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Differences Between For-Profit and Nonprofit Hospitals: Perceived Quality and Access

Michael Ray Eiland
Walden University

Walden University

College of Social and Behavioral Sciences

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Michael Eiland

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Public Policy and Administration Faculty

Dr. Donald McLellan, Committee Member,
Public Policy and Administration Faculty

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Public Policy and Administration Faculty

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Eric Riedel, Ph.D.

Walden University
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MBA, Ashford University, 2010

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Despite a large body of literature addressing the issue, questions remain about whether nonprofit hospitals provide more community benefit than do for-profit hospitals. This lack of information impacts governments, hospitals, and the healthcare industry, as stakeholders attempt to generate requirements to which hospitals should adhere to maintain nonprofit status, and thus tax exemption. This study addressed this lack of information by examining U.S. hospitals through the lens of stewardship theory to determine whether nonprofits are better stewards of the public good than for-profits, and thus likely to provide higher quality and access. The study applied logistic regression to Centers for Medicare and Medicaid Services (CMS) data indicating levels of perceived quality, or patient satisfaction, and American Hospital Association data identifying service mix profitability, an indicator of access. The sample included all 2,701 U.S. hospitals receiving CMS funding. Findings indicated that high quality hospitals were more likely to be nonprofit than for-profit (b = 0.07; $Exp(B)$ = 1.07; p = .000). Neutral access hospitals, those with mid-range service mix profitability, were more likely to be nonprofit than for-profit (b = 1.73; $Exp(B)$ = 5.63; p = .000) as were high access hospitals, those with low service mix profitability (b = .276; $Exp(B)$ = 1.32; p = .04). The R_L^2 for the models was .06 and .03, respectively. Given this limited predictive power, it seems unlikely the added value (access and quality) nonprofits are likely to provide justifies tax exemption. If further research supports this argument for other potentially relevant variables such as technical quality of care, governments could remove nonprofit hospitals' tax exemptions and apply the resulting tax revenue to other policy areas to realize positive social change.

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Dedication

I dedicate this dissertation to my two sons, Ethan and Adin—may they grow up to be better men than their father.

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Chapter 1: Introduction to the Study

Introduction

Nonprofit hospitals benefit from their nonprofit status because governments forgo realizing the property and sales tax they would generate as for profits in exchange for the provision of community benefit. The tax benefits nonprofits receive are a form of payment for the community benefit they provide. For-profits are not seen as providing as much community benefit and are thus ineligible tax exemption. There is a dearth of conclusive scholarly evidence suggesting that this is the case, however. Outcomes of studies in the extant literature addressing these differences, such as those conducted by Plante (2009), Bazzoli, Clement, and Hsieh, (2010), Horwitz and Nichols (2011), Kim, Mccue, and Thompson (2009), and Principe, Adams, Maynard, and Becker (2012) illustrated mixed evidence. Few of these studies addressed differences in quality and access between nonprofit and for-profit hospitals, though determining whether differences in quality and access exist between them is relevant to the debate, as both of these variables are related to the community benefit requirement the Internal Revenue Service uses to determine whether a hospital should maintain nonprofit status and continue to earn the tax benefits it receives. This lack of research impacts governments, hospitals, and the entire healthcare industry, as stakeholders attempt to generate tax policies for nonprofit hospitals. Policies based on inaccurate or incomplete information related to hospitals' provision of community benefit measured in terms of quality and access could result in unnecessary cost to governments and communities. Some of the factors contributing to understanding the full problem scope include a lack of

comprehensive studies addressing the issue and general disagreement on nonprofit hospitals' roles because policy makers need evidence-based information and accepted definitions to craft effective policy in this area (Horwitz, 2003; Horwitz & Nichols, 2011).

Much of the current literature devoted to differences between for-profit and nonprofit hospitals focuses on specific indicators unrelated to quality and access. For example, Plante (2009) focused on the differences in cash management between the two types of hospital while Bazzoli et al. (2010) and Horwitz and Nichols (2011) focused on the amount of revenue nonprofit hospitals lose through non-revenue generating community activities. Still others focused on differences in the level of uncompensated care provided to patients between the two hospital types (Kim, McCue, & Thompson, 2009; Principe, Adams, Maynard, & Becker, 2012).

In addition to the lack of literature related to quality and access, studies in the extant literature that do address these indicators, such as Plante (2009), contain sample sizes of no more than a few hospitals in well-defined and relatively small geographic areas that may or may not be representative of the way hospitals behave across states or the country. Plante (2009) examined differences between the types of patients nonprofit and for-profit hospitals treat and the length of time it took to treat them. The results indicated no significant difference between the variables used as indicators of patient type: case-mix index ($p = 2.01$); Medicare percentage ($p = 2.01$); and Medicaid percentage ($p = 2.02$). Similarly, results indicated no significant difference in length of stay between nonprofits and for profits ($p = 2.01$). However, the study was limited in that

Plante used a matched sample of 24 nonprofit and 24 for-profit hospitals located exclusively in urban California.

In 2007, the Senate Finance Committee recommended that Congress should enact legislation requiring each nonprofit hospital to dedicate "a minimum of 5% of its annual patient operating expenses or revenues to charity care whichever is greater, in accordance with its charity care policy" (Staff of Senate Finance Committee--Minority, 100th Congress, 2007, p. 7). Though Congress declined to follow the recommendation, the Internal Revenue Service issued regulations requiring nonprofit hospitals to submit detailed financial information related to community benefit expenditures starting in 2009 (Principe et al., 2012). If based on incomplete information, such changes in requirements for nonprofit hospitals could create significant social costs for communities around the country that rely on nonprofit hospitals to meet their needs. This study will add to the body of literature available to policy makers and hospital administrators to aid them in formulating better-informed policies related to the provision of community benefit, as measured by quality and access, and the related tax treatment of hospitals.

Problem Statement

Policymakers' continued reliance on incomplete information while making decisions related to nonprofit and for-profit hospitals' tax treatment is a problem among hospitals in the United States. Decades of research related to the differences between the two hospital types has failed to produce comprehensive evidence that certain hospitals deserve the tax exemptions they receive. This problem may be negatively impacting communities in two ways. First, communities may be paying for services not rendered

through the tax exemptions nonprofits enjoy (Stark, 2011). Alternatively, communities may be in danger of losing the community benefit provided by nonprofit hospitals through those exemptions (Stark, 2011). A possible cause of this problem is the almost exclusive focus on charitable care as a condition for a hospital to maintain nonprofit status (Horwitz, 2003; Horwitz & Nichols, 2011) . The current quantitative study researched differences in perceived quality measured in terms of patient satisfaction, and access measured in terms of service mix between the two ownership forms and brought quality and access, previously understudied but relevant variables, to the debate.

Purpose of the Study

The purpose of this quantitative correlational study was to seek evidence that nonprofit U.S. hospitals provide better quality and access to patients in their communities than for-profit hospitals. According to the study's theoretical framework, stewardship theory, organizations in economic relationships with governments will exhibit goal congruence with those governments, and thus provide more of what those governments desire under certain circumstances. Puyvelde, Caers, Bois, and Jegers (2012) found nonprofit status may be one circumstance under which this goal congruence will exist.

Research Questions and Hypotheses

The central research question for this study was: What is the likelihood that a hospital with a high quality level, as determined by its patient experience of care score, and a high access level, as determined by a composite score of its service mix profitability, is nonprofit versus for-profit according to IRS classification under

§501(c)(3) of the United States Tax Code? The dependent variable was ownership structure, either for-profit or nonprofit, and the independent variables were the level of quality and the level of access provided. Based on a review of the literature, I proposed the following null hypotheses and hypotheses associated with the research question:

H_0: There is no difference in the likelihood that a U.S. hospital with a high quality level is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

H_1: Higher quality levels increase the likelihood that a U.S. hospital is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

H_0: There is no difference in the likelihood that a U.S. hospital with a high level of access is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

H_1: Higher access levels increase the likelihood that a U.S. hospital is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

Research Objectives

The objective of this research was to provide information policy makers can use when making decisions related to the tax treatment of nonprofit hospitals. It did so by determining the extent to which they are better stewards of the public good than their for-profit counterparts in terms of quality and access. Reaching this objective contributed to a

secondary objective of addressing the gap in the literature created by a lack of comprehensive study of quality and access among U.S. hospitals.

Nature of the Study

This study used a quantitative correlational design using secondary datasets from the Centers for Medicare and Medicaid Services (CMS) and the American Hospital Association (AHA) to determine whether quality and access levels are significant predictors of ownership structure among U.S. hospitals. These datasets were appropriate for this study because they provide yearly measurements from every U.S. hospital that receives reimbursements through Medicare and/or Medicaid. Because my dependent variable, ownership structure, is categorical, I used logistic regression for the analysis. As the terms quality and access are largely subjective and thus difficult to measure, I used patient satisfaction and service mix profitability as proxies for them, respectively. A detailed description of my methods is included in Chapter 3.

Theoretical Framework

This study relied primarily on Donaldson and Davis's stewardship theory (as cited in Davis, Schoorman, & Donaldson, 1997). In addition, it was informed by alternate theories of economic relationships and theories of organizational structure. The following sections include a brief review of these theories.

Stewardship Theory

According to stewardship theory, under certain circumstances the entity providing a service under a contract, of the steward, will act in the best interest of the entity paying on that contract, or the principal, regardless of whether the principal

imposes external controls to force the steward to act in its best interest. Applied to this study, each hospital studied was a potential steward and the governments funding that hospital through tax benefits and payments under Medicaid and Medicare are the principals. According to stewardship theory, under certain circumstances, hospitals will do what is in the governments' best interest regardless of whether those governments impose external regulatory controls to force them to do so. Thus, in the same regulatory environment, hospitals to which certain circumstances apply will provide more of what is in the governments' best interest than hospitals under other circumstances. According to theory in ownership structure, discussed briefly below, one circumstance under which hospitals may become stewards and thus provide more of what is in the governments' best interest, is nonprofit status. Governments at all levels in the United States are interested in providing quality and access in healthcare so it follows that nonprofit hospitals will provide more of those things than hospitals that are for profit. Amirkhanyan, Kim, and Lambright (2008) found this holds in certain areas, such as the nursing home industry, but not in others, such as job-retraining programs (Heinrich, 2000).

Organizational Structure

Theory related to the for-profit organizational form or ownership structure includes several ideas about why hospitals come into being and how they behave. Some of the theories used to explain for-profits, or what scholars such as those discussed below commonly refer to as *theories of the firm* date to Coase's (1937) transaction cost theory that explains firm genesis as the result of the costs associated with developing and

maintaining contracts. These theories, and similar ideas discussed in detail in Chapter 2, generally explain firm genesis and behavior as the result of an efficiency achieved by the firm that would not be achievable by individuals operating in a market.

Theories related to nonprofit genesis and behavior, such as Hansmann's (1980) often cited contract failure theory, tend to take a different approach. Hansmann explained nonprofit genesis and behavior as the result of a failure of the private or public sector to meet people's needs. Hansmann further asserted that nonprofits' inability to distribute profits to owners makes it possible for donors who need to trust that such organizations will expend donations as expected will do so. Similarly, Weisbrod's (1988) public goods theory asserts that nonprofits meet the needs of those who demand more of a public good or service than the public sector will provide, as does Ben-ner and Van Hoomissen's (1991) theory of organizational choice.

The theorists mentioned above suggest that for-profit firms behave differently than do nonprofit organizations. The former pursues efficiency to maximize value for owners while the latter attempts to meet people's needs. To be sure, these two pursuits are not mutually exclusive; however, given a choice between two mutually exclusive actions, one of which produced efficiency but did not meet needs, the other of which met needs inefficiently, a nonprofit might be more inclined to meet needs inefficiently than a for-profit. For-profits may be less inclined to pursue people's needs unless doing so also results in efficiency, while nonprofits will be willing to meet people's needs regardless of how doing so affects efficiency. This follows from for-profits' pursuit of efficiency

(Coase, 2012; Lozano, 2011) and nonprofits' interest in filling perceived human needs (Valentinov, 2008a).

Operational Definitions

As this study used several variables, several operational definitions were necessary. As mentioned above, the study employed service mix profitability as a proxy for access and patient satisfaction as a proxy for quality. Therefore, the operational definitions include:

- *Access*: a composite score of the profitability of a hospital's service offering mix identified in the AHA annual hospital survey (Horwitz & Nichols, 2009). Horwitz and Nichols assigned hospital services to three categories: relatively profitable, relatively unprofitable, and variable. These categorizations were derived from a thorough examination of the literature in this area, a review of the Medicare Payment Advisory Commission and Prospective Payment Assessment Commission reports to Congress, and interviews with hospital administrators. I used these designations to create the composite scores that will serve as a proxy for access as discussed in Chapter 2.
- *American Hospital Association (AHA)*: the national organization that represents and serves all types of hospitals, health care networks, and their patients and communities. Nearly 5,000 hospitals, health care systems, networks, other providers of care and 43,000 individual members come together to form the AHA (AHA, 2014, para. 1).

- *Centers for Medicare and Medicaid Services (CMS)*: The federal agency operating as part of the United States Department of Health and Human Services that administers Medicare and Medicare (CMS, 2014).
- *For-profit hospital*: a hospital operating for profit as a sole proprietorship, partnership, limited liability partnership, limited partnership, limited liability limited partnership, corporation, professional corporation, or limited liability company or part of any such an entity that receives funding from through CMS.
- *Internal Revenue Code (IRC)*: Title 26 of the United States Codes (U.S.C.) which contains federal tax law (IRS, 2014).
- *Nonprofit hospital*: a hospital operating as a nonprofit, or part of a nonprofit under §501(c)(3) of the United States Tax Code that receives funding through the CMS. These may include hospitals operated by faith based organizations, charities, and quasi-governmental boards and organizations.
- *Patient Protection and Affordable Care Act (ACA)*: United States Public Law 111–148 which contains provisions for expanding and regulating health insurance coverage (Patient Protection and Affordable Care Act, 2010).
- *Quality*: The patient experience of care score, a composite of patient satisfaction, from CMS's Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey that CMS uses to determine payment levels under its value based purchasing program. The survey contains 32 questions and CMS requires hospitals to administer it to a random sample of adults at discharge from a wide array of medical services. Scores range from 0 – 100 with higher scores

indicating higher quality. Centers for Medicare and Medicaid Services calculates this composite patient experience of care score for each participating hospital and it represents 30% of a hospital's total performance score. CMS uses the total performance score to determine hospitals' reimbursement rates (CMS, 2010).

Assumptions

This study relied on several assumptions. The first assumption was that logistic regression is the most appropriate methodology for answering the research question. The second assumption was that the data collected by CMS and the AHA, was complete and accurate, as the data used in the study was secondary data from these sources. The final assumption was that the variables used as indicators of quality and accesses are indeed indicators of quality and access. Since the data is secondary in nature, gathering the data was relatively free of challenges. These data had inherent challenges such as missing data points that required review and consideration for exclusion.

Delimitations

This study was delimited in that it only examined hospitals participating in CMS Medicare/Medicaid funding program and did not include non-participating private hospital structures. This choice allowed a focus on public sector issues such as tax policy and publicly-funded healthcare, which are the areas in which I was most interested.

Limitations

This study was limited in that, though it provided insight into the relationship between ownership structure and quality and access in U.S. hospitals, its quasi-

experimental structure resulted in a restriction on establishing a causal relationship between the variables because such designs do not control for threats to internal validity. A true experiment would allow for such control, but creating an environment where the only difference between two hospitals is in ownership structure would prove impossible, as all of the variables involved in hospital behavior could not be successfully identified and controlled for. A quasi-experimental design allowed the most feasible control for threats to internal validity as possible for a study of this nature.

Significance of the Study

This study is significant in that it provides policy makers with information that will help them to maximize public value. The study's results may have found that the current balance is appropriate and that revoking or modifying the nonprofit hospital tax exemption will result in a loss of the community benefit those hospitals provide. Conversely, if one views tax exemptions as payments for services rendered, the results of my study might have shown that communities are currently paying hospitals for services not rendered and thus not making the most efficient use of resources.

Social Change

The social change implications from this study include the possibility of protecting communities from the potential social costs associated with removing or restricting nonprofit hospitals' tax exemption and thereby forcing them to become for-profit institutions. If nonprofit hospitals are better stewards of the public good, restricting their nonprofit status may produce social costs, such as public health issues and other costs associated with less access to healthcare. These include, but are not limited to, the

costs associated with revenue loss due to patients' inability to pay for their care. Conversely, if nonprofit hospitals are not better stewards of the public good than their for-profit counterparts, the potential exists to produce positive social change by removing their nonprofit status and thereby removing the payment communities currently make in the form of tax exemptions for the perceived benefit nonprofit hospitals provide. The potential ability of governments at all levels to shift this currently forgone revenue elsewhere could result in increases in funding for social programs in other areas or by applying these tax revenue funds towards reduced government debt.

Summary

Policy makers need more information if they are to make appropriate policy decisions related to the tax treatment of nonprofit hospitals. Though the extant literature related to the differences in hospitals with different ownership structures largely indicates that there is little difference between nonprofit and for-profit hospitals' operations, relevant questions remain unanswered.

A quantitative correlational study and data from CMS and AHA collected annually from every U.S. hospital was used to determine whether the likelihood that U.S. hospitals with high quality access levels are nonprofit versus for-profit. Because my dependent variable, ownership structure, was categorical, I used logistic regression to infer support for the idea that nonprofit hospitals are better stewards of the public good in terms of quality and access than their for-profit counterparts and are thus deserving of the tax exemptions they enjoy or not. Donaldson and Davis's (as cited in Davis et al., 1997) stewardship theory in conjunction with other economic relationship theories like Jensen

and Meckling's (1976) agency theory and organizational ownership theory, such as Hansmann (1980) contract failure theory and Ben-ner and Van Hoomissen's (1991) theory of organizational choice indicate that they are. If this hypothesis holds, it will provide evidence that the tax exemptions nonprofit hospitals receive may be well founded. If not, further discussion about whether such hospitals should receive such exemptions may be warranted.

Policy makers, hospital administrators, and communities may be interested in this study and its social change implications. Those implications could include the possibility of either protecting communities from continuing to needlessly forgo tax revenue through the tax exemption or losing community benefit by removing it. This study may allow these stakeholders to make better informed decisions in this policy area.

Chapter 2: Literature Review

Organization

This study addressed a problem in the hospital industry whereby policy makers are forced to make decisions related to the tax treatment of nonprofit hospitals with inadequate information. Literature from several disciplines is relevant to the study. Therefore, prior to identifying specific literature, it is appropriate to discuss the various relevant areas of study. Clearly, literature related to the differences between nonprofit and for-profit hospitals is relevant, as this is the study's main focus. Such study, however, cannot exist separate from a discussion of literature related to the differences between nonprofit and for-profit ventures from the economics, management, and organizational behavior literature. As one might see broad study of the differences between for-profit firms and nonprofit firms as the foundation upon which the study of such firms in specific areas, such as the hospital industry, is based, it is appropriate to discuss broad ideas about for-profit and nonprofit organizations prior to any discussion of the differences between nonprofit and for-profits specific to the hospital industry.

After examining nonprofit and for-profit firms and discussing relevant theory in these areas, I expand on the theoretical framework I used for the study by examining literature related to stewardship theory and other economic relationship theories. I then discuss the hospital industry in general, including current trends related to services, financing, and hospitals' involvement in economic relationships with governments through their status as government contractors. I then discuss the current state of the debate associated with the nonprofit hospitals' tax treatment and culminate in a

discussion of studies specifically related to the differences between nonprofit and for-profit hospitals. Finally, a review of literature related to defining healthcare quality and access was performed.

Identifying Literature

In order to identify relevant literature, a search was performed in the EBSCOhost Political Science Complete and Business Source Complete databases using the search terms nonprofit, for-profit, theory of the firm, nonprofit theory, government contracting, contracting, agency theory, and stewardship theory. I employed these same search terms in a ProQuest search. In addition, I searched the CINHAL with full text and Medline with full text databases using the search terms hospitals, for-profit hospitals, nonprofit hospitals, quality, access, quality measures, access measures, Medicare, Medicaid, Medicare reimbursement, and Medicaid reimbursement. I also used these search terms in searchers of the healthcare-related database Cochrane Database of Systemic Reviews. I began my search without including time limitations to assure that I included all relevant primary theoretical sources. I then searched for relevant literature published during the most recent five years. As a secondary strategy, I *mined* the reference lists of the relevant studies I encountered to further identify relevant literature.

Dependent Variable: Organizational Structure

As mentioned in Chapter 1, the dependent variable I used for this study was organizational form, either for-profit or nonprofit. There is a wide array of literature in public administration, economics, organizational behavior, management, and law related to ownership structure. The legal system largely dictates the form organizations must

take. In addition, scholars in this area have developed theories related to the market mechanisms leading to organization genesis and the reasons organizations are for-profit or nonprofit, how and why such organizations emerge in markets, and how they behave in those markets. The following sections will include a discussion of the legal and theoretical ideas related to for-profit firms and nonprofit organizations and recent scholarship related to their behavior.

What Makes a For-profit Firm? The Law

Mallor, Barnes, Bowers, and Langvardt (2010) reviewed the usual forms businesses take. These include sole proprietorships, partnerships, limited liability partnerships, limited partnerships, limited liability limited partnerships, corporations, and limited liability companies. The following sections will include short synopses of each of these forms.

Sole proprietorships. The most common business form, the sole proprietorship, is characterized by a single owner responsible for the firm's operation. In this business form, no separation exists between the owner's assets and liabilities and the business's assets and liabilities, as for legal purposes, the owner and the business are the same entity (Mallor et al., 2010).

The sole proprietorship is the most common business form because it is the default form (Mallor et al., 2010). For example, if one operates a business, but does not complete the required legal filings to do so it is treated by the law as a sole proprietorship. According to Chrisman (2010), sole proprietorships were the only choice

for business owners who were the sole owners of the business prior to the advent of more contemporary business forms.

Partnerships. Partnerships are characterized by more than one owner responsible for the firm's operation. Each state has its own statutes governing partnership operation, but most of them have adopted the Revised Uniform Partnership Act (RUPA), a model partnership statute developed by the Conference of Commissioners on Uniform State Laws to "codify partnership law in one document, to make the law more nearly consistent with itself, and to attain uniformity throughout the country" (Mallor et al., 2010, p. 938).

According to the RUPA, a partnership is an "association of two or more persons to carry on as co-owners of a business for profit" (National Conference of Commissioners on Uniform State Laws, 1997, §101(5)). Owners can create partnerships with no formalities and they share the firm's assets and liabilities. Some partnerships operate under a partnership agreement, but the RUPA contains default rules that determine the rights of the partners in the absence of such an agreement (National Conference of Commissioners on Uniform State Laws, 1997, §103).

Limited liability partnerships. Limited liability partnerships (LLP) are identical to partnerships except that an LLP's liabilities are largely separate from the partners. In the case of wrongdoing on the part of the LLP, for example, the partners are not personally liable for damages. Partners continue to be personally liable for their own wrongdoing, however (Mallor et al., 2010).

According to Chrisman (2010), LLPs function in much the same way as limited liability corporations discussed below. These types of what Ribstein (2010) termed

uncorporations arose as a method through which business owners could enjoy pass-through taxation and limited liability (Chrisman, 2010). Prior to their emergence, business owners had few choices of business form.

Limited partnerships. Limited partnerships are characterized by two types of partners: general partners and limited partners. General partners function in much the same way as partners in a partnership. Limited partners, however, have no management authority and limited liability. Limited partners generally make a capital contribution to the partnership and have a right to its profits (Mallor et al., 2010).

Chrisman (2010) identified limited partnerships as having developed to address the lack of a business form where owners could enjoy both pass-through taxation and limited liability. Since the advent of the limited partnership, other forms have emerged that accomplish this as well. These have created competition for partnerships and corporations as a business form.

Limited liability limited partnerships. Limited liability limited partnerships (LLLP) are identical to limited partnerships except that in an LLLP, the general partners have limited liability. Limited partners also have limited liability. Both function in the same way as their counterparts in limited partnerships (Mallor et al., 2010).

According to Kleinberger (2010), LLLPs grew out of the movement, discussed above, to provide a business form that would provide owners with limited liability and pass-through taxation. These new business forms add to the competition between corporations and general partnerships and uncorporations. States are increasingly passing legislation that allows for LLPs and LLLPs (Kleinberger, 2010).

Corporations. Corporations are characterized by the existence of shareholders that elect a board of directors to manage their operations. Often, the board of directors will select officers to manage the firm. Shareholders have a claim on the corporation's profits, but have no right to manage the corporation. They have limited liability for the corporation's obligations (Mallor et al., 2010).

According to Chrisman (2010), the corporate form was one of two alternatives available for business entities with more than one owner in the United States until the middle of the last century. Since that time, the uncorporations have been developed as alternatives. The corporation, however, remains the business form of choice for large, publicly-traded companies, though Chrisman did postulate that the LLC would make its way into that area in the near future.

Professional corporations. Professional corporations are specifically designed to meet the needs of licensed professionals such as physicians. They allow such professionals to incorporate their practices. Shareholders must generally hold a license to practice the profession in question and, though they have limited liability for the corporation's obligations, they are personally liable to their clients for professional malpractice (Mallor et al., 2010).

Limited liability companies. A limited liability company is owned by members who may manage the firm themselves or hire a manager to do so. They enjoy limited liability for the firm's obligations. This form has several tax and management advantages over other business forms under certain circumstances (Mallor et al., 2010).

The number of limited liability companies in the United States has grown significantly in recent years (Chrisman, 2010). Indeed, the LLC is currently the most commonly formed business in the country. Chrisman (2010) saw the evolution of the LLC to replace the corporation as the most commonly developed form as a "great revolution…in business organizations law" (p. 489) and suggested more research is needed in this area.

What Makes a For-profit? Theory

In 1937, Ronald Coase asked why firms emerge in markets given that markets are considered economically efficient (Lozano, 2011). He proposed transaction cost theory to address that question (Coase, 2012) . Transaction cost theory holds that there is a cost associated with economic transactions and that pooling resources among economic actors, and thus creating a firm, reduces those costs and thus generates more profit than the individual actors would on their own. Since then, economists have advanced a plethora of theories that explain firm genesis and behavior from various perspectives (Lozano, 2011).

Lozano (2011) grouped theory in this area into four broad categories: (a) corporate personality, (b) corporate nature, (c) corporate obligations, and (d) corporate management. Corporate personality theories, which, according to Lozano, see the firm as a "fictitious entity with the advantage of limited liability" (p. 2), have largely fallen out of academic discussion. Corporate nature theories are directly descended from transaction cost theory and see the firm as a collection of contracts. Agency theory, discussed in

detail below, is a form of corporate nature theory. Corporate obligation theories see firms as having an obligation to a group or groups.

Theory in this area receives criticism for its lack of comprehensiveness and practical applicability (Lozano, 2011; Zenger, Felin, & Bigelow, 2011). Recent theory of the firm literature, such as Lozano's (2011) proposition of a holistic theory of the firm in which parts of several previous theories are employed to explain firm behavior and Zenger, Felin, and Bigelow's (2011) argument that previous theories complement each other attempt to rectify this and provide a comprehensive view of the theory of the firm.

What Makes a Nonprofit? The Law

Section 501(c)(3) of the Internal Revenue Code of 1986 (IRC) exempts the following organizations, known in the popular nomenclature as nonprofits, from taxation:

> Corporations, and any community chest, fund, or foundation, organized and operated exclusively for religious, charitable, scientific, testing for public safety, literary, or educational purposes, or to foster national or international amateur sports competition (but only if no part of its activities involve the provision of athletic facilities or equipment), or for the prevention of cruelty to children or animals, no part of the net earnings of which inures to the benefit of any private shareholder or individual, no substantial part of the activities of which is carrying on propaganda, or otherwise attempting, to influence legislation (except as otherwise provided in subsection (h)), and which does not participate in, or intervene in (including the publishing or distributing of statements), any political

> campaign on behalf of (or in opposition to) any candidate for public office. (Internal Revenue Code of 1986, §501(c)(3))

Though this United States Code (USC) definition of a nonprofit is relatively complete, courts regularly hear cases related to whether an organization qualifies as a nonprofit (Stark, 2011). Stark (2011) reviewed these legal questions extensively, arguing they are related to the nature of a central transaction associated with an organization. Such questions, he said, have no definitive answers, as they can be answered differently depending on one's point of view. For example, some view the tax exemption nonprofits enjoy as a payment from the government in the form of uncollected taxes on revenue the government has the right to tax. Under this view, the government should require such organizations to provide certain services to receive the payment. Conversely, some view the tax exemption as nothing more than it is, arguing that because nonprofits do not pay dividends to owners or shareholders, they, by definition, do not make a taxable profit. Therefore, the government has no right to tax their revenues and by extension, no right to require them to provide certain services in exchange for their tax exemption. Stark's review cited legal precedent supporting both sides of this argument in different situations.

What Makes a Nonprofit? Theory

Economists have advanced several theories related to nonprofit genesis and operation since the early 1980s. These generally explain nonprofits from one of two perspectives: demand-side and supply-side. The following sections will discuss several such theories that represent the evolution of both demand and supply side ideas related to

nonprofit development: trustworthiness theory, public goods theory, the theory of organizational choice, and supply-side theory.

Trustworthiness theory. Originally termed contract failure theory, Hansmann's (1980) trust worthiness theory has come to be associated with the nondistribution constraint, or the restriction on nonprofits' ability to distribute net income, or profit, to owners, shareholders, managers and other stakeholders. The theory focuses on consumers' motivations for seeking services from nonprofit organizations as opposed to their for-profit counterparts. The nondistribution constraint, Hansmann argued, motivates individuals to seek services from nonprofits under certain conditions because it fosters trust in such organizations. The theory explains nonprofits as resulting from the failure or potential failure of contracts between consumers and for-profit firms under certain conditions. The nondistribution constraint is the mechanism through which nonprofits address such contract failure.

Public goods theory. Weisbrod (1988) suggested in public goods theory that nonprofit genesis is the result of a shortage of a public good. The public sector, Weisbrod argued, will provide enough of a public good to meet the demand of the median voter. Some society members, however, will demand more of that good than the median voter and will therefore seek an alternative producer. The private sector will not produce the good because the public sector produces it and therefore undermines the market mechanism. Therefore, those voters who demand more of the good than the median voter will develop a mechanism, in the form of a nonprofit, to produce the required supply of the good in question.

Theory of organizational choice. Ben-Ner and van Hoomissen's (1991) theory of organizational choice expands on Wiesbrod's (1988) contention that the public sector will not always meet demand for public goods. Ben-ner and van Hoomissen (1991) suggested that when the public sector does not meet demand for public services, citizens whose demand has not been met are faced with the choice to either go without the service, form a coalition to lobby the government to provide more of the service, or form a nonprofit to meet the demand for the service. Nonprofits result when citizens choose the third option. Ben-Ner and Van Hoomison argued that nonprofits will emerge to provide certain types of goods and services, but not others depending on the degree to which those goods and services are trust or collective goods and services, or goods and services characterized by nonrivalry, nonexcludability, and asymmetric information.

Supply side theory. Trustworthiness theory, public goods theory, and the theory of organizational choice are demand side theories in that they explain nonprofits as a function of consumers' demand for public goods and services. The supply side theory, in contrast, explains nonprofits as resulting from social or ideological entrepreneurship on the part of an individual or group of individuals (Valentinov, 2008b). Such individuals create demand by supplying a good or service that may or may not be provided by the market or public sector.

Theory integration and expansion. According to Valentinov (2008b), demand side theorists have traditionally criticized supply side theory for "downplaying the significance of the nonprofit organization as an institutional response to imperfections in the operation of the for-profit sector," even as supply-side theorists accused demand-side

theories of "ignoring the positive identity of nonprofit firms" (p. 759). Valentinov (2008b) proposed an integration of such theories using the theory of division of labor which asserts that individuals can satisfy their desires through two mechanisms: market exchange and self-sufficiency. When a market failure exists, consumers create nonprofits to, in effect, produce services for themselves. This is self-sufficient and consistent with demand-side theory. Similarly, social entrepreneurs who develop nonprofits seek to provide services themselves because of an internal need to fill a perceived social shortcoming, though the provision of such services might be delegated to the market. This is self-sufficient and consistent with supply-side theory. Thus, Valentinov (2008b) argued, demand and supply-side theories are consistent with each other and explain different situations under which nonprofits develop.

The most recent thought on the nonprofit institutional form centers on the lack of comprehensiveness in existing theories (Bushouse, 2011; Valentinov, 2011), for example, Valentinov (2011) used Radhamakal Mukerjee's assertion in institutional theory that nonprofits "adjust the allocation of scarce resource to the patterns of evolving broader societal values" and "contribute to the articulation and evolution of the values themselves" (p. 614) to inform modern thought on the nonprofit form. This is in contrast to previous thought which explains nonprofits as merely a reaction to market and government failure. Similarly, Bushouse (2011) used Elinor Ostrom and colleagues' institutional analysis and development framework to argue that differences in for-profit and nonprofit genesis and behavior are the result of governance structures in addition to market and government failures.

Nonprofits in Practice

The literature contains much recent scholarship describing nonprofits' practice and operation. Some of this literature focuses on nonprofit performance (Carroll & Stater, 2009; Feeney & Rainey, 2010; Hwang & Powell, 2009; Vaughan, 2010), but much of it is related to nonprofits increasing function as government contractors in various industries (Ebrahim, 2010; Feiock & Jang, 2009; Kissane, 2010; Krauskopf & Chen, 2010; Sandfort, 2010; Smith, 2010). This is in addition to studies directly related to agency theory and stewardship theory discussed in subsequent sections.

Nonprofit performance. Nonprofit performance has received attention in the recent literature in several ways. Vaughan (2010) addressed performance directly by exploring the performance measures contracting public administrators use to assess nonprofit contractors and making recommendations for improvement. Other studies address performance more indirectly. Carroll and Stater (2009), for example, examined revenue stability among nonprofits as a measure of performance and found it to be related to diversification and growth. Other studies related to nonprofit performance include Feeney and Rainey's (2010) comparison of public sector and nonprofit organizations which found that nonprofits employ fewer bureaucratic personnel policies and regulations and are thus less constrained and more efficient in making related decisions. The range of performance measures used in these studies and the attention being paid to performance measurement in the literature recently has led researchers such as Thomson (2010) to study the impact and methods of performance evaluation. There is some evidence that

current measures are inadequate and inadvertently hinder performance (Moxham, 2009) suggesting that further research in this area is needed.

Nonprofit government contracting. The past few decades have seen increases in government contracting largely due to the introduction of new public management (NPM), an approach to public administration introduced in the 1970s to provide a theoretical framework for governments to function more like private businesses (Lapsley, 2009). NPM sees contracting as a way to increase government efficiency by adding market forces to the provision of public goods and services, thereby reducing the cost of providing them. Governments tend to prefer to contract with nonprofits for the provision of certain services, such as healthcare and social services (Levin & Tadelis, 2010). As such, the research related to contracting relationships between governments and nonprofits is centered on such industries. Some studies focus on identifying the conditions under which governments choose to contract with nonprofits for the provision of such services (Feiock & Jang, 2009). Others focus on the policy implications and trends in government funding for services nonprofits provide (Kissane, 2010; Krauskopf & Chen, 2010; Sandfort, 2010; Smith, 2010). Some research in this area is focused on stewardship theory and agency theory in such relationships and is discussed in the following sections.

Theoretical Framework

As mentioned in Chapter 1, this study relied on stewardship theory, a theory used to describe economic relationships, to formulate hypotheses. It was informed by agency theory, another theory used to describe economic relationships. This is appropriate

because private hospitals are either nonprofit or for-profit entities in economic relationships with governments in two ways. First, governments either impose or do not impose taxes on them, or in some sense, either pay for community benefits hospitals provide or do not. Second, governments provide over half of the hospital industry's revenue in the form of payments for services rendered (Barton, 2010).

The potential issues associated with economic relationships have been apparent since Adam Smith, the father of market capitalist economics, wondered in *The Wealth of Nations* whether giving control of companies to parties other than owners would result in conflict. He suggested that managers might not pursue success as rigorously as owners. More recently, economists began developing theory about economic transaction costs and contracting (Coase, 2012). Stewardship theory and agency theory emerged from this literature. The following sections will discuss the two theories beginning with agency theory, the earlier of the two.

Agency theory. Jensen and Meckling (1976) combined ideas about potential issues with non-owner management and transaction costs and developed modern agency theory. They viewed firms as legal fictions that are nothing more than a collection of contracts under which agents perform duties for principals. They also asserted that agents will act in their economic self-interest due to market-provided incentives regardless of whether doing so reduces their firms' value. This follows from information asymmetry between the principal and the agent; the agent has information the principal does not that can be used to either pursue the interests of the principal or not because the agent is generally the party with more expertise related to the task at hand. This

information asymmetry gives the agent the opportunity to act against the principal's best interests when doing so is in the agent's best interests. Since Jensen and Meckling saw agents as self-interested actors, they argued that agents will always act in their own self interests. Thus, they would create a loss of value for principals during instances of such goal incongruence. Jensen and Meckling saw contracts as instruments designed to reduce this loss of value or agency costs.

Scholars have studied agency theory in the context of various types of contracting, including contracting between private organizations and government agencies (Fernandez, 2009; Lambright, 2009; Marvel & Marvel, 2009). The results have been mixed. The theory receives criticism for its contention that people are rational, self-interested actors (Schillemans, 2013). Indeed, management theory in psychology, sociology, and politics views "the willingness of constituent actors to cooperate toward organizational goals as unproblematic" (Donaldson & Barney, 1990, p. 371). There are therefore situations in which managers will act in their principals' best interests, even when doing so is not in their own economic self-interest. This line of reasoning led Donaldson and Davis (as cited by Donaldson & Barney, 1990) to develop stewardship theory.

Stewardship theory. Stewardship theory sees contractors as team players who, under the right circumstances, will act in the best interest of their principals (Donaldson & Barney, 1990). Donaldson and Davis (as cited in Donaldson & Barney, 1990) suggested agents, or what they termed stewards, are good stewards of their principals' trust rather than opportunistic-self-interested actors (Donaldson & Barney, 1990). They

argued that these individuals are motivated to pursue organizational, collectivistic goals regardless of the opportunity to pursue self-serving activities because they place higher level of utility on collectivistic behaviors. Thus, pursuing the goals of the organization maximizes value for both the principal and the steward. Donaldson and Davis saw contracting as a part of an attempt to find an "organizational structure that allows coordination to be achieved most effectively" (Donaldson and Barney, 1990, p. 377). They offered stewardship theory as a tool to broaden economists' understanding of contracting relationships rather than as a replacement for agency theory.

Stewardship theorists see the choice between principals' pursuit of stewardship rather than agency as a function of risk aversion (Davis, Schoorman, & Donaldson, 1997). Principals with higher risk aversion will pursue agency contract management structures to avoid the risk of incurring agency costs. Principals with lower risk aversion are more likely to pursue stewardship management structures, as they are not as likely to wish to avoid the risk of incurring such costs. Thus, stewardship theory complements agency theory.

Recent literature in this area includes study of private sector economic relationships with the public sector using stewardship theory (Carman, 2010, 2011; Marvel & Marvel, 2009; Schillemans, 2013). Support for the theory in this context has been mixed. These results support Donaldson and Barney's (1990) suggestion that using agency theory and stewardship theory may be more or less appropriate depending on the situation. This suggests that future researchers should perhaps focus on identifying appropriate applications of each theory.

Some researchers suggest stewardship theory is better applied in economic relationships between governments and organizations with certain ownership structures. For example, Puyvelde, Caers, Bois, and Jegers (2012) suggested funding relationships with nonprofits might be appropriate for stewardship theory's application, though the literature is "fairly silent on the applicability of stewardship theory to nonprofit organizations" (p. 432). Researchers testing differences between for-profit and nonprofit government contractors in different industries through the lens of stewardship theory have found mixed support for its application (Amirkhanyan et al., 2008; Heinrich, 2000; Lambright, 2009). Some of these researchers found results in certain industries consistent with the suggestion that it is more applicable to nonprofits and others did not. For example, Amirkhanyan, Kim, and Lambright (2008) found that nonprofits achieve superior outcomes than nonprofits in the nursing home industry. They compared both nonprofits and for-profits to a comparison group of government facilities and found that significantly more medical errors occurred in for profits than in their comparison group ($p < .05$) whereas there was no significant difference between error levels in nonprofits and the control group ($p > .05$). In contrast, Heinrich (2000) found that for-profit providers of job training programs achieved better results than their nonprofit counterparts. Heinrich examined the employment status and wages of program completers and found that those that had been served by nonprofits had significantly higher employment and wages ($p < .01$). Both Amirkhanyan, Kim, and Lambright (2008) and Heinrich (2000) identified a need for further research related to the difference between for-profit and nonprofit providers in various industries. Additionally,

Amirkhanyan (2010) and Lambright (2009) found government contract administrators and monitors take different approaches to monitoring depending on the circumstances. This means they may see different contracting arrangements as either consistent with stewardship theory or agency theory and provides further support for the need to examine stewardship in different settings.

Synthesis

To synthesize the above discussion, one must begin with the regulatory guidance for establishing an organization as a for-profit or nonprofit. In doing so, one must consider the underlying transactions that create the market incentive for an organization's existence. These may be the basis for an organization to behave as a steward as opposed to an agent. In this section I will use the discussion above to identify for-profit and nonprofit characteristics and advance hypotheses about their behavior.

The various theories of the firm discussed above describe firm genesis and behavior as a reaction to various market and social forces. Despite the wide range of phenomena theorists use to explain firms, there are characteristics they generally agree on: firms facilitate transactions to create value. That value exists in the form of profit. Thus, I can define a for-profit firm for the purposes of this study as an entity that operates for profit organized as one of the legal business forms discussed above. A for-profit hospital, therefore, is one that operates in such a way.

Theories related to nonprofit genesis and the statutory definition of a nonprofit all generally agree on the nondistribution constraint. Thus, one can assert that the nondistribution constraint is a necessary feature of a nonprofit organization. Other

nonprofit features are not so easily agreed upon, however. For example, nonprofit theorists generally agree that a nonprofit will emerge under certain market conditions (Ben-ner & van Hoomissen, 1991; Weisbrod, 1988). The legal definition, however, does not mention market conditions, but contains several stipulations as to the endeavors nonprofits are legally allowed to pursue though no such requirement is asserted in any theory. For methodological simplicity, I have decided to define a nonprofit hospital as adhering to the legal definition of a nonprofit, but as I demonstrate in subsequent sections, the difference between the legal definition and theoretical explanations is noteworthy.

Turning to organizational behavior in the economic relationships between governments and hospitals, Puyvelde et al. (2012) suggested that nonprofit contractors, and thus nonprofit hospitals, are better stewards of the public good than their for-profit counterparts, though the empirical evidence does not support this contention in all industries. A thorough examination of many of the theories discussed above provides ample support for this conclusion. For example, Jensen and Meckling (1976) suggested that contracts exist to minimize the moral hazard associated with the motivation for maximizing one's value in an economic exchange relationship by taking advantage of information asymmetry. Therefore, such motivations increase monetary and social costs in the form of increased contract transaction costs—no such motivation exists under the nondistribution constraint in a nonprofit, however.

Davis et al. (1997) outlined several organizational and management structures likely to facilitate stewardship development which are prevalent in nonprofit

organizations, such as nonprofit hospitals. Assuming these organizational and management structures are present, physicians and hospital employees will act in the best interest of their respective organizations, and thereby the best interest of any source of contractual organizational funding (Donaldson &Davis, as cited in Donaldson & Barney, 1990). Davis, Shoorman, and Donaldson's (1997) more detailed explanation of the theory suggests they will do so due to internal control mechanisms. This is in stark contrast to agency theory's assertion that agents will act in their own economic self-interest without external controls on their behavior (Jensen &Meckling, 1976). The Centers for Medicare and Medicaid Service's goal is to increase access to quality healthcare for Americans, particularly seniors and the poor, while controlling costs. If nonprofit hospitals are stewards of the public good rather than agents, they will exhibit measures of quality, access and cost control more consistent with CMS's goals than those among their for-profit counterparts.

Hospitals' Relationships with Government

As mentioned above, private hospitals are government contractors in that over half of the procedures they perform are funded through Medicare and Medicaid (Centers for Disease Control, 2010). In addition, the Patient Protection and Affordable Care Act of 2010 (ACA) will likely increase the amount of revenue hospitals receive from government agencies (Dorn, Buettgens, Holahan, & Carroll, 2013). Nonprofit hospitals, depending on one's point of view, also receive a payment in the form of tax exemptions for the community benefit they provide. Therefore, applying a theoretical framework based in large part on the economic relationship theories mentioned above is appropriate.

The following sections will explore literature related to hospitals' relationships with government including Medicare and Medicaid, the ACA, and tax exemption, which supports this contention.

Medicare and Medicaid

Medicare and Medicaid are federally-financed insurance programs designed to provide health coverage to populations that would not otherwise be able to afford it, namely seniors, the poor, and those who qualify for designated funding programs such as hospice and end stage renal disease (ESRD) (Laugesen, 2009). Medicare and Medicaid funding arrangements do not represent contracting arrangements in the classical sense, but Cooper (as cited in Collins & Gerber, 2008) suggested that any exchange between a funding government and a private provider is similar to a contract for management purposes. Thus, hospitals that receive Medicare and Medicaid funding are, for management and policy purposes, government contractors.

Since Medicare's inception in 1965, Congress has taken several distinct approaches to regulating it (Laugesen, 2009). These began with a system whereby physicians set rates for services in their localities through local entities charged with administering the programs. Providers took advantage of this ability to essentially control reimbursement rates outside of regulatory oversight which led to increased healthcare costs. Congress has attempted to address this issue through a series of regulatory approaches with varying degrees of success. According to Laugeson (2009), Congress's first attempt to control costs tied fee increases to physicians' cost of doing business. When that failed to control costs, policy makers attempted to curb costs by setting

national spending targets which also failed to control spending. The current system is one in which the CMS issues calculated adjustments to reimbursement rates yearly, only to have Congress change them under pressure from physician interest groups when they are negative.

The literature related to Medicare and Medicaid contracting focuses on large-scale recommendations to address healthcare policy. For example, Jacobs (2007) suggested returning to an incremental expansion of Medicare as a method for achieving a national health insurance plan, though his article was published prior to the passing of the Patient Protection and Affordable Care Act that largely accomplishes this. Tanenbaum (2009) extensively reviewed healthcare policy that favors pay-for-performance in Medicare reimbursements. She suggested such policies would not be as successful as policy makers expect because physicians are indeed motivated to do what is in their economic best interest, but they are not motivated to do only that; in certain circumstances they are also motivated by nonprice mechanisms. Stewardship represents a nonprice incentive for physicians and other medical professionals to act in the public's best interest and may therefore expand policy makers' understanding of healthcare contracting. My review of the healthcare contracting literature, however, yielded no studies related to stewardship in such relationships.

Medicare legislation exists in four parts: Part A, Part B, Part C, or Medicare Advantage, and Part D. Hospitals and some other providers are reimbursed through Part A and are incentivized to minimize the cost of care because doing so allows them to realize the margin between the cost of care and the Medicare reimbursement rate (White

& Ginsburg, 2012). Physicians are reimbursed through Part B which reimburses them based on the services they provide (Brunt & Jensen, 2010). This gives them an incentive to provide more services and, where possible, higher cost services. Part C allows beneficiaries to choose between private health plans. In developing it, policy makers attempted to transfer private market efficiencies to the program (Mcguire, Newhouse, & Sinaiko, 2011). Part D provides drug coverage to beneficiaries (Kesternich, Heiss, McFadden, & Winter, 2013).

ACA

Congress passed the ACA in 2010 in an effort to expand health coverage to uninsured and underinsured Americans and President Barack Obama signed it into law on March 23 of that year. The legislation includes seven main provisions: 1) Medicaid expansion to cover a larger portion of poor, uninsured Americans; 2) a requirement that all citizens purchase health insurance or show evidence of insurance coverage through other means (eg. Enrollment in employer insurance programs); 3) a provision for the development of state-run insurance exchanges through which citizens can purchase insurance; 4) a requirement that employers employing more than 50 people provide health insurance to their employees; 5) an extension of the Children's Health Insurance Program; 6) tax incentives for businesses employing fewer than 25 people to provide health insurance 7) a requirement that insurance companies allow dependents to remain on their parents' plan until the age of 26; and 8) a ban on insurance companies' practice of refusing to cover pre-existing medical conditions (Patient Protection and Affordable Care Act, 2010). These main provisions are supplemented in the legislation by several

hundred specific requirements as outlined under the ACA's 10 titles: 1) Quality, Affordable Healthcare for all Americans; 2) The Role of Public Programs; 3) Improving the Quality and Efficiency of Healthcare; 4) Prevention of Chronic Disease and Improving Public Health 5) Health Care Workforce; 6) Transparency and Program Integrity 7) Improving Access to Innovative Medical Therapies; 8) Community Living and Support Services Act; 9) Revenue Provisions; and 10) Reauthorization of the Indian Health Care Improvement Act (Patient Protection and Affordable Care Act, 2010).

Scholars have examined the ACA relatively extensively since its passage. In June of 2011, the *Journal of Health Politics, Policy and Law* published a collection of essays designed to explore the legislation's implications (Grogan, 2011a). Some of these critiques focused on placing the ACA in its historical and political context (Brasfield, 2011; Feder, 2011; Gottschalk, 2011; Greer, 2011; Grogan, 2011b; Morgan & Campbel, 2011; Morone, 2011; Quadagno, 2011; Sparer, 2011). Others focused on cost control and regulatory policy issues (Gusmano, 2011; Jost, 2011; Laugesen, 2011; Luft, 2011; Oberlander, 2011; Rice, 2011), other substantive issues (Frankford, 2011; Hall, 2011; Mechanic, 2011; Miller, 2011; Pollack, 2011) and the impact on existing programs (Gitterman & Scott, 2011; Thompson, 2011) associated with the legislation. Still others compared the reforms in the ACA to healthcare systems around the world (Marmor, 2011; Okma, 2011; Tuohy, 2011) and addressed the healthcare reform's future (Jacobs, 2011; Jacobson, Napiewocki, & Voigt, 2011; Kersh, 2011; Oliver, 2011; Pauly, 2011; Rodwin, 2011). As the ACA was largely unimplemented at the time these scholars examined it, and indeed continues to be largely unimplemented at the time of this writing,

these essays reflect their expert opinions based on past research and do not contain rigorous scientific research. My review of the literature in this area yielded only authors' expert opinions and no rigorous scientific study. Thus, questions related to what the ACA will actually accomplish remain largely unanswered. It will suffice to say, however, that the legislation represents an intensification of the relationship between governments and healthcare providers such as hospitals.

Tax Exemption

As mentioned above, the tax exemption nonprofit hospitals enjoy is seen by some as a payment of sorts for services nonprofits are seen to render to the government or the communities in which they operate. An exemption on federal income tax for charitable endeavors has been a part of U.S. federal tax law since the income tax's first implementation under the Revenue Act of 1861(Botwell, 1863, p. 275) but one can trace the philosophical roots of government manipulating charitable giving through tax policy through British Common Law of the late 16th and early 17th century (Fishman, 2008) to Judeo-Christian scripture (Genesis 47:24-26, American Standard Version). Congress legislated the current exemption under the Revenue Act of 1913. Though the exemptions differ from state to state, states also exempt nonprofits from income taxes, sales taxes, and property taxes (Mikesell, 2009; Walker & Sipult, 2011).

Outside the debate surrounding nonprofit hospitals' tax status, there exists debate related to the tax exemption for nonprofits in general. Academics such as Cloverdale (2010) have attempted to explain, if not justify its existence while others have criticized it (Malani & Posner, 2007). Supporters defend it on the grounds that it supports altruism

in society (Cloverdale, 2010). Critics, such as Malani and Posner (2007) argued that the tax exemption such as it is promotes inefficiency in the market. Their argument, however, was for extending the exemption to for-profit firms pursuing charitable endeavors rather than restricting or eliminating the exemption for nonprofits. .

Outside of the few aforementioned theoretical works, there is a dearth of literature specifically related to tax exemption among nonprofits. I show in a subsequent section reviewing more recent literature on the subject, that scholars in this area have focused empirical work on comparing the behavior of the two forms rather than the normative reasons for tax exemption. Indeed, this is the approach I will take with this study.

To Tax or Not to Tax Nonprofit Hospitals: The Debate

One might argue that if a hospital complies with §501(c)(3) of the IRC, it should be exempt from federal taxes. There is some debate, however, related to whether some nonprofit hospitals meet the IRC requirements. Though one can concretely determine whether nonprofit hospitals conform with the nondistribution constraint by examining financial records, whether they engage exclusively in one or more of the endeavors listed in the IRC is sometimes open to debate. The following sections will provide some history on nonprofit hospitals' status as such and review related literature.

Charitable Activities

At first glance, one might argue that no hospital should qualify for nonprofit status under the language of the IRC because very few hospitals exist exclusively for any of the endeavors the regulation identifies as those that qualify an organization for such status. The IRS and courts, however, have recognized health promotion as a charitable

activity in instances when organizations provide assistance to the poor or conduct medical research (United States Government Accountability Office, 2008). Thus, hospitals can qualify for the exemption under the IRC if they engage in such activities.

Community Benefit

Nonprofit hospitals maintain their exempt status under what is known as the community benefit standard (United States Government Accountability Office, 2008). The standard is based on an Internal Revenue Service (IRS) revenue ruling requiring nonprofit hospitals to provide benefits to their communities (Internal Revenue Service, 1969). Prior to that ruling, the IRS required nonprofit hospitals to provide charity care to the extent that they were financially able to do so (Internal Revenue Service, 1956).

The IRS identified several characteristics hospitals should demonstrate to maintain their tax exempt status (Internal Revenue Service, 1956, 1969). In order to qualify as exempt, a hospital must: 1) operate an emergency room open to all members of the community regardless of their ability to pay; 2) be controlled by a board of trustees composed of civic leaders; 3) make facilities available to all qualified physicians; 4) use net revenue to expand facilities, research, or medical training; and 5) offer inpatient services to all members of the community regardless of ability to pay (Internal Revenue Service, 1956, 1969). These requirements are additional to the nondistribution constraint required by the IRC.

Though the above requirements do not identify the specific nature or amount of community benefit nonprofit hospitals should provide, the IRS requires nonprofit hospitals to identify their community benefit activities each year to maintain their tax

exempt status using IRS form 990 (United States Government Accountability Office, 2008). The United States Government Accountability Office (2008) found that there exists wide variation among nonprofit hospitals in how they identify community benefit, however. This variation is of concern to policy makers, as it inhibits their ability to hold nonprofit hospitals accountable for the provision of community benefit and it has created some debate as to what qualifies as such.

Consensus. There is some consensus among stakeholders as to what qualifies as community benefit (Bazzoli et al., 2010; Catholic Health Association (CHA), 2008; United States Government Accountability Office, 2008). As mentioned in Chapter 1, the Catholic Health Association (CHA) and the American Hospital Association (AHA) agree that charity care constitutes a community benefit (Catholic Health Association, 2008; United States Government Accountability Office, 2008). Indeed, charity care as community benefit is consistent with IRS regulations discussed above. These stakeholders also agree that the unreimbursed cost of means-tested government health programs such as Medicaid qualifies as community benefit.

Disagreement. The debate related to what constitutes community benefit centers around what is known as *bad debt*. Bad debt results from patients who were not identified as qualifying for charity care prior to treatment but, for whatever reason, do not pay medical bills or only pay partially. CHA (2008) guidance indicated that hospitals should not count bad debt as community benefit, arguing that hospitals should identify patients as requiring charity care *a priori*, thus distinguishing between charity care and bad debt. Conversely, the AHA takes the position that patients often lack the information hospitals

require to identify charity cases prior to treatment. Given the difficulty of doing so without such information, bad debt should be counted as community benefit.

Another area of disagreement between CHA and AHA involves Medicare payments. There is often a difference between the amount Medicare will reimburse for a procedure and the amount a provider generally charges for the procedure. This difference is known as the unreimbursed cost of Medicare. CHA (2008) argued that hospitals should not count the unreimbursed cost of Medicare as community benefit because these costs are likely to reflect inefficiency in hospital operations. On the other hand, the AHA argued that Medicare reimbursements do not always cover their associated procedures' costs. Thus, the difference is community benefit (United States Government Accountability Office, 2008).

The Debate and Scholarship

Given the above discussion, one might expect scholarship in this area to focus on community benefit, how it is defined, and how it should be defined. Indeed, several recent studies do focus specifically on these issues (Bazzoli et al., 2010; Evans & Carlson, 2011; Principe et al., 2012). There is, however, a large and growing body of literature that focuses on other aspects of the differences between for-profit and nonprofit hospitals (Bayindir, 2012; Horwitz & Nichols, 2011; Kramer & Santerre, 2010; Schirra, 2011). The policy implications of such research are unclear, as only those studies related to community benefit as discussed above directly inform policy decisions related to such differences. The existence of such research does, however, suggest that scholars consider variables other than charity care, bad debt, and the unreimbursed cost of Medicare and

Medicaid indicators of community benefit which implies making tax policy decisions based solely on those variables might lead to unforeseen social costs. Horwitz (2003) explicitly argued that the, "near exclusive focus on charity care as an acceptable justification for tax exemption is too narrow" and that, "policy should reflect the other important public benefits disproportionately provided by not-for-profit hospitals" (p. 3). In the current study, for example, I considered measures of perceived quality and access as indicators of community benefit. These variables are relevant to the debate and may offer policymakers insight as they develop policy in this area. This section will include a review of literature in this area including the findings of literature comparing the two hospital types, and a review of the variables researchers have used to compare them. I will then review literature related to the ACA's impact on the debate.

Comparison. Rotarius et al. (2005, 2006) and Rosenau and Linder (2003) extensively reviewed both the academic and gray literature from the previous two decades related to differences between nonprofit and for-profit hospitals and found evidence that nonprofits and for-profits were similar in some ways, but not in others. Rotarius et al. (2005, 2006) found that in some areas, the literature was inconclusive in that some studies indicated differences in a particular area while others did not. For example, they cited Sloan et al. (2001) who found no difference between nonprofits and for profits in terms of quality, but also discussed a meta-analysis Devereaux et al. (2002) performed that suggested nonprofits achieved higher quality care. Overall, however, Rotarius et al. (2005, 2006) found that nonprofit hospitals provide more benefit to their communities than their for-profit counterparts. Rosenau and Linder (2003) took a

different approach and analyzed the literature based on authors' conclusions. They found that out of 149 studies, 59% suggested nonprofit hospitals were superior, 12% suggested for-profits were superior and 29% suggested there was no difference. Based on these findings, they advised caution in considering policies that would encourage nonprofit hospitals to convert to for-profit institutions.

More recent literature related to the two hospital types yielded similar results. Some studies indicated no difference in the performance of nonprofit and for-profit hospitals. For example, Kim et al. (2009) found that ownership type had no relationship with the amount of uncompensated care hospitals provide. Others found significant differences between hospitals with different ownership types. Bayindir (2012), for example, found significant differences between hospitals with different ownership types in terms of treatment procedure choices. Still other studies in this area, such as Plante's (2009) matched-sample study of urban hospitals in northern California yielded mixed results among several variables.

Variables. Quality is not the only measure arguably not directly related to community benefit researchers have used as an indicator of hospital performance. In addition to those that used quality to assess performance, Rosenau and Linder (2003) identified studies that used access and cost/efficiency to compare hospitals with different ownership structures. These were in addition to those studies using measures directly related to community benefit: access and amount of charity care provided. More recently, some researchers have turned to service offerings among hospitals of different forms (Bayindir, 2012; Horwitz & Nichols, 2011).

Horwitz and Nichols (2009, 2011) suggested market characteristics are also relevant to the discussion Thus, simply studying differences between nonprofit and for-profit behavior ignores one relevant factor: the interaction of hospitals with different ownership structures in local markets. The results of such research indicate that market mix, or the relative numbers of for-profit, nonprofit, and government hospitals in a market, affects hospital behavior and therefore removing one type of hospital from the mix might have unforeseen social costs.

My review of the literature in this area yielded no recent scholarship using patient satisfaction, or perceived quality, to assess the differences between nonprofit and for profit hospitals. Indeed, Rosenau and Linder (2003) deliberately excluded from their analysis any study that used such an indicator as a measure of quality citing Landon and Epstein's (2001) assessment of the differences between for-profit and nonprofit health plans serving Medicaid patients as evidence that the relationship of patient satisfaction to quality is uncertain. Landon and Epstein (2001) made no such assertion, however, as their study used surveys of plan administrators and did not address patient satisfaction in any significant way. I will review the literature related to the connections between patient satisfaction and quality in later sections. It will suffice to indicate here that the lack of research using this variable represents a gap in the current literature. Also absent from the extant literature are studies comparing hospital types using access as a measure of community benefit.

ACA. One cannot participate in the debate in question without considering the ACA’s implications on U.S. health policy. This is true for several reasons. First, section

9007 of the act modifies § 501(c)(3) of the IRC to include a subsection requiring nonprofit hospitals to complete a community needs assessment once every three years and submit a report to the Secretary of Health and Human Services detailing how the hospital in question is providing for any identified needs. In addition, the ACA requires that the Secretary of the Treasury compile data related to the indicators of nonprofit eligibility discussed above and report them to Congress. What Congress will do with this information remains to be seen, but according to Horwitz and Nichols (2009), making policy decisions based solely on such information could be counterproductive.

Principe et al. (2012) addressed another question the ACA raises in this area: will the expansion of insurance coverage the act accomplishes and the associated reduction in demand for uncompensated care make the nonprofit form obsolete? They advanced an argument that nonprofit hospitals will be better able to pursue real community benefit in the form of activities such as service expansions under the ACA, as they will be able to shift resources they currently expend on uncompensated care to those areas. Schirra (2011) made a similar argument.

As mentioned above, the actual effects of the ACA remain to be seen. The debate related to nonprofit hospitals' tax exemption is likely to continue unabated regardless of these effects. They are likely to influence the debate, however. Therefore, expanding academic knowledge related to the differences between the two forms as I propose to do with this study will continue to inform the debate after the ACA's implementation.

Independent Variables

Quality

Scholars in management and organizational behavior have studied quality extensively since the advent of scientific management in the early part of the 20th century. Recently, healthcare administrators have applied many of the ideas developed in those areas to healthcare. Quality is an ambiguous term in healthcare, however (Shi & Singh, 2012). The literature in this area is wide and varied, but related articles generally fit into two broad categories: developing quality improvement models and measuring quality in various settings. Indeed, one must decide what quality means, how to measure it, and how to go about addressing areas of concern if one is to effectively improve quality. The following will include a discussion of the quality literature in these two areas and, as I have chosen to focus on patient satisfaction as an indicator of quality, a review of studies specifically related to that variable and a justification of its use. I will start by placing current efforts in this area into their historic context and defining healthcare quality.

Healthcare quality history. As mentioned above, healthcare quality is a largely ambiguous topic. To better understand it, one must place current efforts to address quality in their historical context. Shi and Singh (2012) provided a detailed history of the U.S. healthcare system; unless otherwise indicated, the remainder of this section is a synopsis of their review and is attributable to them.

The healthcare market operated much like any other free market in the pre-industrial era, from colonial times to the beginning of the 20th century, and prior to government intervention in the healthcare system. In simple terms, providers offered

services and those whose services consumers deemed appropriate and effective, or of high quality, succeeded in the marketplace while those whose services consumers deemed ineffective, or of low quality, failed. Thus, the market itself regulated and encouraged quality. Institutionalized medicine had not yet materialized in the United States so barriers to entry in the healthcare market were nonexistent—anyone could practice medicine.

During the post-industrial era, beginning at turn of the 20th century, medicine in the United States became more institutionalized. A medical education system developed along with standards for practicing medicine, including state licensure requirements for physicians. In addition, advances in medical technology created procedures physicians could use to treat a wider range of conditions. Many of those procedures, however, required facilities more sophisticated than those available in physicians' private offices. Hospitals evolved from the almshouses and pesthouses of the pre-industrial era into facilities resembling today's hospitals to meet this need. These advances led to increased healthcare quality. The increasing sophistication in medical care also led to information asymmetry, however, or a large difference between the amount of information consumers in a market have and the amount of information providers in that market have. Markets with high information asymmetry are characterized by an inability among consumers to effectively judge the quality of the products and services those markets provide which often causes inflated prices in the market due to overpayment for low quality goods and services.

In the 1960s, access to healthcare appeared on the policy agenda. As mentioned above, I will review issues related to access in subsequent sections. I mention it here only because government efforts to increase access were largely the impetus for today's quality improvement efforts. In the middle of that decade, Congress developed Medicare and Medicaid, discussed in a previous section, to address issues related to access and became a payer for health services. The nature of these programs and the information asymmetry mentioned above resulted in increases in healthcare spending which, by the mid-1990s, led to efforts to reduce costs in the system. Those efforts created intuitive concerns that controlling costs would negatively affect quality. Thus, quality in healthcare became, and continues to be, a major policy issue.

Defining quality. A central reason for the ambiguity associated with quality in the U.S. healthcare system is the lack of consensus related to what quality is (Shi & Singh, 2012). The Institute of Medicine (IOM) (2001), in its seminal report on the quality of the U.S. healthcare system, defined quality as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (p. 232). In that report, the IOM outlined severe shortcomings in the quality of care the U.S. system delivers and, based on its definition, identified six features of a high-quality healthcare system. The Centers for Medicare and Medicaid Services subsequently adopted IOM's suggestions as its quality improvement goals. They include creating a system that is safe, effective, efficient, patient-centered, timely, and equitable.

The Centers for Medicare and Medicaid Services has taken steps to improve these features in the U.S. healthcare system through its quality roadmap which is based in part on IOM's definition of quality and identified features of a quality healthcare system (Centers for Medicare and Medicaid Services, n.d.). Of particular interest to the current study are CMS's initiatives to improve patient-centeredness in the system in an effort to increase the outcomes desired by those receiving treatment as measured by their perceptions of the quality of the care they receive. The Centers for Medicare and Medicaid Services' recently implemented value-based purchasing initiative is evidence of this. Under this new payment system for hospitals, a portion of reimbursements will be based on patient reports of the quality they report their experiences of care.

Measurement models. Scholars have developed several theoretical models to measure quality in the healthcare system. Donabedian (1966) developed perhaps the -most well-known model through his critique of the state- of- the- art of study in the quality of medical care, asserting that quality is associated with three domains: outcome, process, and structure. Outcomes are health services' final results, processes are the technical aspects of the delivery of care such as treatment procedures, and structures are the resources available for providing care such as facilities and provider skill level. Donabedian suggested that aspects of care do not always fit neatly into a particular domain and are often a part of more than one.

Scholars have augmented Donabedian's (1966) model in the years since its development. Recent developments in this area include, the collaborative model Schwalenstocker et al. (2008) described for addressing quality measurement issues in

pediatric care and Kaplan, Provost, Froehle, and Margolis's (2012) model for understanding success in quality improvement endeavors. These models address the ambiguity associated with healthcare quality on some level and attempt to fill gaps in prevailing quality assessment approaches.

Measuring quality. Researchers conducting studies focusing on measuring quality in the U.S. healthcare system have used various indicators of quality in different settings. Variables, or quality indicators, are often associated with one or more of Donabedian's (1966) domains. For example, Jiang, Lockee, Bass, and Fraser (2009) used process of care measures and hospital-level risk-adjusted mortality rates as indicators of quality in assessing whether board oversight of quality assurance affects quality levels. Clearly, process of care indicators, such as whether heart attack patients receive aspirin within 24 hours of admission, are associated with Donabedian's (1966) process domain and mortality rates are associated with his outcomes domain. Patient satisfaction, as it was used in this study, is associated with both of these domains, as patients experience the process of care and the outcomes of that care.

Patient satisfaction as a measure of quality. As mentioned above, healthcare quality had become a major policy issue by the end of the 1990s as a result of the perception that controlling costs represented a danger to quality (Shi & Singh, 2012). Scholars began focusing on patient perceptions of quality, or patient satisfaction, prior to that time, however (Kramer, Fuhrer, Keith, & Materson, 1997). By the mid-1990s, they had published enough literature to support meta-analysis of work involving patient satisfaction as an indicator of quality (Wensing, Grol, & Smits, 1994). This literature

received criticism due to methodological issues associated with defining and measuring the concept creating the need to develop a model and measurement instrument for studying it (Sixma, Kerssens, van Campen, & Peters, 1998).

More recent patient satisfaction literature is wide and varied and includes literature intending to develop and continue to augment current measurement models (Hekkert, Cihangir, Kleefstra, van den Berg, & Kool, 2009), literature covering the development of instruments for measuring the construct and related constructs (Kim, Kim, & Boren, 2008), and studies of the construct's relationships with process, structure, and outcome variables associated with the healthcare system (Boulding, Glickman, Manary, Schulman, & Staelin, 2011; Isaac, Zaslavsky, Cleary, & Landon, 2010; Moore, McMullen, Woolford, & Berger, 2010; Otani, Waterman, Faulkner, Boslaugh, & Dunagan, 2010), particular demographic and social groups (Brooks-Carthon, Kutney-Lee, Sloane, Cimiotti, & Aiken, 2011; O'Brien & Shea, 2011), and patients with particular conditions (Kaplan et al., 2012; Lis, Rodeghier, Grutsch, & Gupta, 2009). In addition, there exists literature describing the importance of tracking patient satisfaction and how providers can apply patient satisfaction measures to quality assurance and improvement efforts (Cliff, 2012; Levoy, 2012).

There is some debate related to whether patient satisfaction is an appropriate indicator of quality in the healthcare system. Tzeng and Yin (2008), for example, argued that there are significant differences between quality and patient satisfaction and that in some cases, pursuing patient satisfaction in the face of limited resources will harm the actual quality of care provided. I hesitate to make a normative judgment on the

appropriateness of using patient satisfaction as an indicator of quality. The reality in the field, however, is that it *is* used as an indicator of quality, though not the only indicator. The Centers for Medicare and Medicaid Services, for example, considers patient satisfaction a relevant variable in determining reimbursement rates for hospitals (Satisfaction data zeros in on areas to improve, 2010) and hospitals ignore patient perceptions of the quality of care at their own peril, as healthcare consumers could pursue care elsewhere, thus negatively affecting those hospitals' revenue. In addition, Isaac, Zaslavsky, Cleary, and Landon (2010) found evidence that patient satisfaction is positively correlated with objective technical quality measures across a range of services provided ($r = 0.15$ to 0.63; $p < .05$ for the range), though it is broader in its scope than such measures. Patient satisfaction may therefore provide more comprehensive results than other quality measures. Thus, I find that regardless of the debate related to its appropriateness, patient satisfaction is a relevant subject of study.

Though I found no reference to it in the literature, it seems that one might also argue that patient satisfaction is irrelevant to the current question in light of the above discussion related to community benefit. I would counter, however, that if there is a difference between patient satisfaction associated with for-profit and nonprofit hospitals, that difference could be considered community benefit, as the community pays no more for the extra satisfaction and any member of that community is equally entitled to it. This argument is in addition to the broader sense of community benefit discussed above some scholars employ that supports the view of patient satisfaction as community benefit, or at least the idea of broadening the boundary of what constitutes community benefit.

Access

Like quality, access is a largely ambiguous term in U.S. healthcare. It is, however, one of the "three major cornerstones of healthcare delivery" (Shi & Singh, 2012, p. 472). Access is an issue that is somewhat unique to healthcare, though some social scientists study it as an issue in social policy. For example, scholars have addressed issues like equal access to government services. In private markets, however, access has received significantly more attention in healthcare than in industries producing other goods and services. Indeed, access to healthcare is a more significant social issue than is access to consumer goods like cars or television sets—one can live without the latter, but often cannot without the former. The literature in this area is not as wide and varied as the literature related to quality, but like that literature, articles related to access generally either attempt to develop or augment conceptual models or to measure access in different settings. In the following sections I will review this literature, discuss common access measures, and provide a justification for my choice of service availability as an indicator of access. Prior to doing so, however, I will discuss the definition of access and place the concept into its historical context.

Defining access. Prior to placing access into its historical context, one must reach a definition of the term. Shi and Singh (2012) defined healthcare access as the "ability of a person to obtain healthcare services when needed" (p. 493). The ability to obtain care when needed is affected by several variables that include, but are not limited to whether a person can afford care, whether that person has an accessible source of care, and whether that person wants to obtain care. The literature reflects slight differences in the definition

of access depending on the conceptual model through which one chooses to view it, but Shi and Singh's definition reflects the basic idea behind access and is thus appropriate for use in this study. I will discuss the variations in the definition among conceptual models below.

A short history of access in healthcare. During the pre-industrial era, the market drove access to healthcare (Shi & Singh, 2012). Those who could afford medical care received it. Those who could not either went without treatment or received treatment through civil society. For example, the indigent often received care from the precursors to modern hospitals: charitable pesthouses and almshouses.

As mentioned above, access to healthcare became a major public policy issue in the mid-1960s after the federal government became a major payer for health services. Prior to that time, utilization in healthcare had been on the rise, which coincided with the developments in the healthcare market discussed above (Andersen , 1968). As medical care became more sophisticated, for example, consumers placed more trust in the healthcare delivery system's ability to effectively treat illness and were thus more likely to use the system. The increased utilization represented an increase in access, as it removed a barrier from people's ability to obtain needed care: the belief that the care is unlikely to resolve their health issues. In addition, the health insurance market developed during the early part of the industrial era which removed financial barriers to receiving care (Shi & Singh, 2012).

Utilization statistics published over the course of the post-industrial age reflect these changes. For example, in 1930 The Committee on the Costs of Medical Care (as

cited in Andersen, 1968) found that less than 50% of people saw a doctor over the course of a year. By 2010, 80% of Americans came into contact with a medical professional at least once (Schiller, Lucas, Ward, & Peregoy, 2010). Of note is that these statistics reflect disparities between utilization rates among minorities and Whites and those of low socioeconomic status and the affluent and continue to do so. This suggests that some Americans encounter more barriers to access than do others.

Access models. Andersen (1968) developed the first and most widely-used conceptual model of access. He proposed that access among families was the result of a confluence of factors which included a family's level of predisposition for obtaining medical care, the number and level of enabling conditions present, and the perceived need for such care. A predisposition for obtaining medical care, Anderson explained, is the result of a belief that medical care will be effective, the social structure of the family and its other characteristics. Enabling factors include family and community resources and need includes the presence of illness and the family's response to that illness. Andersen (1978) argued that access could be made equitable by manipulating predisposing and enabling factors to ensure that medical care is distributed according to need.

Since its original development, scholars have augmented the Anderson model several times. According to Shi and Singh (2012), for example, Aday and Andersen refined it in 1975 and Aday and colleagues expanded it to address the role of public policy in the framework in 1980. Andersen (1995) traced this evolution of the model from its development through several phases: (a) phase one included the original model,

(b) phase two included the addition of public health policy, (c) phase three acknowledged the relevance of population health in the model, and (d) phase four recognized the, "dynamic and recursive nature of a health services' use model which includes health status outcomes" (p. 7). Andersen (2008) added a fifth phase to the model, developed during the 2000s, that recognizes the role of contextual determinants of access to care. More recent research appears to fit into this phase, as scholars attempt to incorporate changes in the health services delivery system into research in this area.

Though it is the most widely-used model, Anderson's (1968) is not the only access model scholars have developed. Ricketts and Goldsmith (2005) discussed and reviewed the strengths and weaknesses of the two most popular models. The Anderson model was, of course, included in their discussion but so was the later Penchansky and Thomas model which viewed access as a function of how well the health services system fits patients' needs. Penchansky and Thomas (1981) viewed access as a function of five dimensions of fit between the patient and the health services system: (a) availability, (b) accessibility, (c) accommodation, (d) affordability, and (e) acceptability. They defined each of these domains in terms of a relationship: (a) availability is the relationship between a patient's needs and the supply of health services available to meet them; (b) accessibility is the relationship between the location of the available resources and the patient's location; (c) accommodation is the relationship between the way the health delivery system is organized and the patient's ability to navigate through it as such; (d) affordability is the relationship between service prices, third-party payer involvement and willingness to cover them, and the ability of the patient to pay for services not covered;

and (e) acceptability is the relationship between client attitudes about provider characteristics and those providers' actual characteristics and the relationship between providers' attitudes about patient characteristics and their patient's actual characteristics.

Access measures. Access measures have evolved with the evolution of access models. Andersen (1968) first measured access in terms of utilization. Indeed, if one views access according to the original Anderson model, those who use the health services delivery system have access to the service and those who do not use the health services have no access to the services. During phase two of the Anderson model, scholars added patient satisfaction as an indicator of access (Andersen, 2008) and measured it in terms of process and outcome indicators much like those studied in the quality literature (Andersen, 1978). As mentioned above, Andersen (1978) viewed equitable access as the distribution of medical care according to need; he developed indexes for measuring access as such during phase two. Phase three saw the addition of health status indicators as access measures and phase four saw the inclusion of outcomes of health service use as determinants of enabling factors and thus indicators of access. Phase five, the current phase, adds study of aggregate contextual factors such as health organization and provider characteristics as indicators of access (Andersen & Davidson, 2011).

Access indicators, in the current model, are divided into categories of factors as they were in the original model: (a) predisposing characteristics, (b) enabling characteristics, and (c) need characteristics. In addition, indicators from subsequent phases of the model such as health behaviors and outcomes are included. Finally, the model includes indicators related to various dimensions of access:

Service offering mix as a measure of access. Clearly, access is a complex concept consisting of many variables. As this is a study of the access provided by U.S. hospitals, it is appropriate to narrow the access indicator evaluated to one over which hospitals have control, such as which services they provide. This is consistent with phase five of the model which, as discussed above, includes service provider characteristics. Though it is an incomplete measure of access for any individual consumer or group of consumers, service offering mix does provide an indicator of any given hospital's contribution to the community in terms of access. As such, several previous researchers used it in similar capacities.

Summary

The above discussion indicates that there is indeed a need for further research in this area. The question of whether non-profit hospitals do anything to earn tax exemptions that their for-profit counterparts do not do is far from answered. Relevant theory in this area suggests that there is a difference between the way non-profits and for-profits behave and previous research provides support for this contention in some industries. Thus, the independent variable in this study is appropriate, yet the hospital industry has yet to be studied extensively from this perspective.

The dependent variables are appropriate for several reasons. First, CMS, the agency that regulates government-funded hospitals, is interested in quality and access. Second, recent scholarship suggests the specific indicators the study will use for these variables, patient satisfaction and service offering mix, are indicators in which policy makers are or should be interested. Finally, such scholarship also suggests that these

variables are or should be related to the community benefit standard the IRS uses to determine whether a hospital qualifies for tax exemption under the IRC. The study proposed here will examine these understudied variables using the methods outlined in Chapter 3.

Chapter 3: Research Method

Introduction

As mentioned in chapter 1, the purpose of this study was to seek evidence that nonprofit U.S. hospitals provide better quality and access to patients in their communities than for-profit U.S. hospitals. A correlational design is appropriate for this study despite its limitations for reasons discussed in subsequent sections. I also discuss my proposed methodology, including a discussion of the population I studied, how I sampled that population, and the variables examined. I conclude the chapter with a discussion of threats to validity present in the study and a summary.

Research Design and Rationale

The current study sought to determine whether ownership structure, the independent variable, is more likely when higher levels of two dependent variables are present: quality measured in terms of patient satisfaction, and access measured in terms of hospital service mix profitability. A correlational design is appropriate for this study for reasons outlined in this section.

According to Campbell and Stanley (1963), studies like the one proposed here are weak in that they suffer from threats to internal validity to the extent that researchers are unable to use them to establish causality. Despite this limitation, the design is appropriate here, as the research question associated with this study asks whether a correlation exists between ownership structure and quality and access rather than whether ownership structure of any particular type causes differences in hospital behavior directly. Indeed, for the purposes of developing tax policy, policy makers must know that there is a

difference in behavior between the two forms, if there is one, but they can proceed without evidence that the difference is directly attributable to ownership structure. For example, nurses of a certain mindset might be attracted to nonprofit work and that attraction might be responsible for a correlation between ownership structure and quality, but that is of no consequence to tax policy; if the public receives a benefit because it allows for nonprofit hospitals, then it receives a benefit regardless of whether ownership structure itself or the mindset of nurses attracted to certain work environments actually caused the benefit to occur.

The chosen design made the research feasible in light of the resource limitations present. A more rigorous quasi-experimental design could be used to address the research question and suffer from fewer threats to internal validity, but time and resource considerations precluded the researcher from performing such a study given that the added resource expenditure would result in little added value. This is true because the research question seeks prediction, as measured by resulting Odds Ratios of the logistic regression models, rather than causation. Despite the mentioned weaknesses associated with the design, this study is not alone in the literature on this subject. Indeed, the two studies upon which this study design is based both used similar designs (Amirkhanyan et al., 2008; Horwitz & Nichols, 2011). According to Frankfort-Nachmias and Nachmias (2008), such studies are appropriate in the social sciences under certain circumstances and the literature in this area is teeming with examples of studies employing the techniques proposed here. This suggests that researchers in this area find value in such research. Thus, the study design is appropriate.

Methodology

As mentioned above, the current correlational study examined secondary data related to U.S. hospitals' patient satisfaction levels and service mix. It sought to determine whether high levels of these variables increase the likelihood that a hospital will be nonprofit versus for-profit.. This section describes the methods I used to determine whether such an increase in likelihood exists.

Population

The population this study examined included all private, for-profit and nonprofit hospitals operating in the United States that receive payments from the state or federal government in the form of Medicare and Medicaid reimbursements. It did not include government-run hospitals such as those operated by the Department of Veterans' Affairs, Department of Defense, or the Bureau of Federal Prisons due to their organizational structure and reimbursement forms differing from public-accessible hospitals. It did include quasi-governmental hospitals operating under IRC section 501(c)3 that receive government payments and tax exemptions. These population parameters allowed me to appropriately apply my theoretical framework, as each of these hospitals is in a clear economic relationship with the public and is thus either an agent or a steward of the public good. This is true, as all of the hospitals in the population receive government payments for services rendered. The nonprofits in the population also receive payments in the form of tax benefits, as discussed in Chapter 2.

Sampling and Sampling Procedures

According to the AHA, there are currently over 6,500 hospitals in the United States. The population for this study included all hospitals reported in the AHA database where there is corresponding CMS cost and quality report data available.

Data Collection

The data used in this analysis came from CMS's Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey and AHA's annual hospital survey. This section will detail how these data were collected from the originating database holder and how it was acquired for the study.

HCAHPS

In 2008, CMS began administering the yearly Hospital Consumer Assessment of Healthcare Providers and Systems (HCAPS) (CMS, 2010). The agency's goals administering the survey include collecting and disseminating data related to patient perceptions of care. The survey contains 32 questions and CMS requires hospitals to administer it to a random sample of adults at discharge from a wide array of medical services. This study will use these data from the HCAPS survey for univariate and multivariate analyses.

Annual Hospital Survey

The access data analyzed in this study will be secondary data collected by the AHA. According to the AHA (2012), it surveys 6,500 U.S. hospitals each year, including the hospitals of interest in this study, with a 70% response rate. Researchers consider this data valid and reliable, though it does have several limitations discussed below.

Variables

This study sought to determine whether the amount of satisfaction a hospital's patients report and the profitability of its service mix are good predictors of a hospital's ownership structure. To accomplish this, I viewed patient satisfaction and service mix profitability as predictor variables, or independent variables, and ownership structure as the dependent variable. As the dependent variable is categorical, I used logistic regression to determine whether higher levels of the dependent variables present increases the likelihood independent variable was in a particular category. The following sections provide details on variables and data analysis.

Operationalization. Chapter one contains operational definitions for the variables under examination in this study. Table 1 identifies these predictor and outcome variables, their data level, and the chosen test statistic.

Table 1

Variables and Test Statistic

	Variable Name	Data Level
Predictor Variable 1	Quality	Ratio
Predictor Variable 2	Access	Ratio
Outcome Variable	Ownership Structure	Nominal
Test Statistic: Odds Ratio Calculated using Logistic Regression		

Data analysis plan. As mentioned in Chapter One, I analyzed the variables using binary logistic regression, as the dependent variable in which I am interested in is

categorical. According to Field (2009), logistic regression is appropriate for determining whether one or more independent variables accurately predicts a categorical dependent variable. I will use the Statistical Package for the Social Sciences (SPSS) to conduct the analysis.

The central research question for this study was: What is the likelihood that a hospital with a high quality level, as determined by its patient experience of care score, and a high access level, as determined by a composite score of its service mix profitability, is nonprofit versus for-profit according to IRS classification under §501(c)(3) of the United States Tax Code? The dependent variable was ownership structure, either for-profit or nonprofit, and the independent variables were the level of quality and the level of access provided. I tested the following null hypotheses and hypotheses associated with the research question:

H_0: There is no difference in the likelihood that a U.S. hospital with a high quality level is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

H_1: Higher quality levels increase the likelihood that a US hospital is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

$H_{0:}$ There is no difference in the likelihood that a U.S. hospital with a high level of access is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

H_1: Higher quality levels increase the likelihood that a U.S. hospital is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

I obtained the necessary data from CMS and the AHA through their respective websites. The CMS data required are available for download from https://data.medicare.gov/data/hospital-compare. The patient experience of care score of interest in this study ranges from 0 – 100 and is available for each participating hospital. Higher scores are associated with higher perceived quality levels. The AHA data is available for purchase through http://www.ahadataviewer.com/book-cd-products/aha-guide/. The data identifies each responding hospital by ownership structure, thus providing the dependent variable. It also lists the services offered by each hospital from which I will calculate service mix profitability.

I developed the composite score for service mix profitability for each hospital using Horwitz and Nichols's (2009) determinations of service profitability. They identified the hospital services listed as available at a hospital or not in the AHA data as relatively profitable, relatively unprofitable, variably profitable, or of unknown profitability. To develop the composite score for each hospital, I planned to assign a 2 to relatively profitable services it offers and a 1 to relatively unprofitable services, variably profitable services and services of unknown profitability it offers. The sum of these scores for each hospital was to represent its composite score of service mix profitability.

I then conducted a binary logistic regression analysis to determine the likelihood that a hospital with high patient satisfaction scores and a relatively unprofitable service

mix is nonprofit. As indicated above, logistic regression was necessary, as one of the variables included in the data set is categorical in nature. The logistic regression equation used to determine the probability *P* that a hospital is nonprofit *N* was

$$P(N) = \frac{1}{1+e^{-(b_0+b_1Q+b_2A)}}$$

Where *e* is the base of natural logarithms, b_0 is the Y intercept, b_1 is the regression coefficient associated with Q, Q is the level of perceived quality as indicated by patient experience of care composite score, b_2 is the regression coefficient associated with A, and A is the level of access as indicated by the composite service mix profitability score.

Using SPSS vs. 21, I used the entry method of logistic regression, as it is appropriate for testing a theory (Field, 2009) and there is no reason indicated in previous research to use the stepwise method and risk suppressor effects. Though as expected, data from CMS and AHA was screened and clean, I chose a discrete value for missing data that does not correspond to any value that naturally occurs in the data and use the *missing data* feature to leave the missing data I do expect out of the analysis.

In Chapter 4 I reported the beta value, its standard error and *p* value for each predictor variable. In addition, I reported the odds ratio and its confidence interval. Using these statistics, I rejected the null hypothesis and inferred support for my research hypotheses.

After reporting the results of the analysis, I assessed the regression model. According to Field (2009), logistic regression must meet several assumptions. Linearity is assumed in the relationship between the predictors and the dependent variable using the logit of any categorical variables for the comparison, the errors associated with the

observations are assumed to be independent, and multicollinearity is assumed to be absent among the predictors (Field, 2009). According to Field (2009), incomplete information from the predictors, complete separation, and overdispersion in the data can also cause problems.

I used SPSS to assess how well the data fits the model. First, I examined a classification plot I generated using SPSS. In such plots, if the cases are clearly clustered on one side of the graph, it will indicate the data is a good fit for the model. I present the classification plot in an appendix along with all other outputs and syntax. Next, I examined the residuals. Assuming the model fits the data, I will expected around 5% of the cases in the data to have standardized residuals that exceed ±2. I examined the Cook's Distance associated with cases with standardized residuals greater than 3 to determine whether they had an undue influence over the model. Overall, these indicators gave an indication of whether the data was a good fit for the model.

Next, I tested the model's generalizability. I tested the linearity of the relationship between the predictors and the logit of the dependent variable by creating predictor variables that are the interaction of the predictor and its logit as Field (2009) described. An interaction between either of the predictor variables and its logit being significant indicated that the assumption had been violated. I then tested the multicollinearity assumption by using SPSS to run a linear regression to produce collinearity diagnostics as Field (2009) suggested. Values within the limits Menard (as cited in Field, 2009) and Myers (as cited in Field, 2009) suggested as respective benchmarks for identifying problems indicated whether the assumption had been met. In

addition, I examined the condition index values to determine whether any one was significantly larger than the others and the variance proportions to determine whether a collinearity issue existed.

Threats to Validity

As previously discussed, the study design itself suffers from several threats to internal and external validity. Campbell and Stanley (1963) discussed eight common threats to internal validity: (a) history, (b) maturation, (c) testing, (d) instrumentation, (e) statistical regression, (f) selection, (g) experimental mortality, and (h) selection-maturation interaction. They also discussed several threats to external validity: (a) reactive or interaction effect of testing, (b) interaction effects of selection biases and the experimental variable, (c) reactive effects of experimental arrangements, and (d) multiple treatment interference. This section will discuss these threats to validity as they relate to this study.

Several of the threats to internal validity are irrelevant to this study. For example, threats associated with time, such as those associated with history and maturation are of no concern in a study employing data collected at one time from among subjects. The threats to internal validity that were of concern in this study are associated with selection. Specifically, I had no control over group assignment or the interaction of potentially confounding variables that may account for the variation in my dependent variable. Logistic regression allowed me to determine whether there is a relationship between the dependent and independent variables under investigation, but it did not allow me to infer causality.

There was little need to establish causality in this study. This study sought to determine whether the likelihood that U.S. hospitals with high quality access levels are nonprofit versus for-profit so that policy makers can make better informed decisions about their tax treatment. If such a relationship exists between these two variables, policy makers will need further information and research attempting to establish causality will be warranted. This study represents a mere first step in this process.

Having addressed threats to internal validity, I will now address threats to external validity. The only potential threat to external validity relevant to this study is the possible effect of the interaction between selection and the dependent variables. Given this potential interaction, it is not possible to make a generalization that any observed difference in a sample is applicable to the entire population from which the sample was drawn. In this study, however, the sample included the entire population rendering any threat to external validity irrelevant.

Ethical Procedures

The Centers for Medicare and Medicaid Services and the AHA both take steps to ensure that the data they collect are collected according to certain ethical procedures. Since those organizations collect the data examined in this study, it is incumbent upon this researcher to examine those procedures prior to performing the analysis to ensure that they meet Walden University's ethical requirements. This section will include a discussion of the results of that examination and other potential ethical concerns.

The HCAHPS survey results are a matter of public record and can be downloaded at the CMS Hospital Compare website: https://data.medicare.gov/data/hospital-compare Though the data are collected at an individual level, the datasets CMS maintains are aggregated at the hospital level and no personally identifiable information on any individual respondent is included. Therefore, ethical concerns related to respondent privacy do not exist. Hospitals are required, as part of their payment agreement with CMS to provide this information to the agency with the understanding that it will be publicly released. Therefore, ethical concerns related to hospital organizational privacy do not exist either.

Participation in the annual AHA survey is voluntary. The association sends the survey instrument to targeted respondents, usually facilities' Chief Executive Officers, with information related to how the information will be used and how and to whom it will be released. The American Hospital Association validates the data, packages it, and prepares it for use. There are no ethical concerns associated with using the data, as it is collected, owned and released by AHA which seeks informed consent from respondents.

Summary

This study used a correlational design to determine whether high quality and access levels among U.S. hospitals increase the likelihood that they are nonprofit. Quality was measured in terms of patient satisfaction and access was measured in terms of service mix profitability. The data required was acquired from secondary datasets collected by CMS and AHA, which minimizes ethical concerns related to data collection. A multivariate logistic regression analysis determined whether the predictive relationship

of interest exists. This study design suffers from threats to internal validity to the extent that it will not establish causality. That is not the focus or intent of the study, however. Given that a correlation indeed exists, further research will be required to establish causality.

Chapter 4: Results

Introduction

The purpose of this correlational study was to seek evidence that nonprofit U.S. hospitals provide better quality and access to patients in their communities than for-profit hospitals. To that end, the associated research question was: what is the likelihood that a hospital with a high quality level, as determined by its patient experience of care score, and a high access level, as determined by a composite score of its service mix profitability, is nonprofit versus for-profit according to IRS classification under §501(c)(3) of the United States Tax Code? The theoretical framework associated with the study, stewardship theory, led to hypotheses indicating that hospitals that provide higher levels of quality and access are indeed more likely to be nonprofit than for-profit institutions. This chapter will discuss the data collection and results associated with the study.

Data Collection

Two entities provided the administrative data analyzed for this study: Centers for Medicare and Medicaid Services (CMS) and The American Hospital Association (AHA). The CMS data, downloaded on December 9, 2014, is publicly available for download at https://data.medicare.gov/data/hospital-compare and, at the time of the download, was the most recent data available. It identifies the ownership structure of each U.S. hospital of interest, the dependent variable of interest in the study, and includes the patient experience of care score for 2013, one of the independent variables of interest in the study, for all hospitals that receive payment through CMS and participate in that entity's

value based purchasing program. The data downloaded from CMS included patient experience of care scores in an appropriate format for use in the study; the data required no further manipulation.

The CMS data provided for the creation of a list of hospitals of interest that AHA used to compile a file identifying service offerings by hospital. I received the data file through e-mail under a licensing agreement on February 2, 2015. The data included data from the 2013 AHA survey, the most recent year available. The AHA data allowed me to compute the second independent variable of interest in the study, service mix profitability index scores, for the hospitals under examination using Horwitz and Nichols's (2009) determinations of service profitability. I assigned a 1 to cases where a hospital did not offer the identified service and services of unknown profitability, a 2 to relatively unprofitable services, and a 3 to relatively profitable services. The mean of all profitability scores for each hospital served as the index score for service mix profitability in the study. This computation method was a departure from the planned methodology described in Chapter 3 in the two ways described below.

First, as explained above, I assigned a 2 only to those services that are relatively unprofitable. This resulted in a more accurate representation of the service mix profitability of each hospital, as a hospital may have chosen a service designated as of unknown profitability or variable profitability in the research because it was known by that hospital to be profitable in its particular situation. The assignment of a 2 in such a case would be misleading.

The second departure from the original methodology was that rather than take the sum of the profitability scores that a hospital provides, I used the mean of the profitability scores a hospital provides. This provided for a more accurate comparison of hospitals because a hospital may have chosen to provide a single service because it is profitable. Therefore, that hospital's service mix is profitable. Another hospital may have chosen several unprofitable services in an effort to expand access. Therefore, its service mix is unprofitable. Taking the sum of the of the two as an indicator of service mix profitability, however, would indicate that the unprofitable hospital had a more profitable service mix than the profitable hospital because it offers more services. Conversely, the mean correctly identifies the hospitals as unprofitable and profitable, assigning them an index score of 2 and 3, respectively. Baseline descriptive statistics of the sample, including these changes, are displayed in Table 2.

Table 2
Descriptive Statistics

	N	Minimum	Maximum	Mean	SD
Hospital Ownership	2701				
Patient Experience of Care Score	2701	.9	29.7	12.16	5.41
Service Profitability Index Score	2305	1.08	2.53	1.81	.258

Sample Size

In the case of this study, the sample included all 2701 U.S. hospitals that receive funding through CMS; this is the entire population of interest. The CMS data was complete; the AHA data included 396 cases for which the services offered were unidentified. Because the sample included the entire population, the issues related to potential violations of the assumptions associated with logistic regression are of little consequence—Field (2009) noted that one can have a good model and draw conclusions

from one's data even if assumptions have been violated. Assumption violations merely restrict one's ability to generalize conclusions drawn from a sample to the entire population associated with that sample. Since the sample here includes the entire population, I can do so regardless of whether the model violates assumptions.

Results

I conducted binary logistic regression analyses to assess how well levels of quality and access predict ownership structure, creating a separate model for each independent variable. The results of my analysis allowed me to address my research question: What is the likelihood that a hospital with a high quality level, as determined by its patient experience of care score, and a high access level, as determined by a composite score of its service mix profitability, is nonprofit versus for-profit according to IRS classification under §501(c)(3) of the United States Tax Code?

Through my review of the literature, I proposed two sets of null hypotheses and research hypotheses to address the research question. The first of these was:

H_0: There is no difference in the likelihood that a U.S. hospital with a high quality level is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

H_1: Higher quality levels increase the likelihood that a US hospital is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

To assess these hypotheses, I created a logistic regression model including the reference and response classifications presented in Table 3. Table 4 displays the results of the analysis.

Table 3
Independent Variable Classifications: Hospital Ownership

	Observed		Predicted		
			Hospital Ownership		Percentage
	Hospital Ownership		.0	1.0	Correct
Step 0	For-Profit Hospital[c]	.0	0	533	.0
	Nonprofit Hospital[d]	1.0	0	2168	100.0
	Overall Percentage				80.3

a. Constant is included in the model. b. The cut value is .500. c. For-profit is the reference classification. d. Nonprofit is the Response classification.

Table 4
Binary Logistic Regression:
Predictive Power of Quality on Hospital Ownership Structure

		95% CI for Odds Ratio		
	B (SE)	Lower	Odds Ratio	Upper
Included				
Constant	8.89			
Quality	.07* (.01)	1.05	1.07*	1.09

Note: R^2 = .06 (Homesmer and Lameshow), .02 (Cox & Snell), .03 (Nagelkerke). Model $\chi^2(2) = 56.16$, $p = .000$.
* p =.000

The odds ratio, *Exp(B),* displayed in Table 4 is a good indicator of effect size. It indicates the change in the odds that a hospital will be nonprofit given a change in the predictor. The correlation between quality and ownership structure was significant and positive (b = 0.07; *Exp(B)* = 1.07; p = .000). These results indicate that for each unit increase in quality, a hospital is 1.07 times more likely to be nonprofit than for-profit. It also indicates that 7% of the difference in the likelihood a hospital is nonprofit as opposed to for-profit is attributable to quality. The range of the 95% confidence interval for these figures is completely greater than 1 for the relationship, suggesting that the

direction of the relationship observed in the sample is the same in the population, though as noted above, in this case the sample includes the entire population.

The second set of null hypotheses and research hypotheses I proposed to help answer my research question was:

$H_{0:}$ There is no difference in the likelihood that a U.S. hospital with a high level of access is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

H_1: Higher access levels increase the likelihood that a U.S. hospital is classified by the IRS as nonprofit under §501(c)(3) of the United States Tax Code versus a U.S. hospital classified by the IRS as for profit.

To assess this second set of hypotheses, I created a logistic regression model including the reference and response classifications presented in Table 5. The total sample size included in this analysis, 2305, differs from that included in the previous analysis due to missing data as previously described. Table 6 displays the results of the analysis.

Table 5
Independent Variable Classifications: Hospital Ownership

	Observed		Predicted		
			Hospital Ownership		Percentage
	Hospital Ownership		.0	1.0	Correct
Step 0	For-Profit Hospital[c]	.0	20	355	.0
	Nonprofit Hospital[d]	1.0	21	1908	100.0
	Overall Percentage				80.3

a. Constant is included in the model. b. The cut value is .500. c. For-profit is the reference classification. d. Nonprofit is the Response classification.

Table 6
Binary Logistic Regression:
Predictive Power of Access on Hospital Ownership Structure

		95% CI for Odds Ratio		
	B (SE)	Lower	Odds Ratio	Upper
Included				
Constant	6.03			
Access	-1.98* (.235)	0.09	.14*	.22

Note: R^2 = .03 (Homesmer and Lameshow), .02 (Cox & Snell), .03 (Nagelkerke). Model $\chi^2(2) = 18.98$, $p = .000$.
* p =.000

The correlation between access and ownership structure was significant and negative (b = -1.98; *Exp(B)* = .14; p = .000). These results are statistically significant, and they indicate that for each unit increase in the predictor variable access, a hospital is less likely to be for-profit than nonprofit. Thus, a hospital that provides higher levels of access as indicated by a low service mix profitability score is .14 times more likely to be nonprofit than for-profit. The range of the 95% confidence interval for these figures is completely less than 1 for the relationship, suggesting that the direction of the relationship observed in the sample is the same in the population though again, in this case the sample includes the entire population of hospitals who reported data. These results allow me to reject my null hypotheses and infer support for my research hypothesis.

Assessing the Models

According to Field (2009), logistic regression must meet several assumptions. Linearity is assumed in the relationship between the predictors and the dependent variable using the logit of any categorical variables for the comparison, the errors associated with the observations are assumed to be independent, and multicollinearity is

assumed to be absent among the predictors (Field, 2009). According to Field (2009), incomplete information from the predictors, complete separation, and over dispersion in the data can also cause problems.

Assumption violations are related to the generalizability of the model. Since the sample in this case included the entire population, there is no need to generalize the model from the sample to the entire population. Assumption violations, such as violations of the multicollinearity assumption, can also call effect sizes into question which can limit a researcher's ability to infer causality. However, Voss (2005) indicated that, though issues with multicollinearity may call predictor effect sizes into question, they do not affect the predictive power of the model. Thus, if one's intent is to establish a correlation, but not infer causality, a violation of multicollinearity is not a significant issue. Since I was interested in establishing that a relationship exists rather than determining causality a potential violation of the multicollinearity assumption would not have been a significant issue.

The above discussion of the mulitcollinearity assumption aside, I did not assess the models for violations of it. Since interaction effects between the predictors were not of interest in this study, I controlled for them by simply running two separate regression models with a single predictor in each model as described above. Thus, I avoided all potential confounding interaction effects, as the single predictor in each model had no other predictor with which to interact in the model.

To assess the models, I tested the linearity of the relationships between the predictors and the logit of the dependent variable by creating predictor variables that are

the interaction of the predictor and its logit as Field (2009) described. The interaction between quality and its logit was significant (p = .087) indicating that the assumption had been met for the first model. The interaction between access and its logit was also significant (p = .198) indicating that the assumption was met for the second model as well.

I then examined the residuals for each model. For the first model analyzing quality, around 8% of the cases in the data had standardized residuals that exceeded ±2 and 19 of those cases had standardized residuals that exceeded ±3. I examined the Cook's Distance associated with each case with a standardized residual exceeding ±2 and found that none exceeded 1, indicating that none of these cases had an undue influence over the model. In addition, none of the cases exceeded 2 times the average leverage. Overall, these indicators suggest the data is a good fit for the model.

For the second model analyzing access, around 9% of the cases in the data had standardized residuals exceeding ±2 and 50 of those cases had standardized residuals that exceeded ±3. I examined the Cook's Distance associated with each case with a standardized residual that exceeded ±2 and found that none exceeded 1, indicating that none of these cases had an undue influence over the model. In addition, none of the cases exceeded 2 times the average leverage. Overall, these indicators suggest the data is a good fit for the model.

Finally, I further assessed goodness of fit using the Hosmer and Lameshow test as Field (2009) suggested; statistical significance in this test is an indicator of badness of fit. Table 7 displays the Hosmer and Lameshow statistics associated with the models. For

model one assessing the predictive power of quality on hospital ownership, the test shows non significance (p = .347) indicating that the data is not a bad fit for the model. The test for the model assessing the predictive power of access on hospital ownership, however, was significant (p = .008), indicating the data is a bad fit for the model. This identified the second model as unreliable.

Table 7
Hosmer and Lameshow

	Chi-square	df	Sig.
Model 1: Quality	8.943	8	.347
Model 2: Access	22.439	8	.008

Post Hoc **Analysis**

Given that the Hosmer and Lameshow test indicated the data was a bad fit for the access model, I performed a *post hoc* analysis on the data to further examine the predictive power of access on hospital ownership. I recoded the data such that the patient profitability index score for each hospital represented the sum of all scores for that hospital. Then I divided the index scores into three categories: highly profitable, neutral profitability, and unprofitable. I assigned a 1, 2, and 3 to these categories, respectively.

Using the recoded data, I performed a binary logistic regression analysis to further assess how well the level of access a hospital provides predicts its ownership structure. In this model, both the independent variable, access, and the dependent variable, ownership structure, were categorical. I used a simple contrast that compared the second and third independent variable categories, neutral profitability and unprofitable, to the first, or baseline category, high profitability. As the baseline, high profitability was not responsible for any of the change in the likelihood that a hospital would be nonprofit as

opposed to for-profit predicted by the model. The model first measured the difference between the likelihood a baseline hospital would be nonprofit and the likelihood a neutrally profitable hospital would be nonprofit. Then, it measured the difference between the likelihood a baseline hospital would be nonprofit and the likelihood an unprofitable hospital would be nonprofit. The model included the reference and response classifications presented in Table 8. Table 9 displays the results of the analysis.

Table 8
Independent Variable Classifications: Hospital Ownership

	Observed		Predicted		
			Hospital Ownership		Percentage
	Hospital Ownership		.0	1.0	Correct
Step 0	For-Profit Hospital[c]	.0	0	375	.0
	Nonprofit Hospital[d]	1.0	0	1930	100.0
	Overall Percentage				83.7

a. Constant is included in the model. b. The cut value is .500. c. For-profit is the reference classification. d. Nonprofit is the Response classification.

Table 9
Binary Logistic Regression:
Predictive Power of Access on Hospital Ownership Structure

		95% CI for Odds Ratio		
	B (SE)	Lower	Odds Ratio	Upper
Included				
Constant	1.26			
Access (Highly Profitable)		*Baseline*		
Access (Neutral Profitability)	1.73* (.263)	3.36	5.63*	9.43
Access (Unprofitable)	.276** (.137)	1.01	1.32**	1.72

Note: R^2 = .03 (Homesmer and Lameshow), .03 (Cox & Snell), .05 (Nagelkerke). Model $\chi^2(2) = 62.02$, $p = .000$.
* p =.000, ** p = .04

This model indicated that the correlation between access, as indicated by neutral profitability, and ownership structure was significant and positive (b = 1.73; *Exp(B)* = 5.63; p = .000). These results indicate that a neutrally profitable hospital is 5.63 times

more likely to be nonprofit than for-profit. The range of the 95% confidence interval for these figures is completely greater than 1 for the relationship, suggesting that the direction of the relationship observed in the sample is the same in the population, though, like all other analyses in this study, the sample included the entire population.

The model also indicated that the correlation between access, as indicated by low profitability, and ownership structure was significant and positive (b = .276; $Exp(B)$ = .1.32; p = .04). Therefore, the analysis showed that a hospital that provides a higher level of access is more likely to be nonprofit than for-profit. These results indicate that an unprofitable hospital is 1.32 times more likely to be nonprofit than for-profit. The range of the 95% confidence interval for these figures is completely greater than 1 for the relationship, suggesting that the direction of the relationship observed in the sample is the same in the population. In light of this more detailed *post hoc* explanatory model, the results of this analysis therefore allowed me to reject my null hypothesis and infer partial support for my research hypothesis, as the effect size for the neutrally profitable classification was much larger than that of the unprofitable classification.

Assessing the Model

I assessed this model using the same techniques used to assess the prior models. Similar to my assessment of those models, I did not assess this model for violations of multicollinearity, as this model included only one predictor. Thus, potential confounding interaction effects were not an issue.

As in my previous assessments, I tested the linearity of the relationships between the predictors and the logit of the dependent variable by creating predictor variables that

are the interaction of the predictor and its logit. The interaction between access and its logit was non-significant (p = .41) indicating that the assumption had been met for the model. Then I examined the residuals for the model. Around 11% of the cases in the data had standardized residuals that exceeded ±2 and 19 of those cases had standardized residuals that exceeded ±3. I examined the Cook's Distance associated with each case with a standardized residual exceeding ±2 and found that none exceeded 1, indicating that none of these cases had an undue influence over the model. Around 35% of the cases had leverage values that exceeded 2 times the average leverage. Given that the Cook's distances indicated that none of the cases was having an undue influence over the model, this was of little concern. Overall, these indicators suggest the data is a good fit for the model.

Finally, I assessed goodness of fit using the Hosmer and Lameshow test. Table 7 displays the statistics associated with this assessment. The test shows non significance (p = .347) indicating that the data is not a bad fit for the model. Overall, my assessment of this *post hoc* model indicated that the model does not violate any of the assumptions associated with logistic regression and that the data is a good fit for the model.

Table 10
Hosmer and Lameshow

	Chi-square	df	Sig.
Model 3: Access (Categorical)	8.943	8	.347

Summary

Overall, the results of these logistic regression analyses indicate that hospitals that provide higher levels of quality and access are indeed more likely to be nonprofit than for-profit. This allowed me to reject my null hypotheses and infer support for their related

research hypotheses. The assessment of the quality model indicates that it is a good fit for the data. Though the assessment of the first access model indicated that the data is a bad fit for the model, the assessment of the *post hoc* model, where data transformations were conducted to better examine the relationships between the variables, indicated that it is. These results are consistent with the related literature discussed in Chapter 2. I will place these results into the context of that literature in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative correlational study was to seek evidence that nonprofit hospitals provide better quality and access than their for-profit counterparts. The study was conducted to add to the body of knowledge related to hospital behavior so as to provide policymakers with more complete information as they make decisions related to the tax treatment of hospitals. As with previous literature in this area, the results of the study are mixed. They indicate that nonprofit hospitals in an economic relationship with the Centers for Medicare and Medicaid Services (CMS) are indeed more likely to provide higher levels of quality and access than their for-profit counterparts, though perhaps nominal levels. This chapter will include a discussion of the implications of these results for public policy, social change, and further research one can draw from the results.

Interpretation of the Findings

The results of this study extend knowledge in public administration and the hospital industry in several ways. In addition, they appear to be consistent with literature related to the study's theoretical framework, stewardship theory. This section will include a discussion of the findings in the context of the relevant literature and theoretical framework.

Literature

The results of this study address several areas of need noted in the literature review. These include the lack of evidence related to the differences between for-profit

and nonprofit hospitals, the lack of a definition for community benefit, and the lack of knowledge related to government contractor behavior in certain industries.

Differences in nonprofit and for-profit hospital behavior. The study's focus was to provide evidence that nonprofit hospitals behave differently than their for-profit counterparts and thus deserve the tax exemptions they receive. The results of this study provide such evidence in that they indicate that nonprofit hospitals do provide higher quality and access levels than their for-profit counterparts. However, the effect sizes indicated by the model are small; thus it appears unlikely that the increased quality and access nonprofits are likely to provide justifies the tax exemption. Further study is needed to determine the value of the increased quality and access they provide to assess whether this is the case.

For the first variable under examination, perceived quality, the results indicate that a hospital providing a higher level of quality is 1.07 times more likely to be nonprofit than for-profit. The predictor accounted for 7% of the difference in the likelihood that a hospital providing a higher level of quality is nonprofit as opposed to for-profit predicted by the model. This supports the conclusion that removing nonprofit hospitals' tax exempt status could negatively affect the amount of community benefit associated with quality that those hospitals provide. However, it gives no indication of how much value is associated with the difference in quality. Further study is needed to determine the value of the increased quality nonprofit hospitals in an economic relationship with CMS provide to assess whether it justifies forgoing the revenue associated with the tax exemptions.

With regard to the second variable under examination, the results of the initial model proved unreliable. However, the results of the *post hoc* analysis indicated that hospitals providing higher levels of access are more likely to be nonprofit than for-profit. Therefore, nonprofits provide more value associated with access than for-profits. The predictive relationship is stronger for hospitals with neutral profitability, as they are over five times more likely to be nonprofit than for-profit and the model indicates that 73% of the predictive power of the model is attributable to neutral profitability. The remaining 27% is attributable to unprofitability; unprofitable hospitals are 1.31 times more likely to be non-profit than for-profit. This supports the conclusion that removing nonprofit hospitals' tax exempt status could negatively affect the amount of community benefit associated with access that those hospitals provide. However, as with the quality model, it gives no indication of how much value is associated with the difference in hospital behavior.

Though the question of value cannot be addressed in this analysis, one can examine the predictive power of the models and the extent to which that power is attributable to the predictors. The Hosmer and Lameshow's R_L^2 for the quality model was .06. This is an indication that the model only accounted for 6% of the total variation in ownership structure. As mentioned above, the variable under examination in that model, perceived quality, only accounted for 7% of the difference predicted by the model in the likelihood that a hospital providing a higher level of quality is nonprofit as opposed to for-profit. Given these percentages, the actual predictive value of quality is miniscule.

The *post hoc* access model also has modest predictive value. The Hosmer and Lameshow's R_L^2 for the model was .03.This is an indication that only 3% of the total variation in ownership structure can be accounted for by access. For the access model, though 100% of the predictive power of the model is attributable to two relevant levels of access, this only accounts for 3% of the total variation in ownership structure.

Given the small percentages discussed above, further study may very well find that even though nonprofit hospitals are likely to provide more quality and access than their for-profit counterparts, the value of that added quality and access does not meet or exceed the value the foregone tax revenue could provide in other policy areas. Indeed, one might expect the value of the added community benefit nonprofits are likely to provide to be considerably less than the value associated with the realization of currently forgone tax revenue. One should take care, however, to note that the results of this study provide no evidence that this so.

Focus on indigent care. The results of this study do provide some evidence that the near-exclusive focus on indigent care as a measure of community benefit noted in Chapter 2 is misguided. If policymakers were to decide to remove the tax exemption for nonprofit hospitals based on studies focusing exclusively on indigent care that indicate there is no difference between nonprofit and for-profit hospital behavior, communities would lose the benefit associated with the higher quality and access levels this study indicates nonprofits provide, though, as noted above, that benefit appears unlikely to justify the tax exemption. Quality and access, as defined in this study, however, were not the only potentially relevant, but unstudied variables in this context at the time of the

study's execution; those potentially relevant variables not examined here remain to be studied. Further research may identify variables such as the technical quality of care or the incidence of nosocomial infection that, like quality and access, may be more or less likely to be found among nonprofits than for-profits. In sum, the added value associated with those variables in terms of community benefit may be found to justify the tax exemptions nonprofits enjoy.

Limited evidence. The results of this study augment the limited knowledge of stewardship in government contractor behavior across various industries noted in Chapter 2. These results support the conclusion that the hospital industry is one in which nonprofits tend to behave differently than their for-profit counterparts. Indeed, this study provides evidence that they are better stewards of the public good, as discussed in the following section.

Theoretical Framework

The theoretical framework associated with this study is stewardship theory. As discussed in detail in Chapter 2, according to stewardship theory, agents will, under certain circumstances, act in their principals' best interest regardless of the existence of external control mechanisms emplaced to force them to do so. In doing this, they will become stewards of their principals' best interest. As discussed, the circumstances under which stewardship develops may include nonprofit status. The results of this study support this assertion; however, they do so weakly. In the hospital industry, stewardship may develop among nonprofits while for-profits remain agents as described by agency theory. Thus, nonprofit hospitals, who are government contractors, become better

stewards of the public good than their for-profit counterparts as measured on the defined variables: perceived quality and access.

Limitations of the Study

As with any research study, the current study had limitations. There are several limitations associated with the analysis described in Chapter 4. In addition, this study provides no information related to the public value associated with the effect size determined by the logistic regression models. Finally, one should note that these results apply only to nonprofit and for-profit hospitals in an economic relationship with the Centers for Medicare and Medicaid Services; to apply them to hospitals that rely exclusively on other forms of reimbursement or those with a different IRS tax status classification would be erroneous. The following section will discuss these limitations in turn.

Model Limitations

The current models are limited in two significant ways. The first, and perhaps most pronounced limitation, is that I used prior research to identify which services are profitable and which ones are not rather than attempting to determine the actual profitability of each hospital service through an examination of hospitals' financial reports. Though this is not unprecedented in the literature, it forces one to assume that a hospital service is profitable or unprofitable under every potential circumstance. Each hospital operates under a particular set of circumstances, however; in reality, it may be that a service is more or less profitable under a certain set of circumstances than Horwitz and Nichols (2009) suggested it is. Thus, there is a possibility that I identified one or

more services at individual facilities as more or less profitable than they are at those particular hospitals.

The second limitation associated with the models follows from the use of the *post hoc* analysis to examine my second set of hypotheses. In Chapter 4, I made an argument that using sums of profitability measures rather than means of those measures could result in a misidentification of a hospital's service mix profitability. That argument still holds, though the data coded in such a way as to avoid this danger proved a poor fit for the model. When I recoded the data into categorical level, I lost the advantage of avoiding the potential misidentification of a hospital's overall service mix profitability discussed in Chapter 4, as a mean is not an applicable measure of central tendency in categorical level data. The *post hoc* analysis was the next best method for examining the hypotheses, though it may have misidentified the hospitals' service mix profitability.

Causality

As noted in Chapter 1, this study was limited in that its quasi-experimental nature resulted in an inability to establish a causal relationship between the variables. A true experiment would have allowed for such control, but it would not have been possible to design such a study. The quasi-experimental design used here allowed the most feasible control for threats to internal validity as possible for the study.

Value

The logistic regression models presented in Chapter 4 illustrate that hospitals in an economic relationship with CMS that provide higher levels of quality and access are more likely to be nonprofit than for-profit. This alone does not give any indication of how

much value the difference in likelihood represents. Therefore, based on the results of this study alone, there is no way to determine whether the added value nonprofits are likely to provide to their communities justifies the expense to governments associated with forgoing the tax revenue those hospitals would generate if forced to become for-profit, though intuitively, as discussed above, it appears unlikely that they do. However, to make a normative judgment about nonprofit hospitals' tax exemption would be premature if based on such an assumption.

Population

One should avoid applying the results of this study to all hospitals. The population here includes only those hospitals in an economic relationship with CMS. There are a number of U.S. hospitals that do not receive funding through CMS. Though theoretically, such hospitals that provide higher levels of quality and access are more likely to be nonprofit than for-profit, this study does not offer any evidence that this is so.

Recommendations

This study represents the first step in a line of research. My results indicate that there is a relationship between levels of quality and access hospitals in an economic relationship with CMS provide and ownership structure. However, it leaves many questions unexamined, several of which are noted above. In this section, I will offer recommendations for further research.

Service Profitability

Further research is needed that examines the actual profitability of hospital services under each hospital's individual circumstances. This could be accomplished by

obtaining the actual financial results associated with the services offered by individual hospitals. Doing so would avoid the danger associated with using prior research to identify services as either profitable or unprofitable as I did in this study.

Levels of Access

The results of my *post hoc* analysis indicated that the odds that a hospital in an economic relationship with CMS that provides a high level of access is nonprofit as opposed to for-profit are greater if that hospital has neutral profitability than if it is unprofitable. The analysis provides no explanation for this. As this is a new development, it is not explained or discussed in the extant literature. I recommend further examination of this phenomenon; it may provide insight into variables that may affect service offering choice such as hospital size or affiliation status.

Causality

As this study is limited in that it does not provide evidence of a causal relationship between the variables, I recommend further research that seeks evidence specifically focused to examine causal relationships. This could be accomplished by identifying potentially confounding variables and controlling for their effects in the model. Another approach could be to study variables that may be responsible for part of the correlation as stand-alone predictors. For example, nurses with a certain personality type may be attracted to nonprofit work and employees with that personality type may be more likely to provide higher quality care. Thus, personality type among nurses may represent the actual cause in the relationship observed in this study. Identifying such causal relationships would strengthen the evidence in this line of research.

Quality, Access, and Market Mix

This study provides a foundation upon which to expand the work noted in Chapter 2 related to differences between nonprofit and for-profit hospital behavior and market mix. Perhaps hospitals in a relationship with CMS behave differently from other hospitals with the same ownership structure when they are the only facility in a market as opposed to when they are in competition with other hospitals with the same or different ownership structures. Examining related questions would provide policy makers with information they could use to make decisions at a regional or local level.

Value

I recommend researchers interested in healthcare economics devise methods through which to attach economic value to the difference in the likelihood that hospitals that provide better quality and more access are nonprofit rather than for-profit observed here. This would provide a means through which to measure the extent of the difference in the value hospitals with different ownership structures are likely to provide. Such information would assist policy makers as they make judgments related to the tax treatment of hospitals because they would have a method through which to determine whether the value added exceeds forgone tax revenue.

Expansion

Nonprofit hospitals are not the only healthcare facilities that receive tax exemptions. As noted in Chapter 2, stewardship is more prevalent among nonprofits as opposed to for-profits in certain industries, but not in others. The results of this study provide evidence that this is so among the population in question. However, this study

provides no evidence that it is so among healthcare facilities outside the population under examination. For example, one cannot claim that this study provides evidence that healthcare facilities that do not receive funding through CMS and provide high levels of quality and access are more likely to be nonprofit than for-profit. I recommend studying such facilities so as to provide policy makers with more complete information upon which to base decisions. This would also be true of research in this area related to healthcare providers other than hospitals such as walk-in clinics and home health organizations.

Implications

This study's implications are relatively narrow, as the study represents a first step in a line of research. The study does, however, have implications for positive social change, research, and practice. This section will detail those implications.

Positive Social Change

This study has implications for positive social change in that it is an early step in either protecting nonprofit hospitals' tax exemptions or allowing governments around the country to realize the currently forgone tax revenue associated with those benefits. Governments at all levels could use that revenue to provide social value in other policy areas. My results imply that removing or restricting the tax exemptions would likely result in a loss of community benefit associated with quality and access which, as noted in Chapter 2, has social value. Though my results also imply that quality and access by themselves are unlikely to provide enough social value to justify the tax exemptions, I can draw the conclusion from them that factors other than indigent care are relevant to

the policy area. Thus, further research is needed to identify other relevant variables and attach value to any differences in for-profit and nonprofit hospital behavior.

Practice and Research

The results of this study have implications for practice and research. They imply that nonprofit hospitals are likely to provide benefits to their communities that are, in practice, not generally thought of as community benefit. Indeed, perceived quality and access are not generally identified as a component of community benefit for tax purposes, but this study implies that they are relevant to any discussion of the concept. In addition, my results support the use of broad operational definitions of community benefit that include potentially relevant variables like quality and access in research in this area.

Recommendations for Practice

Industry associations such as the Catholic Hospital Association and the American Hospital Association, researchers, policy makers, hospital administrators, and other relevant stakeholders should reexamine the status quo as it relates to community benefit. The industry needs specific guidance on what is and what is not community benefit that addresses concepts like quality and access that have not historically been considered as contributors to that benefit. Researchers should provide empirical evidence like that presented in this study, policy makers should use that evidence to create effective tax policy, industry associations should use that policy to create guidance, and hospital administrators should use that guidance to identify and expand the community benefit their facilities provide. Policy makers should then use that information to hold hospitals accountable for the provision of community benefit.

Conclusion

This study presents evidence that nonprofit U.S. hospitals in an economic relationship with CMS are better stewards of the public good than their for-profit counterparts. Hospitals that provide higher levels of quality and access are more likely to be nonprofit than for-profit. As quality and access were previously unstudied in this context, the results indicate that the near-exclusive focus on indigent care as an indicator of community benefit is misguided. Indeed, if policy makers forced nonprofit hospitals to become for-profit based solely on evidence that they provide a similar level of indigent care as their for-profit counterparts, communities would lose the added quality and access benefits the results of this study indicate nonprofits are likely to provide. This supports the argument that definitions of community benefit should be revisited and variables other than the level of provided indigent care should be included in any definition of the term. Though my results indicate that nonprofit hospitals are likely to provide slightly more quality and access than for-profit hospitals, one should take care to avoid making a normative judgment about nonprofit hospitals' tax exemptions based exclusively on this study. I have made the argument that the lack of evidence available to policy makers upon which to base such judgments is an issue in the hospital industry. Though the evidence presented here begins to fill that gap by identifying the hospital industry as one in which stewardship theory may be more applicable than agency theory, it by no means does so completely. Questions related to potentially relevant variables other than quality and access, causation, and the value of the added benefit nonprofits are likely to provide remain unexamined. Indeed, based on my results alone, one could argue that due to the

small effect sizes, the actual social value associated with the differences in nonprofit and for-profit hospital behavior do not justify the tax exemptions, though this study presents no evidence that this is so. These, and related questions, I leave to future research.

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