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An Assessment of Management Practices Among Virginia Acute Care Hospitals

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AN ASSESSMENT OF MANAGEMENT PRACTICES

AMONG VIRGINIA ACUTE CARE HOSPITALS

BY

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ABSTRACT

AN ASSESSMENT OF MANAGEMENT PRACTICES AMONG VIRGINIA ACUTE CARE HOSPITALS.

Ogbonnia Godfrey Ochonma
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The 1990's will see dramatic changes for the health care industry. At no previous time have both public and private health care institutions faced a more turbulent, confusing and threatening environment. Changes in health care arena will come from Federal, State and local governments; international as well as domestic economic and market forces; demographic shifts and life style changes; and structural evolution of the health care industry including mergers, intergreations and competiton.

The health care industry faces increasing financial pressures due to fundamentally new forces that affect the very viability of many health care organizations. Such pressures include prospective payment, increased competition, diminished Federal monies, new technological development, the increased growth and bargaining power of preferred provider organizations (PPO's), and growing employer and consumer demands for more cost-effective care.

Faced with all these problems, health care executives have chosen different management strategies as a way to pilot their organizations from acquisitions, closures and liquidations to more profitable and viable facilities.

In order to assess the likely impact the various management systems may have on Virginia acute care hospitals profitability, market share, market growth potential and personnel (staff), turnover rates, the survey method with appropriate questions addressing these areas of concern

was used.

In order to investigate the possible differences among the various management systems in regard to their likely impact on the profitability, market share, market growth potential and staff turnovers rates, the analysis of variance techniques was explored. Analysis of variance often abbreviated with the acronym ANOVA.... is a broad class of techniques for identifying and measuring the various sources of variation within a collection of data.

The different management systems were found not to have any significant difference regarding the institutions profitability, market share, market growth potential or personnel turnover rates. However, it was found that hospitals which are classified as diversified not-for-profit had greater market of general inpatient care (SI) than the hospitals which have different diversification classification.

In conclusion, the results of the data analysis did not support earlier findings in which differences in management systems were responsible for hospital performance variations.

Co-chairs of Advisory Committee
Dr. C. Thomas Somma
Dr. Brenda S. Nichols

DEDICATION

This book is dedicated to my wife, Udo Valentina Ochonma, my son, Leslie Ikehukwu Ochonma and my daughter to be born on the 27th day of August, 1994 (Nicole Ugonna Ochonma). This is for their support and encouragement during my class attendance and the writing of this book.

PREFACE

This book is an attempt to provide a clear understanding of management practices among Virginia acute care hospitals. Management theories, research, and experience have shown the benefits attributable to each management system. Explication of the theories surrounding strategic planning, strategic management, management by objectives, and the Deming quality management method will be made to provide a better understanding of the management systems.

This book is practically divided into five parts. The first chapter will examine the problems faced by acute care hospitals in the United States and the State of Virginia in particular. The different problems faced by these hospitals necessitate the adoption of particular management systems. The second chapter is based on the review of related literature. The readers will be acquainted with existing studies relative to what has been found, who has done the work, where and when the latest research studies were completed.

The third chapter focuses on the methodology or procedures used in this study. The survey approach was used to gather information from hospitals regarding their management systems, diversification strategy, and the region of the state where they are located. These variables were matched against the hospitals' market share, market growth potential, staff turnover rates and profitability to see if there were any significant effects of the variables on the latter.

The fourth and fifth chapters are concerned with the research findings and recommendations respectively.

ACKNOWLEDGEMENTS

This study would not have been possible without the outstanding support and cooperation received from my dissertation committee members--Dr. C. Thomas Somma, Dr. Brenda S. Nichols and especially Dr. Gregory H. Frazer, who is also the chair and advisor for this study. Dr. Frazer constantly reminded me of the delineation and focus of this study. I owe him for his outstanding knowledge, dedication and commitment to the finishing of this study.

My special thanks to Dr. Clare W. Houseman, Director, Graduate Program and Ph.D. Urban Services (Health Services Concentration) and Dr. Lindsay L. Rettie, Dean of the College of Health Sciences. I will remember their advice throughout my studies at Old Dominion University. My gratitude also goes to all the outstanding professors at Old Dominion University who have contributed immensely to my being here today.

I would also like to extend my appreciation to Mrs. Angela Taylor Bunch who responded at all times when this study was being typed. If I may acknowledge, she has such an excellent personality and understanding.

My continued appreciation goes to my Mother--Mrs. Mercy Ochonma, my brother-in-law--Mr. John Onyeador, my brother--Mr. George Ochonma, and my sister, Mrs. Comfort Onyeador. All of them believed that I would make it to the mountain top. None of this would have been possible without the support of my wife--Mrs. Udo Valentina Ochonma and the continued inspiration from my son--Master Leslie Ikechukwu Ochonma and Grandmother--Mrs. Nne Nne Orji.

Finally, I owe everything to the Lord almighty who made everything possible. I thank Him for His guidance and protection.

LIST OF TABLES

Table		Page
1	Organizations in the Health Care Environment	22
2	Demographics	71
3	Frequency Distribution of Open-ended Questions 1 through 10	73
4	Primary Management Style and Frequency Distribution	76
5	Diversification Strategy and Distribution	77
6	Regional Location of the Hospitals and Distribution	79
7	How Long the Hospitals have used their Management Systems	80
8	Population of the Areas where the Hospitals do Business	81
9	Number of Hospitals Using or not Using Patient Focused Care	82
10	How Long Patient Focused Care has been Used in the Hospitals	83
11	Health Care/Medical Services and Number of Hospitals Providing Those Services	84
12	How many Times CEO has Changed in the Past 5 Years	85
13	Number of Hospitals Responding to Questions on Market Share, Market Growth Potential, Profitability and Staff Turnover Rates and Distribution	87
14	Effect of Different Management Plans on Market Share	89
15	Effect of Different Management Plans on Staff Turnover Rates	92
16	Effect of Different Management Plans on Profitability	94
17	Effect of Different Business Status on Market Share	97
18	The Effect of Management Plans on Market Growth Potential	99

TABLE OF CONTENTS

	Page
DEDICATION	i
PREFACE	ii
LIST OF FIGURES	iii
LIST OF TABLES	iv
ACKNOWLEDGEMENTS	vii
CHAPTER	
1 THE PROBLEM	1
Introduction and Background of the Problem	1
The Problem Area for this Study	5
The Purpose of this Study	6
Assumptions	7
Limitations of the Study	8
Delimitations of the Study	9
Definitions	10
2 RELATED LITERATURE REVIEW	13
Health Care External Environment	13
Health Care Internal Environment	28
Health Care Systems Reactions	32
Strategic Planning	37
Management by Objectives (MBO)	40
Deming Quality Method Management	42

Chapter		Page
	Summary of Commonwealth Hospital Industry Financial Performance 1988 Through 1992	43
	Research Findings in Health Care Delivery Profitability	45
	Human Resource Management	48
	Market and Potential Market Shares	52
3	DESCRIPTION OF THE RESEARCH METHODOLOGY: SURVEY	58
	Selection of Subjects--Sampling	59
	Rationale and Theoretical Framework	62
	Data Processing and Analysis	64
	Research Questions for Investigation	65
	Reliability and Validity Concerns	65
	Findings (Analysis and Evaluation)	67
	Notation	68
4	DEMOGRAPHIC DESCRIPTIONS OF RESPONDING HOSPITALS AND THE RESULTS OF THE ANALYSIS	70
5	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	101
	Summary	101
	Conclusions	105
	Recommendations	106
	REFERENCES	108
APPENDIX A	(Questionnaire Used in the Study)	113

LIST OF FIGURES

Figures		Page
1	Medical Care Inflation Versus the Overall Consumer Price Index	17
2	The External Environment of a Health Care Organization	21

CHAPTER 1

THE PROBLEM

INTRODUCTION AND BACKGROUND OF THE PROBLEM:

The 1990s will be a decade of dramatic change for the health care industry. At no previous time have both public and private health care institutions faced a more turbulent, confusing and threatening environment. Impetus for significant change will come from many sources, including federal, state, and local governments; international as well as domestic economic and market forces; demographic shifts and life style changes; and the structural evolution of the health care industry (Duncan, Ginter & Swayne, 1992).

Health care organizations will have to cope with a multiplicity of external and internal forces as they provide care.

1. A more restrictive reimbursement environment as a result of intensified effort by the federal government and the health care industry to curb burgeoning medical costs.
2. Payment of a larger portion of total health spending by third-party payers such as government, insurance companies, and corporate employers.
3. New legislative efforts to provide medical coverage to the approximately 37 million Americans who are without health insurance.
4. Demographic shifts that will place capacity burdens on some health care organizations as a lessening demand threatens the survival of other

health care providers

5. Increased population mobility that will test the flexibility of medical coverage programs and make facility planning more difficult.
6. An aging population that will increasingly strain the capacity of health care institutions.
7. The high costs of purchasing new, sophisticated, largely computer-based technologies to meet the demand for high-quality health care.
8. Further consolidation within the health care industry because of cost pressures and intensified competition.
9. The continuing expansion by health care corporations into segments that have less regulation and their entry into business outside of the traditional health care industry.
10. The increasing importance of market niche strategies and services marketing.
11. Growth in outpatient care and the development of innovative alternative health care delivery systems.
12. The viability, indeed the survival, of many of the nation's small, rural, and public hospitals and a reconfiguration of the rural health delivery system.
13. An increase in the popularity of health maintenance organizations (HMOs) and preferred provider organizations (PPOs) to the point where managed-care plans will cover nearly one-third of the U.S. population.

14. Critical shortages of nonphysician health care professionals and a surplus of physicians within some specialties and in some geographic regions.
15. More emphasis on preventive care through wellness programs and health behavior (Duncan et al. 1992).

The health care industry has faced increasing financial pressures throughout the past decades as a result of fundamentally new forces that affect the very viability of many health care organizations. Such forces include prospective payment, increased competition, diminished federal monies, new technological developments (especially those emphasizing outpatient care), the increased growth and bargaining power of preferred provider organizations (PPOs), and growing employer and consumer demands for more cost-effective care. Strategies have had to change from internally focused operations to externally focused, market-driven operations (Shortell, Morrison & Hughes, 1989). Today's marketplace is highly competitive and health care organizations are experiencing greater risks as they attempt to control costs and increase volumes (Walker & Rosko, 1988).

Health care organizations have responded to these environmental forces by diversifying into new services and new markets (Coddington, Palmquist & Trollinger, 1985). Such diversification most often has been into health-related areas, such as outpatient diagnosis and surgery centers, rehabilitation, industrial medicine, home

health care, nursing facilities, trauma centers, wellness and health promotion and health maintenance organizations (HMOs). This type of diversification is sometimes referred to as a concentric or related diversification. However, health care organizations have invested in areas not directly related to health, such as restaurants, hotels, office buildings, retirement housing, and parking lots which are often referred to as conglomerate or unrelated diversification. Both concentric and conglomerate diversifications have been implemented through acquisitions, mergers, internal developments, joint ventures and licensing (Coddington, et al. 1985).

Although health care strategists have several rationales for pursuing diversification, the primary motive is to increase revenues (profits). Many administrators see diversification as a necessary defensive strategy to support the core business in light of shrinking demand and declining reimbursements (Graham, 1987). Health care organizations that have attempted both concentric and conglomerate diversification cite as reasons for such corporate behavior the need to expand into new markets, distinguish themselves from competitors, and enter less regulated markets. Diversification efforts that have been most profitable include freestanding outpatient surgery, outpatient diagnosis, rehabilitation, home health services, industrial medicine, and women's medicine. Diversification strategies that have been largely unprofitable include wellness and health promotion, trauma centers, pediatrics, obstetrics, and retirement housing (Hospitals, 1991).

Another strategy directed at increasing market share with the ultimate aim of improving profitability is vertical integration. A vertical integration strategy is a

decision to grow along the channel of distribution of the core operations. Adoption of vertical integration strategies by health care organizations is proceeding at an increasing rate (Mick & Conrad, 1988). Similar to diversification, vertical integration strategies result from increased pressures on operating margins. Much of this pressure has come from the growing intensity of competition within the industry. In addition, health care providers face more knowledgeable and aggressive purchasers of health services. Vertical integration strategies have been pursued in order to provide a full range of health care and therefore control the flow of patients through a system. By keeping patients within the system, vertical integration strategies may provide a competitive advantage (Broyles, 1992).

Hospital strategy making can focus on two basic areas: (1) operational management (productivity and economic efficiency to yield cost leadership) or (2) strategic management of product lines (diversification, divestment, and differentiation). Strategy is especially important to institutions experiencing a decline in performance, since working harder on the current strategy is not likely to win the day (Eastaugh, 1992).

THE PROBLEM AREA FOR THIS STUDY:

The following problem area has necessitated the inception of this study: (1) in times when there were not enough physicians, hospitals, or nursing home beds, health care providers did not have to be concerned about competition. With the current oversupply, however, most physicians and hospitals as well as other kinds of health

providers are competing for patients. Competition, consumerism, and cost containment are mandates for health care professionals to think about marketing (Duncan et al. 1992).

(2) Health care organizations constantly face financial problems and the need to develop innovative ways of increasing profitability. Even in not-for-profit organizations, the extent to which income exceeds costs is an important measure of financial viability (Duncan et al. 1992).

(3) The rate at which professionals leave the hospital can often worsen a manpower shortage. 1993 Virginia Hospital Association (VHA) manpower surveys calculated nursing turnover rates (the number of employees who leave employment during the year as compared to the total number employed), at fairly consistent rate of 16% to 17% (VHA Health Manpower Survey, 1993). The rate of RN turnover in most of the nation's acute care hospitals is very high--as high as 60% to 200% in some hospitals (Helmer & McKnight, 1989). Increase in competition has come about as a result of decreasing market share, market growth potential, and profitability and increasing personnel (staff) turnover rates. This study intends to look at the following areas: How various management systems (processes) impact on the Virginia acute care hospitals regarding profitability, market share, market growth potential, and personnel (staff) turnover rates.

THE PURPOSE OF THIS STUDY:

The purpose of this survey is to measure the adoption of the management

processes on the Commonwealth of Virginia's acute care hospitals. The study intends to assess if specific aspects of types of management practices impacted on Virginia's acute care hospitals' profitability, market and potential market shares and staff turnover rates differently.

Another purpose of this study is to find out if differences are present in the areas of Virginia's acute care hospitals' profitability, market and potential market shares and staff turnover rates depending on the business status of the hospitals. Business status is defined by the diversification strategy employed by the hospital.

Location can work in favor of hospitals or against them when it comes to profitability and market share depending on which region of the state the hospital is located. So, one of the purposes of this study is to find out if the location and region of the state where the hospital does business has any bearing to its level of profitability, market and potential market shares and staff turnover rates.

ASSUMPTIONS:

This study is being conducted under the following assumptions:

1. That every hospital has a management system.
2. That all the hospitals under this study will respond faithfully to the survey.
3. That there is a relationship between hospital profitability, market share, potential market share, and staff turnover rates and management systems employed by the hospitals.
4. That the questionnaire will comprehensively measure the

market share, market growth potential, profitability and staff turnover rates of the different hospitals.

5. That the business status (diversification strategy) of the hospitals also affects their profitability, market and potential market shares, and the staff turnover rates.
6. That hospital location and the region of the state where it does business affects its profitability, market share, potential market growth, and staff turnover rates.

LIMITATIONS OF THIS STUDY:

The limitations of this study identified includes:

1. Market share has been proposed by many to be a strategy or goal for success in business. Greater market share is believed to provide greater pricing liberty and better opportunities of scale. Measuring market share and market growth potential are difficult in most empirical studies because defining the market is very complex (Buzzell & Gayle, 1990). Because of this, Buzzell & Gayle (1990), developed the concept of "served market." A served market represents the portion of the total market that the firm serves either because of production or marketing limitations. Since hospital market area is very complex to define and may vary for different services provided, this study, in an attempt to reduce such variability, has defined market share as the percentage of patients or services provided relative to other providers in the same service area.

2. Sometimes the relationship between strategic and financial planning is

not clear. Even in relatively sophisticated organizations and industries, one can find examples where strategic, operational, financial, and budgetary planning are not well integrated. Unfortunately, strategic planning is unproductive unless coordination is achieved among all levels and types of planning and that is often hard to come by (Duncan et al. 1992). Since, financial planning affects hospital profitability, and in order to reduce the variability attributable to such undefined relationship, this study intends to define profitability as net revenues minus direct operating costs, including capital costs and administrative costs, before taxes if applicable.

3. Staff turnover rate is hard to define in simple terms. Many factors, including the state of the economy, determine and shape staff turnover rates of many businesses including health care organizations (Virginia Hospital Association Manpower Survey, 1993). Strategic human resource management unfortunately gives a limited determination of staff turnover rates of health care organizations. Staff turnover rate is also affected by such practices as patient focused care as practiced in the hospitals. In order to cope with this difficulty, staff turnover rate is being defined in this study as the number of employees who leave employment within a profession during the year as compared to the total number employed.

4. Surveys only tap respondents who are accessible and cooperative (Isaac & Michael, 1981) and this invariably affects the response rate and the generalizations of this study. To cope with this problem and to improve the response rate, a reminder letter was sent to the hospitals to complete and mail back the questionnaire.

DELIMITATIONS OF THIS STUDY:

The following are the delimitations of this study:

1. This study is restricted to the Commonwealth of Virginia acute care

hospitals.

2. Inferences from this study may only be made to the profitability, market share, market growth potential, and staff turnover rates of the Commonwealth of Virginia acute care hospitals.

3. Inferences concerning this study may also be made on the primary management styles being used by the hospitals.

4. Conclusions on this study may also be made on the business status of the acute care hospitals, as well as on the basis of the different regions of the state in which hospitals conduct their businesses.

5. An attempted replication of this study may only be made to the samples matching the description of the Virginia acute care hospitals.

DEFINITIONS:

The study defines the following terms as follows:

1. Strategic Health Care Planning:

Strategic health care planning is based on corporate market planning in which emphasis is on maximizing profits through control of a market segment. Identification of that market segment leads to the strategic formulation of methods of interdiction with those consumers interested in the products being offered. This is usually a long-range plan and concentrates on improving internal efficiency and effectiveness (Spiegel & Hyman, 1991).

2. Strategic Health Care Management:

Strategic health care management involves all that strategic health care planning stands for, but also includes the formulation of mission(s) and the objectives to accomplish the mission(s) and the monitoring of relevant external factors like

government regulations and laws, technological improvements in the field, competition from other health care systems, etc. and the institution of control to ensure congruence between strategies and actual accomplishment (Duncan et al. 1992).

3. Management by Objectives:

Management by objectives in the health care arena involves incorporation of subordinates into the decision making process. Generally, CEOs and supervisors make known the purpose and objectives for themselves to accomplish the purpose of the institution and those objectives are discussed with the management and a compromise is reached. Usually this management method is undertaken to motivate employees which may result into increased performance (Hampton, Summer & Webber, 1982).

4. Deming Quality Method Management:

Proposed by Edwards Deming, this management technique emphasizes achieving uniform results during production rather than through inspection at the end of the production line. In essence, it is a quality control measure. Through its 14 points quality management, the Deming technique could be used to build quality, cut costs, improve productivity, and increase both customer and employee satisfaction (Time, January 3, 1994)

5. Market Share:

Is defined as the percentage of patients seen or services compared to others in the primary service area.

6. Market Growth Potential:

Indicates the potential percentage growth in volume of patients seen or services provided in the primary service area.

7. Profitability:

Indicates net revenues minus direct operating costs, including capital costs and administrative overhead, before taxes if applicable.

8. Personnel (Staff) Turnover:

Indicates the number of employees who leave employment during the year as compared to the total number employed.

CHAPTER 2

RELATED LITERATURE REVIEW

This chapter on literature review is meant to acquaint the readers with existing studies and writings already done in this area. The research methodology, instrumentation, and statistical analyses employed by previous studies in this area will be explored. The chapter will be organized in the following way. First, a thorough examination of the elements constituting the environments in which the acute care hospitals and health care systems operate will be examined. This examination will take into account both the external and internal environmental factors. At least 10 components are included in Hawley's (1988) environmental assessment. The economy, demographics, morbidity and mortality statistics, reimbursement, financing and legislation, technology and research, health care delivery, cost and utilization, human resources, medical ethics, and social attitudes and lifestyle factors (Spiegel & Hyman, 1991).

Secondly, this will be followed by researched studies and materials meant to acquaint readers with existing studies relative to what has been found, who did the work, and when and where latest research studies were completed in the field.

HEALTH CARE EXTERNAL ENVIRONMENT:

The external environment of the health care systems is composed of enormous number of factors, chief among them being government regulations and legislation. Included in government regulations are factors like Medicare and Medicaid legislation plus the manpower legislation of the 1960s. The government legislation and regulation also include Health Planning and Response Development Act of 1974 and

the establishment of Medicare Prospective Payment System (PPS) in 1983. The DRGs and the quality of care monitoring were added government regulations on the health care systems. The changing health care technology and the population demographics are also serious external environmental factors affecting the nature of health care delivery. The recessionary economy including elements of fierce cut-throat competition and advertisements in the health care environment are but some of the elements of concern to the health care industry in its everyday attempt at delivering health services. On the state side, the external environment of the health care system is characterized by intense government regulations which includes certificate of need and cost containment measures (Shortell et al. 1990).

"For the past fifty years, health care, particularly hospitals, has been a growth industry. The 1930s saw the introduction and the rise of private health insurance coverage. With the passage of the Hill-Burton Act, the 1940s and 1950s brought significant postwar expansion in the number of hospitals. Medicare and Medicaid legislation of the 1960s increased financial access to health services for the elderly and the poor. Throughout these decades, health manpower legislation greatly expanded the supply of providers. The dominant themes were increasing the public's access to health care services and incorporating the latest advances in medical technology. (Shortell et al. 1990).

During this period, health care expenditure as a percentage of the gross national product grew from 4.4% in 1950 to 11.1% in 1987. If it continues to increase at the present rates, costs will reach 1.5 trillion by the year 2000, or 15% of the gross

national product. Hospitals represent the largest portion of these expenditures--44%, or about \$200 billion of personal health care expenditures in 1987. These increases outpaced growth in the consumer price index by a significant margin, causing growing concern about the rising cost of health care (Shortell et al. 1990).

In response, the federal government introduced the Health Planning and Resources Development Act in 1974, giving state and local agencies the authority to review hospital capital expenditures through approving or disapproving requests called "certificate of need." The goal was to reduce duplication of services and encourage hospitals to share costly technologies. At approximately the same time, a number of states introduced rate review programs, designed to control hospital operating revenues. Although the evidence on the effect of the certificate of need programs is ambiguous, it is the general consensus that state rate review programs slowed the rate of increase in hospital costs about 2 to 3% (Morrissey, Conrad, Shortell & Cook, 1984; Dranove & Cone, 1985).

Nonetheless, the overall effect of these cost-containment efforts was disappointing, the cost of medical care continued to increase faster than the consumer price index through the 1980s (see Figure 1). Of particular significance was the growth in federal expenditures; Medicare expenditures increased sixteen-fold (Health Insurance Association of America and Health Care Financing Administration, 1988). A growing number of policy-makers, employers (who pay the premiums for their employees), and other third-party payers, concerned about dramatic increase in costs, began to wonder what they were getting for their money. It was against this backdrop that Congress faced with rising budget deficits, established the Medicare prospective

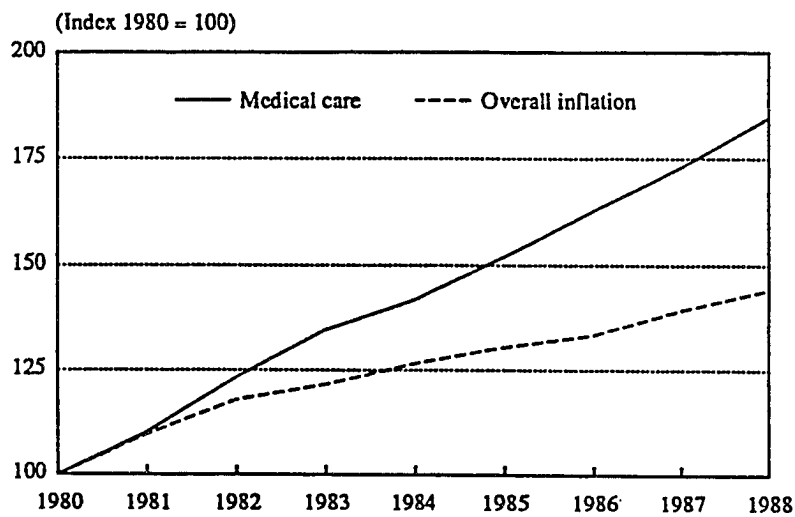
payment system (PPS) in 1983 (Shortell et al. 1990).

Before October 1983, most hospitals were reimbursed their full costs for patient care. The PPS legislation set predetermined fixed payment levels for 468 diagnosis-related groups of conditions for all Medicare patients (Office of Technology Assessment, 1985). Hospitals who could provide care within the price limit could pocket the savings. Those that could not had to absorb the losses. Since Medicare patients constitute approximately 40% of an average hospital's inpatients, the payment change represented a significant environmental change for the industry. For the first time there existed a national systematic incentive for hospitals to contain costs and provide services as efficiently as possible (Shortell et al. 1990).

Health care providers have been forced to pay attention to a number of external and internal threats including health care trends and policy issues. The issue of the diagnostic related groups (DRGs), which is a typical example of government regulation, have forced acute health care institutions to be competitive and profit-making corporations "with a profit if services can be rendered at a cost lower than the present reimbursement." Conversely, providers suffer a loss if expenses exceed the payment. Large enough losses may eventually bankrupt the facility or the provider. For this reason, health care providers may be forced to be selective in both the patient

Examining the Hospital's Turbulent Environment

Figure 1. Medical Care Inflation
Versus the Overall Consumer Price Index



Note: The Consumer Price Index (CPI) measures the effect of medical care price changes only. It does not measure changes in the total amount Americans spend

Source: U.S. Bureau of Labor Statistics

mix and the services provided" (Spiegel & Hyman, 1991). (See Figure 2 and Table 1 for health care environments).

Another area of government intervention in health care is in quality of care monitoring. "A further pressure on a provider's capacity to survive is the federal government's monitoring of the quality of care given to Medicare patients. Importantly, Medicare beneficiaries may represent about 30-35 percent of a hospitals' patient population. Professional review organizations, created by federal legislation, ensure that Medicare patients are not short-changed or over-serviced in their treatment. PROs pay close attention to a hospital's quality of care and the cost of those services: (Spiegel & Hyman, 1991). What this does is to move the hospitals toward a competitive edge since it is necessary to improve quality in order to attract more patients. Competition in essence calls for effective management to coordinate all aspects of health care delivery to ensure quality.

An additional problem of the health care industry is related to technology advances and the aging of the population. Health care, as an industry, currently faces both opportunities and threats of epic proportions. Technological advances, coupled with the aging of the population, have created tremendous demands for new services. Simultaneously, an increasingly litigious society with a strong sense of entitlement has rejected the paternalistic medical models of the past. A recessionary climate, at both federal and state levels, where health care is a big ticket item, has created pressure of government cost control. At the same time, public policy-makers have themselves shied away from the tough choices involved in rationing care, leaving these to

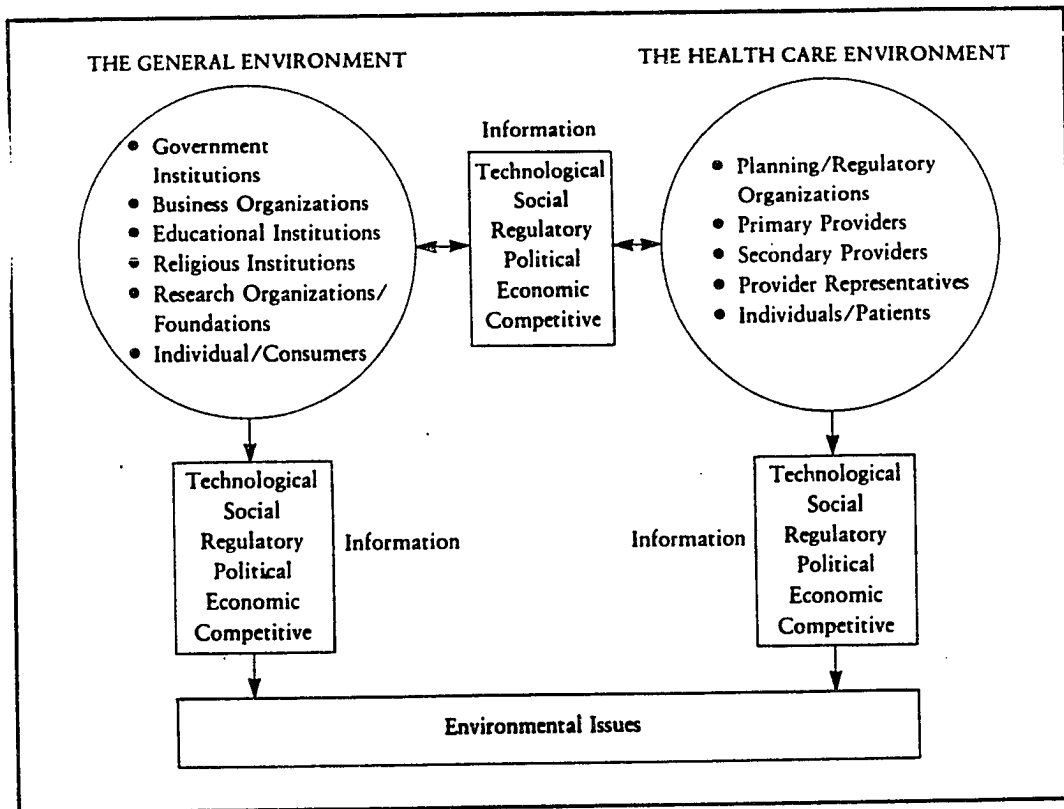
individual institutions to be dealt with (Liedtka, 1992). The dynamic nature of medical technology coupled with economic variables of recession and changing cost of health care provision, including changing population demographics tilting toward the aged, have increased the probability of the health care industry to seek better management styles to cope with the enormous problem.

Another problem of a different dimension in the external environment is the issue of advertising, including price breaks. "Within the industry, rivalry among institutions has intensified and taken on new forms, including the use of advertising "price breaks." New entrants, particularly health maintenance organizations, have dramatically changed the nature of competition in their markets. Certain institutions have sought to "cherry pick" the most profitable patients and procedures within an area, "dumping" indigent care, for example, on public institutions. Third-party payers have used their concentrated buying power to institute stringent reviews in an effort to contain costs" (Liedtka, 1992). All these have added enormous pressure on acute health care systems to institute management styles that not only engage in financial planning, but has to scan the external environment for changes that may off-set the financial viability already earned by the institution or systems. The strategic alternatives available to acute health care systems are numerous, ranging from ambitious expansions and vertical integration to retrenchment and aggressive cost cutting, but should be emphasized as well that these measures can only be undertaken after careful consideration of factors like organizational competencies, personal values, and societal responsibilities. According to Liedtka (1992), hospitals face a set of

issues critical to strategy formulation that are markedly different from those faced by traditional corporations. Given this, the relevance of current business approaches to strategy formulation that focus exclusively on a narrowest of market-driven factors is questionable. Hospitals must take a more comprehensive view of strategy foundation that goes beyond issues of internal competency and environmental opportunities to incorporate the values of caregivers and societal responsibilities of the institution as well (Liedtka, 1992).

Of a major concern especially to new entrants into the field of acute health care delivery is the critical issue of competition. Acute care hospitals engage in fierce competition that could be characterized as cut-throat. According to (Spiegel & Hyman, 1991) "competition between health care providers appears to be a short-term dynamic that eventually will lead to a new balance of services being offered by providers. During this chaotic period of an agency's experimentation with new services, mergers, joint ventures, or establishing off-site satellite, inefficient and poorly planned changes may fail, leading to bankruptcies and closures. As result of competition for survival, providers will be caught up in a dilemma of targeting potential profitable market services while trying to maintain comprehensive existing services, including those that do not make a profit. Sound planning and effective implementation practices supported with adequate resources are essential if health care providers are to have a better than 50% chance of succeeding. Eventually, the winners may gobble up the losers, resulting in larger but more stable organizations available to the public."

Figure 2. The External Environment
of a Health Care Organization



Source: Adapted from Duncan et al. Strategic Management of Health Care Organizations. PWS-KENT Publishing Company, Boston, 1992.

Organizations that Plan for and/or Regulate Primary and Secondary Providers

■Federal Regulating Agencies

Department of Health and Human Services (DHHS)
Health Care Financing Administration (HCFA)

■State Regulating Agencies

Public Health Department
State Health Planning Agency (e.g., Certificate of Need (CON))

■Voluntary Regulating Groups

Joint Commission on Accreditation of Health Care Organizations (JCAHO)

■Other Accrediting Agencies

Primary Providers (Organizations that Provide Health Services)

■Hospitals

Voluntary (e.g., Barnes Hospital)
Governmental (e.g., Veteran's Administration hospitals)
Investor-Owned (e.g., Humana, American Medical International, National Medical Enterprises)

■State Public Health Departments

■Long-term-Care Facilities

Skilled Nursing Facilities (e.g., Beverly Enterprises, Upjohn Healthcare Services, Mediplex, Manor Care, Inc.)
Intermediate-Care Facilities

■HMOs and IPAs (e.g., Care America, Complete Health)

■Ambulatory-Care Institutions (e.g., Wellesley Medical Management, National Rehabilitation Centers)

■Hospices (e.g., Hospice Care, Inc., Melinda House, Connecticut Hospice, Inc.)

Secondary Providers (Organizations that Provide Resources)■ **Educational Institutions**

Medical Schools (e.g., Johns Hopkins, University of
Alabama at Birmingham (UAB))
Schools of Public Health
Schools of Nursing
Health Administration Programs

■ **Organizations that Pay for Care (Third-Party Payers)**

Government (e.g., Medicaid, Medicare)
Insurance Companies (e.g., Prudential, Metropolitan)
Businesses (e.g., AT&T, IBM) (e.g., Certificate of Need (CON))
Social Organizations (e.g., Shriners, Rotary Clubs)

■ **Pharmaceutical and Medical Supply**

Drug Distributors (e.g., Began Brunswig, Walgreen,
McKesson)
Drug & Research Companies (e.g., Bristol Myers,
Squibb, Merck, Pfizer, American Home Products, Eli Lilly
Upjohn, Warner Lambert)
Medical Products Companies (e.g., Johnson & Johnson, Baxter
International, Abbott Labs, Bausch & Lomb)

Organizations that Represent Primary and Secondary Providers■ **American Medical Association (AMA)**■ **American Hospital Association (AHA)**■ **State Medical Associations (e.g., Illinois Hospital Association,
Kentucky Medical Association)**■ **Professional Associations (e.g., Pharmaceutical Manufacturers
Association (PMA), American Dental Association)****Individuals and Patients (Consumers)**■ **Independent Physicians**■ **Nurses**■ **Nonphysician Professionals**■ **Nonprofessionals**■ **Patients and Consumer Groups**

Source: Adapted from Beaufort B. Longest, Jr., Management Practices for the Health Professional, 4th ed.
(Norwalk, Connecticut: Appleton & Lange, 1990)

New trends continue to characterize the external environments of acute health care systems. Of importance is the issue of consolidation. Consolidation within the health care industry continues as individual facilities respond to environmental pressures. For example, "environmental health care," reports in its 1985 survey of multi-unit providers that there are 274 multi-unit health care organizations including 675 centrally managed chains of health care facilities that provide services directly to consumers in the United States (Johnson, 1985). The centrally managed chains own, lease, or manage 12,017 hospitals, nursing homes, retirement centers, psychiatric hospitals and outpatient clinics. This means that more than one third of all U.S. hospitals are part of multi-unit systems. In the past decade, the number of hospitals in multi-hospital systems has more than tripled, with most of the change resulting from introduction of contract-managed facilities. In addition, most health care organizations are involved in some form of clinical and/or administrative shared service arrangement. For example, many participate in joint ventures to provide specific programs or formal alliances to provide centralized services such as purchasing, research, and education. The phenomenal growth of alliances such as Voluntary Hospitals of America and the American Health Care System is the newest significant trend in the linkage of hospitals (Simyar & Lloyd-Jones, 1988).

The authors continued by asserting that the 1980s is the time when the number of multi-unit care providers will likely shrink as larger ones take over small chains and as smaller ones merge. However, the authors predicted that the larger system in health maintenance organizations (HMOs) will continue as larger systems and will integrate

both the delivery of and payment of care. This reflects the trend toward related diversification the authors believed.

One way the State of Virginia controls the activities of nonfederal health care facilities in the State is through the Virginia Health Care Services Cost Review Council (VHSCRC).

Section 9-160(3) of the Code of Virginia, enacted by the 1980 session of the General Assembly, mandates that the Virginia Health Services Cost Review Council (VHSCRC) survey the extent of commercial diversification by Virginia's hospitals. The Commercial Diversification Survey reports the organizational structure of Virginia's hospitals; the parent or controlling corporation; and any affiliated corporations. The nature of affiliation, method of affiliation, tax status, total revenue, and net equity are also reported for each affiliate in an organization. In an effort to cope with regulatory, tax, financial, technological, competitive, and consumer pressures, both for-profit and not-for-profit hospitals have undergone corporate reorganization and commercial diversification. Frequently, for-profit hospitals have reorganized into multi-hospital chains. The parent corporations have used access to equity markets to allow them to acquire existing facilities, to construct new facilities, and to diversify into alternate forms of health care delivery. For-profit hospitals also may establish affiliates to conduct certain activities in a not-for-profit, tax-exempt form. These entities may be engaged in research or educational activities (Virginia Health Services Cost Review Council, 1991).

The VHSCRC began collecting and disseminating information regarding the

extent of commercial diversification in Virginia's hospitals in 1988. In 1989 an amendment to the Code of Virginia required that each hospital or any corporation which controls a hospital submit, as part of the commercial diversification survey, an audited consolidated financial statement including the controlling corporation and all affiliates. A balance sheet detailing total assets, liabilities, and network, as well as a statement of income and expenses, are now reported (Virginia Health Services Cost Review Council, 1991).

The VHSCRC has prepared an Executive Report of this Survey as a means to summarize the extent and effect of commercial diversification within the Commonwealth. Four years of summary data are presented in the Executive Report for all reporting hospitals and their affiliates. The data are for fiscal years ending between July 1, 1987 and June 30, 1988; July 1, 1988 and June 30, 1989; July 1, 1989 and June 30, 1990; July 1, 1990 and June 30, 1991.

According to Burns and Mauet (1987), if a health services organization seems to be experiencing repeated difficulties in its response to shifts in the environment in which it operates, it may be necessary to invoke an organizational design strategy. To be successful in a continuously shifting environment, such an approach necessitates continuous adjustments. An organizational design strategy, they continued, may provide the best opportunity to shape the environment of a health services organization rather than a mere response to change by restructuring the organization to anticipate environmental needs before they materialize.

The 1990s will be a decade of even more radical changes in health care than

were the 1980s. Significant changes can be expected from federal, state, and local governments; economic and market forces; demographic shifts and life style changes; and structural evolution of the health care industry itself. The greatest challenge facing health care managers today is identifying and planning for these changes. Changes that took place during the 1980s, such as the implementation of the prospective payment system and growth of managed-care systems, have greatly affected the basic structure of the health care industry. Health care managers may assume with confidence that, in the 1990s, they will have to guide their organizations through changes just as challenging as those experienced in the 1980s. They will have to anticipate change and position their organizations to deal effectively with emerging issues (Ginter, Duncan, Richardson & Swayne, 1991).

Ginter et al (1991) strongly believe that environmental analysis (EA), which is the process of understanding the issues in the external environment and determining their implications for the organization, can best be practiced by 1) understanding the external environment through inherent changes, 2) scanning the external environment for information, 3) monitoring the external environment for trends, issues, etc., 4) forecasting environmental change through extending the trends, identifying the interrelationships between environmental categories and through developing alternative projections, and 5) assessing environmental changes which are largely nonquantifiable and therefore, judgmental.

HEALTH CARE INTERNAL ENVIRONMENT:

Despite the inexhaustible number of factors that acute health care systems and hospitals will have to be concerned with in the health care external environment, the internal environment is also plagued by dynamic factors including issues like cost, finance, personnel requirements and turnover and general operations. These factors need to be given thorough managerial considerations for the effective and efficient delivery of health care to ensure the survival of the acute health care systems and hospitals.

An issue of importance in the internal environment of acute health care systems and hospitals is the problem of hospital occupancy. A high level of hospital occupancy is needed for hospitals to break-even and eventually make profit.

Total nonfederal hospital beds increased by 6% while the number of hospitals decreased by 200 between 1975 and 1985. At the same time hospital occupancy rate dropped from 75% to 65% during this period (U.S. Department of Health and Human Services, 1988). The drop in hospital occupancy rate signals a danger for hospitals. Hospitals make their money through medical and health services offered to individual patients. Any significant drop in the hospital occupancy rate calls for managerial intervention to either work on increasing the occupancy rate or redirecting hospital resources to other areas of the hospital that are making profit. Occupancy rate is a crucial part of hospital management that needs nurture and sustenance for the survival of hospitals and acute health care systems.

Total admissions to Virginia hospitals are also declining after an increase in

1990. The 1991 figure of 712,708 represents a 9.1% decline from 1981 figure of 783,697. As expected, discharge figures followed a similar pattern to admissions. For 1991 the total of 710,471 represents a 9.6% decline since the 1981 figure of 785,711. Percent occupancy has been in decline over the entire 11 years (1981-1991). The peak occupancy, computed relative to acute care bed capacity, occurred in 1981 at 74.4%. The 1991 figure of 56.2% represents a 18.2% decrease from the 1981 occupancy of 74.4%. The average length of stay has been in general decline over this same period as well. After having remained constant over the last three years at 6.7 days, the average length of stay dropped an additional tenth of one day in 1991 (6.6 days). The overall change from 1981 to 1991 has been a reduction of 1.0 days of stay (Virginia Center for Health Statistics, November, 1992). The downward decline in admissions, average daily census, percent occupancy and average length of stay in Virginia hospitals spells trouble and calls for effective and efficient management intervention. Hospitals and health care systems make their money through admission of patients and a higher rate of percent occupancy.

Consumers are slowly responding to the constant advertising campaigns to take more responsibility for their own health and mental well-being. Promotion of positive health practices of proper dieting, exercising, sleeping, and drinking alcoholic beverages in moderation are taking hold. One outcome of this is improvement in population's health status. One consequence of a healthier population is that there may be less need for physician and hospital inpatient services. A dramatic result is seen in the decrease in the heart disease death rate per 100,000 persons, age-adjusted:

from 307 in 1950 to 180 in 1985, a 40% reduction (USDHHS, NCHS, 1988). While this is a plus factor for the population, the decrease does represent part of the dynamic changes occurring in our society to which health care providers must adjust (Spiegel & Hyman, 1991).

Should the present trend of health consciousness towards a healthier America continue, hospitals and health care organizations would have to engage professionals with expertise to help administrators develop short- and long- range strategic management practices to cope with the dynamics of hospitals changing patient levels. Alternative investments and diversifications are also needed to help acute care hospitals maintain a profitable margin.

PHYSICIAN SURPLUS

There is a growing surplus of physicians in the United States at the same time that a shortage of registered nurses (RNs) exists. In 1975, there were 385,000 active physicians in the United States or 174 per 100,000 population (USDHHS, NCHS, 1988). By 1985, this had increased to 535,000 and 220 per 100,000 population. It is projected that this number will increase to almost 700,000 by the year 2,000 and 260 per 100,000 population (Spiegel & Hyman, 1991).

This increase in the number of physicians has many ramifications for health care in terms of access, quality, availability and costs. There will certainly be more physicians voluntarily practicing in communities where few or no physicians previously worked, resulting in a better geographic distribution. With more American educated physicians, the quality of care to which Americans are accustomed may also

improve. Physicians will also begin competing with each other for patients by offering high-quality care at competitive prices. Offsetting these gains, medical costs generated by physicians through their own fees and the use of expensive equipment, inpatient hospital services, drugs, and allied medical personnel can be expected to go much higher (Spiegel & Hyman, 1991).

While a physician surplus is predicted with changing roles in hospitals, substantial nursing shortage of 13% and more also exist (Tolchin, 1988). There are about 1.6 million practicing nurses. Yet there is also an estimated shortage of 200,000 to 300,000 nurses to meet hospital and other health care needs. At the same time, enrollment in nursing schools declined about 10% since 1974. This leads to a bidding war for nurses, but hospitals are constrained to DRG reimbursement patterns in the salaries offered to nurses (Spiegel & Hyman, 1991).

Management practices are obviously needed by hospitals and health care systems to adequately deal with these two opposing types of professional personnel issues, a physician surplus and a nursing shortage. Health care delivery in hospitals should be looked at as a package and all the departments and personnel responsible for delivering that package should be effectively coordinated for efficiency at a minimal cost to increase profit margins for hospitals.

Cost containment is an issue that strategic health planners will have to face by predicting and reacting to anticipated government actions to control costs. DRGs and the use of PROs are only two of the most potent and recent efforts undertaken by the federal government to reduce medical costs (Spiegel & Kavalier, 1986). In fact,

Pinkney (1989) reports that \$3.5 billion in cuts are expected annually in health programs. Many corporations are shifting some of the burden of paying for medical costs to their employees through deductibles, co-insurance, and reduced benefit options. given the huge national domestic trade debts, there is little room for expanding present health benefit programs (Spiegel & Hyman, 1991).

The questions then are what will this mean for the capacity of health care providers to grow and meet the needs of its patient population? What impact will this have on the quality and availability of care? What are the implications for the ability of health care providers to meet the costs of treating the poor and the uninsured? More than ever before, health care providers will have to engage in strategic planning and management for their own future survival and possible growth. Health care managers will have to constantly examine and re-examine their mission statements, goals and objectives and see if they are still viable in a fast-changing health care environment.

HEALTH CARE SYSTEMS REACTIONS

1. STRATEGIC MANAGEMENT

Health care organizations and systems are implementing a variety of changes in their internal organizations and structures, including: diversification into new lines of health related and non-health related businesses, such as home care, hospice, medical supply sales, retirement homes, HMOs and preferred provider organizations (PPOs), real estate holding companies, and restaurants; conversion of existing services to new services through alternative uses of beds for long-term or acute care based on current

needs; corporate restructuring through the modification of existing legal, tax, and management structures; and elimination of programs or services that can be more effectively or less expensively delivered. The two most dramatic trends are the addition of home health care to the services provided by for-profit health organizations with the aim of improving bottom lines, and the continued growth in free-standing ambulatory services such as surgi-centers and urgent care centers (which are owned by hospitals, HMOs, physicians, or a combination of the three (Simyar & Lloyd-Jones, 1988). Innovation is needed to seek alternatives that will match health care systems' abundant resources against the threats and opportunities in the external environment, one that will recommend a maximum diversification model to increase revenue and reduce operating expenses. A management model to provide direction through mission statements and objectives (through which the mission is to be accomplished) is needed in the health care industry.

The current age of health care is a period marked by ultracompetitiveness, alternative delivery systems, shrinking resources, and increased public scrutiny. The difference between the successful organization and the "alsoran" or failing institution will be intelligent progressive management from the board and the CEO to the first-line supervisors. The premier health care manager of the 1990s is the one who skillfully incorporates ethical standards, progressive people management, and innovative leadership strategies into a winning approach for optimum efficiency and maximum effectiveness (Lombardi, 1992).

Today's CEO has to be an entrepreneur, financial analyst, market analyst, and

public relations specialist, as well as general manager. It is evident that traditional methods of long-range planning, with their inward focus on budgets and staff, have become inadequate for our health care institutions. Faced with much the same situation, the profit sector has, over the past decade, developed a body of concepts and techniques known as strategic management. Strategic management provides a framework for expanding general management role and helps management respond to a rapidly changing world (Simyar and Lloyd-Jones, 1988).

As health care needs change, the most successful organizations will be those that respond pro-actively to the new demands. In addition, changing social values and increasing government interaction will demand response from health care institutions if they are to thrive, instead of being reluctantly carried along into the twenty-first century. Contemporary strategic management differs from traditional long-range planning in that it emphasizes discerning and understanding an organization's external environment, including competitive conditions, threats, and opportunities. Strategic management helps managers develop a greater sensitivity to the changing external world and helps an organization to thrive by capitalizing on its existing strength (Simyar & Lloyd-Jones, 1988).

An underlying activity in the strategic management process is surveillance. For the strategist to make wise decisions and plans, it is necessary to obtain information about both the external and internal environment. The CEO's staff must establish the intelligence units. This may be very informal, involving employees and reports, journals, and friends. In some large units the network is formalized to include

surveys, special studies and reports, and consultants. Whatever approach is used, it is necessary that a communication network be established because no health service establishment is a unit unto itself at this time when there is such turbulence in the environment (Schulz & Johnson, 1990).

The adoption and further development of strategic management will provide many benefits to health care organizations. Although a number of empirical studies indicate that organizations that successfully adopt a strategic management approach may reasonably expect improved financial performance, strategic management is not simply a technique for improving long-term financial performance. Strategic management is a philosophy or way of managing an organization; therefore, the benefits of strategic management are not always quantifiable. The practice of strategic management ties the organization together within a common sense of purpose and shared values. It enables the organization to develop a clear self-concept, specific goals, and consistency in decision making. Strategic management asks managers to understand the present and think about the future. The process of strategic management requires that managers communicate both vertically and horizontally within the organization. Since all levels of managers are asked to think strategically, overall coordination is often improved dramatically. Finally, strategic management encourages innovation and reduces resistance to change within the organization in order to meet the needs of dynamic situations. In fact, strategic managers realize that change, which often "flies in the face of tradition," is the key to success (Duncan et al. 1992).

Strategic management implies more than just the construction of a plan for directing an enterprise. It is, more importantly, an approach to management that encourages key administrators to think innovatively and act strategically—with a future in mind. It is a way of thinking what can best be compared to that of a sailboat skipper who checks the conditions, knows the craft's capabilities, senses opportunities and threats, and, based on this information, continually repositions his craft in a manner gaged to make the fastest progress (Simyar & Lloyd-Jones, 1988).

Strategic management is especially relevant in the health care sector because of the dramatic changes taking place in health care services delivery:

- Community hospitals continue to close while multi-hospital systems grow.
- Government at several levels is becoming increasingly involved in defining standards for the health care services for which it pays.
- The current abundance of physicians may lead to more competition and less personal career satisfaction.
- New providers are emerging to compete with existing providers.

This turbulent environment raises the need for a process, a way of thinking, an attitude that encourages health care executives to continuously monitor the environment and orchestrate the use of available resources so he/she can gain a competitive advantage. Strategic management can enable an enterprise to attain desired goals, meet societal expectations, anticipate future problems, take advantage of profitable (in the larger sense of the word) opportunities; in short, it can provide the members of the organization with a game plan (Simyar & Lloyd-Jones, 1988).

STRATEGIC PLANNING:

Strategic planning begins with an external and internal environmental analyses. The external and internal analyses lead to the identification and analysis of critical strategic issues. Strategic alternatives emerge from the analysis of issues. The external, internal, and issues analyses provide the background and inform the development or reshaping of an institution's mission. The development of goals and objectives set institutional strategies and link organizational activities to strategies (Flexner, Berkowitz & Brown, 1981).

The full range of external forces affecting a particular hospital need to be realistically identified, and the potential impact of these forces needs to be assessed. The mapping of the external environment sets the territorial boundaries for future hospital operations, defines and assesses the actual and potential markets, identifies franchise opportunities and constraints, and provides the basis for assessing how the institution "stacks up" against its neighbors and competitors (not necessarily one and the same). Without an accurate "environmental assessment," a hospital may adopt unrealistic planning goals. The external assessment, leading toward strategy choices, involves detailed examination of many critical interfaces between the hospital and its environment (Flexner et al. 1981).

Simyar et al. (1988) identify the following eight steps in strategic health planning process:

1. Identifying the organization's current position including present mission, long-term objectives, strategies, and policies.

2. Analyzing the environment
3. Conducting an organizational audit.
4. Identifying the various alternative strategies based on the relevant data.
5. Selecting the best alternative.
6. Gaining acceptance of the chosen strategy.
7. Preparing long-range and short-range plans to support and carry out the strategy.
8. Implementing the plan and conducting an ongoing evaluation.

Characteristics of Strategic Planning

Strategic planning is not just master planning with a few additional considerations. It is a dramatically different approach to planning. Four important features of effective strategic planning as compared to master planning are (1) a shift in orientation from producing services to marketing, (2) recognition that the mission statement is not the starting point of planning, (3) realization that planning is a political, not simply a technical exercise and (4) understanding that planning is an integral part of management (Rowland & Rowland, 1984).

The change in orientation from producing services to marketing converts the primary question from "what services do I want to deliver?" to "What services are needed?" and "Who will purchase them?" The starting point for the planning process is also changed. Instead of asking hospital personnel "What services do you want to sponsor?" planning starts with inquiries to identify consumer needs that are not currently being met (Rowland et al. 1984). Rowland et al. (1984) believe that,

traditionally, hospitals (like most complex institutions) operate on a set of implicit assumptions and beliefs that define organizational identity and relationships with the outside world. These contribute to the creation of an "organizational mythology" which underlies their perception of the organization's basic role and purpose--the mission of the organization. Unchallenged, this mythology can lead to planning for inappropriate roles in a context of unrealistic expectations. Strategic planning, however, does not start with assumptions about institutional mission. Rather, the goal/role elements of a strategic plan are derived only after external and internal assessments are completed, and the associated mythologies fully probed and tested. In addition, an attempt to modify the perspectives of key publics (or power holders) is a legitimate political objective of strategic planning. Technical data will contribute, and contribute substantially, to strategic decision making, but that alone is not sufficient to ensure successful implementation. Good plans must be complemented by an emphasis on political process and negotiation.

According to Shortell et al. (1990), the top strategic planning priorities reported by American Medical Internal (AMI) executives in 1985 involved further diversification into nonhospital but health-related lines of business, growth in revenues and prestige, and strengthening the management infrastructure of the corporation. The justification for the corporate-level priority to diversify was overwhelmingly reported to be the need to "protect the base business" of general acute care, which was perceived as facing current and increasing hostility in the public and private

payment environment. The system's strategic response to that hostility was to create new sources of revenue outside this hostile environment and "hunker-down" for defense within that environment. Corporate executives unanimously reported the hospital strategic planning process as "bottom up," that is, it developed in content and form at the hospital level and worked up through the regional level. Corporate marketing, management information systems, and human resources departments provide direct support and education opportunities to the hospitals but not strategic direction. The system's strategic planners were reported to play a minor role in hospital planning, instead focusing their efforts on the system as a whole. There were no system-wide criteria for medical staff credentialing and no standard criteria for service pricing at the hospital level. Hospital CEOs were evaluated on their ability to make their bottom line, achievement of individually determined performance objectives, demonstration of strengthening relationships with their medical staffs, and, more recently, achieving patient satisfaction and clinical standards.

MANAGEMENT BY OBJECTIVES (MBO):

The MBO system begins with the establishment of overall objectives for total organization for the target period. MBO is adaptable to any type of organization as long as that organization has a mission to perform. The only difference is that the type and content of the objectives will differ. Once the top objectives have been approved, the next step is to translate them into the required action each manager in the organization must take. The objective-setting process is complete when each of

the managers--both line and staff and at all levels from top management down to and including the lowest-level manager--has objectives that, when added up, will at least equal the overall objectives of the enterprise. Another way to describe MBO is that it is the full, in-depth delegation of pieces of the overall organizational objectives down the line so that each manager is accountable for accomplishing part of the higher-level objectives (McConkey, 1975).

Managing by objectives involved a series of interrelated elements. The essential elements in the MBO process include: **Goal Setting**--The heart of managing by objectives lies in establishing tangible, measurable, and verifiable objectives in key areas of performance. Although overall organizational goals generally constitute a starting point, a distinction is made between those goals which are specific targets (example, the rate of return for a given period) and those nebulous statements which remain unchanged from year to year (example, "sound customer relations"). Once specific overall goals have been established, the step-by-step process of translating them into required action throughout the organization begins. **Action Planning**--While a clear set of objectives reflects the "ends" for their attainment. Action planning involves determining what, who, when, where and how much is needed to achieve a given objective. It is a practical way of providing a connecting link between the statement of an objective and a more complete program of implementation. **Self-Control**--Inherent in the process is the notion that the individual, not his superior, will control his own behavior and the activities required to implement the action plan and to achieve the objectives. Self-control requires meaningful participation in the goal-

setting and action-planning process, resulting in a better understanding and a higher level of commitment to the objectives. The individual must also, however, be given the feedback and information he needs to assess progress and to take corrective action on his own. **Periodic Reviews**—Systematic reviews designed to assess progress and performance in terms of established objectives are fundamental to the success of the process. Problem areas are identified and obstacles removed so that additional levels of success and new objectives can be established. Periodic reviews, or “coaching” sessions, should be held as frequently as practicable during the goal period. They may be conducted on a one-on-one basis or in small groups (Raia, 1974).

DEMING QUALITY METHOD MANAGEMENT:

Proposed by Edwards Deming, this management technique emphasizes achieving uniform results during production rather than through inspection at the end of the production line. In essence it is a quality control measure. Through its 14 points quality management, the Deming technique could be used to build quality, cut costs, improve productivity, and increase both customer and employee satisfaction (Time, January 3, 1994).

Statistical control as ensured by the production department and manifest by control charts is the best guarantee that quality is being built into the article; nevertheless, a final verification of quality through an acceptance procedure may be desirable, particularly if doubt exists concerning the maintenance of statistical control. Acceptance-plans deal with inspection of the finished item. But long before the item

arrives at this stage, its quality is pretty well determined. If in various important stages of a production process, whether machine or human, a state of statistical control has been achieved, then there is no evidence of avoidable variability, although a different procedure for selecting the "control-sample" might bring to light new evidence disclosing lack of control in some particular operation (Deming, 1961).

Deming (1961) continued by saying that it is imperative for many items of manufacture to lay down specification and tests for weight, thickness, diameter, breaking strength, finish, etc; by which an article can definitely be classed as conforming or nonconforming, even if in many cases the specifications and the test must be partially arbitrary. Deming quality control method management has been ensured in acute care hospitals and health care systems through the creation of quality control department, which describes, maintains, and delivers standard health services to the patients.

SUMMARY OF COMMONWEALTH HOSPITAL INDUSTRY FINANCIAL PERFORMANCE 1988 THROUGH 1992:

The Commonwealth of Virginia's acute care hospitals have enjoyed some level of success in net profit between 1988 and 1992. The revenues of Virginia hospitals increased between 1988 and 1992. Hospital revenues almost doubled between 1988 and 1992. In 1992, industry revenues approached \$8 billion, up from approximately \$4 billion in 1988. The majority of hospitals in the State are diversified not-for-profit institutions, and these hospitals account for the majority of revenues collected. Since

1988, hospital industry net profits have increased from just over \$200 million to over \$350 million. As shown in Figure 8, hospital industry net profits declined slightly in 1990 but have increased each year thereafter (Virginia Health Services Cost Review Council, 1992).

Also as shown in figure 12, hospital industry net equity increased from just over \$2 billion in 1988 to about \$3 billion in 1992. In general, Virginia hospitals have experienced positive returns on the assets they employed. Diversified not-for-profit hospitals turned in the poorest performance of any group in 1988 with a median return of negative 4%; however, the median return for those hospitals improved steadily each year thereafter. In 1992, the median return on asset (ROA) (5.8%) of diversified not-for-profit hospitals which also increased their median value each year until 1992. The median ROA for non-diversified not-for-profit hospitals was only slightly lower in 1992 (4.7%) than in 1991 (4.8%) (Virginia Health Services Cost Review Council, 1992).

From 1988 to 1992, the not-for-profit sectors, both diversified and non-diversified, reported median return on equity (ROE) values in a somewhat narrow range, 3.1% to 10%. The median ROEs for the diversified not-for-profit sector have consistently exceeded those of the non-diversified not-for-profit sector. In fact, in 1992, the median ROE (9.9%) for diversified not-for-profit hospitals exceeded that of all other sectors of the industry, both not-for-profit and for-profit.

The median net profit as a percent of revenue ratios given in Figure 16 of Appendix B support earlier findings on hospital profitability. Over the years,

diversified not-for-profit hospitals have shown fairly stable performance with median net profit/revenue ratios between 3.5% to 4.4%. Their non-diversified not-for-profit counterparts have generally shown lower but fairly stable median measures between 1% and 3.7% (Virginia Health Services Cost Review Council: Commercial Diversification Survey of Virginia Hospitals [VHSCRC], December 1, 1992).

In summary, as revealed through median ROA, ROE, and net profit/revenue ratios, the Virginia hospital industry has been profitable between the years 1988 and 1992. The diversified for-profit and not-for-profit sectors turned in the highest median profitability ratios during 1992 (VHSCRC, 1992).

RESEARCH FINDINGS IN HEALTH CARE DELIVERY PROFITABILITY:

A financial plan can be thought of as a bridge between a current balance sheet and a balance sheet at some future date. The bridge consists of three spans: first, the plan must specify what growth rate and level of investment in assets should be at future dates. This span is directly linked to the strategic planning outcome that defines desired programs. Second, the plan must specify the profitability rate or the amount of equity financing that will be available. This span is dependent upon the definition and profit rates of the desired programs. The third and final span involves the definition of debt capacity. Having defined required investment and available equity, the amount of debt is predetermined. However, the plan must assess both the desirability and the feasibility of the required debt levels (Cleverly, 1978).

Steve R. Eastaugh (1992) conducted a research on hospital strategy and

financial performance in which he recognized four archetype strategies: (1) defender, (2) analyzer, (3) prospector, and (4) reactor. Defenders emphasize operational management, improving productivity, cutting excess variable costs, and achieving cost leadership (lower expense, better profit margins). Prospectors serve broadly defined dynamic markets. They grow by systematically generating new products and identifying new markets. Analyzers, exhibiting characteristics of both prospectors and defenders, serve a mixture of stable and changing markets, and occupy the middle ground on the innovativeness dimension. Reactors lack a clearly defined strategic focus and frequently change their business definition and scope.

The result shows that the smallest declines in operating profit margins as a percentage of net revenues occurred in the productivity defender group, whereas the biggest downturn in profit margins occurred in the aggressive prospector group. The worst profit margins in all years were turned in by passive reactors.

The results suggest a link between degree of diversification and profitability. The results suggest that the link between diversification and operating margin is nonlinear: Too much or too little diversification results in a more rapid decline in operating margin. The middle of the road strategy, moderate diversification yielded the best financial results. Over 90% of prospectors reported high levels of diversification, and reactors reported low diversification.

Smith, Piland & Funk (1992) conducted research to examine strategic planning's impact on rural hospital and rural nursing facility performance, organizational characteristic, and strategy in New Mexico. The findings suggest that

strategic planning in rural hospitals is strongly associated with higher profits, operating margins and planning effectiveness, and associated to a lesser extent with lower costs and higher revenues per patient day. Significantly ($p < .5$) higher average profits, operating margins, and planning system effectiveness are reported by hospitals with highly developed strategic planning. Hospitals with highly developed strategic planning also report comparatively lower costs and higher patient care revenues per patient day.

In a study designed to examine the critical strategies for successful rural hospitals (Cleverly & Harvey, 1992) clearly discovered that cost reduction or containment is a critical factor in improving return on investment (ROI). Furthermore, the data seem to suggest that four specific cost strategies have been used by high ROI hospitals. First, strict attention to length of stay appears to be of paramount importance. The high ROI average Medicare length of stay (LOS) after adjusting for case mix was .25 days lower than the low ROI group. The regression results suggested that, for every one-day reduction in Medicare case-adjusted LOS, ROI would increase by 1.09%. This result is similar to earlier studies that were conducted on large urban hospitals. There, the potential impact of a one-day reduction in Medicare case-adjusted LOS was a .74% increase in ROI.

Second, labor productivity appears to be critically related to financial performance. Because labor costs comprise such a large percentage of hospital's total budget, this finding is not surprising. Much of the difference between the high and low ROI hospitals, however, can be related back to LOS differences.

Overhead cost control is the third strategy used by high-performance hospitals.

General services costs per discharge, which represent costs from nonpatient care departments such as laundry, housekeeping, and administration, contribute to high percentage of a hospital's total costs. High ROI hospitals exert much greater control over nondirect patient care costs and therefore achieve significantly lower total costs.

Finally, this study's results confirm that hospitals should consider substituting capital for labor where possible. Hospitals that have higher capital expense ratios do have better ROI.

HUMAN RESOURCE MANAGEMENT:

Employee Retention in Health Care Organizations. A comprehensive study of employee retention in health care organizations suggest the following five-part program for retaining valued employees.

1. **Pay for Productivity:** Health care organizations of all types are attempting to reduce personnel costs. Accomplishing this objective will require that the most productive employee be retained and rewarded for exceptional performance that leads to significant productivity improvement.
2. **Employee Development:** Employees, especially professionals, view their current jobs from the perspective of career development. Effective strategies demand that employees be given incentives and rewards for continuing their professional development.

3. **Matching goals:** Beginning with initial recruitment, increased attention is needed to ensure that individual and organizational goals match. One effective motivator, as noted is to constantly keep the vision and purpose of the organization before all employees and do everything possible to ensure that the vision and purpose are related to individual aspirations.
4. **Voicing Dissatisfaction:** To keep valued employees, health care managers should provide opportunities for people to voice dissatisfactions rather than allow an atmosphere of fear and intimidation to be created.
5. **Reward Loyalty:** While longevity is not necessarily related to performance, those employees who remain loyal to the organization over the long term should be recognized and rewarded.

Human Resource Management and Hospital Employee Turnover--Results from an Empirical Study

The rate of RN turnover in most of the nation's acute care hospitals is very high--as high as 60% to 200% in some hospitals. Hawaii follows this pattern. Salaries have historically been low. Until recently, nurses made less money practicing their chosen profession than waitresses or grocery store clerks. Hospital working conditions for nurses are frequently less attractive than conditions in other areas of nursing practices and other professions. Most staff RNs are expected to rotate shifts,

work at least three out of four weekends, and about one-half of all holidays (Helmer & McKnight, 1989).

In 1986, in preparation for contract negotiations with Honolulu's five major hospitals, the HNA/CBO distributed a questionnaire to the RNs in those hospitals. RNs were asked: "Many units (in Hawaii) are experiencing great nursing shortages. What three solutions, in order of priority, do you think would most resolve this problem of gaining and retaining nurses?" The question was open ended; no answers were suggested. There were a total of 958 responses from 429 RNs out of nearly 1,500 RNs represented by the CBO in those five hospitals, a response rate of over 30%. The respondents made an average of slightly more than two suggestions each. Eighty-five percent of the RNs who responded to the HNA/CBO survey identified as a top priority the flexible staffing and scheduling to support patient care needs.

The next highest priority cited in the HNA/CBO survey results was a strong, supportive administration, listed by 45% of the respondents.

The third priority (20% of respondents) include a number of economic questions that were not under negotiation; parking, pension, vacation, and reimbursement for unused sick leave. The most controversial issue was parking. Physicians and medical students do not pay for parking; nurses and student nurses do (Helmer & McKnight, 1989).

This finding reinforced a previous study. The first four factors listed by the 1983 magnet hospital staff (RNs) as among the most important in promoting recruitment and retention of staff were:

1. Nurse-patient ratio that insures quality care.
2. Flexible staffing to support patient care needs.
3. Flexible scheduling (and elimination of rotating shifts).
4. Strong, supportive nursing administration (Helmer & McKnight, 1989)

Commonwealth of Virginia Health Manpower Survey--Staff Turnover

The rate at which professionals leave the hospital can often worsen a manpower shortage. Previous Virginia Hospital Association (VHA) manpower surveys calculated nursing turnover rates (the number of employees who leave employment during the year as compared to the total number employed), at fairly consistent rate of 16% to 17%. The 1993 survey shows a significant reduction in RN turnover--down to 12.3%. A sluggish economy may have created this reduction, making many reluctant to move or change jobs.

For the first time in 1993, employee turnover rate was calculated for the eighteen other professions and, therefore, comparative State data is not available. National data is very limited and does not provide adequate comparison to our State turnover rates. As a result the turnover rates are shown only as calculated for 1993.

1993 TURNOVER RATES

Occupational Therapy Assistant	41.4%*
Physical Therapist	27.7%*
Occupational Therapist	22.9%*
Medical Laboratory Technician	20.7%*
Nuclear Medicine Technologist	20.5%
Ultrasound Technologist	20.3%*
LPN	18.1%
Dietitian	17.5%
Medical Records Technician	14.0%
Respiratory Therapy Technician	13.9%
Pharmacist	13.1%
Respiratory Therapist	12.6%
Radiation Therapist	12.4%
Radiologic Therapist	12.1%
Histotechnologist	12.1%
CRNA	10.9%
Medical Technologist	9.3%
Cytotechnologist	5.1%

Those professions marked above also have high vacancy rates and/or growing vacancy rates, and the rate of turnover is compounding the recruiting problems in these areas (VHA Health Manpower Survey, 1993).

MARKET AND POTENTIAL MARKET SHARES:

Determination of the needs of the public is one of the basic research efforts of marketing. Needs assessments that identify the strengths and weaknesses of present programs and services relative to the various public's are a requirement of successful marketing. Such activities also examine the changing environment within which the hospitals exist (Schulz & Johnson, 1990).

Fink (1985), in research entitled "Marketing the Hospital" suggests that the hospital should begin with an analysis of utilization records over the past several years and tie this information to financial data. This will give input regarding services and

programs used by patients and physicians over the period of study. He says, "The hospital should try to determine the needs, wants and attitudes of its major market segment."

MacStravic (1985), also points out in his research entitled, "Health Care Marketing Needs Rational, Ethical Approach," that marketing professionals in business settings have defined "need" in terms of what products or services consumers want to buy. He also suggests that marketing research involves determining motives of customers or publics and the subconscious factors that influence buying. However, health care planning and delivery have defined "need" in a different context. Need is defined in terms of "what persons should be provided in order to protect, promote, or restore health" (p. 60). He goes on to say that health-related needs are determined by the identification of the incidence of given disease or injury and the risk factors associated with it.

Schulz and Johnson (1990) continued by saying that it is the health care professional's decision-making function to relate these determined-by-assessment techniques, such as surveys, or population studies, to the ability of the hospital to meet such demands and expectations. No service or program can be completely controlled by a hospital in today's environment of competing organizations, planning agencies, rate review boards, and third-party reimbursement policies and practices.

In addition, MacStravic (1985), indicates four errors hospitals related health care organizations often make concerning needs.

1. It may ignore unmet needs and satisfy itself that as long as it

serves all who enters its doors, it has fulfilled its obligation.

2. It may provide services in excess of need, perhaps excusing itself on the grounds that it is providing what the consumer wants.
3. It fully accepts its obligation to serve the community, but fails to ration the community's scarce resources; it insists on developing capacity in response to need but ignores the extent of demand producing overblown capacity and under-utilization.
4. The biggest danger in health care services facilities' need-oriented approach is that obligation, not cost, is usually placed first.

In fact, other researchers recently conducted a study to examine how employers evaluate and select health plans, using a random sample of almost 4,000 Minnesota businesses. Approximately 45% of the respondents stated that they actively shop for different health plans prior to the current contract's expiration date. The most diligent shoppers were firms with 250 or more employees offering only one health plan. About one-half of the firms let the current contracts expire, citing cost of coverage as the determining factor (Dowd, Feldman & Klein, 1987).

To conduct effective marketing, any organization, irrespective of its size, must understand who its clients are, what their needs are, how satisfied they are with current services, and the effects of current marketing efforts (Solomon, 1990). These questions can be addressed qualitatively through focus groups (Hisrich & Peters, 1982) or

quantitatively by having patients complete surveys (Cooper & Hisrich, 1987).

Still on the issue of market share, Smith & Clark (1990), argued that patients clearly do have some input in the hospital selection process. Further, the choice process is understood to vary by the type of care needed and the urgency of the need. King & Haefner (1988) found that 47.3% of the respondents rated the hospital at which the physician practiced to be extremely important. In a review of the literature, Land & Lundquist (1989) found that patients make the selection decision between 22% and 50% of the time. One survey of the physicians alone made 65.2% of hospital choice decisions, whereas 32.7% of choice decisions were made jointly by the physician and patient and only 2.1% were made solely by the patient (Smith, 1984). The findings are different when individual specialties are evaluated. For obstetrical services, Anderson (1982) reports that 59.2% of the women indicated, "The doctor gave me a choice of the hospital and I selected. . ." Similar results are reported by Deveny, Atchison & Flynn (1986). Wright, Wright & Parsons (1982) found that 54% of patients indicated that they selected hospital for maternity care. Results of noncritical medical care approximated those for obstetrical/gynecological care, with 45% of patients indicating that they selected the care facility (Anderson, 1983).

A study conducted on the effects of hospital advertising on the choice for hospitals at the New Orleans Metropolitan area (Fisher & Anderson, 1990) reveal that a total of 502 complete surveys were obtained over the phone. Both for the sample as a whole and for households that had experienced hospitalization, the physician's recommendation was the primary reason given for choosing a hospital. Indeed, all of the reasons received the

same rankings by the overall groups with the exception of recommendation of family members. Advertising received few mentions as playing a role in the decision process, despite the fact that more than 75% of the respondents reported that they recalled having seen advertising from a local hospital.

Health care satisfaction which has long been an influence in determining a health systems market share was made a research theme by Dolinsky and Caputo in 1990. The authors used data drawn from the Kaiser Foundation National Health Care Survey conducted by Louis Harris and Associates in (1984). Those data comprise four nationally representative samples: HMO members, a cross-section of the U.S. public, corporate employers, and physicians. They examined only the HMO member and public cross-section samples. Sampling for the public cross-section was done by the random-digit dialing method on an unclustered sampling frame, stratified by region and by Census Bureau's "Size of Place." The sampling procedure for HMO members involved selecting sampling areas of the public cross-section (Largely limited to SMSAs) where one or more HMOs were located.

Both the HMO sample and the public non-HMO sample reported a considerable degree of satisfaction with their respective health care systems and each of the health care attributes. For both samples, each of the listed health care attributes (e.g., see doctor when needed, quality of doctor, see specialist when needed, etc.) is statistically significant in explaining health care satisfaction. Overall, the explanatory power of the regression models is substantial. The HMO model explains roughly 33% of the variation of its sample's health satisfaction ($R^2 = .289$) (Dolinsky & Caputo, 1990). Such levels of

explained satisfaction compare favorably with those found in previous investigations (Fincham & Wertheimer, 1986).

Market share has been proposed by many to be a strategy goal for success in business. Greater market share is believed to provide greater pricing liberty and better opportunities for economics of scale. Measuring market share is difficult in most empirical studies because defining the market is very complex. Buzzell and Gayle developed the concept of "served market." A served market represents the portion of the total market that the firm serves either because of production or marketing limitations. A hospital's market area is very complex to define, and it may vary for different services (Cleverly & Harvey, 1992).

CHAPTER 3

RESEARCH METHODOLOGY

DESCRIPTION OF THE RESEARCH METHODOLOGY: SURVEY

In order to assess the various management processes being used in Virginia acute care hospitals and the likely effects they may have on the hospitals regarding profitability, market share, market growth potential, and personnel (staff) turnover rates, the survey method with appropriate questions addressing these areas of concern will be used to collect the data.

To enable the gathering of this data, questionnaires will be mailed out to the individual hospital CEOs for responses. To enable quicker and easier responses from the respondents, a self-addressed envelope will be enclosed with each of the questionnaires. The questions surrounding the reliability and validity of these questionnaires will be addressed later.

An executive summary instructing the respondents on how to complete the questionnaires will also be enclosed. The executive summary will advise the respondents on the importance of the study, the time required to complete the questionnaires, and the desirous nature of their responses to the questionnaires. Within a two-week period, a reminder will be sent to the CEOs concerning the completion and return of the questionnaires.

SELECTION OF SUBJECTS--SAMPLING:

Sampling Consideration: A population sampling procedure was used in this study. There are a total of 127 acute care hospitals in the Commonwealth of Virginia. The list was obtained from American Hospital Association and confirmed by comparison to the Virginia Hospital Association List. The reason for the inclusion of all the hospitals in the survey was because of the relative small number of the hospitals. In this situation, the sampling consideration (inclusion of all respondents) does represent the parent population. This study will not suffer from sampling error since all possible respondents are included and this allows reasonable generalization of research findings to the population. By including all respondents in the sampling frame in this survey, the study is also able to avoid sampling error or standard error. This is because, not only that the respondents have equal chances of being selected, but that all respondents affected by the study are selected.

Description of the Hospitals Surveyed:

The Commonwealth of Virginia planning districts and health services areas are divided into five health services areas. The services offered by these hospitals are grouped into six categories--medical/surgical, obstetrics, pediatrics, drug treatment, psychiatric and long term services. As of the 1990 census, the Virginia Center for Health Statistics had 102 hospitals registered by Virginia Hospital Association with the total of 22,587 licensed beds, representing 34.6 licensed beds per 1,000 total

population. the 1991 Commonwealth Health Statistics identified 19, 413 staffed bed capacity, a total number of admissions of 712,708 patients, generating 4,637,535 inpatient days, 4,658,856 discharge days, and a total of 710,471 discharges. The average daily aggregate census was 12,704.8, 56.2% of occupancy (based on licensed beds), with an average length of stay at 6.6 days. All the hospitals provided medical/surgical services, 74 (72.55%) provide obstetrics services, and 26(25.49%) provided long-term services (Virginia Center for Health Statistics, 1991.)

Instrumentation:

The instrument for the survey consisted of questionnaires fashioned to cover hospital profitability, market share, market growth potential, and finally staff turnover rates and consisted of four parts. Part A--General Management Survey--asked respondents questions on the primary management style being used in the facility, their business status on diversification, the region of the state where the facility is located, the proximity of the nearest acute care facility and if patient focused care was being uses in the facility and for how long.

Part B--Demographics--was used to solicit information from the facilities regarding the services they performed, information on the number of beds, total number of admissions the previous year, inpatient days, patient discharges, average daily census, occupancy percentage and the average length of patient stay in the facility.

Part C--hospital performance was used to gather information regarding the profitability of selected services within the facilities, the market share, market growth

potential, and personnel (staff) turnover rates.

Realizing that a health care facility's profitability, market share, market growth potential, and staff turnover rates could also be affected by the location and the proximity of the facility to the nearest hospitals in the same service line, six regions of the state were identified and the facilities were asked to identify the regions where they are located. They were also asked to identify the approximate populations of the region where they do business and the approximate number of miles their facility is from the nearest hospital in the same service line.

The essence is to categorize hospital performances on profitability, market share, market growth potential, and staff turnover rates according to the regions and to see if hospitals that serve exclusively large areas with huge populations and less competition are likely to perform better than other hospitals regardless of the management system they are using. This will help the study to determine if proximity and location of hospitals do affect their performances regardless of which management system they are using.

Lastly, the hospitals were asked to identify their business status in the form of nondiversified for-profit, nondiversified not-for-profit, identified for-profit and diversified not-for-profit. The study will also try to find out if significant differences in hospitals performances could be related to their diversification strategy.

RATIONALE AND THEORETICAL FRAMEWORK:

Different management strategies and processes have different rationales for their adoption and implementation by the hospital managements. Going through the

theoretical framework of the various management systems and their associated benefits will support their use by hospitals.

1. Strategic health care planning is based on corporate market planning in which the emphasis is in maximizing profits through control of a market segment. Identification of that market segment leads to the strategic formulation of methods of interdiction with those consumers interested in the products being offered. This is usually a long range plan and concentrates on improving internal efficiency and effectiveness (Spiegel & Hyman, 1991).
2. Strategic health care management is an externally oriented philosophy of managing an organization that links strategic planning to operational decision making. Strategic management attempts to achieve a fit between the organization's external environment (political, regulatory, economic, technological, social, and competitive forces) and its internal situation (vision, values, cultures, finance, organization, human resources, marketing, information systems and so on) (Duncan et al, 1992). Health care organizations that successfully adopt and implement strategic management are likely to improve their long term financial performance, provide their organizations with self-concept, specific goals, guidance, and consistency in decision making, and overall coordination is often improved in strategically managed organization (Duncan et al, 1992).

3. Management by objectives in the health care arena involves the incorporation of subordinates into the decision making process. Generally, CEOs and supervisors make known the purpose and objectives of the health care system and subordinates are allowed to propose objectives for themselves to accomplish the purpose of the institution and those objectives are discussed with the management and a compromise is reached. Usually this management method is undertaken to motivate employees which results in increased performance (Hampton, Summer & Webber, 1982).
4. The Deming Quality Method management proposed by Edwards Deming emphasizes achieving uniform results during production rather than through inspection at the end of the production line. In essence it is a quality control measure. Through its 14 points quality management, the Deming technique could be used to build quality, cut costs, improve productivity, and increase both customer and employee satisfaction (Time , January 3, 1994).

The various management systems have their benefits and attributes and the results of this study should provide information that will determine whether there are statistically significant status differences regarding profitability, market share, market growth potential, and staff turnover rates based on management practices.

DATA PROCESSING AND ANALYSIS:

In order to investigate the difference among the various management systems

in regard to the profitability, market share, market growth potential and staff turnover rates, the analysis of variance technique will be explored. Analysis of variance--often abbreviated with the acronym ANOVA--is a broad class of techniques for identifying and measuring the various sources of variation within a collection of data (Kachigan, 1986). The null hypotheses which are to be tested by this statistic model essentially state that "there are no statistically significant status differences regarding profitability, market share, market growth potential, and staff turnover rates based on management practices.

Analysis of variance is the most powerful statistical technique that could be employed to analyze differences between alternative methods of systems of doing or achieving something. It can be used for identifying relationships between predictor--(the different management systems) and criterion--(hospital profitability, market share, market growth potential, and staff turnover rates (Kachigan, 1985).

Essentially, the study will use the analysis of variance technique to determine the tenability of the alternative hypotheses of difference. The alternative hypotheses or difference states that differences in hospital performances could be associated to the different management systems used by the hospitals. To test the credibility of the hypotheses, the study will take advantage of the F distribution.

The same analysis of variance technique will be used to test if significant differences exist in hospital performances due to different diversification strategies chosen by the hospitals. And finally, the same technique will be used to find out if significant differences exist in the hospitals' performances due to the region of

location and the proximity of the next acute care hospital to the facility.

If significant differences occur in hospital performances due to the management practices, then the study will reject the null hypothesis of no difference and vice versa. The SAS System will be used in this computation.

RESEARCH QUESTIONS FOR INVESTIGATION:

The following are the research questions to be investigated in this study:

1. Are there statistically significant status differences regarding profitability based on management practices?
2. Are there statistically significant status differences regarding staff turnover rates based on management practices?
3. Are there statistically significant status differences regarding market share based on management practices?
4. Are there statistically significant status differences regarding market growth potential based on management practices?

RELIABILITY AND VALIDITY CONCERNS:

Reliability: Reliability refers to the accuracy (consistency and stability) of measurement by a test. There are various components that may contribute to inconsistency among observations: (a) response variation by the subject, (b) variation in test content, (c) variation in administration, (d) variations in the process of observation (Isaac & Michael, 1981). In order to ensure the accuracy (consistency and stability) of the questionnaire responses, the information solicited from the

respondents were facts contained in the hospitals' records. The responses solicited from the respondents were not subjective but objective in nature. Also to ensure against systematic variance (situation where scores tend to be all positive or all negative or all high or low) and random or error variance (situation where scores tend to lean this way, now that way) (Kerlinger, 1986), the respondents were advised to remain anonymous. The researcher reasonably expects the responses to remain consistent regardless of which executive officer completes the questionnaires.

Validity: The commonest definition of validity is epitomized by the question: Are we measuring what we think we are measuring? The emphasis in this question is on what is being measured (Kerlinger, 1986). Validity concerns center on whether the instrument is measuring what it purports to measure. The questionnaires in this study being used to measure hospital profitability, market share, and market growth potential were originally developed and validated by the Center for Health Services and Policy Research at Northwestern University. The questionnaires were originally used in a study entitled "Strategic Choices for America's Hospital--Managing Change in Turbulent Time" conducted by Shortell, Morrison and Friedman (1989). The questionnaire on personnel (staff) turnover rates was adapted from Virginia Hospital Association--Health Manpower Survey (1993). The questionnaire was originally validated by Virginia Hospital Association and used in the 1992 Virginia Hospital Association Manpower Survey.

FINDINGS (ANALYSIS AND EVALUATION)

MODEL – ONE WAY ANALYSIS OF VARIANCE

$$Y_{ij} = M + a_i + E_{ij}$$

y^{ij} = Score of j th person with i th management plan

a_i = effect due to i th management plan

E_{ij} = random error

M = overall mean

$i = 1, 2, 3, \dots 6$

$j = 1, 2, 3, 4, 5, \dots 25$

$$H_0 = a_1 = a_2 = a_3 = a_4 = a_5 = a_6$$

Level of significance = 0.05

If P-value < 0.05

Reject H_0

CONCLUSION: There is significant effect of the different management plans used on the market share.

If P-value > 0.05

Do not reject H_0

CONCLUSION: No effect of the different management plans on the market share of the hospitals.

NOTATION:

Plan = Management Plans

Location = The different regions of the state.

B Status = Business Status

S_1
 S_2
 S_3
 S_4
 S_5
 S_6
 S_7
 S_8
 S_9
 S_{10}
 S_{11}
 S_{12}
 S_{13}
 S_{14}
 S_{15}

The 15 health care services of the market share.

Market = Overall Market Share

gp_1
 gp_2
 gp_3
 gp_4
 gp_5
 gp_6
 gp_7
 gp_8
 gp_9
 gp_{10}
 gp_{11}
 gp_{12}
 gp_{13}
 gp_{14}
 gp_{15}

Fifteen health care services of market growth potential.

Growth P = Overall Growth Potential

st₁
st₂
st₃
st₄
st₅
st₆
st₇
st₈
st₉
st₁₀
st₁₁
st₁₂
st₁₃
st₁₄
st₁₅

Eighteen health care professions of the
staff turnover rate.

Staff to = Overall turnover rate.

CHAPTER 4

DEMOGRAPHIC DESCRIPTIONS OF RESPONDING HOSPITALS AND THE RESULTS OF THE ANALYSIS

The demographic descriptions and the results associated with the analysis of variance technique used in this study are provided below.

A total of 25 hospitals responded to the survey, a response rate of 25.02%. The responding hospitals had a total of (25×207.0) 5,175 licensed beds, an average of 207 beds per hospital and a median of 146 beds. These hospitals had a total of 138,600 admissions in 1993. The average admission per hospital was 5,544 patients and median admission was 4,167 patients. An average daily census of 97.89 patients and a median census of 68.50 patients were recorded for the hospitals. The percent occupancy (based on licensed beds) recorded last year for the responding hospitals was 49.88% and a median of 55%. The average length of stay for patients last year (1993) for the responding hospitals was 4.96 days and a median of 5.30 days. Refer to Table 2 on the next page for details.

The frequency distribution of the primary management styles by the hospitals are as follows: one hospital was reported having a combination of CQI/Deming Quality Management Method, another one as having a combination of Strategic Planning/New American Hospital PFC, another as having Juran-total Quality Management. Four hospitals reported using management by objectives method, four

Table 2

Demographics

#	x1	x2	x3	x4	x5	x6	x7	x8	x9
1	270.0	1.08	240.0						
2	111.0	4.10	48.0	1811.0	8279.0	1822.0	22.70	20.43	4.54
3	117.0	1.50	90.0	3483.0	16224.0	3279.0	44.45	38.00	4.66
4	90.0	2.57	83.0	3082.0	16450.0	3092.0	45.00	50.00	5.30
5	96.0	6.00	96.0	800.0		800.0	94.00	94.00	40.00
6	100.0	8.00	90.0	1600.0			60.00	60.00	8.90
7	127.0		100.0	5865.0	22933.0	5865.0	67.00		3.90
8	284.0	3.78	184.0	6334.0	41198.0	6315.0	112.90	42.80	6.50
9	114.0	1.00	114.0	622.0	38170.0	617.0	106.00	84.00	0.48
10	809.0	1.48	809.0	6200.0	58000.0	5900.0	214.00	67.00	8.90
11	470.0	0.52	430.0	15247.0	98415.0	1689.0	270.00	56.20	6.50
12	144.0	0.21	144.0	4355.0	26573.0	4345.0	73.60	37.90	6.29
13	240.0	4.00	191.0	7700.0	45000.0	7721.0	127.00	53.00	5.80
14	221.0	1.20	176.0	8707.0	39588.0	8749.0	108.50	49.10	4.50
15	260.0	1.65	260.0	12164.0	67669.0	12134.0	185.40	71.30	5.57
16	37.0	1.08	37.0	1771.0	5667.0	1802.0	15.50	42.00	3.20
17	96.0		50.0	2915.0	11657.0	2933.0	32.00	39.00	3.90
18	308.0	1.54	275.0	12729.0	69879.0	12726.0	192.00	64.00	1.12
19	146.0	1.46	115.0	3978.0	16857.0	3969.0	46.20	31.60	4.10
20	274.0		274.0	12449.0	62665.0		172.00	63.00	5.00
21	55.0		55.0	2000.0	7934.0	2020.0	22.0	39.50	3.78
22	76.0		42.0	251.0	7500.0	249.0	19.60	25.00	2.90
23	120.0	5.00	120.0	3926.0	25811.0	3938.0	70.70	67.00	6.55
24	311.0	0.31	185.0	6038.0	35169.0	5474.0	96.00	0.31	5.50
25	292.0		292.0	9022.0	55984.0	9094.0	153.00	52.00	6.20
Mean	207.0	2.45	180.0	5544.0	35346.0	5452.0	97.89	49.88	4.96
Median	146.0	1.50	120.0	4167.0	30871.0	4157.0	68.50	55.00	5.30

x1 = # of licensed beds

x2 = # of licensed beds per 1000 total population

x3 = capacity of staffed beds

x4 = # of admissions last year

x5 = # of inpatient days last year

x6 = # of patient discharges last year

x7 = average daily census last year

x8 = percent occupancy (based on licensed beds) last year

x9 = average length of stay of patients last year

hospitals used the Strategic Management Method, six used the Deming Quality Method Management. One hospital reported using team per wag (a combination of all the management systems) and lastly six hospitals reported using strategic planning as their primary Management methods. The frequency distribution is presented in Table 3 with further specifications of Management styles in Table 4.

Table 5 contains the frequency distribution of the diversification strategy of the hospitals. Eight hospitals reported as being diversified not-for-profit strategy, twelve as nondiversified not-for-profit, three as diversified for-profit, and two hospitals reported using the nondiversified for-profit strategy.

The responding hospitals were located in different health regions of the State. According to Table 6, three of the responding hospitals are located in Roanoke health region, four in Blue Ridge, six in Central Virginia, and six in Hampton Roads. Also three hospitals reported to be located in Northern Virginia and another three in Southwestern Virginia.

The hospitals were surveyed on how long they have used their management systems. Sixteen hospitals reported to have used their particular management system up to four years; seven hospitals said they have used their particular management system between four and ten years. Two hospitals reported to have used their primary management system greater than ten years. Details of the management systems and how long they have been used by the hospitals is contained in Table 7.

It was interesting to learn the population distribution of the State describing where the hospitals were located. Eleven hospitals said they were located in areas with 100,000 or less population; also eleven hospitals reported the population of the

Table 3

Frequency Distribution of open-ended questions 1 through 10

#	X ₁₀	X ₁₁	X ₁₂	X ₁₃	X ₁₄	X ₁₅	X ₁₆	X ₁₇	X ₁₈	X ₁₉
1	CQ/Deming Quality Method	Up to 4 years	Diversified not-for-profit	Roanoke	> 100,000 < 1,000,000	Up to 5 miles	Yes	>2 years<5 years	0	Medical/surgical, long term services
2	Strategic Planning/New American Hospital PFC	Up to 4 years	Non-diversified not-for-profit	Blue Ridge	100,000 or less	> 20 miles	Yes	2 years or less	1	Medical/surgical, obstetrics, long term services
3	Juran Total Quality Management	Up to 4 years	Non-diversified not-for-profit	Central Virginia	100,000 or less	> 20 miles	No		1	Medical/surgical, obstetrics, pediatrics, long-term services
4	Management by Objectives	>4 years < 10 years	Diversified not-for-profit	Hampton Roads	100,000 or less	>20 miles	No		0	Medical/Surgical, obstetrics, pediatrics, drug treatment, psychiatric, long term services
5	Strategic Planning/Deming Quality Method	Up to 4 years	Nondiversified not-for-profit	Central Virginia	> 100,000 < 1,000,000	up to 5 miles	Yes	> 2 years < 5 years	0	Medical/Surgical psychiatric
6	Strategic Management	Up to 4 years	Nondiversified for-profit	Central Virginia	100,000 or less	up to 5 miles	Yes	0	0	Medical/Surgical psychiatric
7	Deming Quality Method	Up to 4 years	Diversified for-profit	Northern Virginia	>1,000,000	6 miles to 20 miles	Yes	2 years or less	1	Medical/Surgical, obstetrics, pediatrics
8	Deming Quality Method	Up to 4 years	Diversified not-for-profit	Southwestern Virginia	100,000 or less	>20 miles	Yes	2 years or less	1	Medical/Surgical, obstetrics, pediatrics, drug treatment, psychiatric
9	Deming Quality Method	Up to 4 years	Nondiversified not-for-profit	Northern Virginia	>1,000,000	6 miles to 20 miles	Yes	2 years or less	1	Medical/Surgical, pediatrics, psychiatrics

Table 3 (Continued)

Frequency Distribution of open-ended questions 1 through 10

#	X ₁₀	X ₁₁	X ₁₂	X ₁₃	X ₁₄	X ₁₅	X ₁₆	X ₁₇	X ₁₈	X ₁₉
10	Strategic Planning	Up to 4 years	Nondiversified not-for-profit	Hampton Roads	> 100,000	Up to 5 miles	Yes	2 years or less	1	Medical/surgical, drug treatment, psychiatric, long term services
11	Strategic Planning	> 4 years < 10 years	Non-diversified - for-profit	Central Virginia	> 100,000 < 1,000,000	6 miles to 20 miles	No		0	Medical/surgical, obstetrics, pediatrics, drug treatment psychiatric
12	Denning Quality Method	Up to 4 years	Non-diversified not-for-profit	Southwestern Virginia	100,000 or less	> 20 miles	No		0	Medical/surgical, pediatrics,
13	Management by Objectives	up to 4 years	Nondiversified not-for-profit	Hampton Roads	> 100,000 < 1,000,000	6 miles to 20 miles	No		0	Medical/Surgical, obstetrics, pediatrics,, psychiatric
14	Management by Objectives	> 4 years < 10 years	Nondiversified not-for-profit	Blue Ridge	> 100,000 < 1,000,000	up to 5 miles	Yes	> 5 years	1	Medical/Surgical obstetrics, pediatrics
15	Strategic Management	> 10 years	Nondiversified not-for-profit	Hampton Roads	> 100,000 < 1,000,000	6 miles to 20 miles	No		0	Medical/Surgical obstetrics, pediatrics, psychiatric
16	Denning Quality Method	Up to 4 years	Nondiversified for-profit	Ranoke	100,000 or less	> 20 miles	No	> 2 years < 5 years	0	Medical/Surgical, obstetrics, pediatrics, psychiatric
17	Team per wag (a combination of all the management systems)	> 10 years	Diversified not-for-profit	Blue Ridge	100,000 or less	> 20 miles	Yes	> 2 years < 5 years	0	Medical/Surgical, obstetrics, pediatrics, psychiatric
18	Strategic Planning	Up to 4 years	Diversified not-for-profit	Northern Virginia	> 1,000,000	> 20 miles	No		1	Medical/Surgical, obstetrics, drug treatment psychiatric long term services

Table 3 (Continued)

Frequency Distribution of open-ended questions 1 through 10

#	X ₁₀	X ₁₁	X ₁₂	X ₁₃	X ₁₄	X ₁₅	X ₁₆	X ₁₇	X ₁₈	X ₁₉
19	Strategic Planning	Up to 4 years	Diversified for-profit	Southwestern Virginia	100,000 or less	6 miles to 20 miles	Yes	2 years or less	1	Medical/surgical, obstetrics, pediatrics, long-term services
20	Management by Objectives	> 4 years < 10 years	Diversified not-for-profit	Hampton Roads	>100,000 <1,000,000	6 miles to 20 miles	No		0	Medical/surgical, obstetrics, pediatrics
21	Strategic Planning	> 4 years < 10 years	Diversified not-for-profit	Roanoke	>100,000 < 1,000,000	> 20 miles	No		0	Medical/surgical, pediatrics, obstetrics, long term services
22	Management by Objectives	> 4 years < 10 years	Nondiversified not-for-profit	Blue Ridge	>100,000 < 1,000,000	Up to 5 miles	Yes	> 5 years	2	Medical/surgical, drug treatment, medical rehabilitation
23	Strategic Planning	> 4 years < 10 years	Nondiversified not-for-profit	Central Virginia	100,000 or less	> 20 miles	Yes	> 2 years < 5 years	1	Medical/surgical, obstetrics, pediatrics, psychiatric, long term services
24	Strategic Management	Up to 4 years	Nondiversified not-for-profit	Hampton Roads	100,000 or less	Up to 5 miles	Yes	> 2 years < 5 years	2	Medical/surgical, obstetrics
25	Denning Quality Method	Up to 4 years	Diversified for-profit	Central Virginia	> 100,000 < 1,000,000	Up to 5 miles	No		1	Medical/surgical, obstetrics, pediatrics

X₁₀ = Primary management styleX₁₁ = How long the facility has used that management styleX₁₂ = Business status or diversification strategy of the hospitalX₁₃ = Region of the State where the hospital is locatedX₁₄ = Population of the region where the hospital does businessX₁₅ = How close the nearest acute care hospital is to the facilityX₁₆ = Answer to know if the hospital uses patient focused careX₁₇ = How long the facility has used patient focused careX₁₈ = How many times the CEO has changed over the last 5 yearsX₁₉ = Medical services being offered by the facility

Table 4

Primary Management style and frequency distribution

Management Style	Number of Hospitals Using It
CQI/Deming Quality Management Method	1
Strategic Planning/New American Hospital FPC	1
Juran-total Quality Management	1
Management by Objectives	4
Strategic Planning/Deming Quality Method	1
Strategic Management	4
Deming Quality Method Management	6
Team per Wag (a combination of the management systems)	1
Strategic Planning	6
TOTAL NUMBER OF RESPONDING HOSPITALS	25

Table 5

Diversification Strategy and distribution

Diversification Strategy	Number of Hospitals
Diversified not-for-profit	8
Nondiversified not-for-profit	12
Diversified for-profit	3
Nondiversified for-profit	2
TOTAL NUMBER OF RESPONDING HOSPITALS	25

area where they are located as being between 100,000 and 1,000,000 people. Three hospitals said they are located in areas with more than 1,000,000 in population.

Details of this could be learned from Table 8.

The hospitals were also surveyed on the matter of patient focused care.

Fourteen hospitals reported using patient focused care, and eleven hospitals said no when asked if they were using patient focused care. Details concerning hospitals and patient focused care could be found in Table 9. The hospitals were also asked how long they have used patient focused care; six hospitals reported they have used patient focused care for two or less years; another six hospitals said they have used patient focused care between two and five years. Only two hospitals reported to have used patient focused care for more than five years. Table 10 contains distribution of hospitals who answered yes when asked if they had used patient focused care.

Health care/medical services being provided by the hospitals were categorized into five namely: medical/surgical, obstetrics, pediatrics, drug treatment, psychiatric and long-term services and hospitals were surveyed on the type services they offered.

Twenty-five hospitals reported offering services in medical/surgical, eighteen provided obstetric services; nineteen provided pediatric services and four provided services in the area of drug treatment. Two of the participating hospitals provided psychiatric services, while nine hospitals offered long-term services. Table 11 provides a detailed explanation of distribution of the hospitals and the services they provide.

The hospitals were also asked to note how many times their CEOs have

Table 6

Regional location of the hospitals and distribution

Regions	Number of Hospitals
Roanoke	3
Blue Ridge	4
Central Virginia	6
Hampton Roads	6
Northern Virginia	3
Southwestern Virginia	3
TOTAL NUMBER OF RESPONDING HOSPITALS	25

Table 7

How long the hospitals have used their management systems

Years	Hospitals Distribution
Up to 4 years	16
>4 years < 10 years	7
>10years	2
TOTAL NUMBER OF RESPONDING HOSPITALS	25

Table 8

Population of the areas where the hospitals do business

Population	Hospitals Distribution
100,000 or less	11
>100,000 < 1,000,000	11
>1,000,000	3
TOTAL NUMBER OF RESPONDING HOSPITALS	25

Table 9

Number of hospitals using or not using patient focused care

Are You Using Patient Focused Care?	Hospitals Distribution
Yes	14
No	11
TOTAL NUMBER OF RESPONDING HOSPITALS	25

Table 10

How long patient focused care has been used in the hospitals

Number of Years	Hospitals Distribution
2 years or less	6
>2 years < 5 years	6
> 5 years	2

Table 11

Health care/medical services and number of hospitals providing those services

Health Care/Medical Services	Number of Hospitals Providing Services
Medical/Surgical	25
Obstetrics	18
Pediatrics	19
Drug Treatment	4
Psychiatric	2
Long-term Services	9

Table 12

How many times CEO has changed in the past 5 years

Number of times CEO has Changed	Hospital Distribution
0	11
1	12
2	2
TOTAL NUMBER OF RESPONDING HOSPITALS	25

changed in the past five years. Eleven hospitals reported that their CEOs have not changed in the past five years; twelve hospitals said that their CEOs have changed once in the past five years; and two hospitals reported changing their CEOs twice in the past five years. See Table 12 for details.

Of the 25 responding hospitals to the questions concerning market share, market growth potential, profitability, and staff turnover rates, 24 completed the questions on market share and market growth potential, 23 completed the questions on profitability and 24 completed the questions on staff turnover rates. Details are found in Table 13

Results to the research questions posed in the study are as follows:

Question 1. Are there statistical significant status differences regarding profitability based on management practices?

The different management practices, P_1 , P_2 , P_3 , P_4 , and P_5 were found to have no significant effect regarding the profitability of the overall health care services provided by the different hospitals. In fact, when individual health care service profitability was compared to the different management practices, it was also found that the management plan being utilized by individual hospitals did not affect the profitability of those health care services. $P\text{-value } PR_1\text{---}PR_{15}(P_1\text{---}P_5) > 0.05$.

On another dimension, the different locations (regions), r_1 , r_2 , r_3 , r_4 , r_5 , r_6 , where the hospitals are situated did not significantly affect the profitability of the individual hospitals nor did it affect the profitability of the individual health care services provided by the hospitals. $P\text{-value } PR_1\text{---}PR_{15}(r_1\text{---}r_6) > 0.05$

Table 13
 Number of hospitals responding to the questions on market share,
 market growth potential, profitability and
 staff turnover rates and distributions.

#	Market Share	Market Growth Potential	Profitability	Staff Turnover Rates
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	X	9
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	X	X	X	X
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
Totals	0=24	0=24	0=23	0=24
	X=1	X=1	X=2	X=1

0 = YES

X = NO

It was also found that the business status (diversification strategies) of the hospitals did not significantly affect the profitability of the individual hospitals, nor did it effect the profitability of individual health care services provided by the hospitals. $P\text{-value } PR_1\text{---}PR_{15} > 0.05$. So on the whole, the management plan, location (different health services regions of the State), and the business status (diversification strategies) did not significantly affect the profitability of Virginia acute care hospitals. Refer to Table 14 for indepth explanation.

Question 2. Are there statistically significant status differences regarding staff turnover rates based on management practices?

The effect of management practices (plans) on overall staff turnover rates of the hospitals was found to be a negative ($P\text{-value } 0.295 > 0.05$) and that meant the rejection of the null hypothesis. But when individual health services professions were examined some significant effects were detected. It was found that the $P\text{-values}$ of dependent variables ST_1 (CRNA), ST_{14} (Radiology Technologist), and ST_{17} (Respiratory Therapy Technician) were below the alpha level of 0.05 and that meant that the H_0 will be accepted for those professions. This does indicate that there is a significant effect of management practices (plans) on the staff turnover rates of those professions. The rest of the health care profession's staff turnover rates were not affected by management plans since their calculated $P\text{-values}$ are greater than the (alpha) level of 0.05.

Table 14

Effect of different management plans on profitability.
 Values: P_1, P_2, P_3, P_4, P_5 (Management Practices)

Dependent Variables		Health Care Services	P-Value	Decision
Dependent Variable	PR_1	General Inpatient Medical Care	0.6282	Reject
Dependent Variable	PR_2	General Inpatient Surgical Care	0.6282	Reject
Dependent Variable	PR_3	General Inpatient Pediatric Care	0.5699	Reject
Dependent Variable	PR_4	General Inpatient Obstetrics Care	0.6143	Reject
Dependent Variable	PR_5	General Inpatient Psychiatric Care	0.3529	Reject
Dependent Variable	PR_6	Outpatient Renal Dialysis	0.1857	Reject
Dependent Variable	PR_7	Outpatient Diagnosis Services (e.g., Radiology, Laboratory)	0.6535	Reject
Dependent Variable	PR_8	Home Health Care	0.9283	Reject
Dependent Variable	PR_9	Long Term Care Programs/Services	0.4130	Reject
Dependent Variable	PR_{10}	Outpatient Alcoholism Treatment Program	0.6224	Reject
Dependent Variable	PR_{11}	Inpatient Alcoholism Treatment Program	0.1267	Reject
Dependent Variable	PR_{12}	Urgent Care Center	0.1965	Reject
Dependent Variable	PR_{13}	Ambulatory Surgery Center	0.5942	Reject
Dependent Variable	PR_{14}	Inpatient or Outpatient Rehabilitation Unit	0.6110	Reject
Dependent Variable	PR_{15}	Health Promotion/Wellness Clinic/Holistic Health Center	0.7499	Reject

$$ST_1 = 0.0374 < 0.05, \quad ST_{14} = 0.0251 < 0.05, \quad ST_{17} = 0.0088 < 0.05.$$

The management practices (plans) responsible for making these significant effects are as follows:

1. ST_1 (CRNA)

Management plan 5 (Other, specify). Under this management plan the profession CRNA, was found to have the highest staff turnover rate. In other words, medical professionals employed as CRNA are more likely to leave their jobs within a year of employment under the "Other, specify" management plan. That management plan has a calculated 2.00 mean and a standard deviation of 1.732 when CRNA was considered.

2. ST_{14} (Radiologic Technologist)

Management plan 2 (Strategic planning). Under strategic planning, the Radiologic Technologist profession was found to have the highest staff turnover rate. These medical professionals are more likely to leave their jobs within a year of employment under strategic management plan than any other management plans used in the study. The strategic planning plan has a mean of 2.00 and a standard deviation of 1.224 when looking at Radiologic Technologists.

3. ST_{17} (Respiratory Therapy Technician)

Management plan 2 (Strategic planning). Under strategic planning, Respiratory Therapy Technician was found to have the highest staff turnover rate. Respiratory Therapy Technicians are more likely to leave their jobs within one year of employment under strategic planning method than under other management plans used in this study. The strategic planning methods has a mean of 2.714 and a standard

deviation of 0.951 when looking at Respiratory Therapy Technicians.

The effect of location (regional differences where the hospitals are located) on the overall staff turnover rate of the hospitals was calculated to determine if staff turnover rate varied with differences in regional locations, and it was found that differences in regions did not make any difference to the hospitals' staff turnover rates. $P\text{-value } 0.5073 > 0.05$ (alpha level). The effect of location (differences in regions) on individual health services professions under staff turnover rates was also calculated to determine health care professions whose staff turnover rates are likely to be affected by difference in locations (regions) where the hospitals are situated. The results from the calculated P -values of the health care professions does indicate that the staff turnover rates of the 18 health care professions were unaffected by differences in location (regions) where the hospitals do business.

The effect of the business status (differences in diversification strategy) on the health services professions was also calculated to determine health care professions whose staff turnover rates are more likely to be affected by the business status (diversification strategy) pursued by the hospital. The results did indicate that the P -value of ST_{11} (occupational therapy assistant) 0.016 was below the alpha level of 0.05 and that meant the H_0 will be accepted. Occupational therapy assistants staff turnover rates are significantly affected by the business status diversification strategy) pursued by the hospitals since the calculated staff turnover rate (P -value of this professions is below the alpha level and that meant the acceptance of H_0 . $ST_{11} = 0.0186 < 0.05$.

The diversification strategy that effected the differences is b_1 (nondiversified

Table 15

Effect of different management plans on staff turnover rates..
 Values: P_1, P_2, P_3, P_4, P_5 (Management Practices)

Dependent Variables		Health Care Professions	P-Value	Decision
Dependent Variable	ST_1	CRNA	0.374	Accept
Dependent Variable	ST_2	Cytotechnologist	0.2883	Reject
Dependent Variable	ST_3	Dietician	0.6764	Reject
Dependent Variable	ST_4	Histotechnologist	0.7021	Reject
Dependent Variable	ST_5	LPN	0.6384	Reject
Dependent Variable	ST_6	Medical Laboratory Technician	0.7841	Reject
Dependent Variable	ST_7	Medical Technologist	0.7113	Reject
Dependent Variable	ST_8	Medical Records Technician	0.7381	Reject
Dependent Variable	ST_9	Nuclear Medicine Technologist	0.5905	Reject
Dependent Variable	ST_{10}	Occupational Therapist	0.9049	Reject
Dependent Variable	ST_{11}	Occupational Therapy Assistant	0.3567	Reject
Dependent Variable	ST_{12}	Pharmacist	0.3950	Reject
Dependent Variable	ST_{13}	Physical Therapist	0.8377	Reject
Dependent Variable	ST_{14}	Radiologic Technologist	0.0251	Accept
Dependent Variable	ST_{15}	Radiation Therapist	0.9041	Reject
Dependent Variable	ST_{16}	Respiratory Therapist	0.3025	Reject
Dependent Variable	ST_{17}	Respiratory Therapy Technician	0.0088	Accept
Dependent Variable	ST_{18}	Ultrasound Technologist	0.7316	Reject

for-profit). Hospitals that are nondiversified for-profit have significant staff turnover rate of occupational therapy assistants than the rest of the hospitals under different diversification strategy. Refer to Table 15 for details.

Question 3. Are there statistically significant status differences regarding market share based on management practices?

The different management plans (practices) did not have any effect on the overall market shares held by the different acute care hospitals in the State, P-value $0.3255 > 0.05$ alpha level. Also it was found that the different management practices did not have any effect on individual health care services' market shares held by the hospitals. P-value (individual health care service) > 0.05 .

A test was also run to discover the effect of different locations (the different health services regions of the State) on the market shares held by the different acute care hospitals in the State. It was discovered that the different locations of the hospitals did not have any effect on the overall market shares provided by the hospitals. P-value $0.5746 > 0.05$. Even when individual health care services held by the hospitals are compared against the different regions of the State, it was discovered that differences in location did not affect market shares. P-value (individual health care services) > 0.05 . (Refer to Table 16 for details)

The study also looked into the effect of business status--which is the (diversification strategy) on market shares held by the acute care hospitals. The diversification strategy chosen by the hospitals did not have any effect on the overall market shares held by the hospitals. But on the other hand, it was discovered that the

diversification strategy chosen by the hospitals affected some individual health care services market shares held by the hospitals. $P\text{-value } 0.2737 > 0.05$.

The following health care services were significantly affected:

1. General Inpatient Medical Care
2. General Inpatient Surgical Care
3. Outpatient Diagnostic Services (e.g., Radiology, Laboratory)
4. Inpatient Alcoholism Treatment Program

It was found that hospitals which are classified as diversified not-for-profit had greater market share of general inpatient care (S_1) than the hospitals which have different diversification strategy. The diversified not-for-profit hospitals have a mean of 4.375 and a standard deviation of 0.744 when market share of general inpatient medical care is considered. Also it was found that hospitals under diversified not-for-profit classification were likely to have greater market share of general inpatient surgical care than the hospitals under different diversification classification. The diversified not-for-profit hospitals have a mean of 4.375 and a standard deviation of 0.744 when the market share of general inpatient surgical care is considered.

Diversified not-for-profit hospitals are more likely to have greater market share when it comes to outpatient diagnostic services, e.g., radiology, laboratory, when compared to the rest of the hospitals under different diversification strategies. Under this health care service market share, the diversified not-for-profit hospitals have a 4.625 mean and a standard deviation of 0.517. Still under diversification strategy and market share, the nondiversified for-profit hospitals have greater market share than S_{11}

(inpatient alcoholism treatment program) than the rest of the hospitals under different diversification strategy. Nondiversified for-profit hospitals have a mean of 3.00 and a standard deviation of 2.645 when considered under inpatient alcoholism treatment program. (Refer to Tables 16 and 17 for explanations.)

Question 4. Are there statistically significant status differences regarding market growth potential based on management practices?

The study was interested in finding out if management practices (plan) have any effect on market growth potential of health care services provided by the acute care hospitals. The data analysis proved that differences in management practices among the acute care hospitals did not produce any significant status difference regarding the market growth potential of the overall and individual health care services provided by the hospitals.

The effect of location (regions) on overall and individual health care services' market growth potential was calculated to learn the extent to which differences in regional locations of the acute care hospitals influence the potential for their market growth. It was learned that there were no differences in both individual and overall market growth potential of the health care services due to differences in regional locations of the acute care hospitals $P > 0.05$.

The effect of the differences in diversification strategy (business status) of the acute care hospitals on the market growth potential of individual and overall health

Table 16

Effect of different management plans on market share.
 Values: P_1, P_2, P_3, P_4, P_5 (Management Practices)

Dependent Variables		Health Care Services	P-Value	Decision
Dependent Variable	S_1	General Inpatient Medical Care	0.3430	Reject
Dependent Variable	S_2	General Inpatient Surgical Care	0.1865	Reject
Dependent Variable	S_3	General Inpatient Pediatric Care	0.4083	Reject
Dependent Variable	S_4	General Inpatient Obstetrics Care	0.5474	Reject
Dependent Variable	S_5	General Inpatient Psychiatric Care	0.1926	Reject
Dependent Variable	S_6	Outpatient Renal Dialysis	0.1817	Reject
Dependent Variable	S_7	Outpatient Diagnosis Services (e.g., Radiology, Laboratory)	0.3673	Reject
Dependent Variable	S_8	Home Health Care	0.6927	Reject
Dependent Variable	S_9	Long Term Care Programs/Services	0.3552	Reject
Dependent Variable	S_{10}	Outpatient Alcoholism Treatment Program	0.2367	Reject
Dependent Variable	S_{11}	Inpatient Alcoholism Treatment Program	0.3553	Reject
Dependent Variable	S_{12}	Urgent Care Center	0.5016	Reject
Dependent Variable	S_{13}	Ambulatory Surgery Center	0.2338	Reject
Dependent Variable	S_{14}	Inpatient or Outpatient Rehabilitation Unit	0.8985	Reject
Dependent Variable	S_{15}	Health Promotion/Wellness Clinic/Holistic Health Center	0.8920	Reject

Table 17

Effect of different business status on market share
 Values: b_1, b_2, b_3, b_4

Dependent Variables		Health Care Services	P-Value	Decision
Dependent Variable	S_1	General Inpatient Medical Care	0.0084	Accept
Dependent Variable	S_2	General Inpatient Surgical Care	0.0141	Accept
Dependent Variable	S_3	General Inpatient Pediatric Care	0.3384	Reject
Dependent Variable	S_4	General Inpatient Obstetrics Care	0.0898	Reject
Dependent Variable	S_5	General Inpatient Psychiatric Care	0.3026	Reject
Dependent Variable	S_6	Outpatient Renal Dialysis	0.3010	Reject
Dependent Variable	S_7	Outpatient Diagnosis Services (e.g., Radiology, Laboratory)	0.0051	Accept
Dependent Variable	S_8	Home Health Care	0.3345	Reject
Dependent Variable	S_9	Long Term Care Programs/Services	0.6121	Reject
Dependent Variable	S_{10}	Outpatient Alcoholism Treatment Program	0.8087	Reject
Dependent Variable	S_{11}	Inpatient Alcoholism Treatment Program	0.0242	Accept
Dependent Variable	S_{12}	Urgent Care Center	0.3850	Reject
Dependent Variable	S_{13}	Ambulatory Surgery Center	0.5706	Reject
Dependent Variable	S_{14}	Inpatient or Outpatient Rehabilitation Unit	0.4436	Reject
Dependent Variable	S_{15}	Health Promotion/Wellness Clinic/Holistic Health Center	0.1808	Reject

care services was examined, and it was learned that the diversification strategy chosen by the hospitals did not affect the individual and overall health care services market growth potential. $P > 0.05$. (Refer to Table 18 for details.)

SUMMARY:

The response rate for the survey was 25% with which came some interesting factors. An average daily census of 97.89 patients and a median census of 68.50 patients were recorded for the hospitals. The frequency distribution of the management systems indicated that majority of the responding hospitals used strategic planning as their management system. Six of the responding twenty-five hospitals used that management plan. Also the frequency distribution table revealed that the majority of the respondents were managed as nondiversified not-for-profit. Twelve of the responding hospitals indicated that as their diversification strategy. The responding hospitals were evenly distributed according to the response from the State's health regional areas. Six hospitals each responded from the Hampton Roads and Central Virginia Health Services Regions. Fourteen hospitals answered yes when asked if they have used patient focused care and eleven hospitals answered no to that same question.

In response to question 1 which seeks to find if there are statistically significant status difference regarding profitability based on management practices, it was found that the different management practices, P_1 , P_2 , P_3 , P_4 , and P_5 did not have any significant differences regarding profitability. Even on individual health services

Table 18

The effect of management plans on market growth potential.

Values: P_1, P_2, P_3, P_4, P_5

Dependent Variables		Health Care Services	P-Value	Decision
Dependent Variable	GP_1	General Inpatient Medical Care	0.3430	Reject
Dependent Variable	GP_2	General Inpatient Surgical Care	0.1865	Reject
Dependent Variable	GP_3	General Inpatient Pediatric Care	0.4083	Reject
Dependent Variable	GP_4	General Inpatient Obstetrics Care	0.5474	Reject
Dependent Variable	GP_5	General Inpatient Psychiatric Care	0.1926	Reject
Dependent Variable	GP_6	Outpatient Renal Dialysis	0.1817	Reject
Dependent Variable	GP_7	Outpatient Diagnosis Services (e.g., Radiology, Laboratory)	0.3673	Reject
Dependent Variable	GP_8	Home Health Care	0.0627	Reject
Dependent Variable	GP_9	Long Term Care Programs/Services	0.3552	Reject
Dependent Variable	GP_{10}	Outpatient Alcoholism Treatment Program	0.2367	Reject
Dependent Variable	GP_{11}	Inpatient Alcoholism Treatment Program	0.3553	Accept
Dependent Variable	GP_{12}	Urgent Care Center	0.5016	Reject
Dependent Variable	GP_{13}	Ambulatory Surgery Center	0.2338	Reject
Dependent Variable	GP_{14}	Inpatient or Outpatient Rehabilitation Unit	0.8985	Reject
Dependent Variable	GP_{15}	Health Promotion/Wellness Clinic/Holistic Health Center	0.8920	Reject

provided by the hospitals, the management systems were found to have made no significant differences regarding their profitability.

On the second question regarding the statistically significant status differences between the management systems and the staff turnover rates of the hospitals, it was found that although management systems did not significantly affect the staff turnover rates of the various hospitals, it did affect some individual health care professions like CRNA, Radiology Technologists, and Respiratory Technicians.

It was also found that the management practices did not significantly affect the market shares and market growth potentials of the various hospitals, neither did it affect the individual health services market shares, nor did it affect the individual market growth potentials of the health care services provided by the hospitals.

CHAPTER 5

SUMMARY:

The health care environment is being plagued by a multiplicity of external and internal forces, chief among which include the critical shortages of nonphysician health care professionals and a surplus of physicians within some specialties and in some geographic regions, a more restrictive reimbursement environment as a result of intensified effort by the federal government and the health care industry to curb burgeoning medical costs, consolidation within the health care industry because of cost pressures and intensified competition, the increasing importance of market niche strategies and services marketing, and increasing financial pressures throughout the past decades as a result of fundamentally new forces like the prospective payment, diminished federal monies, new technological developments that affect the very viability of many health care organizations (Shortell, Morrison & Hughes, 1989).

Health care organizations have responded to these environmental forces by diversifying into new services and markets (Coddington, Palmquist & Trollinger, 1985). Such diversification most often has been into health-related areas, such as outpatient diagnosis and surgery centers, rehabilitation, industrial medicine, home health care, nursing facilities, trauma centers, wellness and health promotion, and health maintenance organizations (HMOs). However, health care organizations also have invested in areas not directly related to health, such as restaurants, hotels, office buildings, retirement housing, and parking lots (Coddington et al. 1985).

The study was focused on the following problem areas: how various

management practices affect Virginia acute care hospitals regarding profitability, market share, market growth potential, and personnel (staff) turnover rates.

As part of the problem-solving technique, many hospitals have chosen different management methods to cope with the enormous problems. Management techniques ranging from strategic health care planning, strategic health care management, management by objectives to Deming Quality Method management were examined. The adoption of strategic health care management enables an organization to develop a clear self-concept, specific goals, and consistency in decision making. It encourages innovation and reduces resistance to change within the organization in order to meet the needs of dynamic situations.

Strategic health care planning begins with an external and internal environmental analysis. The external and internal analyses lead to the identification and analysis of critical strategic issues. Strategic alternatives emerge from the analysis of issues. The external, internal, and issues analyses provide the background and inform the development or reshaping of an institution's mission. The development of goals and objectives set institutional strategies and link organizational activities to strategies. According to Shortell et al (1990), the top strategic planning priorities reported by American Medical Internal (AMI) executives in 1985 involved further diversification into nonhospital but health-related lines of business, growth in revenues and prestige, and strengthening the management infrastructure of the corporation.

The MBO system begins with the establishment of overall objectives for total

organization for the target period. Once the top objectives have been approved, the next step is to translate them into the required action each manager in the organization must take. Management by objectives involves a series of interrelated elements. The essential elements in the MBO include: goal setting, action planning, self-control, and periodic reviews.

The Deming Quality Method management is a management system that emphasizes achieving uniform results during production rather than through inspection at the end of the production line. In essence, it is a quality control measure. Its application in the health care arena has only been recent, but has been guaranteed in acute care hospitals and health care systems through the creation of quality control departments which describes, maintains, and delivers standard health services to the patients.

There were interesting findings characterizing previous studies which had some bearing to the present study. Smith et al. (1992), conducted research to examine strategic planning's impact on rural hospital and rural hospital nursing facility performance, organizational characteristics, and strategy in New Mexico. The findings suggest that strategic planning in rural hospitals is strongly associated with higher profits, operating margins and planning effectiveness.

Helmer and McKnight (1989), in a study on Honolulu's five major hospitals concerning staff (RNs) recruitment and retention suggests the following for improved staff turnover rates:

1. Nurse/patient ratio that ensures quality care
2. Flexible staffing to support patient needs
3. Flexible scheduling and strong, supportive nursing administration.

The survey method was used to gather information (data) regarding the effect of health care management systems on acute care hospitals' profitability market share, market growth potential, and turnover rates. The analysis of the data was done using one-way ANOVA (Analysis of Variance). The research questions assessed if there are statistically significant status differences regarding profitability, staff turnover rates, market share, and market growth potential based on management practices.

The results suggest that the different management plans did not have any effect on the overall market shares of individual health care services line provided by acute care hospitals. The business status which is diversification strategy employed by each of the hospitals was found to have significantly affected the market shares of certain health care services provided by the hospitals. There was no effect of diversification strategy on the overall market shares held by the acute care hospitals. Management practices were also found to have no effect on aggregate and individual market growth potentials of the health care services provided by the acute care hospitals.

The effect of management plans on individual health services professions under staff turnover rate was also calculated and it was found that ST₁ (CRNA), ST₁₄ (Radiologic Technologist), and ST₁₇ (Respiratory Therapy Technician) staff turnover rates were significantly affected by differences in management plans.

The overall effect of management plans on both the individual profitability of

health care services and the aggregate profitability of health care services combined were found to be of no-effect. In other words, the management plans were found not to affect the profitability level enjoyed by each hospital.

The aggregate effect of management practices on acute care hospitals' profitability, market share, market growth potential, staff turnover rates, and profitability were found to be of no effect and partly to explain the reason could be the low return rate of the survey (25.02%).

CONCLUSIONS:

The results of the data analysis do suggest that there are statistically no significant status differences regarding overall hospital profitability, staff turnover rates, market share, and market growth potential based on management practices. It should also be noted that when individual health care services were compared to management practices regarding profitability, market share, market growth potential, and staff turnover rates, some statistically significant status differences were obtained.

The results of the survey did not support earlier findings in which strategic management and strategic planning were mentioned as statistically significant effects on hospital profitability and market shares. Though the overall effect of management practices on health care professions' staff turnover were negative, it is interesting to learn that when individual health professions' staff turnover rates were compared against the different management systems, it was discovered that the type of management system being used by the health care institution did affect the level of

individual health care professions' staff turnover rates. Health care professionals employed as CRNA, Respiratory Therapy Technicians, and Radiologic Technologists, are more likely to leave their employment within a year period under certain management systems.

The management systems examined in this study—strategic management, strategic planning, management by objectives, and the Deming quality management methods no doubt have their attributes and are chosen by the board of each acute care hospital for their benefits.

It should also be acknowledged that the return rate of the survey was low (25.02%) and this could be rendered as a possible reason for the aggregate no effect in the findings of this study. The generalization of the results of this study could not be made on Virginia acute care hospitals due to the low return rate associated with the survey.

RECOMMENDATIONS:

1. Effort should be made to increase response rate of the survey in a duplicate study. Possibly a combination interview with the hospitals' CEOs and other departmental heads and survey should provide a larger response rate to enable the generalization of the study.
2. Any attempt to duplicate this study should be made in an environment with much larger sample as this will improve the return rate.
3. It is recommended that this study be broken down into four separate

parts namely--market share, market growth potential, profitability and staff turnover rates in a future study. This will provide an indepth knowledge on each of the variables when compared against management practices.

4. In order to improve on the content validity of a future study in this area, a pilot study should be conducted to ascertain matters of importance to the hospitals as this may vary depending on which area of the country the study is being conducted.

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APPENDIX A
QUESTIONNAIRE USED IN THE STUDY

Management Practices Survey Among
Virginia Acute Care Hospitals

These Questionnaires are part of a Ph.D. Dissertation on the
Assessment of Management Practices Among
Virginia Acute Care Hospitals

Old Dominion University
Urban Services
(Health Services Concentration)

Investigator: Godfrey O. Ochonma, MBA

Dissertation Committee Members
Dr. Gregory Frazer, Chair and Advisor
Dr. Thomas Somma
Dr. Brenda Nichols

Executive Summary:

This survey has been designed to measure your perceptions and your hospital performance in the area of management systems. It represents the request for information from your hospital for that purpose. The investigator will work closely with your hospital system to assure the quality, usefulness and confidentiality of the information collected. Upon completion of this study, I will be pleased to share the aggregate results with you. For the study's purpose your responses will be integrated with other information to be collected from other hospitals and included in the analysis of hospital performances on profitability, market shares and staff turnover rates.

The investigator is particularly desirous of obtaining your response because of your experience in this area. The questionnaires will be validated by noted authorities in the area of management systems. The average time required by those completing these questionnaires is about fifteen minutes.

It will be appreciated if you will complete the questionnaires prior to or on March 18, 1994 and return it in the stamped, self-addressed envelop enclosed. Other phases of this study cannot be carried out until we complete the analysis of the questionnaires' responses, so its highly desirable I receive your response. Any comments that you may have regarding any aspect of the study that is not properly covered will be welcomed. Once more, I will be pleased to share the aggregate results of the study with you if you so desire. Thanking you in advance for your cooperation.

.. .

General Instructions:

Parts A and B (General Management Survey and Demographics) should be completed by person(s) most knowledgeable in each area. In addition to the CEO, the person may include your hospital CFO, Vice President for Planning, Marketing or Personnel, or Assistant Administrator. That person may also complete the Part C on market share, market growth potential, profitability, and staff turnover rate.

Choose the single most appropriate response of the alternatives provided. If actual data is not available, please use your best estimate. Avoid multiple answers or responses that require clarification unless absolutely necessary.

Thank you for your assistance.

Sincerely yours,

Godfrey O. Ochonma, MBA
Project Investigator

PART A -- GENERAL MANAGEMENT SURVEY

1. What is the primary management style your hospital is using?
 - ☐ Strategic Management
 - ☐ Strategic Planning
 - ☐ Management by Objectives (MBO)
 - ☐ Deming Quality Method Management
 - ☐ Other -- Specify _____
 - ☐ None
2. For how long has your facility used that management style?
 - ☐ up to 4 years
 - ☐ > 4 years < 10 years
 - ☐ > 10 years
3. Please check one of the following to indicate the business status of your hospital.
 - ☐ Nondiversified for-profit
 - ☐ Nondiversified not-for-profit
 - ☐ Diversified for-profit
 - ☐ Diversified not-for-profit

4. Indicate by checking one of the following, the region of the State where your hospital is located.

- ☐ Blue Ridge Region
- ☐ Central Virginia Region
- ☐ Hampton Roads Region
- ☐ Northern Virginia Region
- ☐ Roanoke Area Region
- ☐ Southwestern Virginia Region

5. What is the approximate population of the Region in which you do business?

- ☐ 100,000 or less
- ☐ > 100,000 < 1,000,000
- ☐ > 1,000,000

6. How close is the nearest acute care hospital to your facility?

- ☐ up to 5 miles
- ☐ 6 miles to 20 miles
- ☐ > 20 miles

7. Do you use patient focused care in your facility?

- ☐ Yes
- ☐ No

8. If your answer to the above question is yes, then for how long have you used it?

☐ 2 years or less

☐ > 2 years < 5 years

☐ > 5 years

9. How many times has the CEO changed over the last 5 years?

PART B -- DEMOGRAPHICS

10. Check the applicable boxes provided below to indicate the services offered by your facility.

☐ Medical/Surgical

☐ Obstetrics

☐ Pediatrics

☐ Drug Treatment

☐ Psychiatric

☐ Long-term Services

For the questions 11 through 19, please provide figures to applicable questions.

11. How many licensed beds does your facility have?

12. How many licensed beds does your facility run per 1,000 total population?

13. What is your staffed beds capacity?

14. How many admissions did your facility have last year?

15. How many inpatient days did your facility have last year?

16. How many patient discharges were made at your facility last year?

17. What was the average daily census of your facility last year?

18. What was the percent occupancy (based on licensed beds) of your facility last year?

19. What was the average length of stay of patients in your facility last year?

PART C

The following questionnaires concern your hospital's performance on market share, market growth potential, profitability, and staff turnover rates. Please circle the most appropriate response.

Name of Person Completing This Page

Title

Phone Number () -

SECTION 1 MARKET SHARE OF SELECTED SERVICES

INSTRUCTIONS: For each service listed below, please circle the most appropriate response. Your response should indicate your hospital's market share under the specified management style. Market share is defined as the percentage of patients or services provided relative to other providers in your primary service area.

Service	We do not offer this service	Much less than other providers (at least one other provider has 1.5 times or greater market share than we have)	Somewhat less than other providers (at least one other provider has up to 1.5 times as much market share as we have)	The same as other providers	Somewhat more than other providers (we have up to 1.5 times more market share than any other providers)	Much more than other providers (we have 1.5 times or greater market share than any other providers)
1. General Inpatient Medical Care	8	1	2	3	4	5
2. General Inpatient Surgical Care	8	1	2	3	4	5
3. General Inpatient Pediatric Care	8	1	2	3	4	5
4. General Inpatient Obstetrics Care	8	1	2	3	4	5
5. General Inpatient Psychiatric Care	8	1	2	3	4	5
6. Outpatient Renal Dialysis	8	1	2	3	4	5
7. Outpatient Diagnostic Services (e.g., Radiology, Laboratory)	8	1	2	3	4	5
8. Home Health Care	8	1	2	3	4	5
9. Long term Care Programs/Services*	8	1	2	3	4	5
10. Outpatient Alcoholism Treatment Program	8	1	2	3	4	5
11. Inpatient Alcoholism Treatment Program	8	1	2	3	4	5
12. Urgent Care Center	8	1	2	3	4	5
13. Ambulatory Surgery Center**	8	1	2	3	4	5
14. Inpatient or Outpatient Rehabilitation Unit	8	1	2	3	4	5
15. Health Promotion/Wellness Clinic/Health Center	8	1	2	3	4	5

*Includes skilled and intermediate nursing care, hospice care and adult day health services.

**Includes freestanding center, a center on hospital grounds, or a segregated program within the hospital.

Name of Person Completing This Page
(If Different Than for Previous Page)

Title

Phone Number () -

Section II MARKET GROWTH POTENTIAL OF SELECTED SERVICES

INSTRUCTIONS:

For each service below, please circle the most appropriate response. Your response should indicate each service's market growth potential under the specified management style. (Market growth potential is defined as the potential percentage growth in volume of patients seen or services provided) in your primary service area.

Service	We do not offer this service	No growth potential (service may actually be declining)	Low growth potential (1% - 10% per year)	Moderate growth potential (11% - 50% per year)	High growth potential (50% + per year)
1. General Inpatient Medical Care	8	1	2	3	4
2. General Inpatient Surgical Care	8	1	2	3	4
3. General Inpatient Pediatric Care	8	1	2	3	4
4. General Inpatient Obstetrics Care	8	1	2	3	4
5. General Inpatient Psychiatric Care	8	1	2	3	4
6. Outpatient Renal Dialysis	8	1	2	3	4
7. Outpatient Diagnostic Services (e.g., Radiology, Laboratory)	8	1	2	3	4
8. Home Health Care	8	1	2	3	4
9. Long Term Care Programs/Services*	8	1	2	3	4
10. Outpatient Alcoholism Treatment Program	8	1	2	3	4
11. Inpatient Alcoholism Treatment Program	8	1	2	3	4
12. Urgent Care Center	8	1	2	3	4
13. Ambulatory Surgery Center**	8	1	2	3	4
14. Inpatient or Outpatient Rehabilitation Unit	8	1	2	3	4
15. Health Promotion/Wellness Clinic/Holistic Health Center	8	1	2	3	4

*Includes skilled and intermediate nursing care, hospice care and adult day health services.

**Includes freestanding center, a center on hospital grounds, or a segregated program within the hospital.

Name of Person Completing This Page
 III Different Than for Previous Page

Title

Phone Number () -

Section III PROFITABILITY OF SELECTED SERVICES

For each service below, please circle the most appropriate response(s). Your response should indicate both:

1. Whether the service has been offered for less than two years, and
2. The service's profitability under specified management style. Profitability is defined as net revenues minus direct operating costs, including capital costs and administrative overhead, before taxes if applicable. For services that are jointly offered with another provider, indicate the profitability of the service before the profits are distributed.

Service	We do not offer this service	Has service been offered for less than two years?		Not currently profitable	In the past 6 months, operating revenues exceeded operating expenses by 1% to 10%	In the past 6 months, operating revenues exceeded operating expenses by more than 10%
		Yes	No			
1. General Inpatient Medical Care	8	1	0	1	2	3
2. General Inpatient Surgical Care	8	1	0	1	2	3
3. General Inpatient Pediatric Care	8	1	0	1	2	3
4. General Inpatient Obstetrics Care	8	1	0	1	2	3
5. General Inpatient Psychiatric Care	8	1	0	1	2	3
6. Outpatient Renal Dialysis	8	1	0	1	2	3
7. Outpatient Diagnostic Services (e.g., Radiology, Laboratory)	8	1	0	1	2	3
8. Home Health Care	8	1	0	1	2	3
9. Long Term Care Programs/Services*	8	1	0	1	2	3
10. Outpatient Alcoholism Treatment Program	8	1	0	1	2	3
11. Inpatient Alcoholism Treatment Program	8	1	0	1	2	3
12. Urgent Care Center	8	1	0	1	2	3
13. Ambulatory Surgery Center**	8	1	0	1	2	3
14. Inpatient or Outpatient Rehabilitation Unit	8	1	0	1	2	3
15. Health Promotion/Wellness Clinic/Holistic Health Center	8	1	0	1	2	3

* Includes skilled and intermediate nursing care, hospice care and adult day health services.

** Includes freestanding center, a center on hospital grounds, or a segregated program within the hospital.

Name of Person Completing This Page
(If Different Than for Previous Page)

Title

Phone Number () -

Section IV STAFF TURNOVER RATES OF SELECTED PROFESSIONS

INSTRUCTIONS: For each profession listed below, please circle the most appropriate response. Your response should indicate your hospital's ability to recruit and retain members of the listed professions with minimal turnover rates under the specified management style. Staff turnover rate is defined as the number of employees who leave employment within a profession during the year as compared to the total number employed.

Professions*	We do not employ this professional	Virtually no staff turnover in the last year	Low staff turnover rates (1% - 5% per year)	Moderate staff turnover in the last year (6% - 12% per year)	High staff turnover in the last year (15% and above per year)
1. CRNA	8	1	2	3	4
2. Cytotechnologist	8	1	2	3	4
3. Dietician	8	1	2	3	4
4. Histotechnologist	8	1	2	3	4
5. LPN	8	1	2	3	4
6. Medical Laboratory Technician	8	1	2	3	4
7. Medical Technologist	8	1	2	3	4
8. Medical Records Technician	8	1	2	3	4
9. Nuclear Medicine Technologist	8	1	2	3	4
10. Occupational Therapist	8	1	2	3	4
11. Occupational Therapy Assistant	8	1	2	3	4
12. Pharmacist	8	1	2	3	4
13. Physical Therapist	8	1	2	3	4
14. Radiologic Technologist	8	1	2	3	4
15. Radiation Therapist	8	1	2	3	4
16. Respiratory Therapist	8	1	2	3	4
17. Respiratory Therapy Technician	8	1	2	3	4
18. Ultrasound Technologist	8	1	2	3	4

*List of professions obtained from 1993 VHA Health Manpower Survey.