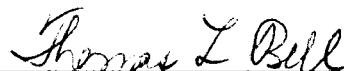


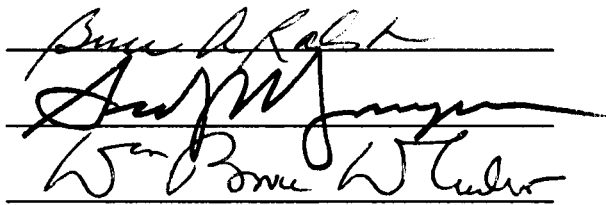
To the Graduate Council:

I am submitting herewith a dissertation written by Qian Guo entitled "The Geography of Urban Health Care Delivery in the United States: Locational Changes Incurred by Nonprofit Hospitals Since the Implementation of Medicare." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Geography.



Thomas L. Bell, Major Professor

We have read this dissertation
and recommend its acceptance:



Accepted for the Council:



Associate Vice Chancellor and
Dean of The Graduate School

**The Geography of Urban Health Care Delivery in the
United States: Locational Changes Incurred by Nonprofit Hospitals
Since the Implementation of Medicare**

A Dissertation

Presented for the

Doctor of Philosophy Degree

The University of Tennessee, Knoxville

Qian Guo

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DEDICATION

This dissertation is dedicated to my parents

Yan-Sheng Guo and Yin-Mei Wu

whose love and support are the source of my strength

and to

Stewart K. McCroskey

who introduced me to Knoxville and to America

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ABSTRACT

This research explores the locational ramifications of government health care policies by focusing on urban nonprofit hospitals since the implementation of Medicare in the mid 1960s. Three hypotheses are tested: (1) instead of suburban relocation of their central city facilities, urban nonprofit hospitals have formed provider networks, especially locally based multi-hospital systems, to expand the geographic scope of their market share; (2) government health care policies, especially Medicare and related legislation, are the major causes for the growth of locally based multi-hospital systems; and, (3) locally based multi-hospital systems are responsible for reducing both duplicated services and access to care for the poor.

Changes in location and affiliation of general hospitals are documented in forty-two sampled cities. Fort Sanders Health System in Knoxville, Tennessee, is offered as a case study. Findings, in general, confirm the first two hypotheses: (1) most urban nonprofit hospitals in the sampled cities did not succeed in outright suburban relocation; instead, they have used suburban satellite branches and locally based multi-hospital systems to expand their suburban and regional customer bases; (2) several pieces of federal regulation regarding health care delivery, especially Medicare, certificate of needs (CON) laws, and prospective payment systems (PPS), have been most responsible for the specific locational changes of hospital service delivery. Empirical evidence did not, however, support the hypothesis that the growth of locally based multi-hospital systems has reduced service duplication but worsened service access for the poor. This research is a contribution to locational theories of nonprofit institutions and the geography of health care delivery.

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CHAPTER ONE

INTRODUCTION

Problem

The purpose of this dissertation is to examine major changes in locational patterns of urban hospitals since the mid 1960s, and the main factors that have accounted for such changes. The investigation will focus on nonprofit hospitals; that is, hospitals classified by the Internal Revenue Service (IRS) as charitable organizations and exempted from various federal, state, and local taxes. Nonprofit hospitals account for the majority of both general and other short-term hospitals¹ and hospital beds (Figures 1.1, 1.2).

Previous geographic studies (e.g., De Vise 1973) have, in general, assumed that hospital locational behavior is based on economic concerns led by profit maximization. Consequently, these studies predicted that the majority of hospitals in central cities would follow the suburbanization of the middle class and shift to suburban locations after the mid 1960s. There is an absence of empirical documentation, however, as to the changes of general locational patterns of urban hospitals since the flurry of geographic interest in the subject some twenty years ago.

¹ According to the American Hospital Association (AHA), there are two major types of short-term, acute-care hospitals: (1) general hospitals are institutions that provide a wide range of diagnostic and therapeutic services for a variety of medical conditions and patients. General hospitals account for about 80 percent of all hospitals and hospital beds in the United States; (2) special hospitals are institutions that specialize in the treatment of a particular type of patients. They are mainly children's hospitals (AHAb 1993).

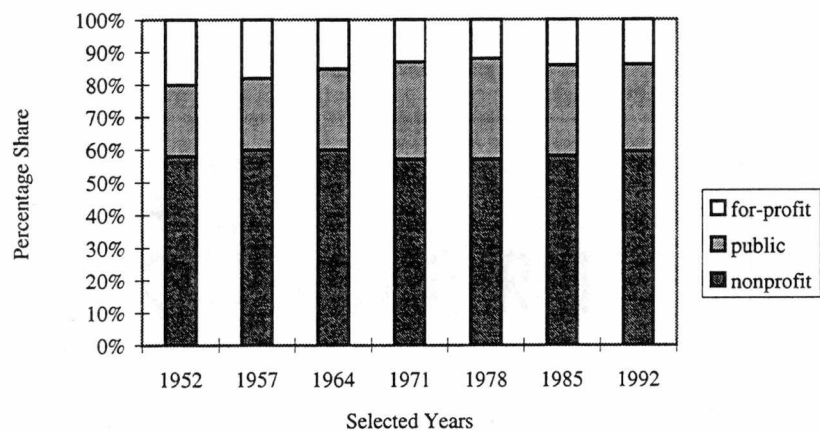


Figure 1.1 Percentage Shares, Number of General and Other Short-Term Special Hospitals, by Ownership Type

Source: AHA Hospital Statistics, 1993

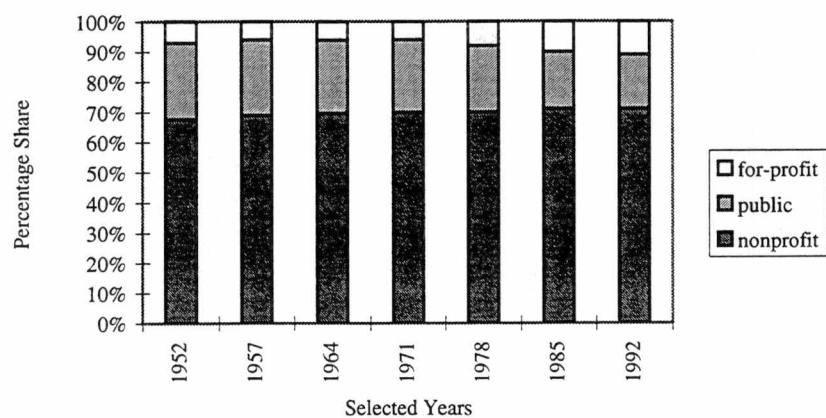


Figure 1.2 Percentage Shares, Number of Beds in General and Other Short-Term Special Hospitals, by Ownership Type

Source: AHA Hospital Statistics, 1993

Background

Locational Patterns of Hospital Facilities and Access to Hospital Care

Location is a key factor influencing hospital utilization by patients (Weiss *et al.* 1971; Zull 1980). Most patients prefer to use hospitals nearest to home, although some may bypass intervening facilities and travel to other hospitals because of religious, racial, and ethnic factors, as well as medical insurance requirements (Earickson 1970; De Vise, 1973). A nationwide survey of 1,000 households (Inguanzo and Harju 1985) showed that proximity to home was a key factor in hospital selection by patients, especially the elderly, married couples, residents of medium-sized cities, and the less well-educated. Locational patterns, therefore, directly affect the utilization and the economic well-being of hospitals.

Unique Locational Factors of Nonprofit Hospitals

Locational decision-making is influenced by the constituency that a hospital intends to, or is designated to, serve. In this regard, ownership type is the best indicator of the mission of a hospital. There are three basic types of hospital ownership: (1) public (government-owned); (2) for-profit (investor-owned); and, (3) nonprofit (owned by charitable corporations). Hospitals of each ownership type have different organizational goals and core constituencies. For-profit hospitals are profit-making, market-driven businesses. Public hospitals provide medical services as a public good and must treat all patients regardless of their ability to pay. Nonprofit hospitals (often referred to as voluntary

hospitals in the health care literature), however, seem to have conflicting organizational aspirations, as Rosemary Stevens, a leading historian on American hospitals, observed:

. . . American voluntary hospitals have been expansionary, income-maximizing organizations throughout the century; that is, in many respects they have behaved as businesses. But . . . the hospitals have simultaneously carried symbolic and social significance as embodiments of American hopes and ideals: not only of science, technology, and expertise, but of altruism, social solidarity, and community spirit. The ideal of "charity" has been at least as important as the "business of business" (1989a, p. 6).

Nonprofit hospitals are concerned with both economic viability and charitable obligations to society. In a geographic market divided between the relatively affluent suburb and the poor, ethnically diverse, inner city, this dual responsibility puts urban nonprofit hospitals in a locational dilemma. For income-seeking purposes, they should locate in the suburbs where most patients are well-insured. On the other hand, urban nonprofit hospitals should make their facilities accessible to the poor in the inner city in order to fulfill their public service obligations. Nonprofit hospitals, therefore, represent a type of institution whose locational patterns cannot be explained by models based on either: (1) purely profit-driven service industries; or, (2) largely politically-driven public agencies. Their locational patterns warrant special investigation.

The Impact of Medicare on Hospital Locational Patterns

Health care in the United States is highly regulated. As one of the major players in the field, hospitals are subject to the influence of a host of governmental policies. Students

of American hospitals regard the mid 1960s as a watershed of government health care policies, marked by the implementation of Medicare² in 1965 (Marmor *et al.* 1987; Shortell 1988; Temin 1988; Stevens 1989a; Gray 1992). Medicare resulted in dramatic expansion of the hospital industry because of its initially generous reimbursement methods. Ensuing legislation aimed at containing health care costs forced hospitals into competition for well-insured suburban patients. Cost-containment also encouraged hospitals to form multi-hospital systems. A *multi-hospital system* is defined by the American Hospital Association (AHA) as two or more hospitals owned, leased, sponsored, or contract managed by a central organization (AHAA, 1993). If most of the member hospitals in a multi-hospital system are located in the same urban or metropolitan area, this system is defined in this study as a *locally based multi-hospital system*. Two pieces of legislation were particularly important for the emergence of multi-hospital systems: (1) certificate of needs (CON) laws³ and (2) prospective payment systems (PPS)⁴. Investigations into how Medicare and related laws have influenced hospital locational patterns can reveal the dynamics of hospital locational behavior. The findings from such a research have direct implications to health care policy.

² Enacted as Title XVIII of the Social Security Act, Public Law 89-97, Medicare is a federal program that pays health care providers that provide certain services to individuals 65 years of age or older or the disabled, regardless of their income.

³ Enacted in 1974 by the National Health Planning and Resources Development Act, certificate of needs (CON) laws were designed to control hospital expansion. Under CON laws, hospitals were required to obtain approval from state health planning agencies for major expansion and relocation projects.

⁴ Established by the Social Security Amendments of 1983, prospective payment systems (PPS) are based on diagnosis-related groups (DRGs). All Medicare patients are divided into 477 groups of illness, or DRGs, based on their principal diagnoses. In general, hospitals receive one fixed payment for the entire admission based on a patient's principal diagnosis (DRG) and facility location.

The Importance of the Geographic Perspective to Nonprofit Research

Geographers have been slow to conduct research on nonprofit institutions partly because they have traditionally focused on purely market-driven service industries, and have regarded all hospitals as being similar to other profit-seeking businesses. Geographic research in this area has mainly concentrated on the regional distribution of philanthropic organizations and activities (e.g., Reiner and Wolpert 1981; Wolpert and Reiner 1984; Wolpert 1988). Geographers, however, have not systematically investigated locational motivations and resulting locational patterns of "commercial nonprofit organizations," which not only provide charitable services but also conduct profit-making activities. Most nonprofit hospitals fall into this category (Table 1.1).

Hypotheses

This study addresses three questions: (1) What changes have occurred in the locational patterns of urban nonprofit hospitals? (2) What are the causes of such locational changes? (3) How have the locational changes affected health care delivery? In answering these questions, three hypotheses were formulated and tested.

Table 1.1 A Typology of Private Nonprofit Institutions

	Mutual	Entrepreneurial
Donative	National Audubon Society Political Clubs	March of Dimes Art Museums
Commercial	American Automobile Association Country Clubs	National Geographic Society Nonprofit Hospitals

Source: Modified from Hansmann, 1987, p. 28.

Hypothesis One: Major Changes in the Locational Patterns of Urban Nonprofit Hospitals

Despite financial pressures, most urban nonprofit hospitals have not relocated their central city facilities to the suburbs. Instead, they have employed two locational approaches to secure and expand their market share: (1) establishing suburban branches as an outreach strategy; and, (2) developing resource-sharing arrangements among local hospitals in order to secure market share and to expand service areas. These approaches resulted in the emergence of locally based multi-hospital systems.

Urban nonprofit hospitals led the hospital industry in forming locally based multi-hospital systems. Locally based multi-hospital systems have created provider networks based on: (1) a division of service specialization into facilities of primary, secondary, and tertiary care⁵ (horizontal integration); and, (2) a continuum of health care services, that is, pre-acute care, acute care, and post-acute care services (vertical integration).

Hypothesis Two: Causes of the Locational Changes

Medicare, certificate of needs (CON) laws, and prospective payment systems (PPS) have been the major causes of locational changes among urban nonprofit hospitals since the mid 1960s: (1) Medicare initially resulted in overexpansion of the hospital industry and escalating health care costs; (2) certificate of need laws (implemented in 1974) intensified hospital competition for suburban patients through its attempt to control the increase of

⁵ Primary care includes general diagnostic and surgical procedures on an outpatient basis; secondary care is basically the traditional hospital-based acute care. It requires more sophisticated skills and equipment than primary care, and usually needs a period of confinement for treatment; tertiary care involves highly specialized technical resources and is usually concentrated in large hospitals with specialized units (AHAa 1995).

health care expenditures; in reality, these laws restricted outright suburbanization of main facilities by urban nonprofit hospitals by limiting new facility construction; and, (3) prospective payment systems (implemented in 1983) provided strong incentives for horizontal and vertical integration of hospital services and led to the proliferation of locally based multi-hospital systems. Other factors, such as tax exempt status and new treatment procedures, have also influenced locational changes. These factors may, however, be treated within the policy framework set by Medicare-related legislation.

Hypothesis Three: The Locational Effects of Locally Based Multi-Hospital Systems

The main locational effect of locally based multi-hospital systems is the reduction of service duplication among system hospitals. Driven by cost-saving incentives, urban nonprofit hospitals tend to remove duplicated services that are: (1) necessary but can be shared among member hospitals, such as patient representative services; and, (2) most frequently used by the poor or costly to maintain, such as trauma centers. The emergence of locally based multi-hospital systems should improve hospital efficiency through reducing service duplication; it has, at the same time, reduced access to care for the underprivileged.

Literature Review

Locational Patterns of Hospitals

Research on health care delivery has focused on four aspects of health care planning: (1) delineation of hospital service markets (e.g., Morrissey *et al.* 1989); (2) hospital access

and utilization (e.g., Weiss *et al.* 1971; De Vise 1973; Long 1981); (3) patient travel behavior (e.g., Morrill and Earickson 1968a, b; Earickson 1970); and, (4) locational selections for health care facilities and services (e.g., McLafferty 1990). There is a lack of empirical research on nationwide changes in hospital locational patterns. A probable reason is that it is difficult to tackle hospital locational changes because they involve complex political, economic, technological factors, and a lack of systematic data on hospital location. The most extensive research on hospital locational patterns, thus far, has been the Chicago Regional Hospital Study project (CRHS, 1966-1973), and that mammoth undertaking is now dated.

The CRHS project produced a number of publications and several series of working papers covering a wide range of issues related to conditions of health care delivery in the Chicago area. Based on data from 1900 to 1966, Morrill (1966a) found that the location of physician's offices lagged behind new residential communities. He rationalized that, following physicians and the middle class, hospitals in central Chicago would relocate to the suburbs. He used this rationalization to explain the discrepancy between optimal and actual hospital locational patterns in the mid 1960s. Albeit implicitly, he predicted a suburbanization trend of hospitals. The absence of empirical investigation since the CRHS project, however, leaves such predictions untested. A chronological documentation of hospital relocation changes can help re-establish the continuity of this line of research.

Hospital Relocation and Closing

Hospital relocation and closing attracted attention of researchers in the 1970s and 1980s. During this time, relocation activities by central city hospitals began to seriously

worsen access to care for poor and minority communities. Zull (1980) summarized three forms of hospital relocation: (1) construction of suburban satellite facilities; (2) transferring services to the suburbs; and, (3) construction of a full-service suburban facility while simultaneously closing a major portion of the inner city facility. Hospital closure, therefore, can be used as an indirect form of relocation if it is accompanied by the opening of a suburban branch. A number of studies examined hospital relocation, focusing on its causes, impact, and barriers.

Causes of relocation: McNeil and Williams (1978) studied the causes of the 231 hospitals closed between 1975 and 1977. They found that financial concerns and the construction of new facilities were two major causes for a hospital facility to close, accounting for 27 percent and 24 percent, respectively. Other major causes included low utilization and financial inability to replace outdated facilities. Rice (1987) emphasized that financial concerns were the major cause for hospital closure.

Access is a key factor for hospital utilization not only by patients, but also by physicians (Morrill, *et al.* 1970; Weiss *et al.* 1971; Earickson 1972). Hospitals need to be close to private physicians in order to maintain hospital referral systems (Earickson 1972; Zull 1980). By the mid 1960s, many private physicians had relocated to affluent and growing suburbs to the north and west of Chicago (Morrill and Earickson 1966; De Vise and Dewey 1972). The suburbanization of private physicians was another factor forcing inner city hospitals to consider relocation as an adaptive strategy to the changing geography of the local health care market (De Vise 1973; Zull 1980).

If the affluent suburbs represent a strong pull factor for urban hospitals to relocate, the presence of poor neighborhoods in the inner city is regarded as a strong push factor by urban hospitals. Hadley and colleagues (1982) documented a relationship between financially distressed hospitals and the mix of patients they served. The patient mix of central city hospitals usually consisted of large percent of the poor, resulting in, therefore, financial disadvantages for central city hospitals. A study supported by the federal Department of Health and Human Services (DHHS) reaffirmed that financially distressed hospitals were usually located in central cities and served the poorly insured and the uninsured to a much greater extent than did solvent hospitals (Rizzo 1990).

Sager (1981) examined 231 hospitals that closed or relocated between 1975 and 1977. He found that small, nonteaching hospitals in poor, minority neighborhoods were more likely to close than large, teaching hospitals. He expanded his research to include hospital closing and relocation in large and medium-sized cities between 1937 and 1980 (1983a, b), and reached the same conclusions. Sager's findings were reaffirmed by studies on closed and relocated hospitals in New York City (McLafferty 1982), and nationwide hospital closures between 1980 and 1987 (Whiteis 1992).

The third factor motivating urban hospitals to relocate was the mounting opposition from adjacent neighborhoods to their on-site physical expansions. Expansionary schemes involving public and nonprofit institutions coincided with urban renewal in the late 1950s and 1960s. Together, they seriously jeopardized the viability of many older, inner city neighborhoods. Organized community opposition became the major barrier to such expansions by the late 1960s. Waitzkin and colleagues (1979) conducted a survey of

hospital expansion in the twenty largest cities in the mid 1970s. Of the 549 hospitals that responded to the survey, 409 had planned expansions, and over one-quarter (112) encountered opposition, mostly from neighborhood groups. Large hospitals had a greater tendency than their smaller counterparts to expand (Waitzkin *et al.* 1979). Waitzkin also documented how organized community opposition stopped the expansion of Harvard Medical School into Mission Hills, a residential neighborhood adjacent to the medical complex (Waitzkin 1970, 1977a, b). On-site expansion, therefore, often proved to be controversial and expensive, forcing hospitals to consider alternatives in acquiring needed space and facilities.

Impact of hospital relocation on access to hospital care: Research on hospital relocation and closing has focused on the negative impact on the communities that lost hospital services. Poor and minority communities have been most adversely affected by hospital relocation and closing. Rice (1987) concluded that hospital relocation and closing hurt the poor and minorities the most. Hickman (1978) termed the attempt of hospitals to relocate as a "runaway" strategy aimed at "dumping" charity patients on public hospitals. She argued that the runaway hospitals not only worsened access to health care for the underserved population in inner cities, but also failed to serve the suburban middle class better. This lack of service to the suburbs was due to increased health care costs incurred in the construction of suburban facilities.

By examining the relationship between hospital relocation/closure and neighborhood characteristics, McLafferty (1982) pointed out that the inner city poor and minority neighborhoods were the most in need of primary care and could least afford to lose their

community hospitals. Findings from other studies concurred with McLafferty's conclusions (Horwich 1981; Sager 1981, 1983a, b; Rose 1982, 1983). Sager (1981) argued that deterioration of hospital access in poor and minority neighborhoods would eventually drive up costs of treatment because of the lack of timely and preventive care, ultimately exerting a greater burden on the entire society.

Barriers to relocation: Studies on the barriers to hospital relocation have focused on legal constraints. A number of studies analyzed specific court cases in which hospital relocations and closure were challenged. Miller (1990) pointed out that legal challenges to hospital relocation and closing could be made on the basis of race (under Title VI of the Civil Rights Act of 1964), age (under section 1122 of the Social Security Act of 1935), and disability (under section 504 of the Rehabilitation Act of 1973).

Hickman, who served as co-counsel in the first major hospital relocation suit, which involved the nonprofit Wilmington Medical Center, Wilmington, Delaware, discussed how inner-city community organizations could challenge hospital relocation using Title VI of the Civil Rights Act. She pointed out that community organizations could pressure federal agencies into withdrawing funding to hospitals whose relocations would have a negative impact on access to hospital care by minorities, the elderly, and the disabled.

Rose (1982, 1983), furthermore, discussed two legal approaches to confronting hospital relocation and closing. The first was to challenge hospital relocation or closing directly in court on the grounds of civil rights law violations, or "the civil rights approach." The second approach was to file complaints with government health planning agencies, and let the agencies become the plaintiff in court on behalf of the affected communities, or the

"health planning approach." Rose suggested that the "health planning approach," while time-consuming, was more effective and less expensive for the community and civil rights organizations, since the agencies in charge of enforcing government regulations had more resources and bureaucratic power to do the investigations. Health planning agencies could be named as defendants, too, for the purpose of making them enforce regulations that restrict hospital relocation and closing. A number of court cases were documented on how inner city communities and advocacy groups challenged hospital relocation and closing (Horwich 1980; Rose 1982; Rice 1987).

Certificate of need (CON) laws can also be used to challenge hospital relocation. Under the CON laws, hospitals must obtain approval from state health planning agencies for new constructions, either on-site or at a new location. As attempts of hospital relocation increased, government regulatory agencies began to take note. Joseph Califano, Secretary of Health and Human Services in the Carter administration, expressed his concern ". . . that the movement from inner city areas of institutions creates significant problems of availability and accessibility for inner city residents" (Rose 1982). The CON laws were amended in 1979 to address the access problem of racial and ethnic minorities, women, handicapped persons, the elderly, and other underserved groups caused by hospital relocation⁶.

Simpson and Bogue (1985) compiled a large number of court cases related to various government regulations on hospital expansion issues, many of which involved relocation. Although court decisions were mixed, the legal battle over relocation proposals proved to be

⁶ 44 Fed. Reg. 19306, 19319, 19326 (April 2, 1979). These criteria and other regulations, although not mandatory, could be used effectively in challenging hospital relocation (Rose 1982).

time-consuming and costly to hospitals. Sager (1982) showed that relocation was only undertaken by nine percent of the 231 hospitals that were closed or relocated between 1975 and 1977, because opponents could challenge hospital relocation more effectively than they could hospital closing.

Although studies on the barriers to hospital relocation did not consider ownership as a major factor, empirical case studies show that legal challenges to hospital relocation and closing were oriented toward public and nonprofit hospitals (Rose 1982; Sager 1983a, b; Rice 1987). Public hospitals appeared more likely than nonprofit hospitals to opt for closing when financial conditions became too strenuous for them to continue operation. Nonprofit hospitals, on the other hand, more often attempted relocation rather than closing (Sager 1983a).

Nonprofit hospitals in central cities can often be dissuaded from pursuing their relocation plans, both bowing to the political pressures and being allured by economic inducements from the forces of urban revitalization (Bertsch 1984). For example, Good Samaritan Medical Center in Phoenix, Arizona, gave up its planned relocation to participate in a downtown revitalization plan because of the financing and land acquisition incentives offered by the City of Phoenix (Brinkley 1985).

Factors other than the legal recourse also affect the likelihood of relocation of nonprofit hospitals. These factors include the effects of sunk capital investment in hospital physical plant, historical ties with surrounding communities, and government regulatory constraints related to the tax exempt status of urban nonprofit hospitals (e.g., Kennedy 1985; Pauly 1988).

The literature on hospital relocation and closing provides a conceptual framework for the motives of, and barriers to, relocation attempts by urban nonprofit hospitals. There has not been a systematic investigation on the actual magnitude of relocation by urban hospitals, especially the nonprofit ones. Such an investigation could provide a context for existing case studies and purely conceptual speculations about hospital relocation.

Multi-Hospital Systems

The evolution of multi-hospital systems: These studies emphasize the critical effects of government policy on the origin and evolution of multi-hospital systems (Studnicki 1979; Zuckerman 1983; Gray 1992). Fottler and Malvey (1995) pointed out that there has been a dramatic increase in the number of national and regional systems in all ownership categories since the mid 1960s. The Health Resources Planning and Development Act of 1974, which included certificate of needs (CON) laws, was the first major piece of legislation that encouraged the formation of local multi-hospital systems to control cost through the elimination of duplicated facilities (Hepner 1978; Zuckerman 1983; Southwick, 1988).

Analysts of health care policy pointed out that the rise of multi-hospital systems was a survival strategy in such an uncertain and complex environment. Zuckerman (1983) argued that the emergence of multi-hospital systems was a response to the highly competitive health care environment created by government cost control policies. Brown (1996) pointed out that urban nonprofit hospitals also formed their own multi-hospital systems as a response to investor-owned hospital chains, which expanded rapidly from the late 1960s to the early 1980s. Shortell (1988) pointed out that the lack of a national health care policy resulted in

a highly uncertain environment. Furthermore, the multitude of insurance, managed care, and medical professional groups made health care a highly complex environment.

A recent trend in the development of multi-hospital systems is a decline of national chains (Fottler and Malvey 1995). The advantages of hospital chains dissipated after the implementation of prospective payment systems (PPS). PPS transformed the cost-based reimbursement system to a case-based ("capitated") reimbursement system. Under Medicare's cost-based system, hospitals were reimbursed by third-party insurers, such as Blue Cross, for whatever *the hospitals* deemed necessary to treating a case (Feldstein 1988). The old cost-based system thus provided economic incentives for over-treatment and for hospital expansion (Fottler and Malvey 1995). Such unchecked infusion of funding into the health care sector prompted some observers to comment that, between the late 1960s and the early 1980s, it was difficult for hospitals not to make money (Gray 1992). For-profit hospital chains could generate enormous profits by increasing the number of hospitals. Under the case-based system, on the other hand, hospitals are reimbursed for each case based on a fixed rate no matter what the actual expenses are in treating a case, making cost-saving a priority for hospitals. The per-case costs of nationally-based chains are usually higher than free-standing hospitals and local multi-hospital systems, due to large administrative overhead of the chains.

The decline of nationally based chains contrasts sharply with the growth of regionally or locally based systems. After the mid 1970s, regional and local networks became an important strategy for hospitals to expand market share (Brown 1996). The growth of locally based systems was led primarily by nonprofit hospitals. Nonprofit hospitals enjoyed greater

competitiveness in forming locally based multi-hospital systems because of their long association with local communities and their flexibility in adapting to various corporate arrangements. Most nonprofit systems did not form until the mid 1970s, when nonprofit hospitals sought out partners. The selection of partners was mainly based on shared missions and religious affiliations, in order to cope with government policies designed to contain costs such as the CON laws, prospective payment systems (PPS), and the rapid growth of investor-owned hospitals (Shortell 1988).

In recent years, the revitalization of managed care has provided further incentives for locally based systems. Managed care organizations have expanded geographically across county and state boundaries (Appleby 1995) and have become a driving force behind the trend toward vertical integration⁷ (Shortell 1988; Brown 1996). Hospitals have to form their own health maintenance organizations (HMOs), thereby expanding their vertical integration (Fottler and Malvey 1995). They could also form local multi-hospital networks so that they can deal with large HMOs more effectively (Appleby 1995). Originally a competitive strategy, the use of multi-hospital systems has also become an approach to strengthen cooperation among nonprofit hospitals in the same local market (Philbin 1993). Another increasingly important form of integration in health care is contractual relationships between hospitals and physician groups, where hospitals purchase services from local physicians (Gray 1992; Wolper 1995). The growth of integrated care allows locally based multi-

⁷ Vertical integration in the health care arena is the affiliation of organizations providing different kinds of services, such as hospital care, ambulatory care, long-term care, and social services. Horizontal integration of health care is the integration of organizations providing the same kind of services, such as two hospitals or two clinics (Griffith 1992).

hospital systems to provide a full-spectrum of health care services, many of which are not traditional services of acute-care hospitals (Philbin 1993).

Forms of locally based multi-hospital systems: Multi-hospital systems vary in terms of organizational structure and relationships among system members (Miller 1990). The most common procedures for forming locally based multi-hospital systems include: (1) merger, consolidation and acquisition. According to Scanlan (1995), between 1980 and 1992, there were 210 mergers, consolidations, and acquisitions involving more than 400 hospitals; (2) local hospital alliances: public and nonprofit hospitals in the same geographic areas can form voluntary cooperative arrangements to share services and markets; and, (3) joint ventures among local hospitals for a specific project, without other long-term cooperative arrangements. In each of the three major forms, every participating hospital may continue to exist. In the alliance arrangement, each participating hospital retains its own identity, ownership, and governing board. The alliance is a form of consortium, which is simply a contractual arrangement whereby several independent organizations join together to carry out specific programs or services and allocate resources (Southwick 1988).

Geographic integration of locally based multi-hospital systems: Observers of hospital changes have noticed the need for "geographic integration" of multi-hospital systems, that is, the formation of service networks with providers geographically dispersed in a local market (Hagland and Cerne 1993; Scanlan 1995; Brown 1996). Geographic integration of a multi-hospital system can effectively capture a significant local market share and provide the bulk of services (Anderson 1992). Case reports from Milwaukee (Ross 1992), Minneapolis and Denver (Anderson 1992), and St. Louis (Cerne 1993a, b, c) showed that,

increasingly, multi-hospital networks are expanding beyond the city and metropolitan boundaries (Cerne 1994) in order to achieve greater horizontal integration.

The proliferation of multi-hospital systems has raised concerns about price-fixing and local market monopoly (Southwick 1988; Miller 1990; Davidson and Wester 1995). Teske (1995) suggested that geographically dispersed systems, that is, systems formed by hospitals not concentrating in the same markets, could avoid antitrust scrutiny from the government and competitors.

Research on multi-hospital systems is a most active field in health care studies. Much of the literature on multi-hospital systems consists, however, of conceptual discussions. Empirical analyses are largely absent in regard to the timing and scale of growth of locally based multi-hospital systems. There are some descriptive case studies on the regional expansion of multi-hospital systems. These case studies provide empirical reference for more systematic investigations of the magnitude and configurations of changing locational patterns of urban hospitals.

Summary

Literature published on changes of hospital locational patterns reached three general conclusions relative to the research problem of this dissertation: (1) urban hospitals do have the tendency to suburbanize, but serious barriers exist to their relocation; (2) Medicare and related legislation, especially certificate of needs (CON) laws and prospective payment systems (PPS), seem to have stimulated the growth of multi-hospital systems; and, (3) it is

debatable as to what the effects of locally based multi-hospital systems are on access to medical care for the poor and the underserved.

The existing literature failed to reveal the general patterns of locational changes that have occurred to urban hospitals, largely because of a lack of empirical documentation and systematic analysis of hospital locational changes. Much of the literature is conceptual and aspatial. The following section discusses the procedures that this dissertation research proposes to use to address locational changes among urban nonprofit hospitals.

Data and Analysis of Hospital Locational Changes

Data Sources for Locational Changes

Primary data sources: The primary source of data for this research is *The Guide to the Health Care Field* (hereafter referred to as *the Guide*). Since 1946, it has been an annual publication of the American Hospital Association (AHA) containing data from the AHA annual hospital surveys. *The Guide* provides information, albeit indirect, about hospital locational changes such as: (1) hospital addresses, which are listed by incorporated places; (2) bed size (the number of beds) and types of beds for each hospital; and, (3) hospital affiliations with multi-hospital systems. The basic format of *the Guide* has remained the same since 1946 (Table 1.2). Although *the Guide* is the most complete and coherent source for chronological documentation of hospital locational changes, it lacks certain types of quantitative information, such as that on outpatient care and branch facilities. The lack of such information makes it difficult to conduct more detailed locational analysis.

Table 1.2 Explanation of Hospital Listings, AHA Guide to the Health Care Field, 1993

Hospital General Information	(1) Address, (2) telephone number, (3) administrator, (4) approval codes (accreditation), (5) facility codes (services provided), (6) membership in health care systems (4-digit code).
Classification Codes	(1) Control (ownership), (2) service (hospital types), (3) stay (acute-care or others).
Facilities	(1) Inpatient - beds, admissions, census, occupancy rates, (2) newborn data, (3) expense (total, payroll).
Personnel	Employment data.

Source: Data summarized from The AHA Guide to the Health Care Field, 1993, A.6-A.12.

There have been several changes in *the Guide* over the years of its publication: (1) hospital founding dates were recorded until the 1966 edition; (2) starting in 1983, *the Guide* began to use a 4-digit system code to identify a hospital's affiliation within specific hospital chains; and, (3) starting in 1987, *the Guide* began to include information on most multi-hospital systems. Information about each member hospital in a system includes: (a) management type; (b) bed size; and, (c) address.

Secondary Sources: *The AHA Hospital Statistics*, another AHA annual publication, contains national statistics and trends concerning hospitals and can be used as background information for investigations of selected hospitals. Other statistical materials about hospital locations often lack compatibility with the data in *the Guide* and *the AHA Hospital Statistics*, and must be used with caution.

Data Base Building for Locational Analysis

Selection of urban hospitals: In order to reflect interaction among urban hospitals, all general hospitals in a number of sampled cities are included for analysis. Two arbitrary

criteria are employed to select sample cities for the purpose of controlling the number of hospitals included in this research: (1) only cities with six to twenty general hospitals recorded in the 1993 edition of *the Guide* (which contains 1992 data) were used. This criterion eliminates most smaller cities and towns. It also removes the five largest cities in 1992: New York City, Los Angeles, Chicago, Houston and Philadelphia. These five cities have diverse communities in the inner city, some of which viable sources of well-insured patients. Central city hospitals in other largest cities may not be under the same relocational pressure as their counterparts do in large and medium-sized cities; (2) Each state should be represented by no more than two cities. In any state with more than two cities that had contained more than six but less than twenty general hospitals, the two cities with the largest numbers of general hospitals were selected. This second criterion eliminated the following cities: Sacramento, CA; Jacksonville and St Petersburg, FL; Columbus and Toledo, OH; Chattanooga and Knoxville, TN; Fort Worth and El Paso, TX. Forty-two cities from thirty states fall into the category defined by these two criteria (Figure 1.3). Twenty states are not represented for lack of sizable cities that had at least six general hospitals in 1992.

Data periodization: Hospital locational information is selected from the following years of *the Guide*: 1957, 1964, 1971, 1978, 1985, 1992. Such a chronological arrangement takes into consideration major health care policy changes and provides enough time for the policy changes to have an effect on hospital locational patterns: (1) locational changes after 1964 reflect the initial impact of Medicare; (2) changes after 1971 show the effects of CON laws and other cost-containment measures; and (3) changes since 1985 show the effects of prospective payment systems (PPS) implemented in 1983.

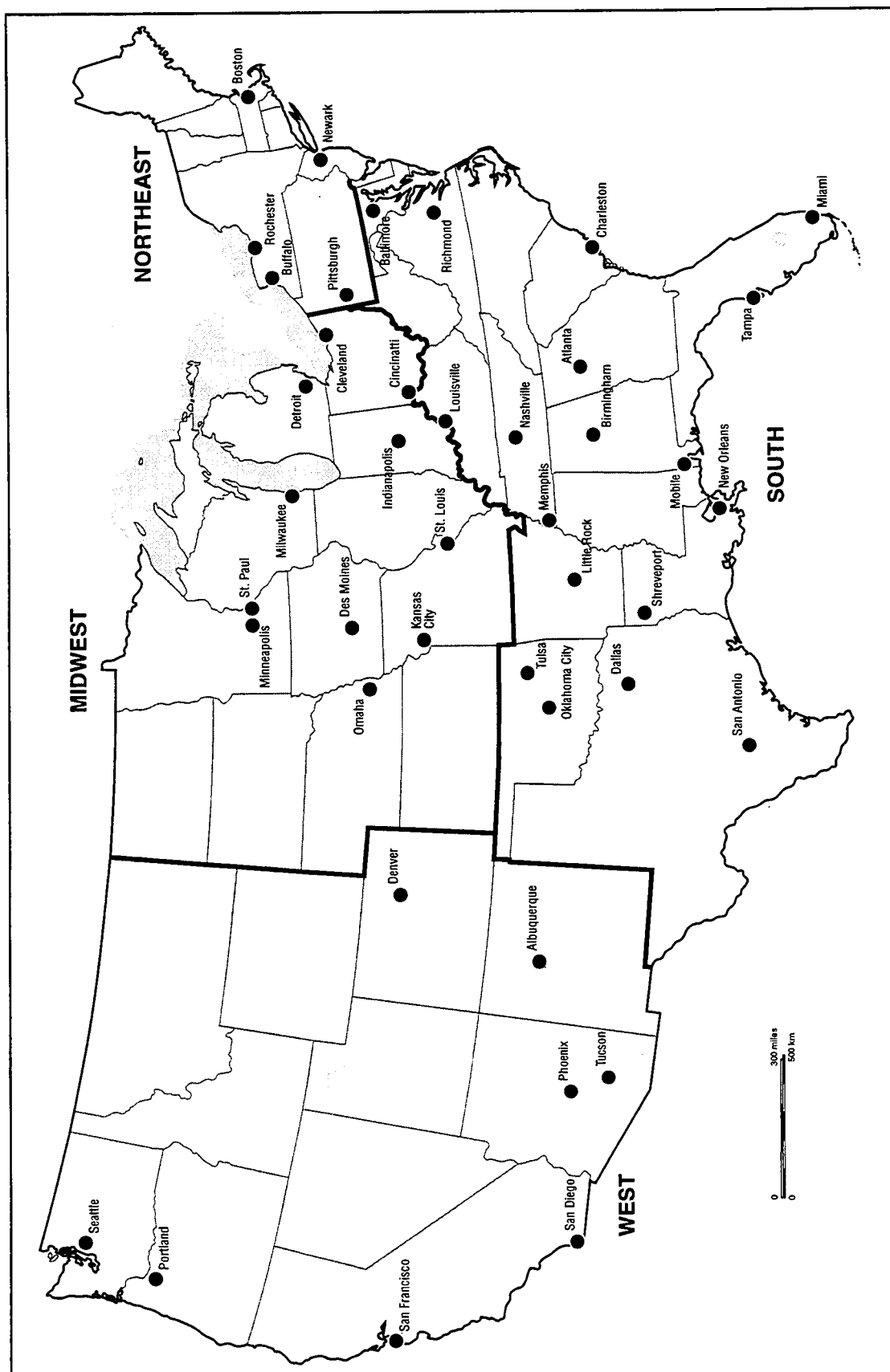


Figure 1.3 The Forty-Two Sampled Cities with 6-20 General Hospitals, by Census Regions, 1992.

Analysis of Locational Changes

Relocational changes: Street address changes may not necessarily reflect hospital relocation. Some address changes resulted from street name changes rather than relocation of a hospital. For example, since the late 1960s, many cities have named a major street after Martin Luther King, Jr. Furthermore, some hospitals changed their main entrance after on-site expansions, thus resulting in address changes. For instance, a hospital's address changed from "1232 18th Street" to "1158 19th Street." Such a change does not represent relocation, but on-site expansion, of the facility. A CD-ROM, *MapExpert with Street Atlas USA* (1992 edition), was used to verify whether an address change was the result of relocation. An address change is regarded as a relocation only if the new site is one mile or further away from the original site. Address changes that are unclear in nature are recorded as relocations. The number and percentage of relocated hospitals for each of the seven-year periods were documented in order to determine whether there was a large-scale hospital relocation after the mid 1960s.

Analysis focused on four aspects: (1) whether there was strong evidence of attempts by urban hospitals to relocate their central city facilities to the suburbs, and, if so, whether many urban hospitals were able to do so; (2) what the major barriers to hospital relocation were, if most urban nonprofit hospitals have not conducted outright suburban relocations despite their attempts to do so; (3) whether nonprofit, public, and for-profit hospitals differed in their relocational activities; and, (4) whether there was a causal relationship between hospital relocational behavior and Medicare-related laws.

Evolution of locally based multi-hospital systems: Historical trends and major characteristics of locally based multi-hospital systems can be established through empirical documentation for the selected years: 1957, 1964, 1971, 1978, 1985, and 1992. *The Guide* contains information about two types of hospital affiliations with multi-hospital systems: (1) locally based multi-hospital systems: this type of affiliation results from consolidation or merger⁸ among two or more hospitals. In *the Guide*, two or more hospitals are listed under the same central organization. For example, in the 1993 edition of *the Guide*, "Birmingham Baptist Health System" included two general hospitals in Birmingham, AL: "Montclair Baptist Medical Center," and "Princeton Baptist Medical Center;" (2) since 1983, *the Guide* designated each multi-hospital system registered with the American Hospital Association (AHA) with a 4-digit code. For example, the Minneapolis-based Healthspan Health System Corporation was designated by the code "0041" in the 1993 edition of *the Guide*. Hospitals belonging to the same multi-hospital systems bear the same system code. If two or more hospitals in a city belong to the same multi-hospital system, they can be expected to have some cooperative arrangements, likely in the form of an alliance⁹.

The analysis will focus on the relationship between the evolution of locally based multi-hospital systems and the three trend-setting pieces of government legislation implemented after the mid 1960s, that is, Medicare, certificate of needs (CON) laws, and

⁸ Merger means after two or more hospitals combine, only one retains its charter and assumes the assets as well as debts of other hospitals. In consolidation, two or more hospitals combine to form a new organization (Southwick 1988; Miller 1990)

⁹ The American Hospital Association defines a hospital alliance as "a formal organization, usually owned by shareholders/members, that works on behalf of these individual members in the provision of services and products and in the promotion of activities and ventures" (AHA 1993, p. D122).

prospective payment systems (PPS). The analysis will examine whether the following growth stages existed for locally based multi-hospital systems: (1) few locally based multi-hospital systems, which contained a small number of hospitals, existing prior to Medicare; (2) rapid formation of locally based multi-hospital systems taking place after the mid 1970s; and, (3) an unparalleled growth of horizontal and vertical integrations having occurred since the mid 1980s, along with continued system growth.

Effects of hospital locational changes on service delivery: In order to examine the effects of locally based multi-hospital systems on hospital service delivery, all hospitals that were free-standing in 1985 but became system members by 1992 in the 42 sampled cities are selected for examination. Changes in the following two types of services can help understand the effects of locally based multi-hospital systems on service delivery.

First, services that are necessary to a system but not essential to every member hospitals: (1) open-heart surgery units; (2) chronic obstructive pulmonary diseases units; (3) community health promotion; and, (4) patient representative services. The first two services are highly lucrative. Will hospitals remove such duplicated but lucrative services so that they may increase efficiency? The latter two services can be more efficiently utilized when shared among member hospitals of a locally based multi-hospital system. Logically, duplication of these services should be eliminated in a locally based multi-hospital system.

Second, services that are marginally profitable or unprofitable for central city hospital facilities: (1) obstetric units; (2) neonatal intensive care units; (3) alcohol and chemical/drug dependency inpatient services; and, (4) hospices. For hospitals located in central cities, these services are most frequently used by uninsured or underinsured groups. The first two

services are usually expensive to maintain; the latter two are usually unprofitable. Presumably, once several urban hospitals form a system, they would want to eliminate duplication of the above services as a cost-saving measure. Is this, in fact, the case?

Several other services may be better indicators for examining the effects of locally based multi-hospital systems, such as the availability of magnetic resonance imaging (MRI), trauma centers, and AIDS inpatient/outpatient units. These services, however, could not be used for comparative analysis because they were not listed in *the Guide* until after the 1986 edition. Emergency departments are usually a money-losing service for central city hospitals, but Internal Revenue Ruling 69-545, which remains effective today, requires all nonprofit hospitals maintain emergency rooms as a prerequisite for retaining their tax exempt status. The Internal Revenue Service's "Exempt Organizations Examination Guideline Handbook" also contains such requirement (Hudson 1992).

Summary

Empirical documentation and analysis, as proposed above, should provide sufficient evidence for testing the hypotheses regarding locational changes of urban nonprofit hospitals: (1) most urban nonprofit hospitals have not relocated their central city facilities to the suburbs. Political and historical factors were most responsible for the inability of nonprofit hospitals to leave their central city locations, although suburban relocation was the economically logical choice for them. Instead, urban nonprofit hospitals have resorted to locally based multi-hospital systems to cope with their locational immobility and to expand their market share; (2) Medicare and two major pieces of Congressional legislation

(certificate of needs laws and prospective payment systems) were the major causes for the rapid growth of locally based multi-hospital systems, which has been led by urban nonprofit hospitals; and, (3) the growth of locally-based multi-hospital systems has increased hospital efficiency by reducing service duplication, but worsened access to hospital care for the poor, minorities, and the elderly in inner cities.

Locational changes of urban nonprofit hospitals have taken place within the contexts of: (1) the American welfare system; (2) nonprofit institutional standards; and, (3) the hospital industry as a whole. A series of historical events and processes in the health care arena set the basis for a distinct locational behavior of urban nonprofit hospitals. The task of the next chapter is to examine the evolution of American nonprofit hospitals prior to the implementation of Medicare in 1965.

CHAPTER TWO

THE HISTORICAL AND POLITICAL CONTEXT FOR LOCATIONAL CHANGES OF URBAN NONPROFIT HOSPITALS: FROM INDUSTRIALIZATION TO MEDICARE

This chapter outlines the historical evolution of American hospitals prior to the enactment of Medicare in the mid 1960s. Evidence indicates that health care in the United States has always been shaped by both market mechanisms and government redistributive efforts. The hospital industry has been dominated by nonprofit organizations because of their ability to attend to the needs of both the profit-making and public service sectors. This dual accountability confers to nonprofit hospitals a distinct locational behavior.

American Hospitals Before Industrialization

Hospitals in the nineteenth century did not play an important role in providing medical care. Hospitals were few and small, mostly almshouses for the sickly indigent, and had a poor public image (Rosenberg 1987; Stevens 1989a). For most of the nineteenth century, most Americans, when sick, preferred and expected to be treated at home, usually by physicians working and living in the same community (Hollingsworth and Hollingsworth 1987; Rosenberg 1987; Stevens 1989a). The first American hospital survey conducted in 1873 recorded only 178 hospitals of any kind (Rosenberg 1987). By the end of the nineteenth century, there were only 149 general hospitals in the United States, with a bed

capacity of 35,500 (Wolper and Peña 1995). In contrast, there were as many as 150,000 practitioners of medicine.

The early hospitals in the United States had strong religious affiliations. Religious organizations, especially some Roman Catholic orders, were among the earliest in providing medical care to the poor in a hospital setting (Hollingsworth and Hollingsworth 1987; Temin 1988). Most private hospitals founded prior to the Industrial Age were church-affiliated. According to *the Guide*, for example, there were 66 hospitals in the 42 sampled cities that, in 1992, were founded before 1880. Twelve of them were public hospitals, the other 54 were nonprofit hospitals. Among these 54 nonprofit hospitals, 31 were affiliated with the Roman Catholic church, and the other 23 were affiliated with other religious or non-sectarian organizations. Strong religious affiliation fostered an altruistic tradition and provided the rationale for the future dominance of nonprofit hospitals in health care.

The religious background of early American hospitals reflects the inherent predisposition of religious organizations toward benevolent social works, especially when society fails to provide basic services for the underprivileged. The strong religious background nurtured a charitable tradition that later became the basis for government financial support and regulatory legislation, as well as public perception toward the function of nonprofit hospitals. Further, some religious groups felt the need to have their own health care institutions not only for general charity purposes, but also for serving the special needs of specific immigrant and religious communities. A testament to this intent was the prominent presence of Catholic and Jewish hospitals in cities before industrialization (Rosenberg 1987).

Industrialization and the Emergence of Modern Hospitals

The rapid growth of modern hospitals coincided with industrialization in the United States. Toward the end of the nineteenth century, modern hospitals began to emerge and grow rapidly. It was estimated that over 80 percent of nonprofit hospitals in 1910 were founded after 1880, and 32 percent were founded after 1900 (Hanckel 1985). Three factors were most important in shaping the structure and scale of modern hospitals: (1) the diffusion of medical innovation and technology; (2) the acceptance of hospital standardization through accreditation; and, (3) the proliferation of ethnic communities in industrial cities accompanying large-scale European immigration.

Medical Technology and Modern Hospitals

New medical technologies transformed pre-industrial almshouses into modern, technology-oriented hospitals (Temin 1988). The development of medicine as a profession generated the need for centralized diagnostic and surgical facilities, as well as investment in advanced equipment. By the end of the nineteenth century, Pasteur's germ theory had become widely adopted by physicians. In order to prevent the harm caused by "the germs," physicians then believed that institutionalized treatment of the sick was essential (Rosenberg 1987). The application of germ theory to medical care also led to the development of clinical laboratories, which soon became an integral part of hospitals and added to the technological complexity of hospital operation.

A number of technological innovations also improved hospital-based surgery (Rosenberg 1987). Antiseptic procedures vastly reduced mortality rate associated with hospital surgery, and made the hospital a place that was perceived by both physicians and patients as free from the "dirty and germ-filled" outside world. Another important innovation was X-rays, which widened the scope of hospital-based services. The hospital quickly became the place for treatment of the sick, rich or poor, although some hospitals tried to segregate patients based on socioeconomic status (Rosenberg 1987; Stevens 1989a). The pursuit of technology became the ethos of nonprofit hospitals: community service meant a high quality of service; high quality equated to availability of the best technology. Reliance on technology created a greater need for societal subsidization of hospitals. It also became a contributing factor to the high costs of hospital services in the decades to come (Marmor *et al.* 1987).

Accreditation and Standardization

Accompanying the growth of hospitals was the need for standardization. At the beginning of the twentieth century, health care practice lacked national standards in a variety of areas, including the qualifications of practicing physicians, provision of essential services, and even hygiene. Stevens (1989a) probed how the American Medical Association (AMA) and the American College of Surgeons (ACS) initiated standardization of medical education and the licensure for physicians, in an effort to safeguard the quality of the medical profession and to reinforce control of hospital admission by physicians. The ACS became an accepted accreditation organization for hospitals.

Standardization in the 1920s influenced hospitals in three respects: (1) the ACS-certified hospitals gained a veneer of respectability by meeting voluntary, national standards (Salmon *et al.* 1990); (2) standardization under the ACS and the AMA, both organizations of medical professionals, strengthened the influence of physicians in hospital affairs; and, (3) doctors preferred nonprofit institutions over those under government sponsorship and those operating to make profits, because the nonprofit form of hospitals allowed them the greatest autonomy in their practice.

Immigration and Community Hospitals

Industrialization in the United States was accompanied by large-scale immigration from Europe after the Civil War. Ethnic and immigrant communities were established throughout emerging industrial cities. In addition to the mounting technological needs for hospital-based care, the deplorable living conditions in many immigrant communities made it impossible to treat sick immigrants in their homes, as had been the case for most middle class patients. Many nonprofit hospitals were established in association with specific religious and ethnic communities. Some regard community-oriented development as the response of hospitals to an increasingly pluralistic society (Hollingsworth and Hollingsworth 1986; Guggenheimer 1988), as shown by case studies in Brooklyn, New York City (Rosner 1982), Boston, MA, (Vogel 1980), and Kansas City, MO (Lynaugh 1989).

Hospitals operated by religious organizations charged slightly lower cost per admission than other hospitals in the early twentieth century (Table 2.1). Altruistic motivations and religious devotions of early hospital administrators and nursing staff

Table 2.1 Nonproprietary Hospitals by Control and Source of Financing, 1904

	Government	Nonsectarian	Ecclesiastical	Total
Number of Hospitals	220	831	442	1493
Operating Costs (\$ millions)	6.6	13.9	7.7	28.2
Income from Paying Patients (%)	7	45	71	43
Tax Subsidies (%)	NA	12	7	8
Other Income (%)	93	43	22	49
Cost per Admission, 1903-04	\$25	\$29	\$24	\$26

Source: U.S. Department of Commerce and Labor, Bureau of the Census, *Benevolent Institutions 1904* (Washington, D.C.: Government Printing Office, 1905). Adapted from: Stevens 1989a, Table 2.1, p. 24

strengthened the viability of nonprofit hospitals. For instance, Catholic nuns and other unpaid or ill-paid women undertook much of the work in Catholic and other nonprofit hospitals (Rosner 1989). Catholic nuns were the most sought after as administrators and nurses by nonsectarian hospitals (Lynaugh 1989). Prior to the 1920s, about 40 percent of hospital administrators were women (Rosner 1989).

Nonprofit hospitals built social and economic ties with surrounding communities from the beginning. To nonprofit hospitals, community service was the basis for their legitimacy and community support was essential for their survival. Specifically, nonprofit hospitals depended on the local community for a significant portion of their revenue, and they were governed by locally selected boards of trustees (Stevens 1989a). The association with local communities later became the justification for the government to make nonprofit hospitals more accountable to community-oriented public needs. The ties with communities are important also because they tended to "anchor" (Bertsch 1984) early urban nonprofit hospitals to their original, inner city locations.

The Dual Accountability of Nonprofit Hospitals

Nonprofit hospitals accounted for the largest number of hospitals and hospital beds by the late 1920s, reaching 43.9 percent and 58.6 percent, respectively, in 1928 (Hollingsworth and Hollingsworth 1987). Their dominance was the result of the interaction of two contradictory forces. On the one hand, the federal government was unwilling to become the direct sponsor of public health care, largely as a reaction to public suspicion of direct government involvement in providing social welfare services.

On the other hand, health care in the United States did not become a purely market-driven personal service because: (1) most customers do not have adequate information to evaluate the quality of medical services, and public provision of such goods and services is not available (Hansmann 1987; Weisbrod 1988). There is a public perception that the interests of the patient can be compromised if the success of the care provider is measured by the profit margin; and, (2) historically, the religious and altruistic traditions of early hospitals built a perpetuating dominance of nonprofit institutions in health care (Stevens 1989a); and, (3) this dominance was reinforced by physicians who endeavored to maintain autonomy of their practice from both government regulation and corporate control.

Consequently, the nonprofit form of health care providers became preferable to the public. After industrialization, the growth pattern of nonprofit hospitals was influenced by a number of sometimes contradictory forces: their "partnership" with the government, their dependence on paying patients, and their association with local communities. Nonprofit

hospitals had to maintain a delicate balance among these forces. In another words, nonprofit hospitals required a dual accountability in decision-making.

A Government-Nonprofit Partnership

Reluctant to become directly involved in health care provision, the federal government turned to support private nonprofit hospitals with regulatory and financial means. In return, the government hoped that these private charitable entities could provide basic public health services. At the turn of the century, for example, nonprofit hospitals received significant amounts of government support (mainly through tax exemption, philanthropic donations, and endowments -- see Table 2.1). By accepting government tax subsidies and public giving, nonprofit hospitals became obligated to charitable and community services. The government and private nonprofit hospitals thus established an *ad hoc* partnership in health care provision. Notwithstanding their inherited altruistic motives, nonprofit hospitals could not operate like their for-profit counterparts because their charitable charter prohibited fiduciary gains for trustees and administrators alike, henceforth diminishing their profit-making incentives.

Some researchers (Salamon 1984, 1985, 1987a, b; Gidron *et al.* 1992) argue that it was rational for the government and the private nonprofit sector to forge a partnership in providing needed social services. They point out that this partnership derived from the unique political environment during American industrialization, when the country was antagonistic toward any socialist movement, but in need of basic social welfare. This partnership, therefore, was a "happy medium" struck between the government, the nonprofit

sector, and the public, in health care provision. It set the momentum for future development of nonprofit hospitals.

Dependence on Paying Patients

While government support and donative sources were important to nonprofit hospitals, they depended on, and indeed pursued, paying patients as a major source of revenue (see Table 2.1). Financial woes began to hinder nonprofit hospitals as early as the beginning of the industrial period. Rosenberg (1987) pointed out that "[n]o American hospital in 1875 had an endowment income sufficient to underwrite the free medical care its community required" (p. 239). Subsequently, nonprofit hospitals actively sought paying patients in order to maintain their financial viability. Catering toward paying patients went as far as the provision of private rooms for those few who could pay in contrast to those charity patients who shared large and often crowded wards (Rosenberg 1987).

Defending their stance on catering to paying patients, some administrators of nonprofit hospitals even claimed that it was the duty of the government to take care of patients who did not have the ability to make at least partial payment. Their institutions, on the other hand, were designed to serve the public at large (Stevens 1989a). Nevertheless, nonprofit hospitals became accountable to both charitable concerns and commercial interests.

A Community Institution

By the 1920s, the early association of many urban nonprofit hospitals with specific ethnic communities began to diminish, as immigration was curbed and early immigrants

were assimilated into the American society. Changes occurred in sources of patients (Table 2.2). Urban nonprofit hospitals in industrial cities such as Cleveland, OH, began treating larger number of paying patients as opposed to charity cases (Table 2.2), as costs of new medical technology increased rapidly and living standards of society improved.

Caught in the middle of conflicting institutional motives of charity service and income earning, nonprofit hospitals redefined their mission from "philanthropic institutions" to "community institutions" (Stevens 1989a). The precise meaning of "community institution" was never made clear, but the inception of the concept reflected a subtle transformation of institutional mission from traditional charitable services to health care providers of a broader constituency. The vagueness of the concept *community* allowed nonprofit hospitals to operate in a "safe" zone between government intervention and marketplace volatility. In soliciting political and financial support from the public, nonprofit hospitals were able to reject most strings attached to government subsidies by insisting that they were private, voluntary institutions and were not subject to government regulation. At

Table 2.2 Adult Hospital Patients in Cleveland by Pay Status and Parentage, 1920

	Total		American-born		Foreign-born	
	number	percentage	number	percentage	number	percentage
Pay	1,340	33.5	989	39.2	351	23.8
Part-pay	1,179	29.5	735	29.1	444	30.1
Free	1,364	34.1	733	29.1	631	42.8
Unknown	114	2.9	66	2.6	48	3.3
Total	3,997	100.0	2,532	100.0	1,474	100.0

Source: Modified from Stevens 1989a, P. 108.

the same time, hospital trustees and administrators argued for exemption from taxation and tort liability by emphasizing the "public" or "quasi-public" nature of their institutions.

The dual accountability of nonprofit hospital had obvious locational ramifications. On the one hand, nonprofit hospitals should make their facilities accessible to the poor, so that they could carry out their charitable mission; they must be accessible to the paying patients, on the other hand, in order to generate sufficient income. Locational ramifications of the dual accountability did not seem to confront nonprofit hospitals prior to the 1960s because: (1) the hospital industry was not a lucrative business before Medicare, and there was little competition among hospitals for paying or, later on, well-insured patients; and, (2) large-scale residential suburbanization had not yet begun to pull hospitals away from central cities.

The Rise of Third-Party Insurance and Government Funding Programs

Between the Great Depression and the mid 1960s, two important developments in health care affected American hospitals: (1) the rise of third-party health care insurance in the 1930s; and, (2) government funding schemes for hospital construction after World War II. Together, they presaged the rapid hospital expansion after the passage of Medicare.

The Rise of Third-Party Insurance

The most important event in health care in the 1930s was the inauguration of Blue Cross, the first national corporation of hospital insurance. By the late 1920s, hospital

treatment became highly dependent on technological methods and extensive hospitalization, which led to increasing costs of hospital care (Stevens 1989a). Then, the Great Depression struck. Hospitals struggled to cope with falling occupancy rates and declining revenues. Hospital occupancy rates dropped to 64 percent within the first year of the Great Depression, a decrease of seven percent. At the same time, hospital deficits rose from 15 percent of total expenses in 1929 to 20 percent in 1930. Private donations to hospitals plummeted drastically, from \$96 million in 1927 to \$6 million in 1932 (Temin 1988). It was under such urgent circumstances that nationwide third-party insurance plans gained public support.

The prototype for nonprofit insurance schemes was taken from a plan instituted in 1929 at Baylor University Hospital for area school teachers of Dallas, TX. In this plan, teachers in participating schools paid fifty cents a month for insurance and were entitled to hospitalization of up to twenty-one days in semi-private rooms at Baylor University Hospital. Seeing the potential benefits of group insurance, many urban nonprofit hospitals throughout the United States followed suit and formed their own group insurance plans. Realizing the importance of third-party insurance for the survival of hospitals, the American Hospital Association (AHA) became actively involved in promoting group insurance plans and influenced state governments in passing legislation to exempt the plans from normal insurance and antitrust laws (Marmor *et al.* 1987; Temin 1988). The AHA founded a national organization for group insurance, the Blue Cross Association. The term *Blue Cross* was based on the insignia of group insurance plans in St. Paul, MN. Competition in health insurance increased during World War II. By the 1960s, Blue Cross accounted for about half of the health insurance market, with plans that varied in health coverage from state to state.

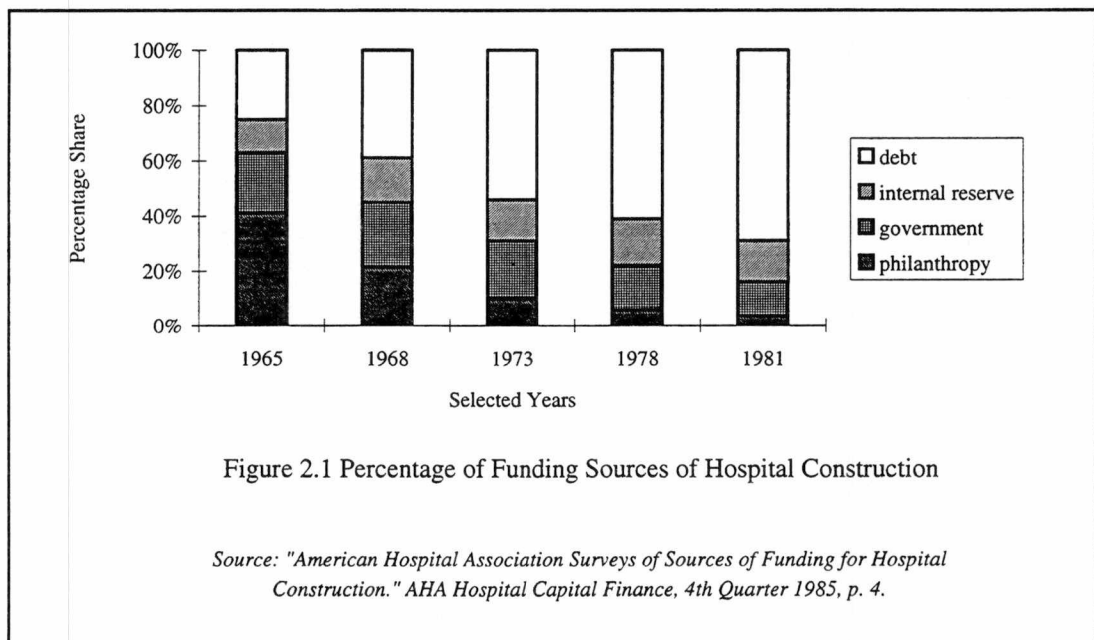
Initially, the American Medical Association (AMA) was skeptical of health insurance plans for fear that such plans could undermine the physician's autonomy and influence over hospital affairs. Due to the influence of the AHA, then the national organization of voluntary hospitals, Blue Cross maintained a benign relationship with hospitals. Blue Cross imposed few restrictions on reimbursement formulas and established premiums based on average *per diem* costs of hospital stays. The average costs were determined by actual or anticipated hospital care used by all the subscribers within a selected geographic area or of a particular employer (Snook 1992). The nonprofit nature of Blue Cross plans reinforced the dominance of nonprofit hospitals in the health care field (Marmor *et al.* 1987; Stevens 1989a). Almost three decades after its inception, Blue Cross became the intermediary agency for Medicare reimbursement procedures. Much of the management strategy of Medicare was transplanted from Blue Cross reimbursement methods and the cordial relationship of Blue Cross with hospitals.

Government Funding Schemes for Hospital Construction

Hospital construction stagnated and the physical plant of existing hospitals deteriorated through the years of the Great Depression and World War II. By the end of World War II, there was an urgent need for new hospital construction (Temin 1988; Stevens 1989a). The financial sources for capital outlays (i.e., physical plant) were -- and to certain extent, still are -- different from those for daily hospital operation. Construction requires large amounts of capital in a short period of time. Before the mid 1940s, nonprofit hospitals depended largely on philanthropic donations and endowments sources for construction funds

(Figure 2.1). This changed dramatically with the passage of the Hospital Survey and Construction Act of 1946 (the Hill-Burton Act), which provided federal funds for hospital construction.

The initial emphasis of the Hill-Burton Act was on the construction of rural hospitals. Between 1946 and 1966, for example, almost half of the 4,678 projects were in communities with less than 10,000 population. By the late 1950s, Hill-Burton funds were also used for renovation of older, inner city hospitals. Funding under Hill-Burton Act eventually disbursed more than \$4 billion dollars to build and modernize nearly 6,900 needed hospitals and other health care facilities in more than 4,000 communities. More importantly, Hill-Burton findings required matching funds from local governments and hospitals themselves, which generated three times more capital than the Hill-Burton funding. Overall, Hill-Burton supplied about one tenth of the total capital costs of hospitals from 1946 to 1971.



Hill-Burton funds were exclusively designated for public and nonprofit hospitals. As a result, nonprofit hospitals grew rapidly, while for-profit hospitals declined (Table 2.3). Also, the Hill-Burton Act encouraged nonprofit hospitals to remain in the inner city by providing capital for hospital renovation and expansion. By requiring its beneficiaries to obtain local matching funds and to prove the community benefits intent¹ of expansionary plans, the Hill-Burton Act actually strengthened the influence of local communities over nonprofit hospitals.

Facility relocation did not become a priority for urban nonprofit hospitals until the late 1950s and early 1960s, when U. S. cities became increasingly separated into the poor inner cities and affluent suburbs. Coinciding with large-scale residential suburbanization, the implementation of Medicare program and related legislation imposed further pressure on urban hospitals to suburbanize.

Table 2.3 Changes in Number of Nonfederal General and Allied Special Hospitals, Selected Periods

	Nonprofit	Government	For-profit	Total change	Total number
1946 Total	2,584	785	1,076		4,445
1946-50	+287	+157	+142	+586	5,031
1951-55	+226	+178	-198	+206	5,237
1956-60	+194	+140	-164	+170	5,407
1961-65	+135	+193	+1	+329	5,736

Source: AHA Hospital Statistics, 1993, Table 1.

¹ Facilities receiving Hill-Burton grant aid under Title VI were required to provide uncompensated services for 20 years; facilities receiving loans were obligated to provide uncompensated care until the loan was repaid; facilities aided under Title XVI must provide uncompensated services throughout their existence.

Medicare and the Transformation of Hospital Locational Patterns

Background

Although there had been efforts to cover the elderly, the disabled, and the poor with national health insurance plans (Feldstein 1988; Roper *et al.* 1988; Stevens 1989a), it was not until the mid 1960s that such efforts finally came to fruition. A centerpiece of the Great Society programs, Medicare was implemented through Title XVIII amended to the Social Security Act of 1965. Medicare was designed to provide health insurance coverage to most citizens above the age of 65, monitored by the federal Social Security Administration. The politically influential AHA was able to make Blue Cross a major intermediary agency between the Medicare program and participating hospitals. The cost-based reimbursement framework used in Blue Cross plans was transplanted almost in its entirety to Medicare.

Medicare Reimbursement Methods

Under Medicare, hospitals were reimbursed based on an underlying assumption that "charges were a derivative aspect of costs, while costs in turn derived from some hypothetical standards of reasonable utilization of services and reasonable patterns of admission - set by responsible doctors" (Stevens 1989a, p. 291). Under such a model, hospitals were reimbursed for almost whatever they charged Medicare patients (Feshbach 1975; Feldstein 1988).

Hospitals began to view Medicare as a gold mine for revenues and included in their charges items such as development funding, initial costs of new projects, and money to

replace buildings and to construct new facilities. Unlike previous government subsidies that were intended only for selected areas, providers, and hospitals, Medicare agreed to reimburse all hospitals, including for-profit ones. More importantly, many third-party insurers adopted the reimbursement method of Medicare in their financial relationships with hospitals. Hospitals received funding from Medicare and other third-party insurers through three means: (1) interest on debt; (2) depreciation costs; and, (3) capital equipment incurred in hospital expansion.

Medicare: Funding for Hospital Construction

Depreciation: Funding for hospital physical expansion from Medicare and other third-party insurers occurred mainly through depreciation. Feshbach (1975) explained how depreciation worked for all hospitals under Medicare:

Each year, third parties (insurance companies and the government) make depreciation payments to hospitals to make up for the wearing out of a portion of the hospital's assets (plant and equipment). To determine the annual amount, hospitals may divide the cost of the asset by its useful life span. For example, if a new building cost \$30 million to construct and is expected to last 30 years, the hospital - using the method of straight-line depreciation - can add \$1 million a year to its billings to insurance companies and the government. . . . The yearly million dollars can be stored away for future expansion projects or used to cover operating expenses (p. 18).

Under the original depreciation procedures, hospitals could also use *accelerated depreciation* rather than the straight-line method in order to receive a large portion of depreciation money for a given project in the early part of its useful life. As a result of such generous reimbursement methods, six percent of all Medicare payments went to hospital

construction. Depreciation through Medicare quickly became the largest source of funds for hospital expansion. In 1969, for example, hospitals received \$610 million in Medicare depreciation payments, compared to \$150 million received from the Hill-Burton programs.

The two-percent *plus factor*: Another source for hospital expansion under Medicare was the so-called *plus factor*, which is an extra payment to hospitals to cover "hidden" expenses, based on a flat rate of operating expenses (Feshbach 1975; Feldstein 1988). Until it was eliminated in 1969, hospitals were reimbursed an extra amount of money by third-party insurers through the *plus factor* without having to show proof of expenses or to justify them. The *plus factor* was used under the assumption that hospitals and physicians would only charge for "reasonable" expenses. This *plus factor* ranged from two percent from Medicare to five percent, or more, from certain Blue Cross plans.

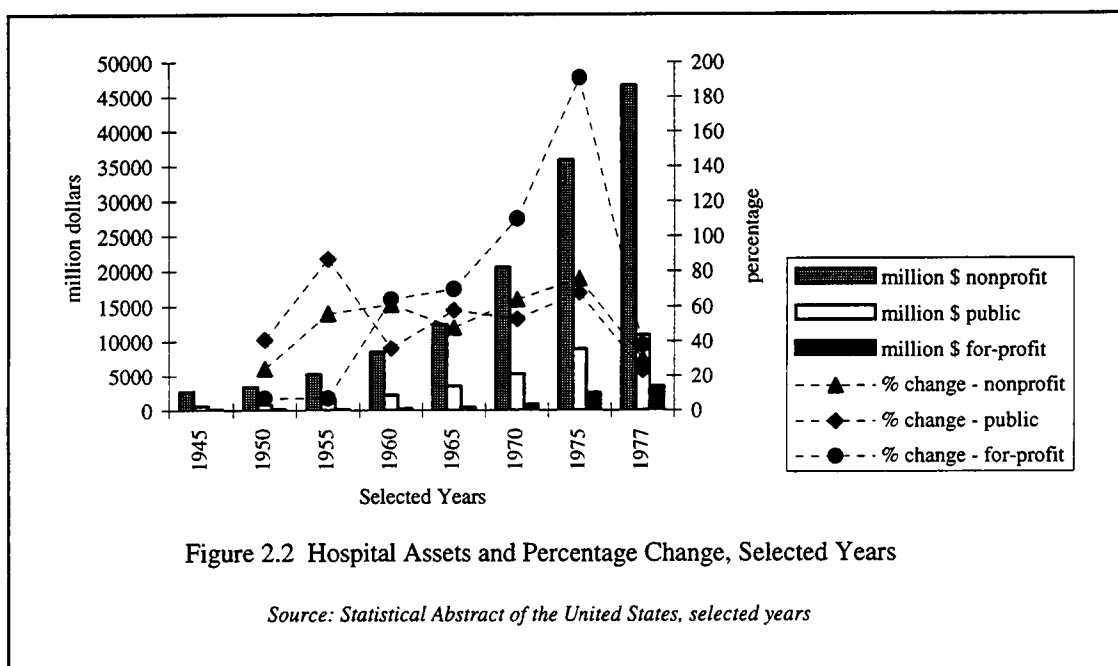
Incentives for hospital acquisition: Depreciation rates under Medicare were based on estimated *current* construction costs, rather than the *original* costs (Feshbach 1975). New owners of existing hospitals, on the other hand, most likely acquired the facilities by paying less than the costs to build comparable new facilities. Depreciation methods under Medicare, therefore, provided great incentives for the acquisition of existing hospitals. The initial reimbursement environment influenced by Medicare induced the emergence of a new breed of for-profit hospitals: investor-owned entities controlled by corporate chains.

Medicare marked a most important change in health care since the end of World War II. By reconfiguring the financing and regulatory environment of health care provision, it created rapid expansion of the hospital industry. Concurrent with massive post-World War II suburbanization, Medicare changed the locational mechanisms of urban hospitals.

Immediate Impact on the Hospital Industry

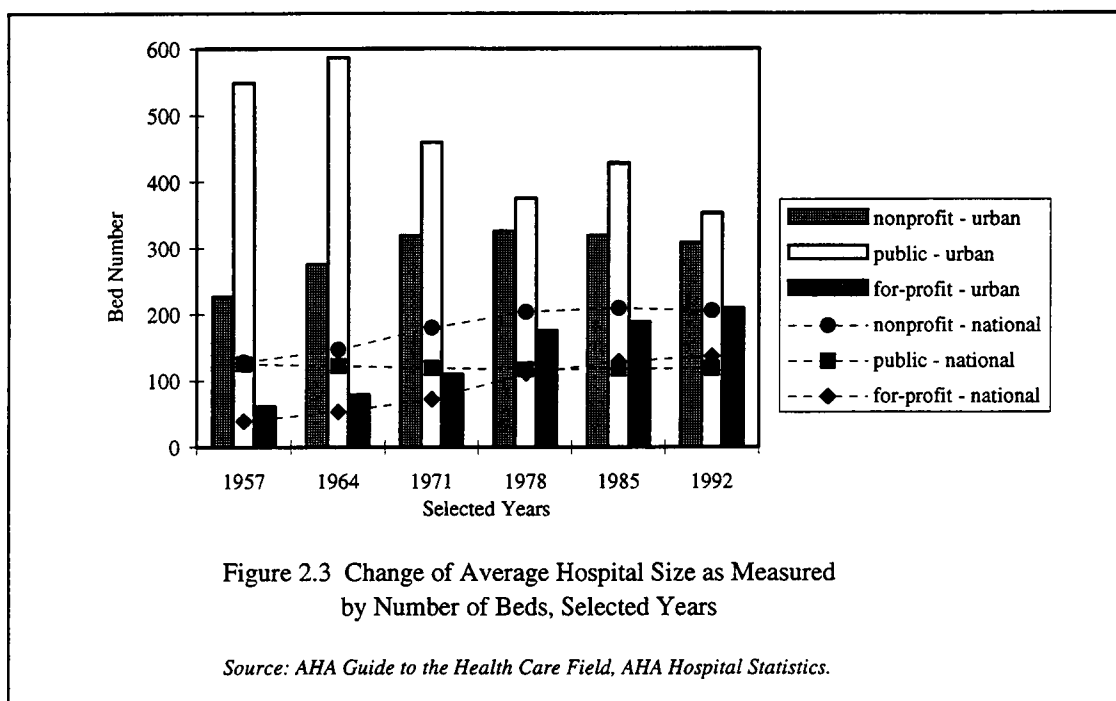
The initial intention of Medicare was to improve access to health care for the elderly and to continue improving medical technology. To a certain extent, Medicare succeeded in its chief goal. During the first five years of the Medicare program, for example, the rate of hospitalization for those 65 years and older was twice as high as the next age group. Notwithstanding the effects on improving social equality, however, Medicare also created an immediate, if inadvertent, consequence: operation of hospitals became highly profitable. As a result, Medicare not only resulted in rapid expansion of nonprofit and public hospitals, but also revitalized for-profit hospitals, which had been in decline ever since Blue Cross established reimbursement measures favoring nonprofit hospitals in the 1930s (see Figure 2.2; also Marmor *et al.* 1987).

The rise of investor-owned hospitals: Medicare provided easy entry for investor-owned hospitals. The number of for-profit hospitals increased at a faster rate than that of nonprofit and public hospitals after the mid 1960s (Figures 2.2; also Gray 1992, p. 49). The assets of for-profit hospitals grew even more dramatically after the beginning of the Medicare program (Figure 2.2). The for-profit expansion was led by investor-owned hospital chains. These chains received capital from stock trading. They built new or acquired existing hospitals. In 1956, 39 percent of for-profit hospitals were owned by individuals, 23 percent by partnerships, and 37 percent by corporations. By 1972, the distribution had changed drastically, with only five percent owned by individuals, 10 percent by partnerships, and 85 percent by corporations. By 1982, 80 percent of all for-profit hospital beds belonged to regional and national hospital chains (Gray 1992).



Also, during 1945-1977, the average size of hospitals, measured by the number of beds, increased for nonprofit and for-profit hospitals, while the average size of public hospitals decreased, although public hospitals in the cities still had the largest average size (Figure 2.3). Urban hospitals are larger than their non-urban counterparts.

Skyrocketing health care costs: The infusion of federal funds under Medicare resulted in skyrocketing health care costs. From the beginning, Medicare expenditures greatly exceeded what the federal government anticipated. For example, when Medicare was implemented in 1965, it was estimated that the hospital insurance part of Medicare would cost \$3.1 billion by 1970, but the figure actually reached \$5.7 billion, 87 percent more than previously estimated. The average cost per patient day more than doubled between 1966 and 1976, and the assets of hospitals increased enormously.



Overcapacity of hospital services: Rapid hospital expansion worsened the problem of hospital overcapacity, which had been a problem prior to the mid 1960s. In the 1930s, health care planning agencies estimated that a 4 to 1,000 hospital bed/general population ratio would be adequate. As medical technology advanced, outpatient treatment became more and more important. Subsequently, the ideal hospital bed/population ratio decreased to 3.5 per 1,000 by 1960. The hospital bed to population ratio continued to rise in the next two decades, however, rising to 4.2 per thousand population in 1970, and 4.6 per thousand population in 1980, causing enormous bed surplus. Corrington and Moore (1987) estimated that there was a 20% to 30% excess in hospital capacity by the early 1980s. The continued growth of hospital inpatient capacity was sustained by the unchecked profusion of reimbursement methods as a result of government policies in the 1950s and 1960s.

Diminishing organizational distinction between nonprofit and for-profit hospitals:

Traditionally, nonprofit hospitals differed from for-profit hospitals in a number of aspects (Table 2.4). After the mid 1960s, nonprofit and for-profit hospitals began to share similar financial sources and both became increasingly dependent on third-party reimbursement for revenue (Table 2.5). This was especially true for construction financing (see Figure 2.1). Traditional philanthropic and donative financial sources from local communities became less and less important for urban nonprofit hospitals. In 1965, for example, 40.7 percent of construction costs of nonprofit hospitals came from philanthropic donations. In the next fifteen years, the share of philanthropic giving as a source of hospital construction decreased steadily, from 21 percent in 1968 to a mere four percent in 1981 (see Figure 2.1). Debt financing, i.e., acquisition of construction capital through issuance of bonds (tax exempt for nonprofit hospitals and taxable for for-profit hospitals), became the major capital source by the early 1980s.

As nonprofit hospitals increased their revenue-driven activities, the traditional distinctions between for-profit and nonprofit hospitals began to diminish. The commercialization of nonprofit hospitals (Hansmann 1980, 1987, 1989) has raised serious questions about the legitimacy of tax exempt status and prompted an outcry from the for-profit sector and public advocacy groups alike (Bennett and DiLorenzo 1987; Herzlinger and Kraska 1987; Cook 1990). Subsequently, Congress held a series of hearings in the mid 1980s (Ferris 1989). These hearings, while not altering the basic legal framework of nonprofit organizations, put trustees and administrators of nonprofit hospitals on notice that they must maintain the delicate balance of public service and revenue-generating activities.

Table 2.4 Basic Legal and Economic Differences between For-Profit and Nonprofit Hospitals

For-profit	Nonprofit
Purpose: Management has legal obligation to promote wealth of shareholders within the boundaries of law; does so by providing services; Management ultimately accountable to owners (shareholders); Sources of capital include: Equity capital from investors Debt (taxable bonds) Retained earnings (plus depreciation) Return-on-equity payments from third-party payers; Pay property, sales, and income taxes	Purpose: Has legal obligation to fulfill a stated mission (provide service, education, research, etc.); must maintain economic viability to do so; Management accountable to voluntary, often self-perpetuating boards; Sources of capital include: Charitable contributions Debt (generally tax-exempt bonds) Retained earnings (plus depreciation) Government grants Generally eligible for exemption from most taxes

Source: Modified from Gray (1991), p. 62.

Table 2.5 Percentage Change of Hospital Revenue Sources, by Ownership Type, Selected Years

	public	nonprofit	for-profit
1935			
Patients	16.7	70.9	91.4
Taxes	81.0	10.3	4.1
Endowment	0.5	6.3	0.5
Gifts	1.8	12.5	4.0
1961			
Consumer	58.0	87.1	97.9
Government	42.0	6.5	2.1
Philanthropy	-	6.4	-
1979			
Medicare	34	34	33
Medicaid	1	7	7
Blue Cross & other insurance ¹	-	-	-
Other sources ²	-	-	-

1. The percent share was 31.9 for all hospitals. No data available for hospitals of each ownership type.

2. The percent share was 26.9 for all hospitals. No data available for hospitals of each ownership type.

Source: Hollingsworth and Hollingsworth 1987, pp. 90, 98, 104.

Summary: Locational Impact of Medicare on Urban Nonprofit Hospitals

Nonprofit hospitals dominated the hospital industry during the period from the inception of industrialization to Medicare. In a health care environment that was driven by both market and political forces, nonprofit hospitals maintained a dual accountability to economic viability and social responsibility. The delicate balance between charitable service and financial viability came under intense challenge after the implementation of Medicare. To take advantage of generous third-party reimbursement, hospitals competed for well-insured patients. The competition had explicit locational ramifications, as Gray (1992) stated:

The reimbursement environment from the late 1960s until the early 1980s made it difficult not to make money operating hospitals, so long as they were located away from concentrations of low-income populations and in states that did not regulate hospital income (p. 33).

An inadvertent effect of Medicare was reinforcing the centrifugal tendencies of urban nonprofit hospitals, because: (1) access to well-insured suburban patients could translate into increased revenue since most third-party insurers adopted Medicare's reimbursement formula; and, (2) new, investor-owned hospital chains grew rapidly. They usually built new hospital facilities in the suburbs to attract the generally well-insured suburban patients.

More importantly, by the late 1960s, the federal government began to employ legislative and regulatory measures in an attempt to curb the skyrocketing health care expenditure caused by the original reimbursement methods of Medicare. In this regard, the

following steps were implemented: (1) the Comprehensive Health Planning Act of 1966 created state health planning agencies, which were designed to control physical expansion of hospitals and other health care organizations through regional planning; (2) the Hill-Burton program was gradually phased out², a first sign of the end of government-sponsored hospital expansion under the auspices of welfare programs of the New Deal and the Great Society; and, (3) the first efforts at containing Medicare costs were mounted with the cancellation of the two percent *plus factor* in 1969, and the accelerated depreciation payments, previously granted to hospitals, in 1970.

These legislative and regulatory changes intensified competition among urban hospitals for market share and made it imperative for hospitals to attract middle class, generally well-insured patients in the suburbs after the mid 1960s. What, then, happened to the locational patterns of urban nonprofit hospitals after the implementation of Medicare? Were urban nonprofit hospitals able to relocate their central city facilities in the suburbs? If not, what were the alternative locational strategies for urban nonprofit hospitals to capture suburban patients? The next chapter will examine these questions.

² In 1971, for example, the Hill-Burton funds totaled \$64 million, only about fifty-five percent of the annual average from 1946 to 1970.

CHAPTER THREE

LOCATIONAL CHANGES OF URBAN NONPROFIT HOSPITALS SINCE MEDICARE: EMPIRICAL EVIDENCE AND ANALYSIS

Relocational Changes

Toward the end of the 1960s, the federal government began implementing a series of cost-control measures aimed at curbing the expansion of medical expenditures. As a result, hospitals found themselves in an intensively competitive environment for a shrinking pool of health care resources. It became a matter of survival for hospitals to expand their patient base among affluent suburbanites. In this regard, urban hospitals were at a locational disadvantage. How did most urban nonprofit hospitals, then, cope with the compelling suburbanization pressures placed upon them by these changes in Medicare and other third-party insurers? This section will analyze locational changes of urban hospitals in the 42 sampled cities.

Suburbanization Attempts by Urban Hospitals

There is ample evidence that many urban hospitals attempted to relocate to the suburbs (e.g., Rose 1982; Simpson and Bogue 1985). The results of these attempts, however, were mixed. Some hospitals were successful in relocating at least part of their facilities to the suburbs, others failed to do so, mainly due to political factors. The following are four cases of hospital relocational attempts and the barriers that each hospital faced:

(1) Wilmington Medical Center (WMC), Wilmington, Delaware, is a large nonprofit hospital discussed by Hickman (1978). In 1976, WMC planned to "abandon the majority of its facilities located in the inner city, and construct a new facility in a predominantly white area about eight miles outside the city" (Hickman 1978, p. 4). Inner city communities in Wilmington were alarmed by the likely adverse effects of the proposed relocation and enlisted the National Association for the Advancement of Colored People (NAACP), the Center for Law and Social Policy, and other advocacy groups to challenge the proposed relocation.

The NAACP contended that the proposed relocation would have adverse effects on the city's minority and elderly populations, which were concentrated in the areas surrounding the hospital's original location. The NAACP filed suit in court against the proposed relocation by WMC on the legal grounds that: (1) the proposed relocation, if it took place, would worsen the access to hospital care for the inner city, predominantly black community. Thus, the proposed relocation would violate Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race by institutions receiving federal financial assistance such as Medicare and Hill-Burton grants; and, (2) the proposed suburban facility would result in certain service duplications since the hospital still planned to operate part of its inner city facility albeit in a much diminished fashion. Under pressure from the NAACP, the Office for Civil Rights (OCR) of the Department of Health, Education, and Welfare (DHEW) investigated the proposed relocation and reached the conclusion that the relocation plan did violate Title VI of the Civil Rights Act. The case went to the court. After a five-year legal battle, the court decided that evidence of the supposed discrimination was

inadequate and that the relocation plan of Wilmington Medical Center was justified in order for the hospital to serve suburban patients. WMC then proceeded to build the suburban facility (Miller 1990).

(2) Methodist Hospital in Gary, Indiana, proposed to relocate part of its services to a new suburban facility in 1973 and applied for a Hill-Burton grant. The Department of Health, Education, and Welfare (DHEW) approved the grant after the hospital agreed to comply with a number of the DHEW requirements aimed at preventing discriminatory consequences of the relocation. When the hospital announced further relocation plans in 1976, however, inner city communities petitioned for a lawsuit to reinforce the formal agreements between the hospital and the DHEW. The case was settled by consent decree, in which the hospital agreed to renovate its inner city facility and add new services. In return, the plaintiff agreed to permit a further transfer of 100 beds to the suburban facility.

(3) Christian Welfare Hospital in East St. Louis, Illinois, constructed a suburban facility without applying for a Hill-Burton grant, in order not to be forced to abide by the restrictive Hill-Burton requirements for charity services. Several years later, however, in order for the suburban facility to participate in the Medicare program, the hospital signed an agreement with the Office of Civil Rights (OCR) under the DHEW that it would not close its inner city facility. The hospital, however, allegedly allowed the inner city facility to deteriorate. In 1979, the hospital asked the local health planning agency to permit the closure of its inner city facility, but, under organized community opposition assisted by legal advocacy groups, the local health planning agency rejected the hospital's request. A group

of black doctors secured control of the facility but continued financial difficulty eventually caused the facility to close in the early 1980s.

(4) In the late 1970s, Good Samaritan Medical Center in Phoenix, Arizona, ". . . was faced with a critical decision: flee the declining downtown neighborhood for greener suburban pastures, or rebuild at the present location" (Brinkley 1985, p. 8). Fearing the devastating consequences of the hospital's proposed relocation, including its negative multiplier effects, local government and private businesses, especially property owners in the area, actively lobbied the hospital board with an attractive incentive package, including financing, land acquisition, and technical support for the hospital's on-site redevelopment. Taking advantage of the incentives, the hospital decided to remain in the downtown area. It formed a corporation, Medical Center Redevelopment Corporation (MCRC), to facilitate development projects on-site and the surrounding areas to the benefits of the hospital. In this case, negotiation rather than confrontation between the hospital and the opposition prevailed. The proposed relocation by Good Samaritan turned out to be a major bargaining chip in obtaining what it desired for on-site expansion.

The above four cases were norms rather than exceptions for urban nonprofit hospitals (e.g., Berger 1981; Bertsch 1984; Koncel 1980; Lee and Goodell 1985). Simpson and Bogue (1985) documented several hundred court cases in which hospital physical expansions, many involving suburban relocations, were challenged in the courts. Legal actions were taken mainly by three groups: (1) hospitals that were denied a certificate of needs (CON) approval to construct new facilities, often at new suburban sites. These hospitals exercised their legal recourse and appealed to the courts to review their applications; (2) communities adversely

affected by proposed hospital relocation, merger, and new construction; and, (3) competitors of hospitals that had acquired permissions to build new facilities. Court decisions were mixed and sometimes conflicting. Overall, evidence from court decisions and case studies do not reveal a clear picture of the actual timing and magnitude of hospital suburbanization. There is a need, therefore, for systematic documentation of the expansion history of a large sample of urban hospitals.

Empirical Documentation of Hospital Relocation

Address changes of general hospitals in the 42 sampled cities are documented below (Table 3.1). Relocation in this study is defined as a new address at least one mile away from the original one. As data in Table 3.1 shows, only a portion of these address changes were actually relocations. Furthermore, not all relocations could be labelled as outright suburbanization.

Table 3.1 Recorded Hospital Address Change and Hospital Relocations, Selected Years

	1957-1964		1964-1971		1971-1978		1978-1985		1985-1992	
	A ¹	R ²	A	R	A	R	A	R	A	R
nonprofit	25	10	30	10	37	21	27	17	15	8
public	1	0	4	3	7	2	1	0	2	0
for-profit	3	2	2	1	7	4	2	2	1	1
total	29	12	36	14	51	27	30	19	18	9

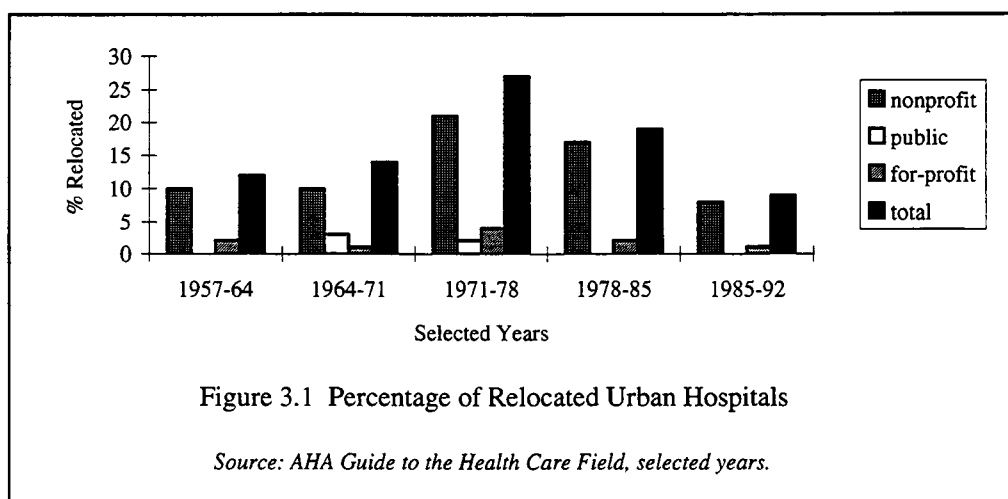
¹ Number of address changes;

² Relocation (1 mile or farther away from the original sites).

Source: AHA Guide to the Health Care Field, selected years; *MapExpert with Street Atlas USA*.

A few hospitals had only limited locational changes within central cities. For example, South Miami Hospital, a 368-bed nonprofit hospital in Miami, Florida, relocated from "SW 62nd Street" to "SW 73rd Street SW" between 1985 and 1992. Both sites were within the central city, and the new site was only eleven blocks, less than one mile, away from the old site.

The largest number of hospital relocations occurred between 1971 and 1978. During this period, 27 of the 456 general hospitals extant in the sample cities in 1971 relocated. The next largest number of relocations occurred between 1978 and 1985, when 19 of the 531 general hospitals extant in 1978 relocated. These figures include address changes that could not be verified as relocations. The relocation figures, therefore, may be slightly inflated. The largest percentage of hospital relocations in sampled cities occurred during the period of 1964-1978, when three and 5.9 percent, respectively, of all hospitals in sampled cities relocated (Figure 3.1).



It is obvious that the majority of hospitals in the sampled cities did not relocate between 1957 and 1992. During this time, by contrast, many personal and professional services moved from central cities to the suburbs, following the exodus of the urban population. Sixty-five of the 453 nonprofit hospitals extant in sampled cities during this period, or about 14 percent, relocated¹. It was, at first, surprising to find out that only nine of the 134 for-profit hospitals extant between 1957 and 1992, or a little less than seven percent, relocated². Urban public hospitals seemed to be the least mobile in their locational changes. Only five of the 69 public hospitals extant between 1957 to 1992, or about seven percent, underwent relocations, all of which took place between 1964 and 1978.

By comparison, for-profit hospitals are supposedly more "foot-loose" than either public or nonprofit hospitals. The number of relocations by for-profit hospitals, however, can be misleading. For-profit hospitals had a much greater turnover rate. A larger number (Table 3.2) and a higher percentage (Figures 3.2, 3.3) of for-profit hospitals closed and opened than either public or nonprofit hospitals between 1957 and 1992. Prior to the mid 1970s, many early for-profit hospitals were small, owned by individuals and partnerships (see Figures 1.1, 1.2 and Figures 2.3, 2.4). Throughout the 1960s and 1970s, many of these traditional for-profit hospitals were forced to close due to their inability to achieve scale economies. The rapid growth of new for-profit hospitals was led by investor-owned hospitals, which grew rapidly both in number and in percentage share of the hospital industry

¹ Sixty-six relocations involving nonprofit hospitals were recorded. One hospital, Grace Hospital, Detroit, MI, underwent two relocations (1978-1985, 1985-1992).

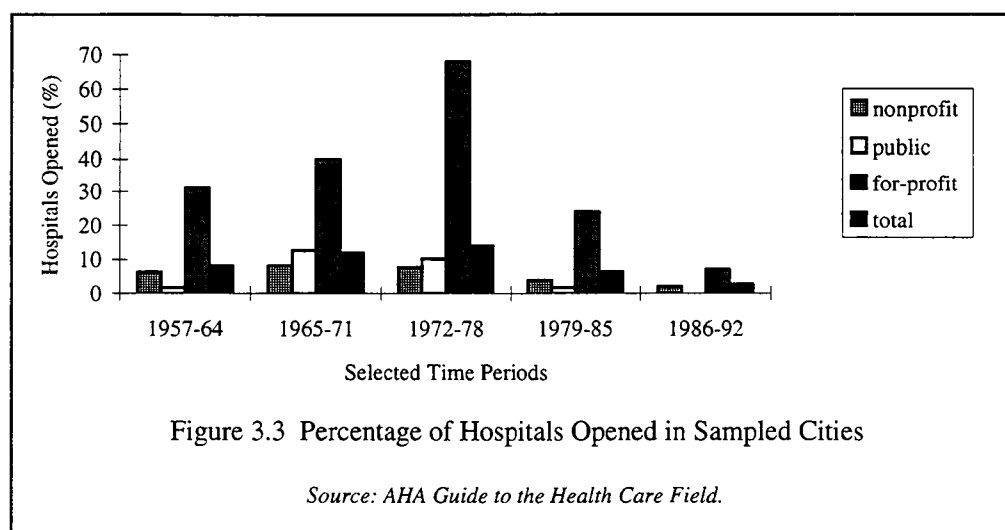
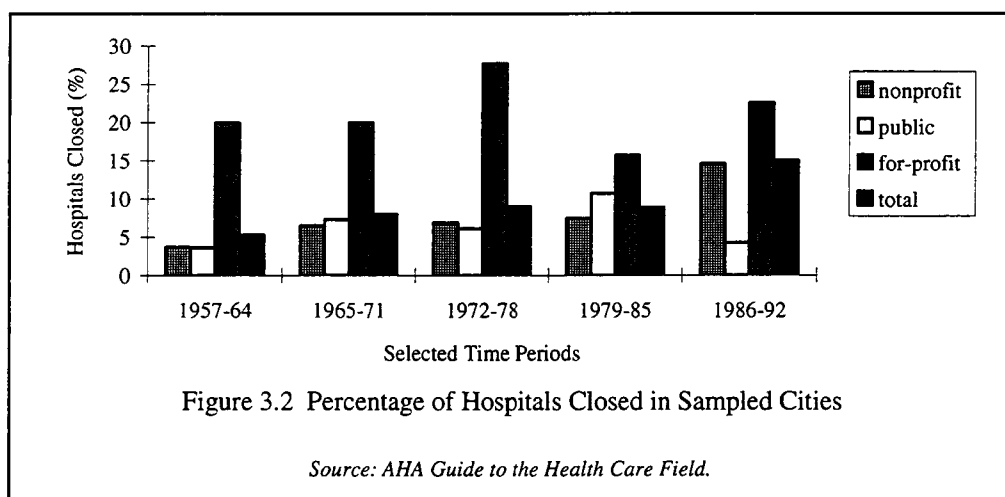
² Ten relocations involving for-profit hospitals were recorded. One hospital, West Seattle General Hospital, Seattle, WA, underwent relocation twice (1957-1964, 1964-1971).

Table 3.2 Number of Urban Hospital¹ Closing and Opening, Selected Years

	1957-1964		1964-1971		1971-1978		1978-1985		1985-1992	
	close	open	close	open	close	open	close	open	close	open
nonprofit	13	22	24	30	25	28	30	16	56	8
public	2	1	4	7	3	5	6	1	2	0
for-profit	9	14	10	20	13	32	11	17	18	6
total	24	37	38	57	41	65	47	34	76	14

¹ All general hospitals in the 42 cities.

Source: The AHA Guide to Health Care Field, selected years.



after the mid 1970s. New, investor-owned hospitals were usually built outside inner cities to be more accessible to suburban residents. They were under little pressure to relocate. In general, closing and opening were a much more common occurrence than relocation for hospitals in the sampled cities during the study period. Between 1957 and 1992, a total of 226 hospitals closed and 207 opened, compared to the 81 relocations.

Locational decision-making for public hospitals was usually a political matter, and they were more likely to close than to relocate their main facilities to the suburbs when facing financial difficulties (McNeil 1980; Rose 1982; Sager 1982). The major goal of for-profit hospitals, on the other hand, is profit-maximization. It can be expected that they make their locational decisions in a manner similar to other service industries. Nonprofit hospitals, on the other hand, are exposed to the influence of both economic and non-economic forces. That the vast majority of urban nonprofit hospitals did not relocate their main facilities to the suburbs indicates that the centripetal forces constraining suburbanization have outweighed the centrifugal forces. What are these centripetal forces, or barriers, to the suburbanization of nonprofit hospitals?

Barriers to Hospital Suburbanization

If the original plans for the Medicare system inadvertently escalated the pressure on urban nonprofit hospitals to suburbanize, subsequent efforts by the federal government at controlling health care costs had the opposite effect of restricting their ability to do so. Specifically, Section 1122 of the 1972 Social Security Amendments authorized the Department of Health, Education, and Welfare (DHEW) to withhold reimbursements for new

physical assets not approved by local planning agencies. The piece of legislation that had the strongest centripetal effects on nonprofit hospitals was that of certificate of needs (CON) laws enacted by the National Health Planning and Resource Development Act of 1974.

The locational effects of certificate of needs (CON) laws: In the provisions of the National Health Planning and Resource Development Act of 1974, Congress required states to implement certificate of needs (CON) laws through state health planning agencies. These agencies were to review applications by hospitals for new construction projects, as well as to evaluate old facilities and services for "continuing appropriateness" ("recertification of needs"). Under CON laws, hospitals were required to get approvals from state health planning agencies before carrying out expansions. By 1974, half of the states had instituted CON and the rest of the states were required to do so by 1980. Since the late 1970s, states have been allowed to discontinue imposing CON laws at their discretion. Currently, 38 states and the District of Columbia still have enforceable certificate of needs laws as a measure limiting competition (Feldstein 1993).

The chief goal of CON programs, as intended by Congress, was to reduce duplication of hospital facilities and services (Miller 1990), consequently halting the rapid increase of health care costs through a slow-down in health care facility expansion. Specifically, CON programs were aimed mainly at controlling hospital capital expenditures above a fixed dollar amount per year³. There have since been conflicting evaluations on the effects of CON programs in controlling hospital growth (Salkever and Bice 1976; Joskow 1981). Some have

³ The threshold was \$100,000 until 1983, when it was increased to \$600,000. CON laws also covered new services without any minimum capital expenditure requirement (Simpson and Bogue 1985).

been critical about their effects on controlling overall hospital expenditures (Pauly 1988; Stevens 1989a).

There is evidence, on the other hand, that states with CON programs reduced the increase in the number of hospital beds (Feldstein 1993). First, under CON programs, hospitals in urban areas with overcapacity problems (and most cities had such problems in the early 1970s) were denied government funding for new facilities. More importantly, CON programs required the provision of primary care services for medically underserved populations, especially those which were located in rural or economically depressed areas. For example, 42 U.S.C. 300k states that ". . . the achievement of equal access to quality health care at a reasonable cost is a priority of the Federal Government." 42 U.S.C. 3001-2(a)(2) maintains that a major purpose of establishing local health planning agencies was "increasing the accessibility (including overcoming geographic, architectural, and transportation barriers) . . ." to the residents of the health service area. The CON process was also very costly and time-consuming, requiring large amount of information and complex bureaucracy to handle each case.

Certificate of needs (CON) programs made it difficult for urban hospitals to transfer licensed beds from one location to another. Urban nonprofit hospitals were much more affected by the CON requirements in their efforts to suburbanize than were for-profit hospitals. Many nonprofit hospitals were founded earlier and, therefore, located in the central city near the downtown area. While being under great financial pressure to suburbanize, the needs of urban nonprofit hospitals for suburban relocation directly ran into the restriction of the CON laws.

Other federal laws and regulations: The period after the mid 1960s witnessed the rise of community organizations and public advocacy. Both became major forces in urban land use change. Several pieces of Congressional legislation were especially effective for community organizations and advocacy groups in their efforts to prevent public and nonprofit hospitals from departing inner cities: (1) Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin; (2) Section 504 of the Rehabilitation Act of 1973 prohibits discrimination on the basis of handicap; and, (3) the Age Discrimination Act of 1975 prohibits discrimination on the basis of age. Minority and elderly groups are disproportionately concentrated in central cities and can employ the above federal laws in opposing hospital relocations. Hospitals receiving federal financial support, including Hill-Burton, Medicare, and Medicaid, must comply with these federal laws or risk losing such vital funding. As discussed in Chapter One, inner-city communities have challenged hospital closure and relocation on all of these legal grounds (Rose 1982; Simpson and Bogue 1985; Rice 1987).

Historically, nonprofit hospitals benefitted from the vagueness of being "community service institutions." The perception helped nonprofit hospitals obtain tax subsidies, build public support, and acquire government financial aid. These salutary benefits carried with them the onus of public accountability, which has been used as the legal basis for government regulations. The Internal Revenue Service (IRS) has been a major government agency overseeing nonprofit hospitals. IRS Ruling 56-185 (1965) emphasized charity care as the qualification for nonprofit status. IRS Ruling 69-545 (1969), however, shifted the emphasis of status qualification to "community benefits." It stated that charitable purposes

of nonprofit organizations should be broadly defined to include all purposes that are free of private interests and that are beneficial to the community (Friedman *et al.* 1990). This ruling provided the IRS and the courts with broad interpretative power, and community organizations with further legal leverage, to challenge proposed facility construction, relocation, or other changes by hospitals. Health planning agencies and inner city communities often deemed suburban relocation of central city facilities contradictory to the broadly (and vaguely) defined mission of nonprofit hospitals.

Also, many large, old nonprofit hospitals in central cities greatly value their prestige and community identity. Name recognition and service reputation are important foundations for a stable patient (customer) base, and are, therefore, extremely important for nonprofit hospitals to operate successfully (Bertsch 1984). Institutional image is often associated with specific historical sites and facilities of nonprofit, community hospitals.

Other barriers to relocation: Certain organizational attributes of nonprofit hospitals have also been barriers to their relocation attempts. The so-called *Cy pres* doctrine, for example, allows a court latitude in interpreting the terms of a will or gift if carrying out the terms literally would be impractical or illegal. At the same time, the general intent of the testator or donor is supposed to be observed as closely as possible (Oleck 1988).

Based on this legal doctrine, the court usually upholds that donated properties must be used for similar charitable purposes if the donor's original intention could not be fulfilled. If the donor did not have general charitable intent, the property must revert to the grantor or his (its) estate when the nonprofit entity ceases to exist. The *Cy pres* doctrine, therefore, makes it legally void for transactions of donated nonprofit properties to non-charitable uses.

Nonprofit institutions, such as hospitals, often started on donated land tracts, or possess donated land property or structures. It is extremely difficult for them to trade or sell their land and buildings in the market place because of the *Cy pres* doctrine. The real estate owned by nonprofit hospitals, for all intents and purposes, therefore, represents a type of sunk capital investment. Also, hospitals have large, highly specialized facilities that are difficult to convert to other uses, which further diminishes the chance for hospitals to dispose of them without significant financial losses.

Diverse sources of capital for hospital expansion also affect locational mobility of nonprofit hospitals. Besides sales of their services, nonprofit hospitals can receive capital from government funds and private donations, which were more important sources for facility construction than they were to the overall revenue for hospital routine operation, accounting for 60% of construction funding for nonprofit hospitals in 1965 (Stevens 1989a), although these sources have declined in their importance since then (see Table 2.4). Capital sources for nonprofit hospitals have two potential locational implications: (1) nonprofit hospitals often depend on debt financing as a means of obtaining capital for physical expansion. Debt financing is not as timely a source as security issuance in the equity market; and, (2) government funds and private donations may not be immediately available when needed. When available, these funds often have non-economic strings attached to their uses. As a result, nonprofit hospitals are often constrained by lack of capital to relocate and expand their facilities. Also, nonprofit hospitals can better cope with high land values in central cities because most of their properties are exempt from local property taxes. Characteristics of capital supply strengthened the anchoring effect of urban nonprofit hospitals.

Overall, various locational factors affecting hospitals have had a stronger centripetal than centrifugal effect on the locational patterns of urban nonprofit hospitals. The inability to suburbanize forced urban nonprofit hospitals to develop other locational strategies in coping with their financial needs to attract suburban patient populations. Urban nonprofit hospitals first used suburban satellite facilities to overcome their inability to suburbanize. As investor-owned, for-profit hospital chains emerged and grew rapidly after the advent of Medicare, nonprofit hospitals also began to form their own multi-hospital systems. Nonprofit multi-hospital systems are not simply an alternative to the locational immobility of their flagship hospitals in the central city; rather, they signaled a new innovation in service delivery aimed at securing and expanding local market share.

The Evolution of Locally Based Multi-Hospital Systems

A dominant trend in the hospital industry since the mid 1960s has been the growth of multi-hospital systems (Shortell 1988; Fottler and Malvey 1995) as measured by both scale and complexity. The AHA defines multi-hospital systems as ". . . two or more hospitals owned, leased, sponsored, or contract managed by a central organization" (AHA 1993a, p. B2). There is no single definition, model, or form, however, that can encompass the diverse system arrangements (Southwick 1988). The purpose of the research should, therefore, determine the classification criteria used to define multi-hospital systems.

In studying locational changes of urban hospitals, two basic criteria are used in this research to classify multi-hospital systems: (1) the geographic criterion: whether a system

is: (a) nationally based, that is, hospitals of a system are found in two or more metropolitan regions without a functional linkage with each other; or, (b) locally based, that is, major hospitals of a system are concentrated in an urban or metropolitan area; and, (2) the organizational criterion: whether a system is: (a) an alliance (a term used interchangeably with "consortium"), that is, a number of independent hospitals that enter into cooperative agreements in planning, purchasing, and service delivery, but maintain their own identity and autonomy); or, (b) a holding company, that is, through hospital spinoff, merger, and acquisition, several hospitals have come under the governance of a single holding company or central organization. Table 3.3 presents a typology of multi-hospital systems.

Investor-owned, for-profit hospital chains grew rapidly after the early 1970s. Hospitals belonging to investor-owned chains showed regional concentrations in the South and the West (Table 3.4), especially in certain cities (Table 3.5). There were 85 for-profit hospitals in the 42 sampled cities in 1985, fifty-three of which, 63 percent, were concentrated in ten cities in 1985. These ten cities had 41 for-profit hospitals in 1992, or almost 70 percent of the 58 for-profit hospitals in the 42 sampled cities. All these ten cities were in the South or the West census regions (Table 3.5).

Table 3.3 A Typology of Multi-Hospital Systems and Examples

	Alliances (Consortia)	Corporate Chains	Local Holding Companies
Nationally Based	Voluntary Hospitals of America (VHA); Sisters of Mercy	Humana; HCA-Columbia	N/A
Locally Based	St. Anthony's - St. John's Mercy - St. Luke's, St. Louis, MO	N/A	Barnes-Jewish-Christian, St. Louis, MO

Table 3.4 Regional Distributions¹ of For-Profit Hospitals in the Sampled Cities

	Northeast	Midwest	South	West
1985	0	2	47	16
1992	0	2	38	8

¹ Based on U. S. census definitions.

Source: The AHA Guide to Health Care Field, 1986, 1993.

Table 3.5 Cities with the Largest Concentrations of For-Profit Hospitals, Sampled Cities

	Dallas	San Diego	Tampa	Nashville	Richmond	Miami	Louisville	New Orleans	Shreve - port	San Antonio
1985	10	6	6	6	5	4	4	4	4	4
1992	6	4	4	3	6	3	4	4	3	4

Source: The AHA Guide to Health Care Field.

Several factors explain such regional concentration: (1) urban areas in many southern and western states have been fast growing, providing new entry opportunities in expanding markets; (2) the South and West do not have as strong a philanthropic tradition as the Northeast and Midwest, and nonprofit hospitals do not have established dominance; and, (3) hospital regulations in many Southern and Western states are lax, making it easier for investor-owned for-profit chains to establish themselves.

It should be noted that, increasingly, some locally based systems have expanded beyond their urban and metropolitan bases to adjacent regions. *The Guide* records locally based multi-hospital systems that were under the holding company model by listing all hospitals under the system headquarters or the flagship hospital of the system. For example, in the 1993 edition of *the Guide*, five hospitals were listed under "United Hospital and Medical Center of Newark," NJ: (1) Presbyterian Hospital; (2) Hospital of the Crippled; (3) Children's Hospital; (4) Newark Eye and Ear Infirmary; and, (5) United Hospital of

Orthopedics. If a system disbanded, the surviving hospitals would be listed independently in the next edition of *the Guide*.

Compared to their public and for-profit counterparts, the development of locally based multi-hospital systems among nonprofit hospitals in the 42 sampled cities can be characterized as having: (1) a greater growth rate and system participation; (2) more frequent reorganization; and, (3) greater regional expansion of provider networks. The following analysis focuses on locally based multi-hospital systems under the holding company model.

Growth of Locally Based Multi-Hospital Systems

Multi-hospital systems have been on the upswing since the mid 1960s (Fottler and Malvey 1995). According to the American Hospital Association (AHA), the percentage of community hospitals in all types of multi-hospital systems increased from about 30 percent in 1979 to over 50 percent in 1991 (Hagland and Cerne 1993). In 1992, there were 309 multi-hospital systems of various types, representing a 19 percent increase from 1985, when there were 250 such systems. In 1992, 2,873 hospitals affiliated with various multi-hospital systems, a 23 percent increase over that in 1985. There was also a 27 percent increase of hospital beds in various multi-hospital systems between 1985 and 1992. Of the 309 systems extant in 1992, approximately 80 percent (249 systems) were nonprofit, 18 percent were investor-owned, and only two percent were public. These locally based multi-hospital systems are continuing to grow.

Data from the 42 sampled cities provide a closer look at the development of locally based multi-hospital systems. Before the mid 1960s, most hospitals were free-standing

health care institutions, although some church-affiliated hospitals, especially those historically associated with the Roman Catholic church, had loose-knit national organizations (alliances). According to *the Guide*, only 14 hospitals in the 42 sampled cities were in locally-based multi-hospital systems in 1957. Seven years later, this number increased to 31. After the mid 1960s, the number of hospitals in locally-based multi-hospital systems grew rapidly (Table 3.6).

Among the locally based multi-hospital systems, nonprofit ones have undergone the most rapid growth since the mid-1960s. Public systems experienced only very moderate growth, but a higher percentage of them were in locally based multi-hospital systems than were nonprofit hospitals until the mid 1980s (Figure 3.4) because: (1) some nonfederal public hospitals were teaching hospitals affiliated with the same universities; and, (2) some public hospitals were under the administration of state hospital districts, which are listed in *the Guide* together under one central organization. In contrast, few for-profit hospitals were in locally based systems. The disparity regarding the extent of locally based multi-hospital systems becomes more striking among hospitals of the three basic ownership types when using percentage figures (Figure 3.4).

Table 3.6 Numbers of Hospitals¹ in Locally Based Multi-Hospital Systems, by Ownership Type

	1957	1964	1971	1978	1985	1992
nonprofit	8	21	48	89	90	89
public	6	10	12	16	14	8
for-profit	0	0	0	0	0	0
total	14	31	60	105	104	97

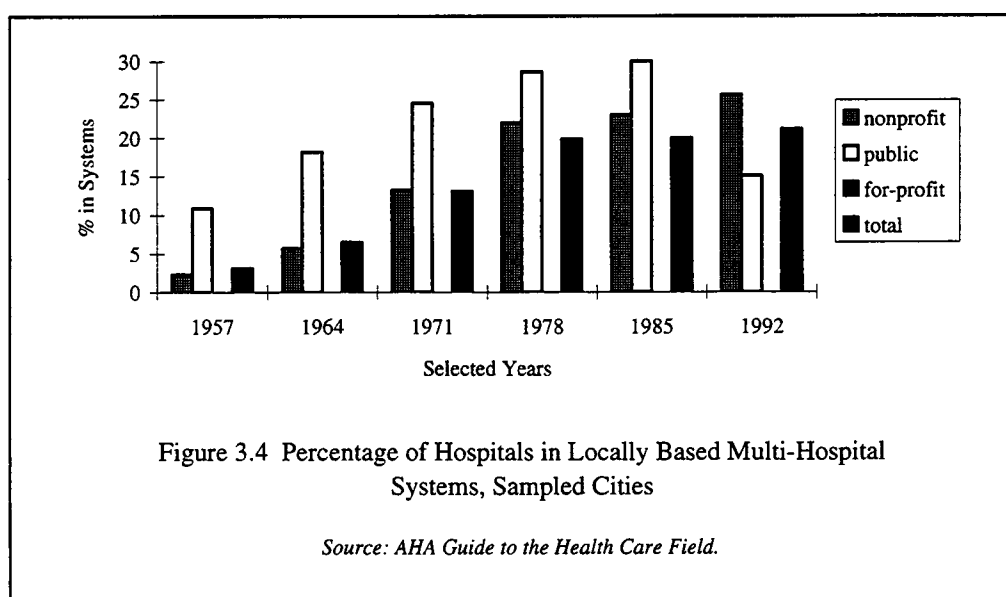
¹ General hospitals in the 42 sampled cities.

Note: The hospitals included in the table were those under the "holding company model."

Source: The AHA Guide to Health Care Field.

Information about hospitals belonging to chains is not as usable as that on locally based systems for chronological documentation, since *the Guide* did not start recording hospital affiliation with chains until its 1983 edition. As a result, only data for the years of 1985 and 1992 are available for analysis. It is obvious, nevertheless, that a larger number of urban nonprofit hospitals were in locally based system arrangements in the years prior to 1985 than *the Guide* may indicate.

If two or more hospitals in the same city belonged to the same nationally or regionally-based system, then they should have had some cooperative arrangements. These hospitals are regarded in the study as being in locally based multi-hospital systems. For example, Doctor's Hospital of Mobile and Knollwood Park Hospital of Mobile, Alabama, were listed separately in the 1986 edition of *the Guide*, but both belonged to Hospital



Corporation of America (HCA). These two hospitals are counted as being in a locally based system arrangement. A number of hospitals in the sampled cities were in this kind of multi-hospital arrangement (Table 3.7). If these hospitals are regarded as being in locally based systems, the scale of locally based multi-hospital systems is significantly larger. For example, nonprofit hospitals in locally based systems increased from 23 to 31 percent in 1985, and from 26 to 37 percent in 1992.

Frequent Reorganization and Diverse System Forms

Frequent system reorganization: Empirical evidence from the sampled cities showed that locally based multi-hospital systems have undergone frequent reorganization, that is, hospitals constantly form and dissolve their system arrangements. Also, a variety of system forms might be noted. These two characteristics are especially true of nonprofit hospitals, which comprise most of the locally based systems. Hospitals undergo reorganization for the purposes of reducing local competition or forging competitive coalitions, so to secure their market share and further their opportunities for growth.

Table 3.7 Hospitals Affiliated with Chains¹ in the Same City, Total of the 42 Sampled Cities, 1985, 1992

	nonprofit	public	for-profit	Mixed
1985	30	2	30	4
1992	39	4	18	13

¹ Hospitals not in locally-based multi-hospital systems as listed in *the Guide*.

Source: The AHA Guide to Health Care Field, 1986, 1993.

Some hospitals formed systems through merger and consolidation mainly for the purpose of reducing local competition. Some of the system hospitals were later closed or were regulated to the status of a unit of other system hospitals in order to reduce overbedding and service duplication. For example, Alexander Blain Hospital of Detroit, MI, was a free-standing hospital prior to 1985. It became part of the Detroit-MacComb Hospitals Association by 1985, and was closed by 1992 (no longer listed in the 1993 edition of *the Guide*). Another example was Asbury Methodist Hospital in Minneapolis, MN. It became part of Methodist Hospital by 1964, and was closed by 1971.

More frequently, some large, free-standing hospitals changed their system affiliations as a strategy to forge the most competitive coalitions. Nonprofit hospitals are more flexible in forming and dissolving multi-hospital systems, since they have greater autonomy than public hospitals, and they are not restricted by corporate structure and antitrust laws as are for-profit hospitals. St. Mary's Hospital in Minneapolis, MN, for example, was a member of the Fairview Community Hospitals in 1985. By 1992, however, it had become part of the Healthspan Health System Corporation. There is evidence that nonprofit hospitals in cities of the Northeast and the Midwest have been much more active in reorganizing local systems. Most hospitals that have undergone affiliation changes are in the Northeast and the Midwest.

Diverse forms: Nonprofit hospitals are more flexible in forming locally based multi-hospital systems regarding governance, resource sharing, and financial arrangements, because of their charitable charters. The forms of nonprofit multi-hospital systems, as a result, are more diverse than that of investor-owned systems. A good example of this system

diversity is illustrated by hospitals in St. Louis, Missouri (Cerne 1993c), which have formed three distinct types of multi-hospital systems:

(1) Prior to 1992, two leading nonprofit hospitals, Barnes Hospital and Jewish Hospital of St. Louis, had formed a multi-hospital system, Barnes-Jewish Inc. In 1993, Barnes-Jewish Inc. and Christian Health System formed a new system that incorporated 17 facilities in Missouri and Illinois, with 4,442 licensed beds, 4,100 staff members, and an annual revenue of over \$1 billion. The new system follows the holding company model, that is, it is governed by a single board and provides fully integrated care. Barnes-Jewish-Christian represents a long-term, secure system with uniform decision-making and complete resource sharing.

(2) Five hospitals associated with Sisters of St. Mary Health Care System, including St. Mary's Health Center, formed an integrated delivery network with three other nonprofit hospitals -- DePaul General Hospital, Missouri Baptist Hospital, and St. Louis University Hospitals. The main purposes for such an alliance arrangement include reducing service duplication and excess beds, distributing case-based payments under PPS to its members that could perform a service most effectively, and developing a vertically integrated system through service specialization of each participating hospital. Decisions were yet to be made on the governance of the new alliance.

(3) Three religiously affiliated nonprofit hospitals in St. Louis -- St. Anthony's Hospital (free-standing), St. John's Mercy Hospital (member of Sisters of Mercy Health System-St. Louis), and St. Luke's Medical Center (member of National Medical Enterprise) decided to form an alliance, in order to: (1) enhance efficiency through specialization and

sharing of services; and, (2) increase purchasing and negotiation powers with medical suppliers and managed care groups. The purpose for this loosely knit alliance is highly pragmatic: improving efficiency through reduction of service duplication and developing integrated care delivery through resource sharing. These three hospitals decided to remain autonomous in their finance and governance, because each of them wanted to maintain its own religious and national affiliations, as well as its long-standing identity. This type of hospital alliance can dissolve very easily, depending on whether the members find their multi-hospital arrangements beneficial or not.

Frequent reorganization and diverse system forms reflect the flexible, evolving nature of locally based multi-hospital systems. The ability to withdraw from an unhealthy system is at least as important for hospitals as that of forging a beneficial system. Also, nonprofit hospitals can at once have affiliations with more than one system, as was case of St. Anthony's, St. John's, and St. Luke's in St. Louis. As the above three St. Louis-based cases indicate, nonprofit hospitals have been most innovative in the development of multi-hospital systems. Urban nonprofit hospitals lead the hospital industry in this respect.

Regional Expansion of Provider Networks

Multi-hospital systems have increasingly focused on the regional expansion of their provider networks since PPS was enacted. As the health care environment becomes more influenced by managed care and cost-control mechanisms, many locally based systems have extended their provider networks beyond traditional central city markets into metropolitan areas. Locally based systems have been building provider networks through such regional

expansions that encompass a complex combination of acute care hospitals in central cities and towns in surrounding areas, primary care and outpatient clinics (both as part of the acute care hospitals and free-standing), physician groups, non-acute health care institutions, for-profit facilities, and managed care plans.

The regional expansion of locally based systems is complex; also, there is a lack of complete information for systematic analysis. Empirical cases can shed some light on the process of network expansion by locally based multi-hospital systems. The following are examples of extensive networks developed by local multi-hospital networks. The information were found from the home pages of multi-hospital systems on the Internet.

(1) The Baptist Health System of Birmingham, Alabama, was founded in 1922. By 1971, it had become a multi-hospital system, with two major hospitals, Monclair Baptist Medical Center and Princeton Baptist Medical Center, in Birmingham, Alabama. Since then, Baptist Health System of Birmingham has established the largest health care provider network in Alabama. Its service areas cover northern and central regions of the state. Besides the two tertiary centers in Birmingham, the system currently has nine affiliated hospitals in small cities and towns, three of which became members of the system after 1992, primary facilities at more than 50 different locations, and over 120 private practicing physicians on its referral list.

(2) Sharp HealthCare is an integrated regional health care system based in San Diego, California. Originally founded as Donald N. Sharp Memorial Hospital in 1955, it formed an alliance with Cabrillo Medical Center (founded in 1958), San Diego, in the 1970s. The system has since grown into a multi-hospital system. Today, besides two general hospitals

and one specialty hospital in San Diego, Sharp Memorial Hospital (633 beds, including 164 skilled nursing beds), Sharp Cabrillo Hospital (233 beds, including 79 skilled nursing beds), and Sharp Mary Birch Hospital for Women, the system also includes four other acute care hospitals outside San Diego, one of which became part of the system after 1992. Together with 22 clinics, the system claims to serve a resident population of approximately three million in San Diego, southern Riverside, and Imperial Counties, Sharp operates a total of 1,917 beds, approximately 2,600 affiliated physicians, approximately 10,000 employees, and represents nearly \$630 million in assets.

(3) Covenant Healthcare System, Inc., in Milwaukee, Wisconsin, grew out of a collaboration between the Wheaton Franciscan Sisters and the Felician Sisters. Covenant Healthcare System, Inc. is one of the largest integrated regional health care delivery systems in southeastern Wisconsin, including four major acute care hospitals, three of which are in Milwaukee, affiliations with two other acute care hospitals (one in Milwaukee), four subacute and extended care facilities, a home health agency, a full-service medical laboratory and a physician services corporation. The system is affiliated with over 1,500 physicians and has almost 9,000 employees, making it the state's third largest private employer. Covenant has 1,161 licensed beds and delivers approximately one-fourth of the care in Milwaukee, Waukesha, Washington and Ozaukee counties of Wisconsin.

The above three cases are typical of, rather than exceptions to, recent development of multi-hospital systems⁴. Regional expansion of locally based multi-hospital systems is

⁴ Information on other regional multi-hospital systems can be found on HospitalWeb, a database for hospitals and hospital systems maintained by Harvard Medical School. Examples include (1) Henry Ford Health System in Detroit, MI; (2) Maricopa Health System (MHS) and (3) Mercy Healthcare Arizona in Phoenix, AZ; (4) Baptist Memorial Health Care System (BMHCS) and (5) Methodist Health Systems in Memphis, TN; (6) Group

a response by urban nonprofit hospitals in order to cope with recent changes in the health care field created by cost-saving initiatives, such as managed care, and attempts to achieve scale economies. What, then, are the effects of changes in multi-hospital systems on hospital service delivery?

Forces Behind the Evolution of Locally Based Multi-Hospital Systems

The conceptual economic goal for locally based multi-hospital systems is to achieve scale economies. This economic incentive was largely created by government health policies. Starting in the early 1970s, it became very difficult for free-standing hospitals to carry out physical expansion at multiple locations for the purpose of expanding their customer base, due to government policies aimed at curbing health care spending. Various cooperative arrangements became attractive for nonprofit and public hospitals in the same market area for the purposes of reducing competition and sharing resources. In this regard, several pieces of government legislation, such as certificate of needs (CON) laws and, especially, prospective payment systems (PPS), played a key role in the rapid growth and specific configuration of locally based multi-hospital systems:

Certificate of needs (CON) laws: Title XV of the National Health Planning and Development Act of 1974 (Pub. L. 93-641, codified as 42 U.S.C. 300k-300t) contains specific passages that place the development of multi-hospital systems as one of the "national health priorities:"

Health Medical Centers in Seattle, WA; and, (7) Horizon Healthcare System in Milwaukee, WI. All are nonprofit systems.

The development of multi-institutional systems for coordination or consolidation of institutional health services (including obstetric, pediatric, emergency medical, intensive and coronary care, and radiation therapy services);

The development of multi-institutional arrangements for the sharing of support services necessary to all health service institutions;

The development by health service institutions of the capacity to provide various levels of care (including intensive care, acute general care, and extended care) on a geographically integrated basis (42 U.S.C. 300k-2).

Early nonprofit multi-hospital systems were formed as a hedge against an increasingly complex and uncertain health care environment (Keenan 1981; Zuckerman 1983; Brown 1996). Several large national alliances of nonprofit hospitals have emerged. In 1992, for example, Voluntary Hospitals of America (VHA) had 29 regional organizations and 668 member hospitals, plus 206 affiliated hospitals. American Healthcare Systems (AmHS), another national alliance of nonprofit hospitals, had 40 health care systems and 937 hospitals (Anderson 1992a). Compared to investor-owned chains, however, most nonprofit multi-hospital chains have been small, usually including only a few hospitals (Derzon *et al.* 1981; Brown 1996).

Throughout the 1970s and early 1980s, multi-hospital systems, particularly the national chains, grew mainly through debt financing. There were organizational differences between for-profit and nonprofit multi-hospital systems (Derzon *et al.* 1981). For-profit hospital chains grew mainly through horizontal integration, that is, through acquisition of existing hospitals and construction of new hospitals. Nonprofit systems, on the other hand, tended to emphasize vertical integration, diversifying their services to include those that were not traditionally performed in acute-care general hospitals, such as long-term nursing care.

Many nonprofit hospitals seemed to be able to use various networking arrangements, since they were not forced to abide by corporate structures that would involve investor approvals and federal regulations. Nonprofit hospitals also had a regional or local rather than national focus, since they had a much stronger association with specific locales through long-term community service and were under the influence of locally elected governing boards.

The growth of multi-hospital systems before the early 1980s was aided and abetted by the specific reimbursement method under Medicare, which provided financial incentives for such growth. Multi-hospital systems had several presumed incentives for growth (Derzon *et al.* 1981): (1) growth allowed systems to spread large corporate overhead over larger patient populations; (2) large systems could better adapt to changes in health care and influence health care policy; (3) large systems could better attract a desired work force since career development opportunities are much greater in such a system; and, (4) financial incentives for having a large number of hospitals within a system were especially important, especially to investor-owned for-profit systems.

The rapidly growing trend toward multi-hospital systems prompted some observers to predict that consolidation of the hospital industry into several large, national systems was likely to occur, since the economic forces that inspired the rapid growth of multi-hospital systems were presumed to remain in effect (Derzon *et al.* 1981). Furthermore, nonprofit systems would be at a disadvantage *vis-à-vis* for-profit chains, as multi-hospital systems approached the limit of their borrowing power. Nonprofit entities, it was felt, would not be able to turn to the stock market for capital. Such predictions have not become a reality,

however, mainly due to some major changes in reimbursement methods. The most important of these changes was the enactment of prospective payment systems (PPS) in 1983.

Prospective payment systems (PPS): Prospective payment systems (PPS), enacted in 1983, changed the cost-based reimbursement method of Medicare, a retrospective payment system, to a case-based system⁵ based on Diagnosis Related Groups (DRGs). PPS was phased in over several years to allow hospitals time to adjust their behavior. The national rates of DRG-related reimbursement were completely phased in by November 1987. Under PPS, total payments to a hospital reflect the mix of patients as indicated by the DRGs. PPS was never designed to fully cover the costs of all patients in each DRG; rather, the gains and losses for individual cases are expected to even out over the year. Implicitly, the system also assumes that there is a sufficient number of cases for the averaging to occur (Moon 1993). Under PPS, no longer is there an incentive to keep patients for long periods or to perform many procedures, which were reimbursed at cost under the cost-based system.

As a result of PPS, financial incentives diminished for multi-hospital chains that had a large, but geographically scattered, number of hospitals. National investor-owned for-profit chains were especially affected (Fottler and Malvey 1995), due to the large administrative overhead they incurred by running facilities nationwide. Investor-owned chains responded to the new health care environment by targeting specific markets, where they had already had several hospitals, while closing hospitals in some other areas. For example, Humana kept its four hospitals in Louisville, Kentucky, and Hospital Corporation

⁵ It is often referred to by accounting professionals and hospital administrators as a "capitated" payment system, that is, the fee a hospital or a physician receives is a fixed amount per person per case.

of American (HCA) its five in Nashville, Tennessee, because both chains had established their strength and reputation in those respective headquarter cities.

On the other hand, multi-hospital systems that concentrated in particular geographic regions showed resilience in coping with the new environment defined by PPS because of the following reasons: (1) they were more flexible in negotiating with each other in arranging various networking strategies; and, (2) as locally based systems, they were able to amass and share their resources, henceforth improving operational efficiency. Locally based multi-hospital systems became more competitive after the implementation of PPS. The underlying motivation for the growth of multi-hospital systems, that is, the drive for scale economies, did not diminish as a result of PPS. The geographical pattern of multi-hospital systems, however, did change. The strategy of geographic dispersion, particularly effective for the rapid rise of investor-owned chains, gave way to a strategy of regional and local concentration and networking of new, smaller multi-hospital systems. Nonprofit hospitals showed particular ability in adopting the new locational strategy, because of their traditional regional focus and long-standing association with local communities.

With its cost-control mechanisms, PPS also stimulated the rapid growth of managed care, such as Health Maintenance Organizations (HMOs). The rise of managed care has provided strong incentives for the formation of locally based multi-hospital systems, since these systems can offer managed care plans, most of which are also locally based, with a wide range of services at multiple locations. Managed care has also encouraged vertical integration by seeking providers that can offer fully integrated care (i.e., a continuum of

services). It is difficult to examine the correlation between managed care and hospital locational patterns, however, because of the lack of systematic data on managed care.

In general, the implementation of PPS has had favorable effects for locally based multi-hospital systems, most of them nonprofit-based. This is evidenced in the continued growth of nonprofit systems in contrast to the recent contraction of investor-owned chains.

Effects of Multi-Hospital Systems on Health Care Delivery

Previous studies on the effects of multi-hospital systems have been mostly conceptually based and strongly anecdotal (e.g., Zuckerman 1983; Shortell 1988). There has been a noticeable lack of systematic empirical data to substantiate their arguments, especially on the locally based systems. These studies generally assert that multi-hospital systems, especially locally based ones, can help reduce service duplication, since a key economic incentive for multi-hospital systems is the enhancement of operational efficiency. Have hospitals in locally based multi-hospital systems really reduced their duplicated services? Have hospitals removed certain less profitable, or unprofitable services most needed by the poor under the guise of "duplication reduction?"

Empirical evidence gathered for this research can provide some preliminary answers to these questions. Hospitals from the 42 sampled cities are selected for analysis if: (1) they were free-standing prior to 1985; and, (2) they became members of multi-hospital systems by 1992. Seven services were selected for analysis: (1) open-heart surgery units; (2) community health promotion; (3) patient representative services; (4) chronic obstructive

pulmonary units; (5) alcohol/drug dependency inpatient units; (6) neonatal intensive care units; (7) obstetrics units; and, (8) hospices.

Open-heart surgery is a highly lucrative service. Community health promotion and patient representative services, on the other hand, are nonessential to routine hospital operation but are considered important community services. Chronic pulmonary diseases units became highly profitable after the mid 1980s, because of new, rehabilitative treatment technologies targeted at respiratory illnesses. It can be argued that services such as alcohol/drug dependency inpatient units, neonatal intensive care units, obstetrics and hospices would be used disproportionately by the poor, if these services were offered at inner-city facilities. Reducing duplication of such services can save money for the hospital, but might worsen access to needed care for the poor.

There were 40 hospitals in 17 cities that changed from free-standing to system hospitals between 1985 and 1992. These hospitals represented 17 locally based multi-hospital systems. One was a public system (Medical Center of Louisiana and University Hospital, New Orleans, Louisiana). One system was a combination of a public hospital (Metrohealth Medical Center) and a nonprofit hospital (Metrohealth St. Luke's Medical Center) in Cleveland, Ohio. All the other 15 systems were formed among nonprofit hospitals in the same cities.

Empirical evidence contradicts popular assertion that the formation of locally based multi-hospital systems has the benefit of reducing service duplication (Table 3.8). There were only five cases in which hospitals eliminated their duplicated services after forming systems. More typically, hospitals retained or established lucrative services, such as open-

Table 3.8 Change of Services in Hospitals that Became Members of Multi-Hospital Systems, 1985 - 1992

Services (codes)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Services Eliminated	0	2 (2 ¹)	1	0	3 (1 ¹)	0	3 (2 ¹)	3
Services Established	1	3 (1 ²)	0	24 (17 ²)	4 (1 ²)	4 (1 ²)	3 (1 ²)	4 (2 ²)
No Change Despite Service Duplications	14	24	23	0	0	6	12	0
No Duplication/Change	9	2	6	1	5	5	9	4

Note: Number in parentheses ¹ Number of duplicated services that were eliminated; ² Number of new services established as duplications within systems

Service codes: (1) Open-Heart Surgery; (2) Community Health Promotion; (3) Patient Representative Services; (4) Chronic Obstructive Pulmonary Diseases; (5) Alcohol/Drug Dependency Inpatient Units; (6) Neonatal Intensive Care; (7) Obstetrics Units; (8) Hospices.

Source: The AHA Guide to the Health Field, 1986, 1993.

heart surgery and chronic obstructive pulmonary diseases units, disregarding duplications of these services after their becoming members of locally based systems. Furthermore, there is no evidence of duplication reduction for services that can supposedly be more efficiently utilized through sharing among member hospitals, such as community health promotion and patient representative services. For instance, both Mercy Hospital and St. Anthony's Hospital in Denver, CO, retained open-heart surgery units, community health promotion and patient representative services after they formed a system. To the contrary, some hospitals actually established new services present elsewhere in the system after they became part of locally based multi-hospital systems (Table 3.8).

As to the unprofitable services, empirical evidence does not show that they have been singled out for elimination even in cases of duplication within a system. Some hospitals actually established such services as alcohol/drug dependency inpatient units after they became part of multi-hospital systems (Table 3.8). Duplications of these services were not, however, as prevalent as more lucrative ones.

While the lack of systematic data prohibits detailed analysis, there are several possible explanations for the empirical evidence cited here: (1) the duplicated services that are maintained after a system is formed are lucrative operations, which the system wants to keep; (2) nonprofit hospitals, which comprised most of the hospitals meeting the criteria of inclusion in the analysis, need to maintain some unprofitable services for local communities, either to satisfy the scrutiny of government oversight agencies or to maintain good public relations. It is also probable that some nonprofit hospitals still maintain their conviction with regard to charity services; (3) if a system does not have strong local competitors, it may not need to ration services among its hospitals for the purposes of cost and price reduction; and, (4) the real purposes for multi-hospital systems may be to expand patient base and enhance competitive edge, rather than increase operational efficiency. Reduction of service duplication and less profitable services may not, therefore, be the priority of systems. Also, nonprofit and public hospitals have to reckon with their public accountability and may not be able to do away with services used heavily by charity patients.

Summary

This chapter examined major locational changes among urban nonprofit hospitals, compared with their public and for-profit counterparts. The rise of locally based multi-hospital systems has transformed the geographic patterns of health care delivery from independent, often isolated, facilities located in central cities to regional provider networks. The importance of government health care policies are well illustrated by the locational

effects of Medicare, certificate of needs (CON) laws, and prospective payment systems (PPS). After analyzing nationwide locational changes of urban hospitals, it is pertinent to undertake a detailed case study in order to take a closer look at how urban nonprofit hospitals interact with complex socioeconomic forces in their locational decision-making. Such a case study is the appropriate task for the next chapter.

CHAPTER FOUR

FORT SANDERS: THE EVOLUTION OF AN URBAN NONPROFIT HOSPITAL

Introduction

Knoxville, Tennessee, is a medium-sized city¹ that had six general hospitals in 1992. Among the general hospitals in Knoxville, the University of Tennessee Memorial Medical Center is a public hospital, and Park West Medical Center was a for-profit hospital owned by Hospital Corporation of American (HCA) from 1973 to 1990. In 1990, Park West was absorbed into the Fort Sanders Health System and became a part of a nonprofit multi-hospital system. In 1992, Oakwood Medical Center was a small, for-profit, hospital and a member of the Cumberland Health System based in Nashville, Tennessee. The other three hospitals were nonprofit institutions (Table 4.1).

In this chapter, I shall focus on Fort Sanders Regional Medical Center, referred to hereafter as "*Fort Sanders*" (see Table 4.2). Its bed capacity is comparable to the average of urban nonprofit hospitals in the 42 sampled cities (Table 4.3). Locational changes of services provided by *Fort Sanders* will be examined in light of the nationwide transformation of health care and local social-political forces. Among the reasons *Fort Sanders* was selected

¹ In 1992, the city of Knoxville had a population of 167,000, ranked 105th of the 200 cities with 100,000 or more inhabitants; Knoxville Metropolitan Statistical Area had a population of 610,000 and ranked 65th among the 18 Consolidated Metropolitan Statistical Areas and 119 Metropolitan Statistical Areas.

Table 4.1 General Hospitals in Knoxville/Knox County, 1957-1992

	control	year of founding	1957 beds	1964 beds	1971 beds	1978 beds	1985 beds	1992 beds
E. T. Baptist Hospital	N	1948	254	268	349	406	351	345
St. Mary's Medical Center	N	1930	285	350	425	485	510	408
Fort Sanders Reg Med C	N	1919	189	383	535	535	468	660 ³
Park West Medical Center	F/N ¹	1973				200	293	-
UT Memorial Med C	P	1956	252	319	443	484	524	572
Oakwood Medical Center ²	F	1968			25	25	23	23

¹ Acquired by Fort Sanders Alliance, the holding company of Fort Sanders Regional Medical Center, in 1990, and changed its charter from for-profit to nonprofit.

² Founded as Knoxville Osteopathic Hospital, it changed its name to Northwest General Hospital in 1971. It relocated to the northwestern suburbs and changed its name again to Oakwood Medical Center in 1991.

³ The number of hospital beds included those in Fort Sanders-Park West Medical Center in 1992 (267).

Source: The AHA Guide to the Health Care Field, selected years.

Table 4.2 Historical Names of *Fort Sanders*

1919-1927	Fort Sanders Hospital (for-profit, owned by a group of physicians)
1927-1930	Riverside-Fort Sanders Hospital (for-profit)
1930-1954	Fort Sanders Hospital (nonprofit)
1954-1980	Fort Sanders Presbyterian Hospital (nonprofit)
1980-present ¹	Fort Sanders Regional Medical Center (nonprofit)

¹ In 1983, the Fort Sanders Alliance was formed as the holding company of *Fort Sanders* and ancillary organizations. It became a multi-hospital system, the Fort Sanders Health System, in 1990, after its acquisition of HCA Park West Medical Center.

Table 4.3 Hospital Bed Numbers, *Fort Sanders* and Nonprofit Average in the 42 Sampled Cities

	1957	1964	1971	1978	1985	1992
Nonprofit Average	349	369	362	405	384	347
<i>Fort Sanders</i>	189	383	535	535	468	393

Source: The AHA Guide to the Health Care Field, selected years.

as a case study are: (1) convenience of access to archival information and personal interviews related to the hospital; (2) it is the oldest of the major hospitals in Knoxville (Table 4.1), providing a more complete history of hospital growth; (3) its development as a locally based multi-hospital system has coincided with the emergence of locally based, nonprofit, multi-hospital systems in the United States. *Fort Sanders*, therefore, offers a case study of how urban nonprofit hospitals have accomplished needed growth through various expansionary strategies and how such expansionary processes have effected health care delivery.

Early Development: 1919 - 1954

The early history of *Fort Sanders* reflects the development of many urban hospitals. The hospital was founded as a proprietary entity in 1919 by a group of nine physicians in Knoxville, mainly as a facility for their own practices. Its original building, completed in 1920, was located in the Fort Sanders area, immediately outside the built-up section of Knoxville (Morgan, 1979). Thus the hospital acquired its name from its geographic situation. The hospital was active in adopting medical innovations. Miss Killefer, the first nurse director of *Fort Sanders* who was trained in New York City, later recalled:

... it is [sic.] very small and homelike and quite out in the country on top of a hill. I was delighted with its newness and completeness. Was [sic.] impressed with the deviation from all white walls and furniture which was a tremendous innovation at that time².

² Goff, Hazel Lee, 1963. History of Fort Sanders Hospital. Unpublished manuscript retained by the library of Fort Sanders Regional Medical Center.

Fort Sanders had 60 beds in 1920. The hospital expanded modestly in the 1920s and 1930s. In 1927, the hospital added a wing on the west side and purchased a small medical care facility, Edgehill Sanitarium, and several adjacent residential properties. In the same year, *Fort Sanders* merged with Riverside Hospital, and became "Riverside-Fort Sanders Hospital." The personnel and equipment of Riverside Hospital were transferred to *Fort Sanders*. The expanded hospital had 27 doctors on staff.

In 1930, *Fort Sanders* received accreditation from the American Medical Association (AMA) and the American College of Surgeons (ACS). In the same year, the Tennessee state legislature removed tax exemption from privately owned hospitals. As a result, the physician owners of *Fort Sanders* transferred hospital ownership to Fort Sanders Hospital Nurses Training School, which in turn acquired a nonprofit charter for the hospital.

In the 1930s, like many nonprofit hospitals throughout the nation, *Fort Sanders* adopted group insurance plans (Morgan 1979), in order to cope with financial conditions brought about by the Great Depression. The first insurance plan was for the nursing students of *Fort Sanders*. The hospital also obtained a number of new services, such as an oxygen tent (1933), an X-ray unit (1933), and a cancer unit (1937). Acquisition of adjacent residential properties also continued. A temporary addition, with a 60-bed capacity, was built in 1939. The addition was called "The Pavilion," a popular term used before the 1960s throughout the country for temporary additions to hospitals. In general, however, the hospital's growth was modest and it remained a small community institution until the 1950s.

Post-World War II On-Site Expansions

Moderate On-Site Expansion of the 1950s

In 1954, trustees of the Fort Sanders Hospital Nurses Training Schools decided to surrender the hospital's charter to the Knoxville Presbytery of the Presbyterian Church U. S. (Southern). It was reported that the trustees wanted to "secure the perpetuity of the hospital as an eleemosynary (synonymous to "benevolent" - author's note) institution" (Knoxville Journal, March 5, 1954). The hospital was renamed Fort Sanders Presbyterian Hospital and retained its nonprofit charter.

By the late 1950s, the 189-bed *Fort Sanders* began to experience bed shortages as its occupancy rates exceeded 88 percent³. Subsequently, the hospital began a flurry of expansionary activities and obtained funding through fundraising campaigns and from available government and private grants. In 1955, for example, the hospital received a \$100,000 grant from the Ford Foundation. During a 1957 campaign, \$110,000 was raised for the hospital (Knoxville News-Sentinel, March 10, 1957). In 1960, *Fort Sanders* built "the West Wing," which had a bed capacity of 370. Construction of the West Wing commenced the hospital's rapid expansion.

³ The AHA standards defined 85 percent occupancy rate as being full-capacity with a safety margin for emergencies.

Large-Scale On-Site Expansion in the 1960s

The Fort Sanders area was a viable residential community until the beginning of the 1960s, when an urban renewal project by the nearby University of Tennessee (UT) triggered rapid neighborhood flight from the area. *Fort Sanders* took advantage of the situation and acquired a number of private properties. Between 1960 and 1968, for example, *Fort Sanders* bought over twenty properties adjacent to the hospital. In addition, *Fort Sanders* leased an additional number of properties with the option to purchase them at the end of the lease.

After the mid 1960s, *Fort Sanders* was riding a nationwide wave of expansion of hospitals fueled by the generous reimbursement policies of Medicare. The local government, like its counterparts nationwide, also joined the fray and encouraged the expansion of nonprofit and public institutions. In the late 1960s, officials of the Knoxville Housing Authority (KHA), the predecessor of the Knoxville Community Development Corporation (KCDC), attempted to initiate a new urban renewal project in the Fort Sanders area led by *Fort Sanders* and the nearby East Tennessee Children's Hospital. Witnessing the detrimental effects of UT's urban renewal project on adjacent residential communities, residents in the Fort Sanders area strongly opposed the urban renewal proposal. As a result, the attempt eventually failed.

In 1965, a seven-floor new building was constructed for the School of Nursing. In 1968, a new, 11-floor building, "the North Wing," was added along with its first professional building with an attached multi-decked parking garage. The hospital's bed capacity increased from less than 200 in the late 1950s to more than 500 by the end of the 1960s. This period of uncontested physical expansion, however, was soon to end.

The Impact of Cost-Containment Policies on *Fort Sanders*

By the early 1970s, critics of unchecked, nationwide health care expansion had accumulated significant strength in both the public and political arenas. The federal government launched a series of attempts aimed at containing health care costs, including the Economic Stabilization Program of 1966, which restricted hospitals from capriciously raising their service prices; the cancellation of the two per cent *plus factor* (1969) and accelerated depreciation (1970) in the Medicare reimbursement formula; and gradual reduction of Hill-Burton funding. Certificate of needs (CON) laws, enacted in 1974, however, most influenced the physical expansionary approaches of *Fort Sanders* after the mid 1970s.

In complying with CON laws, the Tennessee Health Facility Commission (THFC), established in 1973, assumed the function of overseeing the licensing of new hospital beds and other aspects of CON programs, such as location of new facilities and the purchase of new equipment. Although CON programs did not stop hospital construction in the short run, they did put a squeeze on hospitals' access to expansionary capital. More importantly, CON programs became a political tool for community organizations to restrain unchecked physical expansion by large public and nonprofit institutions.

By the mid 1970s, several neighborhood organizations in the Fort Sanders area had emerged. UT students, absentee owners, and homeowners were involved in these organizations. They agreed that the imperious encroachment into the neighborhood by UT and *Fort Sanders* had to be stopped.

By the late 1970s, a small group of white collar professionals became the nucleus of neighborhood activists in the Fort Sanders area. Part of the "back-to-the-city" movement, these newcomers were more vocal and idealistic, and were less likely to compromise with large institutions than other types of neighborhood activists. The battleground between the hospitals and the residents in the Fort Sanders area centered on zoning changes requested on properties owned by *Fort Sanders* and the nearby East Tennessee Children's Hospital. The Knoxville/Knox County Metropolitan Planning Commission (MPC) usually approved requests by the hospitals to rezone the use of properties. In the 1970s, such rezoning requests started to meet with more scrutiny from increasingly well organized and vocal neighborhood activists.

In 1977, *Fort Sanders* requested that it be allowed to convert several adjacent properties to parking lots. Converting former residential properties to parking lots is an effective spearheading tactic. It presages more intensive spatial expansion for large institutions such as hospitals. Parking lots legitimize the demolition of existing structures and clear the way for future building construction. Parking lots also have practical utility. Parking is a top priority for the spatial development of inner city hospitals and they usually yield quick returns to investment. Parking lots also generate revenue until new on-site hospital expansion begins.

In this particular case, however, opposition to *Fort Sanders'* proposal was very strong. The opponents included area residents such as the professional newcomers and UT students, and several local politicians. Knoxville's planning agency, the MPC, felt it was being caught in the middle of the controversy. The executive director of the MPC

complained that the hospitals should have acquired needed property by their own means instead of letting the government do everything for them. A settlement was mediated by the state representative whose district included the Fort Sanders area. This compromise was reflected in the 1977 MPC "Fort Sanders Small Area Study," wherein a *medical use zone* was defined. This plan was adopted by the MPC on April 25, 1978, and then submitted to the City Council, which had the real political power and final say over implementation of any local planning matters.

The City Council had barely put the plan on the table when *Fort Sanders* raised new objections, stating that the designated zone would limit its expansion possibilities but would not prevent other medical establishments from encroaching into this zone. A series of negotiations and bargaining ensued between *Fort Sanders* and East Tennessee Children's Hospital on the one side, the City Council and the neighborhood on the other. An amendment was added to the medical use zone plan, assuring that the hospitals would have the right of first refusal over residential property for sale within the zone. *Fort Sanders* agreed to have part of the proposed street level parking space revert to residential uses when a multi-level parking garage was complete. In return, neighborhood activists promised to support *Fort Sanders* in obtaining certificate of needs (CON) approval for the parking lots from the state health planning commission. As of this writing, however, there has been no sign that the parking lots are going to be converted back to residential use.

This case was a turning point for the relationship between *Fort Sanders* and the neighborhood. Since then, *Fort Sanders* has paid closer attention to the neighborhood's reaction to its spatial expansion projects. Although the medical use zone does not have any

legal binding power, changes in the social and political atmosphere have made institutions like hospitals much more sensitive to their public relations image. Their expansion has become much less assertive. Neighborhoods activists have contended that they would not oppose the hospitals in their requests to obtain private properties within the medical use zone provided the residents want to sell.

With the establishment of the medical use zone, leaders of neighborhood organizations felt that the horizontal expansion of *Fort Sanders* was largely contained and that the hospital no longer posed a major threat to the neighborhood⁴. The relationship between neighborhood activists and the hospital was thereby eased although, in reality, the encroachment by *Fort Sanders* has not ceased beyond the medical use zone as these neighborhood activists optimistically and naively perceived. It has only been disguised. *Fort Sanders* has managed to expand its facilities in the Fort Sanders area through other means, the most important of which is vertical expansion.

Vertical Physical Expansions

Fort Sanders sought to further its spatial expansion within the existing set of locational constraints. In light of the increasing opposition to property expansion from neighborhood organizations since the early 1970s, *Fort Sanders* began to build "vertically." Some existing structures were removed and replaced with new, taller ones. Additional floors were added to existing buildings. Multi-level parking garages were constructed. Such a

⁴ Interviews with the Rev. Al Minor, Barbara Miller, and June Donahoo, leaders of the Historic Fort Sanders Neighborhood Association through the summer of 1991.

vertical strategy became common practice among urban hospitals from the late 1950s to the early 1980s, when urban hospitals incorporated the possibility of adding new floors into their design plans for new buildings (Wheeler 1971), even if this meant additional up-front costs and that the additional floors would remain unoccupied for the time being. *Fort Sanders* designed its North Wing (1960) and Laurel Plaza building (1985) in such a way that one floor could be easily added if needed later.

In 1976, *Fort Sanders* tore down the original building, the East Wing, for the new Patricia Neal Rehabilitation Center, which was completed in 1978. In 1986, a seven million dollar private donation enabled the Fort Sanders Alliance, the nonprofit holding company of the hospital founded in 1983, to build the Thompson Cancer Survival Center, an outpatient cancer facility. Fearing a loss of their ability to provide cancer treatment and prevention services, other hospitals in Knoxville rose to protest the project, but to no avail. In 1990, in order to cope with the increasing pressure for doctor's offices and other space needs, *Fort Sanders* built a nine-story building that includes several floors of parking garage, five floors of physician's offices, and one floor of surgery space. The project was financed by revenue bonds and excess revenue from lucrative hospital services. Two of the nine floors of the new building are underground, making this vertical expansion appear less imposing to the surrounding residential neighborhood⁵.

Another method of vertical expansion is to build multi-story parking garages. The lack of parking facilities is one of the primary barriers in inner city revitalization. Multi-

⁵ Interview with Jim Burkhart, Senior Vice President of Fort Sanders Health System and administrator of Fort Sanders Regional Medical Center, December 1991.

level garages seem to be the most feasible solution given the lack of horizontal space for expansion. *Fort Sanders* has built four such garages in the Fort Sanders area. There is, however, a potential problem associated with the multi-level parking garage: it seals future development options for many other types of facilities. Such is not the case with surface parking lots. The four multi-level parking garages in the Fort Sanders area are all attached to buildings, making them relatively permanent additions.

Improving Access for the Suburbs

Needs for and Attempts at Suburban Relocation

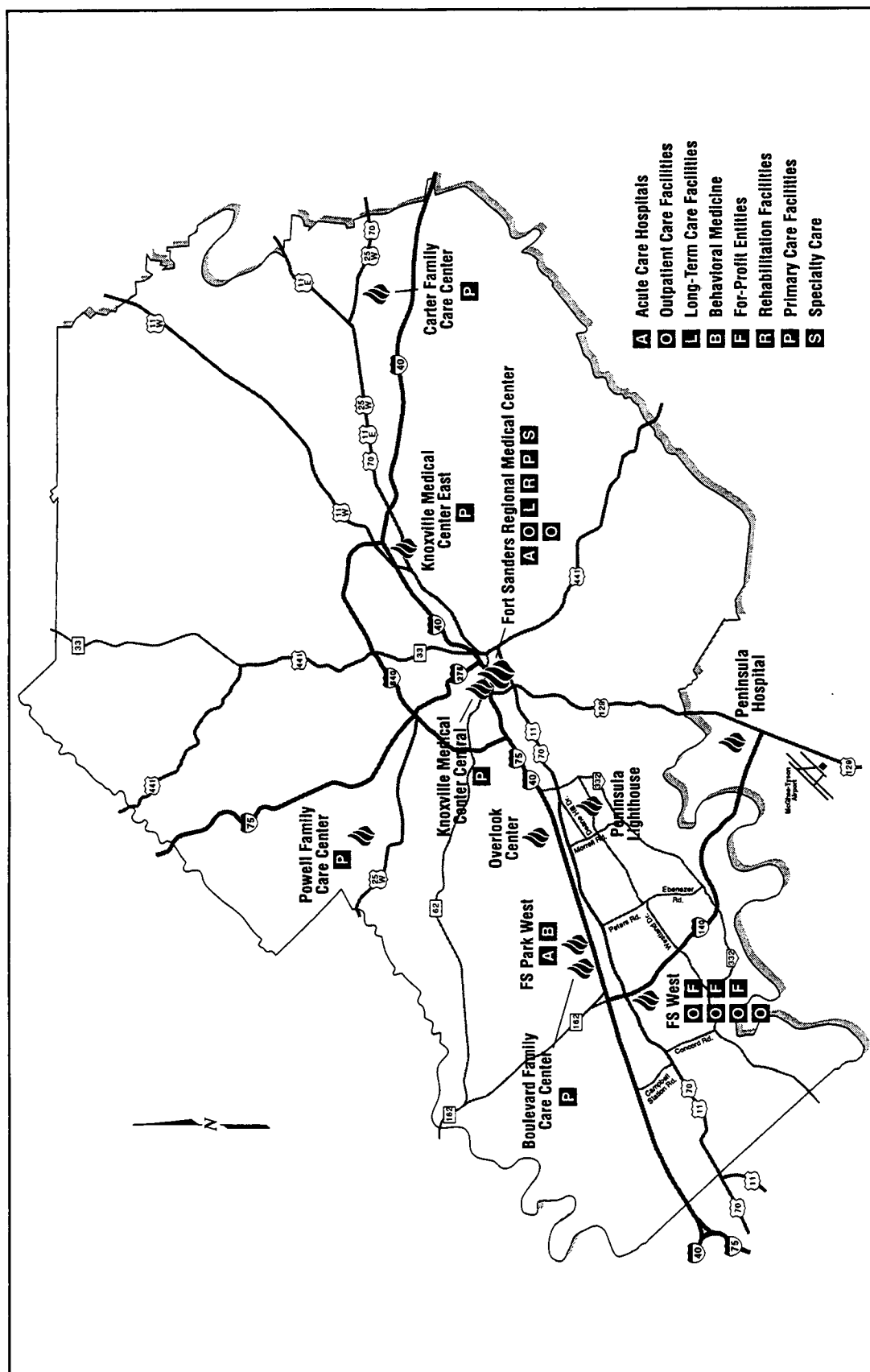
The early 1980s saw major changes in Medicare and other third-party insurance plans. Prospective payment systems (PPS) changed the reimbursement of Medicare from a cost-plus formula to case-based formula, effectively stopping the unrestricted flow of insurance funds into hospital revenue accounts. Hospitals began to feel financial crunch as a result and intensified their competition for well-insured suburban patient populations. Hospitals in Knoxville were no exception.

Knoxville's sectoral growth was mainly to the west, as land economist Hoyt had pointed out as early as the 1930s (Hoyt 1939). Suburban development in Knoxville lagged behind the national trend and only commenced in earnest in the early 1970s (McDonald and Wheeler 1984). The westward growth trend has since accelerated, creating vast middle class suburban communities. The competition among the hospitals for patients from the affluent West Knoxville/Knox County corridor became a fiercely fought battle.

New, investor-owned for-profit hospitals flourished under the initial Medicare reimbursement methods. These hospitals were often able to locate in fast growing suburbs more easily than their nonprofit counterparts. Park West Medical Center, a for-profit hospital with 325 beds, was built by General Care Corporation (GCC) in the western suburbs near the Cedar Bluff exit of Interstate Highways 40/75 in 1973 (Figure 4.1). In 1980, the Hospital Corporation of America (HCA) bought a 51 percent share of General Care Corporation and took over the management of Park West Medical Center.

Urban nonprofit hospitals, on the other hand, have to find more innovative ways, usually short of outright suburban relocation, to expand their service areas in the affluent suburbs. The three large nonprofit regional hospitals, that is, *Fort Sanders*, St. Mary's Medical Center, and East Tennessee Baptist Hospital, were hindered by their less accessible, central city locations. Administrators of *Fort Sanders* recognized that it was imperative for the hospital to reach out to the western suburbs and attempts at suburban relocation intensified in the early 1980s. In December 1984, *Fort Sanders* tried to get state approval to transfer 170 beds, including its entire obstetrics unit (a service much needed by the poor in the inner city but expensive to maintain), to West Knoxville. The hospital argued that its patient share among Knoxville hospitals decreased from 13.6 percent in 1979 to 12.9 percent in 1984 and it was a matter of survival for the hospital to be able to attract more suburban patients. The application was, however, denied by the Tennessee Health Facility Commission (Knoxville News-Sentinel, April 21, 1985).

Into the late 1980s, competition remained fierce among Knoxville hospitals. In 1987, for example, St. Mary's Medical Center had the largest share of patients, 21 percent, and the



largest physician referral list. *Fort Sanders*, UT Memorial Medical Center, and the East Tennessee Baptist Hospital each had about 19 percent of patients. HCA Park West Medical Center had 12 percent of patients, East Tennessee Children's Hospital seven percent, and Northwest General Hospital (changed to Oakwood Medical Center in 1991) had one percent (Knoxville News-Sentinel, April 26, 1987). Locational advantage became even more critical when considering the major sources of patients each hospital might attract. The older, nonprofit hospitals in Knoxville were obviously at a disadvantage comparing to the for-profit Park West. In 1989, *Fort Sanders* submitted another request to relocate part of its beds to western suburbs, but the request was once again denied by THFC on an 8 to 1 vote. THFC noted that there was already an overbedding problem in Knox County and it was imprudent to allow any new medical facilities (Knoxville News-Sentinel, August 31, 1989).

Suburban Outpatient Facilities

The failure to relocate inpatient facilities to the suburbs forced *Fort Sanders* to adopt other means to capture a portion of the affluent suburban patient population. Like urban nonprofit hospitals nationwide, central city hospitals in Knoxville endeavored to establish suburban outpatient branches. In 1988, *Fort Sanders* opened Fort Sanders West, a \$21 million, 61-acre medical park. Fort Sanders West has a premium geographical location at the intersection of Kingston Pike/I-40 and the Pellissippi Parkway (Highway 162 and I-140, see Figure 4.1). It was planned as a "medical mall," containing space for doctor offices, an outpatient surgical center, a health and fitness center, and plenty of space left for new expansions. *Fort Sanders* avoided the application process for a CON approval by placing

the facility under the name of a group of surgeons, which had a service contract with *Fort Sanders*. Although contractual relationships between hospitals and physician groups had become a commonplace throughout the country, *Fort Sanders* was quite innovative in using the relationship to establish suburban satellite facilities.

Another major hospital in Knoxville, St. Mary's Medical Center, also opened its suburban branch, St. Mary's West, in west Knoxville in 1988. Such suburbanization efforts by local nonprofit hospitals prompted a local newspaper to question the motives of the hospitals with the teasing headline: "Westward ho!" (Knoxville New-Sentinel, March 23, 1988).

Reorganization and Vertical Integration

Fort Sanders West was more than a toehold in the affluent section of the suburbs. It marked a move by *Fort Sanders* to develop vertically integrated care, including development of outpatient services, for-profit subsidiaries, and non-acute care. As early as 1978, *Fort Sanders* built a rehabilitation center (Patricia Neal Rehabilitation Center), commencing diversification, both in the forms of spinoffs (reorganization) and mergers (vertical integration), of its services. By the late 1980s, *Fort Sanders* started to develop more services that were traditionally not part of acute-care hospitals. *Fort Sanders* acquired psychiatric services by establishing an outpatient psychiatric clinic, the Overlook Center, and by merging with a major local mental institution, the Peninsula Hospital, in the early 1990s. Other nonprofit hospitals did not lag behind, either. By the end of the 1980s, St. Mary's Health

System and East Tennessee Baptist Health System also had their own for-profit subsidiaries (Table 4.4).

By the late 1980s, downsizing of inpatient services became a nationwide trend, due to increasing cost-saving pressures, largely as the result of the prospective payment system (PPS), and new medical innovations, which made outpatient treatment possible for more and more medical procedures. Overcapacity problems worsened for hospitals in Knoxville area. In 1989, for example, there were 2,600 licensed beds in Knoxville, but only 2,155 were staffed, a 25 percent surplus. *Fort Sanders*, like other nonprofit hospitals in Knoxville, and indeed most urban nonprofit hospitals nationwide, began downsizing its inpatient services after the mid 1980s (see Table 4.3). The number of licensed inpatient beds of *Fort Sanders* was reduced from 468 in 1985 to 393 in 1992, a 16 percent decrease. By comparison, beds of nonprofit hospitals in the sampled cities decreased by 13 percent, and, nationally, seven percent.

Outpatient care, on the other hand, increased dramatically. In 1986, for instance, the outpatient volume of *Fort Sanders* reached 55,000. The rate of increase of outpatient cases has been over 15 percent a year since then. *Fort Sanders* continued to conduct on-site expansions for outpatient and non-acute care facilities. It thus follows nationwide trend of

Table 4.4 For-Profit Subsidiaries of the Three Major Nonprofit Hospitals in Knoxville, 1989

St. Mary's Health System	Health Dynamics Inc.
The Baptist Health System	Tennessee First Health Plan; Health Ventures
Fort Sanders Alliance	Fort Sanders West; Fort Sanders Enterprises

Source: Knoxville News-Sentinel, November 11, 1989.

urban hospitals in developing vertically integrated care. For example, *Fort Sanders* converted a house outside the "medical uses zone" into a hospice facility in 1984. In 1994, *Fort Sanders* expanded its hospice facility through the acquisition of an apartment building across the street from the original hospice building. *Fort Sanders* counted it as a community service contribution, the new 16-apartment complex provides low-cost or no-cost lodging for patients and families from farther than 30 miles from the hospital. Patients using the facility are usually those seeking treatments for cancer, brain injury, and severe heart conditions in *Fort Sanders* and the nearby East Tennessee Children's Hospital. The top floor of *Fort Sanders* is now used as a transitional unit, which has the function of a long-term nursing home, another nationwide trend in the diversification of hospital services.

Fort Sanders Health System: The Birth of a Locally Based Multi-Hospital System

Acquisition of Park West and the Emergence of a Local Multi-Hospital System

Fort Sanders began building local provider networks in the early 1980s. In 1983, the hospital underwent a major reorganization by forming a holding company, the Fort Sanders Alliance. This arrangement, having been widely used by large nonprofit hospitals, provided a corporate structure for *Fort Sanders* to manage its diversifying services, including not only the hospital itself, but a number of spinoff organizations from the hospital, such as the Patricia Neal Rehabilitation Center and Fort Sanders Foundation, its fundraising arm. The main purpose of forming a holding company was to expand a network of health care facilities (Knoxville News-Sentinel, December 22, 1983). Among the earliest networking

arrangements of the Fort Sanders Alliance was the leasing of Sevier Medical Center in the adjacent, rural, but rapidly growing, Sevier County in 1983. The formation of the Fort Sanders Alliance marked the birth of a locally based multi-hospital system structured along the lines of the "holding company model" (see Table 3.3).

Despite its suburban facilities, *Fort Sanders* still felt unable to capture sufficient numbers of suburban patients. Its major competitor in the western suburbs was the HCA Park West Medical Center, as Norman Curtis, then administrator of *Fort Sanders*, stated: "One of our problems is geographic. Being here in the central part of the city, we have hospitals on all sides of us. I think Park West picks up a lot of patients out west who used to go to *Fort Sanders*" (Knoxville News-Sentinel, August 18, 1986).

In 1989, forty-seven doctors, who owned a 49 percent share of Park West Medical Center, accused HCA of overpaying itself in management charges. The dispute eventually went to Knox County Chancellor, David Cate, whose rulings put the hospital on the market for sale once the hospital's mortgage was paid off in 1990. The Fort Sanders Alliance, the holding company of *Fort Sanders*, saw this rift between HCA and the physician owners as a golden opportunity and proposed to buy Park West. In 1990, after a series of negotiations with the shareholder doctors and some deft court maneuvers, Fort Sanders Alliance outbid both St. Mary's Medical Center in Knoxville and Health Trust, an arm of HCA, for the purchase of Park West Medical Center, and thus secured a well-to-do patient source in the western suburbs. The \$110 million for the purchase came from a combination of the sale of tax-free bonds and equity financing.

Regional Hierarchy of Care Providers

Central city hospitals have accumulated substantial physical assets at their original sites, which they cannot easily liquidate or relocate. Some of the large, expanding nonprofit hospitals have developed a locational hierarchy in service delivery, in which their original inner city campuses are used as the tertiary care center with the most complete range of services dealing with illnesses that need highly specialized treatment. This is a prudent strategy since it allows nonprofit hospitals to fully utilize their investment in original facilities, and to effectively reduce the traffic generated by seekers of non-urgent services. The development of new suburban branches might more effectively serve these less urgent health care needs.

After acquiring Park West, *Fort Sanders* moved on to complete a "feeder" network⁶. This feeder network consists of a number of community clinics designed for primary care. These clinics are located to correspond with the demographic pattern of the region. Each clinic has about 10,000 square feet of space and a system of services provided on a rotating basis by doctors from *Fort Sanders* (Figures 4.1, 4.2). The "feeder network" strategy is by no means unique to *Fort Sanders* (Anderson 1992b; Hudson 1993; Koska 1990; Ross 1995). It is a general trend used by hospitals to enhance vertical integration in order to increase the volume of patient referrals. This feeder network strategy may also ease the pressure on the central city hospitals' space needs.

⁶ Interviews with Lee Ann Lambdin, a planner of Fort Sanders Health System, November 15, 1991, and with Greg Gheen, property and real estate manager of Fort Sanders Health System, January 17, 1992.

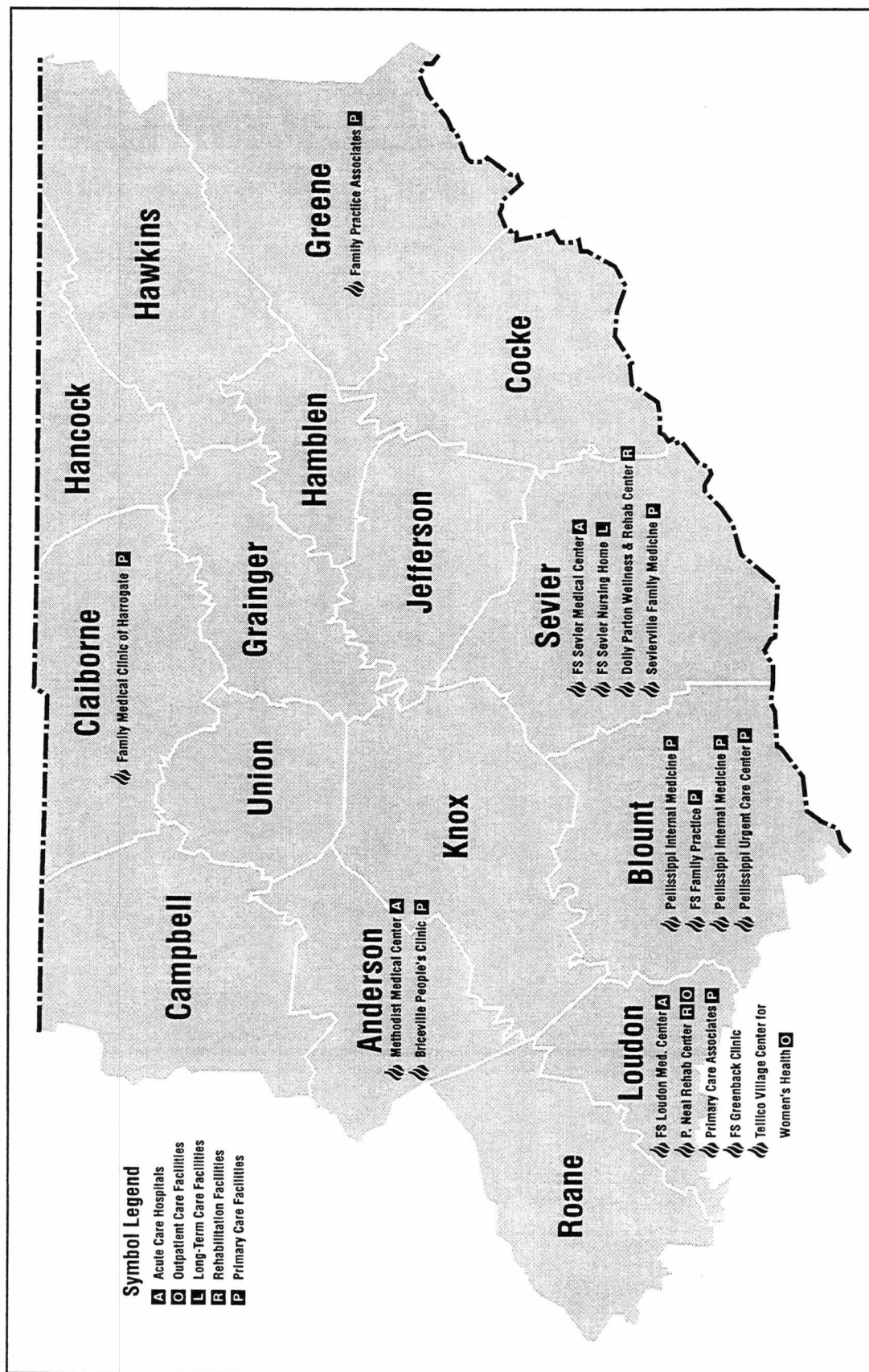


Figure 4.2 Facilities of Fort Sanders Health System Outside Knoxville/Knox County, 1996.

In a highly competitive local market, *Fort Sanders* has reached beyond the city boundaries and suburban outpatient facilities in building a comprehensive service network. Under the umbrella of a private nonprofit corporation, Fort Sanders Health System is a regional hierarchy of general hospitals and specialized entities (see Figure 4.2). Fort Sanders Regional Medical Center, the tertiary care facility, tops the hierarchy as the flagship hospital. There are three secondary care centers, Fort Sanders Park West, Fort Sanders-Loudon (Loudon County), and Fort Sanders-Sevier (Sevier County). The latter two were once general hospitals in rural counties contiguous to Knox County. The latest expansion of Fort Sanders Health System was a merger with MMC Healthcare, a small health care system that owns Methodist Medical Center of Oak Ridge, a 331-bed acute-care hospital established in 1943 (see Figure 4.2).

Fort Sanders has also actively pursued integration of managed care into its delivery system. In 1995, *Fort Sanders*, UT Medical Center, and Blue Cross/Blue Shield of Tennessee negotiated arrangements to develop a health maintenance organization (HMO) for the East Tennessee region (Knoxville News-Sentinel, October 23, 1995). According to the plan, Blue Cross/Blue Shield of Tennessee would contract with *Fort Sanders* and UT Memorial Medical Center to provide health care for as many as 132,000 enrollees throughout East Tennessee. While the insurer would coordinate member services, *Fort Sanders* and UT Memorial Medical Center would assume responsibility for medical arrangement and network operations, including the development of a regional network integrating physicians, hospitals, and other health care providers. The plan has since run into opposition from some physicians, who felt threatened by the perceived loss of participation in treatment decision-

making. The outcome of the plan is yet to unfold as of this writing, but integration between care providers and managed care plans is an inevitable trend, and *Fort Sanders* is trying to ride the tide.

Fort Sanders has been engaged in various joint ventures, sometimes a prelude to forming or expanding a multi-hospital system for hospitals. For example, it is currently working with UT Memorial Medical Center in operating a women's clinic at Tellico in Loudon County, Tennessee, a rural town about 30 miles to the southwest of Knoxville (see Figure 4.2).

Other hospitals in Knoxville have also explored various networking arrangements in sharing resources and improving service access, partly influenced by nationwide trends, partly alarmed by the aggressive networking strategies of *Fort Sanders*. St. Mary's Medical Center, for example, underwent a merger with Jefferson Memorial Hospital in Jefferson County (Knoxville News-Sentinel, June 9, 1996). St. Mary's has also allowed East Tennessee Baptist Health System to share the resources of its preferred provider organization (PPO), The Initial Group (Knoxville News-Sentinel, March 22, 1996). The Initial Group puts together various medical provider networks and sells them to insurance companies and employers. In early 1996, The Initial Group plans covered 25 hospitals, 1,600 physicians, and 70,000 members across East Tennessee. With two major acute-care hospitals combining their resources, The Initial Group became more marketable for it can now provide a wider range of choices to target specific employers or insurance companies. An on-going joint venture is a rehabilitation unit to be built and operated jointly by St. Mary's and Baptist (Knoxville News-Sentinel, March 12, 1996). The two hospitals also had joint ventures in

collectively negotiating with managed care organizations (Knoxville News-Sentinel, September 11, 1994). St. Mary's and Baptist have not, however, been willing to consider forming a real multi-hospital systems through merger or alliance arrangements (Knoxville News-Sentinel, October 8, 1994).

Summary: Modelling Locally Based Multi-Hospital Systems

Since its modest start in 1919, *Fort Sanders* has grown into a complex health care network - Fort Sanders Health System, the largest nonprofit acute-care medical system in East Tennessee. The evolutionary stages of *Fort Sanders* is a prototype of urban nonprofit hospitals in terms of its locational changes. The geographic delivery pattern of *Fort Sanders* can be summarized with a descriptive model (Table 4.5):

(1) Like many other nonprofit multi-hospital systems, the Fort Sanders Health System started as a single, free-standing hospital providing acute care services. Located in the inner city, *Fort Sanders*, like many urban nonprofit hospitals, did not undergo large-scale, on site expansion before the end of the 1950s. *Fort Sanders* built strong community links, drawing political as well as financial support from the government and the public.

Table 4.5 A Model of Hospital Locational Changes Based on Fort Sanders Health System

1919-1950s	1960s-1970s	1970s-1980s	1980s-1990s
Free-standing, traditional acute-care, limited on-site expansion	Large-scale on-site expansion, attempts at suburbanization and diversification	Continued on-site expansion, suburban outpatient branches, merger attempts	Regional expansion of multi-hospital systems, accompanied by vertical integration

(2) The rapid growth of *Fort Sanders* coincided with nationwide hospital expansion, generated mainly by the large, generous funding from Medicare. *Fort Sanders* did not feel the pressure of suburban relocation until the 1970s, when Knoxville began to expand westward and large suburban communities emerged. *Fort Sanders* twice attempted to relocate part of its inpatient services to the suburbs in the 1970s and 1980s, but failed both times to obtain approval from state health planning agencies. The hospital's attempt and failure to suburbanize was typical of many of its inner-city counterparts throughout the country, mainly because of politically-generated barriers such as community opposition and the scrutiny of government agencies.

(3) Until the 1970s, the expansion of *Fort Sanders* was mainly on-site. The pressure for relocation came with rapid suburban growth. The hospital's intent to improve its access to the affluent suburban communities was evident from the beginning, when it proposed to transfer some of its inpatient beds and services to the western section of the city, the most affluent and fastest growing quarter of Knoxville. After its relocation attempts failed, *Fort Sanders* began to develop suburban outpatient facilities, the largest of which was Fort Sanders West.

(4) The formation of Fort Sanders Alliance in 1983 marked the beginning of *Fort Sanders* as a multi-hospital system under a holding company. *Fort Sanders* became a locally based multi-hospital system through consolidation and merger with other health care institutions, especially suburban and rural general hospitals and specialty hospitals, instead of building new facilities. The consolidation with MMC Health Care is the latest evidence that *Fort Sanders* is consolidating its market through continued horizontal integration in the

metropolitan region. This growth pattern depends on a potentially reciprocal relationship between large urban hospitals and small rural hospitals, as their needs of scale economies lead to expansion of their service markets, which eventually overlap. *Fort Sanders* has also explored the potential represented by joint ventures with other local hospitals, as well as integration with managed care plans.

The horizontal integration of *Fort Sanders* has been accompanied by vigorous vertical integration. This is evidenced recently by the establishment of three senior administrative positions: Senior Vice President for Managed-Care Contracting, Senior Vice President for Behavioral Services, and Senior Vice President of Information Services (Knoxville News-Sentinel, June 11 1996). While downsizing its inpatient services, *Fort Sanders* diversified its services to include long-term care, rehabilitation, hospice, and psychiatry. Also, *Fort Sanders* has aggressively pursued for-profit activities, especially in the areas of fitness and child care at Fort Sanders West. The hospital could easily convert some of the hospital services and resources to operate in these highly demanded and lucrative fields in the suburbs.

(5) *Fort Sanders* has built a hierarchical network of providers across the metropolitan area and offers a complete spectrum of health care services. The next step in horizontal integration is to expand its provider network beyond the Knoxville Metropolitan Statistical Area to include nonmetropolitan counties on the Cumberland Plateau⁷, and those in Southeastern Kentucky and Western North Carolina, since *Fort Sanders* and other hospitals

⁷ The negotiation with Cookeville General Hospital in Cookeville, Cumberland County, was continuing as of this writing (Knoxville News-Sentinel, June 11, 1996).

in Knoxville have already served as tertiary care centers for these areas. The system arrangements will probably begin as alliances. Alliances require little financial and legal procedures to operationalize and the participating hospitals can easily dissolve if the partnership turns out not to be beneficial to them.

The descriptive model presented here is applicable to the locational changes of many other large, urban nonprofit hospitals. Throughout its history, *Fort Sanders* has interacted within a milieu of socioeconomic changes at both local and national levels. On some occasions, *Fort Sanders* walked a fine line between its nonprofit charter and the allure of entrepreneurial endeavors. Despite criticisms from the community and scrutiny from the government, *Fort Sanders* has done what it had to do in order to survive and to succeed. The challenges lying ahead for emerging hospital cooperation are typical of its counterparts throughout the country:

Managed care is the driving force behind recent changes of the hospital industry. In coping with an environment driven by managed care, hospitals must become vertically integrated in order to provide a continuum of services. It can be expected that *Fort Sanders* will adopt proactive strategies in dealing with managed care groups, or develop its own managed care arm. Information systems allow multi-hospital systems to share diagnostic and prescriptive information among participants of the system. Staff members of the system can, therefore, share information and expertise with each other at multiple locations.

Locally and regionally based systems, such as *Fort Sanders*, have proven to be more capable of coping with the new, managed care dominated health care environment. Horizontal expansion will continue to be an important strategy for locally based multi-

hospital systems such as *Fort Sanders*, which is expanding geographically beyond the Knoxville Metropolitan Statistical Area into some surrounding rural counties. Multi-hospital systems in nearby metropolitan areas have also been developing their own provider networks.

In a health care environment that increasingly emphasizes managed care, on the other hand, it can be expected that the growth of *Fort Sanders* in the near future will mainly be in the fields of vertical integration within the geographic territory where it has built a reputation and a solid base of support in the past eight decades.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

The purpose of this research has been to examine locational changes of urban nonprofit hospitals since the mid 1960s and the major causes of these changes. The research proposed three hypotheses regarding the changes, causes, and effects of hospital locational patterns: (1) that most urban nonprofit hospitals have not conducted outright relocation of their central city facilities in the suburbs. Instead, they have used locally based multi-hospital systems to secure and expand their market share; (2) that political factors have been most responsible for the locational changes in hospital service delivery, especially Medicare and subsequent cost-control legislation, especially certificate of needs (CON) laws and prospective payment systems (PPS); and, (3) that hospitals have used system arrangements to remove duplicated services not only to improve efficiency, but also to save money by reducing unprofitable services.

These hypotheses were tested with empirical evidence derived from 42 sampled cities and a detailed case study of Fort Sanders Health System in Knoxville, Tennessee. This chapter will summarize the research findings, speculate about the policy and conceptual implications of hospital locational changes, and suggest directions for further research to increase our understanding of these complicated locational processes.

Research Findings

This research documented the evolution of service delivery patterns of urban nonprofit hospitals. Table 5.1 illustrates the implementation of federal health care policies and their locational effects on hospital service delivery patterns. Empirical evidence reveals a causal relationship between federal health care policy, especially several pieces of Congressional legislation, and related locational changes in the service delivery pattern of urban nonprofit hospitals. This section summarizes the research findings in detail.

Figure 5.1 Federal Health Care Policies and Their Locational Effects on Hospital Service Delivery

Time Period	Federal Health Care Policy: Major Pieces of Legislation and Laws	Major Locational Changes of Hospital Service Delivery Patterns
Prior to the-mid 1960s	Health care policies aimed at incremental improvement of service access	Dominance of nonprofit hospitals; free-standing, little relocational activity
Mid 1960s - Early 1970s	Cost-based reimbursement formula adopted by Medicare (implemented 1965) and third-party insurers	Emergence of investor-owned chains; large scale on-site expansion and outright suburban relocation attempts by free-standing hospitals
Mid 1970s - early 1980s	Certificate of needs laws (implemented 1974) and several other pieces of federal legislation restricting expansion and relocation of hospital inpatient facilities	Inability of urban hospitals to relocate their inpatient facilities to the suburbs; growth of suburban outpatient networks and locally based multi-hospital arrangements
Mid 1980s - early 1990s	Implementation of prospective payment systems (1983) changing cost-based reimbursement formula to case-based (capitated) formula	Rapid growth of locally based multi-hospital systems; vertical as well as horizontal integration of health care provider networks
Trends in the 1990s	Adoption of a managed care approach by the federal government in health care reform in response to cost-saving pressures	More complex alliances among health care plans, hospital systems, and physicians groups with local and regional foci

Suburbanizing Activities of Urban Nonprofit Hospitals

Lack of outright suburban relocation: Evidence is strong that urban nonprofit hospitals were under economic pressure to suburbanize after the mid 1960s. Urban nonprofit hospitals needed to relocate to the suburbs not only to reach the affluent suburban middle class, but also to reduce the financial burden from large volumes of charity care. Many indeed attempted to relocate either their entire central city facilities in the suburbs, or, as the case of *Fort Sanders* demonstrated (see Chapter Four), to move some of their units in the suburbs.

Empirical data derived from the sampled cities confirmed Hypothesis One, that urban hospitals in general and urban nonprofit hospitals in particular did not carry out large-scale, outright suburban relocation of their central city facilities. Instead, they have formed locally based multi-hospital systems consisting of both suburban branches focusing on primary care and local general hospitals providing secondary and tertiary care.

Research findings indicate that urban hospitals are almost locationally immobile. This locational immobility is, first, reflected in the relatively small percentages of hospitals that relocated during the 35-year study period between 1957 and 1992 (see Figure 3.1). During this period of time, less than 15 percent of all nonprofit hospitals extant in the sampled cities relocated. The largest wave of hospital relocations occurred during 1971-1978 when only 5.9 percent of hospitals in the sampled cities relocated (see Figure 3.1). Furthermore, not all the relocations were to the suburbs. The percentages of relocated hospitals during other seven-year periods were even lower.

In general, nonprofit hospitals more actively pursued suburbanization than their public counterparts, but were less active than for-profit hospitals. The research revealed that, instead of relocation, many more for-profit hospitals in urban areas closed and opened than either public or nonprofit hospitals during the study period (see Table 3.2, Figure 3.2). For-profit hospitals in central cities were usually small and privately owned. Most of them closed during the study period. New, mostly investor-owned for-profit hospitals emerged in large numbers after the implementation of Medicare in the mid 1960s. They were generally located outside of central cities. An example is Park West Medical Center in Knoxville, Tennessee, which was built in 1973 by a for-profit hospital chain in the affluent western suburbs of Knoxville/Knox County. These newer, investor-owned for-profit hospitals were thus under much less relocational pressure for the purpose of improving access for suburban patients. This was the main reason that for-profit hospitals in the sampled cities did not show greater relocational activities than their nonprofit and public counterparts between 1957 and 1992.

Causes for the inability of suburban relocation by urban nonprofit hospitals: Evidence shows that a large number of urban nonprofit hospitals did attempt relocation of their central city facilities. Few such attempts materialized, however, because government health care policies imposed explicit barriers to such suburbanization attempts. Specifically, certificate of needs (CON) laws and several other pieces of federal legislation have been the most effective in thwarting outright suburbanization attempts by urban nonprofit hospitals.

Certificate of needs (CON) programs restricted relocation or partial relocation of hospital facilities by preventing service duplication in areas with problems of hospital bed

overcapacity. The enforcement of CON laws was mainly the responsibility of local health planning agencies, but competing hospitals in the local market also closely monitored the enforcement of CON laws. Any suburban relocation plan proposed by one hospital would be regarded by its competitors as an attempt to gain competitive advantages over others in attracting well-insured patients. Furthermore, although the original intention of CON laws was to control health care spending, some of its amendments contained specific passages aimed at safeguarding the access to health care for uninsured and underinsured groups in inner cities.

Empirical evidence shows that some legal requirements designed for charitable organizations were also used by advocacy groups and community organizations to oppose the suburbanization attempts by nonprofit hospitals. Legal ground for the opposition was that hospital suburbanization would violate federal laws that prohibited public and nonprofit institutions from conducting activities that could result in discriminatory consequences to minorities, the elderly, and the disabled.

A plethora of political factors made outright suburban relocation costly and politically unacceptable to nonprofit hospitals. Provider networks, consisted of central city facilities and suburban satellite branches, allowed urban nonprofit hospitals to circumvent political constraints in their effort to capture suburban patient population. The use of suburban branch facilities, on the other hand, was only the prelude to a much more fundamental locational change in hospital service delivery, that is, the rapid growth of locally based multi-hospital systems.

The Evolution of Locally Based Multi-Hospital Systems

There has been little research by geographers that examines the locational ramifications of the growth of multi-hospital systems. This research attempted to classify the great variety of multi-hospital systems based on their organizational forms and geographic distribution (see Table 3.3). Analysis focused on locally based, fully integrated systems, especially those under the holding company model. There are three major findings related to locally based multi-hospital systems.

Rapid growth in both complexity and magnitude: This research documented a rapid growth of locally based multi-hospital systems since the 1970s. By 1992, over 20 percent of all nonprofit hospitals in the 42 sampled cities were in locally based multi-hospital systems of the holding company model (see Figure 3.4). If the statistics include hospitals in any city that were affiliated with the same regional or national chain, the number of nonprofit hospitals in locally based multi-hospital systems increased to 31 percent of all nonprofit hospitals in the sampled cities in 1985, and to 37 percent by 1992.

Locally based multi-hospital arrangements continue to lead the development of locational delivery patterns of urban nonprofit hospitals. Not only are more free-standing hospitals becoming system members, but many smaller systems stemming from a single hospital (e.g., those organized under the holding company model) have forged larger systems. One example was the new system spawned by the consolidation among the three major hospitals in St. Louis, Missouri -- Barnes, Jewish, and Christian (see Chapter Three). Each of these three hospitals was the flagship hospital of their own locally based multi-hospital systems before their 1993 consolidation. The new system is much larger and more

complex, giving it a commanding presence in the St. Louis metropolitan area. Another example is the recent merger between Fort Sanders Health System in Knoxville, Tennessee, and the MMC Healthcare (with Methodist Medical Center as its tertiary center) in Oak Ridge, Tennessee (see Chapter Four).

Some locally based multi-hospital systems are temporary, convenient arrangements formed among hospitals without any intention of building a long-term, permanent system arrangement, such as alliances and joint ventures. Others are more stable and possess mechanisms to expand both in terms of organizational size and geographic coverage, mostly locally based systems under holding companies or affiliated regional chains. The main purpose for the various networking approaches is to share resources and to secure market share through service provision at multiple locations. Temporary networking arrangements, however, often fail to achieve fully such goals, because they are unable to implement long-term, system-wide plans for optimal utilization of resources and expansion of a stable patient base (Shortell 1988).

Growth dynamics of locally based multi-hospital systems: The research revealed a causal relationship between the rapid growth of locally based multi-hospital systems and government health care policies, especially prospective payment systems (PPS). The research findings indicate that PPS has eliminated incentives for physical expansion of free-standing hospitals and made cooperation among local hospitals a survival strategy. Prospective payment systems (PPS) and changes in insurance policies changed the mechanisms for hospitals to achieve scale economies. Before these policies were implemented, economies accrued mainly from physical expansions of free-standing

hospitals. After these policies were in place, economies accrued from cooperation among local hospitals. As a result, hospital expansionary strategies shifted their focus from internal to external scale economies. Hospitals in the same market began to form various systems through merger, consolidation, acquisition, joint ventures and alliance networks. Locally based multi-hospital systems became an effective strategy for urban nonprofit hospitals to balance centrifugal economic forces and centripetal political forces in their locational decision-making.

Prospective payment systems (PPS) encouraged the growth of locally based multi-hospital systems by revitalizing managed care. Managed care was initiated by insurance companies in the 1930s to provide incentives for hospitals and physicians to cut service costs. It did not, however, play an important role in shaping hospital delivery patterns until after the late 1960s, because cost saving was not a priority in the post-War boom of health care industries. After the implementation of PPS, insurance industries, employers and the federal government alike sought ways to control skyrocketing health care costs. They became interested in managed care options. Managed care was viewed as an effective means by which all parties that finance health care could adapt to the new, cost-sensitive health care environment under PPS. As managed care developed, it has become more sophisticated, typified by the restrictive service procedures allowed under Health Maintenance Organizations (HMOs). The research found evidence that free-standing hospitals and multi-hospital systems alike are compelled to respond to the proliferation of managed care plans by becoming increasingly integrated in their service provision.

Effects of Hospital Locational Changes on Service Delivery

Empirical evidence was sought to verify conceptual notions about the effects of locally based multi-hospital systems on health care delivery. Forty of the hospitals in the sampled cities were free-standing in 1985 but became affiliated with locally based multi-hospital systems in 1992. Analysis focused on the effects of: (1) duplication of hospital services that are either lucrative but non-essential or can be shared among several hospitals. Four services were selected in this regard: the availability of open-heart surgery units, chronic obstructive pulmonary diseases units, community health promotion, and patient representative services; and, (2) services that are marginally profitable or unprofitable, due to the large charity case volume for central city hospitals. Four services were selected in this regard: the availability of alcohol/drug dependency inpatient care units, neonatal intensive care units, obstetric units, and hospices.

No evidence was found of a strong correlation between reduction of service duplication and the formation of locally based multi-hospital systems. Most of the forty sampled hospitals continued to maintain services that became duplicated in the multi-hospital systems and that were less profitable or unprofitable. In fact, evidence indicates that the formation of multi-hospital systems was paralleled by the acquisition of new services (See Table 3.8).

Explanation for the contradiction between my findings and some previous, intuitive notions are manifold. The main reason for such contradictions lies in the motives behind the formation of multi-hospital systems. First, many hospitals have formed system arrangements mainly as a strategy to cope with the competitive and uncertain environment, rather than to

boost their operational efficiency. Second, systems are used by some hospitals as an expansionary strategy, because physical expansion by free-standing hospitals has become very difficult since the implementation of a series of cost-control measures, especially certificate of needs laws. Third, nonprofit hospitals may maintain some of the unprofitable services to meet the charitable services requirements of the Internal Revenue Service (IRS) and for public relations purposes.

Conclusions: Contributions, Limitations, and Further Research

Contributions of the Research

The research made contributions in at least three respects: (1) it contributed to existing knowledge of hospital service delivery and institutional locational behavior; (2) it established new directions for further research on hospital locational patterns and health care delivery systems; and, (3) it raised some implications for health care policy.

Hospital service delivery pattern: This study is one of the first attempts to systematically document and examine locational changes of urban hospitals since the Medicare program was enacted in the mid 1960s. The research uncovered major changes in the locational patterns of urban hospitals in the sampled cities since the mid 1960s, a time when geographers undertook major research efforts regarding hospital locational patterns (e.g., De Vise 1973). This research documented the transformation of urban nonprofit hospitals from free-standing, acute-care institutions to locally based, integrated multi-hospital systems. It also explored the major forces for hospital locational changes and

concluded that the rise of multi-hospital systems was largely influenced by prospective payment systems (PPS). It concluded that locally based multi-hospital systems present a most appropriate locational strategy to cope with today's competitive, demand-controlled health care environment. By connecting the growth of multi-hospital systems with locational changes of service delivery, this research also presents a geographic dimension to the literature on multi-hospital systems, which has been, heretofore, largely aspatial.

Locational behavior of nonprofit institutions: This research revealed a distinct locational mechanism of nonprofit hospitals, which are more complex than that of their public and for-profit counterparts. Such a complexity stems from the dual accountability faced by nonprofit hospitals. Empirical evidence, including the case study on *Fort Sanders*, shows that the locational behavior of nonprofit hospitals is influenced by both economic and political imperatives. Subsequently, the actual locational pattern of urban nonprofit hospitals is determined by the interaction between specific public policy and market conditions pertaining to health care. The research findings help conceptualize a typology of locational models that can more accurately describe and predict the locational behavior of commercial nonprofit institutions represented by nonprofit hospitals.

Areas for Further Research

Data base on hospital locational changes: Systematic documentation is lacking on the locational aspects of urban hospitals. For example, there is no consistent data source on satellite facilities of hospitals. Also, *the AHA Guide to the Health Care Field*, by far the most systematic source of hospital locations, did not contain geographically oriented

information on multi-hospital systems, that is, addresses of hospitals belonging to multi-hospital systems, until its editions of the late 1980s. A geo-coded data base is essential for researchers and organizations in order for them to: (1) monitor hospital locational changes in a timely manner; (2) analyze the effects of such changes on the economic efficiency and social equality of health care delivery; and, (3) provide a reference to public policies related to health care.

This lack of data for research on locally based multi-hospital systems can be remedied by national surveys using carefully designed questionnaires. Such surveys can be feasible with support from major health care-related private associations, such as the American Hospital Association (AHA), or government agencies, such as the Department of Health and Human Services (DHHS). Collecting information on hospitals is becoming easier today, since many hospitals enthusiastically advertise the capacity of their integrated systems by distributing pamphlets and other printed materials. The Internet is becoming an important source for information on individual hospitals. An increasing number of hospitals have built their own website home pages, which include detailed information on the locations of their service facilities.

Effects of managed care on hospital locational patterns: Managed care has become the driving force behind the locational transformation of hospital care delivery. This research suggests three aspects in which managed care may influence hospital locational patterns: (1) managed care has changed the health care environment from one that was supplier-controlled to one that is consumer-controlled; (2) through their demand for a full continuum of health care services that is locational accessible to members in local areas,

managed care plans have encouraged both horizontal and vertical integrations, thus promoting service delivery at multiple locations; and, (3) the growth of managed care has made hospitals much more conscious of the political and economic conditions in specific locales, thereby enhancing the importance of locational decision-making in the development of multi-hospital systems.

Managed care is under increasing scrutiny by the government and consumer advocates because of the increasing dissatisfaction of patients and physicians who feel that patient's health is being compromised by cost-saving pressures from health insurance plans. Further studies regarding managed care and hospital locational changes should focus on the effects of regional expansion strategies of managed care plans on the growth of locally based multi-hospital systems. Such a research direction requires monitoring closely government regulatory actions towards managed care regarding the potential locational effects of such actions.

Forms of locally based multi-hospital systems: The configurations of locally based multi-hospital systems are evolving. Systems must continuously modify their locational patterns in order to adapt to an uncertain health care environment that is both cost-sensitive and largely politically-driven. Hospitals, managed care groups, the government, and other players in the arena of health care provision are experimenting with different combinations of horizontal and vertical integration in order to find some optimal models. Timely and accurate assessment of the prevailing forms of locally based multi-hospital systems is the basis for promoting locational patterns of health care delivery that can better accomplish both economic and social goals.

Locational models: Considerable research has been done on locational models of for-profit enterprises and public agencies. By contrast, scant research has been done with entities such as nonprofit hospitals, which have institutional characteristics of both private businesses and public agencies. New locational models should be developed to fill this vacancy in existing locational theories. Such research in the health care field should focus on the interaction among political, economic, and technological factors.

Recent development of locally based multi-hospital systems shows a trend toward locational hierarchies of service facilities. That is, system expansions have concentrated on integrating facilities that provide various levels of care, which in turn cover different service areas. As health care providers increasingly focus on economic feasibility, they may establish regional hierarchies consisting of multi-locational facilities in delivering medical services. It may be a promising endeavor to apply central place theory in describing and predicting: (1) the locational patterns of health care facilities under the control of locally based multi-hospital systems; and, (2) the expansionary strategies of locally based multi-hospital systems (Christaller 1966).

Concluding Comments: Policy Implications of the Research Findings

The history of the hospital industry shows that health care in the United States has never been a pure market commodity in the United States. It is a highly regulated and, to a certain extent, a rationed service. Consequently, government health care policies have played a paramount role in determining the geographic patterns of hospital service delivery.

These geographic patterns, in turn, have affected the economic efficiency and social equity of health care provision.

Federal health care policies have been the major factors in the transformation of American health care since the mid 1960s. Specifically, Medicare and subsequent cost-containment measures intensified the conflicting locational tendencies of urban nonprofit hospitals, forcing them to develop locational patterns that could attract suburban patients while avoiding outright relocation to the suburbs. The rise of locally based multi-hospital systems was, therefore, a strategic response of urban nonprofit hospitals to the locational dilemma resulting from federal programs and regulations in health care provision.

As this research has documented, government health care programs can have both intentional and inadvertent consequences on access to health care services. Both require close and timely examination in order to improve public policy-making. At present, the federal government is under pressure from both the general public and traditional health care providers, hospitals and physicians alike, to respond to the expansion of managed care. Managed care has introduced new, overtly market-driven, dynamics into the health care arena. It is particularly pertinent, therefore, to focus on the relationship between public health care policy and locational patterns of hospital service delivery.

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