COMMUNITY SOCIAL CAPITAL AND THE HEALTH CARE SAFETY NET

by

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A Dissertation Submitted to the Faculty of the

COMMITTEE ON BUSINESS ADMINISTRATION

In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF PHILOSOPHY
WITH A MAJOR IN MANAGEMENT

In the Graduate College

THE UNIVERSITY OF ARIZONA

2006

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the Dissertation Committee, we certify that we have read the dissertation

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recommend that it be accepted as fulfilling the dissertation requirement.

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ACKNOWLEDGEMENTS

I would like to take this opportunity to first give all honor and praise to God for giving me the ability and the fortitude to fulfill the requirements for this degree. All that I am and all that I ever hope to be is because of His love for me.

I would also like to thank my dissertation committee members who challenged and encouraged me to step up my game over the past four years. I have enjoyed being both your student and your colleague. There is no doubt that I am a better person for having had that opportunity. I am deeply grateful for the investment that you have made in my future. I promise you that it was not in vain. Among the many scholars at the University of Arizona who have invested in my future, none was more dedicated than my committee chair and academic advisor, Keith Provan. His tenacious commitment to my intellectual development was often painful at times but I have benefited greatly from his thorough and rigorous approach to writing and the theory development process.

It was my pleasure to have worked with and been mentored by so many amazing health services researchers and policy analysts within and outside of academia. My friends and colleagues at The George Washington University, Center for Health Services Research and Policy have been a constant source of support while I have been in Arizona. The incredible researchers at the Center for Studying Health System Change, especially Jim Reschovsky and Peter Cunningham made invaluable contributions to this dissertation research. I would also like to thank Anne Pope at the Bureau of Primary Health Care and Daniel Shoou–Yih for their assistance in data collection.

Most of all, I would like to thank my family and friends for their unwavering support, words of encouragement, and prayers during these four years. I found strength in you when I had none of my own and for that I will be forever grateful.

DEDICATION

This dissertation is dedicated to my best friend, Donald S. Lockley. I didn't understand what true love was until I experienced your love for me. Thank you for making me laugh through my tears and for always reassuring me of the light at the end of the tunnel. This dissertation is as much yours as it is mine. I could not have done it without you.

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ABSTRACT

This dissertation offers an empirical examination of the relationship between community social capital and health care safety net capacity. The ability and willingness of federally qualified health centers (FQHCs) and private physicians to serve the uninsured is crucial to ensuring that all Americans have access to a basic level of health care. Among other factors, this ability and willingness has been found to be a consequence of unique community values and traditions. This dissertation examined the extent to which the level of community social capital (community rates of participation in club meetings, projects, volunteer and civic activities) was related to three health care provider outcomes; 1) the willingness of private physicians to deliver uncompensated care; 2) the financial capacity of FQHCs to provide uncompensated care; and 3) the amount of FQHC resources directed toward the provision of largely uncompensated community-oriented services.

Community and health care provider data on 1,248 FQHCs across 183 U.S. counties and 12,406 private physicians across 1,029 U.S. counties were collected from multiple data sources. Comprehensive multivariate analyses including Canonical Correlation Analysis (CCA), Ordinary Least Square (OLS) and Hierarchical Linear Modeling (HLM), and a planned comparison was conducted on these data at the community ecological and individual provider levels of analysis.

Based on a literature review and the theoretical components of social capital theory, I developed a conceptual framework that proposed a relationship among social context, institutional frameworks and organizational behavior. The dissertation research sought to determine the extent to which the social context in which the organization was embedded influenced organizational behavior.

I found that the relationship between community social capital and health care safety net capacity was weak and the direction of the association mixed. Among the findings was a positive and significant relationship between civic participation and FQHC grant revenues. Unexpected findings included significant correlations between community social capital and Medicaid generosity, and social capital and uninsurance. Although the data analysis suggested that unmeasured factors were largely responsible for variation in safety net capacity, it raised interesting questions that provoke future study. Important implications for theory, policy and practice are discussed.

CHAPTER I INTRODUCTION

Health care reform has repeatedly appeared on the national political agenda due, in large part, to escalating health care costs and a growing pool of uninsured persons. Over the years, the federal government has adopted various strategies for dealing with these problems. These strategies however, are constrained by social, economic, and political ideologies regarding the proper role of the government and the market in the health care finance and delivery system. In general, the U.S. has adopted a highly individualistic approach to health care based on the core values of a capitalist democracy. The enforcement of these core values by private interest groups has repeatedly and effectively resisted any comprehensive governmental intervention in the financing and delivery of health care services. Due to numerous failed attempts to enact comprehensive health care reform, policy makers have used incremental approaches to strike a balance between the values of efficiency and equity. In other words, the government's role in health care is an attempt to gain control over health care costs, while at the same time, expand access to more Americans, especially those without the ability to pay.

Currently, federal health policy focuses on increasing the capacity of the health care safety net to provide care to the nation's 45 million uninsured persons. In addition to the uninsured, the safety net serves a large portion of the nation's 50 million Medicaid enrollees and a smaller portion of the nation's 41 million Medicare enrollees. The safety net can be described as a patchwork of providers, funding, and programs that serve

vulnerable populations such as the low-income uninsured. While the "functional" safety net includes the full range of available providers within a given community, the "core" safety net includes providers such as public hospitals and community health centers whose patient populations are largely uninsured, recipients of Medicaid, or members of other vulnerable groups. Federal spending on the health care safety net including Medicaid, Medicare, and other federal programs used to support safety net services amounted to almost $23 billion in 2004. This represents a 15 percent increase in funding over a four-year period. Furthermore, federal support for community health centers, which are the focal point of the current Administration's policy for providing care to the uninsured, grew by 50 percent between 2001 and 2004. The health center expansion initiative that began in 2001 would bring the total amount of federal funding for health centers to $2 billion by fiscal year 2006 (KFF, 2005; NACHC, 2005). Although it is not comprehensive reform, health center expansion is an effective incremental approach. Since their inception in 1964, community health centers nationwide have cost-effectively provided quality care for 15 million patients regardless of insurance coverage or ability to pay (Proser et al., 2005).

However beneficial, incremental policies have failed to curb the rise in the uninsured, which has grown by over 11 percent since 2001. Consequently, many communities have experienced diminished health services capacity, especially communities where uninsurance rates are especially high (IOM, 2003). The uninsured receive about $41 billion worth of uncompensated care annually through a variety of

community providers who must balance the needs of the community with their own economic viability (Hadley & Holahan, 2003). Reportedly, a third of private physicians believe that the number of uninsured patients in the U.S. has reached a crisis level. And, more than half of physicians surveyed had incurred several thousands of dollars worth of debt due to their provision of uncompensated care (AMA, 2006). This has contributed to a decade-long decline in private physicians' provision of charity care, and if the past is a prelude to the future, the decline will increasingly transfer the burden of uncompensated care to "core" safety net providers who by legal mandate or explicitly adopted mission maintain an "open door", offering access to services to patients regardless of their ability to pay (AMA, 2005; Cunningham & May, 2006; IOM, 2000).

Despite their disproportionate role in caring for underserved populations, the small share of health resources represented by "core" safety net providers such as community health centers assures that the larger health care system, particularly private physicians, will need to share the burden of the provision of uncompensated care. In the absence of a national health care financing mechanism, protecting and even increasing the ability and willingness of private physicians and community health centers to provide charity care is crucial to ensuring that the uninsured have access to a full range of primary and preventive health care services.

Currently, governmental funding to support the provision of uncompensated care is institutionally, rather than individually-based. Specifically, there is no financing

mechanism that supports the provision of uncompensated care given by private physicians who do not work in an institutional setting such as a hospital or federally qualified community health center (FQHC) (AMA, 2005). Furthermore, despite increases in federal funding to support health care safety net services, funding has not kept pace with actual health care costs or the rise in the uninsured. In fact, when adjusted for the growth of the uninsured, federal funding to the safety net has actually decreased by 8.9 percent (KFF, 2005). Specific to health centers, the average annual cost of treating a health center patient is $230 more than what the federal grant currently pays per uninsured (NACHC, 2005). Moreover, states have reduced direct funding for health centers by about $54 million over the past two years (NACHC, 2005). Thus, health care providers have increasingly turned to sources within their local communities to support the provision of safety net services (McAlearney, 2002; Felland et al., 2003).

While the forces driving the health care system are similar from community to community, including pressure to reduce prices, increased managed care, and technological developments, communities react to these changes in different ways. The ability and willingness of health care providers to provide services to the indigent has been found to be a consequence of unique community values and traditions. Specifically, when community values emphasize equitable access to care and quality of care, political and economic institutional arrangements, and provider behaviors reflect these community values (Steinberg & Baxter, 1998; Hendryx et al., 2002; Felland et al., 2003). Social capital has been described as the norms and values that govern interactions among people

and the institutions in which they are embedded. Although the studies referenced above did not explicitly use the term social capital, their findings can be interpreted to suggest that community social context plays a significant role in shaping the local political and economic institutional arrangements that determine the composition and concentration of care to the poor. Since community social capital is indicative of norms and values it is an important part of community social context.

The findings of these and other important studies informed this dissertation research, which is an examination of the relationship between community social capital and the financial capacity and willingness of health care providers to provide uncompensated care. The main analysis will be an examination of the extent to which the level of community social capital (community rates of participation in club meetings, community projects, volunteer and civic activities) is related to three community health care provider outcomes; 1) the willingness of private physicians to deliver uncompensated medical care as indicated by the number of hours that each physician respondent provided charity care within a given month; 2) the financial capacity of FQHCs to provide uncompensated care as indicated by the FQHC's annual grant revenues; and 3) the amount of FQHC financial and human resources directed toward the provision of largely uncompensated community-oriented services as indicated by the proportion of health center costs and full-time equivalents used to deliver enabling services within a given year.

Though researchers have examined the relationship among community social capital, health, and health care, little attention has been paid to the actual provision or funding of health care services. Many of the social capital studies in the health care field approach the relationship from an epidemiological perspective (e.g., Kawachi et al., 1997; Kawachi et al., 1999; Kennedy et al., 1998), and indicate a positive relationship between community social capital and health outcomes. However, it is more likely that health outcomes are a consequence of macro-level social and economic processes that influence health across the life course. Alternatively, measuring health outputs such as health care services emphasizes the material, institutional, and political factors in the environment that affect health (Pearce & Davey-Smith, 2003).

The small number of studies that have examined the relationship between community social capital and health care services examined subjective measures of health care access, quality of care, and availability of community-oriented services (Hendryx et al., 2002; Ahern & Hendryx, 2003; Shoou-Yih et al., 2004) rather than objective measures of service provision or funding. Therefore, although these studies suggested that the development and mobilization of community social capital may lead to improved health care institutional performance, the relationship is speculative rather than empirically indicated and supported. In addition, although most of the literature indicates a positive relationship between community social capital and subjective measures of health outcomes and outputs, contradictory findings exist because of disparate operationalizations of social capital. Therefore, the influence of community social capital

on heath care institutional performance is still somewhat unclear. This dissertation seeks to provide this clarification by answering the question: What is the relationship between community social capital and community health care safety net capacity?

The dissertation also seeks to contribute to organizational theory by building a theory of organizational action within institutionalized environments. By combining the insights of institutional and social capital theories within an analytical framework, the Institutional Embeddedness Social Capital (IESC) framework developed for this study seeks to explain the dominant and pivotal role of community social context in shaping institutional dictates, and thereby, organizational action.

This dissertation seeks to make a contribution to the social capital theory literature by answering the question of whether the relationship between community social capital and community health care safety net capacity is contingent upon the operationalization of social capital. In recent years, there has been an explosive interest in the utility of social capital for improving institutional performance, particularly economic and political institutions (Portes, 1998; World Bank, 2001; Field, 2003). As a relatively young theory, social capital has encouraged complex and multidimensional investigation; however, its rapid proliferation and diverse application have led to significant definitional and measurement incongruities thus inhibiting theoretical advancement (Baum, 1999; Schuller et al., 2000; Portes, 1998; Woolcock, 1998; Field, 2003; Waldstrom, 2003).

This dissertation's focus on operationalization seeks to contribute to the theoretical refinement and advancement of social capital theory.

Research Site

This study examines the capacity and willingness of the two types of community health care providers most likely to provide primary and preventive health care services to the uninsured within their communities: federally qualified health centers (sample size = 1,248 across 183 U.S. counties) and private physicians (sample size = 12,406 across 1,029 U.S. counties). This study focuses on the provision of primary care services because it is the type of care that most people will need, most of the time, for most of their health concerns (Jonas, 1998). Moreover, examining the financing and delivery of primary care services provides valuable insight into the efficiency and equity of a nation's health care delivery system as a whole (Starfield, 1996).

Beginning in 1996, the Center for Studying Health System Change (HSC) has conducted surveys and site visits to document changes in health care systems over time. Through these initiatives, HSC seeks to describe and analyze how the interactions of providers, insurers, policy makers, and others determine the accessibility, cost, and quality of locally delivered health care. The core of these efforts is HSC's Community Tracking Study (CTS)-Household and Physician Surveys, which are sets of periodic surveys and site visits centered around U.S. communities that allow researchers to analyze information about local markets and the nation as a whole (Strouse et al., 2003).

This dissertation uses the Physician Survey, which is a cross-sectional, random sample survey designed to be representative of direct patient care physicians in the continental United States.

A core set of information appropriate for monitoring and evaluating health center performance and reporting on trends is collected through the Uniform Data System (UDS) maintained by the Bureau of Primary Health Care (BPHC). Over the years, the BPHC has refined the data collection process thus improving the quality and reliability of the data. The UDS provides the most recent and comprehensive information on FQHCs and includes payor-specific information on the number and proportion of health center users, health center revenue, costs, and resource allocation. In addition, the UDS includes information on health center staffing and utilization of medical, dental, and social support services. The wealth of the data contained in the CTS and the UDS, and the growing literature on the utility of social capital for improving institutional performance offered an excellent opportunity to study the relationship between community social capital and the financing and delivery of local health care services. Moreover, the current national focus on the health care safety net, in particular, community health centers, provided a good rationale for undertaking such a study.

Study Focus

The focus of this dissertation is on the concept of social capital, which is defined as the resources embedded in a social structure, which are accessed and/or mobilized in

purposive action (Lin, 2001). This dissertation will examine the relationship between community-level social capital and health care safety net capacity. Capacity is operationalized as the ability and willingness of federally qualified community health centers (FQHCs) and private physicians to provide uncompensated care.

The organization of the rest of this discussion is as follows. In this introductory chapter, I will discuss the unique socio-economic and socio-political dynamics of the health care field that constrain and expand health care safety net capacity. The purpose of this discussion is to emphasize the institutional embeddedness of health care providers and the benefit of using a social model, such as IESC framework developed for this study, to analyze health care provider behaviors and outcomes. Next, I will identify the knowledge gap between extant theories of social capital and health care institutional performance. Lastly, I will introduce the two research questions guiding this study and briefly describe the empirical analysis conducted to answer these questions.

The technical nature of health care creates a significant information asymmetry in the patient-provider relationship. Given this asymmetry social, economic, and political institutional frameworks monitor and sanction provider behavior. These frameworks include professional and social normative expectations as well as national, state and local regulatory structures. Obviously, the broad goal in the health care field is patient health. However, providers are also faced with real economic issues that often conflict with more normative expectations of loyalty and commitment to patients and other providers

(Morreim, 1995; Pellegrino, 1989; Rodwin, 1993; Spencer et al., 2000). Health care has become a significant area of social, economic, and political conflict in the U.S. due to escalating health care costs and decreased access to care for many Americans. The conflict essentially revolves around the ideological tension between health care as a commodity, something to be bought and sold on the free market, and health care as a social good. Since the government's role in health care finance and delivery has been effectively minimized by the power of private interests groups, the task of mediating the tension between the existing ideologies has been largely left to health care providers (Geraghty, 2003).

In spite of economic and political pressures, health care providers are likely to respond and make strategic choices in light of the social pressures emanating from the larger society. This is true of most organizations that operate in highly institutionalized environments (Galaskiewicz, 1991). Health care providers are highly responsive to their social environments because within institutionalized fields like health care, organizational viability is dependent upon public perceptions of social performance (DiMaggio & Powell, 1983; Starr, 1982). Moreover, although health care providers must be responsive to pressures emanating from public and private non-local sources (e.g., financers and regulators), health care provider behaviors and outcomes are strongly influenced by local social, political, and economic institutional variables (Ginsberg & Fasciano, 1996; Felland et al., 2003; Norton & Lipson, 1998; Shoou-Yih et al., 2004; Stone & Bigelow, 1995), which reflect the community's social context (i.e., common community norms and

values) (Steinberg & Baxter, 1998; Ahern & Hendryx, 2003; Luke & Walston, 2003). In effect, the local social environment of health care providers ultimately serves as the guide for health care provider behavior, and thus, determines health care institutional performance.

"Core" health care safety net providers, specifically FQHCs, are deeply embedded and highly responsive to the social environment of their local communities due to the grassroots organizational structure of FQHCs. As a condition of receiving federal funds, the health center must demonstrate the establishment of a governing board that has a 51 percent consumer majority. This fosters a culture of ownership and responsibility, and intertwines the growth of the FQHC with local culture and social relationships. FQHCs have been able to use their social relationships to generate support for their organizational missions. This has been crucial to maintaining viability in the face of declining federal and state revenue sources (McAlearney, 2002; Felland et al., 2003).

The community social environment has also been shown to influence the distribution of the burden of uncompensated care across the full spectrum of community health care providers (Steinberg & Baxter, 1998). Although private physicians do not often serve as "core" safety net providers (except in rural areas), they are essential elements of the 'functional" safety net, especially since they can provide access to a cadre of costly specialty care services that are not offered by FQHCs. Therefore, community health care safety nets need the resources of both of these types of providers in order to

effectively meet the needs of the uninsured and underinsured. In 2004, 940 FQHCs nationwide served 13 million patients, 40 percent of whom were uninsured (BPHC, 2004). In the same year, private physicians provided $7.3 billion worth of uncompensated care (Hadley & Holahan 2004 update to Hadley & Holahan, 2003). However, the ability and willingness of these providers to continue serving the poor and uninsured is compromised by the continued growth in the uninsured and the scarcity of resources to support uncompensated care provision.

In general, the health care safety net is in an endangered state; however, there is substantial variation in safety net capacity across communities. Among other things, this variation is due to variation in community support and local health policies that provide adequate funding for indigent care (Felland et al., 2003). The ability of communities to promote health care access for vulnerable populations depends on the degree to which common community values toward the preservation of the safety net exists (Baxter & Steinberg, 1998). This points to a relationship among common community values, institutional structures, and performance. Common community values are developed through repeated social interaction, which in turn creates norms of generalized reciprocity and enforceable trust that enable capacity for collective action in pursuit of shared goals. The culmination of this chain of events constitutes what Putnam (1995) calls the social capital of the community. Put simply, communities characterized as having social capital are full of people who trust, know, and take care of each other (Peterson, 2002).

It is likely that higher levels of community social capital contribute to higher levels of health care safety net capacity. I make this speculation by following a logical chain of events that involves the development and enforcement of common community norms and values, which are focused on the preservation of health care safety net services. Key to this chain of events is the rise of community accountability mechanisms which have two key objectives: 1) protecting access to care for vulnerable populations; and 2) supporting local health care systems (Baxter & Steinberg, 1998; Hendryx et al., 2002; Ahern & Hendryx, 2003). Community accountability mechanisms arise as a direct consequence of the dense social networks characteristic of high social capital communities.

Dense social networks create the social capital norms of generalized reciprocity and enforceable trust. These two theoretical components of social capital facilitate cooperative reciprocity toward collective action; they allow the community to act as an enforcer of community norms and values, and aid in the instrumentality of social capital for collective and individual goal attainment. For example, according to the norms of generalized reciprocity and enforceable trust, once a resource is given by a donor the donor's return may come from either the recipient or from the collectivity in the form of status, honor or approval. The collectivity itself acts as a guarantor that whatever debts are incurred will be repaid (Portes, 1998). In an example specific to heath care, a private physician may provide charity care to an uninsured patient with the expectation that this action will be viewed favorably by the community. Consequently, the physician gains,

perhaps, an obligation for monetary repayment from the patient, but more importantly, he gains an intangible resource of legitimacy (reputation) from the wider community that may be used to garner business opportunities in the future.

Moreover, Steinberg & Baxter (1998) found that community accountability mechanisms were useful for enforcing an equitable distribution of the burden of uncompensated care across the full spectrum of community providers. In one of the communities examined by Steinberg & Baxter (1998) community members successfully enforced health care provider conformance to community norms when it discovered that the provider was not contributing a "fair" share of resources toward the provision of uncompensated care. In sum, these findings suggest that community social capital via community accountability mechanisms not only creates a common value toward the preservation of health care safety net services but social capital has instrumentality precisely because it can be developed and mobilized in the pursuit of personal and common goals (Coleman, 1998; Portes, 1998; Burt, 1992).

For example, health care safety net providers may seek to develop community-wide social capital with the expectation that the community will be more likely to value and preserve safety net services. Alternatively, on a more personal level, safety net providers may seek to influence their institutional environments through the strategic development of formal and informal relationships with policy makers, community members and other organizations, and mobilize the economic, political, and social

resources embedded in those social structures to preserve their mission of providing care to the uninsured (Lin, 2001). In either case, social capital is a viable tool for health care providers seeking to influence the institutional environments that empower and constrain them.

Several studies have examined the effects of social capital on health and health care, including studies of the relationship between social capital and health care access, mental health outcomes, mortality, health status, and provider-patient relationships (e.g., Hendryx & Ahern, 2001; Ahern & Hendryx, 2003; Hendryx et al., 2002; Kawachi et al., 1997; Kawachi et al., 1999; Kennedy et al., 1998; Rosencheck et al., 2001; Weitzman & Kawachi, 2000). Several of these studies were important for this research, including Baxter & Steinberg's (1998) study of 12 communities' health care safety net delivery systems; Ahern & Hendryx's (2003) study of patient-provider relationships; Hendryx et al.'s (2002) study of health care access; and Shoou-Yih et al.'s (2004) study of the availability of hospital community-oriented care.

Although the studies focused on various outcomes, they indicated a definite relationship among community social capital, institutional performance, and consequently, individual and organizational behaviors. For example, Hendryx et al. (2002) and Ahern & Hendryx (2003) found that community social capital positively influenced patient-reported access to care and the quality of care that they received. Steinberg & Baxter (1998) found that common community values created accountability

mechanisms that ensured an even distribution of the burden of uncompensated care among community providers, and shaped political institutional frameworks that supported health care safety net services. Shoou-Yih et al. (2004) found that disparate measures of community social capital had unique influences on hospitals' availability of community-oriented services. This particular study was important because it produced contradictory findings due to the use of disparate operationalizations of community social capital.

Although these studies largely suggested that community social capital positively influences health care institutional performance, the role of health care financing and actual service provision was not clearly indicated. For example, in the Hendryx et al. (2002) study, increases in access could be a consequence of increases in service provision. Alternatively, it could also be a consequence of health care policies that provide adequate funding or community giving to support health care safety net services. The lack of an empirically supported and indicated direct relationship between community social capital and the financing and delivery of health care safety net services forms the basis for my first research question:

Research Question 1: What is the relationship between community social capital and community health care safety net capacity?

The second research question examines the relationship between specific indicators of community social capital and health care safety net capacity. The contradictory findings of the Shoou-Yih et al. (2004) study that I previously discussed are troubling. Unlike previous studies that used composite measures of community social capital, Shoou-Yih et al. (2004) used more precise measures. However, the authors still combined community associational indicators into one composite variable for their empirical analysis. Although using a broad range of measures is consistent with previous studies (e.g., Paxton, 1999; Putnam, 1995) and indicative of community social capital, using composite indicators obscures the relationship between specific community social capital indicators and a study's outcome variable. Following Shoou-Yih et al.'s (2004) logic, it is possible that consolidating indicators that appear internally consistent conflate distinct concepts. This provides the basis for my second research question:

Research Question 2: Is the relationship between community social capital and community health care safety net capacity contingent upon the operationalization of social capital?

Empirical Analysis

This cross-sectional study is based on community contextual and health care provider data from 1,248 FQHCs and 12,406 private physicians located in 183 and 1,029 U.S. counties, respectively. The data were collected between May 2005 and August 2005 from multiple restricted and public use data files. The use of restricted files required a

data license and confidentiality agreement between myself and the Bureau of Primary Health Care (BPHC), and the Center for Studying Health System Change (HSC). Public data files were downloaded from the Internet. The variables collected from these data sources followed previous social capital and health care services research (e.g., Putnam, 1993; Shoou-Yih et al., 2004; Cunningham et al., 2005).

Specifically, FQHC data from the 2003 Uniform Data System (UDS) included the number of patients by income group and coverage/payor type, staffing and expenditure information for social services (enabling) provision, and grant revenue totals for 890 grantees. Grantee-level data were allocated across 5,000 health center sites. Private physician data from the 2000-01 Community Tracking Study (CTS)-Physician Survey included individual-level responses to the question, "During the last month, how many hours, if any, did you spend providing charity care?" Physician financial and demographic characteristics were also collected including ownership of practice, managed care participation, gender, race/ethnicity, and graduate status.

Community social capital data are from the 1990-97 DDB Needham Market Survey maintained by the DBB Needham advertising agency. It is a pooled cross-sectional database containing archived individual-level responses to questions about social, economic, and political values and behaviors. This dissertation research used pooled and community-averaged responses to three community involvement questions: 1) number of club meetings attended in the last year; 2) number of community projects

worked on in the last year; and 3) number of times participated in volunteer work in the last year. Social capital data also included November 1996 county-level tabulations of returns and voting participation statistics from 3,140 counties in all 50 U.S. states maintained by Data Election Services. Other data files included Medicaid data, maintained by the Centers for Medicaid and Medicare, county uninsurance rate data from the U.S. Census Bureau Small Area Health Insurance Estimates, and county and site-level secondary files maintained by the Center for Studying Health System Change. These secondary files contain geographic, population, socioeconomic, and demographic statistics, and health system descriptors for communities examined in the CTS Household and Physician Surveys. These data are compiled from a variety of databases including the U.S. Census Bureau, Area Resource File (ARF), Source Book America, InterStudy, American Hospital Association, American Medical Association, and the American Osteopathic Association.

The study's multivariate analysis used multiple regression models to assess whether variations in FQHC grant revenues, FQHC social support services (enabling services), and private physician hours of charity care could be significantly attributed to community levels of civic participation, involvement in community associations, projects, and volunteering. The models controlled for other factors such as community socioeconomic status, demographics, FQHC size, state Medicaid generosity, and physician demographics. The empirical analysis was conducted on two separate data sets: 1) Physician data set which contained the individual-level responses of 12,406 physicians

and corresponding county-level social capital and control data for 1,029 U.S. counties; and the 2) FQHC data set which contained health center site-level data for 1,248 health centers and corresponding county-level social capital and control data for 183 U.S. counties.

Through this theory based empirical analysis, I hope to expand our understanding of the implications of local social context for organizational action within institutional environments, and ultimately health care institutional outcomes. By combining theoretical views from institutional and social capital theories this study seeks to provide a theory of action that is purposive but still reflective of the social complexities that constrain organizational action. For social capital theory in particular, this study seeks to contribute to its theoretical refinement by expanding our understanding of the unique contribution that each social capital indicator has on institutional outcomes. My work should also have important practical and policy implications. The study seeks to provide health care policy makers and practitioners with an approach to building community health care safety net capacity that capitalizes on the unique social context of the health care field. By emphasizing the role of social relationships in organizational strategic action, I also hope to provide health care providers with a practical way to shape the institutional pressures that threaten their viability.

CHAPTER II BACKGROUND

This chapter will provide the background knowledge needed to understand the context in which this dissertation takes place. I will present an overview of the historical developments in three specific areas of interest: the financing and delivery of health care services in the United States, national health policy and history, and the health care safety net. In the section on health care financing and delivery, I explain the relationship among the economic, political and social aspects of health care. I briefly trace the history of the U.S. health care system and emphasize the role of the medical profession in shaping the health care institutional environment. Specifically, the power and authority of physicians that, at one time, enabled them to exercise dominant control over the markets, organizations, policies and programs that governed the U.S. health care system. The purpose of this discussion is to explain how and why health care in the U.S. developed into a system characterized by inequitable distribution of services and inflationary costs. The section ends with a discussion of the current state of affairs in the areas of health care costs and access.

In the section on national health policy and history, I focus on the important developments in policy that are focused toward expanding access to health care services. The overriding health policy challenge in the U.S. is how to gain control of escalating health care costs, and at the same time, expand access to more Americans, especially those without the ability to pay (Hoffman & Sered, 2005). National health care policy

trends are important to understand because the trends that occurred on a national level have had a direct impact on the state and local service delivery level. This is particularly evident when I discuss the current initiative of the Bush administration to "put a health center in every poor county". There are two purposes for the discussion. The first purpose is to indicate how the repeated failure to enact comprehensive health care reform has resulted in a strategy of incrementalism that has failed to stem the rise in the uninsured or ameliorate the disparities in health care access caused by a lack of insurance. The second purpose of the discussion is to provide an overview of major federal legislation that has directly affected the financing and delivery of care to the uninsured by private physicians and community health centers.

In the section on the health care safety net, I present a general description of the health care safety net before focusing specifically on the role of private physicians and Federally Qualified Health Centers (FQHCs). The ability and willingness of these providers to deliver uncompensated health care services largely determines a community's capacity to care for low-income, uninsured populations. This discussion is important because community health care safety net capacity is the empirical setting of this dissertation research. In recent years a confluence of economic and political factors has compromised the ability and willingness of health care providers to meet the health and social needs of vulnerable populations. In this section, I describe FQHCs and the health system factors that threaten their viability. I also discuss trends in the proportion of U.S. private physicians providing charity care.

Finally, in the last section of this chapter, I draw from institutional and economic theories to explain the socio-economic and socio-political dynamics of the health care field. In the past, the medical profession relied on social/cultural institutional forces to strategically shape the political and economic environments that constrained them. I will argue that social forces continue to shape these environments and provide powerful motives for institutional change. The purpose of this discussion is to demonstrate that a social model of organizational behavior is appropriate for analyzing health care providers. The institutional embeddedness social capital (IESC) framework developed for this dissertation research is such a model. It asserts that institutional actors, particularly health care safety net providers, can strategically shape the institutional pressures that constrain them through the development and mobilization of social capital.

Health Care Financing and Delivery

The U.S health care system is embedded; and is therefore, shaped by the social, political, and economic institutional frameworks that govern the larger social system. In the larger society, political and economic institutional frameworks are representative of social norms and values. In theory, the formal institutions are simply a reflection of the more informal ones. Although the social values of Americans are quite diverse, as a nation, Americans are typically characterized as having dogmatic faith in the tenets of inalienable liberty and individualism. Their strong aversion to centralized governance has resulted in a highly decentralized governmental structure that has historically left many matters to the discretion of state and local governments, which in turn, left as much to

private and voluntary action as possible. Accordingly, Americans developed a highly individualistic approach to health care, which is modeled on the political and economic philosophies of classical liberalism. Classical liberalism promotes a specific, highly individual form of competition with outcomes being decided by a free-market economy. Therefore, success in the American market-place depends upon the market forces of a consumer-based public (Geraghty & Wynia, 2000). A major defining characteristic of the U.S. health care system is the centrality of its operations in the "free market" (Ginzberg, 1996). Over the course of its development, extraordinary amounts of political and economic resources have been directed toward maintaining the primacy of place of the free market in the health care delivery system (Jonas, 1998). In effect, these efforts seek to minimize government interference in the practice of medicine and have effectively resisted any comprehensive governmental intervention in the financing and delivery of health care services.

Ideology and the Health care System

The development of the American health care system took place over several centuries. Each epoch contained a distinct zeitgeist, a spirit of the times, which had a profound influence on how Americans viewed the determinants of health, and the role of medical professionals, government, and the market in health care finance and delivery. Although these conceptualizations were transient, the core values of a capitalist democracy particularly, classical liberalism and decentralization were indelible (Geraghty & Wynia, 2000; Starr, 1982). In early American society medical care was a familial or

community responsibility. This was primarily a consequence of the rural character of colonial society and a strong orientation toward self-reliance. The social ideology of the 17th and 18th centuries was one of rationalization. Americans espoused cultural and political democracy, egalitarianism, and celebrated common sense and practicality. Therefore, the determinants and treatment of disease were thought to be rather simplistic, rendering the need for complex or professional intervention in health care unnecessary. Accordingly, health care was neither economically or politically significant. It is important to note here that practically all governmental procedures in modern medical care stem from the 17th and 18th centuries' local community responsibility to care for the sick poor (Stern, 1946).

The Progressive era in the late 18th and early 19th centuries ushered in an age of scientific complexity. In this period, science was viewed as complex and inaccessible; and therefore, the determinants and treatment of disease were considered beyond the capacity of laymen (Starr, 1982). A combination of urbanization, industrialization, and ideology caused the role of the family and community in health care delivery to be replaced by physicians and health care institutions such as hospitals. Starr (1982) argued that the most influential explanation for the structure of American medicine gives primary emphasis to scientific and technological change; this improved the therapeutic competence of physicians, and thus raised their social, economic and political status. In effect, the ideology of the Progressive era allowed physicians to become unchallenged in all things pertaining to American health care. Moreover, the prominence of science

during the 19th century had three important and interrelated implications for physicians, which influenced the development of health care financing and delivery.

First, it institutionalized a belief in specialized knowledge. This was the key to the transformation of health care from a familial task to a market-based commodity. Because individuals no longer had confidence in their ability to diagnose and treat disease, they increasingly relied on the specialized, technical knowledge of physicians. Secondly, the specialized and technical knowledge expected from physicians by Progressives emphasized the need for physicians to undergo extensive medical training and comply with licensure requirements. While this may have been a necessary step in ensuring medical competency, it served to increase the costs of care. Specifically, physician fees rose because of improved quality and increased monopoly power, which was directly tied to education and licensure (Starr, 1982). The structure and cost of medical education has changed significantly since the 18th and 19th centuries, which has had serious implications for health care finance and delivery. For many years the monopoly power that physicians had over health care was, in part, because of their education. This allowed them a great deal of discretion in health care spending. Fundamentally, it is physicians' decisions about resource allocation that led to perpetual increases in health care costs (Levit, 1996).

Another important implication of medical education is related to provider distribution and health care access. Currently, physician training is between 11 and 13 years post-secondary, during which time students accumulate a significant amount of

debt (Kovner, 1995). In fact, the average debt of graduating medical students in 2005 was $120,280 (AMA, 2006). The cost and resulting debt associated with medical education often affects graduates' career choices. Graduates with high debt are often deterred from entering public health service, practicing medicine in underserved areas, starting a career in medical education or research, or practicing in primary care medicine (AMA, 2006). Unsurprisingly, providers seek to establish practices where their earning potential is greatest thus creating the racial/ethnic and rural/urban disparities in health care access and health status that now characterize American health care. It is also important to note that changes in medical education and licensure in the 19th century raised the barriers to entry into medicine for women and minorities. When these types of providers are inhibited from practicing medicine it is likely that access to primary and preventive services will be compromised, especially for vulnerable populations. I say this because statistics show that women are more likely to be primary rather than specialty care providers, and racial/ethnic minority physicians are more likely to establish medical practices in communities with higher proportions of minorities (AMA, 2006; Polsky et al., 2002).

The third implication of the prominence of science was perhaps the most damning to the structure of the U.S. health care system in terms of rationality; and, it was a direct result of the first and second implications that I have just discussed. During the 19th and 20th centuries, physicians experienced increases in political and social status as a result of their medical authority. Medical authority was derived from 1) society's dependence

upon them because of their technical competence; and, 2) their legitimacy as representatives of a professional community who possessed shared standards (indicated by licensure) (Starr, 1982). Throughout the early development of the health care system physicians exercised their authority to successfully defeat any economic or political measure that would introduce competition or compromise physician autonomy in the practice of medicine. Hence, the structure and boundaries of government and private health insurance, comprehensive public health planning efforts and interventions in health care delivery, the growth and financial structure of health care institutions such as hospitals, and the diversity, growth and structure of the medical profession including education and training have either been controlled or have accommodated the interests of the medical profession (Kovner, 1995; Jonas, 1998; Starr, 1982). In sum, the ideology of the Progressive era established the medical profession as the most powerful stakeholders in the U.S. health care system; a position that they held for many years. It also firmly established health care as a commodity, something to be bought and sold on the free market. The transition of health care from a household task to a commodity was nontrivial in that it began a sequence of events that have culminated in inflationary health care costs and gross inequalities in health care access. These two issues have resulted in a great deal of modern day economic, social and political conflict.

The current conflicts over health care are essentially caused by ideological tensions. As health care became more effective and expensive in the 20th century, there was a subtle shift toward defining health care access as a social obligation. Geraghty

(2003) argued that social forces coalesced which caused health care to simultaneously become a commodity to be bought and sold on the market, as well as a public good--and even a right--expected by citizens from their government. During the later 20th century these incompatible ideologies fought to gain a dominant position in the health care institutional environment. Their unrelenting struggle has continued into the 21st century with neither side showing apparent signs of capitulation. The purpose of this discussion was to explain the ideological context in which the development of the health care system took place. The following section discusses significant historical events in health care system development in order to explain how and why the ideological tension developed.

Primary Care in America

Since health care finance and delivery is a broad topic, I have narrowed the focus of the following discussion to be consistent with the empirical focus of this dissertation, which is the financing and delivery of personal, ambulatory health care services. Personal services are those that deal directly with the individual (versus an entire community) for the maintenance of health or the control or cure of illness (Banta & Jonas, 1995). Ambulatory services are those given to a person who is not a bed patient in a health care institution. In most cases, ambulatory care subsumes the delivery of primary care services, which are an important service delivery focus of FQHCs. Primary care can be functionally defined as the type of care that most people need, most of the time, for most of their health concerns (Jonas, 1998). Understanding the development of the delivery and financing of primary care services is important because the level and quality of

primary care provision serves as a good marker of a nation's health care delivery system as a whole (Starfield, 1996).

Prior to the mid 19th century social mores favored the delivery of health care services within the privacy of the home. However, as medical care became more sophisticated and sanitation within institutions improved, it became more efficacious to receive care within a physician office or institutional setting. Physician offices were typically solo practice arrangements. Physicians provided services, billed and received payment according to a patient's ability to pay. Much of the care that they provided was on credit and physicians collected payment, if they received payment at all, on a quarterly or annual basis (Starr, 1982). Between the end of the Civil War in 1865 and the outbreak of World War I in 1914, improved hygienic measures and technological inventions transformed the nature, effectiveness and cost of medical treatment (Geraghty, 2003). Although institutional care is not the focus of the discussion, it is necessary to digress here and discuss the growth of hospitals after WWI. This is because, along with private physicians, they were the early shapers of the health care institutional environment and the primary culprits of rising health care costs.

The first hospitals dating back to the 18th century were infirmaries attached to poor houses and were primarily of a religious and charitable nature (Stern, 1946). When general hospitals were first established in the late 18th century, the sanitation conditions were so deplorable that the likelihood of leaving the hospital alive was less than 50

percent (Rosenberg, 1979). However, hospitals underwent significant transformation after the Civil War. Not only did sanitation greatly improve but also, there was a growing emphasis on surgery and acute care versus the recuperative or chronic care treatment provided prior to the War. After WWI, American medicine gained considerable prestige for its hospital-based care. Consequently, the U.S. witnessed rapid growth and expansion of hospitals throughout the 1920s and again between 1945 and 1980 (Rosenberg, 1979; Kovner, 1995).

In the early 20th century, American hospitals were the primary institutions for the delivery of care and for the academic and clinical training of physicians. Originally, physicians provided their services at no cost in exchange for the social prestige associated with hospital affiliation. It is important to note that even when doctors eventually began charging fees for the services that they provided within the hospital, physician fees and hospital fees for services (e.g., nursing) and consumable goods were billed separately and paid by the patient directly to the physician and/or the hospital. Therefore, although physicians determined the populations' utilization of institutional services, which directly affected the fiscal health of the institution, physicians and hospitals had no direct financial arrangement. Nor did hospitals have any administrative authority over physicians. In fact, a long-standing problem for hospitals is their dependence on referring physicians, which encourages accommodation, and sometimes, costly behavior. Ginsberg & Lesser (2006) argued that keeping physicians happy is the reasoning behind many hospital decisions to invest in expensive and duplicative technology, inefficient use of

operating room time and slow adoption of information technology. Understanding the series of events connected to hospital expansion in the early 20th century is crucial to understanding the current structure of the American health care system. It is virtually impossible to separate developments in health care delivery from finance because methods of delivery are often in direct response to developments in health care financing. The growth of the American hospital-based delivery system in the early 20th century is a case in point.

During the 1920s hospitals began to make heavy capital investments for technological developments, which they used to entice physicians. Hospital technology allowed for greater medical complexity, which simultaneously increased supply, demand, and costs of care. According to traditional ideals, doctors' fees are set in relation to a patient's ability to pay. And, although physicians have historically been highly adverse to public or private intervention in the provider/patient relationship, the advances in medicine during the 20th century produced effective therapies that individuals could rarely afford to purchase. Costs were particularly high for hospital services; consequently, patient fees, which had been the primary source of financial support for services needed to be supplemented. Therefore, group hospital insurance plans were created and the concept of the third party payer was introduced (Geraghty, 2003).

The first hospital insurance plan, Blue Cross was created in 1929 by Baylor University Hospital. It was based on a fee-for-service, free market system with few

government controls (Numbers, 1978; Bosanquet, 1993). The first ambulatory care insurance plan, Blue Shield, was created by private physicians 14 years later (Sinai et al., 1946). Increases in supply, demand and costs initially caused by hospital technology were exacerbated by 1) the availability of hospital insurance and the absence of ambulatory care insurance; and 2) the cost-based reimbursement scheme of hospital insurance. This scheme essentially gave physicians incentives to admit and keep patients in the hospital for longer periods of time and to increase the intensity of services that they provided. In fact, when the predominant method of reimbursement changed from retrospective to prospective in the late 1970s and early 1980s the average length of a hospital stay fell from 8 to 5 days by the year 2000. Further, hospital discharges declined from 175 to 115 per 1,000 in the population (NCHS, 2002). The point that I am making here is that the technology available within American hospitals and the predominant method of reimbursing health care services in the early 20th century greatly influenced physician resource allocation decisions. As a result, American health care delivery was increasingly characterized by the use of sophisticated technologies within institutional settings, which significantly increased overall health care costs.

Although health insurance is most often associated with the financing of medical care, its original function was primarily income stabilization; therefore, it is somewhat unsurprising that organized labor, not government, first advocated for health insurance coverage (Starr, 1982). After its initial introduction in 1929, the broad objective of health insurance into the 1930s was relieving the economic problems of sickness. However, as

medical care became more effective and expensive during the 20th century, there was a subtle shift toward defining health care access as a social obligation (Geraghty, 2003). Therefore, the focus of insurance began to shift from stabilizing income and increasing efficiency to financing and expanding access to medical care. Private health plans grew significantly during the 1930s; however, it increasingly emerged as a benefit received via employment. It is important to note that physicians favored voluntary, private health plans over a compulsory governmental health care financing system because it assured physicians the freedom to choose their patients, the method of reimbursement and whether to participate in insurance practice. Furthermore, channeling heath insurance through employment helped satisfy many interests simultaneously. For workers and employers, it stabilized income and protected productivity. For private insurance companies, it provided a channel for marketing and a stable customer base, and lastly, it provided physicians with protection against a more comprehensive, and perhaps restrictive, government program (Starr, 1982).

Although health insurance facilitated access to care for a good portion of the American population, the spread of health insurance was not entirely beneficial. This is because it had negative supply- and demand-side effects. Until the growth of health maintenance organizations between the late 1970s and early 1990s, which used 'capitated' forms of payment, American health care was firmly established in a fee-for-service system. As discussed earlier, this form of reimbursement gave physicians an incentive to increase the quantity and intensity of medical interventions. On the supply

side, health insurance coverage was subject to moral hazard, which had an inflationary effect on health care costs. Economists have traditionally identified the spread of health insurance as a primary cause for health care cost growth (Pauly, 1986). Specifically, when employee contributions are deducted from their paychecks before they receive them and when comprehensive coverage includes nominal employee cost-sharing requirements, individuals are effectively shielded from the true costs of health care. Consequently, the demand for health care services and insurance coverage increases in terms of volume and quality (Thorpe, 1995). Due to these effects, the system of financing that developed in the early 20th century significantly increased the share of national income going to health care.

It should be clearly understood that my intent is not to demonize health insurance. Health insurance in and of itself does not cause inequalities in access or inflationary cost; in fact, it can do just the opposite. However, when health insurance coverage is piece-meal rather than comprehensive, and when the method of reimbursement is under the control of those it reimburses, a fragmented and economically irrational delivery system is the likely result. The American health care system is a prime example. In the early development of the U.S. system, private health insurance was the only feasible intermediary in the financing of health services precisely because it was under the control of the most powerful stakeholders in the early U.S. health care system: hospitals and private physicians. A compulsory, comprehensive financing system, which only the government could implement would have usurped the medical profession's authority in

the market-based health care system. Until very recently, I do not believe that social forces had been strong enough to create the political will needed to enact a comprehensive health care financing mechanism. In other words, until very recently, the people with real economic and political influence had not been affected by inflationary health care cost and inequalities in access.

Public perception, especially the perceptions of those with economic and political influence have tremendous power. Specific to health care, Ginsburg & Lesser (2006) argued that the power of public perception and opinion has motivated and constrained change in the health care system over the past decade. Furthermore, how health care leaders and policy makers harness public awareness of the health care cost problem and shape pubic opinion about options to respond will greatly influence the direction of the health care system in the years ahead. Because public awareness of the problems arising from the fragmented, employment-based health care financing system was not especially acute in the early 20th century, those who needed health insurance the most- the poor- were precisely the ones who did not receive its protection. Starr (1982) argued that in leaving out millions of poor Americans, the insurance system actually worsened their position. Specifically, the inflationary effect that insurance had on the cost of medical care created barriers to accessing care for those who were poor and uninsured.

From the 1930s on, American health care cost continued to grow and access to care diminished. Americans' obsession with science and technology advancement

spurred greater investments in the health care system, especially in the areas of medical research and education. However, by the late 1960s the mounting economic and moral problems of the health care system finally displaced scientific progress as the center of public attention. Consequently, both the public and private sector turned their attention to containing health care costs and increasing access by changing methods of reimbursement and delivery (Kovner, 1995). By this time, the health care system was overly specialized, overbuilt, over-bedded and insufficiently attentive to the needs of the poor in inner-city and rural areas. Consequently, it needed fewer hospitals, more primary care, incentives to get doctors into underserved communities, and better management and organization (Starr, 1982; Kovner, 1995; Jonas, 1998). Private and public payors increased their efforts to "manage" the utilization of health care. Thus, during the early 1980s, the concept of managed care assumed a prominent position in the health care finance and delivery system. The key features of managed care include 1) serving a defined population voluntarily enrolled in the plan, 2) the assumption of contractual responsibility and financial risk by the plan to provide a stated range of services, and 3) the payment of a fixed annual or monthly payment by the enrollee independent of the actual use of services (Luft, 1981).

The concept of managed care was not entirely new. Early forms of contract-practice in the 1800s allowed for a physician to be retained for a fixed fee per annum to provide all needed care to a plantation or indigent members of a community. Organized medicine initially frowned upon these arrangements for fear of exploitation. However,

rising costs and increased medical specialization brought about by the hospital-based delivery system caused these types of arrangements to be adopted on a larger scale in the 1920s and changed physicians' perceptions about the need for them. Physicians increasingly viewed contract arrangements as a way to stabilize their income, cut costs, and achieve price advantages over solo practitioners (Starr, 1982). The intent of the contemporary form of contract practice, managed care, was to shift some financial risk to providers thus creating incentives for the appropriate levels of medical care, in general, and preventive care, in particular. Enrollment in managed care grew rapidly during the 1980s and early 1990s; in fact it rose by 340 percent between 1983 and 1990 (Interstudy, 1994). In effect, public and private cost containment efforts shifted the focus of health care delivery from inpatient to ambulatory care; from a focus on esoteric diseases and 'heroic' medical interventions to managing chronic conditions and the more mundane functions of preventive care. By this time, physicians had clearly lost their position as the most powerful stakeholders in the health care system; a position now firmly held by financing and regulatory agencies.

It is likely that the change in the institutional power structure happened because portions of the population that had economic and political power, and not just the poor, were being affected by the irrationalities of the health care system. This forced a changing of the guard so to speak. It is also important to note that although managed care's was the dominant method of health care finance in the late 1990s, it came about during the Reagan years, a time of economic recession and looking to the private sector

to solve public problems. Consequently, as social forces pushed for institutional change, prevailing economic and political ideologies favored private sector solutions. In other words, the general feeling among Americans was that the system desperately needed rationalization; however, the private sector, not the government, was better able to effectively address the problem.

Historically, the economics of health care have influenced the organizational form of the delivery system. Physician practice arrangements continually change in response to health care financing and other forms of organized medical care delivery (Mezey & Lawrence, 1995). For example, hospital insurance spurred greater hospital-based care, technology, medical specialization, and overall health care costs. These, in turn resulted in the decrease of physicians as small businessmen and increased organized forms of medical delivery, such as group practice arrangements like the Mayo Clinic that began in 1880 and had over 400 physicians and dentists by 1929 (Rorem, 1931; Kane, 2006).

The influence of managed care on the organizational form of health care delivery was profound. Multiple types of practice arrangements developed to move the bulk of service delivery from inpatient to outpatient settings. For example, hospitals evolved to become multidisciplinary institutions that provide outpatient services through a variety of settings. Although hospitals had ambulatory care clinics, which often served both an educational and a charitable function as far back as 1916, between 1996 and 2005, the number of hospital free-standing ambulatory care centers almost doubled, increasing

from 2,425 to over 5,000. Similarly, almost 80 percent of hospitals developed non-hospital services such as home health care, health promotion programs, alcohol and drug treatment programs and nursing homes (Roemer, 1975, 1981;AHA, 2006). Of special interest for this dissertation is that in their original and expanded roles hospitals provided access to care for the indigent. In their original roles, voluntary hospitals that were closely tied to university medical schools, and municipal and county hospitals provided charity care services to the very poor. As these entities expanded into ambulatory care they expanded access to primary care for low-income populations.

Other types of delivery arrangements including free-standing emergency and urgent care centers were established to provide ambulatory care services. In fact, by 1990, 40 percent of physician contacts occurred in someplace other than the physician office (USDHHS, 1991). The health care delivery system has evolved significantly since its development in the 18th century. The organizational form of health care delivery is no longer one but many. Similarly, no longer is payment for health care solely transacted between the patient and provider. There are now many forms and types of intermediaries in the financing of health services including employers, government, and insurance companies. However, although much has changed, much has remained the same specifically, in the areas of health care cost and inequitable access to care. Kovner (1995) identified four characteristics that differentiate the modern U.S. health care system from health care systems in other industrialized countries: exorbitant health care costs, lack of a comprehensive health care financing and delivery system, large-scale corporatization of

health care, and wide-spread variation in health care access and provider distribution. Of particular interest for this dissertation are health care costs and the resulting variation in health care access.

Managed care was somewhat successful in reducing health care costs in the 1990s; however, its cost savings rapidly evaporated and managed care experienced a precipitous decline. Key to its decline was a vehement consumer backlash against the tight administrative controls and restricted provider choices characteristic of tightly managed care. Although now in decline, the legacy of managed care was that it spurred hospitals and physicians to offer substantial price discounts to avoid losing patients to competitors. It also increased marketing and targeted capital investment in profitable service lines (Ginsberg & Lesser, 2006).

Currently, U.S. spending on health care services as a percentage of GDP is the highest of all countries, almost 16 percent. National health care spending is climbing by more than 7 percent per year, outpacing economic growth by a substantial margin (Heffler et al., 2004). Expenditures are projected to reach 18.7 percent of GDP by 2014, in part due to the aging of the baby boomers, 76 million of whom will reach age 65 in 2011 (CMS, 2005; Strunk et al., 2005; Ginsberg & Lesser, 2006). Similar to the reasons for cost increases in the early 20th century, the economic incentives for innovation and the development, deployment and utilization of new technologies in the U.S. heath care system continues to lead to higher levels of spending (CBO, 2004). Figure 2.1 illustrates

the national health expenditure trends for total NHE, and public and private spending

over selected calendar years in the period spanning 1974-2004.

Graph 2.1, Total National Health Expenditures, Private and Public Spending Trends for

Selected Calendar Years (in billions)

1974-2004
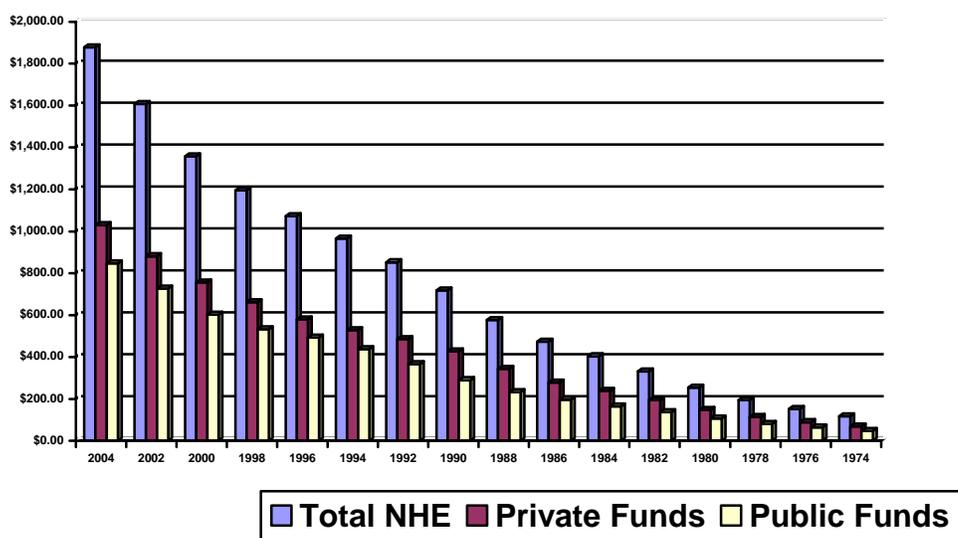
SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary

It is interesting to note that Americans spend far more on health care then any other industrialized country with few appreciable differences in health status or satisfaction with care. For example, annual per capita spending on health care in Germany, Canada and Denmark is less than $3,000 and less than $2,000 in the United Kingdom compared to almost $7,000 in the United States. However, the mortality rates for selected diseases, days missed from work due to illness, and average number of physician visits per year across countries is comparable (Anderson et al., 2002 & 2003; CMS, 2006). Other than the U.S., each of these countries has enacted some form of compulsory health care finance and delivery system whereas health insurance coverage in the U.S. remains voluntary, and largely, employment-based.

The growth in health care spending has fueled acceleration in private health insurance premiums. Premium growth has outpaced both overall economic growth as well as personal incomes making private health insurance coverage unaffordable for many Americans (Strunk et al., 2005). In the past, employer contributions subsidized coverage thus easing the economic burden on individuals. However, due to premium costs there has been a significant erosion of employment-based coverage. Consequently, 67 percent of those who were uninsured at any time in 2005 were in families where at least one person was working full-time (Collins et al., 2006). Currently, the average annual costs of family coverage in employment-based heath plans, including both employer and employee contributions, topped $10,880 last year, more than the average yearly earnings of a full-time, minimum wage worker (Gabel et al., 2005). Decreases in

employment-based coverage have spurred increases in the demand for public coverage. In fact, Medicaid enrollment among families grew by almost 12 percent between 2000 and 2002, and another 7 percent the following year (KFF, 2005). However, in spite of the increases in public coverage, it has not been enough to counter the decreases in employment-based coverage. Consequently, more and more Americans are being pushed into the ranks of the uninsured.

From 2000 to 2004, the number of uninsured non-elderly increased from 39 million to over 45 million; 20.6 percent of the adult non-elderly population (KFF, 2005). Diversity among the uninsured is due to variations in employment patterns, incomes and Medicaid policies that vary from state to state; however, in general, they are largely minority, working poor, between the ages of 18 and 64, and reside in southwestern and south central areas of the United States (Fronstin, 2000). Although the uninsured receive an estimated $41 billion worth of uncompensated care annually through a patchwork of community providers, providers must make difficult resource allocation decisions balancing the needs of individuals with economic viability (KFF, 2005). Hence, the uninsured are less likely to seek medical care, less likely to receive it and, as a result, likely to experience worse health and higher death rates than people who have insurance coverage (Rowland et al., 1998). Figure 2.2 illustrates trends in the number of uninsured, non-elderly over selected calendar years in the period spanning 1987-2005.

Since the U.S. is the only industrialized nation that does not provide a comprehensive healthcare financing and delivery system for all citizens, health care within the U.S. is a major moneymaker for corporations and individuals (e.g., commercial insurance companies, physician owners). Thus competition for health care dollars has become quite intense (Ginsberg & Lesser, 2006). As rational actors, providers locate in areas where they can maximize their income. And, commercial insurers target the employed and reasonably healthy segments of the population. Thus the near poor whose income is too high for public insurance, and the medically high-risk are left to fend for themselves. The sheer cost of health care means that most individuals are one catastrophic illness away from bankruptcy. In fact, many Americans are currently paying off medical debt from bills incurred in the past two years. And, as a result, one-quarter of those carrying debt are unable to pay for other basic necessities like food, heat or rent (Collins et al., 2006).

Graph 2.2, Number of Uninsured, Non Elderly Americans (in millions)

1987-2004
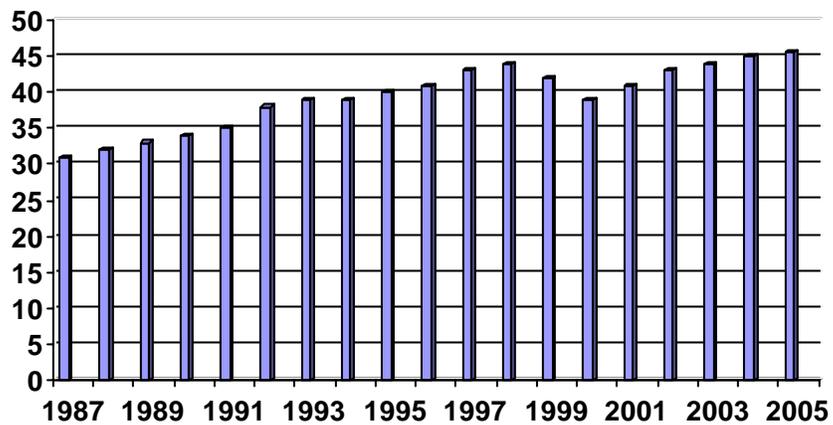
Source: U.S. Census Bureau, Historical Health Insurance Tables
http://www.census.gov/hhes/www/hlthins/historic/hihistt1.html

Ginsberg & Lesser (2006) indicated that the power of public perception is leading to imminent health care institutional change. While increased urgency to control costs are inevitable, insurers are currently pinning their hopes on consumer-driven health care and increased patient cost-sharing to help slow the growth of health care costs. However, Ginsberg & Lesser (2006) predicted that increases in patient cost-sharing (patient's financial responsibilities and associated risks) will raise public awareness about health care costs and engender greater support for discussion of strategies to preserve affordability. The primary issue involved in the discussion is the inherent individual and societal trade-offs involved in keeping health care affordable. Hence, society's perceptions about the proper role of the government and the market in health care may soon change once again. However, the potential profitability in the business of health care is sure to cause special interest groups to wage strong resistance against any governmental intervention in the medical market that would threaten professional autonomy or introduce income constraints. In the past and present this has allowed only incremental rather than comprehensive health policies aimed at expanding access to health care.

National Health Policy

Despite the use of consumer-driven health care and patient cost-sharing, it is unlikely that the central problems in the U.S. can be effectively addressed by the existing fragmented, privately operated delivery system. This is because dealing successfully with issues such as high cost, maldistribution of personnel and facilities and lack of access

require a comprehensive, coordinated, planned national approach (Jonas, 1998). National health policy had acknowledged that there were serious problems with the health care system as far back as 1932 when the Committee on the Cost of Medical Care found that the system produced a tremendous amount of preventable physical pain and mental anguish, needless deaths, economic inefficiency, and social waste. The committee went on to say that the U.S. had the economic resources, the organizing ability, and the technical experience to solve the problem (CCMC, 1932). Yet, 70 years later the problem has yet to be resolved. Although comprehensive health care reform specifically, national health insurance as a way of controlling costs and increasing access has been a political issue for some time, its prominence on the national political agenda has been cyclical in accordance with public awareness and perception of the 'health care problem'.

This section will focus specifically on historical federal legislative developments toward expanding access to care. Specifically, legislation that would expand the government's role as the financer of personal health care services for Americans in general, and the indigent, in particular. I will discuss the political battle to enact a national health insurance program, as well as provide an overview of major federal legislation that has directly affected the financing and delivery of uncompensated care by community providers. The purpose of the discussion is to indicate how the repeated failure to enact national health insurance legislation has resulted in incremental policies that target particular subgroups of the population such as the aged, children and veterans. Although beneficial, these incremental policies have failed to curb the rise in the

uninsured. Thus health care providers' ability and willingness to provide uncompensated care is crucial to alleviating disparities in access caused by the prohibitive costs of health care.

In general, national politics has not focused on the financing and delivery of uncompensated health care. This is logically because increasing health insurance coverage would render the need for uncompensated care obsolete. And from a population health perspective, it would result in better continuity of care and greater use of preventive services (AMA, 2005). Consequently, national health politics for much of this century has been a battle between proponents of national health insurance and its opponents (Marmor, 1973). Proponents include most working Americans whose cause is often championed by the Democratic Party. The opponents initially included the medical profession who feared income constraints; however, they have since been joined by private insurers who fear a loss in the market for health insurance and business organizations that fear the tax burden associated with a government funding program (Brecher, 1995). In an ideological sense, the government's role in health care is often a battle between the values of efficiency and equity. Consequently, the overriding health policy challenge facing policy makers is how to gain control of escalating health care costs, and at the same time, expand access to more Americans, especially those without the ability to pay (Hoffman & Sered, 2005). In discussing this challenge, I have broadly divided federal health policy into four historical periods: prior to 1960, from 1960 to the mid-1970s, from the mid-1970s to the mid-1990s, and from 1994 to the present.

Limited Governmental Intervention in Health Care

Prior to 1960 the federal government avoided large-scale participation in the financing of personal health care services. In 1916 organized labor (AALL) took the lead in putting forward a standard bill for compulsory medical care and sickness benefits insurance; however, it is important to note that the proposal did not cast the federal government into the role of financer. The proposed program would have required each state to independently adopt a program that would cover persons earning below a certain income level. Administratively, it would have used existing insurance carriers, and costs would have been shared among employers, employees, and the state (Anderson, 1968; Burrow, 1963). Initially, support for the plan was widespread; however, America's entry into WWI caused a shift in public attention and political priorities. Consequently, the push for national health insurance legislation lost momentum.

The medical profession played a significant role in moving this proposal off of the legislative table. Although they initially supported the proposal, support quickly turned into opposition as a result of a power shift within the American Medical Association (AMA). When power shifted from the AMA's academic wing to its practitioner wing, the latter conservative faction declared opposition to the "institution of any plan embodying the system of compulsory, contributory insurance against illness…provided, controlled, or regulated by any state or the Federal government" (Burrow, 1963). Although this remained the official position of the medical profession until the mid-1970s, the first signs of incongruity between the official and actual position of individual physicians

surfaced during the Great Depression. During the Depression, physicians began asking local welfare departments to pay for the treatment of people on relief. The AMA opposed this practice and encouraged physicians to continue providing services for free rather than accept payment from the government. This was because the AMA believed that government payment for services to the poor effectively abandoned the profession's ideal of medical service to all regardless of the ability to pay. In addition, they believed that accepting government payment would be the greatest step toward socialized medicine. However, economics eventually won out over principle as physicians and hospitals increasingly charged welfare departments for services previously rendered free. It was during this time that the costs of caring for the sick poor inadvertently and inconspicuously shifted to the state and federal government (Starr, 1982). This is perhaps the beginning of the conflict that has lasted well into the 21st century; whether individual physicians have an ongoing personal obligation to provide charity care or whether this duty more appropriately resides at the societal level.

Prior to the limited financing through welfare departments during the 1930s, government involvement in health care had focused on increasing access via public health delivery programs. One exception is the Marine Hospital Service, which began in 1798 to provide health services and compulsory hospital insurance to merchant seaman due to their valuable role in foreign commerce (Jonas, 1998). At the national level, the Marine Hospital Service expanded to become the Public Health Service (PHS) in the early 20th century to provide services to the general public. However, the PHS program

included few functions and little authority. At the state and local level, traditional public health services included community activities related to environmental and communicable disease surveillance and treatment. However, as health care costs and limited insurance coverage increasingly compromised health care access, local public health systems made several attempts to expand access to care for the low-income. For example, various local health departments expanded into direct delivery of ambulatory services to poor children and adults. However, the 1920's were fraught with political struggles with private physicians who viewed health departments' delivery of personal health care services as competition. Private physicians also objected based on the assumption that portions of the public using free services were in reality capable of paying for care thus depriving physicians of income. In order to accommodate physicians, the government scaled back the scope of state and local health departments to reflect the current core functions of public health, which are assessment, surveillance and policy development. In sum, by the end of the 1920s private physicians had succeeded in eliminating the public health service as a source of primary care for the indigent (Starr, 1982).

After the defeat of the AALL proposal in 1917, serious consideration for national health insurance did not happen again until 1935. Senator Robert Wagner, and then, Senators Wagner, Murray and Representative Dingell proposed several bills in 1935, and again in 1943 that would have subsidized state public health programs, hospital expansions and state medical programs for the medical care of the poor. Subsidies were

to be financed by payroll taxes and the programs would have provided comprehensive health and medical benefits through entitlement (Harris, 1966). What is significant about the Wagner and Wagner/Murray/Dingell bills is that 1) they were the first major legislative proposals for a federal rather than a state-based health care financing system; and 2) they would later become federal policy through a series of separate acts. Specifically, the Hill-Burton Act enacted in 1946, which provided federal funds for hospital expansion, and the Kerr/Mills Medical Assistance for the Aged Act, which was enacted in 1960, and then expanded into the Medicaid program in 1965. In addition, Harry Truman's proposal in 1949 that called for a national health insurance program funded by a combination of Social Security and general taxation originated with the Wagner/Murray/Dingell bills (Harris, 1966).

Although the essence of some of these initiatives resurfaced and later became law, they were soundly defeated prior to the 1960s. Despite the failure to enact national insurance, social legislation passed as part of the Social Security Act of 1935 had many important implications for health care financing and delivery at the local level because the legislation established the principle of federal aid to states for public health. Specifically, it provided federal grant funds to states for maternal and child health and crippled children's services (Title V) and for public health (Title VI); provided cash assistance to the aged, blind and destitute families with dependent children; and established the Old Age, Survivors and Disability Insurance (OASDI) program, which

would later provide the philosophical and fiscal basis for the Medicare program enacted in 1965 (Barr et. al., 2001).

Consistent with Starr (1982) and Harris (1966), I would argue that the defeat of national health insurance proposals during this period was due to the social/cultural ideology of the time. Having recently emerged from WWII, the American social climate was extremely anticommunist. Consequently, anything, including health care policies, that hinted of socialism, communism or could be connected with German ideology (Germany had enacted national health insurance in 1800) was highly suspect and opposed. Thus, no matter the social or economic benefit of a national health insurance, it was just not politically feasible. For this reason, proponents of national insurance focused their efforts on crafting incremental approaches to expanding insurance coverage.

U.S. health policy from then on was designed to primarily support programs and services in the private sector. Between 1950 and 1970 the federal government had a tendency to fund medical research, training programs, and technology expansions without imposing federal regulations or instituting an oversight/administrative structure (Barr et al., 2001; Starr, 1982). Therefore, many federally-funded initiatives intended to improve the health and welfare of poor communities were ineffective. For example, the Hill Burton Act was enacted in hopes that more hospitals would be built in rural areas. However, without comprehensive health planning via the federal government, the hospital expansion initiative quickly led to an oversupply of hospitals in urban areas and

no significant increases in rural ones. Over time the federal government has provided more oversight for the programs that it funds. Most significant for this research is the expanded authority of the Health Resources and Services Administration (HRSA) that began after WWII. Over the years, the expanded scope of HRSA has allowed the federal government to become a major financer and regulator of programs focused toward improving access to health care services for people who are uninsured, isolated or medically vulnerable. As the nation's access agency, HRSA operates the direct service programs for "medically needy" persons primarily through its Bureau of Primary Health Care (BPHC), which oversees the FQHC program.

Incrementalism and Creative Federalism

Using the strategy of incrementalism, the federal role in health care financing expanded rapidly from the 1960s to the mid-1970s. The Kennedy and Johnson administrations initiated a policy view called *'Creative Federalism'* that extended the traditional federal-state relationship to include direct federal support for local governments, nonprofit organizations and other private sector organizations to carry out health care, social service, and community development activities. Among the legislative developments during the Johnson administration, two are highly relevant: the Economic Opportunity Act of 1964, which provided the authority and funds to establish neighborhood community health centers, and the Social Security Amendments of 1965, which created the Medicare and Medicaid programs.

Neighborhood health centers were intended to be a one-stop facility in low-income communities that could provide virtually all necessary ambulatory health services in a cost effective manner. From a political perspective, the program was a governmental attempt to expand health care access without becoming a major financer or deliverer of care. Although the Office of Economic Opportunity authorized special funds for the establishment of neighborhood health centers, funds were for initial start up costs and health centers were expected to achieve self-sufficiency. Self-sufficiency was facilitated by the enactment of Medicaid legislation in 1965. In fact, the National Association for Community Health Centers reports that Medicaid is the best and most reliable payer, covering 87 percent of all health center charges in 2004 (NACHC, 2005). Over time, social and legislative developments have resulted in the formation of a strong relationship between the Medicaid and health centers programs. In effect, these programs have become the twin pillars of the federal government's effort to improve health care for poor, minority and underserved populations.

The creation of the Medicaid program (Title 19 of the SSA) was a significant victory in the fight to expand health care access for the poor. Medicaid is a joint federal-state program to pay for the medical care of individuals at or below certain income-levels. It is important to note that the successful passage of the Medicaid legislation was a direct result of the passage of a companion program, Medicare. Medicare, the federally financed health care program for the aged, is a classic example of how government may operate as the virtual single payer for a private medical service. The long and difficult

campaign for its passage symbolized the continuing struggle over defining the government's role in the predominantly private system of health care in the U.S. (Inglehart, 2001). In accordance with the power that the medical profession had in the 1960s, the passage of Medicare was only possible after legislators accommodated physicians' concerns about potential governmental intrusion into medical practice. In fact, the preamble to Medicare law expressly prohibits any federal "supervision or control over the practice of medicine or the manner in which medical services are provided." In relation to Medicaid legislation, Medicare's passage is significant because the controversy and opposition that was focused on Medicare allowed the Medicaid legislation that accompanied it to go virtually unnoticed; and therefore, uncontested. Hence, many have called Medicaid the "sleeper" in legislation (Cohen, 1985).

To date, the passage of Medicare and Medicaid legislation remain the most significant policy developments in the history of government intervention in the medical market as health care financer for the general public (i.e., not active or retired military). In fact, in 2004 the Medicare, Medicaid and SCHIP (created in 1997) programs accounted for a third of the nation's total health care bill and almost three-fourths of all public spending on health care (CMS, 2005). The creation of the Medicare and Medicaid programs in 1965 also appeared to reinvigorate proponents of national health insurance. By 1975 there were four major proposals sponsored by a variety of groups including organized labor, medicine, and the hospital and insurance industries (Burns, 1971; Eilers, 1971). However, before any meaningful action could be taken on these proposals, the

policy window closed. The Republican Party gained control of the White House and political ideology regarding the federal government's proper role in health care finance and delivery swung in the opposite direction.

New Federalism

From the mid-1970s to 1992, the federal role in health care finance and delivery remained fairly stable with some efforts at contraction (Brecher, 1995). Congressional committee proposals aimed at expanding access were rather weak and crafted legislation failed to materialize. President Nixon instituted a new policy view called *"New Federalism"*, which sought to increase revenue sharing, a process of transferring federal funds to state and local governments with few federal strings attached, and the use of block grants, a process of allocating federal grants to state and local governments for broad general purposes rather than for categorical programs. It should also be noted that the Medicare and Medicaid programs began to grow significantly during the Nixon administration due to rising health care costs. Therefore, the primary focus of the period turned to health care cost containment strategies, and as previously discussed, political ideology favored private sector solutions.

In the 1980s, the Reagan administration built upon the policies implemented by Presidents Nixon and Ford. Specific policies advocated by the Reagan administration that affected health care access included significant reductions in federal expenditures for domestic social programs and increased use of block grants. These developments served

to reduce or eliminate funding for the social programs created during the 1960s. They also created significant variation across states in the structure of their health care safety nets. The health care safety net can be described as a patchwork of providers, funding and programs held together by the power of demonstrated need, community support and political acumen (IOM, 2000). Safety nets serve to fill the gaps in health care access caused by the market-based system. The use of block grants in the 1980s gave a great deal of discretion to the state and local government in the allocation of federal funds thus creating stark differences across communities in the composition and concentration of care to the poor.

With the emphasis on reducing costs in the general economy, Congress passed the Omnibus Reconciliation Act of 1981, which would have serious implications for health care safety net providers and funding in years to come. The 1981 OBRA encouraged state-level experimentation with alternative forms of medical service delivery. As a result, Arizona began the first state-wide managed care Medicaid program in 1982, by 2000 all states (except for Alaska and Wyoming) had enrolled some portion of their Medicaid population in managed care; 43 states had enrolled more that 25 percent (KFF, 2001). Seeing the cost savings from managed care, Congress passed the Balanced Budget Act of 1997, which granted states new authority to mandate managed care enrollment without obtaining a federal waiver, as they had been required to do in the past. The institution of wide-spread mandatory Medicaid managed care generally improved enrollees' access to a regular provider but increased the difficulties (waiting time for an

appointment) and dissatisfaction with care (KFF, 2001). Secondly, since most managed care contracts do not typically cover the services that are considered noncustomary within a commercial managed care contract, many of the social support services that Medicaid enrollees needed were unsupported (Rosenbaum et al., 1998; IOM, 2000).

The fiscally conservative political view adopted by the Reagan administration in the 1980s continued during the Bush administration. However, one important piece of legislation was enacted that strengthened the ability of community health centers to provide care to the poor and uninsured. The Omnibus Reconciliation Act of 1989 authorized the creation of the Federally Qualified Health Centers Program (FQHC). I discuss the benefits and requirements of the FQHC legislation in the safety net section of this chapter; therefore, here it is suffice to say that neighborhood health centers could now apply to become FQHCs, which would make them eligible for cost-based reimbursement. This meant that they could now be reimbursed for the *actual* cost of care provided to Medicaid and Medicare beneficiaries.

Despite the gains in access from the FQHC legislation, escalating costs, a growing pool of uninsured persons, and declining health for certain portions of the population caused health care to appear with prominence on the national political agenda in the early 1990s (Jonas, 1998). Many anticipated that Clinton's election in 1992 would bring new momentum to the push for comprehensive health care reform, and they were not disappointed. The first two years of the Clinton administration focused the public's

attention on the problems of the current system and effectively laid the foundation for health care reform. For example, the KassebaumKennedy legislation enacted in the 104th Congress ended insurance discrimination for those with poor health and afforded greater security for those receiving employer-sponsored coverage. And as in the past, there were a series of national health insurance proposals from disparate groups in the public and private sectors, including the Physicians for a National Health Program (Grumbach et al., 1991; Himmelstein & Woolhandler, 1989). However, the most thorough plan to date was proposed by the Clinton administration in 1994.

The Clinton Plan was not only comprehensive but it was consistent with the highly individualistic health care system that had been developed in the U.S. Although the plan would have linked planning and payment under public control, a series of state agencies, Health Care Alliances, would have contracted with provider networks and groups in their region to provide a package of health care services for all persons enrolled, thus preserving individual choice (Heath Security, 1993). In reality, the Clinton plan was not far removed from the system of managed care that had become the dominant organizational form of health care delivery in the 1990s. While there were several reasons for its eventual defeat, the most influential explanation lies with the bipartisan nature of the American political system. Clinton was a Democratic president and Congress was Republican led; consequently, the successful passage of the Clinton plan posed a political threat to the Republican Party. Therefore, Republicans adopted an aggressive and uncompromising counter-strategy designed to delegitimize the proposal

and defeat its partisan purpose (Kristol, 1993). The Republicans were joined in their campaign by organized medicine, and even traditional Clinton supporters who felt that the plan was not aggressive enough. Thus, under a lengthy and expensive onslaught from all sides, the Clinton plan went down to defeat in the summer of 1994 (Skocpol, 1995).

The demise of the health care reform initiative caused the President and Congress to abandon comprehensive proposals for coverage and return to more incremental approaches to solving the health care problem particularly, the rising rate of the uninsured (CIS98-J-932-8). Consequently, in 1997 Congress passed legislation that created the State Children's Health Insurance Program. Its purpose was to provide federal funds to states to enable them to initiate and expand the provision of child health assistance to uninsured, low-income children in an effective and efficient manner that is coordinated with other sources of health benefits coverage for children. SCHIP legislation was the largest expansion of health insurance coverage since the inception of the Medicare and Medicaid programs in 1965. The successful passage of the SCHIP legislation can be attributed to the power of public awareness and perception. By demonstrating the vulnerability of children and the failure of the market and Medicaid to provide affordable coverage for the working poor, proponents left Congress with no choice but to act. And, Congress rose to the challenge (Holahan & Pohl, 2002; Mills, 2001). However, the gains achieved by the SCHIP legislation were overshadowed by the provisions of the Balanced Budget Act of 1997 that reduced some of the major direct public subsidies that helped finance health care for the poor. This included significant cuts in disproportionate share

hospital (DSH) funding and a 5-year phase out of cost-based reimbursement to FQHCs established by the OBRA89.

In terms of DSH, states (with matching federal dollars) were required to make additional Medicaid payments to hospitals that served a disproportionate share of low-income and Medicaid patients. Hospitals had relied heavily on DSH payments to subsidize care to the uninsured since the early 1990s; however, the BBA97 significantly reduced these funds. The phase out of FQHC cost-based reimbursement was especially disturbing to the safety net community; their lobby caused Congress to revisit the issue in 1999. The Balanced Budget Refinement Act of 1999 placed a 2-year moratorium on the scheduled repeal and extended the phase out from 2003 to 2005. It also called for a study to examine how health centers should be paid in subsequent years (NACHC, 1999). The following year Congress enacted the Medicare, Medicaid, and SCHIP Benefits Improved Protection Act (BIPA), which established a prospective payment system for Medicaid payments to health centers.

Recycled Policies

Despite incremental health policies in the 1990s, the nation continued to experience growth in the uninsured, reduced health benefits for workers, and rising health care costs. In contrast to the Clinton years, federal strategies for dealing with these problems changed dramatically with the election of a Republican President in 2000. From 2000 through 2004, there were no sweeping proposals for national health insurance but

rather the adoption of what the Administration called "practical ways' to deal with health care costs and access. Specific to health care access for the poor, President Bush with overwhelming bipartisan Congressional support, made a substantial commitment to expand the health centers program originally created as part of President Johnson's War on Poverty. In 2001, the President proposed a five-year initiative to increase federal funding to support 1,200 new and expanded health center sites to serve an additional 6.1 million patients. By fiscal year 2002, the expansion initiative had enabled more than 600 new and expanded health centers. In 2002, the President also signed into law the Health Care Safety Net Amendment Act, which reauthorized the Health Centers program (Proser et al., 2005).

Although health centers have done much to improve access to care, health center expansion did not fully solve the problem. Consequently, the same factors that gave rise to widespread public support for sweeping health care reform in previous years caused health reform to return to the national agenda as a major campaign issue in the 2004 presidential campaign. In fact by February 2004, six candidates, including the incumbent president, had made proposals to extend health insurance coverage to millions of uninsured Americans (Collins et al., 2003). Most plans were designed to build on the existing system of health insurance in the U.S. rather than fundamentally reform the system. However, the strategy of health center expansion remained intact with the re-election of President Bush in 2004. In fact, the President requested a $304 million dollar increase for the health centers program, which would bring the total federal funding for

health centers to $2 billion by fiscal year 2006. Most recently, the Administration launched a second initiative to expand health centers, setting the goal officially in his 2005 State of the Union address in which he stated,

"...here are some practical ways for us to deal with the rising costs in health care. One is to make sure that people who can't afford health care have got health care available to them in a common sense way. And that's why I'm such a big backer of expanding community health centers to every poor county in America."

Consequently, the President has since requested an additional $26 million from Congress to fund 40 new health centers in high poverty counties.

Looking back across the historical developments in U.S. health care policy, it becomes apparent that any solution short of a comprehensive national approach will, most likely, fail to address the central problems of the health care system. However, although the strategy adopted by President Bush is not comprehensive, it is an effective and efficient way of expanding health care access for low-income populations. Since their inception in the 1960s, the health centers program has cost-effectively provided quality care for 15 million patients regardless of insurance coverage or ability to pay (Proser et al., 2005). The health care landscape has presented new challenges over the past 40 years ago, and health centers have consistently risen to meet those challenges. Now that proposals for national health insurance have repeatedly failed, the nation has

turned once again to health centers to meet the challenge of ensuring that the uninsured have access to primary and preventive health care. Thus, health centers are a critical component of the U.S. health care safety net.

The Health Care Safety Net

In reality, there is no universal definition for the safety net nor is there a defined, universal set of providers who fulfill this function. Rather, the safety net and its providers vary across the nation as the diversity among state populations, health policies, and political will to care for the poor and uninsured persists. Norton and Lipson (1998) report that the composition and concentration of care to the poor vary dramatically across communities and are a function of the demand for such care, the depth and breadth of Medicaid coverage, the economic and political environment, as well as the level of state and local support for care for vulnerable populations. Generally speaking, the safety net can be described as a patchwork of providers, funding and programs held together by the power of demonstrated need, community support and political acumen (IOM, 2000). Funding and programs include the Medicaid, Medicare and SCHIP programs, federal, state and local grants, state and county indigent care trust funds, community and school based health centers, local health departments, public, community and teaching hospitals as well as private practitioners.

While the "functional" safety net encompasses the full range of available providers (both private and public), there is a subset of providers referred to as the

"core". In most cases, core safety net providers include community health centers, public hospitals, and private non-profit and teaching/academic medical centers. These providers have two distinguishing characteristics: 1) by legal mandate or explicitly adopted mission they maintain an "open door," offering access to services to patients regardless of their ability to pay; and 2) a substantial share of their patient mix is uninsured, Medicaid or other vulnerable patients (IOM, 2000).

Health care safety net capacity is the empirical focus of this dissertation research. I have operationally defined safety capacity more narrowly than the IOM does, as the amount of community health center and private physician financial and human resources directed toward the provision of uncompensated/charity care. Although community health centers have achieved prominence on the national political agenda as a solution to the health care access problem, they cannot do it alone. Despite their disproportionate role in caring for underserved populations, the small share of health resources represented by health centers necessitates that the larger health care system specifically, private physicians contribute critical resources to support the operation of a functional, comprehensive health care safety net (Spillman et al., 2003). In effect, it is the ability and willingness of both of these types of providers to deliver uncompensated health care services that largely determines a community's capacity to care for low-income, uninsured populations.

In this section, I describe federally qualified health centers (FQHCs). I emphasize the services that they provide, funding sources, and current threats to their viability. Lastly, I discuss private physicians and their provision of charity care. I focus on the historical and present position of the AMA on physicians' obligation to provide charity care, and examine the trends in charity care provision among U.S. physicians.

Federally Qualified Community Health Centers

In 1964, the Office of Economic Opportunity issued special funds under a demonstration program to begin the Neighborhood Health Centers program; this demonstration program was codified in 1975. Codified as P.L. 94-63, the Public Health Services Act, Section 330 or Community Health Center grant, was created to provide care for low-income and minority persons who could not afford health services or were residing in areas with a severe shortage of personal health services. The Section 330 grant funding was administered by the Bureau of Primary Health Care and managed and monitored by the regional Public Health Service. It was used primarily to provide care for the uninsured through the establishment of primary care facilities- community heath centers- in rural and inner city communities.

Fourteen years later, the Omnibus Reconciliation Act of 1989 created the Federal Qualified Health Center (FQHC) program, which built upon the availability of primary care afforded by the Section 330 grant program. The FQHC program established a mandatory set of primary care services, made FQHC services a guaranteed benefit under

Medicaid and Medicare, and established cost-based reimbursement to FQHCs. More specifically, states were required to pay FQHCs 100 percent of Medicaid "costs that are reasonably related to the provision of service", which was determined to be the average resource cost of providing such services as physician care, medical professional services, laboratory services, and x-rays. Prior to FQHC legislation, health centers often used their 330 grants to subsidize the difference between their resource cost of providing medical care to Medicaid patients and the low Medicaid reimbursement. In accordance with the original purpose of Section 330 grants, the advent of cost-based reimbursement helped to shift 330 resources back to the care of the uninsured population (Shin, 2002).

Currently, not all neighborhood health centers are FQHCS. To be designated an FQHC, a health center must be located in a medically underserved area or serve a medically underserved population; have non profit, tax exempt, or public status; have a Board of Directors, a majority of whom must be consumers of the center's health services; provide culturally competent, comprehensive primary care services to all age groups; and offer a sliding fee scale and provide services regardless of ability to pay (IOM, 2000).

In many cases, FQHCs are the only source of care for individuals in underserved communities. More than 71 million Americans reside in medically underserved areas, primarily inner city and rural areas with minimal or no economic base and very limited access to providers (IOM, 2000). Residents in these areas present a variety of health

challenges related to high rates of unemployment, poverty, inadequate health care infrastructure, lack of access to needed services, and poor working and living conditions. High infant mortality rates, poor perinatal outcomes, domestic violence, tobacco and alcohol related illness, deaths, and injuries, poor dental hygiene and care, substantial mental health problems, and diet and nutritionally-related illness and disease are also common in medically underserved areas (Rosenbaum et al., 1998). Thus, the poorest and sickest seek care at health centers. They are increasingly likely to be uninsured, low-income and chronically ill, and therefore, among the most difficult and costly to treat (NACHC, 2005). In 2004, 940 FQHCs served approximately 13 million patients; the majority were nonwhite (64 percent), uninsured (40 percent) and Medicaid insured (34 percent), and poor with incomes at or below the federal poverty level (71 percent). Figure 2.3 illustrates the profile of FQHC patients by insurance status and ethnicity in 2004.

Because they serve a large and growing uninsured patient base, FQHC operating margins are slim or nonexistent. Operating margins average about one percent; however in 2004, two in five FQHCs reported an operating deficit. And, fifteen percent of those reporting deficits had deficits exceeding 10 percent of their revenue (NACHC, 2005). The importance of maintaining an operating margin is obvious. Even as non-profit health care providers, health centers rely on operating margins to ensure financial stability. Any surplus can be used to care for more uninsured patients in the following year, or to cover the costs related to unexpected events, such as public health outbreaks. Health center

viability is highly dependent upon Medicaid, federal and non-federal grants, local subsidies and charitable contributions.

Federal grants are those predominantly provided by the Health Resources and Services Administration (HRSA), Bureau of Primary Health Care. Non-federal funding sources include state, local, and private grants in addition to fund-raising and other donated income. It is important to remember that the amount and availability of various funding streams used to support safety net providers such as FQHCs vary according to the economic and political will of localities. However, on average nationwide, HRSA grants comprise 22 percent of health center revenue, and Medicaid accounts for 37 percent thus, Medicaid and federal Section 330 grant funds are the two largest sources of FQHC revenue. Figure 2.4 illustrates health center revenue by source in 2004.

Graph 2.3, Insurance Statuses and Race/Ethnicity of FQHC Patients

2004
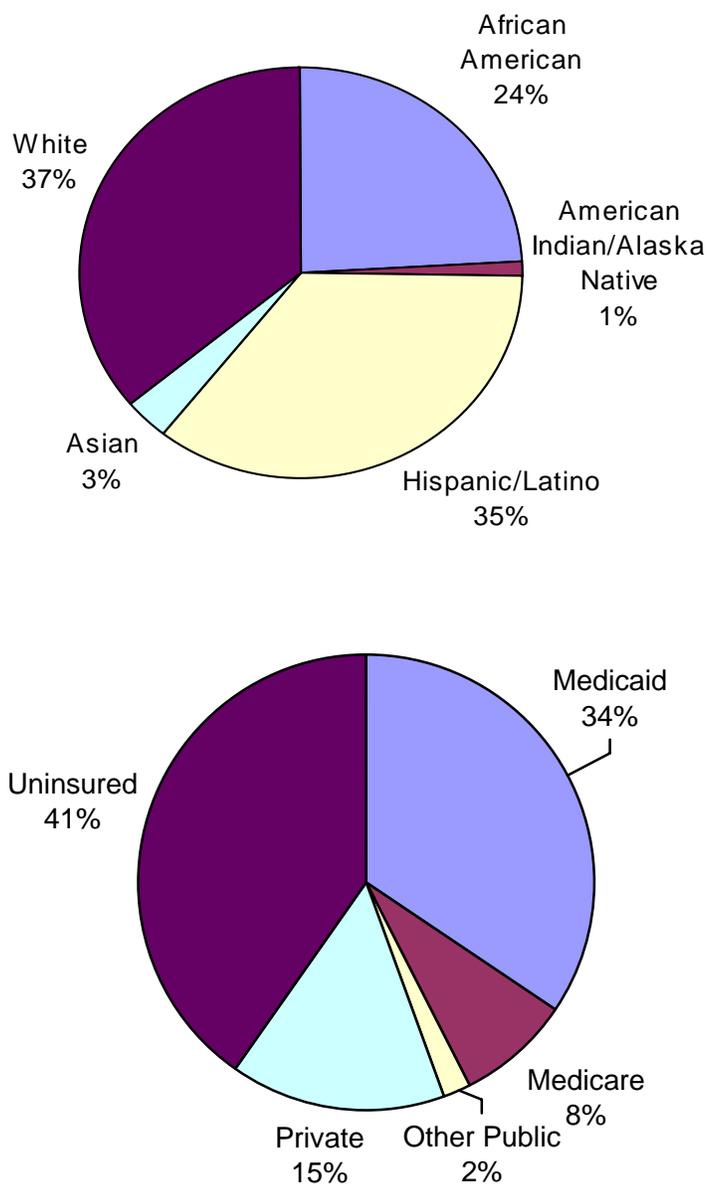
Source: Uniform Data System, Bureau of Primary Health Care

Graph 2.4, FQHC Operating Revenue Sources

2004
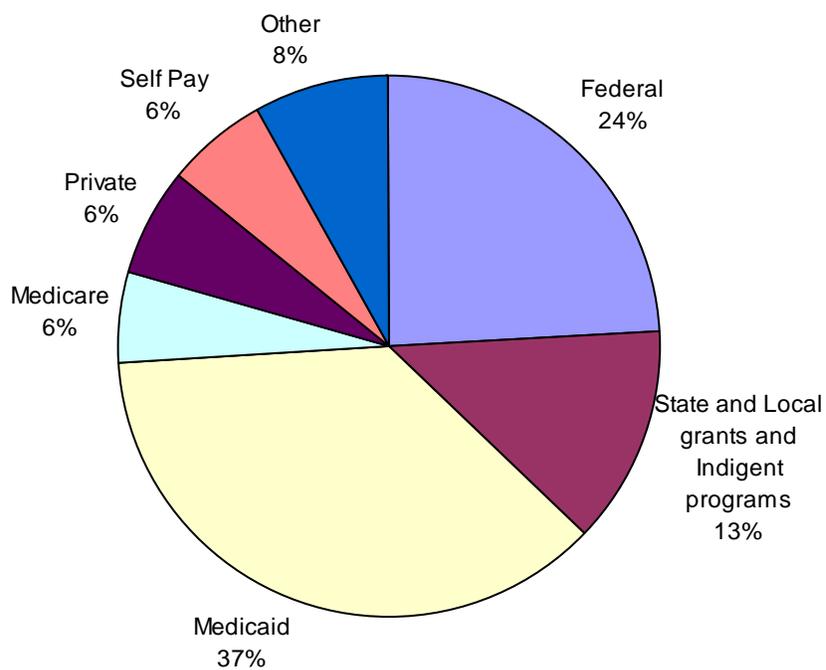
Source: UDS, 2004

BPHC distributes Section 330 grant funding using an allocation methodology that ensures the distribution of funds to key underserved areas especially communities with high rates of uninsurance. Federal spending on the health care safety net increased by 15 percent between the years 2001 and 2004; however, when adjusted for the increase in the uninsured, federal spending per uninsured person decreased by 8.9 percent (KFF, 2005). The disparity in federal spending has been particularly keen among FQHCs. Although the cost of care at health centers is comparable to or even less than private, office-based physicians, the average annual cost of treating a health center patient is $230 more than what the 330 grant currently pays per uninsured (Falik et al., 2001; NACHC, 2005).

Prior to the President's current focus on health center expansion, FQHCs' need to secure Medicaid funds had increased due to the fact that 330 grant funding had remained at the same level in real terms while the number of uninsured health center users had grown (KFF, 2000). In fact, between 1999 and 2004 FQHCs experienced nearly a 43 percent increase in uninsured users. Since the beginning of the President's health center initiative, the number of uninsured health center patients has grown nearly three times faster than the uninsured nationally (Proser et al., 2005). Similar to federal funding, non-federal funding sources have not kept pace with health centers' growing uninsured population either. For example, 17 states reduced direct funding for health centers in state fiscal year 2004, and an additional seven did so during fiscal year 2005. These reductions amounted to a $54 million decline in direct funding to FQHCs (NACHC, 2005). In general, direct subsidies have decreased over the past 10 years, and in response, safety

net providers have increasingly positioned themselves to receive various forms of patient care reimbursement.

Rising health center costs exacerbates shortfalls in federal and non-federal grant funds. Rising costs generally stem from the overall rising costs in health care delivery, an increasing and disproportionately medically vulnerable patient population, and an increase in the number and type of services that health centers offer. The importance of increasing grants funds and local subsidies to FQHCs cannot be overstated. FQHCs use grants and subsidies to cover the cost of uncompensated care and the provision of an expanded range of services for all users that are otherwise not reimbursable. I previously stated that the need to secure Medicaid funds has increased due to shortfalls in FQHC grant revenues. Therefore, I should digress here to briefly discuss Medicaid and explain why increasing and maintaining adequate Medicaid reimbursement has proven to be quite difficult over the years. Although Medicaid is currently the largest source of revenue for FQHCs nationally, economic and legislative developments since the 1980s have eroded the Medicaid revenue base of health centers thus making FQHC reliance on other sources of revenue more acute.

The nation experienced explosive growth in the Medicaid population during the late 1980s and early 1990s due to federally mandated coverage to new groups of Americans; however, the late 1990s brought decreases in Medicaid rolls due to welfare reform and a healthy economy. In the 1990s, already low Medicaid reimbursement

schedules continued to decrease, which resulted in provider fallout and increased stress on providers who by mission or mandate continued to provide care to the Medicaid population. Already low Medicaid reimbursement rates were further reduced by the introduction of Medicaid managed care allowed under BBA97. Managed care sought to mainstream Medicaid enrollees into the health care system, which increased competition for previously undesirable Medicaid patients. States did not always mandate that Medicaid managed care plans include safety net providers in their networks; therefore, FQHCs saw a significant migration of their Medicaid patients to mainstream providers.

The phase out of cost-based reimbursement to FQHCs mandated by the BBA97 has been discussed elsewhere; however, I must reiterate the importance of these funds, especially in light of reduced Medicaid reimbursement resulting from managed care. Legislation introduced in the 1999 BBA temporarily preserved cost-based reimbursement, which was permanently replaced by a prospective payment system in 2000. However, GAO has determined that PPS rates may not adequately cover Medicaid services delivered by FQHCs. Specifically, GAO found that the Medicare Economic Index (MEI), which guides the adjustment in the PPS rate, does not accurately reflect FQHC services; and therefore, does not constitute as an "appropriate" index (GAO, 2005).

Lastly, there is significant variability across state Medicaid programs due to enrollment and benefit structures, which are continuously adjusted based on state

budgetary constraints. This has caused volatility in Medicaid enrollment and reimbursement to health centers throughout the years. In short, Medicaid alone cannot guarantee continuous access to care nor can it guarantee the financial viability of health centers. Therefore, adequate direct funding such as grants and subsidies to support the unique FQHC service mix and growing uninsured patient population is crucial to the FQHC bottom line.

All federally supported health centers are required to provide or arrange for certain key health and related services, including medical, diagnostic lab and radiology, pharmaceutical, preventive dental, and patient case management services. Centers may also furnish additional services if needed by their patient populations, if resources are available. In most cases, FQHCs are able to provide a full spectrum of primary and preventive services but are not able to offer a large cadre of specialty care. Securing off-site services for uninsured patients can be very challenging depending on the willingness of other community providers, particularly private physicians to provide charity care. In fact, 27 percent of physicians surveyed in 2005 reported that securing diagnostic test and procedures was the most difficult service to secure, followed by follow-up care and specialists referrals (AMA, 2005). Because of the combination of low incomes, linguistic barriers, and often, poor health status, health center provision of social support services is just as important as their provision of comprehensive medical services.

Enabling services, often referred to as "wrap around" services, are targeted to the needs of the patient population, and are intended to make health services more accessible. They may include case management, language translation, transportation, outreach, eligibility assistance, health education, and nutritional and social support. Enabling services are rarely reimbursable under mainstream financing mechanism; and therefore, FQHCs must find alternative sources of revenue such as grant funds to support their provision (McAlearney, 2002; Duke, 2005). In 2004, FQHCs nationwide provided almost 4 million enabling service encounters to 1.3 million FQHC users (BPHC, 2005).

The health centers' governing board determines the FQHC scope of optional services such as enabling services. Under Section 330, an FQHC applicant must demonstrate the establishment of a governing board that has a 51 percent consumer majority, which meets monthly, selects the health centers services and hours, approves the annual budget, selects the health center director, and establishes the center's general policies. This requirement is designed to ensure that FQHCs remain responsive to community needs (Duke, 2005). The grassroots organizational structure results in significant organizational embeddedness within the community as FQHCs intertwine their growth with local culture and social relationships. The structure also fosters a culture of ownership and responsibility, and empowers board members to develop creative solutions to serve local needs, including preserving the viability of the FQHC. Given the disparity in federal sources of funds and the costs of care, FQHCs are

increasingly turning to alternative sources, including the community, to supplement their revenues (McAlearney, 2002).

Safety net providers have historically used two spigots to draw the resources they need for charitable work- philanthropic donations and by selling other products for more than the cost and using the profits to cover the cost of charitable activities (Pauly, 1998). Cross subsidization is a common but unspoken practice among providers; however, the proliferation of managed care and increased competition has decreased the safety net's ability to cross subsidize. Third party payers have become increasingly reluctant to overpay for services in order to pay for uncompensated care and the competition for patients has created reluctance among providers to raise prices and lose market share. Before managed care, many safety net providers, including FQHCs used excess funds from Medicaid and commercial insurance reimbursements to finance care for the uninsured. Likewise, private providers charged commercially insured patients more to make up for low Medicaid reimbursement and their provision of uncompensated care.

Less and less of this cross subsidization is occurring which translates into a reduced amount of charity care being given by providers who are not compelled by mission or legal mandate to do so. As charity care by the functional safety net decreases, the demand for care from core safety net providers increases. However, if (as is typical) the FQHC is in a neighborhood with a disproportionate share of uninsured people it will not be able to survive without support. Support must come from the entire community

including private physicians whose provision of charity care can help ensure an even distribution of the burden of uncompensated care among the full spectrum of community health care providers.

Private Physicians and Charity Care

There are about 670,000 active patient care physicians in the U.S. that provide care in various practice arrangements, predominantly small physician offices. There are about 195,000 physician offices, which have combined annual revenues of $200 billion. The vast majority are small offices with fewer than ten employees (including the doctors), small offices have average annual revenue of slightly less than $1 million (AMA, updated 11/2005). Active patient care physicians are those that spend at least 20 hours per week providing patient care. In 2001, sixty five percent reported that they spent an average of 7.5 hours per week providing charity care, which had an average annual value of $54,468 (AMA, 2001).

The AMA defines charity care as treatment provided without any expectation of receiving payment in full due to the financial need of the patient. It is important to note that the AMA often combines 'charity care' with 'bad debt', the value of services for which payment was expected but not received, to report physicians' provision of uncompensated care. The AMA reported that the value of uncompensated care provided by physicians in 2001 was $39.5 billion, which was split nearly evenly between charity care and bad debt. Because the AMA calculates uncompensated care in this way, findings

from AMA studies of unremunerated medical care are often are at odds with other reports (e.g., Hadley & Holahan, 2003; Cunningham & Mays, 2006).

In this dissertation, I do not consider bad debt in my definition of uncompensated care. This is primarily because the secondary database that I used to analyze physician provision of unremunerated care did not consider bad debt, only charity care as previously defined. It is important to note that I use the terms charity care and uncompensated care interchangeably throughout the dissertation. Operationally, charity/uncompensated care is care given by FQHCs and private physicians primarily to the uninsured from whom full payment could not be expected. This definition of uncompensated care is consistent with several studies including Hadley & Holahan (2003 & 2004) who found that the uninsured receive about $41 billion worth of uncompensated care annually. In 2003 private physicians provided 18 percent of this care valued at $7.3 billion, a slight increase from the previous year in which they provided $5 billion worth of care (Hadley & Holahan, 2004).

It is quite difficult to make generalizations about physician provision of charity care because my ability to draw from disparate data sources is limited due to survey variations in definitions of charity care, inclusion/exclusion of medical specialties and graduate status (e.g., residents, foreign medical graduates). However, I can make several generalizations about charity care provision by using the AMA's data only. Although there are more recent studies (e.g., Cunningham & May, 2006) available, I chose to use

the AMA's 10-year (1988-1999) analysis of physician charity care because the AMA's survey of physicians is less restrictive, thus providing a more comprehensive understanding of physician behavior. In addition, these data are appropriate given that the dissertation research uses 2000-01 physician survey data.

The AMA reported that two thirds of all physicians provided an average of 8.8 hours of charity care in 1999; 4.4 hours of free care and 4.7 hours of reduced care per week (figures don't add to total hours of charity care because some physicians did not answer both questions). Non-primary physicians are more likely to provide charity care in comparison to primary care physicians (70 versus 65 percent). However, among primary care physicians, general/family physicians provide the most charity care (66 percent), and among non-primary physicians, general surgeons and psychiatrists (74 and 70 percent, respectively) provided the most charity care. Although larger percentages of physicians in these practice categories may have provided some level of charity care, the actual hours of care provided by physicians in these categories do not correspond to percentage rankings. For example, although larger percentages of general/family practitioners provided charity care, on average pediatricians provided a greater number of hours per week.

In terms of geography, providers in the West South Central areas of the U.S. and those in non-metropolitan areas are more likely to provide charity care (71 percent and 70 percent, respectively). However, providers in the East South Central on average provided

15.7 hours of charity care per week, the highest among geographic areas. Lastly, among practice arrangements and practice sizes, practice owners are more likely to provide care (68 percent); however, institutional employees provide on average more hours of charity care per week (10.8). Physicians in practice sizes of between 5 to 9 physicians are more likely to provide care (74 percent); however, larger practice sizes (10-24 physicians) provide on average more hours of charity care per week (10.5) (AMA, 2001).

Data from more recent studies are somewhat consistent with the AMA data. For example, Cunningham & May (2006) reported that between 2004-2005, surgical specialists (78 percent), physicians in solo/two physician practices (82 percent), full or part owners (78 percent), and physicians that make over $250,000 per year were more likely to provide charity care. Most significant for health care safety net capacity is the overall declining trend in charity care provision indicated by the studies. Although the amount of decline varies across disparate studies, all clearly indicate that there has been a decline over the past 10 years. Figure 2.5 illustrates the most recent study reporting this trend (Cunningham & May, 2006) for selected calendar years spanning the period from 1996-2005.

Graph 2.5, Percentages of Private Physicians Providing Charity Care

1996-2006

Percent

100		
90		
80	**76**	**72**
70		**68**
60		
50		
40		

1996-1997 **2000-01** **2004-05**

Years
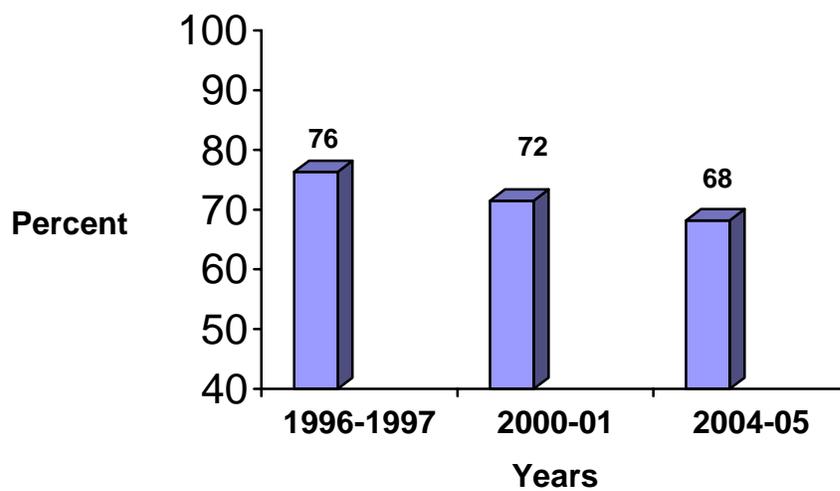
Source: Center for Studying Health System Change, March 2006

It is important to consider the factors that contribute to the declining trend given physicians' long history of obligatory provision of charity care. This obligation dates back to the early Middle-Ages as it was the hallmark of a virtuous physician. Over time, it was incorporated into the gentlemanly ethic of noblesse oblige (Porter, 1993; Geraghty, 2003). In the late 17th century the AMA explicitly formalized charity care in the medical professions' code of ethics; however, as the health care institutional landscape changed, the code of ethics was revised to reflect a belief that institutions, and ultimately, society at large should bear some of the burden for caring for the poor (Geraghty, 2003). The economic implication that the rise in the uninsured has for physicians is obvious. In a 2005 AMA survey, more than a third of physicians surveyed reported providing five or more hours of charity care in a typical week, and 16 percent of them provided 10 or more hours per week. Thirty two percent incurred more than $50,000 of debt and 21 percent incurred more than $75,000 of debt as a result of providing this care (AMA, 2005).

In reality, the true burden of uncompensated care falls squarely on the shoulders of private physicians who do not work in an institutional setting such as a hospital or federally-funded health center. I say this because governmental funding via DSH and BPHC grants account for 85 percent of uncompensated care funding; therefore, the remaining 15 percent of uncompensated care ($8 billion) is the only portion that is truly uncompensated. As previously indicated, private physicians provided $7.3 billion worth of this care, and currently, there is no financing mechanism that recognizes and compensates them. Given the current and expected rise in the uninsured, the AMA now

advocates for national health system financing reform specifically, tax credits for the purchase of health insurance. They argue that an individually-based financing option versus an institutionally-based one will greatly reduce the need for uncompensated care (AMA, 2005). In effect, creating such a financing option would effectively transfer the obligation of providing access to health care from the individual physician level to the societal level. However, until such a financing system is created, private physicians continue to mediate the tension between existing dual ideologies of health care as a commodity and health care as a social good. It is likely that the decline in their provision of charity care will continue, which does not bode well for health care safety net capacity.

Socio-Economics and Socio-Politics of Health care

While volumes have been written about the seemingly intractable problems of the American health care system, there appears to be one deep-seated issue: the tension between health care ideologies specifically, who among physicians, health care institutions and society, should assume the obligation to provide health care to those without the ability to pay. How this tension developed and why it persists is directly tied to our social values. Determining the appropriate role of intermediaries such as employers, insurance companies, and especially, the government in health care financing and delivery has proven to be quite difficult. This is because any intervention by these entities is somewhat at odds with American political and economic ideologies; most specifically, decentralization and classical liberalism. A competitive market performs the social tasks of 1) ensuring that costs are minimized for whatever quantity and quality of

output is produced; 2) producing the mix and variety of products by type and quality that people prefer; and by 3) getting valued products to people willing and able to pay the most for them (Pauly, 1998). In many aspects, healthcare, especially for the indigent is not well-suited to the competitive market. This is because a truly competitive market cannot be concerned with social justice, redistribution or the moral/ethical dilemmas of access to care.

The protection of physician autonomy and freedom from income constraints is arguably a strong explanation for the American health care financing and delivery structure. Private physicians and health care corporations have long sought to control the medical market and avoid onerous governmental regulation or cooptation. Thus, a fragmented and irrational system has developed; one that lacks a comprehensive financing or delivery system for Americans that would ensure access to health care services irrespective of socio-economic status. Despite high cost and inequitable access, the current system has proliferated because of the political and economic power of private interests. Ironically, private interests groups such a private physicians and the insurance industry have fought to maintain an economically irrational system by using traditional American economic and political ideologies as grounds for resisting comprehensive efforts to rein in health care costs and expand excess. Yet, it still remains that freedom from market constraint, particularly for private interests groups, must be balanced with what Polyani (1957) described as social protectionism. Social

protectionism is any intervention to limit the potential negative effects of the market, in this case, the prohibitive costs of health care.

To depict economics or politics as the core issue in health care is inexact. Although the development and maintenance of the current system certainly has economic and political implications, these implications are a direct result of the social value we place on health. The social implications related to health care in terms of quality of life, social productivity and welfare, and normative expectations of health care equity lead to its economic and political aspects. Starr (1982) argued that often by providing medical care or paying for the costs associated with it, governments, employers, and voluntary agencies hope to derive good will, gratitude, loyalty, solidarity and dependence. The prospect of advantages of this kind makes medical care an especially strategic arena of political and economic conflict.

The grassroots organizational structure of FQHCs, their unique position within the community social environment, and the current national focus on them places them in a very strategic position. How these safety net providers harness public awareness of the health care costs and access problem, and how they shape public opinion about the value of preserving safety net services will greatly influence their ability to provide care to the nation's 45 million uninsured. Over the centuries, social forces have shaped the health care institutional environment. These forces are an important, and perhaps, defining element of the health care system. To ignore these forces would overlook a powerful tool

for understanding the past, present and future of U.S. health care, in general, and the health care safety net, in particular.

CHAPTER III THEORY AND HYPOTHESIS DEVELOPMENT

This dissertation is an examination of the relationship between community social capital and the financing and delivery of local health care services by community providers. The dissertation seeks to build a general theory of organizational action within institutionalized environments. Consistent with Granovetter's (1985) theory of embeddedness, in the theory of action I developed in the dissertation, I argued that the details of social structure, in this case social capital, will determine the observed behavior of health care providers. In the previous chapter I discussed the relationship between the social aspects of health and health care, and its political and economic value. I explained how ideologies in the larger social environment influenced the development of the regulative and normative frameworks that provide stability and meaning within the health care field. And, I emphasized that the formal institutional frameworks were simply a reflection of the informal ones. Throughout the discussion it was clear that health care providers were not passive actors in the health care system development process, but rather active agents in shaping their institutional environments. For example, it was hospitals and physicians that created the third party reimbursement system. And, it was the effective framing of the child uninsurance problem by health advocates and providers that caused political mobilization around child health and the subsequent creation of SCHIP.

Throughout the previous chapter we saw how health care providers were able to fulfill their self-interests and shape the institutional environment. Much of this ability was

aided by prevailing social ideologies. For example, I explained how physicians used the prevailing social ideology of the 18th and 19th centuries to gain monopoly power over the health care system and shape its financing and delivery structure. This chapter develops a theoretical framework for understanding the historical developments described in Chapter 2. In this chapter I will first argue that in terms of political, social and organizational institutional frameworks, social context serves as the dominant force in shaping congruous political and organizational institutional arrangements. Secondly, I will argue that the ability of providers to influence their institutional environment is likely a result of their ability to develop strategic social relationships among the various environments. The development and mobilization of such social network structures constitutes social capital.

Lastly, I will argue that individuals and organizations embedded in a larger context of social connections, at the community level, are not only influenced by the ideologies existing at the community level but have access to material resources useful for achieving both individual and collective interests by virtue of their embeddedness. This is particularly relevant for health care safety net providers because health care delivery is primarily local. Safety net providers must be responsive to many elements within their institutional environments including federal BPHC and federal and state Medicaid regulatory requirements, local client needs, and even donor expectations (particularly for FQHCs). The dissertation examines the influence that community social

capital has on several of these institutional elements and on health care provider behavior itself, particularly providers' responsiveness to the needs of the low-income uninsured.

It is important to understand that social capital is a multi-level phenomenon. Social capital operates on many different levels including the individual, organizational, community, and national levels (Gabbay & Leenders, 2002; Uzzi, 1996; Pierce et al., 2002; Fukuyama, 1995). In the aggregate it assumes a public good character and is therefore appropriable for use by organizational and community members by virtue of their belonging to that particular organization or community. Hence, the social capital of the larger community is as relevant to the structure of political and organizational institutional frameworks, and individual behaviors as social capital at the individual level. The conceptual framework developed in this chapter is useful for understanding how the ideology created by social interconnectedness can enable individuals and organizations to act purposively within the constraints of the institutional environment, which is the nature of the issue that I am addressing in the dissertation.

Ginsberg & Lesser (2006) argued that public opinion and perception has motivated and constrained change in the health care system. Furthermore, the manner in which public awareness of health care system issues, particularly the value of the safety net, is harnessed and shaped will greatly influence the direction of the health care system in the years ahead. These statements not only imply that social ideology shapes the health care environment but that this ideology itself is malleable and instrumental for achieving

safety net provider collective and individual interests. If this is so then there should be an observable relationship between social context, health care institutional frameworks, and individual and organizational behaviors. The empirical research tests a small piece of this hypothesized relationship by examining the implications that the local social institutional environment have for organizational and individual outcomes and behavior. Specifically, the relationship between community social capital and community health care safety net capacity, which includes FQHC grant revenues, FQHC human and economic resources dedicated to the delivery of enabling services, and hours of charity care provided by private physicians.

The arguments made in this chapter are based on the concepts of institutional and social capital theories. Consistent with Woolcock (1998), I take an institutional approach to social capital because this approach emphasizes the interactions among the political, social and organizational institutional environments that are focused toward economic development. This is particularly relevant for organizations such as FQHCs and individuals in low-income communities because these communities often contain the dense social connections indicative of social capital but lack the economic and political resources to make those connections instrumental for raising socioeconomic status and quality of life. The institutional approach to social capital that I take in the dissertation recognizes a role for political institutions in infusing social connections with material resources. Specific to the dissertation research, understanding social capital within an

institutional framework explains the influence that social norms have on the material resources of health care financing and service delivery to the indigent.

A Theory of Organizational Action

Institutionalism and Social Capital: Theoretical Tensions

The action-structure paradox within organization and management science focuses on whether organizations are capable of purposive action or are simply constrained within the confines of institutional arrangements. Most management and organizational theories either assume that individuals are free, purposive actors (Williamson, 1975) or assume that action is constrained by institutional structure (Meyer & Scott, 1983; DiMaggio & Powell, 1983). Efforts to develop theories that incorporate the tensions between these assumptions have proven to be quite difficult (Poole & Van de Ven, 1989). Consistent with previous research (e.g., Oliver, 1991, D'Aunno & Sutton, 1991) this dissertation utilizes theoretical tensions to develop a mid-range theory of organizational action within institutional environments. The institutional embeddedness social capital (IESC) framework developed for this study is comprised of blended theories from the institutional and social capital literatures. The combined concepts of these theories reveal an underlying logic that helps to explain a reciprocal and iterative pattern of organizational action within and between institutionalized environments. While organizational purposive action is determined by institutional environmental structure at the organizational, social and political levels (Scott & Meyer, 1991), individuals and

organizations perpetually shape these environments via the resources embedded in social relationships (Lin, 2001; Adler & Kwon, 2002).

This study is theoretically grounded in institutional theory for three primary reasons. First, all systems of exchange are socially constructed and embedded in a complex of institutional rules and practices (Scott, 1991; Fligstein, 1990; DiMaggio, 1991; Granovetter, 1985). Institutions are defined as regulative, normative, and cultural-cognitive frameworks that, in combination, provide stability and meaning to social life (Scott, 2001). Therefore, this study assumes that all organizational actions occur within and are influenced by an institutional framework. It is important to note that throughout the discussion I use the terms institutions, institutional arrangements and institutional structures interchangeably.

Second, institutional theory is highly appropriate for the population under study, health care providers. An institutionalized environment is characterized by its emphasis on conformance to rules and norms which when adhered to confer organizational legitimacy, and consequently, economic and non economic support (DiMaggio & Powell, 1983). Organizations in highly institutionalized environments are subject to evaluations of a structural and process-oriented nature rather than actual outcomes as the criteria for conferring legitimacy and support. Thus, organizational structure and activities have the ability to increase legitimacy regardless of (or lack of) immediate efficacy (Meyer & Rowan, 1977; Tolbert & Zucker, 1983; DiMaggio & Powell, 1983). The technical nature

of health care creates a significant information asymmetry in the patient-provider relationship. Given this asymmetry, institutions including professionalism, regulatory structures, and normative expectations monitor and sanction provider behavior. Patients often look to surrogate markers such as accreditations and certifications conferred by regulatory agencies as indicators of health care organizational quality. Consequently, this study considers the health care field to be highly institutionalized and institutional theory most theoretically appropriate in making predictions about health care provider behaviors.

A third reason for using institutional theory in this research is because organizations operating in highly institutionalized environments, like health care will respond to institutional pressures and make strategic choices in light of the social pressures emanating from the larger society (Galaskiewicz, 1991). The health care field is unique with its socio-political and socio-economic dynamics (Starr, 1982, Luke & Walston, 2003). Understanding its social aspects allows me use institutional theory to build a social model of organizational action and make predictions about health care provider behaviors. Institutional theory gives prominence to the power of socially constructed beliefs (norms, schemata, and logics), and emphasizes organizational conformity rather than active agency in influencing, resisting or evading institutional dictates. In the dissertation I explain why social relationships are the key to purposive organizational action in response to institutional dictates. This is because social relationships facilitate the activation, proliferation and conformity to institutionalized

norms (DiMaggio, 1997). In the dissertation, I argue that organizations may use social relationships to act purposively while still conforming to institutionalized norms.

In order to develop a theory of organizational purposive action within an institutional framework, the new theory must remain cognizant of the power of rules and norms while indicating a mechanism by which conscious and purposive action may take place. For this reason, the IESC framework incorporates the insights of social capital theory. Capital, whether human, economic, or social is a surplus value and represents an investment with expected returns (Lin, 2001). The choice to invest and draw upon this social resource is a strategic decision that has been shown to have implications for economic (e.g., Fukuyama, 1995; Knack & Keefer, 1997), political (e.g., Putnam, 1993; Evans, 1996) and social (e.g., Coleman, 1988; Grootaert, 1997) institutional arrangements. It is difficult to unambiguously define social capital because it has developed rather metaphorically and is still in the process of emerging theoretically (Waldstrom, 2003). However, at this juncture it is sufficient to describe social capital as "resources that inhere in relationships of trust and cooperation between people" (Saegert, et al., 2001).

Unlike other forms of capital, social capital is embedded in social relationships (Loury, 1977; Bordieu, 1986; Coleman, 1988). This is one of the most important concepts of social capital theory, allowing for organizational action within the IESC framework. Consistent with the view of organizational sociologists, this study assumes that all actors

behave within a social context; therefore, their attempts at purposive action are embedded in concrete, ongoing systems of social relations (Granovetter, 1985). This is actually a restatement of the primary assumption in institutional theory as sociologists use a rather broad definition of institutions that would include informal and formal social and organizational arrangements.

In line with an emphasis on social context, purposive action within the social capital framework is constrained by the institutional norms created by the nature of the social relationship. Two key issues differentiate social capital theory from institutionalism and drive its inclusion within this study's conceptual framework. Social capital diverges from institutional theory by giving place for active agency. Actors have an active role in creating social relationship/network structures that will allow them to shape the institutional arrangements that inevitably constrain them. Social capital theory indicates that actors may strategically develop social network structures (Burt, 1992; Uzzi, 1997; Granovetter, 1985) and mobilize economic, political, and social resources embedded in those structures for purposive action (Lin, 2001). Secondly, in addition to the individual level, social capital can be analyzed at the community level to describe a distinct social ideology that influences behavior. Put simply, communities with high levels of social capital will be full of individuals who trust, know and take care of each other (Peterson, 2002).

Throughout the literature social capital has been associated with dense networks of associations within communities that facilitate rapid information diffusion, economic gain, trust, norms of reciprocity, community social cohesion, shared sense of fate, civic cooperation, and participatory institutional structures (Putnam, 1993; Fukuyama, 1995; Burt, 1992; Sandefur & Laumann, 1998; Portes, 1998). The relational ideas, emphasis on rules and norms, and collective action orientation make it an appropriate theory to use in my development of a theory of action within institutionalized environments.

It is helpful to graphically juxtapose institutional and social capital theories to illustrate the important assumptions and emphases. Following the illustration (Figure 3.1), I describe the IESC framework in general, and then, specific to health care providers. I discuss why this framework is a viable tool for understanding organizational action. I then describe the relationship between institutions and social capital, and explain the role of social relationships in facilitating purposive action.

Table 3.1, Institutional and Social Capital Theory Key Characteristics

Key Characteristics	Institutionalism	Social Capital
Embeddedness	• Embeddedness in institutional environments constrains organizational action. Emphasizes conformity and limited choice in responding to institutional pressure (DiMaggio & Powell, 1983).	• Embeddedness in institutionalized environments constrains actors but creates a type of collectively owned resource that can be mobilized to facilitate purposive action (Bordieu, 1986; Coleman, 1988; Lin, 2001).
Interconnectedness	• Interconnectedness and social relationships are key to the diffusion of norms of behavior. Conformity to norms is facilitated by density and strength of social connections (Goodstein, 1994; DiMaggio, 1997).	• Interconnectedness and social network closures are key to the diffusion of norms and information, development of trust and norms of reciprocity, ability to monitor behavior and sanction deviance. Strength of social connections facilitates distinctive types of purposive action (Lin, 2001; Burt, 1992; Granovetter, 1985).
Social Context	• Assumes all interactions are embedded in complex of institutional rules and practices (Scott, 1991). Social relationships (e.g., marriage, kinship) may be considered an institution (DiMaggio & Powell, 1991).	• Assumes a social context. Individuals may not realize social capital apart from the collectivity or outside of social relationships (Bordieu, 1986; Grootaert, 2001; Narayan & Pritchett, 1996).
Collective Action	• Institutions enhance the benefits of collective action by binding individuals to rules (formal or informal) that allow them to realize joint gains from cooperation that could not be sustained without substantial costs (Powell & DiMaggio, 1991).	• The prevailing institutional norm is one that influences embedded actors to oppose actions that would benefit oneself at the expense of the collectivity (Ostrom, 1994; Portes, 1998; Sandefer & Laumann, 1998; Adler & Kwon, 2002).
Active Agency	• Limited choice in conformity to institutional pressures.	• Active agency in constructing, accessing and mobilizing social network structures to develop, augment and enforce institutional arrangements.

As illustrated in Figure 3.1, both theories indicate that social relationships are crucial to binding institutionally embedded actors to norms of behavior. In addition, both theories have a collective action orientation. Although social capital theory allows for purposive action by indicating that actors may pursue their self-interests, it connects purposive action back to the collectivity. Note that Coleman (1988) argued that social capital is appropriable for productive use by an actor in the pursuit of her interests; however, it cannot be realized apart from the collective and the benefits accruing from social relationships are not exclusive. Community social capital signifies a collective resource such that its externalities may be appreciated by all community members. The core assumptions contained within the theories allow for internal consistency when used conjunctively. When integrated into a larger framework, the sources of organizational institutional pressures, the implications for institutional arrangements, and the mechanism by which institutional structures may be augmented are apparent.

The IESC Conceptual Framework

The following section proposes the conceptual framework that organizes my thinking about the organizational environment. I discuss the general framework before discussing the model as it applies to health care providers. I focus especially on the pervasive influence of social relationships within and among institutional environments and indicate their utility for purposive organizational action.

This study adopts an open systems approach to organizations by emphasizing that organizational systems are embedded in the environments in which they operate (Scott, 1998). Embeddedness refers to the extent that an individual (or organization) is connected to others usually through non-economic or social ties (Uzzi, 1997). Using this perspective, it would follow that in order to understand organizational action it is necessary to understand the context of the environment in which the organization operates. Institutional theory dichotomizes the environment into technical (emphasizing efficiency) and institutional (emphasizing socially constructed beliefs) components. The focus of this dissertation is on the institutional component. Consistent with Scott & Meyer's (1991) organizational societal sector, the IESC framework includes within the institutional component those entities that constitute a recognized area of institutional life including other organizations supplying a similar type of product or service, consumers, financiers, funders, regulatory and oversight structures. The IESC framework consolidates these entities within three distinct, nested institutional environments: political, social and individual organizational.

Figure 3.1, Institutional Embeddedness Social Capital Framework

Political Institutional Environment: Social (health care) policies

Social Institutional Structure: Socio-economic status, particularly income equality and racial/ethnic parity allowing for social cohesion and the development of community social capital.

Organizational (Health care) Institutional Environment: normative expectations paramount; efficiency stressed; organizational legitimacy is the key resource sought; responsiveness to client needs.

Health care Providers

Community

Civic participation; Involvement in Associations

Individuals

This study seeks to explain the relationship between social capital, institutions and organizational behavior at the local community level. Consequently, the IESC framework reduces Scott & Meyer's (1991) field-level framework to the local level. Field-level institutional frameworks provide legal guidelines, cognitive models and cultural logics that affect the full range of organizations operating in that particular societal arena (Scott, 2003). The IESC model is a focused view of the organizational institutional environment that exists within the wider institutional framework. Although organizations are under the authority of national and state regulatory systems, and enter into non-local financial arrangements, the scope of this study is intentionally narrow. This is primarily because evidence indicates that given similar field-level frameworks, there is widespread variation in organizational actions due, in part, to local level explanatory variables (e.g., Ginsberg & Fasciano, 1996; Felland et al., 2003; Norton & Lipson, 1998; Shoou-Yih et al., 2004; Stone & Bigelow, 1995; Luke & Walston, 2003; Ahern & Hendryx, 2003; Steinberg & Baxter, 1998). For example, Felland et al. (2003) found that variation in safety net provider viability, particularly that of FQHCs was in part a consequence of variation in community support and local health care policies that provided adequate funding for indigent care.

Where necessary, in this study I take into account institutional pressures at broader levels such as state Medicaid program structures. However, I take several steps to reduce the scope of the IESC framework. First, I began by focusing on the organization's institutional environment and refined the focus by only considering the local institutional

environment. Second, I differentiated among the political, social (community), and individual organizational components of the institutional environment.

To examine the influence of social relationships on institutions and organizational action, it is necessary to identify the specific environmental elements under investigation. Following Scott (2003), this study identifies institutional actors, institutional logics and governance systems and defines them accordingly.

Institutional actors include both individuals and collective actors such as organizations and associations, as they function to both create and carry (embody) institutional logics.

Institutional logics are sets of "material practices and symbolic constructions which constitute [a field's] organizing principles, and which are available to organizations and individuals to elaborate (Friedland & Alford, 1991).

Governance systems are those arrangements that support the regularized control of the actions of one set of actors by another. Consistent with an institutional approach to social capital, the IESC framework is interested in explaining the relationship between community social capital and local political environments that are supportive of and interact with civil society to encourage economic development particularly, health care safety net financing and delivery of services.

As previously indicated, the IESC framework consolidates institutional actors and logics into three distinct institutional environments. These are described below starting with the outermost layer of the nested model.

Political institutional environment includes the rules and norms prescribed by the organizations' regulatory and oversight structures. This environment frames both the social and individual organizational environments.

Social institutional environment includes consumers. Definitions of social institutions all consist of the notion of an interrelated system of roles and norms that specify appropriate and expected behavior toward the fulfillment of some need such as the provision of food or material goods, or in this case, health care (Theodorson & Theodorson, 1969). This environment includes individuals and their aggregated community norms, such that community social capital is created and mobilized in this realm. Individual behaviors such as associational involvement, volunteerism and civic participation feed into the aggregate (community) structure and create the norms consistent with high social capital communities.

Individual organizational environment is the innermost institutional environment and is subject to the pressures emanating from the social and political environments. The norms contained within this structure are both corporate culture norms and the norms of similar organizations operating in the same sector.

In the full model, institutional actors include individuals, which in the aggregate constitute the community, organizations and policy makers. Institutional logics include organizational logics; community logics, which are created by individuals feeding into the community structure; and political logics. The boundaries between the environments are porous. Institutional actors freely flow between institutional environments as community members, organizational members and policy makers. This follows the logic of Selznick (1957) who argued that organizational members act as wholes, acting both in their organizational and extra-organizational roles. Individuals simultaneously occupy multiple formal and informal roles, thus they embody and carry many institutional logics. This framework emphasizes how institutional actors individually and in the aggregate use their social relationships to shape institutional arrangements and organizational behavior.

Literature supporting the logic of the IESC model

There is a significant amount of research within the social sciences that addresses the role of social networks in economic, organizational, political and societal life (e.g., Smith-Doerr & Powell, 2005; Kildruff & Tsai, 2003; Evan, 1989; Domhoff, 1990; North, 1990; Moe, 1987). Of utmost interest are political and organizational studies.

During the comparative revolution in political science in the 1950s and 1960s political scientists began to see political events as a result of social relations. For example, in an analytic history of the National Labor Relations Board (NLRB) Moe (1987) demonstrated how the agency transformed its own political environment by

highlighting the mutual dependence that developed between the NLRB and its constituents. In terms of U.S. domestic and foreign policy, Domhoff (1990) illustrated how the passing of the Social Security Act, the Wagner Act, and the creation of the International Monetary Fund (IMF) was the result of the strong influence of the business community on the legislature. Domhoff (1990) painstakingly pointed out that the key players in the process were strong leaders in the business community and members of the social elite who held positions in strategic planning bodies. Similarly, Evans (1989) and Eckstein (1996) emphasized congruence between nongovernmental social structures and governmental structures making it clear that society and the polity are not autonomous entities. Social life is relational and since political institutions are reflective of a larger society, it follows that political activity is also relational.

The literature in the organizational field is equally as compelling. It indicates that intra and extra-organizational action is influenced by the nature and structure of social relationships. Burt (1992) argued that the structure of an actor's relationships with others both within and beyond the organization gives differential access to information and referrals, which in turn increases the actor's logistical agility and legitimacy. Granovetter (1973) also addressed actors' social network structure and found that weak ties facilitate success for job seekers. On the organizational level, Fukuyama (1995) indicated that the social trust that signifies social capital works to dramatically reduce transaction costs for organizations.

For community health and human services agencies, the development and maintenance of relationships to others within the community helps to address both funding and service delivery concerns. For example, differences in community health centers' (CHCs) responses to downsizing demands were attributed to the environmental dimensions of relationships, dependencies, and ties to the community. CHCs with strong community ties diversified their (resource) dependencies and were more likely to expand rather than scale back service delivery (Bigelow & Stone, 1995). In addition, Provan et al. (2004) found that coercive pressure to contain costs elicited a strategic network response from key mental health service providers within the community. In line with institutional theory assumptions, these providers responded in a way that reflected a desire to meet normative expectations even in the face of coercive pressures to control costs.

Alliances are commonly utilized by community agencies to increase resources, reduce uncertainty and increase legitimacy (Galaskiewicz & Bielefeld, 1998). For example, the inclusion of community members on community health center boards has been shown to give CHCs differential access to information, referrals, influence and power (Felix et al., 2002). Furthermore, in a study conducted by the U.S. Government Accountability Office, CHCs that responded to market changes by forming alliances were more likely to succeed economically (GAO/HEHS-00-39).

Similar to the relationship between social connectedness, institutional arrangements and organizational behavior, the IESC framework indicates a crucial interdependency between institutional environments. Scott (2003) argued that rules and norms must be linked to resources to have meaning and utility. Specific to community social capital, Farquar & Warren (2005) argued that it is not enough to increase social capital in vulnerable communities without also changing economic opportunities, work conditions, and access to education and health care. Clearly, community social connectedness within itself has no utility unless communities and organizations are connected to economic and political resources (Difillipis, 2001; Saegert et al., 2001). The pattern of action prescribed by the IESC framework provides for this connection. In sum, the flow of activity within the IESC model is such that social concerns and intentions influence political infrastructures and policies, which then provide political power and economic resources to individuals and organizations. This interaction is a continuous reciprocal and iterative process (Keohane, 1988; Kratochwil & Ruggie, 1986; Krasner, 1988) facilitated by social relationships.

Applying the IESC model to Health Care

While the IESC framework includes multiple institutional actors and institutional environments, the dissertation research is focused on the local social institutional environment and its relationship to the financing and delivery of health care services by community providers. Other relationships within the framework offer opportunities for future study. The health care field is a prime area for empirically assessing the utility of

the IESC model because of two primary reasons. First, the health care field is an extremely distinctive institutionalized field with multiple environmental pressures. The multiple formal and informal institutional structures that govern U.S. health care make for an incredibly complex system. For example, laws governing the sector exist at both national and local levels and vary from state to state. There is also a diversity of clinicians who provide care and a diversity of organizational forms each with their own distinct cultures in addition to field-level norms (Scott, 2003; Zazzali, 2003).

Furthermore, the technical nature of health care creates a significant information asymmetry in the patient-provider relationship. Gray (1997) described how the patient-physician relationship is such that patients' willingness to accept medical advice and services has rested on trust in physicians' technical competence and adherence to a fiduciary ethic that holds that the physician's responsibility is to put patients' interests above self-interests. However, institutional pressures particularly those emanating from third party financers have influenced the character of health care professionals; specifically, their loyalties, commitments and perceptions of their ethical obligations to patients and providers (Morreim, 1995; Pellegrino, 1989; Rodwin, 1993; Spencer et al., 2000). Therefore, institutions such as professionalism, regulatory structures, and normative expectations arise to monitor and sanction provider behavior. Together they create multiple institutional boundaries that restrict organizational action.

The IESC model indicates that the local social context conditions health care providers' behaviors in two ways. As the middle layer in the nested institutional model, community social capital can mediate the pressures of the political environment on health care providers. Institutional actors can influence local policies to be structured in such a way that a supportive environment is created to allow health care providers to meet the needs of the community without jeopardizing economic viability. Second, institutional logics created by community social capital directly pressure health care providers to conform to local social context. This is the particular piece of the model that is tested in the dissertation research. In effect, community social capital creates a distinct logic within the organization that may or may not differ from the field-level logic pushed by non-local institutions such as managed care financers.

Although not tested in the empirical analysis, it is likely that conformance to social institutional norms creates a type of capital that providers may later mobilize in the pursuit of self-interest. In this study's empirical examination, the primary indicator of conformance to social institutional norms is the provision of uncompensated care by federally qualified health centers (FQHCs) and private physicians. One of the expected returns to organizations is reputational benefit, which may result in potential economic and/or non-economic (e.g. political power, prestige) benefits for both FQHCs and private physicians. It is important to reiterate that organizational survival in institutionalized fields is dependent on normative controls such as organizational reputation, which is tantamount to legitimacy.

I believe that the health care field's social aspects make it an optimal population for the application of the IESC's social model of organizational action. Social models allow us to consider situational constraints when considering organizational rational action. This method of analyzing organizational behavior is consistent with arguments made by Grannovetter (1985) who advised organizational analysts to remain cognizant of the nature of institutional context. He states that, "while the assumption of rational action should not be abandoned, what looks to the analyst as non-rational behavior may be quite sensible when situational constraints, especially those of embeddedness are fully appreciated. That such behavior is rational or instrumental is more readily seen, if one considers not only economic goals but also goals of attaining sociability, approval, status, and power." The IESC framework does this by acknowledging how normative controls, such as trust and organizational reputation guide health care provider behavior.

In line with the overall purpose of the IESC framework, the application to the health care setting seeks to explain the dominant and pivotal role of community social context in shaping institutions and behaviors. The model indicates that the financing and delivery of local health care services by community providers is directly impacted by community norms. It is likely that when community social capital is high, health care providers will respond by providing services that are highly responsive to the social needs of the community. Consistent with social capital characteristics, norms of reciprocity, rapid information diffusion regarding provider reputation, and a general shared sense of fate will influence providers to strategically invest resources (e.g.,

uncompensated care) into social relationships with other institutional actors in order to boost organizational reputation and thereby, increase legitimacy and support. Investments are made with the expectation of future benefit including economic and political gains (Lin, 2001). The model also indicates that the behaviors of health care providers directly impact individuals within the community. Regardless of institutional arrangements, an individual's access to health care and quality of care is ultimately determined by health care providers who must balance collective and self-interests. The inclusion of social capital theory within the IESC framework provides the mechanism by which this can be achieved.

Many scholars have used institutional theory to explain some of the seemingly irrational behavior of health care organizations by emphasizing the role played by sociopolitical dynamics (Luke & Walston, 2003). The IESC framework is consistent with these studies; however, by viewing organizational action through the lenses of both institutional and social capital theories, the framework brings rationality back into organizational action.

Using Social Capital to Explain Variation in Institutional Structure and Organizational
Behavior

The influence of social relations on behavior and institutions is one of the primary areas of inquiry for social theorists. The integration of social capital and institutional theories into a larger framework is helpful for understanding health care provider

environmental pressures and subsequent behavior. It also elucidates the pressures and behaviors of most, if not all, organizations operating in highly institutionalized environments (e.g., education, research, the arts). Used conjunctively these theories provide a viable explanation for variation in institutional structures and institutionalized norms that highly influence organizational actions and outcomes. Similar to Coleman (1990), I would argue that all people share some common values, and thus have some common interests in seeing that certain patterns of actions be observed. For example, if given the choice, most would prefer to live in a safe community rather than a crime-ridden one. Communities would prefer competent, responsive government and public services; however, variation across communities persists.

Communities are products of complicated sets of social, political, cultural and economic relationships between individuals, organizations and institutions. Social theorists would argue that each has an interest in achieving short term gain through actions that conflict with the common interest. More specifically, institutional theory assumes an inherent conflict between rational action and collective interests; therefore, institutions arise to sanction actions that benefit one at the expense of the collectivity (Coleman, 1990). Institutions constitute actors whose interests emerge within particular normative and historical context (Powell & DiMaggio, 1991), which is a possible explanation for institutional variance. However, this does not adequately explain why some local institutional arrangements are more responsive to social needs, why some

communities have more participatory institutional arrangements or why some community organizations and individuals are more viable than in other communities.

Variability in individual and aggregated human and economic capital plays a significant role in the explanation. However, consistent with sociologists, I would argue that social context strongly conditions what otherwise equally competent individuals, communities and organizations can achieve in developing effective institutional structures and flourishing within them (Loury, 1977; Coleman, 1988). Social capital is a significant part of that social context. It has been described as the glue that holds societies together, the norms and values that govern interactions among people and the institutions in which they are embedded (Feldman & Assaf, 1999).

Whether created purposively or by unconscious design, institutions serve to minimize political, economic and social transaction costs resulting from problems of opportunism, imperfect or asymmetric information and costly monitoring (Alchian & Demsetz, 1972; Williamson, 1975; North, 1988; Ostrom, 1986; Moe, 1987; Shepsle, 1986; Young, 1986). However, evidence suggests that institutions are not enough to create and maintain the order and stability necessary for social and organizational viability. This is primarily because the problems leading to the development of institutions are social, cultural issues related to interpersonal trust that cannot be adequately resolved through coercion. Gambetta (1988) argued that coercion is not an adequate alternative to trust but rather coercion introduces asymmetry, which eliminates mutual trust and instead promotes power and resentment. Moreover, Granovetter (1985)

argued that both order and disorder, honesty and malfeasance have more to do with the nature of personal relations and few would actually solely rely on institutional arrangements to guard against trouble. Personal relationships and networks for such connections generate trust and discourage malfeasance.

Trust in individuals and government has been used in the measurement and operationalization of social capital in empirical studies such as Pamela Paxton's (1999) study of social capital decline and Knack & Keefer's (1997) study of the relationship between social capital and the economy. Social capital is characterized by levels of trust, civic engagement and norms of reciprocity (Putnam, 1993; Lochner, et al., 1999). Therefore, if trust is a key theoretical ingredient of social capital then evidence indicates that social capital is a necessary condition for the development of appropriate and responsive institutional structures that effectively "guard against trouble" and enhance collective action. Evidence suggests a positive relationship between trust and economic growth, effective governance, organizational viability, social stability, and the accountability of community health care institutions (Fukuyama, 1995; Etzioni, 1993; Woolcock, 1998; Granovetter, 1985; Putnam, 1993; Knack & Keefer, 1997; Coleman, 1990; Evans, 1996; Ahern & Hendryx, 2003).

Following Putnam's (1995) logic, people learn to trust through face-to-face interactions, norms of trust spill over into society at large, and capacity is created for

collective action in pursuit of shared goals. Repeated interactions, whether informally or formally through organizational associations builds trust (Kildruff & Tsai, 2003; Smith-Doerr & Powell, 2003; Grooteart, 2001). Therefore, community organizations can play a mediating role between social capital and institutions (Saegert et al., 2001). Community organizations provide opportunities to develop and strengthen social ties, thus allowing communities to develop a sense of shared identity, define common goals, and pool resources. Community members also develop a sense of shared power as they work toward collective goals. In a sense, the collective development and adherence to institutional rules and norms are in themselves a form of social capital (Ostrom, 1994). Thus, variations in social capital may explain the variation across community institutional structures and effectiveness. It may also explain variation across communities in health care provider responses to institutional pressures.

Although the forces driving the health care system are similar from community to community, communities (individuals and health care institutions) react to those changes in different ways depending on, among other things, their cultures and values (Lichello & Madden, 1996; Steinberg & Baxter, 1998). Steinberg & Baxter (1998) argued that the ability of communities to promote health care access and quality rather than the bottom line strategies favored by non-local health care financing and delivery entities depends on the degree to which common values exist in the community. These common values are developed through collaborative efforts such as coalitions and union activities. Although the discussion has emphasized the collective, it is helpful to reiterate that social capital

has dual instrumentality for achieving both collective and individual interests. For example, an analysis of the impact of social capital on individual household welfare revealed that community social capital reduced the probability of being poor. Furthermore, the impact of social capital on household assets was greater for households in the lowest income quartile (Grooteart, 2001).

It is important to note that while not an alternative to material resources or institutional arrangements, social capital is an essential means to increasing such resources and making more effective use of them (Saegert et al., 2001). Accordingly, public health researchers, U.S. governmental agencies and international financial institutions, such as the World Bank view the creation and mobilization of social capital as a part of larger strategies for alleviating poverty, improving health outcomes and enhancing community development efforts (World Bank, 2001; DeFilippis, 2001; Farquhar & Wiggins, 2005; Hyde, 1999). Conversely, institutions have a role in fostering the development and mobilization of social capital. Foley & Edwards (1996) argued that social capital either thrives or withers in the context of the institutional framework that governs who plays, the rules of the game, and acceptable outcomes (Foley & Edwards, 1996).

In sum, there are several key ideas contained within this discussion that should be emphasized before moving ahead. I have argued that social context strongly impacts how

local community institutional arrangements are structured and what community members and organizations may achieve within those structures. Institutions are a necessary but not sufficient condition to solving problems related to trust. Trust is indicative of social capital, and social capital can be developed as it is facilitated by repeated interaction whether informally or through formal organizational association. Lastly, institutions and social capital have a synergistic effect in enhancing the benefits of collective action within communities thus, benefiting communities at the macro and individual levels.

Thus far, I discussed the relationship between social capital and institutional arrangements in order to justify the integration of social capital and institutional theories in a larger framework. In the following section, I will explain how the combined theories provide a plausible theory of action that is reflective of the social complexity of organizational environments.

Social Capital as Action within Institutional Constraints

Institutional theorists acknowledge that although organizations are rationally ordered systems, non-rational features restrict their capacity for rational action. Primarily because organizational members act as both members of the organization and the larger society thus, compromising rationality (Selznick, 1957). Social capital theory would describe this dual citizenry as an organizational benefit that enables organizational purposive action. Selznick (1957) argued that individuals within organizations act as wholes; thus, they have extra-organizational commitments and roles. These individuals

are part of the community's social, political and organizational institutional environments; and therefore, they are the creators and vectors of institutionalized rules and norms. Rather then abdicating to institutional pressures, as institutional theory would suggest, social capital theory would direct organizational managers to focus on building strategic relationships within and among institutional structures. Furthermore, contributing to the development of a shared social ideology supportive of health care providers' interest is also key to organizational viability.

For example, the development of a shared ideology regarding the value of preserving safety net services can result from social interconnectedness (cohesion) in the larger environment. Evidence indicates that community-level social capital largely influences the institutional environment constraining and empowering health care institutions to fulfill their missions (Luke & Walston, 2003; Ahern & Hendryx, 2003; Steinberg & Baxter, 1998; Lichello & Madden, 1996). In the IESC framework, organizations are active participants in designing their environments. Organizational strategic action is undertaken at both the micro (organizational) and the macro (community) level. At the organizational level, organizational actors may strategically invest and mobilize resources embedded in their social networks to achieve their self-interests. At the macro level, organizations may strategically engage in community-level interventions to build social capital (Peterson, 2002; Lomas, 1998). Among other things, community health care providers can provide opportunities for community members to develop and strengthen social ties, define common goals, and develop a sense of shared

power (Saegert et al., 2001). Examples include the existing FQHC practice of including community members on organizational governing boards. Additional methods may include provider participation in professional and recreational community associations, volunteerism, and providing physical space for community activities.

The IESC framework expands traditional institutional theory to provide a theory of action that is purposive but still reflective of the social complexities that constrain organizational action. I argue that it is not a particular institutional context that constrains or enables organizational goals to be met but it is the social relationships that exist (or not) within the institutional context. Institutional pressures and, therefore, organizational behaviors, are a direct reflection of social interconnectedness (or lack of) at the macro and micro levels. Evidence suggests that social interconnectedness strongly influences behavior independent of individual traits or characteristics. For example, in a study examining delinquency among Chicago youth, sociologists from the University of Chicago found that certain Chicago neighborhoods always led the city in juvenile delinquency, no matter which ethnic group happened to be occupying them. Delinquency was an unavoidable stage in the groups' process of assimilation (Lehman, 1991). Evidence also suggests that social relationships in the larger environment impact how individuals relate to one another, even in personal relationships such as marriage. Botts (1957) found that the larger context of social relationships directly impacted the role-relationship of married couples. The degree of segregation in the role-relationship of husband and wife varied directly with the connectedness of the social network in which the family was embedded.

Specific to health care, Ahern & Hendryx (2003) found that individuals residing in cities with lower social capital had significantly lower levels of trust in physicians, independent of individual characteristics, health and health care variables. And in explaining the organizational behavior of non-profit organizations, Galaskiewicz and Bielefeld (1998) called for an ecological perspective to argue that organizations operating in the same ecological niche will behave similarly regardless of for profit or nonprofit sector labels. Accordingly, I argue that ecological factors, such as community social context have far greater influence on organizational behavior than any particular institutional arrangement or organizational characteristic. Consistent with Luke & Walston (2003) who argued that community traditions shape public policy as well as organizational strategic decisions, I argue that local political and organizational institutionalized practices will vary directly with the community social context.

The organizational implication of interconnectedness is not a new line of research within the social capital or institutional theory literatures. Many institutional empirical and conceptual studies indicate that organizations are able to respond strategically to the pressures emanating from their institutional environments (e.g., Oliver, 1991; Galaskiewicz, 1991; Goodstein, 1994; Lawrence et al., 2002; Provan et al., 2004) by developing formal and informal relationships with policy makers, community members and other organizations. However, combining institutional and social capital theories shifts the focus from the organizational implications of interconnectedness at the micro (organizational) level to the organizational and institutional implications of interconnectedness at the macro level. This expands our understanding of the

implications of local social context at the macro-level for organizational action within institutional environments. Although Selznick (1949) also addressed these implications, he indicated that local context resulted in organizational goal displacement. Unlike the TVA study, the strategic prescriptions of social capital theory provide organizational managers with a viable tool for achieving organizational goals within the local environment.

The IESC framework establishes the theoretical specifications and guides the development of the research questions and hypotheses for this dissertation. As previously indicated, the empirical research test a small piece of the IESC's hypothesized relationship among social context, health care institutional frameworks, and individual and organizational behavior. In line with calls for more work on social models of explaining organizational action (Pfeffer, 1997), this study seeks to explain organizational action in light of the ecological, macro level indicators of social interconnectedness. By emphasizing the role of social relationships in organizational strategic action, the IESC framework suggests that social capital may be the missing link for enhancing/attaining both collective and individual interests within institutional constraints.

In the following section, I will review the social capital literatures as it pertains to institutional performance. The specific area of study to be discussed is the instrumentality of community social capital for achieving individual, community and organizational self-

interests and collective action. This section focuses on the application of social capital theory to community-level social, political and health care institutions. This review will indicate gaps in knowledge and justify the need for further study. Following the literature review, I will present my research questions and hypotheses.

Community Social Capital and Health Care Institutional Performance

Theoretical Components of Social Capital

Social capital emerged as an independent theory in the late 1970s and early 1980s largely due to the seminal work of Bordieu (1985) and Coleman (1988). As a general sociological theory, social capital refers to a variety of features in the social structure including community norms (Coleman, 1990), group solidarity (Hechter, 1983; Portes & Sessenbrenner, 1993), and participation in voluntary and civil organizations (Putnam, 1995). The central thesis of social capital theory is that social relationships have a decisive role in shaping broader attitudes and behaviors, which as Portes (1998) aptly pointed out, is not a novel concept among sociologists. In his view, social capital recaptures insights present since the inception of sociology. However, social capital theory has risen to prominence in recent years particularly, in the fields of economics and political science. In fact, it is one of the most popular exports from sociological theory into everyday language (Portes, 1998; Field, 2003). Schuller et al. (2000) argued that this may be a consequence of the theory's focus on the interrelatedness of the world that has often been neglected in rational actor frameworks. Similarly, Edwards & Foley (1998)

argued that the heuristic value of social capital is in its attention to crucial aspects of social relations that impinge on economic and political life that are neither easily nor convincingly incorporated into an explanatory model based on the rational pursuit of individual self-interest.

This section initially provides a discussion of the foundational elements of social capital theory. Using an institutional perspective it describes the social capital institutional logics of enforceable trust and generalized reciprocity as key theoretical ingredients that allow for social capital instrumentality in the attainment of individual and collective interests. Understanding these logics is crucial to understanding and making predictions about health care provider behavior within communities characterized as possessing social capital.

The social capital empirical literature can be sorted into seven substantive fields: families and youth behavior problems; general cases of problems of collective action; schooling and education; social theory and economic development; democracy and governance; community life; and work and organizations (Woolcock, 1998). Given the focus of the dissertation, the literature review includes those studies in the latter three fields. An emphasis is placed on health care related studies and on the implications for low-income communities where FQHCs are most likely to be located and where charity care will be needed the most. A review of the literature indicates that at its present state of development, social capital theory is a relatively immature concept without

definitional or measurement consensus (Baum, 1999; Schuller et al., 2000; Portes, 1998; Woolcock, 1998; Field, 2003). In its rapid proliferation social capital theory has been applied quite diversely. So much so that Portes (1998) argued that it's meaning and heuristic value are being put to severe tests. In most analytical models it is an independent or mediating variable influencing a specified outcome such as economic development. As a young theory it has also encouraged complex and multidimensional investigation (Schuller et al., 2000). Consistent across the literature are calls for more empirical research that will lead to theoretical refinement and realization of social capital's analytical value.

The foundational authors of social capital theory: French social theorist, Pierre Bordieu (1986); American sociologist, James Coleman (1988); and more recently, political scientist, Robert Putnam (1993) provide definitions of social capital that clearly focus on social networks and relationships as a resource for achieving collective and individual interests. In this dissertation I adopt a combinatory conceptualization of social capital developed by Lin (2001) that describes it as resources embedded in a social structure, which are accessed and/or mobilized in purposive action. Both Bordieu and Coleman viewed social capital as occurring within a rational choice framework; and therefore, consider it as 1) an individual resource, 2) instrumental; and 3) reducible to economic gains and losses. For example, in studies of the French aristocracy, Bordieu viewed social capital as an asset used by the French elite in jockeying for social position.

In studies of educational attainment among the American poor, Coleman saw social capital as a resource for the disadvantaged where closed, dense networks of parental association limited juvenile delinquency and increased the likelihood of academic success. The 'Coleman Report' indicated that family and community background characteristics tended to outweigh factors related to the nature of the school itself (Coleman et al., 1966). Moreover, subsequent studies indicated that the most important factor in explaining lower absenteeism and drop out rates was the impact of community norms upon parents and pupils, which functioned to endorse teacher' expectations (Coleman & Hoffer, 1987). Thus, the authors concluded that communities were a source of social capital that could offset social and economic disadvantages.

Although focusing on political institutions, Putnam (1993) extended Coleman's work by identifying social capital as a significant variable in explaining differences in institutional performance and levels of civic engagement between Italian geographic regions. In his study of economic prosperity and political stability in northern and southern Italy, Putnam found that the successful institutional performance in the north was due to the mutual interrelationship between government and civil society. Somewhat similar to Putnam (1993) and consistent with Woolcock (1998) I have taken an institutional approach to social capital.

It should be noted that in general, social capital theorists who utilize an institutional approach are primarily concerned with how the state cooperates with civil

society to foster economic development via interaction between private and public institutions, legal and democratic systems and citizen rights (e.g., Woolcock, 1998; Clegg, 1990; Foley & Edwards, 1997). I recognize the importance of state and civil society in economic development. However, rather than examining relationships among broad formal and informal institutional arrangements, and economic indicators, in the dissertation I narrowly examine local informal institutional arrangements (e.g., community social capital norms) and material resources; specifically, community health care safety net capacity. In referring to the relationship between social capital and health, Muntaner et al. (2000) indicated that an institutional approach to social capital is more encompassing and allows for greater explanatory potential and integration with other sociological traditions.

Variation in Community Health Care Institutional Frameworks

In previous sections, I argued that local social context strongly impacts how community institutional arrangements are structured and what community members and organizations may achieve within those structures (Lourry, 1977; Coleman, 1988). Putnam (1993) described social capital as features of social organization, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions. Since institutional arrangements are developed to enhance the benefits of cooperation by binding individuals to rules that allow them to realize joint gains from cooperation that could not be sustained without substantial costs (Powell & DiMaggio, 1991; Alchian & Demsetz, 1972; Williamson, 1975; North, 1988; Ostrom, 1986), it

follows that community social capital serves to reinforce local institutional arrangements (Putnam, 1993; Coffee et al., 2005).

Communities are products of complicated sets of social, political, cultural and economic relationships among individuals, organizations and institutions. Thus variations in institutional arrangements are expected and evident across communities. Although institutional views of organizational behavior have expanded to consider the influence of political, social and organizational systems outside of the organization's immediate local context (Scott & Meyer, 1991), evidence still suggests that relationships between the organization and local community actors (organizations and individuals) remain an important component to explaining institutional arrangements and subsequent organizational behavior (e.g., Zajac & Kraatz, 1996; DiMaggio, 1991; Bigelow & Stone, 1995; Provan et al., 2004). More specifically, health care organizations are under the authority of national and state regulatory systems, and enter into non-local financial arrangements. However, given similar broad institutional frameworks, there is wide spread variation in organizational actions due, in part, to local level social and political explanatory variables (e.g., Ginsberg & Fasciano, 1996; Felland et al., 2003; Norton & Lipson, 1998; Shoou-Yih et al., 2004; Stone & Bigelow, 1995; Luke & Walston, 2003; Ahern & Hendryx, 2003; Steinberg & Baxter, 1998).

Luke & Walston (2003) argued that community traditions shape health care policies as well as health care organizational behavior. Therefore, it follows that health

care providers' strategic actions are constrained by local political and social institutional arrangements. In case studies of 12 disparate communities, Steinberg & Baxter (1998) explained that the forces driving the health care system are similar from community to community, including pressure to reduce prices, increased managed care and outcomes measurement, excess capacity, and technological developments. These forces drive consolidation, change the focus of risk management and change the relationships between providers, their patients and the community. However, communities react to these changes in different ways. The author's found that the variation in health care institutional performance specifically, the capacity to provide health care services to vulnerable populations, was a consequence of unique community values and traditions.

Variation in the reactions of communities and health care institutions to changes in the health care system has been examined extensively by the Center for Studying Health System Change (HSC). Surveys and site visits to document changes in health care systems over time are centered around communities because health care delivery is primarily local (Strouse et al., 2003). Specific to community health care safety net capacity, Norton and Lipson (1998) indicated that the composition and concentration of care to the poor vary dramatically across communities and are a function of the demand for such care, the depth and breadth of Medicaid coverage, the economic and political environment, as well as the level of state and local support for care for vulnerable populations.

For example, using data from HSC, Felland et al. (2003) found significant variation across communities in the viability of health care safety providers such as FQHCs. Among other things, this variation was caused by variation in community support and local health policies that provided adequate funding for indigent care. Based on these studies, it is clear that there is significant variation in local institutional arrangements; and therefore, significant variation in the behaviors of individuals and organizations embedded within them. Specific to health care providers, although the forces driving health system change are similar across communities, health care institutional performance varies due to local-level explanatory variables. Therefore, hypothesis 1, 1a through 1c state:

H1: There will be significant variation across communities in community health care safety net capacity.

> **H1a. There will be significant variation across communities in community health care safety net capacity through variation in FQHC grant revenues.**

> **H1b. There will be significant variation across communities in community health care safety net capacity through variation in FQHC human and financial resources dedicated to the delivery of enabling services.**

> **H1c: There will be significant variation across communities in community health care safety net capacity through variation in the hours of charity care provided by private physicians.**

The Influence of Generalized Reciprocity and Trust on Health Care Institutions and Provider Behavior

Although economic and political forces exert strong influences, community social context serves as a dominant force in shaping congruous local institutional arrangements and health care provider behaviors. For example, Steinberg & Baxter (1998) consistently found that where community values emphasized access and quality, institutional arrangements and provider behavior emphasized and enforced these values. Consistent with the dissertation argument, communities developed both formal and informal institutional structures to guide institutional actors. The informal structures described as, "a way of doing things", was supported by the long tenure and strong relationships among health sector and business leaders. Informal structures fed into formal political processes by which important community decisions were made. Thus, interdependencies were evident between horizontal and vertical actors and institutions within the community.

I previously argued that it is not a particular institutional context that constrains or enables organizational goals to be met but it is the social relationships that exist (or not) within the institutional context. Social networks facilitate communication and the flow of information about others' trustworthiness. They reinforce reciprocity norms, and facilitate the development of reputations and informal problem solving (Coleman, 1988; Uzzi, 1996; Powell, 1990; Ingram & Roberts, 2001). Dense community-wide social networks create a shared ideology specifically, norms of generalized reciprocity and enforceable trust. These norms have been shown to lower transaction costs, facilitate cooperation, restrain opportunism, and balance self-interest and solidarity (Fukayama,

1995; Knack & Keefer, 1997; Duncan, 2001; Granovetter, 1985). The literature consistently indicates the utility of these norms for achieving the individual (e.g., Lin, 1995; Flap, 1991, Tardos, 1996; Burt, 1997; Portes, 1998) and collective goals of organizations (e.g., Gabbay & Leenders, 2002; Johanson, 2001; McNaughton & Bell, 2001; Nahapiet & Ghoshal, 1998; Uzzi, 1996), communities (e.g., Ostrom, 1994; Pierce et al., 2002; Farquhar & Wiggins, 2005; Saegert et al., 2001), and wider economic and political institutions (e.g., Rice, 2001; Fukuyama, 1995; Knack & Keefer, 1997; Clegg, 1990).

Putnam (1993) found that the norms of generalized reciprocity and trust improved institutional performance. He applied 12 primary measures of government institutional performance including the number of family health clinics and the amount of local governmental health care spending and found a positive relationship between performance and social capital. Social capital researchers in the health care field speculate that the benefits noted by Putnam may extend from local governmental institutions in general to local health care institutions in particular (Hendryx et al., 2002). For example, Ahern & Hendryx (2003) argued that the delivery of appropriate and effective care by physicians and the likelihood of patient compliance to physician instructions are highly influenced by the reciprocal nature of the larger environment. The authors found that the level of general trust, engagement and reciprocity in a community influenced patients' perceptions that physicians were providing appropriate and effective care. In addition, trust within the patient-provider relationship was significantly higher in

communities with high levels of social capital specifically, generalized trust and reciprocity.

Consistent with studies of the benefits of social support (e.g., Berkman, 1995; Merton, 1968; Peplau, 1985), Cowley & Hearn (2002) argued that in terms of health outcomes, there is an advantage for those living in communities where one can help others in times of need and have a realistic expectation that the favor will be returned. Coleman & Hoffer (1987) argued that communities were a source of social capital that could offset social and economic disadvantages. Similarly, Hendryx et al. (2002) found that community social capital offsets individual socioeconomic disadvantages, particularly inequalities in access to health care resources (Hendryx et al., 2002). In addition to demonstrating that communities with higher social capital had greater health care access, the authors found that community social capital lowered out of pocket cost for the uninsured. Although the study takes into account health sector variables including HMO penetration, and primary care provider/population ratios, it does not directly examine actual provision of services. However, both Putnam (2000) and Hendryx et al. (2002) speculated that individuals within social networks are able to lobby more effectively for medical services, are well placed to influence local health services, better informed about services and are also more likely to be able to access them.

In addition, Putnam (2000) and Hendryx et al. (2002) extended Putnam's (1993) institutional performance findings to reason that community social capital may operate to create more humane, efficient, better coordinated, broader or deeper health care systems. Hendryx et al. (2002) argued that in higher social capital communities physicians may be more likely to accept underfunded patients and sectors may be better at coordinating care. For example, in a study that examined community members' awareness of safety-net services (health care providers that provide care regardless of an ability to pay) Cunningham et al. (2005) found that increased FQHC capacity (grant revenue) was associated with awareness. An unexpected finding was that there was a relationship between FQHC capacity and hours of charity care provided by private physicians. Greater FQHC capacity increased awareness of private physicians as safety net providers and conversely, greater physician charity care increased awareness of FQHCs as safety net providers. Cunningham et al. (2005) speculated that this could be a function of external grant funding requirements that forced collaboration among providers in order to qualify for funding. However, Hendryx et al.' s (2002) logic can be extended to argue that the coordination among providers found by Cunningham et al. (2005) has an ecological rather than an external funding explanation.

The concept of social capital reflects the belief that levels of interpersonal trust, engagement in civic affairs and reciprocity norms among citizens in a community determine the extent of cooperative and mutually beneficial behaviors occurring within the community. For example, Steinberg & Baxter (1998) reported that one of the

communities in their study conducted an evaluation of the distribution of the burden of indigent care. The evaluation indicated that one community health care institution was not providing its fair share of care. This institution came under close scrutiny, and community initiatives were prompted to improve access and explore financing mechanisms for the uninsured. Steinberg & Baxter (1998) argued that the key to positive health system change and improved institutional functioning is community accountability. Accountability is defined as the structures and processes communities use to make health system change consistent with local standards of behavior, shared values or community goals. Given the influence of social capital norms of generalized reciprocity and trust, Hendryx et al. (2002) reasoned that in higher social capital communities, reputations matter, and shared values and community goals are more likely to exist.

For health care providers such as FQHCs, common community values regarding the preservation of health care safety net services has been shown to serve as a source of economic and non-economic support. This has helped to preserve providers' historical missions of providing care to vulnerable populations (Lichello & Madden, 1996; Steinberg & Baxter, 1998; Felland et al., 2003; Bigelow & Stone, 1995). Felix et al. (2000) examined the impact of community members on community health center (CHC) governing boards (which the authors used as a measure of social capital) and found that board members gave CHCs differential access to information and referrals thus increasing the CHC's influence and power. Furthermore, they found that these networks

and relationships brought political, financial, community support and awareness to the CHC thus providing the organization with more resources for service delivery. Felix et al. (2000) suggested that the very existence of an FQHC in the community is indicative of the social cohesion that is characteristic of community social capital. Consistent with Saegert et al. (2001) who argued that community organizations serve as mediating structures for the development of social capital, Felix et al. (2000) argued that CHCs foster the key components of social capital in their communities (civic involvement and participation, trust, and networks).

Measuring Community Social Capital

Although these studies provide insight into the relationship between community social capital and health care institutions, they lack measurement consensus. Therefore, the influence of community social capital on heath care institutional performance is still somewhat unclear. For example, Hendryx et al. (2002) used a composite measure of community social capital. The author's combined social capital indicators that ranged from voting participation to psychosocial measures of trust in others and in government. Although the broad range of measures are consistent with previous studies (e.g., Paxton, 1999; Putnam, 1995) and indicative of community social capital, the relationship between specific community social capital indicators and the study's outcome variable of health care access is obscured.

Shoou-Yih et al. (2004) used a more precise measure of social capital; however, it is still a composite indicator. The authors examined the relationship between community social capital, hospital accountability and provision of community-oriented services. In contrast to Hendryx et al. (2002), they found that neither community nor civic participation, both measures of social capital, was related to hospital community accountability. In addition, they found a negative association between community participation and hospitals' reports of providing a set of distinct community-oriented services. The only significant relationship was found in the interaction of community membership on hospital governing boards and civic participation that increased hospitals' reports of the availability of community-oriented services.

While the authors tested community civic participation as a separate indicator of social capital, they combined measures of participation in community associations, volunteer activities and community projects to develop a 'community participation' social capital indicator. Although these activities are related, it is important to understand the relationship between specific social capital indicators and the outcome variable. Following Shoou-Yih et al.'s (2004) logic, it is possible that consolidating indicators that appear internally consistent conflate distinct concepts. For example, Hendryx et al.'s (2002) composite measure combined social capital indicators of civic participation with community participation measures of association and found a positive relationship between community social capital and health care access. However, as is illustrated in the Shoou-Yih et al. (2004) study, community participation and civic participation have very

different relationships to the outcome variable. In finely applying social capital, Shoou-Yih et al. (2004) produced findings that conflicted with previous studies that indicated a positive relationship between community social capital and health care related outcomes.

Social capital is a relatively immature concept without measurement consensus (Baum, 1999). Therefore, prior to consolidating common indicators of community social capital, it is necessary to understand the relationships that exist between specific social capital indicators and health related outcomes. It is likely that separating and testing each social capital indicator individually will clarify the relationship between community social capital and community health care institutional outcomes.

Commonly applied indicators of community social capital include involvement in associational activities, volunteerism, and civic participation. Coleman (1988) argued that social organization, such as voluntary organizations, is a necessary social structure for the development of community social capital. Once organizations are brought into existence for one set of purposes, they can also aid others, thus constituting social capital available for use (Coleman, 1988). Participatory political institutions are viewed as a form of collective action and are also necessary for the development of social capital. Putnam (1993) and Coleman (1990) argued that people vote when they have a strong sense of mutual responsibility and support even with no prospect of personal gain. Thus, civic engagement is both an indicator and outcome of community social capital (Putnam, 1993). Put simply, communities characterized as possessing social capital are

distinguished by the emergence of extensive networks of voluntary associations (Inglehart, 1997) and civic engagement, which fosters generalized reciprocity and social trust (Putnam, 1995).

Specific to health care, Shoou-Yih et al. (2004) speculated that because of greater civic engagement and stronger trust in others, residents in communities with higher social capital may be better informed of community health problems and more active in resolving those problems through grassroots activities and in cooperation with local health care providers. In addition, they argued that through voluntary associations, close social ties, and improved communications, social capital facilitates the voting participation of community members and encourages community groups to jointly defend their health interests.

The discussion has emphasized that variation in local institutional arrangements and the behavior of embedded actors are associated with the level of social capital within the community. I have also emphasized that the relationship between community social capital and community health care institutional outcomes is unclear due to variations in community social capital measurement. However, in spite of this uncertainty, the findings from these studies can be extended to argue that there is likely to be a positive association between community social capital and community health care safety net capacity. And, it is likely that the relationship between community social capital and community health

care safety net capacity will vary dependent upon the community social capital indicator examined. Therefore, hypothesis 2 and 2a state:

H2. There will be a positive association between community social capital and community health care safety net capacity.

      H2a. The strength of the association between social capital and community health care safety net capacity will vary dependent upon the specific community social capital indicator used.

Civic Participation and Institutional Performance

Hendryx et al. (2002) argued that civic engagement reflects the type of broader social context that scholars such as Putnam (1993) and McKnight (1995) view as essential for the development and sustenance of effective neighborhoods and communities. When used as an indicator of social capital it is positively associated with responsive government and service quality (Rice, 2001; Cusack, 1999). Coffee et al. (2005) found that community social capital was positively associated with better local government financial management. Consequently, the authors reasoned that community social capital is likely to increase the public's monitoring ability and citizens become more active and effective in demanding good government. Furthermore, it is possible that civic engagement changes the nature of individuals' preferences from particularistic or selfish toward more community-oriented concerns. The findings from these studies can be extended to argue that in comparison to social capital indicators of community participation such as involvement in community associations, community projects, and

volunteer activities, civic engagement has greater influence on institutional performance and, therefore, health care provider behavior.

Understanding the relationship between community civic engagement and responsiveness of political institutions to social needs is especially important for low-income communities. Although community associational activity is important, the ideology created by community social connectedness has no utility unless those rules and norms are linked to resources (Difillipis, 2001; Saegert et al., 2001; Scott, 2003). For example, Steinberg & Baxter (1998) found that informal community structures were enforceable because they fed into formal political processes by which important community decisions were made. Therefore, in order for social capital to be instrumental for achieving the collective and individual interests of individuals and organizations, formal political institutional arrangements must interact with civil society to infuse social connections with resources.

Formal institutions also have a role in the development of community social capital by eliminating inadequate social structures such as income and racial inequalities, which are inversely related to community social capital (Whitehead & Diderichsen, 2001; Lin, 1999). For example, Knack & Keefer (1997) found that trust and norms of civic cooperation (measures of social capital) were stronger in countries with formal institutions that effectively protected property rights and in countries that were less polarized along lines of class and ethnicity. Similarly, Steinberg & Baxter (1998) found

that a communities' ability to develop a common value by which institutions and behaviors were shaped was dependent on the adequacy of their social structure, particularly along racial and ethnic lines. Thus there is an interdependent relationship between community social capital and political institutions.

Using Putnam's (1993) logic, institutional performance improves as a result of civic participation. And, civic participation (social capital) improves when institutions encourage it. The evidence suggests that local political institutional responsiveness to social needs is positively associated with high levels of civic participation (Szreter, 1999; Clegg, 1990; Newton, 1999; Foley & Edwards, 1997). Therefore, it is likely that among the social capital indicators of involvement in community associations, community projects and volunteer activities, civic participation will likely have the strongest positive relationship to community health care safety net capacity. Therefore, hypothesis 3 states:

H3. The strongest positive association between community social capital and community health care safety net capacity is likely to be through civic participation rather than through involvement in community associations, community projects, and volunteer activities.

The Instrumentality of Community Social Capital for Building Health Care Safety Net

Capacity

FQHC Grant Revenue and Private Physicians

The health care institutional environment has changed rapidly over the past 10 years such that institutional logics now simultaneously emphasize efficiency, health care

access and quality of care (Scott et al., 2000; Luke & Walston, 2003). These are logics, which theorists argue, may not be compatible (Whetten, 1978; Arrow, 1963). Put simply, the institutional logic of efficiency is highly appropriate given that health care providers must act efficiently in order to ensure their own survival. At the same time, the logics of access and quality are equally as appropriate given the normative influences of the health profession. For example, health care costs consume an unprecedented 16 percent of the nation's economic output (CMS, 2005), which necessarily indicates a need to constrain costs. However, Americans consistently reject restrictions on care, and communities and governments are concerned with increasing health care access and quality of care among minorities and the poor who continue to experience disparities (Kaufman & Stein, 2006).

Given the pressures of the broader health care environment, health care organizations may look to their local environments for assistance in balancing organizational viability and social obligations. This is because the norms and values of the local audience exert strong influence on both local and field-level political, social and organizational institutional logics to which organizations must respond (e.g., Ahern & Hendryx, 2003; Hendryx et al., 2002; Steinberg & Baxter, 1998; Hopcroft, 1998). For example, in a study of local differences in economic development in pre-industrial England, Hopcroft (1998) indicated that changes in state laws and ideologies flowed from local institutions in rural villages. Local villagers responsible for the institutional change at the state level spearheaded efforts such as campaigning. Similarly, Steinberg & Baxter, (1998) found that common community values allowed for the development and

enforcement of local social, political and organizational institutional logics. For some health care institutions, local logics were antithetical to those of non-local health care financing and delivery entities; however, adherence to the local logic was key to organizational survival.

Although Steinberg & Baxter (1998) argued that it is often in the best interest of institutions to remain in line with community values, organizations need not be passive conformers. Organizations in several Steinberg & Baxter (1998) communities, especially those that wanted to preserve their historic missions of providing care to vulnerable populations, were part of the institutional development process. They engaged in collaborative efforts such as coalitions and union activities to establish a common community value that protected their missions and ensured their survival. Both of these studies are illustrative of the instrumentality of social capital for purposive action. Individuals and organizations used the values and norms that existed at the community level to strategically act within institutional environments to change the influence of non-local institutional pressures and protect their interests. It is possible that the findings of these studies can be extended to understand the relationship between community social capital and community health care safety net capacity.

The key activity that allows organizations to influence their institutional environments is the development of formal and informal relationships with policy makers, community members and other organizations. Within a social capital framework,

these activities represent the rational perspective of social capital theory. Social capital theory indicates that actors may strategically develop social network structures (Burt, 1992; Uzzi, 1997; Granovetter, 1985) and mobilize economic, political, and social resources embedded in those structures for purposive action (Lin, 2001). Such action is based on shared values and ideologies (Zajac & Kraatz, 1996; DiMaggio, 1991; Bigelow & Stone, 1995; Provan et al., 2004; D'Aunno & Sutton, 1991; Ingram & Clay, 2000; Luke & Walston, 2003; Wholey & Burns, 2003; Shortell & Rundall, 2003; Oliver, 1991; Galaskiewicz, 1991; Goodstein, 1994; Lawrence et al., 2002).

The development of a common community value is dependent upon social cohesiveness, which is indicative of community social capital. The logic connecting social cohesion, social capital and common community values led Hendryx et al. (2002) to argue that communities with higher social capital will protect health care access by supporting health care institutional missions that focus on the same. In explaining the relationship between community social capital and health care access, Hendryx et al. (2002) argued that increased access was a result of better community accountability mechanisms. One of the key objectives of community accountability mechanisms is to protect access to care for vulnerable populations. These mechanisms are more likely to arise and be successful in higher social capital communities. Particularly, because the three theoretical components of social capital: trust, civic engagement and reciprocity norms are in place (Hendryx et al., 2002). It is possible that the presence of these

components increases community health care safety net capacity specifically, FQHC grant revenue and the hours of charity care provided by private physicians.

Understanding the logic of generalized reciprocity and trust is crucial to understanding how health care providers act rationally within institutional environments. It also provides the basis for making predictions about their behavior. Dense community-wide social networks produce community social capital norms of generalized reciprocity and trust that facilitate action. The instrumental treatment of reciprocity and trust is quite familiar in sociology (e.g., Simmel, 1902; Homans, 1961; Blau, 1964; Schiff, 1992; Coleman, 1994; Portes, 1998) and provides a useful counterbalance to theories such as institutionalism that overestimate the importance of structure and downplay the role of organizational agency (Munatner et al., 2000). Following Hendryx et al. (2002) and Steinberg & Baxter (1998), it is likely that these norms increase the ability of health care providers within higher social capital communities to act strategically to protect their interests.

The literature consistently indicates the utility of reciprocity and trust for achieving the individual and collective goals of organizational members (e.g., Burt, 1992; Gabbay & Leenders, 2002; Johanson, 2001; McNaughton & Bell, 2001; Nahapiet & Ghoshal, 1998; Uzzi, 1996). Empirical studies indicate that norms of generalized reciprocity and trust lower transaction costs, facilitate cooperation, restrain opportunism, and balance self-interest and solidarity (Fukayama, 1995; Knack & Keefer, 1997;

Duncan, 2001; Granovetter, 1985). An extension of these studies' findings and the logic of reciprocity and trust translate into several plausible outcomes for community health care safety net capacity. For example, the norms of reciprocity increase cooperation within social capital communities and may provide for better distribution of the burden of indigent care. Steinberg & Baxter (1998) found that community accountability mechanisms encouraged cooperation and more equitable distribution of indigent care burdens. In extending these findings, I argue that it is likely that in addition to FQHCs which typically provide uncompensated care, private physicians in higher social capital communities will be more willing to provide charity care as well.

Generalized reciprocity may also translate into greater economic support for the provision of uncompensated health care services. In extending the findings of Putnam (1993) where governmental health care spending and the establishment of family health clinics were influenced by community social capital, I argue that it is likely that FQHCs in communities with higher social capital will experience greater amounts of grant revenue. Economic support in this form represents most effectively the notion of mutual caring and shared fate characteristic of communities with higher social capital.

In the dissertation's theoretical framework, generalized reciprocity and enforceable trust are institutional logics within the local social environment. These logics influence the political and organizational institutional environments as well the behaviors of the individuals and organizations embedded within them. Generalized reciprocity

refers to norms of cooperative behavior whereby people are inclined to support and help one another (Ahern & Hendryx, 2003). Ahern & Hendryx (2003) argued that when people engage in cooperative reciprocity, groups of individuals will more easily form and achieve shared goals. Thus, an environment conducive for collective action is created.

According to the norms of reciprocity, donors provide resources based on the expectation that they will be repaid in the future. However, unlike the market, the form (economic and non-economic) and timing of repayment is unspecified (Portes, 1998). Consistent with a rational actor framework, the course of action within the reciprocity process is strategic and calculative. Donor's provide resources strategically to possessors of social capital and as a result, accumulate social capital resources thus becoming possessors of social capital themselves. For example, a private physician may provide charity care to an uninsured patient with the expectation that her actions will be viewed favorably by the community. Consequently, the physician gains, perhaps, an obligation for monetary repayment from the patient, but more importantly, she gains an intangible resource of legitimacy (reputation) from the wider community that may be used to garner business opportunities or political favors in the future.

The second key theoretical ingredient of community social capital is enforceable trust. Enforceable trust is derived from the embeddedness of transactions in a common social structure (Grannovetter, 1985; Portes, 1998); it facilitates adherence to group norms. Similar to generalized reciprocity, once a resource is given by a donor the donor's

return may come either from the recipient or from the collectivity in the form of status, honor, or approval. In addition, the collectivity itself acts as a guarantor that whatever debts are incurred will be repaid (Portes, 1998).

Although instrumental for satisfying self-interests, there are essentially three beneficiaries of community social capital norms of generalized reciprocity and enforceable trust: the donor, the receiver, and the general community. Evidence suggests a positive relationship between social capital norms and economic growth, effective governance, organizational viability, social stability, and the accountability of community health care institutions (Fukuyama, 1995; Etienne, 1993; Woodcock, 1998; Granovetter, 1985; Putnam, 1993; Knack & Keefer, 1997; Coleman, 1990; Evans, 1996; Ahern & Hendryx, 2003; Duncan, 2001; Light, 1984; Light & Bonacich, 1988; Besley et al., 1993). Understanding the influence and rationale of generalized reciprocity and trust provides the basis for making predictions about the behavior of individuals and organizations embedded within higher social capital communities.

As previously stated, Hendryx et al. (2002) argued that accountability mechanisms are more likely to arise and be successful when the theoretical components of social capital are in place. And, since the key objectives of community accountability mechanisms are to protect access to care for vulnerable populations and support local health care systems (Steinberg & Baxter, 1998; Hendryx et al., 2002; Ahern & Hendryx, 2003), it is likely that health care safety net capacity will be higher in communities with

higher levels of social capital. This suggests a linear relationship between 1) community

social capital and FQHC grant revenue; and 2) community social capital and hours of

charity care provided by private physicians. Therefore, hypotheses 4 and 5 state:

H4. FQHC sites in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will experience higher levels of grant revenues.

H5. Private physicians in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will provide greater quantities of charity care hours.

FQHC Enabling Services

Organizations in highly institutionalized environments such as health care are

subject to evaluations of a structural and process-oriented nature rather than actual

outcomes as the criteria for conferring legitimacy and support (Meyer & Rowan, 1977;

Tolbert & Zucker, 1983; DiMaggio & Powell, 1983). FQHCs are demarcated from other

health care providers because of several distinguishing characteristics: 1) by legal

mandate and/or by an explicitly adopted mission they maintain an "open door," offering

access to services to patients regardless of their ability to pay; 2) a substantial share of

their patient mix is uninsured, Medicaid or other vulnerable patients; and, 3) the unique

set of enabling services that they provide. Enabling services are often referred to as "wrap

around" services targeted to vulnerable populations. Wrap around services include

language interpretation, transportation, outreach, nutritional and social support services;

highly discretionary, costly services that are not typically provided by private,

mainstream providers.

Currently, FQHC grant and Medicaid revenues do not adequately cover the costs of such services (NACHC, 2005). The endangered condition of the health care safety net, particularly FQHCs has been documented (IOM, 2000; NACHC, 2005). Clearly, there is a need for increased economic support. Given resource limitations, FQHC make difficult service allocation decisions especially about discretionary services; however, their decisions are qualified by normative expectations. Gray and Schlesinger (2002) view this conundrum as the balance between the "distinctiveness imperative - things that make them special" versus the "survival imperative - the things they need to do in order to survive."

I have argued that the local social context serves as the dominant force in explaining organizational behavior. And, Steinberg & Baxter (1998) argued that it is often in the best interest of organizations to conform to community norms and values. Evidence indicates that in conforming to the institutional logics in the local environment, such as social capital norms of generalized reciprocity and trust, health care providers, FQHCs in particular have been able to draw economic and non-economic support from the community in times of economic hardship (Steinberg & Baxter, 1998; Ginsberg & Facino, 1996; Felland et al., 2003; Bigelow & Stone, 1995). This has enabled them to increase rather than scale back service delivery (Stone & Bigelow, 1995; Felix et al., 2001). For example, McAlearney (2002) found that as FQHCs increasingly turned to the community for support many increased rather than decreased the amount of enabling services that they provided (McAlearney, 2002).

Hendryx et al. (2002) reasoned that in higher social capital communities, reputations matter, and community accountability mechanisms are more likely to arise. Therefore, it is likely that in higher social capital communities there is a greater need for health care institutions to be responsive to social concerns in order to maintain legitimacy and thereby, support. Consistent with social capital characteristics, norms of reciprocity, rapid information diffusion regarding provider reputation, and a general shared sense of fate will influence providers to strategically invest resources in order to boost organizational reputation. Investments are made with the expectation of future benefit including economic and political gains (Lin, 2001).

In extending both institutional theory's arguments regarding compliance to institutional pressures in order to obtain organizational legitimacy, and rational arguments of social capital theory regarding the implications of social capital norms, I argue that FQHCs in communities with higher social capital are more likely to provide services that are highly responsive to the social needs of the community. This will be in efforts to legitimize themselves to the community and draw political and economic resources to support their missions. Consistent with a rational actor framework, this course of action is strategic and calculative. It is important to note that while all FQHCs seek to provide enabling services, the provision of services is likely to be higher in communities with higher social capital because of 1) accountability mechanisms that increase scrutiny and are designed to ensure that institutions are providing high quality care to all segments of the population; and, 2) social capital norms of generalized

reciprocity and trust that increase the ability of FQHCs to act strategically. Therefore, hypothesis 6 states:

H6. FQHC sites in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will dedicate greater amounts of human and financial resources to the delivery of enabling services.

Social Capital in Health Care Research and Practice

There is a growing interest in the effects of social capital on health and health care, including studies of the relationship between social capital and health care access, mental health outcomes, mortality, health status, and provider-patient relationships (e.g., Hendryx & Ahern, 2001; Ahern & Hendryx, 2003; Hendryx et al., 2002; Kawachi et al., 1997; Kawachi et al., 1999; Kennedy et al., 1998; Rosencheck et al., 2001; Weitzman & Kawachi, 2000). For example, Kawachi et al. (1997) and Kennedy et al. (1998) found that social capital was positively associated with better health outcomes. They found that mortality rates were significantly lower for individuals residing in higher social capital communities with less income inequality. Lin (1982) argued that among other types of capital, the level of social capital contributes to equalities or inequalities in socioeconomic achievement and quality of life.

Health practitioners and researchers are exploring social capital theory as a mechanism for improving community health. For instance, Lomas (1998) argued for a transition from public health endeavors based on individual interventions to social structural interventions, which are organized to modify the entire community through

community organization and activation. Similarly, Hyde (1999) called for a move from current medical and public health models to a social model of health, organic organizations and collaboration as a way of reforming the U.S. health care system.

Communities are practically applying social models in public health endeavors. For example, the Healthy Cities Movement (HCM) is based on a belief that the promotion of heath must include the adaptation and transformation of community social structures. It seeks to involve community representatives in health promotion and in the development of appropriate health policies at the local and national levels (Kelley & Davis, 1993). Similarly, Poder de Salud is a community initiative developed to determine how community social capital both influences and results from an effective participatory approach to identifying and addressing health promotion and disease prevention. The program seeks to build on existing social capital to increase access to social and economic resources (Farquhar & Wiggins, 2005). It important to note that many of these community public health endeavors are being undertaken without much solid evidence that community social capital has an impact on the actual provision of health care services that lead to better health outcomes and improved public health.

Many of the social capital studies in the health care field approach the relationship between social capital and health from an epidemiological perspective (e.g., Kawachi et al., 1997; Kawachi et al., 1999; Kennedy et al., 1998). As a precaution to misspecification, Pearce & Davey-Smith (2003) discourage researchers from causally

linking social capital and health outcomes because such outcomes are more than likely a consequence of macro-level social and economic processes that influence health across the life course. Similar to Fukuyama (1995), Pearce & Davey-Smith (2003) recommend that researchers remain cognizant of material, institutional, and political factors in the environment. In addition, they suggested that rather than measuring health outcomes such as mortality rates, one should measure outputs such as health care services. However, none of the studies previously discussed directly assessed the quantity of services actually provided.

For example, although the evidence indicates that community social capital positively influences patients' perceptions of the thoroughness and carefulness of physician performed exams, appropriateness of care, and patients' overall satisfaction with care quality, the influence of community social capital on the amount of care is unknown (Ahern & Hendryx, 2003). It is possible that patients' perceptions of the thoroughness of care may be supported by an objective indicator of significant differences in the amount of care provided by physicians in higher versus lower social capital communities. Furthermore, empirical studies also indicated that social capital is positively related to health outcomes. However, it is unclear if this is a result of psychosocial factors related to integration in social networks (e.g., benefits from social integration and social support) or if lower mortality rates in higher social capital communities are a consequence of increases in the actual provision of health care services within those communities.

Measuring actual service delivery will clearly indicate the relationship between community social capital and health care provider behavior. This is necessary since the extant literature is largely speculative. For example, Shoou-Yih et al.'s (2004) analysis examined the availability of community-oriented services rather than actual provision; and therefore, does not necessarily assess the quantity of resources invested by hospitals in this activity. In fact, the authors suggested that future research should perform actual measurement stating that community accountability could be reflected in the provision of charity care as well as services to disadvantaged populations. In the Steinberg & Gray (1998) study, community accountability helped health care institutions to fulfill their organizational missions. Missions that may not only involve the provision of charity care, but also the provision of unprofitable but needed services, engagement in unfunded education and research, and pricing lower than the market would allow (Shortell, 1996; Weisbrod, 2003; Weisbrod, 1988). Finding a direct positive relationship between community social capital and the actual provision of health care services would indicate a possible mechanism for building community health care safety net capacity.

The relationship among community social capital, health care access, and health care institutional performance does not clearly indicate the role of health care financing. As previously stated, access could be a consequence of increases in service provision. However, it could also be a consequence of health care policies that provide adequate funding or community giving to health care institutions whose mission is to provide access regardless of an ability to pay (e.g., Felland et al., 2003). For example, Putnam

(1993) included local governmental health care spending to indicate a positive relationship between community social capital and local institutional performance. However, Putnam's (1993) health care spending measure was included in a composite measure of performance; therefore, the direct influence of community social capital on governmental health care spending is unclear. In addition, it is possible that the findings could be extended to include community giving as well. Community philanthropy such as giving to the United Way has been used as a surrogate measure of community social capital specifically, norms of generalized reciprocity (e.g., Hendryx et al., 2002; Ahern & Hendryx, 2003; Pierce et al., 2002). It is possible that community philanthropy also translates into local giving to support health care institutions that provide uncompensated care.

Both governmental spending and community giving are considered in the dissertation's examination of the relationship between community social capital and FQHC grant revenue. In the dissertation, I consider the amount of FQHC grant revenue in two ways. FQHC grant revenue is used as an indicator of FQHC ability to provide uncompensated care; it is a measure of financial capacity. Second, since FQHCs do not report the actual amount of uncompensated care provided, FQHC grant revenue is also an indicator of how much uncompensated care is being provided by the FQHC.

All of the studies that have been discussed focus on various outcomes; however, they indicate a definite relationship among community social capital, institutional performance, and consequently, individual and organizational behaviors. As previously indicated, consistent across the literature are calls for more empirical research that will lead to theoretical refinement and realization of social capital's analytical value. As a young concept, there is much to be explored especially in the health care field. In fact, in their review of the utility of social capital in health research, Mackinko & Starfield (2001) identified only 10 empirical articles that addressed social capital, health or income inequalities. Thus further empirical research on social capital in the health care field is sorely needed. Although studies have examined the impact of social capital on health care resources, none directly assessed the provision or funding of health care services. Therefore, while the link between community social capital and health care institutional outcomes has been established, the influence of community social capital on health care resources is speculative rather than empirically indicated and supported.

In addition, although most of the literature indicates a positive relationship, contradictory findings exist because of disparate operationalizations of community social capital. This is partially a consequence of the fact that social capital is still a developing theoretical concept. Field (2003) argued that it is not whether a concept can be applied loosely, but whether it leads to new insights when applied finely. This is the purpose of the dissertation research. The institutional approach to social capital I adopted in the

dissertation seeks to explain the influence that various indictors of community social capital have on the material resources of community health care safety net capacity.

CHAPTER IV RESEARCH METHODOLOGY

The research is a quantitative analysis that examines the relationship between measures of community social capital and community health care safety net capacity. This cross-sectional study is based on community contextual and health care provider data from 1,248 FQHC sites and 12,406 private physicians located in 183 and 1,029 U.S. counties, respectively. Health care provider data are from the 2003 Uniform Data System (UDS) as well as survey data from the 2001 Community Tracking Study (CTS) Physician Survey. Community social capital data are from the 1990-1997 DDB Needham Market Survey and 1996 county voting statistics are from election data files maintained by Election Data Services. Other demographic data are from 2000 through 2002 CTS secondary data files and U.S. Census Bureau population statistics.

The variables collected from these data sets follow previous social capital and health care services research (e.g., Putnam, 1993; Shoou-Yih et al., 2004; Cunningham et al., 2005). The study's multivariate analysis uses multiple regression models to assess whether variations in FQHC grant revenues, FQHC enabling services, and private physician hours of charity care can be significantly attributed to community levels of civic participation, involvement in community associations, projects, and volunteering. The models control for other factors such as community socioeconomic status, demographics, state Medicaid generosity, and physician demographics. This chapter describes this study's data sources. In order to simplify the explanation of data manipulation and creation of key variables used in the research, each section provides 1)

a general description of the data source; and 2) a discussion of the data manipulations that were performed with that source's data. Where appropriate, I also discuss issues related to data quality.

Before discussing the research methodology, one specific limitation regarding the study design should be noted. Although a cross-sectional study design is quite common in social sciences research, a cross-sectional approach threatens internal validity due to history problems. The study measures community social capital in years prior to community health care safety net capacity to allow for temporal order within the study's analytical model. However, the study measures community health care capacity at one point in time without prior data to establish FQHC grant revenues, enabling services and private physician hours of charity care that may have existed prior to existing levels of community social capital. Therefore, the findings from the analysis of the UDS and CTS data can suggest associations between community social capital and community health care safety net capacity but cannot prove causality.

Although longitudinal analyses are possible with these data, yearly revisions of data collection instruments used by the UDS and CTS present data quality concerns. For example, several tables contained within the UDS underwent revisions between years 1996 and 1998 due to health policy changes, specifically the expansion of health insurance coverage to children as part of the 1997 Balanced Budget Act (BBA) (Shin, 2002). For the years closest to this analysis, several tables (tables five and six) changed

significantly between years 2002 and 2004, and table 8, also used in this study changed slightly since 2002. In regard to the CTS Physician Survey, the sampling frame of the CTS allows for longitudinal analysis between Round Two (1998-99) and Round Three (2000-01). However, although site selection remains constant, the number of physicians available in each site and the sampling class varies substantially among the sites (Diaz-Tena et al., 2003). For these reasons, a cross-sectional study design rather than a longitudinal approach was chosen for the dissertation research.

Data Sources

Dependent Variables

Uniform Data System (UDS)

The 2003 UDS data used for this study are maintained by the Bureau of Primary Health Care (BPHC) and provide the most recent and comprehensive information on community health centers. The UDS includes payor-specific information on the number and proportion of health center users. The data also provides payor-specific revenue information as well as health center costs and resource allocation. In addition, the UDS includes information on health center staffing and utilization of medical, dental, and most importantly for this study, enabling services. The UDS reports data submitted annually by health centers to the BPHC and consists of nine tables (**T1-T9**). The UDS tables used for the research are indicated by an (*) and a detailed discussion of these particular tables follows the general description of the UDS.

T1. Table 1 provides basic information on the health center, such as name and location.

T2. Table 2 indicates what services are provided on and off site.

T3. Table 3 provides the number of health center patients by age group, gender, race/ethnicity and linguistic preference.

T4. Table 4 reports the number of patients by income group and the number of patients by coverage/payor type (*).

T5. Table 5 is referred to as the staffing and utilization table; the number of visits and patients are reported by staff categories such as physicians and dentists (*).

T6. Table 6 includes the number of visits for select diagnoses or services.

T7. Pregnancy, prenatal care and birth weight data are reported in Table 7.

T8. Expenditures for medical, dental and enabling services in addition to administrative and facility costs are reported in Table 8 (*).

T9. Table 9 indicates revenues including managed care information (*).

As previously indicated, tables within the UDS often undergo minor revisions to decrease reporting errors or to expand on a growing area of interest. In some cases, this limits the ability to conduct longitudinal analysis based solely on UDS data. An added limitation is that UDS tables provide tabulated information for the health center at the grantee level and are not at the health center site level. For example, there are 890 health center grantees that have almost 5,000 sites located in and across multiple U.S. counties. The nature of these sites varies widely and may include seasonal, year-long, or disease specific locations. I limited the selection of FQHC health center sites to sites that were likely to provide a full range of primary care and enabling services throughout the year. For example, I did not include migrant camps or mental health clinics. Limiting sites in such a way allowed for a more accurate allocation of grantee resources across sites. For

example, let's say that Grantee X has $800,000 in grant revenues per year. Grantee X has 3 health center sites, 2 of which operate throughout the year as primary care sites. It is more likely that the operation of the 2 year-long sites will require a greater amount of Grantee X's grant revenues in comparison to its 1 migrant camp site that may only operate 3 months out of the year. Therefore, in allocating Grantee X's revenues across its sites, only the 2 year-long sites are considered. Sites included in this study were community-based primary care clinics, fully equipped mobile health vans, health department sites and school-based health centers. The number of eligible sites was 3,788. A full listing of health center site descriptions is located in Appendix A.

Site inclusion for this study was further reduced by using a convenience sample of eligible sites. The dissertation includes a convenience sample of sites for which county-level data from the CTS secondary files could be matched. Although this approach may have introduced selection bias, sites included in the CTS underwent a rigorous selection process to ensure diversity by region and size. It is also important to note that by definition FQHCs are located in underserved, low-income communities; thus, certain aspects of diversity within the sample are inherently reduced. FQHCs are a distinct organizational population with similar organizational goals, constraints, and patient populations; therefore, it would be somewhat surprising to find a great deal of diversity among them within communities. However, I would expect to find diversity in FQHC outcomes between communities given the diversity in state and community-level health

system and social factors. The total number of sites to which the CTS data could be matched was 1,248 FQHC sites located across 183 communities.

Using data compiled from various tables within the UDS, I created three dependent FQHC health care safety net capacity variables. A detailed list of the specific lines within each UDS table that were used for the study is located in Appendix A. The UDS tables from which my study data were obtained are described in detail below. Following the description of the tables, I explain how the dependent variables were created and how missing data were handled.

T4: Table 4 of the UDS refers to patients as health center "users". These are individuals who have had at least one medical encounter in the reporting year for a medical visit or exam. A patient whose visit is for community-based services such as outreach is not included in the definition. Also excluded are individuals who only participate in community wide programs such as mass immunizations or health screenings. Table 4 indicates the insurance status of the user by indicating the coverage type of the user's last visit. In the dissertation, data from Table 4 were used in two ways. First, data on the total number of users was used to create a control variable for health center size. Second, data on the number of uninsured patients from this table and amount of health center grant funding from Table 9 were used to create a health care safety net capacity (dependent) variable. This variable measures FQHC site capacity to provide free care: **amount of grant revenue per uninsured patient (revuser)**.

T5: Table 5 provides a profile of health center staff, the number of encounters they render and the number of users served. Health center staff includes medical, dental, mental health, substance abuse, other professional (e.g., podiatrists), and enabling personnel. Information reported in this table was designed to be compatible with approaches used to describe staff for financial/cost reporting. Therefore, staff is reported in terms of Full-Time Equivalents (FTEs) and is allocated by function among the major service categories listed above. Specific to this study, the enabling services category includes case management, education specialists, outreach workers, and personnel performing other enabling service activities such as child care, eligibility assistance, referrals for housing assistance, interpretation and translation. In the dissertation, data on total enabling (including enabling activities listed as 'other programs and services') and total center FTEs were used to create a health care safety net capacity (dependent) variable. This variable assesses the amount of FQHC human resources dedicated to the provision of enabling services: **percentage enabling FTE (enabfte)**.

T8A: Table 8A reports the accrued direct costs associated with each of the BPHC major service categories. These categories include medical care, dental, mental health, substance abuse, pharmacy, other services rendered by professional personnel (e.g., optometrists), enabling and other program related services, and facility and administrative costs. Data describing the allocation of overhead costs (facility and administrative) are also reported in Table 8A. The enabling services category includes enabling staff and related costs for services that support and assist in the delivery of primary medical

services and facilitate patient access to care such as case management, outreach, transportation, translation, and interpretation. Reported costs also include the staff of 'other program related services' such as WIC, day care, job training, delinquency prevention and other activities not included in the major BPHC categories.

Health centers are instructed to report all direct costs for the provision of such services including but not limited to staffing, fringe benefits, supplies, equipment, depreciation, related travel and contracted services. In the dissertation, data on total accrued and allocated enabling and 'other services' costs as well as data on total health center allocated costs were used to create a health care safety net capacity (dependent) variable. This variable assesses the amount of total FQHC financial resources dedicated to the provision of enabling services. The created variable is the percentage of total center costs that are allocated to the provision of enabling services: **percentage enabling costs (enabcost)**.

T9E: Table 9E collects information on cash receipts that supported health center activities for the reporting period. This table reports cash receipts for federally funded projects including primary care programs such as total health center cluster grants, integrated services development initiatives and capital improvement program grants. A significant portion of federal grant funding to health centers is provided by the BPHC, specifically through the Section 330 grant. The Section 330 grant accounts for approximately three-fourths of total BPHC funding to health centers. Health centers often

apply for additional BPHC grants and blend them to expand their services to the uninsured (Shin, 2002).

Non-federal grants and contracts including state and local government funds as well as private grants and contracts are also reported in Table 9E. Non-federal funding sources may include state/local indigent care programs. As previously indicated, this study used data on the number of uninsured users from Table 4 and amount of grant funding from Table 9 to create a measure for FQHC capacity to provide free care. Because the UDS does not explicitly capture data on the amount of free care that a health center provides, I developed the **'grant funding per uninsured (revuser)'** variable to approximate the ability of health centers to provide free care.

With the exception of one grantee, all grantees eligible for the study reported costs, revenue, and staffing data. Twenty-two failed to report enabling staffing and enabling cost data. Because of my lack of access to data from the previous year, imputation of these data was not possible and these sites were not included in the final analysis.

Community Tracking Study 2000-01 Physician Survey

The following information about the CTS Physician Survey is from the Diaz-Tena et al. (2003) Community Tracking Study Methodology Report. The CTS Physician Survey is a cross-sectional, random sample survey designed and conducted by the Center

for Studying Health System Change (HSC), Mathematica Policy, Inc. (MPR) and The Gallup Organization. The survey was designed to be representative of direct patient care physicians in the continental U.S., as well as selected communities or sites. The first stage of sample selection involved the selection of 60 sites. Sites were defined based on Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget, while the Bureau of Economic Analysis Economic Areas was used to define nonmetropolitan sites. These sites were selected with the probability in proportion to the population to ensure representation of all U.S. physicians. They were also stratified by geographic region and population size to ensure diversity.

The sample of physicians for each of the 60 sites was randomly drawn from the American Medical Association (AMA) and the American Osteopathic Association (AOA) Masterfiles. The sample includes active non-federal office and hospital-based physicians in selected specialties who spend at least 20 hours per week in direct patient care. While primary care physicians were over-sampled, specialists in fields that do not focus primarily on direct patient care, federal employees, and graduates of foreign medical schools who are only temporarily licensed to practice in the United States were excluded. Medical residents and fellows were also excluded from the survey. The total eligible sample size for the CTS survey was 24,940. Approximately 48 percent of eligible physicians completed the interview (N=12, 406) for which they were paid an honorarium of $25.

CTS survey preparation and data collection was conducted from February 2000 through December 2001. HSC and Gallup prepared the survey and conducted pilot testing from February through August 2000. Gallup mailed advance letters to selected physicians on August 23, 2000 and conducted interviews between August 30, 2000 and November 21, 2001. The average length of the phone interview was 21 minutes. Interviews were conducted in English or Spanish (primarily with office staff in Miami) by 31 executive interviewers who were overseen by 4 supervisors. These professional interviewers specialize in interviewing physicians, health professionals and business executives. The CTS survey was completed by telephone through the computer-assisted telephone interviewing (CATI) system. Most of the data coding and cleaning was also done by the CATI system. For example, as the interviewers entered the numerical response option codes selected by the respondents, the numbers were written to a data file by the CATI. The CATI system was programmed to conduct range and consistency checks, and to prompt the interviewer when an impossible or unlikely response code was entered.

The CTS location coding was particularly important for the dissertation research. The CTS sampling design used site level identifiers. Each site was defined as containing a particular set of Federal Information Processing System (FIPS) codes, which are county level identifiers. For example, the state and county FIPS code for Pima County, Arizona is 04-019. In order to place physicians within counties, I used the CTS Crosswalk files to match the site identifier for each physician to a FIPS (county) code. This allowed for the

merging of these data to the other databases used in this study. The CTS Physician Survey also constructs weights to allow nationally representative estimates to be produced from the 60 sites and to restore proportionality to the sample arising from survey non-response, the clustering of the sample into 60 sites, and over-sampling of primary care physicians. All estimates presented in the dissertation were weighted to be representative of all nonfederal patient care physicians in the U.S. All estimates were produced using the SAS software package, which also adjusts the SEs of estimates to take into account the CTS survey's complex sampling design.

The purpose of the CTS Physician Survey is to reflect the perspectives of practicing physicians across the country on how health care delivery is changing. Physicians respond to a series of questions about source of practice revenue, problems they face in practicing medicine, quality of care, access to services, information technology, sources of practice revenue and compensation arrangements, as well as questions about their practice arrangements. As previously indicated, the Gallup Organization conducts the Physician Survey for HSC. The first three physician surveys, each with a sample size of about 12,000 physicians, were conducted in 1996-97, 1998-99 and 2000-01 (Diaz-Tena et al. 2003). One particular question contained within the survey provided the data for constructing a health care safety net capacity (dependent) variable used in the dissertation research. During the interview, physicians were asked the following question, "During the last month, how many hours, if any, did you spend providing charity care? By this we mean, that because of the financial need of the patient

you charged either no fee or a reduced fee. Please do not include time spent providing services for which you expected, but did not receive payment (i.e., bad debt)." In this study, I used the responses to this question to construct a measure for approximating community health care safety net capacity through private physicians: **charity care (hrfree***)*. This variable not only measures the amount of free care provided by physicians in the reporting period but it serves as an indicator of physicians' potential willingness to provide care to uninsured people. It should be noted that CTS data do not allow for the identification of the actual location of the provision of charity care hours reported by office-based physicians; therefore, it is possible that some may be providing free care in a community health center setting.

Following previous research (Cunningham et al., 2004 and 2005; Perloff et al., 1995 and 1997) I used the responses to several other questions contained in the survey to construct control variables. These variables have been found to influence physicians' decisions regarding the provision of charity care. The variable name and description is listed below as it appears in the CTS Physician Survey codebook.

1) **Foreign medical graduates outside of US or Puerto Rico (IMGUSPR)**: This flag variable has a value of 0 for graduates from the U.S. or PR and 1 for all others. This information was obtained from the sample frame files coming from the American Medical Association (AMA) and the American Osteopathic Association (AOA).

2) **Gender:** This information was obtained from the sample frame files coming from the AMA and the AOA. The flag variable has a value of 1 for male and 2 for female.

3) **OWNPR:** This information was obtained by asking respondents, "Are you a full owner, a part owner, or not an owner of this practice?" The flag variable has a value of 1 for full owner, 2 for part owner, and 3 for not an owner.

4) **PMC:** This is a constructed variable based on previous responses to questions G7, G7a, G8, G8b and G8f in the CTS survey. It represents the percent of the practice's patient care revenue from all managed care.

5) **RACE**: Responses were obtained from each respondent that was asked, "What race do you consider yourself to be?" The flag variable has a value of 1 for other, 6 for white/Caucasian, 7 for African-American/black, 8 for Native American or Alaska Native, 9 for Asian or Pacific Islander, -8 for don't know, and -7 for refused to answer.

6) **HISP**: Each respondent was asked, "Do you consider yourself to be of Hispanic origin, such as Mexican, Puerto Rican, Cuban or other Spanish background?" The flag variable has a value of 0 for non-Hispanic, 1 for Hispanic origin, -8 for don't know, and -7 for refused to answer.

For the charity care, ownership, and percent managed care variables, the CTS provided data that could be imputed for missing responses. Missing, don't know and refused to respond responses for questions about race and ethnicity were excluded from my analysis because there was no imputation flag for these responses. Of the 12,406 respondents, 11,408 provided responses for hours of charity care provision, 998 responses were imputed using the imputation flag provided in the CTS data file. Similarly, 12,388 provided responses to the OWNPR question, 18 responses were imputed for missing data. For the PMC variable, 12,247 responses were constructed, 159 were imputed. In response to the question on race, 129 responded that they did not know or refused to answer the question. I did not include these responses in my analysis. Lastly, 705 respondents indicated that they were of Hispanic origin, 56 did not know or refused to answer. These 56 responses were not included in my analysis.

Additional information on the CTS methodology may be found at on the HSC website: http://www.hschange.org/CONTENT/570/570.pdf. In addition, a full list of the CTS sites is located in Appendix A.

Control Variables

Community Tracking Study Secondary Data Files

The Center for Studying Health System Change (HSC) has created both county and site level databases that contain geographic, population socioeconomic and demographic statistics, and health system descriptors for communities examined in the CTS Household and Physician Surveys. These data are compiled from a variety of databases including the U.S. Census Bureau, Area Resource File (ARF), Source Book America, Interstudy, Centers for Medicaid and Medicare Services (CMS), American Hospital Association, American Medical Association, and the American Osteopathic Association. Data in the CTS secondary files are reported at the county level using FIPS codes as well as at the site (MSA) level. As previously described, HSC produces a document called the Crosswalk file that matches MSA level site codes to county level (FIPS) codes in order to identify the counties in which the providers surveyed in the CTS Physician Survey are located. In the dissertation research, I used CTS secondary data for years 2000 through 2002 to create the control variables for county socio-economic, demographic and health system descriptors used in the multiple regression models. A detailed table of the relevant secondary variables as they appear in the CTS secondary files is located in Appendix A. The table indicates the variable name, description and secondary data source.

Since a great deal of the data contained in the CTS secondary files were from the ARF, I include a description of this database here. The ARF is produced by the U.S. Department of Health and Human Services, Bureau of Health Professions, Office of Research and Planning. It contains county-based data files that summarize secondary data from a wide variety of sources into a single file to facilitate health analyses. The file contains over 6,000 data elements for all counties in the United States with the exception of Alaska, for which there is a state total, and certain independent cities that have been combined into their appropriate counties. The data elements include county descriptor codes, health professions (including number of professionals working in different fields), health facility, population, health professions training, expenditure, economic, and environmental data.

Experimental Small Area Health Insurance Estimates (SAHIE) by County

On July 21, 2005, the U.S. Census Bureau, Small Area Health Insurance Estimates (SAHIE) Program released data that reported estimates of uninsured populations within the U.S. These data include estimates for the general U.S. population, 50 states and counties within each state. The estimates were based on data from the most recent Current Population Survey (CPS). In the dissertation, I used data provided by the SAHIE in two ways. First, I used the data on the total county population and number of uninsured within the county to produce a measure that estimates the percentage of the county population that is uninsured. This variable is included in the regression models as a control variable: *peruninsur.* Second, the number of uninsured was used to normalize the FQHC revenue variable in the community-level analyses. This was done by dividing

the county's total FQHC revenues by the total number of county uninsured. The county level dependent variable estimates the amount of county FQHC revenues per uninsured county resident.

It is important to note the data quality issues pertaining to the methodology used to produce the SAHIE. The method is a mixed effects linear regression, where the log proportion insured is modeled as a linear combination of several predictors, mostly administrative records. The proportion insured in the dependent variable is a 3-year average of county-level observations from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS). Although SAHIE only uses a sample of approximately 1,200 counties with CPS ASEC data to estimate the equation, they estimate insurance coverage for all 3,140 U.S. counties for year 2000. Although estimates present some concern for the research, the SAHIE data are reasonably reliable. It is important to note that figures of uninsurance rates will always be somewhat inaccurate. This is because measuring rates of uninsurance is extremely difficult and unstable given health insurance dynamics. Any measure of uninsurance is simply a snapshot and only catches a fraction of the ongoing stream of people who frequently experience periods of uninsurance (Short et al., 2003).

A second data issue that should be noted is the difference in years for the SAHIE data and the dependent variables examined in the dissertation. The latest estimates produced by SAHIE are for Year 2000. This presents little concern for the 2000-01 CTS

Physician survey when the total U.S. uninsurance rate grew by only 1.3 percent between those years (KFF, 2004). However, between 2000 and 2003, which is the year of the UDS data, the total uninsurance rate grew by about 5 percent (KFF, 2004). While the increase raises concerns, these concerns are less worrisome in light of the volatility of health insurance coverage within years and the fact that the SAHIE estimates are 3-year averages. Furthermore, it is unlikely that I would see a significant change in my results if given county-level estimations for Year 2003 since the estimates are used as control variables rather than dependent ones.

A more detailed discussion of the methodology used to produce the SAHIE may be found at http://www.census.gov/hhes/www/sahie/methods/methods.html.

Medicaid Eligibility Data

The Center for Medicaid and Medicare Services (CMS) maintain information about state Medicaid programs. States report yearly and quarterly state Medicaid expenditures as well as enrollment statistics. In the dissertation, I used data from these files as well as state and total U.S. population statistics to create a control variable that accounts for state Medicaid generosity. This follows previous empirical research (e.g., Cunningham et al., 2004) and health care access frameworks (e.g., Anderson, 1995) that indicated that health system resources, such as Medicaid policies influence not only community health care safety net capacity but also an individual's ability to access care. The measure of Medicaid generosity, **eligwgt** was created by weighting the various categories of state eligibles to reflect the U.S. population. In effect, the **eligwgt** variable

indicates the percentage of the U.S. population that would be eligible for Medicaid when using that particular state's Medicaid eligibility rules. For example, if we use Alabama's Medicaid rules, 1.7 percent of the U.S. population would be eligible for Medicaid in comparison to 25 percent of the U.S. population when using Tennessee's Medicaid eligibility rules.

Independent Variables

DDB Needham Life Style Surveys (DDB)

The DBB Market Facts survey is a pooled cross-sectional database containing about 87,000 archived individual-level responses. Begun in 1975 the DBB Needham advertising agency has commissioned Market Facts, a commercial polling firm to question a national panel of American households about their consumer preferences and behaviors (Putnam, 2000). The database is maintained by DBB and has an annual sample size of between 3,500 and 4,000. The database contains responses to questions about individual social, economic, and political values and behaviors. The 20-page questionnaire contains a broad range of "life style" questions including inquiries about media usage, financial concerns, and social and political attitudes. Most importantly for the dissertation, the survey asks questions about social behavior specifically, community involvement behaviors such as participation in volunteer activities and community projects.

I followed previous research in selecting questions from the DBB database (e.g., Putnam, 2000; Shoou-Yih et al., 2004) for this study. These particular questions have been found to be valid and reliable measures of community participation and have been used in studies examining the relationship between community social capital and health care provider outcomes. I used data from these responses to create three community social capital (independent) variables, which are indicated below. The constructed variable name is indicated next to the appropriate question. These variables measure various aspects of community involvement and include:

- Number of club meetings the individual attended in the last year *(**club meetings).**

- Number of community projects the individual worked on in the last year **(community projects).**

- Number of times the individual participated in volunteer work in the last year **(volunteer).**

Several steps were taken to create the three independent variables. First, following previous research (Shoou-Yih et al., 2004), I limited the inclusion of the survey data to the most recent years (1990-97). Shoou-Yih et al. (2004) argued that the limitation of survey data is necessary because research has found significant temporal variation over the last four decades in social capital indicators. Second, while maintaining separation between the questions, the data from 1990-97 was pooled to create 3 pooled samples of responses corresponding to the three questions regarding community involvement. These pooled responses were allocated across counties using the county (FIPS) codes reported by each questionnaire respondent. Only the FIPS that corresponded to the study's FQHC or physician samples were kept. Within each county, an average was calculated from the

pooled responses, which represents the average number of times individuals within the county participated in club meetings, community projects, and volunteer work.

While the data provide a rich source of information, data quality concerns must be noted. First are problems of selection bias since the DBB data do not come from random samples of the population but from households that are initially self-selected. DBB data are from questionnaires that are completed by a form of quota sampling called "mail panels". The sampling design initially begins with a commercial list of household contact and demographic information. Households are contacted via mail and invited to participate in the survey. Selected households are mailed a questionnaire; study response rates average about 70 percent. The problem is that favorable responses come from less than one percent of racial and inner city residents in comparison to 5-10 percent from middle aged, middle class households (Putnam, 2000). Although a random, demographically balanced sample is chosen from the favorable responses, those with low educational attainment, unmarried individuals, and racial and ethic minorities are underrepresented.

The decision to use these data in the dissertation research was made based on previous research examining the reliability of these data in accurately representing the trends in American society. Most notably, Putnam (2000) examined the effect of this sampling approach and found that data from the DBB was consistent with data from the General Social Survey (GSS). The GSS is a random sample survey often used in social

capital research (e.g., Paxton, 1999); however, I could not use GSS data for the dissertation. This is because GSS data does not capture geographic locators at the county level. Respondents to the DBB survey report the county in which they live; therefore, I could match respondents to FIPS codes and link the DBB to the other secondary data used for this study.

Another issue related to data quality that should be noted is that of misplaced precision. The DBB data do not capture the depth or nature of involvement in each of the activities. This is an important issue to consider because in order for social capital to benefit an individual and the community, the individual must build connections between themselves and others. For example, it is possible that although an individual reported attending several club meetings during the year, their attendance may have been as a silent observer and they may never have actually interacted with others at the meeting. Thus, only considering the *number* of times that one is involved in community activities may lead to overestimation of the effect. Due to potential problems of misplaced precision, the findings from this study can only be considered as suggestive rather than causal.

Election Data Files

The data used to measure civic participation are from the 1996 county election data files maintained by Election Data Services. Election Data Services Inc. is a political consulting firm specializing in redistricting, election administration, and the analysis and

presentation of census and political data with GIS (geographic information systems). Election data files consist of county-level tabulations of returns and voter participation statistics from November general elections for the offices of the president of the United States, U.S. Senator, U.S. Representative in Congress, and governor. Files are available for elections dating back to 1988 in all 50 states.

In the state of Alaska, tabulations are for election districts, rather than counties. In the six New England states, tabulations are for cities and towns. County or other local level tabulations are summed to statewide and district-wide totals. For each contest, election data files include tabulations of the "raw" vote for: 1) Democratic party candidate; 2) Republican party candidate; 3) all other candidates; 4) combined total votes for all candidates; and 5) plurality of votes for the winning candidate. Votes for independent or minor party candidates are reported separately when those candidates placed first or second or were nationally prominent (e.g., 1992 presidential candidate Ross Perot). In addition to the raw vote, each candidate's vote is reported as a percentage of the total number of votes cast for all candidates. Estimated voting age population (VAP) and county-level tabulations of voter registration and voter turnout are also reported as raw numbers and percentages. Lastly, voter registration by political party is reported for states compiling such data.

I used voting age population and total election turnout data for each county to construct a community social capital (independent) variable. Raw numbers for each

county were used to calculate a percentage of the county's voting age population that voted in the 1996 election. Only the counties that corresponded to the study's FQHC or physician samples were considered. The constructed variable measures civic participation: **votepct.**

There were two reasons for using 1996 election data. Year 1996 was a presidential election year; therefore, it was expected that voting participation would be especially robust. Secondly, because it was an election year county-level data on the presidential election would be available even if other turnout data were not. For example, some states did not report total turnout data for that year's election; however, national election data could be used to tabulate the number of votes cast for presidential candidates. This is reported in the election files as "total high vote". Thirteen states did not report county-level total turnout data for 1996, calculations for counties in two of these states was based on 1998 data. For the remaining 11 states for which county-level total turnout data was not available, calculations from the presidential election were used.

Additional information about Election Data Services may be found at http://www.electiondataservices.com/content/datafiles.htm.

Data Collection

The data for this study were collected between May 2005 and August 2005. The study uses multiple secondary data sources that in some cases were not public use data

files. Specifically, the UDS and CTS Physician Survey restricted files, which contain respondent identifiers such as location codes. The use of these restricted files required data license and confidentiality agreements between myself and the Bureau of Primary Health Care (BPHC) and the Center for Studying Health System Change (HSC). Each of these agencies required a detailed research proposal and specification of the data elements that would be used in the research. In addition these agreements detailed how I would maintain confidentiality of the files and their derivatives. The agreement between myself and BPHC was completed on August 15, 2005, and between myself and HSC on August 31, 2005. Data from the BPHC was received electronically in a password protected Microsoft Access file. Data from HSC including the CTS Physician Survey and secondary data files were received from Social and Scientific Systems (SSS), the data contractor that maintain the CTS data files. SSS provided these data on a CD-ROM in an ASCII format. The CTS crosswalk file was available for downloading from the HSC intranet site.

Voting election data for 1996 and 1998 were provided via email in a Microsoft Excel file. Each data file contained state abbreviations, state and county FIPS codes, county names, election date, voting age population, voting registration, turnout and high office totals (highest vote total among president, U.S. senate, governor and U.S. representative) for all U.S. counties (with the exception of the missing data noted in the previous section). The public use data files used for the research and how they were collected is listed below.

- The U.S. Census Bureau Small Area Health Insurance Estimates (SAHIE) were downloaded from the Internet: http://www.census.gov/hhes/www/sahie/index.html.

- The Medicaid eligibility data was provided by HSC researchers who compiled Medicaid eligibility data in a Microsoft Excel format. I received this information via email and performed the calculations for the research using Microsoft Excel.

- DBB data was downloaded from the Internet: http://www.bowlingalone.com. Data was available in ASCII format.

- A zip code file containing a program used to convert U.S. zip codes into FIPS (county) codes was downloaded from the University of Missouri Internet site. The University of Missouri, Office of Social and Economic Data Analysis provides "equivalency files" or "correation lists" that show the relationship between two sets of geographic codes. Using the geographic header data provided on the block-level records of the 2000 Census Summary File 1 series, OSEDA built equivalency files that related all combinations of state-5-digit ZCTAs to counties in the U.S. (50 states + DC). OSEDA, working under contract with the Missouri Census Data Center store the results in a tabular file in their data archives. This file may be accessed via the Internet using OSEDAs uexplore/Dexter interface.

Data Manipulation and Coding

I have already described a great deal of the data manipulation and variable creation performed for the research. This section provides a discussion of the database creation process. I also provide a description of the data coding in a succinct table format. As previously indicated, the original databases were collected in various file formats including Microsoft Access, Excel, and ASCII. These files were converted into SAS[©] files and merged using county-level (FIPs) identifiers. The data were maintained and manipulated using the SAS[©] (version 9) software.

It is important to note that the merger of the various data sources produced two distinct databases for the research, the 'FQHC' database and the 'Physician' database. These databases contain similar county-level control and independent variables from the CTS secondary, DBB, election, SAHIE, and Medicaid generosity files; however, the community health care safety net capacity (dependent) variables, and where appropriate, provider control variables differ. For example, the 'FQHC' database contains the community health care safety net capacity dependent variables related to FQHCs: revuser, enabcost, enabfte and the control variables of FQHC size and census region. Whereas the 'Physician' database contains the community health care safety net capacity charity care dependent variable and control variables such as physician race/ethnicity. The manipulation of each of the data sources and the creation of the databases are described in the following sections.

Uniform Data System

The following information was pulled from the UDS files: grantee id numbers, the number, type and location (zip code) of all of the grantees' sites, and grantee information from UDS tables 4, 5, 7, 8 and 9. For each grantee, the total amount of the grantees' grant revenues, and enabling services resources was allocated across its health center sites that were eligible for inclusion in the study (sites coded as 1, 3, 5, or 11). Allocation was performed by dividing the grantee's total grant revenues and enabling services resources (costs and FTEs) by the number of sites that the grantee had. These variables were assigned to each site and the sites were then matched to a zip code file that converted zip codes for each of the grantees' sites into FIPS codes. A great deal of data

cleaning was needed. Many of the zip codes did not match and required manual entry and several rechecks to ensure that the correct FIPS had been assigned.

Once FIPS had been assigned to each health center site, the file was linked by FIPS to the CTS secondary database, which contained demographic county-level information. The file was then linked by FIPS to the DBB, election, SAHIE and Medicaid generosity files. This process produced a 'FQHC' database that contained 1,248 FQHC health center sites located in 183 counties. As previously indicated, three community health care safety net capacity (dependent) variables were created and associated with each health center site: revuser, enabling cost, enabling FTE.

CTS Physician Survey

The following variables were pulled from the CTS Physician Survey Files: physician id, site id, FIPS, imguspr, gender, hrfree, ownpr, pmc, race, and weight (these are the weights provided by the CTS survey to adjust for sampling and survey design). These data were linked by FIPS to the CTS secondary data file. The CTS Physician Survey files and secondary data files were linked using the Crosswalk file provided by HSC. This was necessary because the CTS secondary files corresponding to the years and locations of the CTS Physician Survey respondents were at the (MSA) site-level whereas the dissertation research requires county-level variables. I should be clear in explaining that the CTS secondary files containing the county-level demographic information that I used in the 'FQHC' database could not be used in the 'Physician' database. This is

because that particular file contained data for years after the physician survey. The secondary file that I converted for the physician database contained the appropriate years but had to be converted to correspond to the county-level FIPS codes. After conversion, the physician data was linked by FIPS to the DBB, election, SAHIE, and Medicaid generosity files. The merging of the data sources produced a 'Physician' database that contained 12,406 physicians located across 1,029 counties. As previously indicated, one community health care safety net capacity (dependent) variable was associated with each physician within this database: **charity care.**

County-Level FQHC-Private Physician Data Set

The creation of the county-level data set required several steps. First, the health care safety net capacity measures for each FQHC site were aggregated to produce county totals. The FQHC revenue variable was constructed by taking the total FQHC site revenues for the county and dividing it by the total number of uninsured county residents. The FQHC enabling cost and enabling FTE variables were created by taking the total FQHC enabling cost and FTEs for the county and dividing it by the number of FQHC sites in the county. These calculations produced 3 health care capacity measures for each county (N=183). Next, in the physician data set, the hours of charity care provided by private physicians was aggregated to produce county totals. The total was divided by the number of physicians in the county to produce one observation for each county (N= 1,029). This observation represents the average hours of charity care provided per physician in the county. The county averages in the physician data set were then linked to

the FQHC data set by county FIPS code. Only counties that contained both physician and FQHC site observations were kept.

When creating the outcome variables for this dataset I found that two counties were missing data for the number of uninsured within the county; and therefore, I could not create a FQHC revenue measure for these counties. Although I attempted to match a physician variable to the 183 counties in the original FQHC dataset, I was unable to match a private physician charity care variable to 12 counties. The final dataset contained 171 counties with four community health care safety net capacity variables: FQHC revenue, enabling cost, enabling FTE, and private physician charity care.

For each database, I selected variables and recoded the variables for use in the research. Before discussing these manipulations it is helpful to review the dissertation research questions and hypotheses that guided the construction of variables.

R1. What is the relationship between community social capital and community health care safety net capacity?

R2. Is the relationship between community social capital and community health care safety net capacity contingent upon the operationalization of social capital?

The main hypotheses state:

- H1: There will be significant variation across communities in community health care safety net capacity.

- H2. There will be a positive association between community social capital and community health care safety net capacity.

- H3. The strongest positive association between community social capital and community health care safety net capacity is likely to be through civic participation rather than through involvement in community associations, community projects, and volunteer activities.

- H4. FQHC sites in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will experience higher levels of grant revenues.

- H5. Private physicians in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will provide greater quantities of charity care hours.

- H6. FQHC sites in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will dedicate greater amounts of human and financial resources to the delivery of enabling services.

Because of the large number of disparate sources and key variables in the study I have displayed them succinctly in Tables 4.1, 4.2, and 4.3. The tables present the definitions and operationalizations of the dependent, independent and control variables used in the research. In addition, the tables list the constructed variable name, definition, how it was constructed and variable type when included in the regression models.

Table 4.1, Community Health Care Safety Net Capacity (Dependent) Variables

Constructed Variable	Definition	Data Source	Variable construction	Variable Type
FQHC Revenue (revuser)	Amount of grant revenue per uninsured health center site user.	2003 Uniform Data System	FQHC Grant revenue divided by the number of uninsured served at the health center: Total BPHC Grants (T9E_L1_ca) + Total Other Fed Grants (T9E_L5_ca) + Total non fed grants (T9E_L9_Ca) +"Other" Revenue- count only if "donation" in T9E_L10_Ca. (T9E_L11_Ca= total other revenues)/ Total uninsured users (T4_l7_ca) + (T4_l7_cb).	Continuous
FQHC Enabling cost (enabcost)	Percent of total health center site costs dedicated to the delivery of enabling services.	2003 Uniform Data System	% total health center costs directed towards enabling services: (T8A_L13 divided by T8A_L19)	Continuous
FQHC Enabling FTE (enabfte)	Percent of total health center site full time equivalents dedicated to the delivery of enabling services.	2003 Uniform Data System	% of health center FTE's providing enabling services: Totals from T5 Line 29a_ca and Line 29_ca divided by Total FTE: T5 Line 34_ca	Continuous
Private Physician Charity Care (hrfree)	Hours of charity care provided by physician	2001 CTS Physician Survey	# of hours reported: Question B6 CTS	Continuous

Table 4.2, Community Social Capital (Independent) Variables

Constructed Variable	Definition	Data Source	Variable construction	Variable Type
Civic Participation (votepct)	Percent of voting age population in each county who voted in the 1996 November election	Election Data Services 1996 County Election Data Files	For each county I divided the number of persons that voted by the number of voting population adults: Total turnout/VAP. If total turnout number was missing I used total high vote number.	Continuous
Club Meetings	# of club meetings attended last year	DDB Market Facts Survey 1990-97	Pooled 1990-97 responses by county, responses averaged. Response coding in original data base is ordinal: 1='None"; 2= 1-4 times; max is 7= 52+ times. Since no responses were over 2, my data are coded as 0=None; 1=1-4 times; 2= 5-7 times.	Ordinal
Community Projects	# of community projects participated in last year	DDB Market Facts Survey 1990-97	Pooled 1990-97 responses by county, responses averaged. Response coding in original data base is ordinal: 1='None"; 2= 1-4 times; max is 7= 52+ times. Since no responses were over 2, my data are coded as 0=None; 1=1-4 times; 2= 5-7 times.	Ordinal
Volunteer	# times participated in volunteer work last year	DDB Market Facts Survey 1990-97	Pooled 1990-97 responses by county, responses averaged. Response coding in original data base is ordinal: 1='None"; 2= 1-4 times; max is 7= 52+ times. Since no responses were over 2, my data are coded as 0=None; 1=1-4 times; 2= 5-7 times.	Ordinal

Table 4.3, Constructed Health System and Provider Control Variables

Constructed Variable	Definition	Data Source	Variable construction	Type
Physician Database Only				
Managed Care Participation	Percent of private physician income derived from managed care	2001 CTS Physician Survey	% of revenue from managed care constructed by CTS	Interval
IMGUSPR	Whether the respondent is a Foreign Medical Graduate	2001 CTS Physician Survey	Data coded in CTS as 0 or 1. I retained the CTS original coding for this study	Binary
OWNER	Whether the respondent is full or part owner of the practice	2001 CTS Physician Survey	Data coding in CTS is 1-Full owner; 2-Part owner, 3-Not an owner. I used the following coding for this study: 1- full or part owner, 0- not an owner.	Binary
Gender	Whether the respondent is male or female	2001 CTS Physician Survey	Data coding in CTS is 1-male, 2-female. I used the following coding for this study: 0- male, 1- female.	Binary
Race	Whether the respondent is nonwhite	2001 CTS Physician Survey	Data coding in CTS is 1-other; 6-White; 7-African American; 8-native American/Alaskan; 9-Asian; -8-don't know;-7-refused. I used the following coding for this study: 0-white; 1= all other responses except -7, -8.	Binary
HISP	Whether the respondent is of Hispanic origin	2001 CTS Physician Survey	Question H11. Data coding in CTS is 0-non Hispanic; 1-Hispanic, -8-don't know; -7-refused. I used the following coding for this study: 0= non Hispanic, 1= Hispanic	Binary
FQHC Database Only				
FQHC Size	Total number of FQHC users	2003 Uniform Data System	Total number of FQHC users. T4_Ln6_ ca- Total (Sum lines 1-5)	Interval
Region	Census Region Code	CTS Secondary File	Original coding is 1 = Northeast; 2 = Midwest; 3 = South; 4 = West. I used the following coding for this study: 0 or 1 for each dummy census code.	Binary
Both Databases				
HWI	Hospital Wage Index-Measures the cost of providing health care	CTS Secondary File	No construction needed	Interval
PCINC00	Per Capital Income-Measures socioeconomic status	CTS Secondary Files	No construction needed	Interval
Medicaid generosity	Measure the generosity of state Medicaid program	CMS and HSC	# of state Medicaid eligible weighted to represent total U.S. population	Interval
Age	Percent of county	CTS Secondary	No construction needed	Interval

	population over age 65	file		
Race	Percent of county population nonwhite	CTS Secondary File	No construction needed	Interval
Uninsured	Percent of county population without health insurance	CTS Secondary File	# of uninsured changed to % by dividing the number of uninsured by the total population. Used to normalize FQHC revenue variable by dividing total county revenue by # uninsured.	Interval

CHAPTER V DATA ANALYSIS

This chapter will focus on the data analysis necessary to examine the two research

questions. These questions ask:

R1. What is the relationship between community social capital and community health care safety net capacity?

R2. Is the relationship between community social capital and community health care safety net capacity contingent upon how social capital is operationalized?

The data analysis presented in this chapter is consistent with a critical multiplist

approach (see Shadish, 1989) to research. It includes findings from multiple data analysis

techniques including canonical correlation analysis, Ordinary Least squares (OLS), and

Hierarchical Linear modeling (HLM) regressions. These particular analyses test the

hypothesized relationship between community social capital and community health care

safety net capacity and provide answers to the first research question. In this chapter I

also present the findings from a planned comparison of the associations between each

measure of community social capital and community health care safety net capacity. The

planned comparison tests the hypothesized differences in the strength of association

between specific measures of community social capital and community health care safety

net capacity. The purpose of the planned comparison is to provide an answer to the

second research question.

The organization of this chapter is as follows. First, I will address the first

research question by presenting descriptive statistics of the independent variables, and

then, zero order correlations between the independent, outcome and control variables.

The correlations and descriptive statistics are provided at two levels of analysis: 1) the individual (FQHC site and private physician) level, and 2) the community level. Presenting correlations and descriptive statistics at both levels of analysis is necessary because two of the hypotheses are tested at the community level while 4 are tested at the individual and community levels. Next, I present the results of the canonical correlation analysis, which tests hypothesis 2. I then present the results of the intra class correlation (ICC) analysis, which tests hypothesis 1. The ICC analysis has two purposes; first, it indicates the primary source of the variation in the study's outcome variables. Second, the ICC aids in the specification of the most appropriate estimation technique for testing hypotheses 4, 5, and 6. Following the ICC, I present the results of the OLS and HLM regressions, which tests hypotheses 4, 5 and 6. And lastly, I present the findings from the planned comparison; this last analysis tests hypothesis 3.

Community Health Care Safety Net Capacity Description

The operationalization of community health care safety net capacity was discussed in detail in Chapter 4; however, I provide a brief description here. There are 4 measures of community health care safety net capacity which include:

- FQHC grant revenue: All federal and non-federal grants and contracts received by the health center in the reporting year. The created variable (revuser) measures FQHC site capacity to provide free care and represents the amount of grant revenue per uninsured FQHC site user.

- FQHC enabling FTE: The proportion of health center site full time equivalent employees providing enabling services. The created variable (enabfte) assesses the amount of FQHC site human resources dedicated to the provision of enabling services. Specific to this study, the enabling services category includes case

managers, education specialists, outreach workers, and personnel performing other enabling service activities such as child care, eligibility assistance, referrals for housing assistance, interpretation and translation.

- FQHC enabling cost: The proportion of health center site accrued and allocated costs used to provide enabling services. The created variable (enabcost) assesses the amount of FQHC site financial resources dedicated to the provision of enabling services.

- Private physician charity care: The number of hours that a private physician spent in the previous month provided medical services with no expectation of payment. This variable (hrfree) not only measures the amount of free care provided by physicians in the reporting period but, it also serves as an indicator of physicians' potential willingness to provide care to uninsured people.

These measures will be used in the data analysis to provide a numerical indicator of the ability and willingness of health care organizations and providers to provide care to the uninsured. In their aggregated and averaged form, these measures will be used to provide a numerical description of the capacity of the health care safety net in the communities included in this study. The following section summarizes the descriptive statistics of these measures.

Table 5.1 presents the means, standard deviations, and ranges of the community health care safety net capacity measures. The first row in Table 5.1 shows the descriptive statistics for FQHC site revenue across all FQHC sites followed by the descriptive statistics for the FQHC site revenue created variable (revuser). Among the 1,248 FQHC sites included in this study, the mean FQHC site revenue was $662,431 (s.d.= $643,161) compared to the mean revenue per FQHC site uninsured user which was $72.18 (s.d.= $123.63). The mean enabling cost was .03 (s.d.=.04) and .02 (s.d.= .04) for enabling FTE.

Lastly, the mean hours of charity care provided by private physicians was 7.49 (s.d.=17.46).

It is important to note that the most common (mode) response among private physicians in reporting the number of charity care hours was zero. This resulted in an abnormal distribution of the charity care variable. Therefore, I logged this variable and have reported the descriptive statistics for the logged variable in the last row of Table 5.1. In addition, when computing the FQHC site revuser variable, I found that 171 FQHC sites had missing values for the number of uninsured users and could not be used in the analysis. I consulted national averages reported by the Bureau of Primary Health Care (national UDS roll-up reports may be found at http://www.bphc.hrsa.gov/uds) and the averages of the FQHCs included in my study to determine whether averages should be imputed for missing data.

Aggregated reports indicated that, on average, an individual FQHC served about 9,817 uninsured users under the age of 19 and 25,263 uninsured adult users in 2003. However, there was large variation across states and communities. Because the number of uninsured users is highly dependent upon community demographics as well as health center size, I chose not to impute health center averages for missing data and excluded those sites from the analysis. In addition, I found that one of the FQHCs in my study reported $0 in revenue income; I excluded this site from the analysis as well. Lastly, 32 FQHCs reported that no amount of the site's total cost was allocated to providing

enabling services. And, 37 FQHCs reported that no portion of the site's FTEs were used to provide enabling services. I included these 37 sites and the previously referenced 32 sites in the analysis because although a zero amount seems unlikely, it is possible that some sites did not have large enough staffs or slack resources to provide a significant amount of enabling services.

Table 5.1, Descriptive Statistics for Community Health Care Safety Net
Variables

	N	Mean	Median	Mode	SD	Range
FQHC Revenue	1,248	$662, 431	$456, 879	$372,929	$643,161	$0-584,000
FQHC Revuser	1,077	$72.18	$25.09	$3.06	$123.63	$0- 930.39
FQHC Enabling FTE	1,248	.03	.01	.002	.04	0- .51
FQHC Enabling Cost	1,248	.02	.01	.001	.04	0- .65
Private Physician Charity Care	12,406	7.49 hours	3	0	17.46	0- 410
Private Physician Logged Charity Care	8,625	1.70 hours	1.6	.07	1.09	0- 6.02

This dissertation seeks to explain the relationship between community social capital and health care safety net capacity at the individual provider and community levels. Therefore, several of the hypotheses specifically, hypotheses 2 and 3, were developed to address community-level health care safety net capacity. I also tested hypotheses 4 and 6 at the individual and community levels. I tested these hypotheses at both levels for two reasons 1) to guard against Type I error; and, 2) ecological fallacy in making inaccurate generalizations to the individual-level from community-level findings. Community averages for the FQHC site and private physician outcome variables represent community health care safety net capacity within the communities included in this study. These community averages should not be confused with the mean FQHC site and private physician outcome variables shown in Table 5.1. Community averages were computed using a smaller sample size and by considering the county's total uninsured population. I discussed these computations in detail in Chapter 4 but review them here.

Where county averaged data were used, the FQHC revenue variable was modified for the purpose of normalization. In these cases, I created a new revenue variable by dividing the county's total FQHC grant revenue by the county's total uninsured population. In addition, the charity care variable in the physician data set was aggregated and averaged to produce a county-level charity care variable. This variable represents the average hours of charity care per physician in the county. Similar to the FQHC revenue variable, I constructed the charity care variable in this manner for the purpose of normalization. The variable was then merged with the FQHC dataset using the county

(FIPS) identifier. Therefore, in addition to the original FQHC and private physician datasets, a third data set containing county FQHC and private physician averages for the 183 counties contained in the original FQHC data set was created and used to conduct county capacity analyses. This third dataset contained an average measure of FQHC revenue, enabling cost, enabling FTE, and private physician charity care for each county.

When creating the outcome variables for this dataset I found that two counties were missing data for the number of uninsured within the county and therefore, could not be included in the analysis. In addition, 12 of the counties were excluded because I was unable to match a private physician charity care variable to those counties. In the subsequent hypotheses tests, this reduced the total number of counties included in the analyses from 183 to 171. Table 5.2 presents the means, standard deviations, and range of the community-level health care safety net capacity variables.

Table 5.2, Descriptive Statistics for Community-Level Health Care
Safety Net Capacity Variables

	N	Mean	Median	SD	Range
FQHC Revenue per Uninsured County Resident	181	$120.48	$66.58	$182.87	$1.22- 1,425.68
FQHC Enabling FTE	183	.03	.15	.05	0-.30
FQHC Enabling Cost	183	.03	.013	.05	0 -.29
Charity Care per Physician	171	8.9 hours	6.5	2	0-60

Correlation Analyses

Research Question 1: What is the relationship between community social capital and community health care safety net capacity?

I examined the relationship between community social capital and community health care safety net capacity at two levels of analysis: individual and community. I used both levels of analysis in order to understand the community ecological and individual organizational implications that community social capital have for the health care safety net. An individual level of analysis is consistent with previous health services social capital research (e.g., Hendryx et al., 2002 and 2003); however, this research is primarily concerned with consumer rather than provider outcomes. Studies that did address the provider prospective (e.g., Shoou-Yih et al., 2004) did not include the community ecological perspective. Considering how populations within communities behave is referred to as a community-ecology level of analysis (Astley, 1985). Astley (1985) argued that the community population perspective permits an examination of similarities within a population of organizations and also permits analyses of between population differences. Since community social capital is understood to be an individual and community benefit (Coleman, 1998), this study addresses outcomes at both levels and makes a unique contribution to the social capital literature.

To answer the first research question, my data analysis began with an examination of the zero order correlations among the independent, dependent and control variables developed in the study's analytical framework. Cohen et al. (2003) argued that one of the most general meanings of the concept of a relationship between a pair of variables is that

knowledge with regard to one of the variables carries information about the other. Pearson product moment correlation coefficients (r) provide a preliminary and simple method of understanding the relationship between two variables. The coefficient is a standard measure of the linear relationship between two variables and has the following properties: 1) it is a pure number and independent of the units of measurement; 2) its value varies between zero, when the variables have no linear relationship, and +1 or −1, when each variable is perfectly estimated by the other, and 3) its sign indicates the direction of the relationship. The coefficient may be expressed as the following:

$$r = 1 - \frac{\left(\Sigma \ (Z_x - Z_y)^2 \right)}{2(n-1)}$$

Where z equals the standardized scores of any variable x and y. For example, let x equal FQHC revenue and y equal community civic participation rate. Z scores are created by subtracting raw x and y scores from the their respective mean. The degree of relationship between x and y is found by indexing the average squared discrepancy between z scores and reorienting the index to run from −1 to +1.

FQHC Correlations

Table 5.3 presents the descriptive statistics and correlations of all the 15 (dependent, independent and control) variables developed in the FQHC related portion of the study's analytical framework. These variables are also posited in hypotheses 4 and 6. The correlations presented in Table 5.3 used FQHC individual-level data.

Table 5.3, Descriptive Statistics and Correlations- FQHC

Variable	Mean	s.d.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
Revuser	72.18	123.63														
Enabcost	0.02	0.04	.17**													
EnabFTE	0.03	0.04	.18**	.92**												
Club Meetings	2.17	0.42	-.09**	-.04	-.03											
Community Projects	1.55	0.23	-.08**	-.06*	-.06*	.46**										
Volunteer	2.38	0.47	-.03	-.04	-.04	.33**	.52**									
Civic Participation	0.49	0.08	.18**	-.06*	-.06*	.23**	.30**	.35**								
Population >age 65	182,473	236,444	-.30**	.14**	.13**	-.07*	-.16**	-.12*	-.35**							
% Blacks	0.13	0.09	.02	.05	.06*	-.20**	-.29**	-.31**	-.51**	.08**						
Per Capita Income	34,242	8,283	-.31**	-.02	-.03	-.11**	.12**	.22**	.12**	-.01	-.05					
Medicaid Generosity	0.12	0.23	-.11**	-.01	-.03	.15**	.32**	.32**	.54**	-.14**	-.43**	.12**				
Hospital Wage	1.09	0.18	-.35**	.06*	.04	-.24**	.00	.05	-.26**	.25**	.12**	.70**	.05			
Uninsured	284,813	490,549	-.26**	.14**	.13**	-.08*	-.16**	-.12*	-.41**	.96**	.06*	-.07*	-.15**	.24**		
FQHC size	89,479	95,985	-.39**	.07*	.06*	-.10**	-.18**	-.17**	-.29**	.78**	.20**	.14**	-.08*	.32**	.65**	
Managed Care Penetration	34	17	-.22**	.06*	.06*	-.14**	-.01	.13**	.03	.18**	-.30**	.41**	-.11**	.41**	.23**	-.01

** Correlation is significant at the 0.01 level (1-tailed).
* Correlation is significant at the 0.05 level (1-tailed).

Table 5.3 shows that two of the community social capital variables were minimally correlated with FQHC revenue: club meeting (-.09, p<.01) and community projects (-.08, p<.01). In comparison, the third community social capital variable, civic participation had a stronger and positive correlation with FQHC revenue (.18, p<.01). FQHC enabling cost is also minimally but significantly correlated with community projects (-.05, p=.05) and civic participation (-.06, p=.05). This is similar to the correlation between FQHC enabling FTE and civic participation (-.06, p=.05) and FQHC enabling FTE and community projects (-.06, p=.05). The high correlation between FQHC enabling cost and enabling FTE (.92, p<.01) provides a strong rationale to exclude one of these measures from the dependent variables. Similarly, the high correlation between hospital wage index and per capita income (.70, p<.01) provides a strong rationale to exclude one of these measures from the control variables. The moderate correlations between FQHC enabling cost and FQHC revenue (.17, p<.01) and FQHC enabling FTE and revenue (.18, p<.01) do not present concerns. The correlations between the social capital variables were moderate, thus raising no concerns about multicollinearity. The highest among the correlations were between community projects and club meetings (.46, p<.001) and community projects and volunteering (.52, p<.01).

Other significant correlations were between FQHC revenue and several of the control variables. As expected there was a negative correlation between FQHC revenue and the cost of providing care captured by the hospital wage index variable (-.35, p<.01). The negative correlation between FQHC revenue and per capita income (-.31, p<.01), and FQHC revenue and the number of uninsured in the county (-.26, p<.01) was somewhat

expected. It is likely that as per capita income rises, individuals are more likely to be insured thus the need for funding FQHCs is not as obvious. Furthermore, it appears that as the cost of care and the number of uninsured rise, FQHC financial ability to care for the uninsured decreases. This is consistent with the findings of studies investigating the threatened viability of the U.S. health care safety net (e.g., IOM, 2000). Likewise, as FQHC size increases in terms of users, capacity to care for the uninsured is strained. This is evidenced by the negative correlation between FQHC revenue and size (-.39, p<.01). Lastly, the significant and positive correlation between FQHC enabling cost/FTE and uninsured (.13, p<.01) is consistent with research by McAlearney (2002). McAlearney (2002) found that even as FQHCs experienced decreased grant revenues to care for the uninsured, they continued, and some even increased the amount of enabling services that they provided.

The correlations between the community social capital variables and Medicaid generosity are quite interesting. All of the social capital variables had moderate and positive correlations with Medicaid generosity. The highest was between Medicaid generosity and civic participation (.54, p<.01), followed by volunteering (.32, p<.01), community projects (.32, p <.01) and club meetings (.15, p<.01). These are extremely important correlations given that the IESC framework developed for this study posits that the social environment is the dominant force in shaping congruent political institutional environments. The correlation between Medicaid generosity and civic participation raises interesting questions about the interaction between local voting practices and state level health care policies. Furthermore, this correlation supports the findings of Hopcroft

(1998) who found that local actions such as coalition building influenced state level institutional frameworks. I suspect that the negative correlation between the rate of uninsured and civic participation (-.41, p<.01) may be partially attributable to increased Medicaid generosity. The positive correlations between measures of social capital and Medicaid generosity are in contrast to the negative correlation between FQHC revenue and Medicaid generosity (-.11, p<.01). It is likely that as Medicaid eligibility rules allow for increased Medicaid enrollment, the apparent need for funding uncompensated care services through the community health centers program diminishes.

The last set of interesting and significant correlations was between race and social capital. There was a moderate and negative correlation between all of the social capital variables and the percentage of blacks within the county. The highest correlation was between blacks and voting participation (-.51, p<.01) followed by volunteering (-.31, p<.01), community projects (-.29, p<.01) and club meetings (-.20, p<.01). These correlations serve as a reminder that researchers must be careful in measuring social capital across racial and ethnic lines. DeFilippis (2001) argued that the debate about social capital and civic engagement largely concentrates on white, middle class individuals.

Although my quantitative analysis is somewhat at odds with qualitative studies that indicated that minorities do indeed have social networks (e.g., Stack, 1974; Edin & Lein, 1997), this apparent contradiction is resolved by arguments made by DeFilippis

(2001). For example, DeFillipis (2001) argued that inner city minority neighborhoods have social networks and trust between network members, and the communities posses many nongovernmental, community-based organizations. However, community members tend to lack trust in outsiders and in government (this is indicated by the negative correlation between civic participation and blacks). As a result, they lack power and the capital that partially constitutes that power. Another relevant explanation was provided by Campbell and McLean (2002) in a study that examined ethnic identities and social capital in Afro-Caribbean communities. They found that the construction of ethnic identities within a context of institutionalized racism at both the material and symbolic levels made it unlikely for minorities to view local community organizations or networks as representative of their interests or needs. Consequently, they were unlikely to be motivated to participate in them. In sum, the quantitative findings in my study and qualitative findings from other studies are consistent.

Physician Correlations

Table 5.4, presents the descriptive statistics and correlations of all the 16 variables (dependent, independent and control) developed in the private physician portion of the study's analytical framework. These variables are also posited in hypothesis 5. The correlations presented in Table 5.4 used individual physician level data.

Table 5.4, Descriptive Statistics and Correlations- Physicians

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Charity Care	7.49	17.46															
Club Meeting	2.23	0.46	.01														
Community Proj.	1.55	0.28	-.02	.39**													
Volunteer	2.38	0.47	-.03**	.38**	.50**												
Civic Participation	0.5	0.08	-.05**	.12**	.12**	.18**											
Hospital Wage	1.03	0.14	.003	-.13**	.001	.002	-.01										
% Blacks	0.12	0.09	.04**	.06**	-.14**	-.11**	-.24**	-.12**									
Per Capita Income	31,861	7,363	-.01	-.06**	.01	.05**	.23**	.74**	-.06**								
Medicaid	0.09	0.19	-.02**	.06**	.21**	.18**	.39**	.20**	-.34**	.25**							
Uninsured	167K	325K	.01	-.09**	-.06**	-.05**	-.37**	.27**	-.11**	.02	-.08**						
Pop. >age 65	122K	159K	.01	-.08**	-.05**	-.03**	-.29**	.31**	-.14**	.11**	-.05**	.95**					
% Managed Care	45.8	27.75	-.09**	-.04**	-.03**	.02*	.01	.14**	-.10**	.13**	.04**	.08**	.11**				
Foreign Grad			.04**	-.01	-.06**	-.08**	-.14**	.11**	.05**	.06**	-.10**	.07**	.08**	-.02			
Gender			-.01	.01	-.005	.01	.03*	.10**	.001	.12**	.05**	.01	.02*	.11**	.02*		
Race			-.02*	.005	-.02	.002	.001	.04**	.01	.01	-.01	.03**	.03**	.02*	.18**	.06**	
Owner			-.02*	.01	.01	.03**	.04**	-.03**	.03**	-.01	.04**	-.03**	-.03**	.09**	-.07**	.17**	.02**

** Correlation is significant at the 0.01 level (1-tailed).
* Correlation is significant at the 0.05 level (1-tailed).

Table 5.4 shows that only two of the community social capital measures had significant correlations with physician charity care. The correlations between charity care and volunteering (-.03, p<.01), and charity care and civic participation (-.05, p<.01) were minimal and negative. The table also shows that all of the community social capital variables were moderately correlated. Thus, no concerns about multicollinearity were raised. The highest correlation was between community projects and volunteering (.50, p<.01) followed by club meetings and community projects (.39, p <.01), and club meetings and volunteering (.38, p<.01).

There were several significant correlations between charity care and the study's control variables specifically, physician demographics. When interpreting the correlations between charity care and individual physician demographics it is important to note that I retained the original coding of the physician demographic variables as they appeared in the Community Tracking Study Physician Survey. These variables were later transforming into dummy variables for the regression analysis. The correlation between charity care and foreign medical graduate was positive (.04, p<.01). Physician status as a foreign medical graduate should not be considered a proxy for physician ethnic or racial identity. This foreign medical graduate designation means that the physician received medical training outside of the contiguous United States and Puerto Rico. The correlation between foreign graduate and charity care indicates that those trained outside of the U.S. and Puerto Rico were likely to provide charity care.

The correlations between charity care and race (-.02, p=.05) and charity care and owner (-.02, p=.02) indicate that there was a negative correlation between charity care and non-minority physicians and physicians not having full or part-ownership of the practice in which they worked. This means that physicians that identified themselves as non-Hispanic whites were unlikely to provide charity care as were physicians who did not have full or partial ownership of the practice in which they worked. Lastly, there was a negative correlation between the percentage of income that a physician derived from managed care plans and charity care (-.09, p<.01).

My findings from the zero order correlations support regression results from other studies that investigated physician behavior. For example, Cunningham et al. (2004) found that minority physicians, including African Americans and Hispanics, were more likely to accept Medicaid patients compared to white physicians. It is likely that these findings can be extended to pertain to physician acceptance of uninsured patients as well. In a separate study also consistent with my findings, Cunningham et al. (1999) found that physicians who derived at least 85 percent of their practice revenue from managed care plans were considerably less likely to provide charity care and spent fewer hours providing charity care then physicians with little involvement in managed care plans.

Similar to what I found in the FQHC data, the physician data revealed positive correlations between the community social capital variables and Medicaid generosity. The highest correlation was between Medicaid generosity and civic participation (.39, p<.01), followed by community projects (.21, p<.01), volunteering (.18, p<.01) and club

meetings (.06, p<.01). In comparison, the correlation between civic participation and number of uninsured was moderate and negative (-.37, p<.01). Lastly, although the correlation is minimal, Medicaid generosity is negatively correlated with charity care (-.03, p<.01).

The negative correlation between Medicaid and the charity care variable is indirectly consistent with previous studies. For example, Cunningham et al. (2004) found that Medicaid generosity influenced physician acceptance of Medicaid patients. As Medicaid generosity increased, physicians were more likely to accept Medicaid patients; however, physicians who derived a high percentage of their practice revenue from Medicaid were less likely to provide charity care. I can extend Cunningham et al.'s (2004) findings to interpret my findings. It is possible that as Medicaid generosity increases, physicians are less likely to provide charity care because they are providing greater amounts of care to Medicaid enrollees. Indeed, depending on the actual Medicaid reimbursement rate, physicians may very well view Medicaid acceptance as a form of community benefit/charity care.

Canonical Correlation Analysis

I further examined the relationship between community social capital and community health care safety net capacity by examining the relationship at the community ecological level of analysis. I conducted a canonical correlation analysis (CCA) using the averaged health care safety net capacity data. The purpose of the analysis was to test hypotheses 2, which posits that there will be a positive association

between community social capital and community health care safety net capacity. I chose to conduct a CCA rather than multiple regression analyses to test this hypothesis for several reasons. First, the CCA minimizes Type I error. A CCA combines the independent and outcome variables into two sets and conducts one test thus limiting alpha inflation (Sherry & Henson, 2005). Furthermore, Cohen et al. (2003) explained that set correlation is a realization of the general multivariate linear model. It provides a single framework of measures of association, parameter estimation, hypothesis testing, and statistical power analysis that encompasses most of the standard data-analytic methods. In comparison to the zero order correlations between each variable that I discussed in the previous section, the following section discusses the relationship between the *sets* of (independent and outcome) variables. I begin with a brief description of the canonical correlation analysis procedure and explain how the data were manipulated for the analysis. Next, I report the findings and limitations of the CCA.

The CCA procedure generated two canonical variates from the multiple predictor and dependent variables developed in this study. The synthetic variates were created in CCA by applying a linear equation to the observed predictor variables to create a single synthetic predictor variable. The same was done to create a single synthetic outcome variable. The two equations were generated to yield the largest possible correlation between the synthetic variables. The synthetic variables are weighted based on the relationships between the variables within the sets. Unlike zero order correlations the standardized weights in CCA allow for a better understanding of the relative contribution of each particular variable given the contribution of other variables. For example, the

standardized coefficients of a predictor variable reflect its contribution to the outcome given the contribution of other predictors. Furthermore, the structure coefficients provided by CCA, reflect the direct contribution of each particular predictor to the outcome variable regardless of other predictors (analogous to partial correlations).

I conducted the CCA using the county-level FQHC-private physician data set. The data set contained 171 counties with four community health care safety net capacity variables: FQHC revenue, enabling costs, enabling FTE and private physician charity care. A canonical correlation analysis was conducted using the 4 community social capital variables (club meetings, community projects, volunteering and civic participation) as predictors of the 4 community health care safety net capacity variables. The purpose was to evaluate the multivariate shared relationship between the two variable sets.

The CCA yielded four functions with squared canonical correlations (R^2) of .108; .071; .018 and .002 for each successive function. Collectively, the full model across all functions was statistically significant using the Wilks's λ = .809 criterion, $F(16, 477.23)$ = 2.14, ρ = .01. Because Wilks's λ represents the variance unexplained by the model, 1-λ yields the full model effect size in an R^2 metric. Thus, for the set of four canonical functions, the R^2 type effect size was .191, which indicates that the full model explained a small portion, about 19 percent, of the variance shared between the variable sets. Next, I examined the dimension reduction analysis to test the hierarchical arrangement of functions for statistical significance. As noted, the full model (Function 1 to 4) was

statistically significant. Functions two to 4 and three to 4 were not statistically significant, F (9, 382.25)=1.71; and F (4, 316)= .85, respectively. Function 4 (which is the only function that was tested in isolation) did not explain a statistically significant amount of shared variance between the variable sets, F (1, 159)= .38.

Given the R^2 effects for each function, only the first function was considered noteworthy in the context of this study (11%) of shared variance. The remaining functions explained 7, two and less than one percent, respectively. Table 5.5 presents the standardized canonical function coefficients (coef) and structure coefficients (r_s) for Function 1. The squared structure coefficients (R^2s) are also given. Although communalities (h^2) are usually reported, this is not done here because only one function was significant. Based on the cutoff score of .30 recommended by Lambert and Durand (1975) as an acceptable minimum coefficient value, the canonical correlation primarily suggested that FQHC enabling FTE and private physician charity care were negatively correlated to community projects, volunteering and civic participation and positively correlated with club meetings. Conversely, FQHC enabling cost was negatively correlated with club meetings and positively correlated with the remaining three community social capital measures.

Table 5.5, Canonical Solution for Community Social Capital Predicting
Community Health Care Safety Net Capacity for Function 1

	Function 1			
Variable	Coef	r_s	R^2_s (%)	
FQHC Revenue	-.26	-.27	7%	
FQHC Enabling Cost	**1.49**	.15	2%	
FQHC Enabling FTE	**-1.42**	.05	.2%	
Private Physician Charity Care	**-.73**	**-.85**	72%	
Rc^2				11 (%)
Club meetings	**-.44**	.07	.004%	
Community Projects	**.32**	**.57**	32%	
Volunteering	**.78**	**.80**	64%	
Civic Participation	**.42**	.**52**	27%	

Coef = Standardized coefficients; coefficients over the .30 cutoff score are in bold
r_s = Structure coefficients for Function 1
R^2_s (%)= Squared structure coefficient
Rc^2 = Squared canonical correlation for Function 1 (variance explained)

By relaxing the .30 cutoff, I can discuss the relationship among the variables thoroughly. Looking at the Function 1 structure coefficients, it appears that the relevant dependent variables used in the linear equation combination was primarily private physician charity care and FQHC revenue with FQHC enabling cost and enabling FTE making secondary contributions to the synthetic dependent variable. This conclusion was supported by the squared structure coefficients. The private physician charity care measure also had a larger canonical function coefficient; however, FQHC revenue did not. In comparison, FQHC enabling cost and enabling FTE had modest structure coefficients but large function coefficients. This result was due to the multicollinearity that these two variables had with other dependent variables, primarily each other. Furthermore, the structure coefficients of the charity care and FQHC revenue variables had the same sign indicating that they were positively related to each other but negatively related to FQHC enabling cost and enabling FTE.

An examination of the structure coefficients in the predictor set shows that volunteering and community projects were the primary contributors to the predictor synthetic variable with civic participation and club meetings making secondary contributions. The modest coefficient of club meetings indicates its high correlation with other predictor variables. Lastly, all of the predictor structure coefficients were positive, indicating that these variables were all positively related.

For the purpose of determining whether hypothesis 2 was supported, I adhered to the .30 cutoff rule (Lambert & Durand, 1975). Therefore, I determined that hypothesis 2

was very weakly supported. While one of the community health care safety net capacity measures had a positive relationship to three community social capital measures, two health care safety net variables had negative relationships to all but one social capital variable. Furthermore, in examining the structure coefficients, the one relevant dependent (charity care) variable had a negative relationship with the three relevant predictor (community projects, volunteering, and civic participation) variables. The negative associations in the canonical correlation analysis are consistent with the results of the zero order correlations discussed in the previous section. The zero order correlations indicated that only civic participation and FQHC revenue had a positive association.

The negative relationships among the community social capital and health care measures in my analysis are somewhat consistent with Shoou-Yih et al.'s (2004) findings. The authors found that hospitals located in counties with greater engagement in volunteer work among residents tended to provide fewer services that were aimed to promote community health. Shoou-Yih et al.'s (2004) finding of a negative relationship between social capital and volunteering are consistent with my findings of a negative association between private physician charity care and volunteering and FQHC enabling FTE and volunteering. However, it is not consistent with my finding of a positive association between volunteering and FQHC enabling cost. My data suggest that community engagement in volunteer work, community projects and civic activities increases FQHC willingness to dedicate financial resources to the provision of services aimed to promote community health.

Although I have found weak support for hypothesis 2, it appears more likely that there is a negative, rather than a positive, relationship between community social capital and community health care safety net capacity. Furthermore, the R^2 type effect size (.19) of the CCA indicates that there is a large amount of variance that is not shared between the variable sets. This creates concerns about the usefulness of my model. Concerns arise primarily because CCA generated the two equations to yield the largest possible correlation between the synthetic variables and still only a small portion of variance was explained. However, several issues should be taken into account when considering the findings from the CCA and making judgments about the usefulness of my model. The beneficial aspect of conducting a CCA lies in its ability to control Type I error. However, without separate regressions for each outcome and predictor variable, the ability to fully understand the nature of the relationship between the variables is severely limited.

In addition, the CCA used county averages rather than individual provider data. Although community-level capacity is a relevant line of inquiry for this dissertation, a health care management perspective demands that attention be paid to individual organizational outcomes as well. Robinson (1950) argued that making generalizations from the group equation to the individual might lead to very inaccurate conclusions. It is possible that community social capital influences individual providers quite differently; therefore, making generalizations from county-level capacity outcomes to the individual FQHC and private physician level potentially leads to ecological fallacy. For these reasons I also conducted OLS and HLM regression models on these data before

determining how useful the model is in explaining the relationship between community social capital and health care safety net capacity.

Multivariate Analyses

Thus far I have used correlation analyses to examine the relationship between community social capital and community health care safety net capacity at both the individual and community levels. These analyses provide a preliminary understanding of the linear relationship among the variables used in this study. The preliminary analysis suggests that community social capital may be associated with community health care safety net capacity. In most cases the association appears to be small and negative; however, the findings of the correlation analyses were mixed. For example, the zero order correlations suggested that FQHCs in communities with higher rates of civic participation may experience higher revenues. However, the canonical correlation analysis indicated a negative association between most of the community social capital and health care safety net capacity measures. Although not the focus of the dissertation research, all of the analyses thus far suggests that counties with higher levels of community social capital experience more generous state Medicaid programs. This significant relationship is consistent with the conceptual framework developed for this dissertation.

In the remaining sections of this chapter I seek to clarify the relationships indicated by the preliminary analyses by examining them more thoroughly through OLS and HLM regression models. The purpose of the multivariate analysis is to assess

whether variations in community health care safety net capacity can be significantly attributed to levels of community social capital, controlling for other factors. The models attempt to control for factors such as regional differences, physician demographics and community socioeconomic status. In order to control for these effects, the multiple regression models use the following basic framework:

Community Health Care Capacity (FQHC revenue or FQHC costs/FTE or private physician charity care) = (**Community social capital**-club meetings, community projects, volunteering, and civic participation) + (**Community socioeconomic and demographic factors**- per capita income, race, age, uninsurance) + (**Health system indicators**- Medicaid generosity, hospital wage index, managed care penetration) + (**Organizational/physician indicators**- FQHC size, physician race, gender, ownership and participation in managed care)+ error.

This basic model, for example, can be used to assess the extent to which FQHC sites in communities with higher levels of community social capital experienced significant increases in revenue. Three different regression models are used to examine the variation in community health care safety net capacity measures: model 1 examines variation in FQHC revenue; model 2 examines variation in FQHC enabcost/FTE; and, model 3 examines variation in private physician charity care. It is important to remember that FQHC enabcost/FTE are substitutable measures because of the high correlation (.92, $p<.01$) between them. In addition, I did not include hospital wage index in the final models because of its high correlation with per capita income (.70, $p<.01$). Lastly, all of the multiple regression models used the same UDS and CTS data as was used in the descriptive and correlation analyses.

In terms of variation in the outcome variables, many studies assume that there is variation across observations without actually testing to see if significant variation exists. While extant health care literature would support an assumption that there is significant variation across communities in health care safety net capacity (e.g., Ginsberg & Fasciano, 1996; Felland et al., 2003; Norton & Lipson, 1998; Luke & Walston, 2003), I have chosen not to make that assumption. Rather, I developed a testable hypothesis to that effect. Hypothesis 1 posits that there will be significant variation across communities in community health care safety net capacity. The purpose of testing this hypothesis is to establish that variation exists and to determine the key source of variation. Specifically, does variation in community health care safety net capacity primarily stem from variation in individual FQHC revenues, enabling cost/FTE, and private physician charity care within communities or is variation primarily a result of community-level behaviors (across community variation)? The rationale behind this inquiry is both theoretical and methodological.

In regards to theory, community social capital is an ecological factor that impacts individuals and leads to distinct group behavior. Dense community-wide social networks create a shared ideology specifically, norms of generalized reciprocity and enforceable trust. For example, Hendryx et al. (2002) argued that health sectors in higher social capital communities may be better at coordinating care because of shared ideologies that guide behaviors. Furthermore, they reasoned that in higher social capital communities, reputations matter, and shared values and community goals are more likely to exist. I

extend this logic to reason that as an ecological factor, community social capital should influence community providers to behave in similar ways thus, causing a group effect. Therefore, I expect to find that the primary source of variation in the outcome variables is between rather than within communities.

In addition to the theoretically hypothesized effects of social capital, FQHC sites and private physicians residing within the same county serve a similar mix of patients and operate under similar socioeconomic and political conditions. Therefore, again I would expect observations drawn from the same county to be more correlated with one another than with observations across counties. Within group correlation is referred to as clustering. Concerns about clustering provide the methodological rationale for testing hypothesis 1 using an intra class correlation analysis (ICC). To ignore these correlations or clustering may bias the estimation of regression coefficients in the regression models used to test hypotheses 4, 5, and 6. Therefore, following Singer (1998) I conducted an unconditional cell means model to estimate the cluster effect within the FQHC and private physician samples. I begin the following section by explaining the unconditional cell means model and the intra class correlation analysis procedures. In its entirety, the following section reports 1) the results of the unconditional cells means model; 2) the results of the ICC; and, 3) indicates whether hypothesis one is supported. Lastly, I relate the findings of the ICC to the regression models used to test hypotheses 4, 5, and 6.

Unconditional Means Model and Intra Class Correlation ICC

An unconditional cell means model is the first step in constructing a fixed/random equation for hypothesis testing using a hierarchical linear regression model (HLM). I chose to use an unconditional cell means model to test hypothesis 1 because it provides several important measures simultaneously. The model tests for significant variations among groups as well as within groups, thereby producing estimates necessary for the calculation of intra-class correlations (ICC). An unconditional cell means model is equivalent to a one factor random effects analysis of variance (ANOVA) in which the F statistic is examined for significance (Singer, 1998). Similarly, the unconditional means model in an HLM regression indicates the amount and significance of variance among the counties included in my study. The unconditional cell means model also indicates the amount of variance occurring among the observations within the counties. These two measures were used to calculate the ICC, which I used to determine whether an OLS or a HLM regression model was most appropriate model for testing hypotheses 4, 5, and 6.

FQHC sites

I began by using the unconditional means model to examine all of the dependent variables in FQHC data, and then, repeated the analysis on the physician data. In the first model, the FQHC revenue variable was examined with the county FIPS as the sole factor. In other words, the 183 counties contained within the dataset become the 183 levels of the class/group factor. The analysis provided estimates of $\check{T}_{00}$, the variance in the mean amount of FQHC revenue among the 183 counties, and estimated σ^2, which is the variance in FQHC revenue among the FQHC sites within each county. These estimates

were $\check{T}_{00}$= 43,696 (p<.01) and σ^2 = 1,685.59 (p<.01). This reflects \$43,696 of between county variance in FQHC revenue and \$1,685 of within county variation. The low probability value indicated that both variance components were significantly different from 0. This suggests that counties differ in average FQHC revenues and that there is significant variation among FQHCs within counties. The second and third models examined FQHC enabling cost and enabling FTE in the same manner. For FQHC enabling costs, the results of the model reflected .0002 (p=.01) units of between county variance and .002 (p<.01) units of within county variation. Again, both variance components were significantly different from 0. Lastly, for enabling FTE, the estimates reflected .0002, (p=.01) units of between county variation and .002 (p<.01) units of within county variation. Variation for both components was statistically significant.

Next, I calculated the ICC for all of the FQHC capacity variables to examine the portion of total variation occurring between counties. The ICC calculation is expressed as:

$$\rho = \check{T}_{00} / \check{T}_{00} + \sigma^2$$

Therefore,

FQHC revenue (N=1077): $\rho = \check{T}_{00} / \check{T}_{00} + \sigma^2$ = 43696/43696 + 1685.59 = .96

FQHC enabling cost (N=1248): $\rho = \check{T}_{00} / \check{T}_{00} + \sigma^2$ = .0002/.0002 + .002 = .09

FQHC enabling FTE (N=1248): $\rho = \check{T}_{00} / \check{T}_{00} + \sigma^2$ = .0002/.0002 + .002 = .09

For the FQHC revenue variable, the estimated ICC was substantial. The ICC indicated that 96 percent of the total variance in the model was between counties. Clearly,

there was a fair amount of clustering within counties. In contrast, the estimated ICC for FQHC enabling cost and FTE was .09. Thus, only 9 percent of the total variance in these models was between counties. Although the ICC of .09 is much smaller in comparison to the FQHC revenue ICC of .96, Cohen et al. (2003) indicated that the actual alpha level of statistical tests increases dramatically even with apparently small ICCs. The alpha inflation increases as the sample size increases. Therefore, a seemingly nominal ICC indicating a small clustering effect will result in a significant amount of alpha inflation in a regular OLS regression model. I concluded that an OLS regression of these data at the individual FQHC level of analysis would most likely yield misleading results specifically, Type I error.

Cohen et al. (2003) suggested four analytical approaches for limiting Type I error in the examination of clustered data. These included aggregated, disaggregated, disaggregated with dummy-coded groups, and random coefficient regression model (HLM) analyses. In selecting among these options, I considered the complexity of my data and chose an option that could be easily interpreted. Given the amount of clustering indicated by the ICC, an aggregated analysis would yield reliable estimates that could be interpreted quite easily. In addition to the aggregated analysis, I also used a random coefficient regression model to guard against Type I error and ecological fallacy.

Before moving ahead, I provide a brief discussion of the clustering in the FQHC data and its implications for FQHC ability and willingness to provide care to uninsured populations. It is necessary to first note that the unconditional means model does not

include predictors (e.g., community social capital measures). Therefore, the model determines that there is variation between communities but does not test the community environmental factors associated with the observed variation in the outcome variables. FQHCs are a distinct organizational population with similar organizational goals, constraints, and patient populations; therefore, it is somewhat unsurprising to find that their behavior within counties was correlated. In addition, the FQHC sites within each county included in this study constituted the population of FQHC sites within the county rather than simply a sample.

As previously discussed, considering how populations within communities behave is referred to as a community-ecology level of analysis (Astley, 1985). This perspective permits an examination of similarities within and differences between populations. The small percentage of within county variation in FQHC revenue suggests that community environments affect FQHCs' ability to provide uncompensated care in similar ways. In contrast, the analysis suggests that FQHCs' willingness to provide uncompensated care is not as homogenous. Although the amount of variation between and within counties was small for enabling cost and enabling FTE in comparison to FQHC revenue, there was a markedly larger percentage of within county variation. This may mean that community environments affect an FQHC's willingness to provide uncompensated care services quite differently. Consistent with Astley's (1985) community-ecology perspective, the within county variation is a reminder that individual factors such as organizational choice must be considered in organizational analyses.

Perhaps FQHCs are not as homogenous as one may think in that FQHCs' decisions about the amount of resources to dedicate to enabling services are quite different even given similar community-level social, political and economic constraints.

Private Physicians

An unconditional cell means model was used to examine the physician data as well. The physician charity care variable was examined with the county FIPS as the sole factor. Similar to the FQHC data, the 1,029 counties contained in the physician dataset became the levels of the class/group factor. Because the charity care variable was abnormally distributed, I logged the charity care variable for use within the means model. The unconditional cell means model estimates reflected 2.9 (p<.01) units of between class variance in charity care hours and 301.8 (p<.01) units of within class variation. Both variance components were significantly different from 0. These estimates suggest that counties do differ in their average hours of charity care provided by private physicians and that there is even more variation within counties. The ICC was computed as follows:

Charity care (N=12406): $\rho = \check{T}_{00} / \check{T}_{00} + \sigma^2 = 2.9802/2.9802 + 301.88 = .009$

The ICC of .009 shows that less than one percent of the variance in charity care was between counties. In terms of methodological issues related to the findings from the ICC, the small proportion of total variance attributable to the clustering effect suggests that an OLS regression model would yield reliable estimates of coefficients. Therefore, an OLS regression model will be used to analyze these data.

Similar to the FQHC data, it is important to briefly discuss clustering in the physician data and its implications for provider willingness to provide care to the uninsured. Whether community environmental conditions influence private physicians to behave in similar ways is unclear. Although virtually all of the variation in physician charity care was within counties rather than between counties, this was largely due to the structure of the data. The distribution of the observations among the 1,029 counties in the physician sample was unbalanced. In most cases there were less than 25 physicians within the county and, in some cases, only one. It should also be noted that unlike FQHCs, the sample of physicians was not homogenous, which allows for generalizabilty across all U.S. physicians. Since I did not have enough physician observations within counties to assess whether provider willingness to provide care to the uninsured was correlated, I examined the correlations in the county averaged data to see if private physician behavior was correlated to FQHC ability and willingness. Correlations among the behaviors would indicate group behavior within the county.

I found that private physician charity care was not significantly correlated with FQHC enabling cost or FTE. However, private physician charity care was moderately correlated with FQHC revenue (.24, p<.01). This finding is consistent with Cunningham et al. (2003) who also found that FQHC capacity (grant revenue per uninsured person) and physician charity care in a community was related. In fact, they found that greater FQHC capacity increased the uninsured's awareness of physician offices as safety net providers.

Lastly, the purpose of the ICC was to test hypothesis 1, which posits that there will be significant variation in health care safety net capacity across communities. The unconditional means model indicated that there was significant variation across counties for all measures of community health care safety net capacity. Variation across counties was significant at the .01 level for all dependent variables in the FQHC and physician data; therefore, hypothesis 1 was supported.

Regression Analyses

Thus far I have presented univariate statistics and the results from a series of correlation analyses for each dependent variable. These results were reported at the individual FQHC and private physician levels as well as the county level. A careful examination of the correlations between the independent and dependent variables in Tables 5.3 and 5.4 revealed largely negative and minimal to moderate correlations between most of the community social capital and community health care safety net capacity variables. However, there was a positive (.18, p<.01) correlation between FQHC revenue and civic participation. The canonical correlation analysis yielded fairly similar results in terms of the relationship between social capital and community health care safety net capacity. The CCA also raised concerns about the usefulness of my model in explaining the relationship between community social capital and community health care safety net capacity. This is because the full model, which contained the four independent community social capital and four dependent community health care safety net variables, had a small effect size of .19. The small effect size indicated that there was a large amount of variance not shared between the variable sets.

The source and significance of the variation in community health care safety net capacity was examined in the previous section. The intra class correlation analysis (ICC) indicated that there was significant variation in safety net capacity between counties. Although there was variation across communities in the FQHC measures, the primary source of variation in physician charity care was within rather than across counties. This suggests that the behavior of FQHCs within communities is quite similar while physician behavior is not as homogenous. The sample size of physicians within counties did not allow for a clear understanding of physician group behavior; however, I found positive correlations between physician charity care and FQHC financial capacity (grant revenue). This suggests that community environmental conditions may influence health care providers to act in similar ways.

The unconditional means model used to calculate the ICC helped to identify the key source of variation in the outcome variables; however, it did not test the factors associated with the observed variation. More specifically, the model had no county or individual level predictors. The following section reports the results from regression models that contained these predictors. The purpose of the multivariate analysis is to assess whether variations in community health care safety net capacity can be significantly attributed to levels of community social capital, controlling for other factors. The models attempt to control for factors such as regional differences, physician demographics and community socio-economic status.

A series of regressions with relevant state, county, and individual predictors were used to develop the final models. Each model contained 1) state level data on Medicaid generosity; 2) county level community social capital, population demographic and socio economic data; and 3) individual level provider data. Three different models were used. The models examine the relationship between community social capital and 1) FQHC revenue; 2) FQHC enabling cost/FTE; and 3) private physician charity care. The dependent variables are expressed in terms of dollars, percent of health center totals and private physician hours, respectively. Regression results include parameter estimates and adjusted r-squared of the model. The regression models test hypotheses 4, 5, and 6, which posit:

- H4. FQHC sites in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will experience higher levels of grant revenues.

- H5. Private physicians in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will provide greater quantities of charity care hours.

- H6. FQHC sites in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will dedicate greater amounts of human and financial resources to the delivery of enabling services.

FQHC sites

Table 5.6 presents the results of the regression analysis testing the hypothesized relationship between community social capital and FQHC revenue controlling for other factors. The model is an aggregated analysis using an OLS regression model as suggested by Cohen et al. (2003). Hypothesis 4 proposes a positive relationship between community

social capital and FQHC revenue. To support this directional hypothesis, the coefficient estimates for the club meetings, community projects, volunteering and civic participation should be positive and significant. The results reported in Table 5.6, suggest moderate support for Hypothesis 4. Three of the four community social capital measures had positive relationships to FQHC revenue; however, only civic participation was significant. Although the variables were not significant, the model suggests that community participation in club meetings and community projects may lead to greater health care safety net capacity through higher FQHC grant revenue. The fourth community social capital measure, volunteering, had a significant negative relationship with FQHC revenue.

While I could not control for FQHC size given that the data for the county were aggregated, I reran the model to control for community sample size and the geographic location of the FQHC sites. The model showed that the distribution of FQHC sites among the counties in the study did not bias the estimates. However, it suggested that county FQHC grant revenues in the south (as defined by census region codes) were significantly higher in comparison to the reference group (Northeast). Lastly, it is important to note the r-square of the model (.16), which reflects its ability to explain the variation in FQHC grant revenue.

Table 5.6, Aggregated Regression Analysis
Predicting FQHC revenue

Variable	Parameter Estimate
Intercept	62.39
Club Meetings	2.02
Community Projects	73.506
Volunteering	-44.39*
Civic Participation	559.61**
Population > age 65	-.00**
Per Capita Income	-.00**
% blacks	-298.08
Medicaid Generosity	-155.09
Census Midwest	-1.349
Census South	88.45
Census West	26.62
AR^2= 0.16	
F= 4.06**	

N=167. Values represent standardized coefficients.
*p<.05, **p<.01

My findings suggest that communities with greater levels of civic participation experience greater health care safety net capacity through higher levels of FQHC revenue. The modest support for hypothesis 4 indicated by the results of the OLS is consistent with Shoou-Yih et al.'s (2004) findings. The authors found that measures of community participation had no relationship to hospital accountability and were negatively associated with hospital provision of community-oriented services. However, similar to my findings, Shoou-Yih et al. (2004) found a positive relationship between civic participation and hospital community accountability and provision of community-oriented services. It is important to note that in the Shoou-Yih et al. (2004) study, the positive relationship was achieved through interacting civic participation with community representation on hospital boards rather than through civic participation alone.

The positive relationship between civic participation and FQHC revenues is also consistent with the work of Putnam (1993). Putnam (1993) found a positive relationship between institutional performance and community social capital through the use of a composite measure of institutional performance that included local governmental health care spending. Social capital researchers in the health care field speculated that the benefits noted by Putnam may extend from local governmental institutions in general to local health care institutions in particular (Hendryx et al., 2002). By using FQHC financial capacity as a measure of institutional performance, I argue that my findings support Hendryx et al.'s (2002) speculation.

Table 5.7 presents the results of the regression analysis testing the hypothesized relationship between community social capital and FQHC enabling FTE, controlling for other factors. Similar to the model used to test hypothesis 4, the model used to test hypothesis 6 is an aggregated analysis using an OLS regression. Hypothesis 6 posits that FQHCs in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will dedicate greater amounts of human and financial resources to the delivery of enabling services. As I previously indicated, the high correlation between FQHC enabling costs and FTE allowed me to use these measures interchangeably. Although I conducted a regression analysis on both enabling cost and enabling FTE, I only report the results from the enabling FTE model here. This is because the findings from the two models were practically identical. The results reported in Table 5.7 suggest that there is no relationship between community social capital and FQHC enabling cost/FTE. None of the community social capital measures were significant and three of the four measures had negative coefficients. Table 5.7 shows that the significant predictors of FQHC enabling cost/FTE were Medicaid generosity and per capita income.

Most of the variables in the model had very small parameter estimates. This is in addition to the low r-squared of the model (.08), which reflects the weakness of the model in explaining the variation in FQHC enabling costs/FTE. The findings from the ICC discussed in the previous section showed extremely small variation in FQHC enabling costs and enabling FTE both within and between communities. Therefore, Table

5.7 may reflect the fact that was very little variation to explain. Similar to the procedures testing hypothesis 4, I reran the enabling FTE model to control for the number of FQHCs within the community and the geographic location of the FQHC. The model showed that the distribution of FQHC sites among the counties in the study did not bias the estimates. However, it suggested that FQHC sites in the west (as defined by census region codes) dedicated a lower proportion of FTEs to the delivery of enabling services in comparison to the reference group (Northeast). In sum, given the lack of significance of the community social capital variables in the FQHC enabling model, hypothesis 6 was not supported.

Table 5.7, Aggregated Regression Analysis Predicting
FQHC Enabling FTE

Variable	Parameter estimate
Intercept	.023
Club Meetings	.002
Community Projects	-.00
Volunteer	-.00
Civic Participation	-.03
Population > age 65	-1.01
Per Capita Income	.00**
% blacks	-.05
Medicaid generosity	.05**
County uninsured	8.23
Census Midwest	-0.00
Census South	-0.01
Census West	-0.04**
AR^2= .08	
F=2.24**	

N=167. Values represent standardized coefficients.
**p .01

To guard against Type I error and ecological fallacy, I tested the hypotheses again using a random coefficient regression model. This model used individual FQHC rather than county-level variables. In comparing the results of HLM and OLS regression models Kreft (1995) argued that the results of the two models are similar because the fixed effects estimates are unbiased. The main difference is in the standard errors of the parameters thus the HLM model is more conservative than the traditional regression. In comparing the models in my study I am particularly concerned with whether the community social capital variable of civic participation remains significant in the more conservative HLM model.

I used several HLM models to examine the association between community social capital and FQHC safety net capacity. The final model was determined by evaluating the fit of the models as was indicated by the values of the BIC (Bayesian Criterion). In the process of fitting the model, I began with an unconditional means model, which included only the dependent FQHC capacity variable (revenue or enabling FTE). The second HLM model added the independent social capital variables, and the third and final model added the control variables. Consistent with Kreft's (1995) argument, I found that there was little difference between the results of the FQHC HLM and OLS regression models. For FQHC revenue, the last model had the best fit (BIC = 10993.8, N=1015). Similar to the OLS regression model, civic participation had a significant and positive coefficient. For the FQHC enabling FTE model, I found that the HLM results mirrored the OLS

findings in that none of the community social capital variables had a significant association with FQHC enabling FTE.

From the results of OLS and HLM regression models, the hypothesis that FQHC sites in communities with higher social capital experience higher grant revenues cannot be rejected. The significance of civic participation in the OLS and HLM regression models suggest that county voting practices are associated with FQHC grant revenue and thus its ability to provide care to the uninsured. In comparison, the models suggest that community social capital is not associated with FQHC FTE; therefore, hypothesis 6 is not supported. Lastly, the OLS regression models had very modest adjusted r-squareds indicating that the models explained 16 and 8 percent, respectively of the variation in the FQHC capacity variables. This suggests that other factors influence FQHCs' ability and willingness to provide care to the uninsured.

Private Physicians

In this section I present the results of the OLS regression analysis testing the hypothesized relationship between community social capital and private physician charity care, controlling for other factors. The results of the ICC showed that there was no clustering effect in the physician data; therefore, an OLS regression will yield reliable estimates. Following previous research (e.g., Cunningham et al., 1999 and 2005), my regression models included several control variables that have been shown to influence physician charity care. These included physician demographics and health system variables. The variables were included in the final OLS regression models as dummy

variables and are coded as the following: gender (female=1); foreign medical graduate (foreign=1); ethnicity (hispanic=1); race (minority=1), and practice ownership (owner=1). Table 5.8 shows the distribution of the dummy variables in the physician data. The columns show both absolute values as well as the percentage of the sample corresponding to each dummy variable. The descriptive statistics reported in the table show that a large portion of the physician sample was non-minority, male and U.S. trained. In addition, the results indicate an even distribution between owners and non-owners. It is important to note these distributions because of their significance in the OLS regression models used to test hypothesis 5.

Table 5.8, Descriptive Statistics of the Dummy Variables-
Physician Data

Variable	Value=0	Percent	Value=1	Percent
Foreign Medical Graduate	9799	79%	2607	21%
Minority	9903	80%	2503	20%
Ethnicity (Hispanic)	11701	94%	705	5%
Female	9131	74%	3275	26%
Owner	5886	47%	6520	53%

FMG: 0 = Domestic medical graduate training in the U.S. or Puerto Rico;
1= Trained outside of the U.S. or Puerto Rico

Minority: 0 = white/Caucasian; 1= black/African American, Asian, Native
American/Alaskan or other

Ethnicity: 0 = non-Hispanic; 1 = Hispanic

Female: 0 = male; 1= female

Owner: 0 = not a full or part owner of practice; 1 = full or part owner of practice

In addition to creating the dummy variables, I transformed the county total uninsured numbers into percentages to facilitate the interpretation of the OLS parameter estimates. Lastly, all observations that had missing values for any of the independent variables were excluded from the analysis; this resulted in a sample size of 10,112. Table 5.9 presents the results of the regression analysis testing hypothesis 5 which posits that private physicians in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will provide greater quantities of charity care hours.

Table 5.9, OLS Regression Analysis Predicting
Private Physician Charity Care

Variable	Parameter estimate
Intercept	11.25**
Club Meetings	.79
Community Projects	-.49
Volunteering	-.93*
Civic Participation	1.36
Female	-.03
Ethnicity	1.76*
Minority	1.23**
Foreign Medical Graduate	1.16**
Owner	-.16
Percent Managed Care	-.06**
Uninsured	-.42**
Per Capita Income	.00*
% blacks	3.51**
Medicaid Generosity	-.56
AR^2=.017	
F=12.72**	

N=10112. Values represent standardized coefficients.
* p<.05, **p<.01

The results reported in Table 5.9, indicate little support for hypothesis 5. Although the model suggests that civic participation and community participation in club meetings may lead to greater health care safety net capacity through higher charity care hours, these variables were not significant. Two social capital measures had negative coefficients, one of which (volunteering) was significant. Furthermore, the results reported in Table 5.9 suggest that there may be other factors unrelated to community social capital that are better predictors of physician charity care. Three of the dummy variables, ethnicity, race, and foreign medical graduate had significant and positive coefficients suggesting that these physician characteristics were positively associated with the provision of charity care. This is an important issue to consider given the small percentage of these physicians within my sample (Table 5.8), which was designed to be representative of the general U.S. population of physicians. My findings suggest that it may be possible to increase health care safety net capacity through private physician charity care by increasing the number of physicians possessing these particular characteristics. Lastly, two of the health system control variables, percent uninsured and the percentage of physician practice revenue derived from managed care, had significant negative coefficients. The relationship between percent uninsured and charity care raises concerns given the rise in the rate of uninsured that was discussed in Chapter 2. Lastly, the relationship between managed care and charity care was expected given the findings of studies (e.g., Cunningham et al., 2005) previously discussed.

An examination of the distribution of the charity care variable showed that the data were skewed. The mode response was zero; therefore, I logged the charity care variable and used the logged variable in a second regression model. The results of this model were comparable to the unlogged model. All of the dummy variables remained significant with the addition of female and owner becoming significant as well. However, the results in Table 5.10 show that gender and ownership had negative coefficients suggesting that women and owners were less likely to provide charity care. An additional difference in this model was in the direction and significance of the community social capital variables. Similar to the unlogged model, club meetings had a positive coefficient in the logged regression model; however, in the logged model its coefficient was significant. In addition, the direction of the relationship between the social capital variables of volunteering and charity care was unchanged. However, in the logged regression model the relationship between volunteering and charity care was not significant. Lastly, the coefficient of civic participation in the logged model became negative but remained insignificant. Table 5.10 shows the results of the logged OLS model.

Table 5.10, Logged OLS Regression Analysis Predicting
Private Physician Charity Care

Variable	Parameter estimate
Intercept	1.98**
Club Meetings	.06*
Community Projects	-.05
Volunteer	-.00
Civic Participation	-.11
Female	-.06*
Ethnicity	.13*
Foreign Medical Graduate	.12**
Percent Managed Care	-.00**
Owner	-.10**
Minority	.08*
Uninsured	-.03**
Per Capita Income	.00**
% blacks	.31*
Medicaid generosity	-.08
AR^2 .03	
F=17.09**	

N=7064. Values represent standardized coefficients.
* p<.05, **p<.01

Based on the findings from both OLS models, hypothesis 5 was not supported. Most of the community social capital variables were not significant and in some cases had a negative rather than a positive relationship with charity care. Both models suggest that physician demographics are greater predictors of private physician willingness to provide care to the uninsured. Even given their inclusion in the models, the low adjusted r-squared of both regressions reflect the weakness of the models in explaining variation in private physician charity care.

Planned Comparison

R2. Is the relationship between community social capital and community health care safety net capacity contingent upon the operationalization of social capital?

Hendryx et al. (2002) argued that civic engagement reflects the type of broader social context that scholars such as Putnam (1993) and McKnight (1995) view as essential for the development and sustenance of effective neighborhoods and communities. When used as an indicator of social capital it is positively associated with responsive government and service quality (Rice, 2001; Cusack, 1999). The evidence suggests that local political institutional responsiveness to social needs is positively associated with high levels of civic participation (Szreter, 1999; Clegg, 1990; Newton, 1999; Foley & Edwards, 1997). Therefore, hypothesis 3 posits that the strongest positive association between community social capital and community health care safety net capacity is likely to be through the community social capital indicator of civic participation.

The findings of my analysis thus far have showed a largely negative association between community social capital and health care safety net capacity. However, in several cases where positive relationships did exist, civic participation was a relevant variable. In addition, with the exception of the canonical correlation analysis, the coefficients of the civic participation variable have been consistently larger than the other community social capital variables. Although the larger coefficient was apparent, my analyses thus far has not examined whether the differences among the values of the community social capital coefficients were statistically significant. This is the purpose of testing hypothesis 3 using a planned comparison.

Hypothesis 3 tests the difference between correlations to determine whether the association between community health care safety capacity and community social capital is greater through civic participation. I used county-level aggregated data to test this hypothesis. The same basic data manipulations (aggregation and averaging) used to test hypothesis 2 were repeated; however, I did not merge the FQHC and physician data sets. This is because I wanted to maintain the larger sample size in the physician data. I conducted a series of planned comparisons between each of the county-level community health care safety variables and the four community social capital variables. The planned comparison approach is used for two reasons. First, the approach accounts for the lack of independence in the data. The four community social capital indicators are drawn from the same community, thus creating dependency. Howell (2002) argued that any analysis of the data must take into account this lack of independence. The second reason for using the planned comparison approach is that while simple bi-variate correlations indicate the

amount of correlation between independent and dependent variables, they do not indicate whether the differences between correlations are significant. A planned comparison approach indicates the significance of the differences while controlling for nonindependence. The following analysis tests hypothesis 3 and provides an answer to the second research question.

Following Williams (1959) and Stieger (1980), I used the following equation to conduct a series of dependent t-tests for hypothesis testing.

$$t = (r_{12} - r_{13}) \sqrt{\frac{(N-1)(1 + r_{23})}{2 \frac{(N-1)}{(N-3)} |R| + \frac{(r_{12} + r_{13})^2}{4} (1 - r_{23})^3}}$$

where

$$|R| = (1 - r^2_{12} - r^2_{13} - r^2_{23}) + (2 r_{12} r_{13} r_{23})$$

The equation produces a t-value for the difference between two nonindependent rs (Pearson product moment correlations), which are then compared to a critical t-value. The critical t-value is computed using the appropriate alpha and degrees of freedom. In this case, I used the standard $\acute{\alpha}$=.05, which is split among the comparisons (in this case 3) conducted for each dependent variable; therefore, $\acute{\alpha}$ = .0166. The critical t-value for the FQHC sample is 2.41, and the critical t-value for the physician sample is 2.39.

As an example, in comparing the correlation between FQHC revenue and voting with the correlation between FQHC revenue and community projects let

r_{12} = correlation between grant revenue and civic participation
r_{13} = correlation between grant revenue and community projects
r_{23} = correlation between civic participation and community projects

Then

$$|R| = (1- .18^2 - .02^2 - .05^2) + (2) (.18) (.02)(.05) = .96$$

$$t = (.18 - .02) \sqrt{\dfrac{(171) (1 + .05)}{\dfrac{2(171) (.97)}{168} + \dfrac{(.18 + .02)^2 (1-.05)^3}{4}}} = 1.53$$

t= 1.53

The t value of 1.53 is well below the critical t-value of 2.41; therefore, it is not significant. Although this does not support the argument that mean levels of participation in community projects and mean levels of community civic participation are associated with FQHC grant revenues equally, it is consistent with that argument. For each set of planned comparisons, all three values must be greater than the critical t in order for Hypothesis 3 to be supported. Table 5.11 reports the results from the planned comparisons; the critical t values are indicated as well as the t values for each comparison. It is clear from the t-values in each comparison that Hypothesis 3 was not supported in this sample of communities.

Table 5.11, Planned Comparisons Testing the Difference in the Associations between Community Social Capital and Health Care Safety Net Capacity

Dependent Variable		T-values from Planned Comparisons between Civic Participation and other Social Capital Indicators		
	Critical T-Value (Split $p<.05$ $=.016$)	Civic and Club Meetings	Civic and Community Projects	Civic and Volunteer Projects
FQHC Revenue	2.41	1.52	1.07	1.50
FQHC Enabling Costs	2.41	.10	.28	.30
FQHC Enabling FTEs	2.41	.10	.40	.48
Private Physician Charity Care	2.39	1.65	.72	.48

N= 171/181 (FQHC)
N= 1031 (Private Physician)

In sum, the data analysis indicated that the relationship between community social capital and health care safety net capacity was weak. The direction of the association between social capital and health care safety net capacity was mixed. Community social capital was positively and significantly associated through civic participation with FQHC revenue in the zero order correlation and both regression analyses. It was also positively and significantly associated through club meetings with private physician charity care in the logged OLS regression model. However, I found a negative and significant relationship through volunteering in the unlogged OLS private physician model. Lastly, although social capital was positively and significantly associated with FQHC enabling costs in the canonical correlation analysis, none of the social capital measures were significant in the regression models predicting FQHC enabling services resources.

At best, the results of the various analyses lend weak support for a direct positive relationship between community social capital and the financing and delivery of health care safety net services. Furthermore, the results of the canonical correlation analysis showed that the variance shared between the variable sets was small. In addition, the one significant function explained only 11 percent of the observed variation. The adjusted r-squareds of the regression analyses were similarly small, indicating the weakness of the models in explaining the variation in health care safety net capacity across and within communities. Due to these findings many of the study hypotheses were either not supported or weakly supported. Table 5.12 reports the findings of the data analysis in a

summary format and emphasizes their relationship to the study's hypotheses.

Table 5.12, Summary of Data Analysis

Main Study Hypothesis	Data Analysis Findings	Hypothesis Support
H1: There will be significant variation across communities in community health care safety net capacity.	The unconditional means model used to calculate the Intra Class Correlation (ICC) indicated that there was significant variation across counties for all measures of community health care safety net capacity. Variation across counties was significant at the .01 level for all dependent variables in the FQHC and physician data.	Strongly supported
H2. There will be a positive association between community social capital and community health care safety net capacity.	The canonical correlation analysis indicated that one (FQHC enabling cost) of the community health care safety net capacity measures had a positive relationship to three community social capital measures. Two health care safety net variables (FQHC enabling FTE and private physician charity care) had negative relationships to all but one social capital variable. The fourth health care safety net capacity variable (FQHC revenue) was insignificant.	Very Weakly Supported
H3. The strongest positive association between community social capital and community health care safety net capacity is likely to be through the community social capital indicator of civic participation rather than through the indicators of involvement in community associations, community projects, and volunteer activities.	The planned comparisons indicated that the t values of the comparisons were well below the critical t values needed to suggest that there was a significant difference between correlations.	Not supported
H4. FQHCs in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will experience higher levels of grant revenues.	Three of the four community social capital measures had positive relationships to FQHC revenue; however, only civic participation was significant. The fourth community social capital measure, volunteering, had a significant negative relationship with FQHC revenue.	Moderately supported
H5. Private physicians in communities that have higher levels of social capital through	The model suggested that civic participation and community participation in club meetings may	Not supported

Main Study Hypothesis	Data Analysis Findings	Hypothesis Support
civic participation, involvement in community associations, projects and volunteer activities will provide greater quantities of charity care hours.	lead to greater health care safety net capacity through higher charity care hours; however, these variables were not significant. Two social capital measures had negative coefficients, one of which (volunteering) was significant. Furthermore, the results suggested that other factors unrelated to community social capital may be better predictors of physician charity care. Three of the dummy variables, ethnicity, race, and foreign medical graduate had significant and positive coefficients suggesting that these physician characteristics were positively associated with the provision of charity care.	
H6. FQHCs in communities that have higher levels of social capital through civic participation, involvement in community associations, projects and volunteer activities will dedicate greater amounts of human and financial resources to the delivery of enabling services.	None of the community social capital measures were significant and three of the four measures had negative coefficients. The significant predictors of FQHC enabling cost/FTE were Medicaid generosity and per capita income.	Not supported

Additional Analysis

I explored the correlation between the provider behaviors that I found in the community-level analysis more thoroughly in an effort fully understand the practical and theoretical implications. The rationale behind the additional analysis was that the correlations in provider behaviors should mean that provider behaviors within the communities are strong predictors of each other. Thus using provider behaviors as predictors in regression models should strengthen the weak models that were used in the primary data analysis. To explore this possibility, the additional analysis consisted of two different regression models that used provider behaviors and social capital indicators **only** as predictors.

The first model predicted physician charity care. In this model, FQHC capacity and the original county-level community social capital measures of club meetings, community projects, volunteering and civic participation were used as the predictors. A second model was used to predict FQHC capacity using the same community social capital measures and physician charity care as predictors. The regression models that contained only these predictors had r-squareds of .10 and .11, respectively. This is in comparison to the r-squareds of the regression models used in the primary data analysis (.16 for FQHC revenue, and .017 and .03 for physician charity care), which contained substantially more explanatory variables. This analysis indicates that community provider behaviors are indeed strong predictors of FQHC and private physician outcomes. In both models, provider behaviors had positive and significant relationships

with the outcome variable (FQHC revenue or private physician provision of charity care).

These findings have several theoretical and methodological implications that I will discuss in detail in the next chapter. However, in brief, they suggest that the original conceptualization of community social capital used for the primary data analysis may have been too broad. Considering the social capital that exists within the health care community may be a better conceptualization of community social capital in terms of understanding its relationship to health care safety net capacity. In addition, adding provider behaviors to the regression models used to predict uncompensated care would substantially strengthen the explanatory power of the models.

CHAPTER VI DISCUSSION AND CONCLUSIONS

The empirical analysis presented in the preceding chapter provides a partial understanding of how community social capital may influence local health care systems. The empirical analysis suggests that community social capital has both a direct and an indirect association with health care safety net capacity. However, the findings were mixed and, in some cases, contradictory. While these contradictions make it difficult to answer the research questions conclusively, the findings lay the groundwork for future study. They also suggest important implications for theory, policy and practice. This chapter seeks to explain the results of the data analysis in broad theoretical terms. The organization of this chapter is as follows.

First, I will draw upon existing social capital theory to explain the empirical results of this study. In this section I also explain how the study of the financing and delivery of uncompensated health care services by FQHCs and private physicians contributes not only to our understanding of the concept of community social capital, but also its relationship with health care institutional performance. Next, I discuss implications from this study for policy and practice. I discuss implications for community social capital development in low-income minority communities in general, and health care safety net communities in particular. Specific to health care, this section shows how the results of the study can inform the design of future efforts to build community health care safety net capacity. Study results may also inform federal and state policy makers on the relationship between state Medicaid programs and FQHC and private physician

ability and willingness to provide care to the uninsured. Lastly, I will discuss the limitations of this study and future directions for this line of research.

Implications for Social Capital Theory

This study examined the relationship between community social capital and health care in a novel context; that is, it directly assessed the financing and delivery of health care services by community providers. Although studies have examined the impact of social capital on health care resources (e.g., Hendryx et al., 2002; Shoou-Yih et al., 2004), none directly assessed the provision or funding of health care services. Therefore, while the link between community social capital and health care institutional performance had been established prior to this study, the influence of community social capital on health care resources was speculative rather than empirically indicated and supported. In previous chapters I argued that the financing and delivery of health care services to the uninsured most aptly represents the theoretical components of community social capital. Specific to health care, the key objectives of community accountability mechanisms indicative of social capital communities are designed to protect access to care for vulnerable populations and support local health care systems (Steinberg & Baxter, 1998; Hendryx et al., 2002; Ahern & Hendryx, 2003). Consequently, I expected that the financing and delivery of uncompensated health care services would be positively and significantly associated with social capital.

Specific to the first general research question I proposed, I found the following. Overall, the relationship between community social capital and health care safety net

capacity was weak. The results of the canonical correlation analysis showed that the variance shared between the variable sets was small. In addition, the one significant function explained only 11 percent of the observed variation. The adjusted r-squareds of the regression analyses were similarly small, indicating the weakness of the models in explaining the variation in health care safety net capacity across and within communities. This suggests that unmeasured factors were largely responsible for variation in FQHC grant revenue, enabling services resources and private physician charity care.

The direction of the association between social capital and health care safety net capacity was mixed. Community social capital was positively and significantly associated through civic participation with FQHC revenue in the zero order correlation and both regression analyses. It was also positively and significantly associated through club meetings with private physician charity care in the logged OLS regression model. However, I found a negative and significant relationship through volunteering in the unlogged OLS private physician model. Lastly, although social capital was positively and significantly associated with FQHC enabling costs in the canonical correlation analysis, none of the social capital measures were significant in the regression models predicting FQHC enabling services resources. At best, the results of the various analyses lend weak support for a direct positive relationship between community social capital and the financing and delivery of health care safety net services. However, given the ambiguity of the findings, I would argue that a clear picture of the relationship has yet to emerge.

A full interpretation of the findings suggests that the analytic design of this study should be modified. It is likely that when designing an analytic model to test the association between community social capital and health care safety net services, social capital may be better modeled as a mediating variable rather than as a direct effect independent variable. This is because I found a consistently positive and significant relationship between community social capital and Medicaid generosity and a negative and significant relationship between social capital and uninsurance. It is likely that these relationships influence the financing and delivery of health care safety net services by community providers. A small caveat is needed here. This study adopted a narrow definition of the health care safety net. In actuality, the health care safety net includes public insurance programs (i.e., Medicaid, SCHIP) as well as uncompensated health care services delivered by various community health care providers. Therefore, the findings from this study can support the argument that there was a positive direct association between community social capital and health care safety net capacity.

The basic argument in the dissertation is that communities with more connections should be more generous toward the poor. Similar to the provision of uncompensated care by community providers, increasing the ability of Medicaid programs to serve the poor aptly represents the theoretical components of community social capital. Furthermore, it is possible that the presence and generosity of public insurance programs focused toward increasing the poors' access to health care is indicator of community social capital itself. This is because these types of programs are evidence of a

community's collective orientation toward taking care of one another that, among other things, results in political will to care for the community's most vulnerable members. It should be noted that the ability to set the parameters for the Medicaid program are at the state level not at the county level. However, previous research (e.g., Hopcroft, 1998) has shown that county-level behaviors can indeed have an influence on state-level policy frameworks. Therefore, although it is likely that many other factors determine the generosity of state Medicaid programs, it is possible that community-level social capital has a "spill-over" effect on state-level programs such as public insurance programs for the poor. In a practical sense, increasing the rate of insurance through broader Medicaid programs is of greater benefit to individuals and health care organizations than solely increasing safety net capacity through the financing of uncompensated health care services.

In adhering to the operationalization of health care safety net capacity used in this study, the relationships among social capital, Medicaid and uninsurance point to a plausible indirect positive relationship between community social capital and health care safety net capacity. It is likely that increased Medicaid generosity decreases the number of uninsured, and therefore, the apparent need for the financing and delivery of uncompensated care in higher social capital communities. Logically, this would explain the negative associations between the community social capital and health care safety net capacity measures in the data analysis. This interpretation of the study findings is consistent with an institutional approach to social capital, an element of which is

concerned with the interactions between state and civil society that are focused toward economic development.

In the case of this study, it is possible that social capital influenced Medicaid policy, which then provided Medicaid insurance to low-income individuals and Medicaid dollars to organizations serving Medicaid enrollees. The findings emphasize the need to use an institutional framework in social capital research. This is because conceptualizing social capital within social, political and organizational institutional frameworks explains the influence that social norms have on health care policy and material resources, such as health care financing and service delivery by community providers. The flow of activity that I have described is consistent with the pattern of action prescribed by the institutional embeddedness social capital (IESC) framework developed for this study. Within the IESC model, social concerns and intentions influence political infrastructures and policies, which then provide political power and economic resources to individuals and organizations (Keohane, 1988; Kratochwil & Ruggie, 1986; Krasner, 1988).

FQHC sites

In this study, community social capital was not a consistently significant factor in predicting the delivery of uncompensated health care services by FQHCs or private physicians. More specifically, findings from the regression models showed that FQHCs provided enabling services and certain private physicians provided charity care regardless of local social institutional frameworks: high or low social capital. Furthermore, the

canonical correlation analysis showed a negative association between FQHC grant revenue and enabling services, which suggests that FQHCs provided enabling services despite organizational economic constraints. In addition, the canonical results showed that the amount of FQHC financial resources directed toward the provision of enabling services was positively associated with community social capital even though FQHC revenue and private physician charity care were not.

The findings from the FQHC enabling services analyses are consistent with McAlearney (2002) who found that in spite of declining FQHC revenues in recent years, FQHCs have increased rather then decreased their provision of enabling services. This increase was associated with the increase in financial support that FQHCs were drawing from alternative sources specifically, the community. This suggests that perhaps a better understanding of the connection between the provision of enabling services and social capital may be found through an examination of the specific ties between the FQHC and community members. For example, an examination of the institutional ties that may exist between the FQHC and philanthropic organizations via the FQHC governing board. In terms of variation in FQHC enabling services, I found that there was little variation in the provision of enabling services across and within communities. And although within community variation indicated that organizational choice should still be considered, the small amount of within community variation showed that the behavior of the FQHC population was consistent with normative expectations and FQHC organizational

mission, which is to provide services that are intended to make health care more accessible.

Although community social capital appeared to have no significant influence on FQHC provision of enabling services directly, it is possible that local community behaviors may have influenced financial sources of support for their provision. It is important to remember here that the broad model developed for this study argues that there is a relationship between social context, health care institutional frameworks and organizational and individual behaviors. In the regression models, Medicaid generosity was a significant and positive predictor of FQHC enabling services. Although it is likely that community social capital did not increase FQHCs' provision of enabling services directly, community social capital through civic participation influenced health care policy to provide increased safety net economic resources in the form of Medicaid. These increases in economic resources influenced FQHC behavior and helped them to fulfill their missions.

Consistent with Hopkins (1998), these findings would indicate that local-level ideology and behaviors can indeed shape broader institutional policy environments which then facilitate behaviors at the local-level. Moreover, my findings are consistent with previous studies in the health care field that indicated that community social capital influences the local institutional environment constraining and empowering health care institutions to fulfill their missions (Luke & Walston, 2003; Ahern & Hendryx, 2003; Steinberg & Baxter, 1998; Lichello & Madden, 1996). The regression findings are not

only consistent with previous studies (e.g., Shin, 2002) that found that FQHC participation in Medicaid managed care increased FQHCs' provision of enabling services but they are consistent with the hypothesized relationships in the conceptual framework developed for this study. Because the scope of the dissertation research did not allow for the testing of the whole IESC framework, the findings discussed here indicate that the next step in this research should be to test the relationship between the political institutional framework (i.e., health care policy) and organizational behavior and outcomes. For example, a future study would examine the relationship between health care policy, such as the structure of Medicaid programs, and organizational behaviors and outcomes. The study could then link health care policies and organizational outcomes back to local social context in order to empirically test all of the hypothesized relationships in the full IESC model.

As previously discussed, institutional theory places an emphasis on organizational conformity to institutional dictates and downplays the role of organizational agency. Social capital theory provides a useful counterbalance to institutionalism because social capital theory recognizes the importance of institutional structure while emphasizing organizational agency in shaping institutional frameworks (Munatner et al., 2000). The relationships among civic participation, FQHC grant revenues, and Medicaid generosity have implications for organizational action. Although my data do not allow for a full understanding of individual organizational involvement in shaping the political institutional environment (i.e., civic participation), the embeddedness perspective adopted

by this study allows for the assumption that organizations are part of the process as a consequence of their embeddedness in the community. In other words, although I am unable to directly measure the political activity of each FQHC or private physician, the embeddedness perspective recognizes that health care providers act as both members of their respective organizations and the larger society. This means that they assume multiple roles in the community's social, political and organizational institutional environments and, therefore, community-level behaviors such as civic participation would necessarily include FQHC organizational members and private physicians. In addition, the grassroots organizational structure of FQHCs results in a profound linkage between the organization and the community, thus further supporting this study's assumption that FQHCs are a part of the political institutional shaping process as a consequence of their location within the community.

The relationship between community civic engagement and responsiveness of political institutions to social needs is especially important for low-income communities and organizations embedded within them. While community associational activity is important, community social connectedness by itself has no utility unless health care organizations that serve the poor are connected to economic and political resources (Difillipis, 2001; Saegert et al., 2001). This study addressed organizational outcomes at two levels of analysis thus making a unique contribution to the social capital literature. By conducting analyses at both the community-ecology and individual levels, my findings showed that the full population of FQHCs within communities as well as

individual FQHCs benefited from community social capital. Specifically, I found that civic participation was a significant and positive predictor of FQHC grant revenue in the aggregated and individual-level regression models. And as previously discussed, both the population and individual FQHCs benefited from more generous state Medicaid programs. Thus my findings support Coleman (1998) who argued that social capital is both a collective and individual benefit.

Private Physicians

In the regression models I found that private physician charity care was predicted by provider characteristics specifically, physician race and ethnicity rather than community-wide characteristics such as levels of social capital. Similar to FQHCs' provision of enabling services, this finding points to conformity to normative expectations or a commonly held belief system; however, without further qualitative data on physicians' decisions to provide charity care it is difficult to explain why racial/ethnic minority physicians were more likely to provide charity care. Social network theorists argue that people tend to associate with others who are similar. There are many bases upon which people can choose similar others, most common are demographic factors such as sex, ethnicity, religion and age (Kildruff & Tsai, 2003). These associations are helpful in evaluating one's ideas and serve to influence behavior. The fact that racial/ethnic minority physicians are more likely to establish medical practices in communities with higher proportions of minorities (AMA, 2006; Polsky et al., 2002) supports the homogeneity argument. If located in racially and ethnically homogenous

communities and/or social networks, it is plausible to speculate that these physicians are complying with the shared ideology of similar others.

A consistent finding in this study was that racial and ethnic minority physicians (e.g., African Americans, Hispanics and foreign medical graduates) were more likely to provide charity care. This finding was somewhat consistent with previous health services research (e.g., Cunningham et al., 2004) that found that minority physicians, including African Americans and Hispanics, were more likely to accept Medicaid patients compared to white physicians. Therefore, it is possible that for racial/ethnic minority physicians, commonly held beliefs regarding issues such as social justice, and equitable access to health care in particular, is fundamentally cultural and based on past experiences of systematic discrimination or social injustice. Selznick (1957) argued that individuals within organizations act as wholes with extra-organizational commitments and roles that constrain organizational rationality. One can certainly argue that the provision of charity care in the current efficiency focused health care environment is non-rational.

Community-Ecological

In the community-level analyses I found that private physician charity care was positively associated with FQHC provision of uncompensated care. Since charity care and uncompensated care are synonymous terms, this finding points to a shared ideology among community providers. Although I could not explicitly attribute the correlated behavior to community social capital, I can attribute it implicitly by using the logic of

social capital. It is likely that providers build social capital as they follow each other's behaviors or, in theoretical terms, comply with the shared ideology. Although they do not use the term social capital, Steinberg and Baxter (1998) argued that such compliance becomes a resource for health care providers. In effect, providers accumulate obligations according to the norms of generalized reciprocity when they comply with a shared ideology. This rationale transforms the seemingly irrational act of compliance to a shared logic of charity care provision into a very rational one.

Toward a Special Theory of Community Social Capital

In the previous chapter I explored the correlation between the provider behaviors that I found in the community-level analysis more thoroughly in an effort to fully understand the theoretical implications. The rationale behind the additional analysis was that the zero order correlations in provider behaviors should mean that provider behaviors within the communities are strong predictors of each other. Thus, using provider behaviors as predictors in regression models should not only strengthen the weak models that were used in the primary data analysis but, it may also suggest a more effective way of applying the theoretical concepts of community social capital. In other words, since I found a weak relationship between community social capital and health care institutional performance using a general theory of community social capital in which macro-level connections and behaviors are expected to influence embedded actors, it is possible that a special theory of community social capital is needed to explain its relationship to the behaviors and outcomes of institutionalized actors, particularly those within the health care field. Such a theory would consider 1) the implications that connections and

behaviors within the community of health care providers have for provider behaviors and outcomes; and 2) the highly institutionalized nature of the health care field and the implications that this has for health care providers. Augmenting the theory in such a way is consistent with the self-correcting process of theory development.

Reconceptualizing "Community" in Social Capital Theory

The additional analysis conducted in Chapter 5 consisted of two different regression models that used provider behaviors and the original community social capital indicators **only** as predictors. This analysis indicated that community provider behaviors are indeed strong predictors of FQHC and private physician outcomes. In both models, provider behaviors had positive and significant relationships with the outcome variable (FQHC revenue or private physician provision of charity). In terms of their theoretical implications, these findings suggest that the original conceptualization of community social capital used for the primary data analysis that resulted in weak explanatory models may have been too broad. The predictive power of provider behaviors suggests that considering the social capital that exists within the health care community may be a better conceptualization of community social capital in terms of understanding its relationship to health care safety net capacity.

Coclough and Sitaraman (2005) argued that there are communities "of place" (defined by geographic boundaries) and communities "in place" (defined by common experiences, identities, etc.). Health care communities can be considered communities "in

place"; and as such, are linked to distinctive social capital networks and resources. In considering the findings from my additional analysis it is likely that a more nuanced conceptualization of community social capital is needed. A more nuanced conceptualization would use a community social capital framework that considers communities "in place" (e.g., the health care community) rather than communities "of place" (e.g., county-level social capital) in an analysis assessing the relationship between community social capital and health care service delivery.

In a more general sense, my analysis suggests that geographically defining community may not be an appropriate way of applying social capital theory in any analysis that assesses individual or organizational outcomes regardless of the particular field of study. As this study has shown, models that assess the influence of geographically defined communities on individual and organizational behaviors simply do not have the explanatory power that a more distinctly defined community conceptualization may have. It is doubtful that this nuanced conceptualization of community is only applicable within the health care field. But rather, it is likely that understanding the influence of social networks on organizational and individual behavior requires a deeper understanding of how an organization or an individual has carved out their social network in terms of who they consider their particular community to be.

Social Capital in Institutionalized Organizations

It is possible that a general theory of community social capital may not be useful for understanding the relationship between social capital and the behavior of highly institutionalized organizations such as those within the health care field. I say this because a general theory of social capital emphasizes the influence that social connections may have without making a distinction among those connections (other than distinguishing between bridging or bonding ties (Lin, 1999; Putnam, 2000)). The literature indicates that the nature of social connections is crucial to shaping the institutional environment of organizations operating within highly institutionalized environments (e.g., Moe, 1987; Felix et al., 2002). Likewise, although not tested in the empirical analysis, the conceptual framework developed for this study considers social connections among actors in the political, social and organizational institutional environments as the key to shaping institutional arrangements. For example, safety net providers must be responsive to many elements within their institutional environments including federal BPHC and federal and state Medicaid regulatory requirements, local client needs, and even donor expectations (particularly for FQHCs). Developing social connections to actors within these institutional environments conditions organizational behaviors and outcomes (Burt, 1992; Bigelow & Stone, 1995).

In this study's empirical analysis, I applied a general theory of community social capital to individual and organizational behavior in that special consideration was not given to institutional connections. However, it is possible that the weak findings of this study resulted from not considering the special nature of institutionalized organizations

and the importance of institutional social connections. For example, this study could have included an examination of the relationship between institutional connections and organizational behaviors and outcomes in the empirical analysis. This would have established a firm connection between institutionalized organizational behavior and social capital. At present, this connection is missing and may have been the cause of the study's weak findings. In sum, the findings produced from applying a general theory of social capital rather than a special theory that considers institutional connections, suggests that a general theory may lack the specificity needed to fully understand the relationship between social connections (social capital) and the behavior of institutionalized organizations. This is an area of concern that was not adequately explored in this dissertation and will require future study.

Community Social Capital Measurement

An important contribution of this study to the social capital theory literature is in the area of measurement/operationalization. By examining the direction and strength of the relationship between various commonly adopted operationalizations of social capital and institutional outcomes this study seeks to clarify this relationship. This is necessary because the findings from previous studies (e.g., Pierce et al., 2002; Hendryx et al., 2002) use composite rather than individual measures of social capital, which obscures the relationship somewhat. It is important to note that in the following section I discuss how community social capital has been measured without making a distinction between the "in place" and "of place" community conceptualizations.

Waldstrom (2003) argued that issues of measurement have been one of the most serious challenges to the theoretical advancement of social capital. Whether researchers should combine measures of social capital that may have distinct concepts is an issue that warrants attention but has not been widely addressed. Although most of the extant social capital theory literature indicates a positive relationship between social capital and various health care related outcomes, contradictory findings within the literature exist as a result of disparate measures of social capital. Specifically, there are conflicting findings about the level of social capital within the U.S. (e.g., Putnam, 1993; Paxton, 1999), and more importantly for this research, its impact on communities and health care providers (e.g., Hendryx & Ahern, 2003; Shoou-Yih et al., 2004). Previous studies have used composite measures of social capital by combining indicators that ranged from voting participation to psychosocial measures of trust in others and in government (e.g., Hendryx et al., 2002; Pierce, et al., 2002). Although the broad ranges of measures are consistent and indicative of community social capital, the use of composite measures obscures the relationship between specific community social capital indicators and outcome variables, and therefore, the analytic value of a particular indicator within a study's analytic framework.

Specific to the second general research question I proposed, I found the following. In the regression models and zero-order correlations used for this study, the coefficients for civic participation were the highest among the social capital indicators. This appeared to indicate that among all the social capital measures, civic participation had the strongest association with community health care safety net capacity. However, the planned

comparison testing the differences among the associations showed that the differences were not significant. Therefore, it is likely that the association between community social capital and health care safety net capacity is equal across disparate measures of social capital.

This has two theoretical and methodological implications. First, the lack of a significant difference in association would indicate that all measures of social capital have an equal influence on community health care safety net capacity. And second, the use of composite measures of social capital rather than separate measures appears unlikely to confound the effects. Nevertheless, my findings from the planned comparison must be balanced with the findings of the regression models. Unlike the other social capital measures, civic participation was a significant predictor of FQHC revenue in both the OLS and HLM regressions. In addition, the correlations between civic participation and club meetings, community projects and volunteering (.23, .30, .35, respectively) raised little concern about multicollinearity and suggests that civic participation is measuring a distinct concept.

One practical implication should be noted. The limited human and financial resources of safety net providers obliges managers to allocate resources sagaciously. Social capital development requires precious human and economic capital investments. If managers can clearly see the potential returns from an investment in each particular social capital activity, they are better able to make sagacious resource allocation

decisions. For example, in this study's regression analysis civic participation was a positive and significant predictor of FQHC revenue while community associational activities were not. Consequently, FQHC organizational managers may choose to invest more resources in civic activities such as voting registration drives versus community associational activities such as hosting a community street fair.

The same rationale can be used in the public arena as policy makers and public managers are responsible for efficiently allocating and managing limited public resources. Within the institutional social capital framework it is important to consider how the state cooperates with civil society to foster economic development via interaction between private and public institutions, legal and democratic systems and citizen rights (e.g., Woolcock, 1998; Clegg, 1990; Foley & Edwards, 1997). Similar to the private sector, if policy makers and public managers are able to clearly see which interventions/interactions are most likely to foster economic development, they are better able to act efficiently and effectively. Therefore, I would argue that testing measures separately in a regression model as I have done in this study has a very practical benefit.

<div align="center">Implications for Policy and Practice</div>

Understanding the proper measurement and conceptualization of social capital, the community-ecological and individual benefits, and the causal pathway (direct and mediating effect) that it may take in influencing health care institutional outcomes are important contributions made by this study to the social capital theory literature. This

understanding also has implications for building community social capital in communities "of place" and "in place". The open systems approach adopted by this study emphasizes that organizational systems are embedded in the environments in which they operate (Scott, 1998). Using this perspective, it would follow that in order to understand organizational outcomes it is necessary to understand the context of the organization's environment. Consequently, I begin the following section by discussing the implications of this study for low-income minority communities. Keeping in mind that it is within this community context that FQHCs are most likely located and where private physician charity care will be needed the most. I end the section by discussing health care safety net capacity.

Social Capital Development

I found significant and negative correlations between blacks and the social capital indicators used in this study. Because my data analysis indicated that, in some cases, social capital was a significant predictor of health care institutional outcomes, community social capital development clearly has practical and political implications for FQHCs and private physicians located in communities with high proportions of minorities. Consistent with my findings, qualitative studies have found that minorities often do not participate in mainstream social capital building activities specifically, mainstream community associations. This is partly because minorities do not believe that these organizations and related activities truly represent their interests (Difillipis, 2005; Campbell & McLean, 2002). An institutional approach to social capital sees a role for formal institutions in the

creation of an environment conducive for minorities' inclusion in social capital development activities. Specifically, the formulation of policies that reduce income and racial inequalities that contribute to inequalities in individual, organizational, and community socioeconomic status and quality of life. Reducing these inequalities encourages social cohesion, which is key to social capital development (Lomas, 1998; Whitehead & Diderichsen, 2001; Lin, 1999).

The "in place" and "of place" conceptualization of social capital is highly relevant for communities with high proportions of vulnerable populations. I say this because ethnographies suggest that as minorities are unable to develop social capital in the larger community ("of place"), they develop social capital amongst themselves thus creating communities "in place" (Stack, 1974, Campbell & McLean, 2002). However, these social networks often contain only bonding ties and thus the network contains little economic or political resources (Difillipis, 2005). Again, the role of policy is in infusing social connections with resources. Some within the health care and community development field fear that policy makers will use the current interest in social capital development as an "easy way out" of investing in more traditional poverty alleviation strategies (Saegert et al., 2001). Therefore, this study seeks to emphasize that social capital development or rather encouraging social connections among individuals and organizations within the community is not a substitution for effective public policies focused toward economic development.

The "in place" and "of place" conceptualization of community creates complexity in the methods of social capital development and the subsequent implications for policy and practice. Once policy makers and community leaders adopt a conceptualization of community social capital that recognizes the existence of the dual communities, policies and practices must be developed to 1) invest social, political and economic resources into the communities "in place"; and, 2) build connections between the "in place" communities and the larger community. Such connections will allow individuals and organizations to diversify their social network structures. This is an important step because network structures condition individual and organizational outcomes (Burt, 1992). Specific to organizations, a diversified structure provides greater access to resources and it is helpful for maintaining a balance between over and under-embeddedness (Burt, 1992; Uzzi, 1997). In addition, developing optimal social network structures is a calculative and strategic process useful for influencing the institutional environment and drawing needed resources. Although organizational managers must take a proactive position, the role of political institutions (i.e., health policy) in the process is still critical. This was evidenced in the associations that I found among FQHC revenue, enabling services, Medicaid and community social capital.

The relationships that I found among provider behaviors challenged this study's original conceptualization of community social capital and indicated that health care providers should be considered a community "in place." Consistent with the policy recommendations discussed above, it may not be enough for community leaders and

policy makers to encourage the development of social capital in the larger community without concurrently encouraging the development of social capital within the health care community, the community "in place." Encouraging relationships among community providers has frequently been done through federal funding initiatives such as community access program grants that require collaboration among health care providers in order to qualify for funding (http://www.bphc.hrsa.gov). Another possible strategy for increasing collaboration may be through the establishment of FQHCs within communities.

I have discussed how health care provider behaviors were correlated (i.e., FQHC behaviors with those of private physicians and behaviors among FQHCs). Previous studies suggested that a practical way to build social capital within and between the health care community and the larger community is through the establishment of an FQHC. Felix et al. (2000) suggested that the very existence of an FQHC in the community is indicative of the social cohesion that is characteristic of community social capital. Following Saegert et al. (2001) who argued that community organizations serve as mediating structures for the development of social capital, Felix et al. (2000) argued that FQHCs foster the key components of social capital in the larger community (civic participation, trust, and networks).

Empirical findings from this study speak to the relationship between FQHCs and the social capital of the community "in place." Although these findings are consistent with the argument that FQHCs may foster collaboration within the health care

community, they do not address whether placing FQHCs in communities encourages community-level social capital. My primary and additional data analyses clearly indicated synergy among FQHCs and between FQHCs and private physicians in increasing community health care safety net capacity. In fact, the mean hour of charity care per private physician was slightly higher (8.9 versus 7.9) in communities that contained an FQHC in comparison to the full sample of communities in the physician data set. There are two points that may be made in this regard: 1) it may be possible to build health care safety net capacity by developing social capital within the health care community; and 2) social capital may be encouraged through the establishment of an FQHC. The current Bush administration has adopted a policy stance that is focused on FQHC establishment and expansion. In fact, federal support for health centers has grown over 50 percent in the past 4 years, which has resulted in the establishment or expansion of 600 health centers nationwide (KFF, 2005). However, the sole purpose for FQHC capital development is to increase access to health care for the poor and uninsured rather than the simultaneous development of community social capital.

Organizational Social Capital Development

Although federal spending on the health care safety net increased by 15 percent between years 2001 and 2004, when adjusted for the increase in the uninsured, federal spending per uninsured person decreased by 8.9 percent (KKF, 2005). As a result, FQHC administrators are increasingly diversifying their resources and turning to the community for support (McAlearney, 2002). Previous studies (e.g., Bigelow & Stone, 1995;

Steinberg & Baxter, 1998; Felland et al., 2003) have found that communities are a source of support for FQHCs. In the IESC framework developed for this study, organizations are active participants in designing and drawing resources from their environments through the strategic development of social relationships within the community. In line with the "in place" and "of place" community conceptualization, FQHC organizational strategic action should be undertaken at both levels.

At the health care community level, organizational actors may strategically invest and mobilize resources in their immediate social networks. Investments are made through compliance with the ideology among health care community members. However, actors are not passive but active participants in creating and recreating the shared logic. My regression findings showed that provider behaviors were significant predictors of each other thus suggesting that compliance to shared ideology may be occurring. Greater private physician charity care was associated with greater FQHC capacity and furthermore, physician charity care was greater in communities that contained an FQHC. It appears that collaborative behaviors not only help FQHCs achieve their mission of serving the poor and uninsured but it increases access to care for community members. Previous studies (e.g., Felix et al., 2000) and my empirical findings suggest that FQHCs can be catalysts for the development of social capital within the health care community, and that this social capital increases health care safety net capacity.

Since I found a direct and indirect positive relationship between county-level community social capital and FQHC institutional outcomes, it follows that FQHCs

should seek to develop social capital in the wider community as well. At this level, organizations may strategically engage in community-wide interventions to build social capital (Peterson, 2002; Lomas, 1998). Among other things, community health care providers can provide opportunities for community members to develop and strengthen social ties, define common goals, and develop a sense of shared power (Saegert et al., 2001). Examples include the existing FQHC practice of including community members on organizational governing boards. Additional methods may include provider participation in professional and recreational community associations, volunteerism, and providing physical space for community activities. My findings from the regression analysis suggest that among disparate social capital activities, civic participation is an important activity to encourage. Community social capital through civic participation improves government performance to the extent that it makes citizens sophisticated consumers of politics (Coffee et al., 2005). Consequently, citizens become more active and effective in demanding socially responsive government, in this case, better Medicaid programs and increased funding to FQHCs.

I have already presented a policy approach to social capital development based on my findings. However, my findings also inform federal and state policy makers on the relationship between Medicaid policy and FQHC and private physician ability and willingness to provide uncompensated care. They also speak to the relationship between the financial constraints of private physicians and charity care. I found that Medicaid generosity was positively associated with FQHC enabling services and negatively associated with FQHC revenue and private physician charity care. Although I argued that

increased Medicaid generosity was ultimately beneficial to individuals and FQHCs, funding for uncompensated care should not be abandoned. It is important to note that even as Medicaid expands insurance coverage to low-income populations, there remain populations of individuals without access to any type of insurance, public or private. For example, Pennsylvania has developed innovative programs, such as the Adult Basic Care program, that expand public insurance coverage among previously uninsured populations. Although these programs have helped Pennsylvania achieve one of the lowest uninsurance rates in the nation, the average uninsured rate during 2003 and 2004 was 11.7 percent. This was a slight increase from an average of 11.4 percent during 2002 and 2003. Even with expanded insurance programs, Pennsylvania had about 1.4 million people without health insurance during the most recent two-year period for which statistics were available (Levin & Snowbeck, 2005). Pennsylvania is not unique in its rising uninsured population. This justifies the need for federal and state health care policies to maintain or increase funding to FQHCs that shoulder a great deal of the uncompensated care burden. It is also important that they encourage collaboration among health care safety net providers in an effort to distribute the burden more evenly.

Federal and state policy makers must also remain aware of the impact of economic constraints on private physician charity care. I found that managed care participation and practice ownership were negative and significant predictors of private physician charity care. Economic constraints such as these are thought to compromise physicians' ability to act in the best interest of the patient. Such institutional pressures have influenced the character of health care professionals; specifically, their loyalties,

commitments and perceptions of their ethical obligations to patients and providers (Morreim, 1995; Pellegrino, 1989; Rodwin, 1993; Spencer et al., 2000). In comparison to economic institutional pressures, I found that social institutional pressures were an equally strong influence on charity care. Therefore, policies directed toward increasing the racial and ethnic diversity of the physician workforce may be a viable method of increasing health care safety net capacity through private physicians.

<div align="center">Study Limitations</div>

Many of the limitations of this study resulting from its research design and data source limitations were discussed in Chapter 4; however, I provide a brief discussion of them here. The first limitation is a direct consequence of the study design. Although a cross-sectional study design is quite common in social sciences research, this approach threatens internal validity due to history problems. The study measures community social capital in years prior to community health care safety net capacity to allow for temporal order within the study's analytical model. However, the study measures community health care capacity at one point in time without prior data to establish FQHC grant revenues, enabling services and private physician hours of charity care that may have existed prior to existing levels of community social capital. Therefore, the findings from the analysis of the UDS and CTS data can suggest associations between community social capital and community health care safety net capacity but does not demonstrate causality. Although the sources from which the social capital data for this study were drawn contained stable data across years, the reasons for choosing a cross-sectional study

design rather than a longitudinal approach were primarily based on concerns related to data consistency across years in the UDS and CTS data files.

UDS, CTS and DBB data quality concerns contribute to this study's limitations as well. The UDS provides tabulated information for the health center at the grantee-level and are not at the health center site-level. Therefore, in this study, FQHC resources were averaged across health center sites. Since they are not exact figures, they are somewhat imprecise measures of site grant revenues, and human and financial enabling resources. This study used FQHC grant revenue as a surrogate measure of FQHC provision of uncompensated care. This was because FQHCs do not report the actual amount of uncompensated care that they provide. Although the use of this surrogate measure followed previous studies (e.g., Shin, 2002) and appears to have construct validity, the use of surrogate measures rather than actual service delivery data is still a study limitation that should be noted.

Also pertaining to FQHCs is the use of enabling financial and human resources as an indicator of the amount of enabling services that the FQHC provided. Although FQHCs do report actual encounter data, it is reported at the grantee-level. Extrapolating this data to the site-level would have been highly arbitrary and imprecise in comparison to extrapolating resources. Similar to the use of surrogate measures for the provision of FQHC uncompensated care, the use of enabling resources rather than actual service delivery is a study limitation. Another area of concern that should be noted is that

community need for enabling services was not fully controlled for due to lack of data. It is likely (and very well should be) that the amount of resources directed toward enabling services is a function of community characteristics that I was unable to control for. For example, among my sample of FQHCs, those in communities with higher percentages of community members who use English as a secondary rather than a primary language would likely direct a greater amount of resources toward language translation services. Although I am somewhat concerned that I was not able to control for community characteristics that would result in fluctuations in resources directed toward individual types of enabling services, it is less troublesome given the fact that the study did not examine the relationship between social capital and resources directed toward individual enabling services, but rather enabling services as a whole.

The dissertation includes a convenience sample of FQHC sites to which county-level data from the CTS secondary files could be matched. This approach may have introduced selection bias; however, it should be noted that sites included in the CTS underwent a rigorous selection process to ensure diversity by region and size. The health care safety net capacity variables were also compromised due to the limitations in the private physician data. The CTS Provider Survey does not report the location in which the physician respondent provided charity care; therefore, it is possible that some physicians delivered care within a community health center setting. Consequently, levels of health care safety net capacity may have been overestimated in this study.

DBB data quality issues stem from the fact that the DBB data are not drawn from a truly random sample, which introduces selection bias. Survey responses came from less than one percent of racial and inner city residents in comparison to 5-10 percent from middle aged, middle class households. The decision to use these data for the dissertation was based on studies that found these data to reliably represent the trends in American society (Putnam, 2000). Another issue of concern with the DBB is that of misplaced precision. The DBB data do not capture the depth or nature of involvement in each of the activities (club meetings, community projects and volunteering). Thus, only considering the *number* of times that one is involved in community activities may lead to overestimation of the effect.

The need for qualitative data is paramount as a major concern in this study is that the quantitative measures do not accurately capture the essence of social capital's social interaction aspect; therefore, the study's findings should be viewed with caution. For example, I have not conducted an indepth examination of the social interactions among community members, FQHC, and private physicians to understand how these interactions may have influenced my findings. Although not as generalizable as larger-scale quantitative studies, smaller qualitative studies often reveal contextual information useful for interpreting quantitative findings. Due to the potential problems related to data quality and the cross-sectional research design, the findings from this study can only be considered as suggestive rather than causal.

In addition to study design and data quality issues, the broader limitations of this study are related to social capital theory's theoretical immaturity. There is a great deal of discussion throughout the social capital literature about the unclear distinction between social capital indicators and outcomes. For example, in his study of Italian communities Putnam (1993) used the presence of civic organizations as an indicator of social capital. He found that democracy was facilitated by high civic engagement *and* high civic engagement was facilitated by democracy. So while democracy is an outcome of civic engagement, civic engagement is an outcome of democratic communities. His findings have drawn much criticism (e.g., Paxton, 1999; Portes, 1998) due to the tautology of his argument. In addition, scholars such as Portes (1998) argued that as a property of communities and nations rather than individuals, social capital then becomes both a cause and effect. Similarly, Paxton (1999) argued that civic engagement is an outcome rather than an indicator of social capital (Paxton, 1999).

This dissertation research is subject to similar criticisms because it follows Putnam's conceptualization and measurement of community social capital. Moreover, by using the community-level of analysis this study made assumptions about the social behaviors, networks, and social capital resources of community members, private physicians and FQHCs that in all fairness may not actually exist. The assumptions made by this study are consistent with previous studies that examined the benefits of social capital to individuals and organizations (Coleman et al., 1966; Coleman & Hoffer, 1987; Gabbay & Leenders, 2002); however, the appropriateness of aggregating individual-level

behaviors to arrive at the community-level level of analysis is a theoretical issue that has been debated and has yet to be resolved in the social capital literature (e.g., Portes, 1998; Newton, 2001). Because of this debate, some may view the aggregation of individual-level behaviors as inappropriate and, therefore, I have included it here as a study limitation.

One of the primary arguments of this study is that social context is the dominant force in shaping congruent political and economic institutional frameworks. And, as the dominant force it is the social context of the environment that ultimately determines organizational behavior. However, in order to make a truly convincing argument the study must control for all of the other factors that can determine organizational behavior including organizational leadership, local health care policies, and resource constraints. Although the study controlled for many potential causes of organizational behavior/action, it is virtually impossible to control for all potential confounders outside of a controlled environment. Study resource constraints and data limitations precluded my ability to control for all of the organizational and institutional characteristics that are likely to have influenced charity care provision. For example, it would have been beneficial to have controlled for local indigent care programs and FQHC senior administration philosophies; however, these data were not readily available. Also in relation to data availability, I believe that the study's inability to establish a direct relationship between social capital and many of the health care safety net capacity indicators was due to the lack of more descriptive social capital data in smaller

geographic units. Although a disappointing result and certainly a limitation of this study, this can be rectified in future studies as more and better quality social capital data becomes available.

Future Directions

In this chapter I have discussed the study findings in broad theoretical terms and drawn implications for policy and practice. However, the contradictions that make it difficult to answer the research questions conclusively raise concerns. Consequently, I believe that a clear relationship between community social capital and health care safety net capacity will only emerge through future study. One of the immediate areas for future study is my conceptualization of social capital. I believe that this is the key to a full understanding of the relationship between community social capital and the delivery of health care services by community providers. Refining my conceptualization of social capital will require a reduction of the level of analysis from a broad county-level to a more focused health care specific level. In effect, in future studies, I will focus on the social capital of the health care community, the community "in place". Such a study would contain a qualitative component that focuses on describing the structure and subsequent outcomes of community health care provider social networks. For example, the study would examine the relationship between the social interactions among the community of health care providers within a given community "of place" and health care safety net capacity. The study could also examine how the structure (e.g., member

affiliations) of the FQHC community governing board influences FQHC service delivery and financial outcomes.

It is important to note that I have not yet examined whether the social capital of communities "in place" is facilitated by the social capital of communities "of place". For example, are health care community social networks that increase health care safety net capacity more likely to develop in communities with higher levels of social capital? This is an important issue that merits future investigation if we are to fully understand the influence that social relationships in the larger environment have on individuals' relationships with one another. Methodologically, a future study in this area would use mixed regression models where health care service provision by FQHCs or private physicians is predicted by testing interactions between provider behavior (FQHC or private physician) and community-level social capital indicators.

A second immediate area for future study is in the area of health care policy. Future study must focus on the relationship between health care policy and community social capital. I have repeatedly stated that it is not enough to increase social connections among individuals and organizations in low-income communities without infusing those connections with economic and political resources. The influence of social values on health care policy has been discussed in conceptual studies (e.g., Luke & Walston, 2003) but has not received much attention in the empirical literature (e.g., Steinberg & Baxter's, 1998, small 12-community study). The zero-order correlations in my data analysis

provided a preliminary understanding of this relationship and laid the groundwork for additional analysis. Specifically, the zero-order correlations indicated that community associational and civic activities were positively correlated with health care policies that increased health care safety net capacity and were negatively correlated with rates of uninsurance.

Future analyses will fully examine how measures of community association and civic participation influence the structure of public financing programs for indigent care. For example, such a study would examine the relationship between community social capital and local indigent health care programs and/or direct subsidies to health care safety net providers. Empirically testing the relationship between common community values and traditions and health care policies focused toward increasing the financing and delivery of safety net services enhances our understanding of the influence that social context has on the political and economic institutional frameworks that constrain and empower organizational action.

Apart from the specific questions raised by my data analysis, the IESC framework developed for this study provides a roadmap for future research. If focused on the health care field, it also represents a coherent research program in the area of health services research and policy analysis. The overarching purpose of the framework is to explain the dominant and pivotal role of community social context in shaping local institutional dictates and, thereby, organizational action. The framework includes multiple

institutional actors embedded within social, political, and organizational institutional environments. Such a framework offers fascinating opportunities for interdisciplinary collaborative research among social scientists in the fields of sociology, health care, the political and organizational/management sciences.

Conclusion

This study combines the insights of institutional and social capital theories. Consequently, it stands at the intersection of two schools of thought that hold very different ideas about the ability of organizations to engage in purposive action. The primary argument underlying this study is that social context has far greater influence on organizational behavior than any particular institutional arrangement or organizational characteristic. It is social context that shapes health care policy as well as organizational strategic decisions. My findings provided contributions to social capital theory, and community health care policy and practice. However, in my opinion, the most valuable contribution of this study is not in the questions that it has answered but in the questions that it has raised. By provoking future study it proliferates the self-correcting process of theory development.

Kuhn et al. (1985) argued that theoretical constructs are tentative, subject to change as our experiences grow. Similar to any mental construct, they are dependent on societal times, a product of social norms. The explosive interest in social capital theory is a prime illustration. While it recaptures insights present since the inception of sociology,

it has risen to prominence in recent years and has been applied quite diversely across disciplines (Portes, 1998; Field, 2003). However, Field (2003) argued that it is not whether a concept can be applied diversely, but whether it leads to new insights when applied finely. The purpose of the dissertation research was to provide empirical findings that lead to theoretical refinement and realization of social capital's analytical value. More importantly, this study sought to provide health care policy makers and practitioners with an approach to building community health care capacity that capitalizes on the unique social context of the health care field. It is my hope that by explaining organizational action in light of social interconnectedness, health care safety net providers will discover practical ways to shape the institutional pressures that threaten their viability.

APPENDIX A. STUDY MATERIALS

ELEMENTS DRAWN FROM THE CTS SECONDARY
DATABASE COUNTY FILE

Variable	Database	Position	Label
CENREG	County File	263	SDc: Census Region Code
FIPSCNTY	County File	6	SDc: Fips county code, HSC
HPSA02	County File	269	SDc: Hlth ProfShrtg Area, Prim Care, 12/02
MSACAT00	County File	15	SDc:Census: Metro/Non-Metro Category 2000
POP03	County File	19	SDc: Population estimate-Census 7/2002
POP1502c	County File	33	SDc: Census: Pop 2002, age 0-15
POP1702c	County File	34	SDc: Census: Pop 2002, age 16-17
POP6402c	County File	35	SDc: Census: Pop 2002, age 18-64
POP6502c	County File	36	SDc: Census: Pop 2002, age 65+

ELEMENTS DRAWN FROM THE CTS SECONDARY
DATABASE SITE FILE

Variable	Database	Position	Label
BLACKS00	Site File	58	SDs: Census: N Black population, site00
CIVLF01	Site File	301	SDs:ARF03: Civilian labor force 16+, 2001
COL1200S	Site File	77	SDs: Cost of Living Index- 12/00, ACCRA
HISP00	Site File	59	SDs: Census: N Hispanic populatn, site00
HMO PEN00	Site File	495	SDs: CTS TotHMO penetratn 2000, Interstd
HW I98	Site File	487	SDs: HCFA: Hosptial Wage Index, 1998
NHMOS00	Site File	494	SDs: Interstudy 1/01: Number of HMOs, 2000
PCBLK00	Site File	61	SDs: Census % Black population, site00
PCHSPS00	Site File	62	SDs: Census % Hispanic Populatn, site 00
PCINC 00	Site File	326	SDs: ARF03: Percapita income, 2000
PCW HTS00	Site File	60	SDs: Census % White population, site 00
HMOPEN 03	Site File	490	SDs: Estimated HMO penetration rate, 2003
POP1501	Site File	25	SDs: Census: Pop 2001, age 0- 15
POP1701	Site File	30	SDs: Census: Pop 2001, age 16- 17
POP6401	Site File	27	SDs: Census: Pop 2001, age 18- 64
POP6501	Site File	32	SDs: Census: Pop 2001, age 65+
SPEC01	Site File	291	SDs:ARF03: TotalSpecialists, 2001
SPOPN01	Site File	13	SDs:Site population, 2001 Census
UMEMP01	Site File	302	SDs : ARF03 : Unemploymentrate 16+, 2001
WHITES00	Site File	57	SDs:Census: N White population, site 00
W tSITE 00	Site File	7	SDs: R 3 relwt, sites 1-60, pop 00, HSC

SITES SELECTED FOR THE
COMMUNITY TRACKING STUDY

High-Intensity Sites   Low-Intensity Sites

Metropolitan Areas >200,000 Population a	Metropolitan Areas >200,000 Population a	Metropolitan Areas <200,000 Population a	Nonmetropolitan Areas
01-Boston MA	13-Atlanta GA	49-Dothan AL	52-West Central Alabama
02-Cleveland OH	14-Augusta *GNSC*	50-Terre Haute IN	53-Central Arkansas
03-Greenville SC	15-Baltimore MD	51-Wilmington NC	54-Northern Georgia
04-lndianapolis IN	16-Bridgeport CT		55-Northeastern Illinois
05-Lansing Ml	17 -Chicago IL		56-Northeastern Indiana
06-Little Rock AR	18-Columbus OH		57-Eastern Maine
07-Miami FL	19-Denver CO		58-Eastern NorthCarolina
08-Newark NJ	20-Detroit Ml		59-Northern Utah
09-0range County CA	21-Greensboro NC		60-Northwestern Washington
l0-Phoenix AZ	22-Houston TX		
11-Seattle W A	23-Huntington WV/KY/OH		
12-Syracuse NY	24- Killeen TX		
	25-Knoxville TN		
	26-Las Vegas NV/AZ		
	27 -Los Angeles CA		
	28-Middlesex NJ		
	29-Milwaukee WI		
	30-Minneapolis MN/WI		
	31-Modesto CA		
	32-Nassau NY		
	33-New York City NY		
	34-Philadelphia P *NNJ*		
	35-Pittsburgh P A		
	36-Portland OR/W A		
	37-Riverside CA		
	38-Rochester NY		
	39-San Antonio TX		
	40-San Francisco CA		
	41-Santa Rosa CA		
	42-Shreveport LA		
	43-St. Louis MO/IL		
	44- Tampa FL		
	45-Tulsa OK		
	46-Washington DC/MD/V A		
	47-West Palm Beach FL		
	48-Worcester MA		

NOTE: Numbers correspond to coding of the site identification variable in the survey.

aBased on 1992 Census estimates.; Source: CTS Codebook

TABLES AND DATA DRAWN FROM THE UNIFORM
DATA SYSTEM

Table 4- Socioeconomic Characteristics
Ln1_ca – Number of users 100% and below
Ln2_ca – Number of users 101-150%
Ln3_ca- Number of users 151-200%
Ln4_ca- Number of users over 200%
Ln5_ca- Number unknown
Ln6_ ca- Total (Sum lines 1-5)
Ln7_ca- Number uninsured ages 0-19
Ln7_cb- Number uninsured ages 20 and older

Table 5- Staffing and Utilization
Ln29_ca- Total Enabling Services FTEs
Ln29a_ca-Other Programs and Services
Ln34_ca- Total lines 15+19+20+21+22+23+29+29a+33

Table 8A- Financial Costs
Ln13_ca- Total Enabling and other services accrued cost
Ln13_cb- Total enabling and other services allocation of facility and administration
Ln13_cc- Total enabling and other services cost after allocation of facility and administration
Ln19_cc- Total center cost after allocation of facility and administration

Table 9E- Other Revenues
Ln1_ca- total BPHC grants
Ln5_ca- total other federal grants
Ln6-ca- state government grants and contracts
Ln6a_ca- State/local indigent care programs
Ln7_ca- Local government grants and contracts
Ln8_ca- Foundation/Private Grants and contracts
Ln9_ca- Total non federal grants and contracts (sum lines 6+6a+7+8)
Ln10_ca- Other revenue (non patient related revenue not reported elsewhere)
Ln11_ca- total Revenue (lines 1+5+9+10)

SITE DESCRIPTIONS OF ELIGIBLE FQHC SITES

Site Number Descriptor	Site Description
1	Community Based Primary Care Clinic
3	Fully Equipped Mobile Health Van
5	Health Department Clinic
11	School Based Health Center

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