of many Near East residents. Traveling to healthcare facilities (especially those perceived to offer lower quality-of-care) is a decision that impacts a variety of other life decisions. Often decisions made under time-pressed situations to do other activities such as seeking employment or caring for children are given priority over accessing healthcare particularly if healthcare is far away. This becomes even more problematic if people have poor healthcare experiences at their facilities.

Theme 6: “A good doctor is worth the distance” suggests that distance is negligible if there is a good doctor at the facility. Many individuals said good doctors were hard to access in the area; therefore, once they found a good one, they were willing to travel. This is exemplified by a 70 year old African American female who says “the distance doesn’t count too much when you are going to a doctor that you like and feel comfortable and know that they are there for your welfare.” This theme suggests some residents believe healthcare providers in the area are lacking in regards to quality-of-care; therefore, people with the means (mainly transportation and/or the referrals to be seen) are going farther to receive higher quality-of-care.

Waiting Times

An additional set of questions asked residents to discuss their satisfaction with waiting times. In the in-depth interviews, I asked participants to respond to the Likert-scale question: “how satisfied are you with the waiting time you have at your healthcare provider?” Thirteen participants responded as being completely unsatisfied, 4 were mostly unsatisfied, 13 were somewhat satisfied, 14 were mostly satisfied and 17 were
completely satisfied. Unlike the previous satisfaction dimension (distance), there was no clear trend in responses. Thus, qualitative analysis of an open-ended question about waiting times (why did you rank waiting times the way you did?) helped explore this dimension of satisfaction (see Appendix B: Table 5).

Qualitative analysis revealed 26 responses with something negative to say about waiting times. These responses were coded into Theme 1: “Frustration and/or confusion over waiting times.” In this theme, many respondents point to the fact that waiting times are problematic because if you are not feeling well, then you will forget important things to say. An example of this can be seen in a 62 year old African American female’s comments: “you know you are not feeling good, maybe you have other things to do, so the waiting time sort of deals with how you are going to respond or if you have something really important to say and you get back there the heck with it. I just want to get out of here, the heck with it.”

Additionally in Theme 1, many responses included some frustration with the walk-in style of most low-cost healthcare clinics. Many participants say that patients are bunched into time slots and have to wait for a long time to be seen without an actual appointment time. The problem of walk-in waiting times coupled with the fact that other daily activities are being compromised by long wait times makes accessing healthcare difficult for many lower income residents. A 34 year old African American female summarizes this point by saying:

I am not one of those people that like to wait. I like to schedule things and know this is the time I have to go and be there. Not that this is an open space from 9-11 and I have to walk in and don’t come in at that time you have to wait again until 2-6 to come in for the afternoon walk-ins. It is time consuming to me because I have so many kids, and I don’t have time to juggle. That’s one of the reasons
why I can’t get to the clinic as much as I need to. It is too much of a burden with all of these kids, and I am trying to find a job and doing other things.

Fourteen responses offered a more positive take on waiting times and were coded as Theme 2: “Happy or ok with waiting times.” Many of these responses included some recognition that healthcare facilities serve a variety of people and waiting is to be expected. This is evident by a 59 year old African American male who states that “waiting time doesn’t make any difference to me. I have got to be there and as long as I am not there all day it is ok.” Some of the responses also reference the fact that individuals are accustomed to the long waiting times since they have been going to the facility for a long time.

**Doctor and Patient Relationship**

To assess the doctor and patient relationship, I included a Likert-scale question: “please rank your overall satisfaction with the primary care provider you see most often.” The majority of responses suggested some degree of satisfaction (34 responses were completely satisfied, 16 were mostly satisfied, and 9 were somewhat satisfied). One participant had no opinion, 2 were somewhat unsatisfied, 1 was mostly unsatisfied, and 2 were completely unsatisfied. While responses to this question suggest primary care providers are doing a positive job with their patients, qualitative analysis suggests conflicting and more complex reactions to questions about satisfaction with primary providers.

Two open-ended questions about the doctor and patient relationship reveal important information about Near East healthcare experiences. First, I asked participants
to “please explain what you feel your primary provider does well.” The follow-up question asked participants to “please explain what you feel your primary provider does not do so well.” The responses are discussed below.

Two primary themes developed from responses to the question: “please explain what you feel your primary provider does well” (see Appendix B: Table 6). Theme 1 was coded as “Addresses my needs and does what is needed.” Theme 2 was coded as “Bedside manner and communication skills” (see Appendix B: Table 7). Each of the two larger themes included a variety of sub-themes.

Sub-themes from Theme 1 are included in Appendix B: Table 6. Responses that mention the provider “addresses illness and/or concern” were most prominent in this theme. A variety of responses support this sub-theme as exemplified by a 42 year old African American female:

Umm, she is like…the doctor I have now, she has tested me more for different causes to see what’s wrong with me than other doctors have that I went to in the past. So she does full blood work ups and whatever. The other doctors didn’t do that. The most important thing is getting in and getting treated for the right diagnosis and getting the medication without all the side effects that you don’t have me go through all those trials and errors and take me through all those samples that just seem to be making it worse.

A 46 year old American Indian female also explains what her doctor does well, but questions the ability of doctors in some low-cost clinics:

Most clinics you go to don’t spend an hour with you, and they don’t prescribe what you don’t need. Most clinics will just give you anything to get you out the door and won’t explain it. He makes sure you know what you are taking and makes sure that you are okay before he prescribes it. He don’t foul up, he checks on you, he’s a good doctor. He’s a very good doctor.
Most responses in Theme 1 focus on the medical and treatment aspects of the provider. Many residents are happy with the knowledge and ability of their doctors, but some question thoroughness and bedside manner. Participants recognize they are getting what is necessary, but not getting anything above and beyond what is expected.

Responses for Theme 2 are coded as “Bedside manner and communication skills.” As noted in Appendix B: Table 4, there are 7 sub-themes in Theme 2. Twenty-two responses focused on listening skills. The sub-theme of listening skills can best be summarized by the thoughts of a 71 year old African American female:

She [the doctor] listens to me. I think her treatment is well. I need a doctor that will listen and hear what I am saying. Whether or not that doctor can treat me for it, I want to be heard before I am treated…I think finding a doctor that will listen to you whether or not you are right [is important]. If you just got a doctor to listen to you sometimes that is as good as taking the medications themselves. Just knowing that somebody is listening to you is good.

Responses included in the sub-themes of Theme 2 also focused largely on bedside manner (n=11). The quote from the 71 year old African American female (above) is striking and quite representative of what many participants said. As she and others noted, having a doctor that listens is important to the overall healthcare experience. As many alluded to in the interviews, an individual can have the most knowledgeable doctor in the world, but if s/he does not listen to the individual and communicate then it makes for a poor healthcare experience.

Participants were also asked to: “please explain what you feel your primary provider does not do so well.” Appendix B: Table 5 and the subsequent discussion introduce a variety of themes from responses to this question.
Twenty-four responses stated that the primary provider did nothing poorly. This high number is positive, although other responses suggest that there are challenging issues between providers and patients that should be more closely examined in Near East healthcare facilities. A broader theme of “Communication skills and bedside manner” (26 responses) also developed. Of these 26 responses, 9 were coded as “my doctor has poor listening skills.” A 36 year old African American female discusses this theme by saying:

Listen, he don’t really listen. He seems like he already knows what I am going to say and he will like shut you down. He is not really listening to the patients too much. Listening, he don’t really stay in there and listen to you. When you try to tell him something it’s like he already wants to finish your sentence and already feel like they know so much about one thing they feel like everybody is in the same criteria.

A 59 year old African American female also comments on the poor listening skills of her provider. As she explains, “come on, they don’t listen. They worry about those 40 patients out in the filled waiting room. They might really listen, but they’re still going to do what they wanna do. You really have to be persistent. Some doctors get offended and will tell you if you don’t like what I am doing to you go somewhere else.” Another 59 year old African American female also addresses a common concern by saying that “if you are talking to a doctor, they are supposed to understand you and should reply to you. They should not just write it down and go out the door. They should give you an explanation and even say, I can’t help you, but I am going to find out and get another doctor to help.”

In many instances, participants correlate poor listening skills with the high volume of patients seen at low-cost healthcare facilities. Many participants said they felt
rushed due to the amount of patients being seen. Additionally, some felt they were not being listened to because the doctor had heard similar things before. As the 59 year old African American female’s comments from above suggest, a doctor’s attitude changes when patients challenge the doctor’s knowledge or ask too many questions. This is problematic as patients attempt to learn more about their conditions, but are put in a position where they feel uncomfortable to do so.

An additional theme (Theme 3: “Issues related to medication”) reveals another major concern of the doctor and patient relationship. Many individuals commented on the fact that medication issues were not being properly addressed. A 42 year old African American discusses her medication issues by saying:

I am just not satisfied with the medication she gives me. I don’t know whether to point the finger at her for that for not doing enough research to see if it is going to have those bad side effects or if something she is just not known to and you have to take it and wait and see if it affects me or not. I like the services she gives me and the medications she can get me, it is just the side effects that I have from them. I am like shouldn’t she do research first to see the side effects?

From these and other comments, it becomes apparent that patients expect their providers to explain in detail their medications and any possible side effects. Without these explanations, patients are unsatisfied with the doctor and patient relationship. Quite strikingly from the comments above, it appears that participants are weary of the amount of research doctors do related to the medications they are prescribing. This is particularly problematic given the amount of samples drug companies are giving free and low-cost clinics in the area.

The above discussion suggests that residents are happy with some aspects of the quality-of-care from local providers (such as the knowledge of doctors and their ability to
do required tests), yet have some concerns about other aspects like bedside manner and the doctor/patient relationship. As the qualitative analysis reveals, many residents feel the volume of patients seen at these facilities is negatively impacting healthcare experiences. Additionally, providers are often viewed as unwilling to explain conditions or medications in a manner that is acceptable to residents. The discussion of distance and travel time reveals that residents are in many cases happy with the distance they have to travel. Others are more willing to travel farther distances to access higher quality care. Waiting times are viewed quite negatively by many residents. As the responses suggest, many feel this is related to the walk-in nature of neighborhood clinics as well as the fact that too many patients are being seen by neighborhood doctors.

Results from the qualitative analysis contribute to local discussions about healthcare accessibility in a variety of ways. First, the results answer a much needed call from the Near East Health Advisory Board, which requested qualitative data to make a stronger case about the plight of lower income residents as they access local healthcare providers. Second, the results help explain the healthcare experiences of lower income Near East residents as they access local healthcare providers.

Most importantly though the fieldwork data help develop an alternative discourse of accessibility told from the perspective of local residents. Such a discourse links healthcare accessibility and patient satisfaction data. It reveals important differences between an observed geography of health where a variety of healthcare facilities are located near residents (evident from a spatial analysis or map of facilities in the area) and the actual experiences of lower income individuals as they struggle to access nearby healthcare facilities with high quality-of-care. By utilizing a health geographies approach
and by considering the linkages of access, geographic distance and patient satisfaction data, the work helps to understand the experiences of lower income residents as they attempt to access healthcare.

Section 3: Listening to Jake: Understanding an Individual’s Healthcare Experiences

While the above discussion focused on the responses to open-ended questions about satisfaction from all participants in the study, qualitative inquiry is also useful for examining a particular individual’s healthcare experiences. The qualitative data from an individual’s responses to the open-ended questions, coupled with his/her satisfaction-adjusted distance measure, can reveal a complex narrative of her/his overall healthcare experience. In this section of the chapter, I explore an in-depth interview with a 61 year old African American male. This male, with a pseudonym of Jake, is much less satisfied with his overall healthcare experience than the average person in the study. As discussed in Chapter 5, the mean quality care score for the study area is 80.17 percent. Jake has a composite quality care score of 69.11%. Using the satisfaction-adjusted distance equation, Jake is a psychological distance of 1.106 miles farther from his healthcare provider. The SAD measure shows that Jake is less satisfied than average, and the qualitative data from his in-depth interview can help better contextualize the reasons behind his lower than average ranking.

In the paragraphs that follow, I highlight the conversation Jake and I had about his overall healthcare experience. From the open-ended questions in the interview, Jake touches on a variety of patient satisfaction dimensions commonly cited in the healthcare accessibility literature.
Jake and I first discuss his feelings about the distance traveled to his healthcare provider. I ask him three questions related to distance. First, “how satisfied are you with the distance you have to travel to your provider?” Second, “how do you usually get to your provider?” Third, “why did you rank distance the way you did?” He notes that he is mostly satisfied with the distance he has to travel. He says that in most cases Senior Options free taxi service drives him to his appointments, although sometimes he has a friend drive him. When asked to explain his ranking of distance, Jake says:

I am mostly satisfied with distance because it gets me out, away from the building. The distance doesn’t bother me because it is an outing to me. It is me getting out of here and getting away from this building. If they could take me further to another little town I would be satisfied because I am just sitting there. It is relaxation for me. You know, I get to go to a better doctor than here in the neighborhood. Them around here are shady. You gotta wait all day and they don’t even give you ten minutes. They treat you like you are a number… they don’t care what the hell is happening with you. They don’t want to help you. He just want to get his money from the government. That sucks, man…that sucks.

Jake lives in Sawyer Towers, one of the public housing projects in the Near East Side. As Jake and others allude to in the interviews, the building is loud, in need of repair, often the site of verbal (and sometimes physical) confrontations between neighbors, and has a feel of a very unsafe environment particularly after dark. Notice in his response that distance is not a major issue for him because the travel allows him to “escape” the negative elements of his apartment building. Such a theme does not necessarily relate to healthcare accessibility specifically, but it is telling of the plight of lower income residents living in sub-optimal conditions.

Notice also in the latter half of his response that Jake feels quite passionately and negatively about the quality-of-care near his home. His tone becomes quite agitated and his voice is raised during this part of the response. He doesn’t mention a specific
healthcare facility in the neighborhood, but offers a general critical assessment of neighborhood clinics. He is upset by the perception that they don’t care about him and that they don’t treat him right. He also suggests that providers near him are only interested in getting their checks from government-sponsored programs that help offset the costs of care for lower income residents.

Jake and I next discuss experiences with his primary provider. Jake is somewhat satisfied with his primary doctor. When asked to explain what his doctor does well, Jake responds favorably, but is not overly enthusiastic in his response or in his tone of voice. As he notes, “They are pretty much up on my healthcare, so I have to say they do a lot of things well. They’re keeping me…well God’s keeping me…on this earth. You know they keep up on what’s going on with me.” Jake goes on to explain more about his healthcare experiences with the primary doctor focusing on the explanation of medications:

I have a lot of issues, so I have to say they are ok. Umm, they do everything well. They make sure I have the right medicine. They make sure my prescriptions are filled. You know, they ask me before I leave do I have any prescriptions that need to be refilled and stuff like that. And he compliments me when I come in. That’s good for him, and so if there is anything that I need that really needs looking over he does run the tests that I need to have done.

Jake’s response touches on three issues. Like many other participants, Jake appreciates the fact that his doctor knows about his healthcare and the conditions listed on his medical chart. His ranking of “somewhat satisfied” is tied directly to the fact that his doctor knows his medical history and can help prescribe medications for his ailments. Second, Jake suggests that spiritual forces play a role in healthcare. He credits God for keeping him on the earth, and notes that the doctor plays a secondary role in keeping him
alive. The spirituality of healthcare is a theme not asked about directly in the interviews, but one that develops from discussions with Jake and others. Third, Jake comments repeatedly on the competency and thoroughness of the doctor. He points specifically to the discussion of medications and prescriptions for his ailments. He also stresses that the doctor performs all necessary tests. Such comments are important to his “somewhat satisfied” ranking of the doctor.

When asked to explain what the doctor does not do well, Jake responds simply and quite passionately, “Listen, he doesn’t listen. That’s it.” In the interview, I notice the change in his tone of voice and delivery, and I pause before moving to the next question because it seems like he wants to say more. He takes a deep breath and continues. He recalls a time when he went to the doctor with chest pains and the doctor immediately dismissed his condition as heartburn. Jake was worried that it could be related to a heart condition or the beginning of a heart attack, since his family had a history of heart problems. The doctor, according to Jake, quickly dismissed this information and told him to trust him that it would be okay. While the ailment did turn out to be heartburn, Jake was still upset that the doctor silenced his concerns and failed to listen to his family history. As Jake puts it, “the least he could have done was listen to what I had to say. Maybe something that happened to my dad and uncle has something to do with my condition? How could he know, he just shut me up?” Jake concludes his response by stating that listening and focusing on the individual are the keys to a long and health relationship between him and his doctor.

I mean sometimes he listens, sometimes he doesn’t. Sometimes they have their own opinion in there. I would rather have a doctor to think about my needs than to think about what he has learned in school. Each person is different, so if he thinks about my needs then we will have a better relationship. I will be healthier,
so yeah. I feel like he is working on it. I feel like he is working on it. Listening skills helps because when they don’t have good listening skills it sort of agitates you. If I am feeling bad and something else is going on and he is trying to hurry up and get this over with then that makes me feel worse than what I was feeling when I got in there. Nothing is resolved, ok.

Later in the interview, I ask Jake about his ideal healthcare experience where he might leave completely satisfied with his healthcare. Jake says:

[It would be ideal if] when I bring an issue to the doctor they would look at that issue instead of saying what they think it is. Things going on with you, you would like to know what it is, instead of having a doctor saying, “Oh that’s a little knot. Just put some ice on it.” Because you go somewhere else and it is a different situation, so yeah that’s where I stand right now.

In the response above, Jake revisits his issues with listening and communication skills. His response also implies that some doctors fail to listen, which comprises his care. This is confirmed by the latter parts of Jake’s statement when he says that other doctors give different diagnoses.

While Jake and I discuss experiences with the primary provider for quite some time, he also comments extensively on waiting times. He is mostly satisfied with waiting times. When asked how long it took to get his last appointment, Jake notes, “my cab is always an hour early so I am always at the facility an hour before my appointment time because they will take me in. No more than a half-hour wait for me.” Jake notes, like many others, that waiting times set the mood for the day and the experience with the doctor. As Jake says:

You know you are not feeling good, maybe you have other things to do, so the waiting time sort of deals with how you are going to respond or if you have something really important to say and you get back there the heck with it. I just want to get out of here, the heck with it. The waiting time is the first thing.
Jake’s response reveals many issues with waiting times. Most strikingly, Jake specifically relates waiting time to adding to the pain and discomfort of an ailment. He also says that waiting times impact the interactions with his doctor. After the recording of the interview ends and we are casually chatting, Jake also notes that he has a problem with the Senior Options free cab service, which contributes to his long waiting time. He says that to get to his healthcare he gets free vouchers for cab service, but they get him there too early and sometimes fail to pick him up. He says this puts him in a bad mood and affects the way he acts with the doctor.

Earlier in the conversation about Jake’s satisfaction with the primary provider, he briefly mentions medications and side effects. Later in the interview I ask him specifically about explanations of medication and side effects. He notes that he is mostly satisfied with the doctor’s explanation. “I am mostly happy with the explanation of side effects because I have my own book that explains it to me. I got this book on my own, not from my doctor.” Jake, like some in this study, takes his healthcare seriously and tries to prepare himself for his doctor visits with outside readings about his conditions and his medications that he seeks on his own. He expresses a desire to have these concerns confirmed by the doctor. When information does not match, Jake expresses distrust of his provider. When asked to talk more about the primary provider explanation of medication and side effects, Jake responds:

I guess if there is some things I need to understand, he can help me understand them if he knows. You know we are all different people and what is important to me may not be important to him. It may not be on the scale that I have it at. It may be on a lower scale, so we may have some problems about that. If I ask about the medicine he will tell me and explain the medicines to me. We haven’t got into the side effects. Like I said though I have my own book and I look up the medicine and look at the side effects. I don’t just sit there and say, “Oh I think I
am feeling this!” I just want to know what the side effects are in case I feel
different than I usually do.

Jake’s response reveals many interesting points. First, he questions the doctor’s
ability to understand his patient’s needs. Jake takes great pride and comfort in being an
informed patient with his medical book (he actually brings the book to our interview).
He expresses a desire for his doctor to break information down to him in an
understandable way and to consider his feelings. Jake has his medical book, but still
expects the doctor to explain the side effects.

When asked one final time about the overall quality-of-care at his facility, Jake
repeats what he mentions throughout the interview. He is somewhat satisfied and feels
they offer him a good experience, but there are some major limitations with his provider.
The biggest limitation to Jake is the lack of listening skills, which lessens his overall
satisfaction with healthcare. He says that his healthcare experience is “good.” But for
Jake, “it still has to do with the listening skills and just me having a concern and then he
is talking about something else. That’s not good. That sort of takes away from the whole
thing, the whole quality of care thing.”

The discussion Jake and I engage in reveals a great deal of information about his
individual healthcare experience. Such qualitative data explored through open-ended
questions help to contextualize his healthcare experience. Coupled with Jake’s
satisfaction-adjusted distance measure, the qualitative data help better explain the reasons
behind his lower than average quality care score and help to account for his added
psychological distance to healthcare.
Conclusions

In this chapter, I offer results from a qualitative inquiry of individual healthcare experiences in the Near East Side of Columbus. I discuss general results of the inquiry in section two along with more individualized results of an African American male in section three. Such an inquiry based on a health geographies perspective is useful in that the emphasis moves away from viewing people as patients and merely dots on a map toward an emphasis of understanding healthcare experiences from individuals in a particular place. This chapter demonstrates how geographers doing healthcare research can use qualitative data to offer alternative representations from local residents that are experiencing healthcare facilities in their daily lives. Qualitative data gained from local residents can offer unique insights into local healthcare experiences in ways not particularly prominent in medical geography perspectives focused solely on quantitative methods or formal surveys.

Further, qualitative data collected from a health geographies perspective can challenge long-standing beliefs about health and healthcare accessibility in particular places. As I was told repeatedly early in the project, lower income residents in the Near East have adequate accessibility to healthcare simply because there are a large number of free or low-cost clinics in and around the neighborhood. Typically in these conversations, nothing was mentioned about the quality-of-care Near East residents were receiving at these facilities. The qualitative analysis tells a different story about access and reveals a missing quality-of-care discussion. The data reveal a landscape of healthcare accessibility with highly varied healthcare experiences, and raise questions about the overall quality-of-care offered by healthcare providers in the area. Such data
and findings are important to consider in studies and representations of healthcare accessibility in particular places.

As this chapter demonstrates, a critical health geographies perspective can offer alternative representations of local healthcare landscapes based upon data collected from local residents. As I argue throughout this chapter, there are considerable differences between observed geographies of health (revealed through conventional medical geography methods) and what people actually experience in their everyday lives (revealed through critical health geographies methods). Such differences point to the important role of critical health geographies perspectives and qualitative inquiry in health research.
CHAPTER 7: REFLECTIONS ON POSITIONALITY IN A PREDOMINANTLY LOWER INCOME, AFRICAN AMERICAN COMMUNITY

Introduction

As noted in Chapter 1, the main focus of this research is to contribute to positive community change in the Near East Side of Columbus, Ohio. This is accomplished most specifically by the core component of this dissertation research: examining healthcare accessibility in a largely African American and predominantly lower income community. However, a variety of other community-based partnerships in the Near East Side grew out of the original healthcare focus of this dissertation. These pieces are important to discuss as they relate to the dissertation’s broader goal of positive community change.

Earlier in Chapter 4, I traced the broader geographic dimensions of the healthcare piece of this work, including the role geographers and GIS play in healthcare accessibility. In this chapter I focus on the challenges and opportunities of researching in a historically African American and largely lower income community. I focus on how geographers study race in section one of this chapter. In section two I discuss the challenges of working in a predominantly African American and lower income community. These challenges stem largely from my positionality as a white male, middle-class, doctoral researcher. These issues of positionality are confronted and discussed in section two. In section three of the chapter, I outline some of the ways in which I move beyond a dissertation, expanded the research agenda to be more
community-based, and partially mitigated the limitations of my positionality. In the final section, I focus specifically on the development of a multi-faceted, community-based agenda that moves beyond a dissertation. The agenda includes: 1) the development of Geography 580S; 2) the creation of the Columbus Food Access Network (CFAN); and 3) the creation of map-based learning modules focused on music and history for use by neighborhood youth. The agenda that develops demonstrates my commitment to broader and long-lasting community changes on multiple levels and helps mitigate some of the challenges imposed by my positionality in the healthcare piece of the dissertation research.

Section 1: The Geographies of Race and African American Experiences

The literature about African American geographies written by academic geographers is particularly problematic given that geography is an overwhelmingly white discipline (Dwyer 1997; Peake and Schein 2000; Schein 2002). African American experiences are discussed from a white (and in many cases) male perspective in most geographic research, including this dissertation research. A notable and recent exception to this is the work of Perry Carter (2009).

It is important to recognize three themes when considering geographers’ work on race, race theory, and African American experiences. First, the concept of race has been re-conceptualized from an essentialist perspective to a social constructionist perspective. Second, researchers recently have challenged the concept of whiteness as one that is privileged and largely erased from public discourse. Third, geographers have recognized
that space, place and location all shape experiences of race. Each of these themes is discussed below.

Prior to the early 1990s cultural turn in geography, geographers viewed the concept of race from an essentialist perspective in which social differences were based on biological differences (Anderson 2002). Anderson notes that biological classification of races allowed for social classification based on racial difference. Such classification helped create a social hierarchy. More recently however, essentialist perspectives of race have been replaced with notions of race being socially constructed and contested through everyday practices across places (Dwyer 1997; Jackson 1998; Craddock 1999; Peake and Schein 2000; Anderson 2002; Peake and Kobayashi 2002). As Dwyer (1997) suggests, geographers now discuss “when and where the difference that ‘race’ makes is applicable” (449). Peake and Schein (2000) in their analysis of the social construction of race suggest that meanings of race are continually changing based on social and political processes in American society.

Geographers also recognize the privileged view of whiteness in writing and research about race. In the past few years, some geographers have noted that the privileging of whiteness has been largely erased from public discourses and from most geographic research (Bonnett 1997; Jackson 1998; Dwyer and Jones 2000; Kobayashi and Peake 2000; Marable 2002; Vanderbeck 2006). This privileging of whiteness is further explained by Bonnett (1997). Bonnett (1997) stresses that the concept of whiteness itself has not been subject to historical and geographical criticism even though geographers have historically explored non-white race experiences with whites. Such a shortcoming in race research has allowed whiteness to become normalized and privileged
Dwyer and Jones (2000) suggest the normalized concept of whiteness allows those who are white the ability to not consider the social processes by which racial differences are created. As Dwyer and Jones postulate, to be white is not to be the other. Identities are created through differences with other racial groups. Further, Jackson (1998) suggests whites do not identify by their race like other racial groups. Instead, based on the privileged position of whiteness, whites are able to identify by class and/or gender. The normalization of whiteness and difference from the other allow whites to not think about race as a dominant social issue, thus creating unequal and problematic social experiences.

Geographers also recognize the contingency and importance of spaces and locations in studying race. As Delaney (2002) argues, “elements of the social (race, gender and so on) are not simply reflected in spatial arrangements; rather, spatialities are regarded as constituting and/or reinforcing aspects of the social” (7). Peake and Schein (2000) make the point that particular racial identities and racialized processes are found in particular places and at different spatial scales. Processes across multiple scales shape the identities of individuals and the differential experiences of race. For example, socially and racially motivated processes at the national scale can interact with more local exclusionary policies such as racial steering and neighborhood stratification to shape the experiences of a particular individual or group.

The local neighborhood context in this dissertation best exemplifies the points raised above. Access to healthcare in the 43203 and 43205 zip codes (two zip codes with high proportions of African Americans) is extremely low compared to other areas of the city. In 2004 the Billie Brown Jones Health Center, a local community health center in
43203, was moved and consolidated into the East Central Health Center facility on Broad Street. The closure of the center is a prominent example cited by local residents of local government’s failure to prioritize local Near East Columbus neighborhood issues compared to other areas of the city that are more wealthy and thriving.

As noted in Chapter 3, the local healthcare landscape is further challenged by the fact that portions of the 43203 and 43205 zip codes have been identified by the U.S. Department of Health and Human Services as medically underserved areas/populations (MUA/P). Further, these areas are also Columbus Empowerment Zones. Empowerment zones are recognized as the most economically troubled areas of the city. These areas have lower tax bases, a climate of disinvestment, high poverty rates and lower quality of life. These areas have been targeted as priorities for re-investment designed to improve overall quality of life for local residents.

As the above discussion demonstrates, geographers are committed to exploring issues of race and the unevenness of racial experiences across multiple scales. Further, these researchers now recognize that: 1) race should be viewed as a socially constructed concept rather than one that is tied to biological differences; 2) studies of race often privilege whiteness and erase this issue from public discourses; and 3) racial experiences are contingent upon processes occurring across multiple scales.

Section 2: Considering Positionality in a Predominantly African American Community

Positionality considers the ways in which our choice of research perspectives and methods, our life experiences, our multiple identities, our locations and our beliefs impact

In her classic article about “making geography,” England (1994) considers issues of positionality and reflexivity in fieldwork and argues that the research process is hierarchal. England contends that reflexivity can help address such a hierarchy, yet it cannot remove asymmetrical or exploitative relationships. England notes that “we need to locate ourselves in our work and to reflect on how our location influences the questions we ask, how we conduct our research, and how we write our research” (1994: 87).

England raises two important questions in her work: “In our rush to be more inclusive and conceptualize difference and diversity, might we be guilty of appropriating the voices of ‘others’? And can we incorporate the voices of ‘others’ without colonizing them in a manner that reinforces patterns of domination?” (1994: 81). In working with marginalized groups, England suggests that researchers: 1) treat their participants as people; 2) recognize that fieldwork interrupts the flow of participants’ daily lives; and 3) understand that research has serious implications for marginalized members of society. She further cautions researchers to not just use participants for the collection of facts to fit research goals. She suggests supplication in research with the explicit recognition that
the researcher is reliant on those researched to provide insight into the everyday, lived experiences of individuals. As England says, there is an “unequivocal acceptance that the knowledge of the person being researched (at least regarding the particular questions being asked) is greater than that of the researcher” (1994: 82).

For these reasons and for the fact that I am researching in a predominantly lower income, African American community, it is important for me to consider my positionality and its impact on the research process and outcomes. I am a young, middle class, white male academic geographer studying healthcare accessibility in a largely lower-income, African American community. Further, I stand to benefit from this research experience. The research facilitated my ability to write this dissertation, graduate from The Ohio State University, and secure a tenure-track faculty position at Columbus State University in Georgia. While such benefits were motivating factors for completing the research, I also had other reasons for doing this work. I chose this particular research topic and community-based agenda because I have a strong belief in community-based work and critical GIS research. Such beliefs motivate me to move beyond formal classroom settings, quantitative datasets and GIS software packages to examine broader community issues.

With a community-based agenda, I choose to interact with and learn from individuals who are living through the very real challenges of everyday central city, lower income life. Such experiences help illuminate the research; provide insights into the everyday lives experiences of central city residents; and allow for a human element that transcends what could be viewed simply through the compilation of GIS-based datasets or software-specific analyses.
Beyond my immediate academic and personal interests, I am also motivated by the belief that academic geographers should do more in local communities. I choose to do work in local communities with residents that are in many cases marginalized from local political discussions and often silenced in local research experiences. I consciously designed a broader agenda that includes research on healthcare accessibility and other related projects. With such a design, I not only have a tangible dissertation product to benefit myself and the academy, but such an agenda also tells multiple stories of local healthcare landscapes and contributes to broader discussions of community change.

My main goals coming into the experience were to 1) impact community change; 2) help improve social injustices, including access to basic social services such as quality, affordable healthcare facilities; and 3) uncover silences in geographic datasets, particularly those used in conventional GIS that sometimes mask social inequalities. I did however fail to recognize early in the research process the different directions this work would take me and the amount of additional time I would spend in Near East communities. I discuss these additional community-based experiences in section three of this chapter.

The Challenges of Positionality

In considering my positionality, I understand that all parts of my identity and background influenced the design of this study, the execution of the fieldwork, the data analysis, and the presentation of results. I realized early in the research process that being a white male academic researcher (viewed by many in the community as a privileged position) put me in a situation where I would be considered near the top of a
social/racial hierarchy. Such a view presented unique challenges in the research and was partially mitigated through a series of community partnerships.

I worked closely with staff at the African American and African Studies Community Extension Center (CEC); Columbus Public Health, including members of the Near East Health Advisory Board (NEHAC); and Mr. Melvin Steward, president of the Mt. Vernon Avenue District Improvement Association (MVADIA). The CEC, an extension of the OSU African and African American Studies Department, is located in the Near East Side and serves the needs of local residents. Staff members helped facilitate community contacts, distributed literature about the project, and suggested ways for me to immerse myself in local culture.

In reflecting upon this research and the challenges related to my positionality, I am reminded of early spring 2007 when I approached Dr. Judson Jeffries, director of the CEC, about doing research in the area. He said that my research efforts were welcomed and admirable. However, he was cautiously optimistic, highly inquisitive, a bit intimidating, and offered some cautionary words. To paraphrase our earliest conversations, he suggested that to fully understand healthcare accessibility for African Americans in Columbus, I also had to understand the history of African American experiences; the evolution of urban inner-city neighborhoods; and local history, which included racially motivated exclusionary processes that helped create local inequalities. He suggested that I seek a crash course in local history and talk more with local elders about the area. He pointed me to the MVADIA and Mr. Melvin Steward.

Dr. Jeffries also made some helpful suggestions for the data collection process. He suggested that speaking one-on-one with local residents, rather than mailing surveys,
was the proper path to take to fully understand issues of healthcare accessibility and quality-of-care in the study sites. He cited the fact that previous mail surveys had high return-to-sender rates due to high neighborhood turnover. He also cautioned that in order to effectively converse with local residents in their homes or local community gathering places, I would have to understand local conditions and local history and recognize the power differential between myself and some of the lower income minority residents I would be meeting with. As he alluded to in our earliest meetings, being a privileged white male academic researching African American experiences presented some challenges.

While my race in particular had an impact on the research, my standing as an academic also presented challenges for my ability to communicate with local residents that were lower income and less (academically) educated than me. To combat this as Dr. Jeffries suggested, I had to be willing to speak directly to community members rather than simply mailing them a survey and viewing them as Dr. Jeffries put it “research lab rats.” Further, Dr. Jeffries rightfully noted that I had to “prove” to local residents that I was committed to listening to their stories and engaged in the community for more than just my own dissertation and publication interests. As Dr. Jeffries pointed out, I had to: 1) share my findings in non-academic forums; 2) develop maps and practical, easy to understand reports free of wordy academic and theoretical jargon; and 3) work with community members for long-lasting change that moved beyond just academic research.

NEHAC members also played an important role in this work. They suggested that I create more easily understandable questions, generated new questions, and offered suggestions for what data types might help make a stronger political case for improving
healthcare accessibility. This group, along with the CEC, served as the major vehicle through which results were shared.

Mr. Melvin Steward, president of the MVADIA, is a respected elder in the neighborhood and viewed by many as the champion of the Near East Side. He facilitated communication between myself and local residents, talked in-depth about conditions in the community, and walked around the neighborhood with me to meet residents and learn more about the present conditions. He also facilitated my interaction in other community-based projects (discussed in the next section).

Such community contacts allowed me to partially mitigate the challenges imposed by my privileged positionality as a white male academic researcher. Developing such local partnerships legitimized my work in the Near East Side. Additionally such partnerships led me down some unexpected and worthwhile paths that helped me to contribute to broader community changes and overcome some of the limitations of my positionality. In section three below, I discuss some of these directions. I also explore how these directions impacted the work and contributed to discussions of long-lasting community change.

Section 3: Beyond the Dissertation: Contributing to Broader Community Change

In this section I discuss ways in which I overcame the limitations of my positionality and contributed to neighborhood change. I focus on three ongoing community-university partnerships that developed from the original healthcare accessibility portion of the dissertation. In the paragraphs that follow, I discuss: 1) the Geography 580S service learning course in the Near East Side which mapped
accessibility and local history; 2) the Columbus Food Access Network partnership which focuses on mapping community gardens in the Near East Side; and 3) A Focus on Youth and the Arts in Near East Columbus which seeks to develop a youth choir and mapping learning modules focused on teaching youth the vibrant history of local neighborhoods.

**Developing Geography 580S**

As noted in Chapter 3, as U.S. urban areas expand and populations and wealth leave central city locations, accessibility to basic services such as healthcare, grocery stores, parks, employment agencies, and after-school programs for children also worsens. In many neighborhoods including Near East Columbus, central city inhabitants are left in a challenging urban environment farther distances from basic social services and amenity resources. Given the challenges imposed by residential and social service development away from central city areas, there is a unique opportunity for geographers, particularly OSU students, to contribute to an examination of the distribution of these services, and to be a part of long-lasting and beneficial change in local central city neighborhoods. For these reasons, I developed the Geography 580S service learning course in The Ohio State University Department of Geography taught in the winter of 2009.

Ideas for the course developed in spring 2008 when I was first author of a successful course development grant from the OSU Service Learning Initiative. This grant allowed me to create a revised introductory to cartography curriculum for OSU undergraduates. I revamped an existing introductory cartography course (Geography 580 taught by Assistant Professor Ola Ahlqvist) into the department’s first service learning course. In the course students learned the art and science of cartography while designing
maps that either supported access to services for Near East Columbus residents or showcased historical points of pride. Students worked closely with representatives from the African American and African Studies Community Extension Center (CEC) and their partnering organizations, including: Columbus Public Health, Columbus Urban League, Neighborhood House, Central Community House, and the Mt. Vernon Avenue District Improvement Association.

In the course, students mapped access to food pantries, stores that accepted food stamps and provided fresh fruits and vegetables, employment centers, van pool options through the Mid-Ohio Regional Planning Commission, and after-school programs for children. Many of the maps included the locations, contact information, services provided, and requirements for use of services. Many of the student-designed maps were developed as brochures or two-sided handouts so that the partnering agencies (as well as other local agencies) could distribute these materials directly to local residents looking for such services. In addition, students also created maps of historical points of pride. Some of these maps were designed as poster-size wall maps for display in high profile community gathering places like the Urban Spirit coffee shop and the Martin Luther King Library with the hope that residents and local leaders could discuss the rich, local history and also explore ways to creatively link the area’s history to its present and future directions.

The service learning experience encouraged community discussion and benefited local residents. All maps were presented by students during a March 2009 meeting at the CEC where 75-100 people participated in a lively discussion about neighborhood change and future visioning. Over 3000 maps were printed at no cost to the community partners.
or community residents, distributed to local community agencies and to community residents, and included for viewing/download in PDF on a project website (www.geography.osu.edu/maps2serve). The project website site has received over 1500 visits and has been a useful community-based resource for residents with computer access in search of the social services explained on the maps.

This service learning and community-university partnership had many tangible benefits to me and the community. First, it enhanced my ability to work in the community and gave me further legitimacy as I completed my dissertation and worked with local residents to address positive community change. It also offered me the opportunity to merge research, teaching, community outreach and service in an innovative way. With support from the university, I as a graduate student was allowed to take the lead on developing a learning opportunity that took our students into a local community and showed them that their work as academics could indeed make a positive impact.

The service learning course also helped highlight some of the inequalities present in the neighborhood and showed that many local residents were proud of their history and concerned about their neighborhood’s future. My 580S students and I were invited by City Councilwoman Tavarez to present to an early May 2009 City Council meeting. This presentation, broadcast locally on public access television, allowed us to share the story of the class and generated a tremendous amount of local discussion about the Near East’s future. I and some of the students were also featured in local newspapers, including The Columbus Dispatch, The Lantern, OnCampus and on National Public Radio (WOSU) and NBC4. Our class was invited to a variety of other local meetings, including a meeting
with NEHAC at a local nursing home, a meeting of local business leaders sponsored by the MVADIA, and a local community-based mapping workshop sponsored by the United Way. Such discussions generated ideas for future projects and identified ways in which the 580S maps could be used in local political discussions.

Most importantly though this service learning-based opportunity allowed me, a PhD student at Ohio State, to think beyond my own immediate academic interests. It helped create a shared project between OSU students and local community residents that will have positive impacts for years to come. 580S will be offered once yearly through the OSU Department of Geography. The maps and discussion generated from this partnership helped to benefit non-academic audiences and worked towards improving conditions in local neighborhoods.

Creating the Columbus Food Access Network

In the winter of 2010, myself and Carla Wilks, program coordinator at the African American and African Studies Community Extension Center, were invited to a United Way grant-writing workshop funded by the Macy’s Foundation. The invitation was extended to us due to our work in the local community through Geography 580S. Over the initial two day workshop, local residents, organizers, and academics were given the task of creating a collaboration that would focus on an asset-based approach for strengthening and showcasing local neighborhoods. This unique approach to working in central city neighborhoods was designed to shift the focus away from the stigmas and problems inherent in many of central city communities (Kretzmann and McKnight 1993).
Eleven people either living or working in the eastside of Columbus, including myself, were placed in a conference room and asked to create a project that would: 1) lead to a greater sense of neighborhood pride; 2) take advantage of the initiative and creativity of local residents; and 3) help showcase positive qualities in local communities. After sitting around the table for four hours brainstorming ideas, the group agreed that accessibility to stores with fresh fruits and vegetables was a major challenge for many residents in Columbus’ eastside. This point was also confirmed by one of the Geography 580S food accessibility maps. However, many residents were quick to point out that the challenge of food accessibility was being partially addressed at the local, grassroots level.

Through the creation of urban community gardens, local residents and organizations were growing fresh fruits and vegetables for distribution throughout the community. Residents suggested that there were at least twenty of these urban gardens in the area. It was noted at the meeting that most residents were unaware of these gardens and did not participate in their development.

Our group decided to contribute to the local community garden development and awareness discussions through a mapping and planting project. The tasks defined were to: 1) identify all current urban community garden locations in the eastside; 2) identify areas with an abundance of fruit trees for potential harvest; 3) create greater awareness and public engagement in local gardens; 4) develop a sense of community pride around these garden spaces; 5) encourage local youth to take ownership and interest in these gardens; and 6) identify suitable and affordable plots of land for future garden development.
In July 2010, local residents, geographers, and neighborhood youth will work together to collect data about local urban gardens using handheld GPS units. This data collection exercise will be an educational experience. Residents will share with each other the importance of urban gardens and mention plans for future expansion. Local youth will play a prominent role in the asset-mapping experience by collecting data with the GPS units and learning more about the urban gardening experience from local older residents.

In the coming months, community garden information gathered from the GPS data collection experiences will be used to create detailed maps of urban gardens in the eastside. The maps will be distributed as 8.5 by 11 inch handouts free of charge to residents through local community groups and social service agencies. Larger, poster-size maps will be displayed in prominent community spots so that residents can learn more about the project, discover the locations of urban gardens, and become informed about future gardening plans.

A Focus on the Arts and Youth Performance

In the spring of 2010, I collaborated with the CEC, the MVADIA and a local vocalist to create a community-university partnership that could extend a portion of the historical mapping work from Geography 580S. Through our $10,000 Columbus Foundation grant proposal, “Mapping the Past and Future in Near East Columbus: A Focus on Youth and the Arts,” we hope to create historical map-based learning modules about Near East Columbus. The mapping project to be completed in spring 2011 (with or without funding) will document sites of former performance halls, prominent musical
figures, local leaders and community activists. In addition, we also plan to form a youth choir where local children can learn about the area’s rich musical history while developing their musical talents. The choir will be connected to the maps in that youth will help with the collection of data for the maps, will learn about local history in the map-based learning modules, and then perform at some of the locations identified on the maps. The maps will also identify locations where local youth can purchase musical instruments and take lessons, and include locations where future youth choir performances can take place.

In the collaboration, we plan on reaching out to all genders, races, economic levels, and ages in Near East communities. However, our most immediate focus is connecting neighborhood youth with adults who know the history of the area and that know how to teach music. We want local youth to: 1) develop a sense of pride in their neighborhood; 2) learn about and map the history of the neighborhoods; and 3) develop their music skills in a youth choir.

The project is important to the future of Near East Columbus for a variety of reasons. First, with high neighborhood turnover and a largely transient population there is not a great sense of community pride like in other nearby neighborhoods. This project, with its mapping component, engages community residents (including local youth) by documenting historical points of pride, creating knowledge for public consumption, and building a sense of community pride.

The maps, along with oral histories and historical documents of the community, will be put together as learning modules for youth education at local after-school programs. These maps will help students learn about the history of the area and will
connect the neighborhood's vibrant past to its promising future. These are both needs identified by local educators and community leaders. As the area goes through a revitalization process with an aggressive redevelopment campaign tied to the expansion of University Hospital East, it is imperative that local history and local resident input is included in these new development plans.

The community-based mapping component can play a large role in these planning discussions. It shows a commitment to youth education by allowing youth to help with the GPS data collection while learning a new technology skillset. Further, the maps and supporting historical text will be used as learning modules in schools and after-school programs. Through the mapping and subsequent discussion, future visioning processes and agendas will be led by neighborhood leaders and community residents, rather than by city officials. Youth involvement in a neighborhood choir and after-school activities will help youth to develop their music skills and bond with their neighbors. The choir will also allow youth to appreciate local history as they perform in and near the mapped historical performance venues.

Conclusions

In this chapter, I note the ways in which geographers have contributed to studies of race. I explore some of the challenges of working in a predominantly lower income, African American community. I focus specifically on ways in which my positionality impacts the research process. I also show some ways in which I partially mitigate the limitations of my positionality. By moving to a broader community-based agenda that extends from the original dissertation research piece on healthcare accessibility, I explore
the important role academic geographers can play in broader community-based agendas. In moving beyond the healthcare piece of this dissertation research with such a forward-looking commitment, I demonstrate a desire to contribute to long-lasting positive change in the Near East Side of Columbus.

Furthermore, these community-based projects help address some of the concerns about my positionality brought up by local residents and leaders. By embracing one’s positionality and committing to a community beyond one’s own immediate publication and research interests, a fuller and more community-based agenda can develop. In such an agenda, the academic researcher benefits through 1) publications, dissertation research projects and grant proposals; 2) strengthened partnerships with local residents; 3) increased access to community gatekeepers for fieldwork; and 4) new ways of thinking about the broader implications of one’s academic research. Community residents benefit from these partnerships with 1) new ways of addressing community challenges; 2) free or discounted technological skills from academics including GIS and mapping; 3) free maps and literature distributed throughout the community; and 4) increased publicity of local issues to residents and local government officials.

The above projects are included to demonstrate my commitment to this community beyond an academic dissertation research experience. The community-university partnerships facilitated through the healthcare accessibility piece of this dissertation have been designed to have a long-lasting impact at the local level for years to come. Also, these collaborations have been designed so they can be sustained and driven largely by the input and initiative of local residents. As an outside academic
researcher, I am simply in the neighborhood to facilitate these experiences and lend my geographic skills to the improvement of Near East neighborhoods.
CHAPTER 8: CONCLUSIONS, IMPLICATIONS AND FUTURE DIRECTIONS

Introduction

As discussed throughout this dissertation, there is an opportunity for geographers to help improve the plight of lower income, central city residents given the troubling health outcomes and poor healthcare accessibility present in American central cities. This dissertation outlines one way to accomplish such a task. Through the conceptualization of satisfaction-adjusted distance and a community-based research agenda, I demonstrate the value of talking directly with lower income residents who are experiencing poor central city conditions and are having trouble accessing high quality, affordable healthcare services. By talking with individuals living through these experiences, I uncover highly contextualized stories of healthcare accessibility that reveal hidden silences in the central city healthcare landscape.

With mixed-methods, I challenge conventional GIS measures of healthcare accessibility that focus largely on geographic distance and the observed geographies of health from the dominant medical geography perspective. Utilizing a health geographies approach, I offer a new look at accessibility grounded in fieldwork data collected from individuals in the Near East Side of Columbus, Ohio. Through the fieldwork data, I develop the concept of satisfaction-adjusted distance (SAD). As explained in Chapter 5, the SAD measure combines an individual’s geographic distance to healthcare (based on
street network distance from home to facility) with an individual’s healthcare experiences (based on satisfaction with a primary healthcare facility). In this way, the SAD measure adjusts street network distance from healthcare based on an individual’s healthcare experiences and satisfaction with a provider while accounting for the added psychological distance many lower income residents experience as they access healthcare.

In this concluding chapter I summarize the work and discuss its broader implications. The chapter is structured as follows. In section one I summarize the results of the research. I also explore the implications of the research findings in the study area. In section two I discuss the contributions satisfaction-adjusted distance measures of accessibility make to the geographic literatures. In section three, I mention limitations of this study and offer some future research directions. I end with some conclusions about the work.

Section 1: Implications of the Research Findings

The satisfaction-adjusted distance measure reveals significant differences in the observed geographies of health in the Near East Side and the everyday experiences of lower income individuals as they attempt to access high quality healthcare facilities. The measure shows that lower income males on average are psychologically farther from healthcare than lower income females. The measure also reveals an interesting trend related to employment status. On average for both lower income men and women, the unemployed are psychologically farther from healthcare than the employed. The measure also suggests that for adults over the age of 55, there are striking differences between the
SAD measure and the conventional GIS street network distance measure. Individuals over the age of 55 are generally a closer psychological distance to care. For those under the age of 55, the results are much more mixed.

Such findings from the fieldwork data reveal an alternative landscape of healthcare accessibility in the Near East Side. The results of this work offer a dramatically different interpretation of healthcare accessibility for lower income residents than what could be concluded from a medical geography approach focused only on larger, quantitative datasets. The findings also have important implications for the distribution of healthcare clinics in the study area.

The broadest implication of this work is related to the revelation of poor quality-of-care experienced by lower income residents. The results suggest that it is not simply geographic location that matters in healthcare accessibility. Quality-of-care, individual healthcare experiences, and psychological distance to care also matter to many residents in this study area. By focusing on the perceptions and emotions of individuals experiencing the troubling conditions in local healthcare facilities, leaders and public health officials can improve local healthcare experiences for lower income residents.

As the qualitative data reveal, improving the doctor-patient relationship; focusing on interpersonal and communication and listening skills; and improving explanations of medications and side effects are particularly important to the study area. In most cases, residents praised their doctor’s knowledge and medical competency; however, they were much more critical of the doctor’s ability to communicate and listen to patient’s concerns, feelings and emotions. The care experience, as revealed through the qualitative data in Chapter 6, is deeply tied to the interpersonal skills between doctor and patient. In the
study area, patients want to be listened to, hope their doctors take their concerns and knowledge seriously, and expect to have a say in their treatment plans. Given the low health outcomes and utilization rates in the Near East Side, it would be useful for local leaders and health officials to consider improving the quality-of-care experience for lower income residents in the area.

Satisfaction-adjusted distance reveals some striking findings that have significant implications for the way healthcare is discussed in the study site. First, the results of satisfaction-adjusted distance suggest that adults over the age of 55 are largely much more satisfied with their healthcare and psychologically closer to healthcare than those under the age of 55.

One recommendation from this study is that local leaders and health officials work more closely with local residents to understand the specific needs and experiences of those under the age of 55. This age group has many space-time constraints (i.e. families with young children, low-paying jobs located far distances from the home, and daily errands such as grocery shopping and picking children up from school). Clinics serving this age group could benefit from recognizing such limitations when discussing improvements to local healthcare experiences. Locating clinics closer to work sites and schools could be one way to do this. Cutting down on waiting times and offering more flexible facility hours could also improve this age group’s healthcare experiences and improve on psychological distances to healthcare. As learned from the fieldwork data, long waiting times and the limited open hours of local clinics present problems for lower income residents with space-time constraints.
The results of satisfaction-adjusted distance related to employment status also have implications in the study area. Researchers recognize that healthcare accessibility in lower income communities such as the Near East Side is tied to economic development and employment opportunities (as noted in Chapter 3). The fieldwork data suggest that the plight of lower income residents searching for employment impacts other life experiences such as seeking healthcare and interacting with a local healthcare clinic. On average in this study, both unemployed male and female residents are less satisfied with care and psychologically farther from healthcare than employed residents. In order to improve healthcare in the community, local healthcare discourses could be tied to economic development and employment discussions.

Earlier in this dissertation, I stated that the dominant, local health discourse portrays the Near East Side as an area that is already well served by local clinics. The dominant discourse suggests it is okay to prioritize other areas of the city since the Near East already has adequate facilities. Failing to improve on the quality-of-care and failing to understand the link between employment status and poor healthcare experiences will likely lead to an even more problematic landscape of healthcare accessibility in the Near East. The results of this study suggest that bringing employment opportunities back to the central city can improve the healthcare experiences and quality-of-care of lower income residents in the study area.

Section 2: Contributions to the Geographic Literatures

This work makes important contributions to four related literatures: healthcare accessibility, health geographies, mixed-methods and feminist theory, and critical GIS.
At the broadest level, utilizing a health geographies approach with mixed methods exposes conceptual and methodological shortcomings in the literatures. More specifically, the work extends GIS-based analyses of accessibility, which typically equate access with street network distance between provider and patient and fail to consider individual quality-of-care experiences. By adjusting conventional street network distance based on an individual’s satisfaction with healthcare, this work incorporates the highly varied and individual experiences of quality-of-care found at low-cost healthcare providers.

This research also makes important contributions to the debates surrounding a medical geography or health geographies approach in research. Many medical geography methods fail to consider the multiple dimensions of accessibility and fail to adjust for an individual’s satisfaction with the healthcare experience. This is even more problematic given that much of the GIS-based accessibility research is tied to a medical geography approach. Many researchers suggest that individual’s perceptions to quality-of-care and their actual healthcare experiences are important to explaining accessibility. However, few studies from medical geography perspectives actually examine individuals’ experiences of healthcare. This dissertation research improves on this shortcoming by examining individual quality-of-care experiences in GIS using satisfaction-adjusted distance.

The research also contributes to the mixed-method literature. The work expands conventional GIS-based analyses which value quantitative data over qualitative data. The SAD measure along with the qualitative analysis of fieldwork data demonstrates the value of mixed-method work for uncovering alternative landscapes of accessibility in
lower income communities. By working at the intersection of the four literatures discussed in Chapter 2, this work offers a more contextualized and individualized understanding of healthcare accessibility that focuses on distance from patient to provider and individual healthcare experiences. Such results and insights would not be possible without mixed methods.

Finally, this dissertation contributes to a discussion about the dual role of academic geographers (explored in Chapter 7). Academic geographers, on the one hand, serve the discipline through the production of new knowledge. On the other hand, academic geographers have an obligation to serve the people with whom they work in ways that extend beyond a researcher’s individual academic ambitions.

In this work, I serve the discipline at the conceptual level with a mixed-methodology to develop the satisfaction-adjusted distance measure for understanding healthcare accessibility. The work also serves local residents through a community-based agenda designed to expose hidden spatial inequalities in the geographic distribution of accessibility to facilities that provide high quality care. As part of the community-based component of this work, I also became involved in three related pedagogical and community outreach projects: the Geography 580S course, the urban gardens mapping project, and the historical mapping and youth choir project. Such a community-based agenda moves beyond a dissertation and speaks to the dual role of academic geographers. The agenda allows me to rethink the role of academic research in local communities by recognizing my positionality, mitigating the limitations of my positionality, and striving to improve local communities while working with and for local residents.
Section 3: Study Limitations and Future Directions

Given that the satisfaction-adjusted distance measure outlined in this study is the first attempt in the literature to conceptualize accessibility in this way, it is likely that future studies will revisit and improve certain aspects of this research. Below, I discuss some limitations of this study and offer suggestions for future directions.

Sample Size

The study relies on a small, non-random sample of 65 residents. While the sample is non-random, the demographic is similar to the overall demographic of the area’s population. A small sample size was necessary given the time consuming nature of in-depth interviews, the small pool of funding for this research, and the fact that only one researcher was completing the interviews, transcriptions, and analysis of results. Future studies could benefit from a larger sample size made possible through an increased budget and larger research team.

Income Differences

Given the lower income status of most residents in the study site, the sample is also biased toward lower income residents. The goal of this work was to contribute to an alternative discourse of healthcare accessibility in the Near East Side of Columbus. Thus, the lower income bias fits the lower income status of this neighborhood. The results of this study cannot support assertions about satisfaction-adjusted distance and quality-of-care in higher income neighborhoods. A future study could benefit from comparing satisfaction-adjusted distance with conventional street network distance in a
higher income community, a lower income community, and a mixed income community. Further differences tied to economic status between the two measures might be revealed through such a future study.

Rural and Urban Differences

The study does not examine rural healthcare accessibility. The study area is an urban community with relatively short travel times and distances to healthcare facilities. Although as the SAD measure reveals, added psychological distances to these facilities are present for many residents. Rural residents are often much farther from healthcare facilities due to the limited number of providers in these areas as well as extended travel times from more dispersed rural areas (Watts, Dinger et al. 1999; Martin, Wrigley et al. 2002; Jordan, Roderick et al. 2004; Luo 2004; Chan, Hart et al. 2006). Also, many rural residents may not visit their nearest provider due to the fact that they judge the quality-of-care as lower than what they could receive in larger urban areas with more facilities and more options for advanced and specialized services (Nesbitt, Marcin et al. 2005; Chan, Hart et al. 2006; Drew, Cashman et al. 2006). Thus, travel times and geographic distances for rural residents will likely be greater than that of residents in urban areas. Satisfaction-adjusted distance in rural areas should consider a larger adjustment than 0.1 miles. A larger adjustment can account for the proportional differences in geographic distances to healthcare between rural and urban areas (Equations 4 and 5 below).
Equation 4: Application of Equation 3 to Rural Area

\[ z = \text{Satisfaction-Adjusted Distance} = p^* (m - q_i) + d_i \]

Where:
- \( p \) = proportional difference of rural/urban distances
- \( m \) = mean level of satisfaction
- \( q_i \) = individual composite quality score
- \( d_i \) = distance from provider to patient
- \( z \) = satisfaction-adjusted distance

Equation 5: Calculating Rural/Urban Difference

\[ (p) = \text{Proportional difference in rural/urban distances} = 0.1 r / u \]

Where:
- \( r \) = average rural distance to healthcare provider for all participants
- \( u \) = average urban distance to healthcare provider for all participants

A hypothetical example may help explain Equation 4 and 5 in the context of a rural study area. Assume that in a sample of 100 urban residents, it is found that the average distance traveled to a provider is 5 miles. Assume also that in a sample of 100 participants in a rural area, it is found that average distance traveled to a provider is 30 miles. We want to adjust the 0.1 mile from equation 3 to reflect the proportional difference between rural and urban distances. Therefore, using equation 5 to calculate the proportional difference we simply do the following: \( 0.1 \times 30 / 5 \). This would give a proportional difference between urban and rural distances \((p)\) equal to 0.6 miles. In this
example residents in rural settings would have 0.6 miles added to their conventional street network distance from a provider to account for every 1 percent deviation from the mean quality care score.

**Public Transportation**

Future studies of satisfaction-adjusted distance could benefit from an examination of public transportation. The findings reported in this study are limited to residents using their own vehicle or the vehicle of a friend, family member or taxi service. The literature suggests that public transportation increases travel times and distances to healthcare facilities. Given this, future studies of satisfaction-adjusted distance must account for the added burdens of public transportation. Increasing the 0.1 mile adjustment in urban study areas would be one way to account for the added distances related to riding public transportation.

**Space-Time Measures**

Qualitative data from this study reveal that space-time constraints of individuals impact individual healthcare experiences. This particular study is focused on accounting for added psychological distance and understanding the reasons behind individuals’ rankings of their healthcare providers through satisfaction-adjusted distance. Thus, the majority of the interview questions focus on quality-of-care issues and healthcare experiences. I do not ask participants for a detailed travel diary of their daily activities, which limits the ability of this study to comment on how space-time constraints impact satisfaction-adjusted distance. The daily potential path area concept, which accounts for
the totality of an individual’s reported daily activities proposed by Kwan (1999), offers a promising area for further research on satisfaction-adjusted distance. A future study could benefit from collecting detailed travel diaries. These activity locations could be used with satisfaction-adjusted distance measures to offer alternative representations of accessibility that more explicitly account for the totality of an individual’s daily, lived experiences and the places an individual visits most often.

**Sustaining Community-University Partnerships**

As noted in Chapter 7, the study also led to a variety of other community-university partnerships, including the development of Geography 580S; the creation of an urban gardening mapping project; and the beginning of a historical mapping project tied to arts, music and youth choirs. These projects, still in their infancy, will be continued in the immediate future and demonstrate a broader commitment to community change. It is expected that these projects and others can be sustained despite my moving to Georgia to begin a faculty position at Columbus State University. I plan to carry on the GIS and mapping work from afar and plan to return to the community during the summer months for more fieldwork in the urban gardening and historical mapping projects. Fortunately, the community partners, including the African American and African Studies Community Extension Center, are taking a leadership role in these projects and are willing to continue the collaborations despite my moving away from the area.

**Conclusions**

This research offers satisfaction-adjusted distance to consider quality-of-care issues and added psychological distance in GIS-based measures of healthcare
accessibility. The work offers a more contextualized understanding of accessibility as it relates to individuals’ satisfaction with overall healthcare experiences at local healthcare facilities. In so doing, the research exposes critical methodological shortcomings in the medical geography and GIS-based healthcare accessibility measures focused only on conventional street network distance.

Satisfaction-adjusted distance offers a new measure of accessibility that: 1) includes a spatial component based on street network distance and 2) focuses more explicitly on acceptability of services, quality-of-care and individual healthcare experiences. The work helps expose inequalities in healthcare access, but also reveals variations in healthcare experiences for certain groups and individuals. Thus, this research has the potential to make new and insightful contributions to the healthcare accessibility, health geographies, mixed-method and feminist theory, and critical GIS literatures. Equally important, the research is driven by data that highlight the lived, everyday experiences of lower income, local residents struggling to access healthcare facilities that offer satisfying healthcare experiences. In so doing, this community-based work critiques the dominant local healthcare discourse in the Near East Side by offering an alternative representation informed by some of the more marginalized voices in the community.
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Appendix A: Survey of Quality Care at Primary Healthcare Facilities
Section 1: Demographics

Interviewer Prompt: First, I would like to ask you some general questions about your background. Please be assured that your personal information will be kept confidential and shared only with members of the research team.

1.1 What is your year of birth?

Specify date ______________________

Don’t read:
Unsure
Refused

1.2 What is your gender?

Don’t read:
Male
Female

1.3 Which one or more of the following would you say is your race? (Check all that apply)

Please read:
1 White
2 Black or African American
3 Asian
4 Native Hawaiian or Other Pacific Islander
5 American Indian or Alaska Native
6 Other [please specify] ___________

1.4 Are you…?

Please read:
1 Married
2 Divorced
3 Widowed
4 Separated
5 Never married
6 A member of an unmarried couple

1.5 How many people live in your household, including yourself?

Number of household occupants __________
Refused

1.6 How many children less than 18 years of age currently live in your household?
Number of children _____
None
Refused

1.7 What is the highest grade or year of school you have completed?

**Read only if necessary:**
1 Never attended school or only attended kindergarten
2 Grades 1 through 8 (Elementary)
3 Grades 9 through 11 (Some high school)
4 Grade 12 or GED (High school graduate)
5 College 1 year to 3 years (Some college or technical school)
6 College 4 years or more (College graduate)
**Do not read:** Refused

1.8 Are you currently…?
**Please read:**
1 Employed
2 Self-employed
3 Out of work for more than 1 year
4 Out of work for less than 1 year
5 A Homemaker
6 A Student
7 Retired
8 Unable to work

1.9 What is your annual household income range from all sources of income?
**If respondent refuses at ANY income level, code 99 Refused**

**Read only if necessary:**
04 Less than $25,000 If “no,” ask 05; if “yes,” ask 03
($20,000 to less than $25,000)
03 Less than $20,000 If “no,” code 04; if “yes,” ask 02
($15,000 to less than $20,000)
02 Less than $15,000 If “no,” code 03; if “yes,” ask 01
($10,000 to less than $15,000)
01 Less than $10,000 If “no,” code 02
05 Less than $35,000 If “no,” ask 06
($25,000 to less than $35,000)
06 Less than $50,000 If “no,” ask 07
($35,000 to less than $50,000)
07 Less than $75,000 If “no,” code 08
($50,000 to less than $75,000)
08 $75,000 or more
**Do not read:**
77 Don’t know / Not sure
Interviewer Prompt: I would like to have your home address information for this survey to measure your accessibility to nearby healthcare facilities. Rest assured that this information will not be used to identify you in any way. It will only be shared with members of the research team.

1.10 Please tell me your street address, including city, state and zip code information.

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Section 2: General Health

Interviewer Prompt: Now I would like to ask you a few questions about your overall health.

2.1 In general how would you rate your overall health:

Please read:
1 Excellent
2 Very good
3 Good
4 Fair
5 Poor

Do not read:
7 Don’t know / Not sure
9 Refused

Interviewer Prompt: Now I would like to ask you a few questions about your general health in the last 30 days.

2.2 Now thinking about your health, for how many days during the past 30 days [from date of survey] was your health not good?

   __ Number of days
   None
   Don’t know / Not sure
   Refused

2.3 During the past 30 days, about how many days did your health keep you from doing your usual activities, such as self-care, work, or recreation?

   __ Number of days
   None
Section 3: Health Care Coverage

Interviewer Prompt: Now I am going to ask you some questions about healthcare coverage and insurance plans.

3.1 Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?

1  Yes
2  No
3  Don’t know / Not sure
4  Refused

Interviewer: If respondent answers [3 or 4] for 3.1, proceed to Section 4.

3.2 You said that your healthcare provider offers coverage for your healthcare services. What is your copayment or total cost out of pocket for each visit to your healthcare provider?

Interviewer this is an open-ended question. Please take detailed notes.

Section 4: Geographic Accessibility to Primary Healthcare Facilities

Interviewer Prompt: Now I am going to ask you some questions about how you get to your primary healthcare facility.

4.1 About how far from your home is your primary healthcare provider?

Less than 5 miles
6 miles to 10 miles
11 miles to 20 miles
21 miles to 30 miles
31 miles to 45 miles
More than 45 miles
I am unsure

4.2 How do you usually get to your primary healthcare facility?

Read:
1 I walk
2 I use the car that I own
3 I get a ride from a friend or family member who has a car
4 I use public transportation
5 Other (specify) _______________

Interviewer: If respondent answers 1 for 4.2, then proceed to 4.3. If respondent answers 2 for 4.2, then proceed to 4.4. If respondent answers 3 for 4.2, then proceed to 4.5. If respondent answers 4 for 4.2, then proceed to 4.6. If respondent answers 5 for 4.2, please specify their response and then proceed to 4.7.

4.3 You said that you usually walk to your primary healthcare facility. How long does it generally take for you to get to your healthcare facility?

5 to 15 minutes
16 to 30 minutes
31 to 45 minutes
46 minutes to 1 hour
More than 1 hour

Interviewer: Proceed to 4.8

4.4 You said that you use your own car to get to your primary healthcare facility. How long does it generally take for you to get to your healthcare facility?

5 to 15 minutes
16 to 30 minutes
31 to 45 minutes
46 minutes to 1 hour
More than 1 hour

4.5 You said that your family member or friend usually drives you to your primary healthcare facility. How long does it generally take for you to get to your healthcare facility?

5 to 15 minutes
16 to 30 minutes
31 to 45 minutes
46 minutes to 1 hour
More than 1 hour

Interviewer: Proceed to 4.8

4.6 You said that you use public transportation to get to your primary healthcare facility. How long does it generally take for you to get to your healthcare facility?

5 to 15 minutes
16 to 30 minutes
31 to 45 minutes
46 minutes to 1 hour
More than 1 hour

*Interviewer: Proceed to 4.8*

4.7 You said that you get to your primary healthcare facility [use respondent’s answer from 4.1 answer 5]. How long does it generally take for you to get to your healthcare provider using [the method respondent mentioned in 4.1]?

5 to 15 minutes
16 to 30 minutes
31 to 45 minutes
46 minutes to 1 hour
More than 1 hour

4.8 What is the name of the facility that you most frequently visit for your primary healthcare services? Where is this facility located? On what street and cross street?

*Interviewer: Provide list of facilities with addresses if respondent has difficulty remembering. If respondent can’t remember, code as “Don’t remember/ Unsure”*

4.9 In the last 12 months [from date of survey], how many times have you been to this healthcare facility?

1 _____ times
2 Never
3 I don’t know/ Not sure

4.10 In the last 30 days [from date of survey], how many times have you been to this healthcare facility?

1 _____ times
2 Never
3 I don’t know/ Not sure

4.11 In general, how would you rate your overall satisfaction with the distance you have to travel to the primary healthcare provider you see most often?

1 Completely unsatisfied
2 Mostly unsatisfied
3 Somewhat unsatisfied
4 No opinion
5 Somewhat satisfied
6 Mostly satisfied
7 Completely satisfied
Section 5: Patient Satisfaction with Primary Healthcare Services

*Interviewer Prompt: Now I am going to ask you a few questions about your feelings about your primary healthcare provider. A health provider is a doctor, nurse or anyone else you would see for health care. For these questions, please answer only in regards to the primary provider you see most often.*

5.1 Who do you see **most often** for your primary healthcare needs?

1. A doctor  
2. A therapist  
3. A nurse  
4. A psychiatrist  
5. Unsure/ Don’t know  
6. Other (specify) ____________

5.2 In general, how would you rate your **overall satisfaction** with the primary healthcare provider you see most often?

1. Completely unsatisfied  
2. Mostly unsatisfied  
3. Somewhat unsatisfied  
4. No opinion  
5. Somewhat satisfied  
6. Mostly satisfied  
7. Completely satisfied  

5.3 You said that you are [response from 5.2] with the healthcare provider you see most often. In your opinion, what do they do well?

*Interviewer: this is an open-ended question. Take detailed notes of response. Can also be tape recorded to retain all the details and tones.*

5.4 You said that you are [response from 5.2] with the primary healthcare provider you see most often. In your opinion, what do they not do well?

*Interviewer: this is an open-ended question. Take detailed notes of response. Can also be tape recorded to retain all the details and tones.*

5.5 Please describe to me your ideal healthcare experience where you would leave satisfied with the quality of care received.

*Interviewer: Take detailed notes and record if possible.*
**Interviewer Prompt:** Now I would like to ask you a few questions about how long you had to wait to secure your last appointment at your primary healthcare facility.

5.6 Think back to your last appointment with the primary healthcare provider you see most often. How long did you have to wait to get the appointment?

1. Less than 7 days
2. 8 days to 15 days
3. 16 days to 30 days
4. More than 30 days
5. Unsure/ don’t know

5.7 How satisfied are you with how long it took to get your last appointment?

1. Completely unsatisfied
2. Mostly unsatisfied
3. Somewhat unsatisfied
4. No opinion
5. Somewhat satisfied
6. Mostly satisfied
7. Completely satisfied

**Interviewer Prompt:** Now I would like to ask you some questions about your waiting times once you arrived at your healthcare facility.

5.8 Once you arrive at your primary healthcare facility, how long on average do you have to wait before you see your provider?

1. Less than 5 minutes
2. 6 minutes to 15 minutes
3. 16 to 30 minutes
4. More than 30 minutes

5.9 You said that once you arrive at your primary healthcare facility, you have to wait [response from 5.8]. How satisfied are you with the waiting time?

1. Completely unsatisfied
2. Mostly unsatisfied
3. Somewhat unsatisfied
4. No opinion
5. Somewhat satisfied
6. Mostly satisfied
7. Completely satisfied

**Interviewer Prompt:** Now I want to ask some questions about your experiences with the receptionist and staff at the primary healthcare facility you visit most often. For this
question, only consider your feelings about the receptionists and staff. DO NOT INCLUDE THE PERSON YOU SEE MOST OFTEN FOR PRIMARY HEALTHCARE.

5.10 How satisfied are you with the receptionist at your primary healthcare facility?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied
8  I do not interact with the receptionist

Interviewer: If answer to 5.10 is 8, then proceed to 5.14

5.11 In general how do you feel about the receptionist’s level of courtesy and respect to you?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied

5.12 In general how do you feel about the receptionist’s answers to your questions?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied
8  I don’t ask the receptionist any questions

5.13 In general how do you feel about the receptionist’s helpfulness to you?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
Interviewer Prompt: *Now I want to ask some questions about your experiences with the staff at the healthcare facility you visit most often. FOR THIS SECTION DO NOT CONSIDER YOUR PRIMARY HEALTH PROVIDER YOU SEE MOST OFTEN.*

5.14 How satisfied are you with the staff other than the healthcare provider you see most often at your primary healthcare facility?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied
8  I do not interact with the other staff

*Interviewer: If answer to 5.14 is 8, then proceed to 5.18.

5.15 In general how do you feel about the support staff’s [other than the primary healthcare provider you see most often] level of **courtesy and respect** to you?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied

5.16 In general how do feel about the support staff’s [other than the primary healthcare provider you see most often] answers to your questions?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied
8  I don’t ask the other staff any questions

5.17 In general how do you feel about the support staff’s **helpfulness to you**?
Interviewer Prompt: Now I would like to ask you a few questions about your experiences with the primary healthcare provider you see most often at this facility.

5.18 How satisfied are you with the primary healthcare provider you see most often at this facility?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied

5.19 In general how do you feel about the level of courtesy and respect from your primary healthcare provider you see most often?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied

5.20 In general how do feel about the primary healthcare provider’s (you see most often) answers to your questions?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied
8  I don’t ask any questions

5.21 In general how do you feel about the level of helpfulness of your primary healthcare provider you see most often?

1  Completely unsatisfied
2 Mostly unsatisfied
3 Somewhat unsatisfied
4 No opinion
5 Somewhat satisfied
6 Mostly satisfied
7 Completely satisfied

5.22 In general how do you feel about the primary healthcare provider you see most often explain things in a way that you can understand?

1 Completely unsatisfied
2 Mostly unsatisfied
3 Somewhat unsatisfied
4 No opinion
5 Somewhat satisfied
6 Mostly satisfied
7 Completely satisfied

5.23 In general how do you feel about the listening skills of the primary healthcare provider you see most often?

1 Completely unsatisfied
2 Mostly unsatisfied
3 Somewhat unsatisfied
4 No opinion
5 Somewhat satisfied
6 Mostly satisfied
7 Completely satisfied

5.24 In general how often does the primary healthcare provider you see most often treat what you have to say with respect?

1 Never
2 Sometimes
3 Usually
4 Always

5.25 In general how often does the primary healthcare provider you see most often use medical terms that you do not understand?

1 Never
2 Sometimes
3 Usually
4 Always
5.26 On an average visit to this facility, how much time does the primary healthcare provider you see most often spend with you?

1  less than 5 minutes  
2  6 to 15 minutes  
3  16 to 30 minutes  
4  31 minutes to 45 minutes  
5  46 minutes to 1 hour  
6  more than 1 hour  
7  don’t know/ unsure

5.27 In general how satisfied are you with the amount of time the primary healthcare provider you see most often spends with you on an average visit?

1  Completely unsatisfied  
2  Mostly unsatisfied  
3  Somewhat unsatisfied  
4  No opinion  
5  Somewhat satisfied  
6  Mostly satisfied  
7  Completely satisfied

Interviewer Prompt: If respondent answers [1] to 5.27, proceed to section 6.

5.28 You said that you are [answer to 5.27] with the amount of time the primary healthcare provider you see most often spends with you on the average visit. How much time do you feel he or she should spend with you during a typical visit to make you completely satisfied with the visit?

Interviewer: Open-ended question. Please write down answer.

Section 6: Treatment Plan and Medications

Interviewer Prompt: Now I would like to ask you a few questions about your treatment plan.

6.1 Have you had at least one conversation about your treatment plan with the primary healthcare provider you see most often?

1  Yes  
2  No  
3  Unsure/ do not know

Interviewer: If answer to question 6.1 is [2 or 3], then proceed to 6.4.
6.2 Think about the conversations you have had about your treatment plan with the primary healthcare provider you see most often. How satisfied are you with the explanation they have given you about your treatment plan?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied

6.3 How satisfied are you with the amount of say [or voice] you have in your overall treatment plan?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied

Interviewer Prompt: Now I would like to ask you a few questions about medications and prescriptions.

6.4 Has the primary healthcare provider you see most often prescribed at least one medication for your health condition?

1  Yes
2  No
Do not read:
3  Refused

Interviewer: If answer is [2 or 3] to 6.4, then proceed to final section 7.

6.5 You said that you have been prescribed a medication for your health condition. How satisfied are you with your healthcare provider’s explanation of the medication?

1  Completely unsatisfied
2  Mostly unsatisfied
3  Somewhat unsatisfied
4  No opinion
5  Somewhat satisfied
6  Mostly satisfied
7  Completely satisfied
6.6 How satisfied are you with your primary health care provider’s explanation of the medication’s side effects?

1. Completely unsatisfied
2. Mostly unsatisfied
3. Somewhat unsatisfied
4. No opinion
5. Somewhat satisfied
6. Mostly satisfied
7. Completely satisfied

6.7 When you were prescribed a medication, did you ask questions about it to your primary healthcare provider?

1. Yes
2. No
3. Unsure / don’t remember

*Interviewer: If answer is [2 or 3] for 6.7, proceed to final section 7.*

6.8 How satisfied are you with the answers your provider gave you to questions about your medication?

1. Completely unsatisfied
2. Mostly unsatisfied
3. Somewhat unsatisfied
4. No opinion
5. Somewhat satisfied
6. Mostly satisfied
7. Completely satisfied

**Section 7: Overall Satisfaction with Primary Healthcare Provider**

*Interviewer Prompt: Now I would like to ask you some questions about your overall satisfaction and feelings about the quality of care with your primary healthcare facility.*

7.1 Considering all aspects of this healthcare facility, how satisfied are you with the care you receive?

1. Completely unsatisfied
2. Mostly unsatisfied
3. Somewhat unsatisfied
4. No opinion
5. Somewhat satisfied
6 Mostly satisfied
7 Completely satisfied

7.2 Please rank from highest (1) to lowest (6) what you feel is most important in determining your overall satisfaction with primary care.
- Waiting times
- Primary provider helpfulness
- Support staff helpfulness (nurses, receptionists)
- Primary provider’s communication skills (listening skills, understandable explanation and answers to questions)
- Explanation of medications and side effects
- Distance traveled to facility to receive healthcare

7.3 Briefly describe why you ranked the things the way you did in question 7.2.

*Interviewer take detailed notes and record if possible.*

7.4 Considering all aspects of your primary healthcare facility, how would you rate the overall quality of the care you receive?

1 Excellent
2 Good
3 Neutral/ no opinion
4 Fair
5 Poor

*Interviewer, if answer is 1, please proceed to the end comments of the survey.*

7.5 You said that the overall quality of care from your primary healthcare provider is [answer from question above]. What could be done to improve the quality of care?

*Interviewer: This is an open-ended question. Please take detailed notes.*

Interviewer Prompt: This concludes the survey. Thank you very much for taking the time to answer these questions. Your comments will be very helpful in understanding patient satisfaction and accessibility with care. Please remember that your specific comments will be available only to members of the research team. After we are done with the study, we would be happy to share the general findings with you. You may give us your contact information and we will mail you a copy of the results or you may call Tim Hawthorne at 614-292-6127 with any questions you may have.

One last thing, could you please sign the form [hand them the form] to show that you have received a gift card for participating in this study. Thanks again.
Appendix B: Tables from Qualitative Inquiry
### Table 4: Themes in Response to Question about Distance

**Qualitative Themes (Occurrences)**

<table>
<thead>
<tr>
<th>Positive Themes:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1: “I am close to my healthcare provider, so I am happy”</td>
<td>9</td>
</tr>
<tr>
<td>Theme 2: “I am pleased with the distance I have to travel”</td>
<td>6</td>
</tr>
<tr>
<td>Theme 3: “I am okay with the distance, since it gets me out of the neighborhood”</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negative Themes:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 4: “I do not like the distance I have to travel”</td>
<td>4</td>
</tr>
<tr>
<td>Theme 5: “Sometimes I have to walk, so distance is a problem”</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negligible Theme:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 6: “A good doctor is worth the distance”</td>
<td>6</td>
</tr>
<tr>
<td>Theme 7: “Distance is not important to me at all”</td>
<td>7</td>
</tr>
</tbody>
</table>

### Table 5: Themes in Response to Question about Waiting Times

**Qualitative Themes (Occurrences)**

<table>
<thead>
<tr>
<th>Negative Themes:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1: “Frustration and/or confusion over waiting times”</td>
<td>26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positive Themes:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 2: “Happy or ok with waiting times”</td>
<td>14</td>
</tr>
<tr>
<td>Theme 3: “Ok with waiting times because others need help too.”</td>
<td>5</td>
</tr>
<tr>
<td>Theme 4: “I will wait for a good doctor.”</td>
<td>4</td>
</tr>
</tbody>
</table>

### Table 6: Theme 1 in Response to “Please explain what you feel your primary provider does well”

**Theme 1: “Addresses My Needs and Does What is Needed” (Occurrences)**

- Sub-theme 1: Addresses illness and/or concern (26)
- Sub-theme 2: Gives correct and good medications (20)
- Sub-theme 3: Knowledgeable about my health issues (6)
- Sub-theme 4: Does what is necessary (5)
- Sub-theme 5: Keeps me alive and well (4)
- Sub-theme 6: Gets me what I need (3)
Table 7: Theme 2 in Response to “Please explain what you feel your primary provider does well”

<table>
<thead>
<tr>
<th>Theme 2 “Bedside Manner and Communication Skills” (Occurrences)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-theme 1: Good listening skills (22)</td>
</tr>
<tr>
<td>Sub-theme 2: Good bedside manner (11)</td>
</tr>
<tr>
<td>Sub-theme 3: Shows concern about me (8)</td>
</tr>
<tr>
<td>Sub-theme 4: Knows me and my body (5)</td>
</tr>
<tr>
<td>Sub-theme 5: Good person, good man or woman (5)</td>
</tr>
<tr>
<td>Sub-theme 6: Talks straight with me (4)</td>
</tr>
<tr>
<td>Sub-theme 7: Takes time with me (2)</td>
</tr>
</tbody>
</table>

Table 8: Themes in Response to “Please explain what you feel your primary provider does not do so well”

<table>
<thead>
<tr>
<th>Qualitative Themes (Occurrences)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1: “Does nothing poorly” (24)</td>
</tr>
<tr>
<td>Theme 2: “Poor communication skills and bedside manner” (26)</td>
</tr>
<tr>
<td>Sub-theme 1: “My doctor has poor listening skills” (9)</td>
</tr>
<tr>
<td>Sub-theme 2: “The doctor does not take my advice” (4)</td>
</tr>
<tr>
<td>Sub-theme 3: “The doctor does not answer me or my questions” (3)</td>
</tr>
<tr>
<td>Sub-theme 4: “The doctor does not answer me or my questions” (3)</td>
</tr>
<tr>
<td>Sub-theme 5: “Poor communication between provider and patient” (2)</td>
</tr>
<tr>
<td>Sub-theme 6: “Lack of one-on-one time with the provider” (2)</td>
</tr>
<tr>
<td>Sub-theme 7: “The doctor acts better than me” (2)</td>
</tr>
<tr>
<td>Sub-theme 8: “The doctor does not ask questions” (1)</td>
</tr>
<tr>
<td>Sub-theme 8: “The doctor tells me what not to do” (1)</td>
</tr>
<tr>
<td>Theme 3: “Issues Related to Medication” (10)</td>
</tr>
<tr>
<td>Sub-theme 1: “Doesn’t give me the pills I need” (2)</td>
</tr>
<tr>
<td>Sub-theme 2: “Doesn’t give me the proper medications” (2)</td>
</tr>
<tr>
<td>Sub-theme 3: “Doesn’t follow up on prescriptions and refills” (2)</td>
</tr>
<tr>
<td>Sub-theme 4: “Doesn’t explain my medications” (2)</td>
</tr>
<tr>
<td>Sub-theme 5: “Gives me the wrong prescriptions” (2)</td>
</tr>
<tr>
<td>Theme 4: “My doctor doesn’t make the pain go away” (2)</td>
</tr>
<tr>
<td>Theme 5: “I have to wait a long time to see the doctor” (7)</td>
</tr>
</tbody>
</table>