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Strategic needs assessment profile: X County Hospital North Carolina

Stephen Phillip Klinkhammer

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STRATEGIC NEEDS ASSESSMENT PROFILE

X COUNTY HOSPITAL
NORTH CAROLINA

by

Stephen Phillip Klinkhammer

An Applied Management

Decision Report

submitted in partial fulfillment
of the requirements for the degree of
Master of Business Administration
Cardinal Stritch College

December, 1990

APPROVAL PAGE

This committee has approved the Applied Management Decision Project of Stephen Phillip Klinkhammer



10/25/90

Paul Preston, Case Study Advisor

Date



11/7/90

Dan Sacharski, Second Reader

Date



11/26/90

Mark Fenster, Third Reader

Date

CASE SUMMARY

This applied management decision report provided a strategic needs assessment profile for X County Hospital, X County, North Carolina. This small county-operated not-for-profit facility was experiencing a decrease in number of county residents served. It was felt that many X County residents were seeking healthcare in surrounding county hospitals. Analysis of services provided by X County Hospital and surrounding hospitals pointed out a number of deficiencies in staffing and facilities at X County as possible causes. Twelve specific recommendations concerning facilities, staffing and services aimed at regaining market share were provided in this report.

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SECTION 1

INTRODUCTION

Health services encompasses participation in comprehensive healthcare to individuals, families and communities through prevention of illness and maintenance of health, care of acute episodic illness, care of the chronically ill, support of persons in the final stages of life, rehabilitation and health teaching. This participation will be guided by the needs of the local civic community, and will be consistent with available personnel, financial and physical resources.

This Applied Management Decision Report (AMDR) provides a guide for future direction of the X County Hospital. The advantage of a plan of this nature is that it helps unify purpose among those involved in the development of, and in the daily management of, the organization.

In order to aid the institution in achieving its objectives, this study examines the present and future roles of X County Hospital, identifying the present and future hospital's service. The study also inventories the hospital and other healthcare providers available within the area, analyzes the medical resources of the physicians with admitting privileges at the hospital, and provides an analysis of the healthcare delivery systems in the area being concerned with emergency and ambulatory services such

as mental health, physical rehabilitation, long-term care beds, and general hospital services.

The AMDR consists of four parts: a description of the health programs and services required by the population of the area served by X County Hospital, now and through the early 1990's; an analysis of the programs, services, and existing hospital facilities presently available to the population; and the examination of the area's healthcare delivery system, with a review of trends for change in unmet healthcare needs; and finally, a determination of the portion of those needed programs, services and facility changes which X County Hospital should provide in the foreseeable future.

SECTION 2

DESCRIPTION OF CURRENT SITUATION

The purpose of this applied management decision report is to document the past development of the facility, and to serve as a guide for future planning and growth. This is based on the belief that X County Hospital has a responsibility to meet its community's healthcare needs. While the hospital may not have the myriad of complex programs to meet all healthcare needs, it presently does everything possible to see that essential community needs are met. Future activities will be predicated on these needs which tend to change over time.

The following is a summary of the history of the development of X County Hospital. The Honorable James I. McKay, a native of the county, represented the district in the United States Congress. Mr. McKay died, and in his will, he gave a large tract of land to the county to be used for the poor, for the widows and orphans. For many years X County operated the county farm; it was sold at auction and the money derived from the sale was put into a special fund, for under the terms of Mr. McKay's will, the property could only be used for the benefit of all the people of the county. These funds were drawn upon to meet a county crisis from time to time, but the sum was always replaced.

About 1947 the Hospital movement was launched. A large delegation from every township in the county came

before the Board of X County Commissioners requesting a hospital bond election. As a result of this delegation's activity, there was a meeting on July 25, 1949, and a resolution adopted. This resolution for the construction of a non-profit hospital to meet the needs of the people of the county, was approved by the Board of X County Commissioners. A special hospital election was held on November 15, 1949, and passed favorably.

The matter of purchasing a site came up, and the commissioners decided to use the McKay funds for the purchase of a site. The Hospital was dedicated on May 18, 1952. During 1978, a 10,620 square foot expansion and modernization project was completed. The ancillary services included in this project were radiology, clinical laboratory, emergency services, pharmacy, electrodiagnostics, cafeteria, admissions, medical records and business office. Throughout its history, X County Hospital has strived to meet the needs of the people in the county, and will continue to face the challenges ahead so that the county will always have a modern healthcare facility.

Organizational Philosophy

X County Hospital's organizational philosophy is composed of the beliefs, values, and specific guidelines, within which the employees of the organization must operate. The County Hospital's organizational values are:

1. Total commitment to the personalized satisfaction of customer needs.
2. Genuine concern for employees as our most important asset.
3. Unwavering performance standards.
4. Creative, dynamic and honest leadership.
5. Open, non-threatening channels of communication.
6. A Win/Win rather than Win/Lose approach to problem solving and conflict resolution.

Mission Statement

X County Hospital is a county facility operated as a not-for-profit hospital whose mission is to deliver healthcare services and health promotion to residents of the county and surrounding areas. The primary and selected secondary services will comprise the majority of X County Hospital's programs; additional services for which there is a demonstrated need will be developed. The hospital will provide an efficient healthcare delivery system, upholding its commitment to delivering services in a caring and economically viable manner.

Positioning Statement

X County Hospital is the hospital that cares. X County Hospital is committed to providing friendly, attentive, personalized service. The hospital believes that you are a person first; a patient second. The hospital is dedicated to delivering quality healthcare in a sharing, caring manner in a comfortable environment.

The Board of Directors of X County Hospital is appointed by the Board of X County Commissioners. The Board of Directors has the authority to operate, manage and control X County Hospital as a not-for-profit institution. The present Board is comprised of seven appointed members who serve on a voluntary basis.

The Board of Directors has appointed an executive director to manage the operations of the hospital. This individual, and his management staff, are responsible for maintaining an efficient, progressive and caring program of patient care at X County Hospital.

SECTION 3

IDENTIFICATION OF THE PROBLEM

Health services should be available under arrangements which are socially and psychologically acceptable to the people served, as well as professionally acceptable to those who provide the services. This care should be provided with maximum economy without compromising the standards of high quality which should be observed in any healthcare delivery system.

The location of X County Hospital largely influences the role and function of the institution. Basically, it is in direct competition with hospitals located in the surrounding counties. For example, during 1986, only 53.8 percent of X County residents had babies delivered in X County Hospital. Over 46 percent of county residents had babies delivered in surrounding hospitals. It is apparent that many X County residents are seeking healthcare in surrounding county hospitals. Certainly, some of this "leakage" is caused by the distance between an individual's home and the hospital in the surrounding county. However, much of this "leakage" could be due to the fact that X County Hospital has only "marginal" patient rooms and other physical plant deficiencies which impact upon the delivery of healthcare services. A significant number of X County residents might be seeking care in other area hospitals, because X County Hospital does not have an intensive care unit for the care of critically ill or injured patients. A

significant number of X County residents might be seeking care in other hospitals because of a lack of comprehensive outpatient surgical services at X County Hospital. It appears healthcare consumers are becoming far more sophisticated, and more demanding of healthcare institutions.

ANALYSIS OF THE PROBLEM

At the present time, and based upon the capacity of the facility, X County Hospital is licensed for 62 beds; however, the Hospital is currently operating 35 medical/surgical/pediatric beds, 2 special care beds, and 6 obstetrical post-partum beds, for a total of 43 beds. One medical/surgical nursing unit has been temporarily closed because of a reduced need for beds.

The X County Hospital has a staff of 39 skilled physician and dental specialists, including 3 dentists and 9 emergency medicine physicians. There are also over 184 personnel on staff and an active Volunteer organization whose objective is to make the patient's hospital stay as pleasant and rewarding as possible.

Area Hospital Resources

There are no other acute-care institutions in X County, but there are several hospitals located in surrounding counties that do provide medical services for some X County residents.

Table 4.1 shows the short-term hospitals in six counties surrounding X County Hospital. The tabulation shows that there are ten hospitals in the six counties surrounding X County. There are a total of 2,064 beds in the ten institutions, and during 1986, the aggregate daily census of all facilities was 1,558 or an occupancy percentage of 75.5 percent.

Two of the ten hospitals are federally owned and operated (Veterans Administration and U.S. Army), providing care for specific beneficiaries only.

The services and programs provided by the hospitals in the seven county area are shown in table 4.1. These programs and services were reported to the American Hospital Association by the individual institutions, and the data was taken from the AHA Guide to the Healthcare Field-1988 Edition.

While table 4.1 merely quantifies the services and programs available at selected area hospitals, no effort is made to evaluate the quality of the services. One method of classifying acute-care institutions is on the basis of the number of programs and services available at a specific institution. Such a classification is outlined below:

- Basic Facility - provides one to ten services or programs.
- Community Hospital - provides eleven to twenty services or programs.
- Regional Hospital - provides twenty-one to thirty services or programs.
- Referral/Area Medical Center -- provides more than thirty services or programs.

On the basis of this method of classification, X County Hospital may be classified as a Community Hospital since it provides twelve (12) of the fifty-four (54) services/programs considered, as shown on the table 4.2.

Table 4.3 is a summary of the classification of the area hospitals, using the method previously described.

Table 4.1

**Short-term Hospitals In Counties Surrounding
X County
1987**

<u>County</u>	<u>Postal Zip Code</u>	<u>Hospital</u>	<u>Acute Beds</u>	<u>Average Patient Census</u>	<u>Percent Occupancy</u>
X County	28337	X County Hospital	62	33	53.2%
Columbus	28472	Columbus Co. Hosp.	135	101	66.4%
Cumberland	28302	Cape Fear Valley Medical Center	342	289	69.3%
	28301	Highsmith Rainey Memorial Hospital	150	109	72.7%
	28301	VA Medical Center	272	197	72.4%
	28307	Womack Army Community Hospital	288	181	76.1%
New Hanover	28403	Cape Fear Memorial Hospital	77	52	48.6%
	28401	New Hanover Memorial Hospital	429	340	80.0%
Pender	28425	Pender Memorial Hospital	43	26	60.5%
Robeson	28359	Southeastern General Hospital	296	197	66.6%
Sampson	28328	Sampson County Memorial Hospital	146	66	45.2%

Source: American Hospital Association's Guide
to the Health Care Field

TABLE 4.2

Services Available in Area Hospitals

	X County	Highsmith	Pender	Sampson	Columbus	Southeastern	Veterans Admin	Womack Army	Cape Fear Valley	Cape Fear Mem	New Hanover
Ambulatory Surgery	X	X	X	X	X	X	X	X	X	X	X
Intensive Care-Cardial		X			X				X		X
Intensive Care-Mixed		X		X	X	X	X	X	X	X	X
Trauma Center			X						X		X
Ultrasound	X	X	X	X	X	X	X	X	X	X	X
X-Ray Radiation Therapy									X		X
M-Voltage Radiation Therapy									X		X
Radioactive Implants					X				X		X
Diagnostic Radioisotope	X	X	X	X	X	X	X	X	X	X	X
Therapeutic Radioisotope							X		X		
Histopathology		X					X	X		X	X
Blood Bank	X	X	X	X	X	X	X	X	X	X	X
Health Promotion	X		X		X	X		X	X	X	X
Respiratory Therapy	X	X	X	X	X	X	X	X	X	X	X
Long-Term Care Unit						X	X	X			
Hemodialysis							X	X	X		X
Hospice							X				
Physical Therapy	X	X	X	X	X	X	X	X	X	X	X
Occupational Therapy							X	X	X		X
Inpatient Rehab									X		
Outpatient Rehab							X	X	X		X
Psychiatric --											
Inpatient						X	X	X	X		X
Outpatient							X	X			X
Emergency						X	X	X			X
Consult/Education					X		X				X
Clinical Psychology							X	X	X	X	X
Organized Outpatient		X	X		X	X	X	X	X		X
Emergency Department	X	X	X	X	X	X	X	X	X	X	X
Birth Room				X	X	X			X		X
Family Planning								X	X	X	X
Extracorporeal Shock								X			
Obstetrics	X			X	X	X		X	X	X	X
Home Care								X	X		
Recreational							X	X			
Day Hospital			X								
Speech Pathology							X	X	X	X	X
Hospital Auxiliary	X		X	X		X	X	X	X	X	X
Volunteer Services	X			X		X	X		X	X	X
Patient Representative	X					X		X	X		X
Inpatient Alcohol/Chemical						X					
Outpatient Alcohol/Chemical								X		X	
Geriatric			X						X		
Neonatal Intensive Care						X					X
Pediatric Inpatient				X	X	X		X	X		X
CT Scanner		X		X		X		X	X		X

Table 4.3

Classification of Area Hospitals
According to the Number of Services/Programs Provided

- Basic Facility - none

- Community Hospital
 - X County Hospital (12 services/programs)
 - Highsmith Rainey Memorial Hospital (12 services/programs)
 - Pender Memorial Hospital (13 services/programs)
 - Sampson County Memorial Hospital (14 services/programs)
 - Columbus County Hospital (15 services/programs)
 - Cape Fear memorial Hospital (17 services/programs)

- Regional Hospital
 - Southeastern General Hospital (23 services/programs)
 - Veterans Administration Medical Center (24 services/programs)

- Referral/Area Medical Center
 - Womack Army Community Hospital (31 services/programs)
 - Cape Fear Valley Medical Center (33 services/programs)
 - New Hanover Memorial Hospital (33 services/programs)

It should be noted from table 4.3 that most services required by the population of the area are available within reasonable distances at the general acute-care institutions listed in the exhibit.

The distance that a person needs to travel to receive required hospital care often varies according to the difficulty of the diagnosis and the severity of the illness or the uniqueness of the treatment. In the X County Area (including the six surrounding counties), most services are readily available at one of the nine non-federal acute-care hospitals.

All primary and most secondary services are available to residents of the service area. Tertiary services are available at various hospitals located in the Raleigh-Durham Area.

The table on the following page (Table 4.4) outlines the services, classified according to the three major categories. A review of the table indicates that two secondary services (cardiac rehabilitation and inpatient rehabilitation) are not available at the hospitals analyzed. Also, three tertiary services (magnetic resonance imaging, cardiac catheterization and open heart surgery) are not available in the immediate service area.

Table 4.4

**Availability of Services For Residents of Service Area
X County Hospital**PRIMARY SERVICES

Emergency Treatment
Mental Health Emergency Care
Intensive/Coronary Care

SECONDARY SERVICES

Cardiac Rehabilitation
C/T Scanning
Diagnostic Radioisotopes
Physical Therapy
Rehabilitation-Inpatient Services
Rehabilitation-Outpatient Services
Psychiatric Inpatient Services
Long-Term Care Beds

TERTIARY SERVICES

Magnetic Resonance Imaging
Hemodialysis
Radiation Therapy
Cardiac Catheterization
Open Heart Surgery

The Medical Staff

The Medical Staff at X County Hospital has 39 members, and is divided into three categories. The categories are Active, Courtesy and Honorary.

Description of Medical Staff Membership Categories

The following is a brief description of the privileges and responsibilities of the various categories of the Medical Staff at X County Hospital.

Active Medical Staff (11 members) - physicians who regularly admit patients to the hospital, who are located close enough to the hospital to provide continuous care to their patients, and to assume all the functions and responsibilities of membership on the active medical staff, including emergency service care and consultant assignments. Members of the active staff are eligible to vote, to hold office and to serve on medical staff committees, and are required to attend medical staff meetings.

Courtesy Medical Staff - (28 members) - physicians and dentists qualified for staff membership but who only occasionally admit patients to the hospital or who act only as consultants. Courtesy staff members are not eligible to vote or hold office in the medical staff organization.

Honorary Medical Staff - (currently no members) - physicians and dentists who are not active in the hospital. They may have retired from active hospital practice or who are of outstanding reputation, not necessarily residing in the community. Honorary staff members are not eligible to admit patients, to vote, hold office or serve on the standing medical staff committees.

A review of the various staff categories of the Medical Staff at X County Hospital indicates that the staff is well organized and that the Active Staff members govern the operation of the Medical Staff. Approximately twenty-eight (28) percent of the Medical Staff is in the active

category, and there are a total of thirty-nine (39) members on the Medical Staff of the Hospital.

Analysis of Specialty and Membership Categories

The Medical Staff at X County Hospital is well represented by general medicine and some specialists. The following tabulation (table 4.5) shows the number of physicians in each specialty and in each staff category.

The Medical staff at X County Hospital is represented by the four "Core Specialties" usually found in Community Hospitals, i.e. Family Medicine (covering obstetrics); Internal Medicine; Surgery; and Pediatrics. However, additional physician specialists are needed to adequately serve the residents of X County and reduce the "out-migration" to surrounding counties for medical care.

Physician Need and Recruitment

During May 1987, a consulting firm provided the Hospital with a five-year staffing plan for new physicians. That plan indicated that there is a need for 37.3 physicians in 1987. The firm indicated that the "exaggerated number is due in part, to the large number of fractional needs for the 29 specialties evaluated. There will not be a need for most of the specialties, however, there are anticipated needs in a number of areas which are currently not being served at X County Hospital.

Table 4.5 shows the physician specialties currently available and needed in the future at X County Hospital.

Table 4.5

**Analysis of Physicians on the Medical Staff by
Specialty and Membership Category at
X County Hospital
1987**

	<u>Active</u>	<u>Courtesy</u>	<u>Honorary</u>	<u>Totals</u>	<u>Percent of Total</u>
Family Practice	4	2		6	15.4
Medicine					
Internal Medicine	3	4		7	17.9
Pediatrics	1			1	2.6
Surgery					
General Surgery	2	1		3	7.7
Orthopedic Surgery		2		2	5.1
Urology		1		1	2.6
Emergency Medicine		9		9	23.0
Anesthesia		1		1	2.6
Pathology		1		1	2.6
Radiology	1	4		5	12.8
Dentistry		3		3	7.7
Totals	<u>11</u>	<u>28</u>	<u>0</u>	<u>39</u>	<u>100.0</u> =====
Percent	<u>28.2</u>	<u>71.8</u>		<u>100.0</u>	

The following tabulation (table 4.6) shows a projected need for specialists, many of which are located in Wilmington or Fayetteville, and provide specialty care for residents of X County. In any event, it is important to realize that additional general/family practice physicians, obstetricians, and pediatricians will be needed to adequately serve the X County residents.

Admitting Practices of Physicians

An analysis of the admitting practices of the medical staff was accomplished. Table 4.7 shows the number of patient discharges by medical specialty for the past year (1986).

Physician Office Location

The location of physicians' offices is extremely important to the current operation and future development of most hospitals. Offices located on the hospital campus or near the hospital offer convenience and promote awareness of the services provided by X County Hospital.

Several physicians have offices in physician-owned buildings near the Hospital. This adjacency to the Hospital creates a medical complex image to patients and promotes the use of ancillary services offered by the Hospital.

Table 4.6

**Projected Physician Requirements - 1991
X County Hospital**

<u>Specialty</u>	<u>Current Level-1987</u>	<u>Projected Requirement-1991</u>
<u>Primary Specialties</u>		
General & Family Practice	3.0	8.4
Internal Medicine	2.0	1.5
Pediatrics	1.0	2.1
OB/GYN	---	2.8
General Surgery	2.0	0.3
Emergency Medicine	---	1.9
<u>Medical Specialties</u>		
Allergy	---	0.2
Cardiology	---	1.4
Dermatology	---	0.7
Endocrinology	---	0.2
Gastroenterology	---	0.7
Hematology/Oncology	---	0.3
Infectious Diseases	---	0.1
Nephrology	---	0.3
Pulmonology	---	0.4
Rheumatology	---	0.7
<u>Surgical Specialties</u>		
Neurosurgery	---	0.5
Ophthalmology	---	1.7
Orthopedics	---	1.7
Otolaryngology	---	1.1
Plastic Surgery	---	0.4
Thoracic Surgery	---	0.3
Urology	---	1.4
<u>Other Specialties</u>		
Anesthesiology	---	2.1
Neurology	---	0.7
Psychiatry	---	3.5
Pathology	---	1.7
Rehabilitation	===	0.3
Radiology	<u>1.0</u>	<u>1.5</u>
TOTALS	9.0	38.3
	====	====

Table 4.7

**In/Outpatient Discharges - By Medical Specialty
X County Hospital
(1986)**

<u>Specialty</u>	<u>Number of Admitting Physicians</u>	<u>Number of Discharges (1)</u>	<u>Discharges per Physician</u>
Family Practice	1	178	178
Family Practice/ Obstetrics	2	747	374
Pediatrics	1	109	109
Internal Medicine	2	564	282
General Surgery	2	920	460

(1) 340 of the discharges were "outpatient discharges".

Medical Office Space

At the present there is adequate commercial office space for physicians on the active staff at X County Hospital. However, the Hospital should consider the implementation of an effective physician recruitment program to ensure that all residents of X County can be adequately served. As a means of providing office space for newly recruited physicians, the Hospital should consider using some of the space which will be made available upon completion of the proposed addition.

Ambulatory and Emergency Services

Hospitals have undergone a significant change during the past several years. Just a few short years ago, hospitals devoted nearly all of their efforts toward accommodating inpatients. Today, we see hospitals devoting a great deal of effort toward the accommodation of the outpatient. This effort takes the form of the development of ambulatory surgery centers, medical malls where patients can shop for medical care, and the change in the hospital physical plant to encourage the treatment of outpatients, including the marketing of ancillary services.

A study of the need for ambulatory services in any hospital must begin with an identification of levels of such care on a local, area-wide, and regional basis. The availability of an organized staff of professionals is as important as the availability of physical plant facilities

when developing ambulatory care services within the hospital environment.

The reliance on the general hospital emergency room as an extension of, and supplement to the physician's office, has accelerated rapidly in recent years on a national scale.

The national utilization rate of emergency rooms per 1,000 population has increased by more than half in the past five years. This is not only a numerical factor; it also represents a shift in the characteristics of medical care being rendered. The emphasis of emergency, and more recently acute-care and outpatient care, is now on the care of ambulatory patients who would not be classified as true emergencies in the classical definition of the word.

One of the most important support activities is emergency transportation and emergency treatment of patients. An effective emergency medical system can provide such support. Thus, a well-equipped 24-hour emergency room should readily be available, and trained emergency transportation personnel should be available on a local basis.

Ambulance Services

In order to cope effectively with urgent health problems, an ambulance is a vital part of the healthcare delivery system. However, current quality state-of-the-art emergency medical service requires much more than just a quality ambulance service. A basic life-support system is

characterized by a universal area-wide emergency telephone number, a "911" or other common number for police, fire, and emergency medical service access. Calls arriving at a dispatch center can be quickly screened to determine the necessity for emergency ambulance response.

Generally, when an ambulance is required, the ambulance will not arrive at the scene of an accident first. Usually, police will arrive on the scene first, and therefore, law enforcement personnel in the service area should be trained to the current United States Transportation 40-hour Crash Injury Management Course skill level.

Upon arrival at the scene of an emergency, ambulance personnel actually begin to administer definitive medical care. Ambulance personnel, both driver and attendant, should be trained to at least the emergency technician's skill level. Operating under medical control of emergency physicians, through radio contact with a base station, emergency ambulance personnel can begin an initial resuscitative care, if needed, which is continued en route to the hospital.

Upon arrival at the hospital, medical and nursing personnel in the emergency room at X County Hospital confirm the diagnosis and continue treatment. The patient will be discharged from treatment, admitted to an inpatient care unit in the hospital, or transferred to another medical facility under appropriate protocol.

To make this entire basic life-support system of emergency medical service function properly and consistently requires that the general public be informed about how to recognize and respond to medical emergency situations. Training of a significant portion of the population in the service area in the American Heart Association's "Heart Saver Curriculum," which requires one session of approximately four hours, can greatly reduce out-of-hospital deaths due to sudden heart attacks, drowning, electrocution, or other events that cause the heart and lungs to stop functioning. Additionally, this is an excellent opportunity for demonstrating to the community the value of having a hospital in the area.

Hospital Emergency Service

Realizing that the majority of patients reporting to the emergency department at X County Hospital do not arrive by ambulance, it is necessary to evaluate hospital medical records to determine the activity level in the emergency service.

Table 4.8 shows the emergency service visits and hospital admissions from the emergency room for the past four-fiscal years at X County Hospital. The tabulation portrays the importance of the emergency service at X County Hospital to the service area. It is significant to note that one-half of all hospital admissions are admitted through the emergency service. The emergency room is the first impression that many patients have of X County

Hospital. The space is crowded, and likely does not make an excellent first impression to most patients.

It is also interesting to note that the number of emergency service visits has steadily increased since fiscal year 1984. Since that time there has been a 25 percent increase in the number of emergency service visits at X County Hospital. One cannot overemphasize the fact that the emergency service department is one of the primary services that the community residents will use to judge the hospital.

A survey of emergency service records (table 4.9) revealed that the greater majority of patients seen in the emergency room at X County Hospital reside within the county.

Table 4.8

**Emergency Service Visits and Emergency Admissions
X County Hospital
Fiscal Years 1983-1987**

<u>Fiscal Year</u>	Number of Emergency Visits <u>per Year</u>	Number of Admissions <u>from E.R.</u>	Percent of Total Hospital <u>Admissions</u>
1987	8,693	1,001	54.8
1986	7,690	1,186	54.6
1985	6,988	1,156	51.4
1984	6,142	1,164	49.3
1983	6,631	1,133	43.6

Note: While the number of admissions from the E.R. have decreased the percentage of inpatient admissions from the E.R. has increased. This indicates a decrease in admissions from sources other than the E.R.

Table 4.9

**Discharge of Emergency Patients - By Place of Residence
X County Hospital
(7-1-87 Through 12-29-87)**

<u>County of Residence</u>	<u>Number of Patients Discharged</u>	<u>Percent of Patients Discharged</u>
X County	3229	91.5
Sampson County	69	2.0
Columbus County	52	1.5
Cumberland County	36	1.0
Robeson County	30	0.8
Other (in state)	72	2.0
Other (out-of-state)	<u>42</u>	<u>1.2</u>
Totals	3530 =====	100.0 =====

Most patients seen in the emergency units in the nation's hospitals can be classified as other than "true emergencies." This obviously is true to some degree at X County Hospital as well.

While patients are not classified according to the severity of illness or injury, it is reasonable to assume that much of the effort of the emergency service personnel at all hospitals is devoted to treatment of non-emergency injuries and illnesses. The number of patients treated by emergency service is evidence of the importance of this service to the community. As one can see, this is especially true at X County Hospital since approximately 50 percent of all hospital admissions are admitted through the emergency room, and over 15 percent of all patients seen in the emergency room are admitted and treated on an inpatient basis.

Ambulatory Service

X County Hospital provides a wide variety of services to outpatients referred by private practitioners. Table 4.10 shows a comparison of the number of ancillary services performed for outpatients at X County Hospital between fiscal years 1983 and 1986.

Table 4.11 shows the outpatient ancillary services as a percent of all ancillary services provided by the various departments at X County Hospital. The physical therapy, ultrasound, and radiology departments provide a majority of their services for outpatients. It is important to ensure

that all ancillary service activities are readily available for outpatients, and that the hospital makes it convenient to provide outpatient ancillary services for their patients.

Outpatient Surgery

The X County Hospital also provides outpatient or ambulatory surgery services, however, the availability of these services has not been maximized. In the present environment, it is vital to provide a separate "short procedure unit" (outpatient surgery) that will encourage the use of this type of service. Outpatient surgery service is beneficial to all, including the patient, the physician, the employer, and finally, the hospital. Patients recover rapidly and recuperate more comfortably and less expensively at home. While outpatient surgery has been a service offered by most hospitals for quite some time, the recent emphasis on cost savings for the consumer and/or employer has mandated the increase in this service. Medical authorities generally agree that outpatient surgery can be used for over one-half of the surgical procedures accomplished in community hospitals.

Table 4.10

**Number of Outpatient Procedures
X County Hospital
Fiscal Years 1983 - 1986**

<u>Ancillary Service</u>	<u>FY-1983</u>	<u>FY-1984</u>	<u>FY-1985</u>	<u>FY-1986</u>
Laboratory	No Record	7,986	No Record	15,108
EKG	549	524	698	1,244
Holter Monitor	21	19	57	153
Radiology	4,780	4,896	6,419	7,727
Nuclear Medicine	120	127	162	223
Ultrasound	157	213	394	573
Respiratory Therapy	339	595	964	1,420
Physical Therapy	1,816	1,752	4,756	5,751

Table 4.11

**Number of Outpatients, Procedures,
Occasions of Service
as a Percent of all Ancillary Services
X County Hospital
Fiscal Year 1986**

<u>Ancillary Service</u> <u>Outpatient</u>	<u>Outpatient</u>	<u>Total</u>	<u>Percent</u>
Laboratory	15,108	49,310	30.6
EKG	1,244	4,088	10.4
Holter Monitor	153	185	82.7
Radiology	7,727	12,296	62.8
Nuclear Medicine	223	669	33.3
Ultrasound	573	848	67.6
Respiratory Therapy	1,420	15,366	9.2
Physical Therapy	5,751	9,728	59.0

Psychiatric, Alcohol and Drug Abuse Rehabilitative Services

An important phase of acute care involves the rehabilitation of patients afflicted with psychiatric disorders and alcohol or drug addiction. This section addresses itself to rehabilitative services including physical and psychological restoration.

Psychiatric Rehabilitative Services

Planning for a healthcare delivery system must include provision for the needs of emotionally disturbed citizens and those suffering from psychiatric problems.

The trend has been to place facilities for the care of the mentally ill and psychotic patients in the mainstream of medical treatment by locating a variety of treatment, counseling, and care services in the community. This placement not only benefits the psychotic and emotionally disturbed patient, but other patients and physicians by having psychiatrists within the general hospital and medical community where they are readily available for formal as well as informal consultations.

National awareness and interest in the problems of providing appropriate treatment services for the emotionally and mentally ill have been the stimulus that has resulted in federal and state legislation to plan, fund, and implement the development of programs and facilities to treat mental illness and improve the mental health of the community at the local, regional, and state

levels. It is the intent of these legislative programs to create a network of interrelated services enabling the individual patient to be treated at a hospital near his/her home.

The 1988 State Medical Facilities Plan, published by the Division of Facility Services, North Carolina Department of Human Resources, indicates as a policy for treatment of patients with mental illness, "For most individuals in acute distress, admission to a community-based treatment program provides greater potential for reintegration into the community." Adjacent to the X County Hospital, the county operates a mental health clinic. Patients may be seen there on an outpatient basis by counselors who will refer them to psychiatrists as needed.

Inpatient psychiatric units are also available at Southeastern General Hospital in Lumberton, North Carolina, and in Wilmington at the New Hanover Memorial Hospital. Cape Fear Valley Medical Center in Fayetteville, North Carolina, also has inpatient psychiatric care. Emergency psychiatric services are available at Southeastern General Hospital and New Hanover Memorial Hospital.

A comprehensive community mental health program is basically a program of mental health services located in a community in one or more facilities and coordinated under a unified system of care. Such is the case in the X County

area with inpatient psychiatric units located in Wilmington, Lumberton, and Fayetteville.

A comprehensive psychiatric treatment program should provide these 12 essential services:

- An inpatient care unit offering treatment to persons needing 24-hour care.
- An outpatient care unit offering individual and group treatment programs for adults, children, and families without delay.
- Partial hospitalization facilities and activities offering daycare and treatment for patients able to return to homes and families during evenings and weekends should be provided.
- Night care and treatment should be provided for patients able to work or attend school or who are without suitable home arrangements but are in need of further care.
- Emergency care on a 24-hour basis.
- Consultation and education with staff providing consultation concerning emotional problems of specific individuals to professional personnel in the community who come into contact with these persons (e.g., professional personnel, non-psychiatric physicians, clergymen, community agencies, schools, public/county health departments, courts, police, and welfare departments.
- Specialized services for children and youth.
- Specialized services for the elderly.
- Follow-up care.
- Transitional residential services.
- Alcoholism and alcohol abuse treatment.
- Drug addiction and drug abuse treatment.

The preceding services are generally available in the area between Wilmington and Elizabethtown. Members of the medical staff of the hospitals refer patients in need of

more intense psychiatric treatment to psychiatrists in the area.

The wide variety of community services which are available in the area have successfully been adapted to the specific needs of the population. Because services are readily available for X County patients, it would seem inappropriate for X County Hospital to establish an inpatient psychiatric unit at this time.

Alcohol and Drug Abuse

Services for alcohol and drug abuse patients are provided by a variety of agencies and organizations in the X County area. Outpatient counseling services for alcoholic and alcohol abuse patients are provided by the Cape Fear Memorial Hospital located in Wilmington, North Carolina. Inpatient chemical dependency services are available at Southeastern General Hospital located in Lumberton, North Carolina. Therefore there appears to be no need to establish inpatient chemical dependency beds at X County Hospital at this time.

Physical Rehabilitative Services

The acute-care hospital bed represents only one phase of the healthcare delivery system in the X County service area. This section describes physical rehabilitative services provided by acute-care hospitals in the area.

Physical Rehabilitative Services

The function of a physical rehabilitation program is designed to restore the disabled or handicapped person to the highest degree of independent, everyday living possible.

In addition to restoring patients with injuries and temporary illness, the following diseases and conditions are among those that come within the field of physical rehabilitation: arthritis, and the various rheumatic diseases; neuromuscular diseases such as cerebral palsy, paraplegia, muscular dystrophy, and other neuromuscular diseases including traumatic and orthopedic conditions. The rehabilitative process begins with the recognition of a team approach to treat the total individual. A comprehensive and well-planned rehabilitation program provides service to all disabled persons in the community, makes the most effective use of available professional personnel who are in extremely short supply and operates at the lowest possible unit cost per case. Physical rehabilitative services must be well-planned and initiated in rather specific phases:

- There is a need for rapid identification of patients who will benefit from prompt rehabilitative programs.
- Functional evaluation of the patient is needed to determine the benefits which will come to the patient from an active therapy program.
- The need for a rapid start of the rehabilitative process.
- The need for recognition of those patients whose medical problems indicate a probable need for long-term therapy.
- The need to refer those patients with severe disabilities to specialized centers for long-term rehabilitation therapy.

It has been stated by some authorities that approximately 15 to 20 percent of all acute-care hospital patients need some form of physical rehabilitative service. Delay in obtaining such service often prolongs the stay of these patients in acute-care beds.

Physical Therapy

Physical therapy is a necessary adjunctive service to the acute-care treatment of hospitalized patients and the follow-up treatment of those patients after discharge from inpatient status. This therapy service is also used for treatment of outpatients referred by area practitioners. Table 4.12 shows inpatient and outpatient physical therapy treatments during the past four fiscal years. The tabulation shows a rather dramatic increase in the total treatments between 1984 and 1986.

Table 4.12

**Physical Therapy Treatments
X County Hospital
Fiscal Years 1983-1986**

<u>Fiscal Year</u>	<u>Inpatient Treatments</u>	<u>Outpatient Treatments</u>	<u>Total Treatments</u>
1983	4,976	1,816	6,792
1984	3,087	1,752	4,839
1985	4,235	4,756	8,991
1986	3,977	5,751	9,728

At the present time, X County Hospital does not have a full-time physical therapist. The physical therapist that covers the department on a part-time basis is located in Whiteville, North Carolina. The department does have one licensed physical therapy assistant and an aide. However, prescribed treatments must be initiated by a licensed physical therapist who does this during his visits twice weekly. The hospital has attempted to recruit a licensed physical therapist for sometime, without success. In order to have a viable physical medicine program at X County Hospital, it is absolutely essential to have a physical therapist available on a full-time basis.

Long-Term Care and Home Health Services

The medical care needs of long-term care patients are not fundamentally different from those of patients with acute illnesses of a relatively short-term duration. The major difference lies in the duration and the availability of care, and the greater probability of an ultimately reduced level of functioning with long-term care.

Long-Term Care

There are three classifications of long-term care beds as outlined in the following descriptions:

- Skilled Care is an alternative to acute-care, and is somewhat hospital oriented. The very definition implies that this type of service follows an acute episode or involved a particular short-term care requirement.
- Intermediate Care offers a range of care involving less than intensive nursing care and rehabilitative services, and usually a relatively lengthy duration of care in the facility.
- Residential Care is on a boarding care level with some degree of supervision of daily living activities.

Most institutions involved in the operation of long-term care operate skilled care beds, or at least skilled care beds comprise a major component of the operation. In the present environment, acute-care hospitals utilize long-term care beds to reduce the cost of maintaining recuperating patients. This approach has been very successful in many instances, and hospitals have been able to maximize reimbursement under the DRG (Diagnosis Related Groups) reimbursement under the Medicare program.

Skilled nursing care beds are predominantly utilized by the over 65 segment of the population. The over 65 population in the state of North Carolina was 706,362 in 1985. Though the rate of increase for the population as a whole for North Carolina is projected to remain somewhat constant, the elderly population will continue to rise according to the 1988 North Carolina State Health Plan. Between 1985 and the year 2000, the number of elderly citizens 65 and over is expected to rise from 706,362 to 990,688, an increase of 40.3 percent, and will make up 13.7 percent of the State's population.

The State Health Plan indicates that "Of more importance to the long-term care system is the changing age structure of the elderly population. Population predictions, which have consistently underestimated the increase of the very old (75 and over) anticipate that during the last quarter of this century, the 65 to 74 age group will increase by 19.6 percent; those 75 to 84 age group is expected to increase by 57 percent between 1985 and the year 2000. The 85 and over age group is projected to increase by over 85 percent during the thirteen year period. In addition to the growing demand for long-term care services among the elderly population, there are the chronically ill, severely mentally retarded, and physically disabled persons who will also be in need of long-term care services. Although the needs of these population groups differ somewhat from the needs of the elderly, there is

increasing evidence that these groups will make substantial demands on long-term care resources."

The North Carolina State Health Plan for 1988 also shows that the region including X County will have a deficit of 260 nursing home beds by 1990.

At the present time, there are two nursing homes in X County, both of which are located in Elizabethtown. The Elizabethtown Nursing Center was built during the 1970's and provides skilled care and intermediate care beds. The LEN-CARE Nursing Center was recently completed and opened during November 1987. The facility provides skilled care, intermediate care, and "rest home" (custodial) care beds. The Elizabethtown Nursing Center has 84 licensed beds (44-skilled, and 40-intermediate). The LEN-CARE Center has a total of 60 licensed beds, 40 of which are skilled care, and 20 of which are intermediate care.

Patients waiting nursing home placement often continue to utilize an acute-care bed prior to placement, or are referred to facilities which are distant from their home and family. The former situation contributes to increased healthcare costs in general, and results in loss of revenue to the hospital if the bed could have been more appropriately utilized by an acute-care patient. The latter situation imposes the burden of travel on families and spouses, and often results in isolation and lack of needed support for the patient.

The State Health Plan for North Carolina indicates that "a Certificate of Need may be issued to a hospital licensed under North Carolina general statutes, Chapter 131E, Article 5, to convert ten beds (10) or ten (10) percent of its licensed care bed capacity, whichever is greater, for use as "short-term skilled nursing care" beds. The plan further indicates that "short-term skilled nursing care" is defined as skilled nursing care provided to a patient who has been directly discharged from an acute-care bed, and cannot be immediately placed in a licensed skilled nursing facility. Determination of a patient's need or "short-term skilled nursing care" shall be made in accordance with the existing criteria and procedures for determining need for skilled nursing care administered by the division of Medical Assistance and the Medicare program. No patient shall remain in a short-term skilled nursing unit more than thirty (30) days if a transfer to a licensed skilled nursing facility within a 75 mile radius of the patient's legal residence is possible. Beds in a "distinct part" shall be converted from the existing licensed bed capacity of the hospital and may not be reconverted to any other category or type of bed without a Certificate of Need. A Certificate of Need for reconverting beds to acute-care shall be evaluated against the hospital's service needs, without regard to the acute-care bed needs shown in the State Medical Facilities Plan. A Certificate of Need issued for a "short-term skilled

nursing unit shall remain in force as long as the hospital meets the appropriate conditions."

There are several disadvantages to the operation of a "hospital-based" skilled nursing facility. Chief among the disadvantages is the fact that costs of such a nursing unit are traditionally higher because staffing is usually by crossover of acute-care personnel -- of a higher level than sound skilled nursing facility management requires -- who will, by habit, tend to deliver acute-care, not skilled nursing care, to patients. There are other disadvantages to the hospital-based skilled nursing unit which must be considered as well. Unless a skilled nursing unit has a majority of private paying patients, management can do little to insure a just and equitable return of costs. Subsequently, an acute-care institution, when combined with a long-term unit, may have to share, if not bear, the burden of costs of the long-term unit. It is extremely important that if a hospital decides to utilize the skilled nursing care beds for recuperation of "acute-care" patients, emphasis is not placed on the profitability of the skilled care unit.

A major constraint to the development of licensed skilled care beds is that the focus on the way in which long-term care services are delivered is an ever evolving issue. Future trends in the utilization of long-term inpatient geriatric services will most certainly be affected by growing concerns about institutionalization as

expressed by the aged themselves, and long-term services will serve as an impetus for third party payers to encourage the development of alternative services. Increased use of lower level service modalities, including home health care or adult day care may, in fact, reduce or negate the projected requirements for additional long-term care beds.

Home Health Care

Home health services are being increasingly recognized as an important and integral component of any comprehensive effective healthcare delivery system. These services not only can form a major interface between institutionalization and self-care, but also can serve as an important primary care alternative to actual institutionalization in many cases. This is especially true of long-term care services required by individuals who have chronic disabling conditions. Home health care may enable such persons to maintain themselves in an independent living situation. This may be both the best method of care, and the least costly.

It is have estimated that up to 40 percent of persons in nursing homes could have used home health services more appropriately than a long-term care institution. There are similar indications that acute-care admissions could be prevented or the length-of-stay shortened through timely and appropriate use of home health services. This is not

intended to be an indictment of the existing system, but rather an innovative alternative in healthcare.

Home health services may be defined as a complex of medical, health, and health-related services brought into the home, singly or in combination for the purpose of promoting, maintaining or restoring health. Such healthcare and supportive services may be required because of acute, chronic or terminal illness. Home health care has several advantages in terms of both the healthcare system and the individual patient.

- Home care can be cost-effective compared to institutionalization (except for those at the highest levels of disability).
- The availability of home health care can allow for early release from the institution.
- Home care can give patients a chance to live dignified lives as part of their own family and community without becoming totally dependent on friends and family.

Home health care services are generally provided by home health agencies, and support services are provided by homemaker/home health aide agencies. Home health agencies are public or private organizations which are principally engaged in providing skilled nursing service, physical, speech and/or occupational therapy. There are two home health care programs in the area, one governmental (X County Home Health Program), and one proprietary (Comprehensive Care Home Health Program).

Home health agencies offer the following general services:

- Assistance to the patient and physician in the identification of needs and the development of treatment plans.
- Direct nursing treatments and therapies.
- Rehabilitation therapy.
- Instruction and supervision in prevention measures, and skills for care including use of equipment, supplies and appliances.
- Assistance in the use of other community resources.
- Guidance and emotional support.
- Personal care services.

The inhibiting factor to the effective use of a home health agency is the inadequate referral to the home health subsystem. Social workers, discharge planners and other providers have not fully utilized the home health service system. Consumers following the social, economic, and medical trend toward the use of health-care facilities have not been adequately informed about home care. Multiple sources of funding and coordination problems have contributed to this situation by making complete information about all resource components difficult to obtain. In summary, home care may be thought of as a provision of medical care and supportive services to the sick or disabled person in his or her place of residence, and is an important segment of the broad spectrum of the healthcare delivery system.

Utilization of Beds and Determination of Future Bed Needs

One of the purposes of this Planning Study is to analyze the past and current acute-care bed utilization and to determine future bed needs for the institution.

Certain assumptions are made so that reasonable bed needs can be projected for future populations. Chief among these assumptions is that each facility will retain its current share of the market. However, at X County Hospital, the market penetration in the service area is expected to increase rather dramatically, as certain existing services are upgraded and a modest new construction and remodeling project is undertaken by the Hospital.

Beds needed by a specific institution can be determined by evaluating the hospital's past utilization of inpatient beds and computing the "hospital use rate" of the service area population. This use rate is then projected into future populations.

The 1988 North Carolina State Medical Facilities Plan (which is a component of the State Health Plan) indicates that "For purposes of calculating occupancy rates, the actual number of beds in use is the figure utilized. However, for planning purposes, the number of licensed beds is used in determining unmet need." The plan further indicates that the statewide occupancy rate based on beds in use was 66.2 percent during 1985-86. Occupancy based on

licensed beds was 56.2 percent during that same period to time. The plan indicates that statewide, there are 3.8 licensed acute-care beds per 1,000 service population. The North Carolina State methodology for computing acute-care bed needs in the future involves a nine-step process, as outlined in the State Medical Facilities Plan. Upon application of that nine-step process, the state plan shows that there are 62 beds currently licensed in X County (1986) and the 1993 projected bed need for X County is 47 beds, with a 15 bed surplus.

Alternative Method of Bed Need Determination

Using this method, the population's use rate is based on the relationship of the current population of the service area to the yearly patient days of care provided by the hospital.

The arithmetic equation is: Total patient days of care divided by the service area population will equal the use rate of each 1,000 persons.

Once the use rates have been determined for each service, the number of hospital patient days can be computed by multiplying the use rate by the 1992 population. The result is the number of patient days projected to be generated by the hospital during the year. These days are then divided by 365 to obtain the projected average daily census for the institution. This average daily census is then divided by the optimum occupancy percentage. The 1988 State Medical Facilities Health Plan

indicates a target occupancy for hospitals between 50 and 99 beds at 75 percent. Using this methodology, the number of patient days of care to be provided for the service area population can be projected. At X County Hospital the number of projected patient days may be increased beyond those shown in subsequent computations because of newly developing physicians' practices as well as the implementation of the recommendations of this planning report. These recommendations may generate an increased market share and a corresponding increase in patient days.

Bed Availability

The utilization of inpatient beds at X County Hospital has declined significantly during the past five fiscal years. The following tabulation shows the patient days and admissions/discharge data for the period 1983 through 1987. Table 4.13 shows the decline in admissions as well as the decline in patient days that was previously noted. There has been a 41 percent decline in patient days between 1983 and 1987, and a 29.6 percent decline in admissions during this same period. These declines are apparently due to an increase in the utilization of outpatient services.

Table 4.13

**Inpatient Hospital Service Utilization
X County Hospital
Fiscal Years 1983-1987**

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Patient Days	17,650	13,235	12,203	12,171	10,395
Admissions	2,600	2,360	2,251	2,171	1,831
Discharges	2,621	2,360	2,250	2,173	1,828

Determination of Future Bed Need

As shown, the population in the X County Hospital service area (X County) is projected to increase very slightly between 1984 and 1991, according to the "Population and Service Provided" report prepared by HSA-5. The increase in population during this seven-year period will be approximately 166 persons per year. Table 4.14 shows the use rate for X County Hospital as 332.208 patient days of care provided per 1,000 residents of X County.

Using the use rate in the previous calculation and the previously described future bed determination formula, the beds required by X County Hospital can be determined as shown in the table 4.15.

The tabulation is based on current bed usage, assuming that the hospital does not increase market share over the market share that it presently has. The calculation shows that on a very conservative basis, using only population increases, the hospital will have an average daily census of 29.3 patients in 1992.

The X County Hospital patients had an average length of stay of 5.6 days during fiscal year 1987 (10,395 discharged patient days divided by 1,831 discharges). Assuming that the hospital could "regain" the share of the market that it had in fiscal year 1983 (i.e. 2,600 admissions), there would be a bed need of 53 beds in 1992 (2,600 admissions times 5.6 days equals 14,560 patient days divided by 365 equals 39.9 average daily occupancy divided

by .75 equals 53.2 bed need). With an aggressive marketing program and the updating project proposed, it is possible that the hospital will indeed regain a percentage of its lost market share.

Bed Availability

The data shown in the following tabulation (table 4.16) indicates the bed availability at the present time. The tabulation shows the design capacity, the licensed capacity, and the number of beds in use at the present time at X County Hospital. It should be noted that the first floor nursing unit has been temporarily closed and that all inpatients are admitted to the nursing units on the second floor.

Table 4.14

**Determination of Use Rates
X County Hospital
FY-1987**

<u>FY-1987</u> <u>Patient</u> <u>Hospital Service</u> <u>Population</u>	<u>1987</u> <u>Service Area</u> <u>Days</u>	<u>Population</u>	<u>Use Rate</u> <u>Per 1,000</u>
Medical/Surgical	10,395	31,303 ¹	= 332.208

- (1) Projection based on 30,805 residents in X County in 1984 and a projected increase of 166 persons per year - through 1991 (according to HSA-5 report - "Population and Service Provided").

Table 4.15

**Projected Future Bed Need - Surgical
X County Hospital
1992**

<u>FY-1987</u>		<u>1992</u>		<u>365 to</u> <u>Obtain</u> <u>Average</u>	<u>Target</u>		<u>Occupancy</u>	<u>Beds</u>
<u>Use Rate</u>	x	<u>Pop</u>	=	<u>Days</u>	<u>Census</u>	-	<u>Rate</u>	<u>Needed</u>
332.208	x	32,134 ^a	=	<u>10,675</u>	29.3	-	75%	= 39
					365			

(a) 1991 population projected to 1992 based upon an increase of 166 persons per year in X County.

Table 4.16

**Bed Count
X County Hospital**

<u>Design Capacity</u>	<u>Private</u>	<u>Semi- Private</u>	<u>3-Bed Rooms</u>	<u>4-Bed Rooms</u>	<u>Totals</u>
<u>1st Floor</u>	5	8		8	21
<u>2nd Floor</u>					
M/S	11	14	3	8	36
Spec. Care		2			2
OB	6				6
	—	—	—	—	—
Totals	16	30	3	16	65
	=====	=====	====	=====	=====
<u>Licensed Capacity</u>					
<u>1st Floor</u>	7	8		4	19
<u>2nd Floor</u>	12	24	3	4	43
	—	—	—	—	—
Totals	19	32	3	8	62
	=====	=====	====	====	=====
<u>In-Use Capacity</u>					
<u>1st Floor</u>	Not Operational				--
<u>2nd Floor</u>					
M/S	12	16	3	4	35
Spec. Care		2			2
OB	6				6
	—	—	—	—	—
Totals	12	24	3	4	43
	=====	=====	====	====	=====

DIAGNOSTIC AND TREATMENT SERVICES

Most diagnostic and treatment services at X County Hospital have shown rather significant increases during the past five years. The major services, i.e., laboratory, radiology, respiratory therapy, and physical therapy are among the services that have shown such increases. Also, the number of emergency room visits have increased by over 31 percent during the four-year period. Table 4.17 shows the activity level of the various services and departments at X County Hospital during the past four fiscal years.

In spite of the increases in activities, it would seem appropriate that X County Hospital consider a more aggressive marketing program to encourage area practitioners to refer patients who need ancillary services which are available at the hospital. The staff and equipment are readily available at the present time and an innovative program to encourage the increased use of ancillary services would certainly be in the best interest of the patient, the physician, and the hospital.

Table 4.17

**Diagnostic and Treatment Service Activity Level
X County Hospital
FY-1984 through FY-1987**

Ancillary Service/Activity	FY-1984	FY-1985	Y-1986	FY-1987
Patient Days	13,235	12,203	12,171	10,395
Admissions	2,360	2,251	2,171	1,831
Discharges	2,360	2,250	2,173	1,828
Operations (totals)	629	681	745	677
Recovery Room (patients)	545	624	683	612
Anesthesia (procedures)	429	427	500	489
Outpatient Surgery (procedures)	NR	166	247	212
Deliveries	127	170	232	202
Nursery Days	431	495	644	701
IV's	30,876	33,375	35,002	29,817
Telemetry Hours	61,148	60,551	73,608	70,668
Laboratory (procedures)	36,775	43,905	49,310	61,217
Pathology (tests)	478	550	580	567
EKG's	2,638	2,831	4,088	3,645
Holter Monitor	29	71	185	146
Radiology (procedures)	9,825	10,975	12,296	12,333
Nuclear Medicine	518	587	669	551
Ultrasound	466	628	848	1,133
Respiratory Therapy	11,012	13,723	15,366	18,993
Physical Therapy	4,839	8,991	9,728	7,236
Meals (total)	57,098	55,686	58,079	56,186
Patient (meals)	38,424	35,926	36,563	32,801
Employee (meals)	16,718	17,244	18,959	19,408
Guest (meals)	1,956	2,516	2,557	3,977
Laundry (pounds)	120,187	119,301	125,721	115,066
Emergency Room (visits)	6,142	6,988	7,690	8,693
Admissions (from E.R.)	1,164	1,156	1,186	1,001

X County Hospital provides a significant volume of outpatient services in support of the emergency services. In this connection, it is important to further develop those facilities used by ambulatory patients. Presently, all patients reporting for admission to X County Hospital are admitted in the emergency room. Also, all emergency and outpatient registration, with the exception of physical therapy patients, is accomplished in the emergency room.

The hospital does not have a designated "short procedure unit" (ambulatory/outpatient surgery unit). A space for this activity should be provided near the surgery suite, and in order to be competitive in today's environment, it is necessary to provide outpatients a pleasant environment in an operationally efficient unit.

Based upon the anticipated modest increase in the number of patient admissions and the corresponding projected increase in patients days for 1992, the following table (4.19) portrays the projected workload for the various ancillary and support departments at X County Hospital in 1992.

The workload projections in table 4.19 assume that the hospital will retain its present market share, and does not implement programs to increase that market share.

Table 4.18

**Projected Workloads - Ancillary and Support Departments
X County Hospital
1987 - 1992**

<u>Service/Activity</u>	<u>Actual FY-1987</u>	<u>Projected FY-1992</u>
Operations (total procedures)	677	706
Outpatient Surgery (procedures)	212	221
Deliveries	202	211
IV's	29,817	31,099
Telemetry (hours)	70,668	73,707
Laboratory (procedures)	61,217	63,849
Pathology (exams)	567	591
EKG's (exams)	3,645	3,802
Holter Monitor (procedures)	146	152
Radiology (exams)	12,333	12,863
Nuclear Medicine (procedures)	551	575
Ultrasound (procedures)	11,333	1,182
Respiratory Therapy (treatments)	18,993	19,810
Physical Therapy (modalities)	7,236	7,547
Emergency Room (visits)	8,693	9,067

Note: Projections to 1992 workloads assumes a 4.3 percent increase in population of the service area (X County, i.e. 166 residents per year from 30,805 in 1984 to 32,133 in 1992).

Marketing Strategies

The healthcare environment has entered a period of dramatic change. Until recently, the healthcare industry experienced substantial government intervention through the infusion of capital for the development of facilities and programs.

Following this capital infusion, the government attempted regulation to contain overdevelopment and costs associated with health service delivery.

The new environment encourages economic competition within the healthcare industry with a reduction of government intervention.

With the economic and service transitions taking place in the healthcare industry, the expectations of the community for quality services remain the same but with increased awareness about competitive choices among providers of care. The industry must maintain an accountability to the public by providing the necessary services to the community at a reasonable price. The DRG Reimbursement Program for medicare patients has placed a premium on operating efficiency and planning. No longer are the inefficient hospitals rewarded for merely providing "room and board" for patients. However, even in the current environment, efficient hospitals that are involved in advanced planning are prospering without sacrificing service to the community.

For more than 35 years in its present location, X County Hospital has provided healthcare services and facilities that have reflected the needs and expectations of its community.

Since the early 1950's, X County Hospital has been the only major healthcare provider in X County. However, it is quite apparent that during the past several years, X County residents have sought healthcare in surrounding counties, and in increasing numbers. Specifically, the larger facilities such as Columbus County Hospital in Whiteville and Southeastern General Hospital in Lumberton have had an increasing impact on the work load of X County Hospital.

The following tabulation (table 4.19) tracks the admission data at X County Hospital, Southeastern General Hospital in Lumberton, and Columbus County Hospital in Whiteville, during the past several years.

Table 4.19
Comparison of Admission Data for
Selected Area Hospitals
1980-1986

	<u>X County Hospital</u>	<u>Southeastern General Hospital (Lumberton)</u>	<u>Columbus County Hospital (Whiteville)</u>
1986	2657	10080	7607
1985	2360	10992	8635
1984	2600	10619	7897
1983	2598	11214	7805
1982	2786	11477	7939
1981	2919	12002	7810
1980	3096	11404	6443

Source: AHA Guide Issue to the Healthcare Field (1988).

Physicians seeking to practice in X County must join an established practice or negotiate with commercial landlords in the various towns within the county for office space. New physicians establishing a practice will usually desire to have an office on the hospital campus, or at least very near the hospital. This permits the practitioner to have all of the hospital's ancillary services readily available, without a large initial investment.

To expand market share it is important that X County Hospital consider a major addition and renovation project to the existing physical plant, and consider the development of medical office space in the abandoned portions of the existing hospital building. This would provide a means of recruiting physicians as the existing medical staff members retire or relocate their practices. In this connection it is possible that such a project could well be a joint venture with medical staff members, assuring that the physicians and the hospital experience financial rewards.

During the next several years, it is absolutely essential that X County Hospital meet the following challenges related to growth:

- Meet the competition or BE THE COMPETITION in the X County area.
- Develop appropriate new facilities for inpatient and outpatient services in response to the needs of the population residing in the service area.

- Develop new services and maintain appropriate existing services and programs in a restricted capital market.
- Remain price competitive.

The hospital industry today is no longer in the business of providing illness care alone. The industry's activities extend beyond the hospital and provide for the delivery of healthcare. Healthcare delivery includes such diverse activities as home care, life-style management, community health education and screening, and packaged physicians services.

In order to maintain an institution's effectiveness in the healthcare industry, it must maintain its position as a healthcare organization by sustaining its present patient volumes, regaining lost "business," growing where appropriate, and providing diversified services to meet physicians' requests and consumer demands.

Volume maintenance, regaining lost "business," and moderate growth is extremely important for X County Hospital. Improved utilization can best be achieved with a nominal investment in a well-planned, coordinated program to renovate and add to the existing physical plant. It is also important to have a well-qualified medical staff and motivated employees.

It is important to aggressively pursue an addition and renovation program that evaluates all hospital departments and patient units to be assured that once completed, the hospital will function efficiently and can

accommodate modest increases and workload without "piecemeal additions."

Strategies

If X County Hospital is to meet the challenges of the coming decade, the following strategies must be pursued aggressively by the institution:

- Growth
- Diversification
- Consolidation

Growth

X County Hospital must make the commitment for regaining lost "business". The commitment that the institution makes must extend to developing a major construction and remodeling program to better accommodate existing and new services. This will require a substantial investment, however, without this commitment, it will not be possible for the hospital to become competitive, and regain lost "business", and to grow even further, or to even maintain its present market position.

Diversification

Diversification activities must be pursued simultaneously with the investment for growth. These activities must include the development of new healthcare services needed or requested by the community as well as the development of non-traditional services.

X County Hospital provides few specialized high-technology services. The dependence on basic services places the hospital in a vulnerable position which is extremely sensitive to competition and the market.

The pursuit of diversification will reduce the vulnerability of the hospital to changes in the competitive environment and provide a sufficient financial base for the continued provision of some charitable services.

Consolidation

The objective of consolidation will be to free resources absorbed by duplicate administrative and clinical activities while improving the organization and overall quality of patient care services. As capital for future investment becomes increasingly scarce and with emphasis placed on economic competition, consolidation has become an important strategy to the hospital. Consolidation should not be attempted in those areas which, although duplicative, are cost effective. The goal will be to consolidate services while maintaining volume and revenues, achieve reductions in operating expenses, and reduce capital investment.

Conclusion

The strength of X County Hospital will depend upon its ability to regain its market position, grow, and compete in today's environment. The hospital must be

willing to make substantial capital investments for the development of new markets as well as new services which are unique to the service area. With these commitments the hospital will have the ability to meet the needs of the community in a strong, competitive manner.

Strategic Opportunities

The primary objectives of a Development Program are to ensure that the hospital can meet its responsibilities by best serving its community.

The following Development Program actions should be considered by the hospital management, the medical staff, and the Board of Directors of X County Hospital:

- Adopt a physical plant expansion and renovation program that will provide adequate space for hospital departments and activities.
- In concert with the medical staff and the Board of Directors, hospital management should consider the development of a physician recruitment program to augment the existing medical staff and to adequately serve the residents of X County.
- Development of an updated obstetrical unit with input from the physicians utilizing the obstetrical facilities.
- Maximize the development of outpatient services, providing a referral source for area physicians.
- Evaluate the need for a "Family Wellness Center" in cooperation with the local health agencies and members of the medical staff. Such an activity would include services as library and resource center, breast care, child/prenatal information, osteoporosis screening, and other activities which would be of interest to families. The program could also be extended to include physical examinations, cholesterol screenings, blood pressure and diabetic screenings, nutrition counseling, etc.

The preceding strategic opportunities are in consonance with the need to provide for the further development of X County Hospital. The implementation of these program actions, along with a well-coordinated program of upgrading facilities and services is essential to the future of the institution.

Departmental and Nursing Unit Analysis

The primary purpose of the departmental and nursing unit analysis is to identify those departments that lack sufficient space to function in the most efficient manner. Additionally, the analysis provides evaluation of the functional relationship of one department to another and to other areas. Finally, the departmental analysis documents and inventories the space currently available to each department.

The nursing unit analysis provides for an inventory of the number of beds on each unit in the existing physical plant, shown by floor and by type of accommodation, i.e. private, semiprivate, three bedroom, or four bedroom.

Each department within a hospital must be designed not only in terms of adequate space and functional internal layout, but should also be grouped geographically with other similar departments in such a manner that allows all personnel to perform their tasks effectively and in the most efficient manner.

The site and facilities were evaluated from the perspective of current space utilization and the opportunity that the X County Hospital and its departments have to accommodate change.

The main hospital building at X County Hospital was completed in 1951, and there have been several additions since that date. The original building was a two-story hospital building in the shape of a cross with the south leg being only one story. The second story of the south leg (nursing unit) was built in 1959. In 1976 a one-story addition provided for a new main entrance to the hospital, and in 1979 a support wing was added which included space for central stores, dietary, physical therapy, personnel, pharmacy, housekeeping, etc. Finally in 1981 a one-story addition was completed and provided space for radiology, nuclear medicine and ultrasound. No new patient rooms have been completed for almost 30 years (original in 1951 and an addition in 1959). The patient rooms are generally quite small and do not have the lavatory and bathing facilities that today's patient rooms have. The hospital has 62 licensed beds but has a designed capacity for an additional three beds, maximizing all available patient room space.

The following outline shows the activities which are located on each level of X County Hospital.

First Floor Level

Accounting
 Business Office
 Administration
 Vending/Public Snack Area
 Reception
 Lobby/Waiting
 Security
 Medicaid Eligibility Office
 Discharge Planning Office
 Radiology/Ultrasound/Nuclear Medicine
 Emergency Service
 Medical Records
 Chaplain
 Respiratory Therapy
 Clinical Laboratory
 21 Bed Medical/Surgical Nursing Unit
 2 Temporary Conference Rooms
 Administrative Assistant Office
 Development Office
 Nursing Supervisor's Office
 Medical Records Storage
 Dietary (Kitchen and Dining)
 Mechanical Room
 Physical Therapy
 Conference Room
 Nursing Service Administration
 Pharmacy
 Housekeeping
 Linen Service
 Personnel
 Purchasing
 Maintenance (separate building)

Second Floor Level

Surgical Suite (2-OR's)-Recovery Alcove
 38 Bed Medical Surgical Unit (includes 2 special care beds)
 6 Bed Postpartum Unit
 OB Delivery Suite/Labor Unit (2 beds)
 Nursery
 Family Waiting Area
 Central Sterile Supply
 Chapel

Accounting and Data Processing

The space allocated for accounting and financial includes an office for the chief financial officer and a large room for accounting. Additionally, the credit -

collections person has a private office. The data processing activity is also located in the same area as accounting and shares the large room with accounting.

The space assigned to accounting and data processing appears to be adequate, however, it could be located elsewhere in the facility, as there is very little contact with patients and/or visitors, with the exception of the credit office manager.

Administration

Administration is also located in the north wing of the first floor of the main hospital building, and consists of an office for the administrator and an office for the secretary/receptionist. There is one additional office included in the administrative function, and that is located on the west wing of the main hospital building (21 bed M/S unit which is closed). This office is occupied jointly by the administrative assistant and the development office. (It is a former 4 bed room.) The space provided for the administration function appears adequate.

Admitting

All admitting is accomplished in the emergency room, having been moved from the business office recently. The credit and collections function occupies the former admitting office.

The business office has found that registering and admitting all inpatients, outpatients, and emergency room

patients in the emergency room has permitted the joint-use of personnel and has been a cost saving measure to the office. The admitting space allocated to the activity in the emergency room is small and crowded, with the patients having to sit in the "corridor," having little or no privacy during the admitting process.

The admitting function should be provided space so that patients would be afforded privacy during the admitting process, and this space should be kept in the emergency room, where it is operating in an efficient manner.

Business Office

The business office is located immediately adjacent to the accounting/data processing office. It consists of 2 offices, 1 large open area with 4 clerks, 1 cashier, and 1 communications specialist. The business office manager has a small private office located adjacent to the larger open area.

The space allocated to the business office is crowded and affords no privacy for discussion of patient accounts.

Central Sterile Supply

The central supply department is located on the second floor of the north wing of the main hospital building. It is immediately adjacent to the surgical suite and operates as a "sub-section" of surgery. There are 2 autoclaves, storage shelving and work space. The

space provided for central sterile supply appears to be inadequate.

Chapel

The chapel is located on the second floor of the main hospital building close to the nurses station. The space provided for the chapel is adequate, however, any relocation of the nursing unit would necessitate a relocation of the chapel as it should be in a space that is conveniently available to patients and family members, as well.

Dietary/(Cafeteria/Kitchen)

The X County Hospital has an employee/visitor cafeteria located immediately adjacent to the kitchen. The dining room has 44 seats and should be provided additional space to accommodate employees and guests, especially during the noon meal.

The following space is available in the kitchen area which is located immediately adjacent to the serving line and dining room:

- Dishwashing Area and Tray Return (2 freezers)
- Food Cart Area (3 food carts)
- Paper Goods Storage Room
- Patient Tray Assembly Area - 5 steam trays
- Cooking Area (6 burner electric range, grill, steam kettle, deep fryer, mixer, and double oven)
- Perishable Food Storage Area (2 freezers, 3 refrigerators, 1 icemaker)
- Dry Food Storage Area - main delivery is 1 time per week, and the room is located immediately adjacent to the loading dock.
- Chemical Storage/Utility Room
- Pot/Pan Cleanup Area
- Work Tables

The primary deficiency in the kitchen is the lack of a garbage can steam cleaner. The amount of space provided in the kitchen is adequate for the anticipated workload at X County Hospital.

Electroencephalography (EEG)/Electrocardiography (EKG)

At the present time EEG's, EKG's and pulmonary function tests are accomplished in one room located within the respiratory therapy department. While the space provided for EKG's and EEG's would be adequate if no other activities were conducted in that room, additional space needs to be provided for the respiratory therapy department. Also, a better internal functional arrangement of the department must be considered. Additional discussion regarding this problem will be found within the respiratory therapy section.

Emergency Service

The emergency service is located in the east wing of the first floor of the main hospital building.

The following spaces are provided in the emergency service area:

- Waiting Area - 6 seats
- Reception - 2 work spaces (handle all admissions including inpatient, outpatient, and emergency).
- 3 ER Treatment Rooms (1 treatment space in each room).
- 1 ER Treatment Room with 2 treatment spaces.
- Nurses Station and the corridor
- ER Physicians' Room
- ER Nurse Supervisor's Office (former utility room).
- 2 Small storage Rooms

The emergency service space is crowded, and does not present the best image of the hospital to incoming patients. It is an extremely busy service and should be provided additional space. The location of the facility is such that it serves as a "corridor" between radiology and the other activities in the hospital. The admitting function compounds the "space problem." The emergency service function needs to have adequate space since additional activities are conducted in this area.

Gift Shop

The gift shop is located at the reception counter and is staffed by volunteers who serve as receptionists as well as managing the gift shop counter. The location is certainly ideal, and the space would appear to be adequate.

Snack Bar/Vending

The vending area is located immediately adjacent to the main lobby in a small alcove, with two tables for visitors.

Housekeeping

The housekeeping service is located in the southwest wing of the hospital building (1979 addition). It is adjacent to the soiled linen room and the clean linen room, which are conveniently located to the service entry dock.

The space provided for housekeeping supplies and carts is adequate at the present time. If a new structure

is built, it would be appropriate to provide small housekeeping rooms in the building.

Labor/Delivery

The labor/delivery unit is located on the second floor of the main hospital building in the east wing. It is immediately adjacent to the 6 bed obstetrical/post partum nursing unit. The labor/delivery suite consists of one major delivery room and a second smaller delivery room, 2 private labor beds, physicians' locker room with adjacent lavatory space, nurses' locker rooms with adjacent lavatory space, a utility room, storage room, and 2 scrub sinks. There is also an autoclave located between the 2 delivery rooms.

Cesarean sections are accomplished in the operating room. The labor/delivery area will require a major renovation or replacement. In this connection it would be appropriate to consider the implementation of the Labor/Delivery/Recovery/Postpartum concept. This concept should only be implemented with the concensus of members of the medical staff and the nursing service.

Laboratory

The clinical laboratory is located on the first floor of the main hospital building in the south wing of the original building. The laboratory has a staff of 11 people and operates 7 days each week (3 shifts per day).

There is adequate space available for laboratory activities, and the following spaces are provided within the laboratory area:

- Chemistry
- Hematology
- Bacteriology
- Blood Bank
- Blood gas
- Urinalysis

The laboratory could handle additional workload, i.e. intensive care with no additional staffing increases.

There is a morgue room located in the southwest addition and consists of cadaver refrigerators only. No autopsies are done in the hospital.

Linen

The soiled and clean linen rooms are located in the southwest addition to the hospital. There are 2 separate rooms which are located close to the service dock. The space provided for linen is adequate at the present time.

Lobby

The entrance lobby for X County Hospital was added since the original construction of the hospital building. It serves as the main visitor entrance, however, the patient entrance is through the emergency service, where patients are admitted. The space is adequate, however, the exterior still has a canopy to the former front entrance, and it is rather difficult for people who are not acquainted with the hospital to locate the main entrance.

Maintenance Engineering

The maintenance engineering department is located in a separate building adjacent to the emergency parking lot. The building is shared with record/equipment storage. Additionally, there is an emergency generator located immediately outside the building in a sheltered area.

Medical Records

Medical records is located on the first floor of the main hospital building across from the clinical laboratory. It is a convenient location for members of the medical staff. The space provided includes one large work and storage room, an adjacent office for the department manager, and 2 physician's dictating booths, which are located immediately adjacent to the main hospital corridor. Also, included in this area is a small physician's lounge with adjacent lavatory facilities.

The medical records department does not have adequate space for the activities that are conducted. The work room is extremely crowded and has the following:

- 6 work positions
- 1 part-time work position
- 1 - 15 foot shelving - record storage (8 shelves)
- 4 dictating tanks

Additional space should be allocated to the medical records department, and this space should be provided in an area convenient to the physicians' exit/entrance.

Nursery

The nursery is located on the second floor of the main hospital building across from the nurses station for the medical/surgical nursing unit. The nursery room is about 250 square feet and has an adjacent work room which is about one-third of the size of the nursery. The space for the nursery is adequate, however, if labor/delivery is relocated, the nursery must also be relocated.

Personnel

The personnel department is located on the first floor level in the southwest addition to the hospital. The space consists of 2 private offices, 1 for the director of personnel, and the second office is utilized by the personnel assistant/secretary. There is also a reception room where applicants complete employment applications and receive other personnel information. The space provided is adequate, and it is located immediately adjacent to the service entrance.

At the present time most potential job applicants enter the hospital through the main entry and must walk through the entire first floor of the hospital to the personnel office.

Pharmacy

The pharmacy is located in the Southwest addition to the main hospital, and consists of a small work room, a storage room, and an office for the director of pharmacy.

Additionally, IV solutions are stored in a portion of the central storage warehouse. The pharmacy is operated on a contract service basis. The pharmacy does not fill employee prescriptions, drugs for discharged patients, or any other outpatient orders. Storage space is a relatively big problem for the pharmacy. No additional services can be absorbed because of the lack of storage space in the pharmacy.

It is appropriate to provide additional storage space for pharmacy. The pharmacy should provide drugs for the home care program and employee prescriptions. Additional space should be made available for the pharmacy.

Physical Therapy

The physical therapy department is located in two rooms in the southwest addition to the main hospital building. One of the rooms currently occupied by the wet and dry treatment modalities was formerly a portion of the cafeteria/dining room.

At the present time staffing of the physical therapy department consists of the following:

- physical therapist "part-time" from Whiteville.
- Licensed physical therapy assistant.
- Aide

The space presently available includes the following:

- Large room (no private office)
 - Desk and reception area
 - Equipment storage
 - Parallel bars for ambulation

- Treatment room (2 wet spaces/2 dry spaces)
 - Lo-Boy Hydro Tank space
 - Leg Tank space (hand hydro unit)
 - Plinth dry space
 - Low table dry space

Other equipment in the department includes:

ultrasound, diathermy, and electrical stimulation.

At the present time X County Hospital does not have a full-time physical therapist and has been recruiting for this position for quite some time. It is essential to have a full-time physical therapist to maximize the use of this service.

The location of the physical therapy department is not convenient for outpatients, and the department will need additional space when a full-time physical therapist has been recruited and the department becomes much more active.

Purchasing/General Stores

The purchasing/general stores activity is located in the southwest wing of the addition that was completed in 1979. The space available for purchasing/general stores includes:

- Office - director, records, and part-time clerk.
- Warehouse - receiving desk and storage.

The staffing consists of one director, one warehouse clerk, and one part-time clerk. The activity maintains a perpetual inventory and carries approximately 2,000 line items.

Purchases are made under contracts with the "Sun Health" group and under the "Med Line." The hospital currently uses many disposables including disposable packs in surgery. The warehouse has approximately 1,300 square feet which is adequate, provided pharmacy is allocated additional space for storage of IV solutions.

Radiology (Diagnostic Imaging)

Diagnostic imaging is located in a new addition to the hospital that was completed in 1981. The following equipment is presently available:

- 2 R/F Apparatus - 1 Mammogram Unit
- 1 Portable Apparatus
- 1 Gamma Camera (nuclear medicine)
- 1 Ultrasound Apparatus - Echo and Doppler
- 1 C/T Scan Apparatus

Magnetic Resonance Imaging service is available in Fayetteville and Wilmington. The department operates Monday through Friday 7:30 a.m. to 12:00 a.m. and limited hours on Saturday and Sunday. Presently, there are 7 technologists (full-time) and 1 patient transporter who also does clerical work and functions as a darkroom technician. All radiographic reports are typed in medical records.

The space needs for the department include additional X-ray file storage, a lounge or break room for x-ray techs, and a private office for the chief technologist.

Respiratory Therapy/Cardio-Pulmonary Services

The cardio-pulmonary activity shares the entry room with the chaplain. The entry room is also used for storage of clean respiratory therapy items.

The staffing of the department includes 1 director and 7 respiratory therapy technicians. The department is responsible for respiratory therapy, electrocardiography, cardiac stress testing, and Holter monitoring.

The department is currently located across the corridor from the clinical laboratory on the first floor of the main wing of the hospital.

Other space available in addition to the supply/equipment storage room which is shared with the chaplain includes the director's office (also and EEG room) and a work/testing room (EKG, PFT, etc.). The department needs additional space and careful consideration should be given to providing a suitable internal functional arrangement.

Nursing Service Administration

The nursing service has a suite of 2 offices located in the southwest wing of the hospital. The space includes an office for the director of nursing and an office for the secretary. Additionally, there is an office for the discharge planner (registered nurse) located immediately adjacent to the main lobby of the hospital. Finally, there is an office for the nursing supervisor located on the closed 21 bed nursing unit.

It would be appropriate to provide a cluster office arrangement" for the nursing service, with the exception of the discharge planner whose office should remain as near as possible to the location for patient discharges. Consideration should be given to locating this activity near Administration.

Storage

There are several rooms in the hospital that are currently used for storage by various departments and activities. It would not seem appropriate to construct storage space, as space that may be abandoned through relocation into newly constructed areas could more appropriately be used for storage.

Surgical Operative Suite

The surgical operative suite is located on the second floor level in the north wing. The space consists of two operating rooms, a nurses' dressing room, a physicians's dressing room, and anesthesia work room, a cleanup room, and a scrub area. Additionally, there is a "recovery alcove" within the surgical suite. Finally, there is an autoclave located in a "substerile area" between the two operating rooms.

There is no "short procedure unit" (day surgery). With the emphasis on outpatient procedures, it would seem appropriate to provide space for a "short procedure unit" and do the surgical procedure in the surgical suite.

The surgical suite does not have an adequate recovery room as patients are recovered in a small alcove adjacent to the nurses' dressing room. It is necessary to either renovate or replace the surgical suite with a facility that is adequate for the types of surgery performed at X County Hospital.

Volunteers

The volunteer organization is responsible for staffing the reception desk and operating a small gift shop. This space seems adequate at the present time; however, it would seem appropriate to provide the volunteers with a designated room for their activities and storage.

Medical/Surgical Nursing Unit

The 38 bed medical/surgical nursing unit is located on the second floor of the main hospital building, consisting of two separate wings. The second floor nursing unit has 36 medical/surgical beds and 2 special care beds. The special care beds are used for patients requiring more intense treatment for illness and/or injury. The room is not designated as an intensive or cardiac care unit, however, X County Hospital does need the capability of providing intensive and cardiac care for patients admitted to the facility. Additionally, the patient rooms are small and do not afford required privacy, especially since the lavatory (sink) is located in the patient room, and the toilet is in a small room

between 2 patient rooms, being shared by either 2 or 4 patients, depending upon the size of the patient room. Additionally, the 4 bed-rooms and 3 bed-rooms do not have adjacent toilet facilities, therefore, patients must use toilet facilities in rooms located off the main corridor.

Obstetrical Nursing Unit

The 6 bed obstetrical unit is located on the second floor adjacent to the medical/surgical unit at that level. the unit has 6 semi-private beds, 4 of the beds having access to the same toilet, and the other 2 beds having no immediate access to the toilet facilities with the exception of the facilities down the hallway.

SECTION 5**RESOLUTION AND RECOMMENDATIONS**

Health services should be available under arrangements which are socially and psychologically acceptable to the people served, as well as professionally acceptable to those who provide the services. This care should be provided with maximum economy without compromising the standards of high quality which should be observed in any healthcare delivery system.

The increasing demands of the health-conscious population are now, and will continue to place more emphasis on the correct use of trained personnel, facilities and dollars. Competition for the priorities among institutions, organizations, and advocates of new uses of the healthcare dollar could well be melded into a total new set of values related to national priorities for all facets of social and economic demands in our society. To remain current will require imagination, ingenuity, and innovative ideas in the organizational planning of a system which can adjust to future requirements.

X County Hospital has established certain long-range goals and objectives which will aide in the further development of the institution as the only major provider of healthcare services in X County.

Long-range goals must clearly be established and precisely stated; however, periodic reevaluation of

specific planning objectives is always required to reflect specific changes that predictably will occur.

Healthcare planning must reflect the community or area rather than an institutional or provider interest. Thus, basic philosophies, principles and guidelines utilized, have as their objectives the formulation of recommendations which can form the framework for a healthcare system designed to provide comprehensive, quality care in the most efficient and economical manner, and with a true sense of continuity.

Health services cost money and comprehensive community health services cost a good deal of money. Community health agencies and hospitals that spend money on behalf of others have the responsibility to be certain that they are getting their money's worth for their beneficiaries - the public.

Community health-care agencies must plan their programs in terms of the area they intend to serve, and the scope of such services must be established with respect to the area's history, special interests, geographic location, social composition, and the present and projected needs of the area.

The consequences of rapid medical advances place additional emphasis on the need for a center of diagnostic and treatment services to support the physician and the care he/she provides locally and in the surrounding geographic area. X County Hospital has created such a

center of diagnostic and treatment services, and adequately supports the area practitioners. However, it is incumbent upon the hospital to aggressively seek still other ways of supporting the physicians and the community.

Area Served

In order to more accurately determine the appropriate service area for X County Hospital, a patient origin analysis was conducted. This analysis showed that over 84 percent of the patients admitted to the hospital were residents of a seven community area located in X County.

Planning authorities generally use an 80 percent benchmark for establishing an institution's service area. In this instance, the analysis showed that X County residents comprised well in excess of 90 percent of the patients admitted to X County Hospital during the period analyzed. Accordingly, the patient origin analysis has confirmed that X County is the service area for this institution.

Discussion and Recommendations

The following recommendations are based on the analysis of X County Hospital's present situation and represent goals to be accomplished if the hospital is to remain a provider of quality healthcare services in the future.

Obstetrical Services

It is important to realize that a pleasant experience during delivery and post partum care, may encourage the

mother to return to the X County Hospital for routine care. It is also important to remember that the mother will determine where care is to be obtained for family members in the vast majority of situations.

Because of the importance of the obstetrical service, it is recommended that:

1. X County hospital should continue to provide quality obstetrical care, and improve the obstetrical facilities to attract potential mothers.

Medical Staff Resources

The functions of a hospital include the need to sustain the existing professional generation, and also to create an environment to which new physicians will be attracted. The consequences of rapid medical advance place additional emphasis on the need for a center of diagnostic and treatment services to support the physician. The degree to which medical specialization occurs, has created a need for an environment which encourages organization and consultation, and the management capabilities of placing both patient and personnel at the right place at the right time. Regionalization permits a concentration of medical talents not otherwise available in central location, enhancing the quality of service and consultations.

In order to remain at a continuing level of excellence in providing services, programs and facilities for hospital care of the community it serves, it is incumbent upon the Board of Directors, Administration, and

the Medical Staff to function as an alert team. This team must be continually sensitive to changing needs and technologic advances; it must be alert to other institutions, to the developing scope of their respective involvement in facilities and services, and to recruiting new physicians to the area.

During May 1987, a consulting firm provided X County with a five-year staffing plan for new physicians. That plan indicated that there was a need for 37 physicians in 1987, however, the firm indicated that the 'exaggerated number' is due in part to the large number of fractional needs for specialties evaluated.

While there may not be a need for the majority of specialties indicated, it is recommended that:

2. X County hospital, including the Board of Directors, the medical staff and administration should implement a program to insure adequate physician recruitment so that primary care physicians, and appropriate specialists will be available to serve the population of the service area.

Ambulatory and Emergency Services

In order to cope effectively with health problems, health delivery systems should be as comprehensive as possible, and should include emergency services for sudden illness and injury, including transportation and care outside of the hospital.

Normally, ambulance service should be available to most residents of the area with a fifteen minute response time. Hospital emergency and critical care units should

be available within thirty minutes driving time. Ambulatory clinics or hospital emergency departments, where patients who need specific health and medical services, but who do not need to be admitted to the hospital, should be readily available.

One of the significant changes occurring in healthcare delivery systems during recent years has been the increased emphasis placed on ambulatory care. Because of the effectiveness and the economy realized, ambulatory care is readily becoming the very backbone of healthcare delivery systems.

The basic reasons for the escalating demand for outpatient healthcare services are many and complex. Certain causative factors of this increased requirement for ambulatory service are:

- Changing patterns of physicians' practice.
- Rising per-patient-day cost of inpatient care.
- Suspected, and in many instances, an over-utilization of inpatient services.
- A national shortage of trained professional personnel.
- Recognition by physicians, and acceptance by the general public, of the importance of preventive care and health maintenance as contrasted to the traditional curative approach.
- Increasing sophistication and cost of certain diagnostic and treatment methods, which includes the advent of automated testing techniques capable of prompt reporting.

X County Hospital has a very active emergency service, and provides a significant amount of ancillary

services to ambulatory patients in support of medical staff physicians.

During fiscal year 1987, almost 8,700 patients were seen and treated in the hospital's emergency service. This is 13 percent increase from 1986, and over a 23 percent increase from 1985. The number of visits to the emergency service at X County Hospital is an indication of the importance of that service to the community. Additionally, it is extremely important that the patient's impression of the emergency service is that it is efficient and caring. Attitudes of this nature will do much to convince the patients that when they need medical treatment in the future, they will look to X County Hospital.

Because of the importance of the emergency service in marketing strategy, and because the emergency service may be the first and/or last contact with the hospital, it is recommended that:

3. The hospital should continue to provide quality emergency care and emphasize the promotion of such service to the community. The emergency service space should be improved to facilitate providing such care.

Many hospitals merely provide emergency care because it is "expected", not realizing the importance of such care as a means of serving the community and showing excellent public relations.

The public relations aspect at X County Hospital is especially important since approximately 50 percent of all

hospital admissions are admitted as emergency patients, and 15 percent of all patients seen in the emergency room are admitted to the hospital for inpatient treatment.

Ambulatory Services

X County Hospital provides a wide variety of service to outpatients referred by private practitioners. As an example of the importance of providing ancillary services to outpatients, over 62 percent of radiology procedures are accomplished on an outpatient basis. Over 59 percent of physical therapy procedures, and over 30 percent of laboratory procedures were accomplished for outpatients in 1986.

Outpatient surgery is certainly one of the most significant improvements in cost reduction of services provided to patients. X County Hospital provides outpatient surgery services, however, the availability of these services has not been maximized. Outpatient surgery service is beneficial to nearly all, including the patient, the physician, the employer, and the hospital. While outpatient surgery has been a service offered by most hospitals for quite sometime, the recent emphasis on cost savings for consumer and/or employer has mandated the increase in this service.

Medical authorities generally agree that outpatient surgery can be used for over one-half of the surgical procedures accomplished in community hospitals.

Because of the need to provide quality services at a

reasonable cost to X County residents, it is recommended that:

4. The hospital should provide a distinct outpatient surgery unit.

Psychiatric, Alcohol and Drug Abuse Rehabilitative Services

Psychiatric and chemical substance abuse rehabilitation are extremely important services in today's healthcare delivery system. There are a myriad of treatment facilities, i.e., residential, half-way house, etc.; however, the acute-care hospital is the cornerstone of this rehabilitative process.

Psychiatric Services

The trend has been to place facilities for the care of the psychiatrically ill and psychotic patients in the main stream of medicine by locating a variety of these treatments, counseling and care services as a part of, and on the site of an existing acute-care hospital. This placement not only benefits the psychotic and emotionally disturbed patient, but also other patients and attending physicians by having psychiatrists on the staff within the general hospital where they are available for formal, as well as more important informal, consultations. X County Hospital does not have a mental health care unit for psychiatric patients. However, there are several inpatient units located in area, including Lumberton, Wilmington, and Fayetteville. Adjacent to the X County Hospital, X County operates a mental health clinic.

Patients may be seen there on an outpatient basis by counselors who will refer them to psychiatrists as needed.

At this point, because of the availability of inpatient psychiatric care in the area, it is recommended that:

5. X County Hospital should not consider the establishment of an inpatient mental health unit.

Alcohol and Drug Abuse Services

In some cases, it is extremely difficult to differentiate between patients suffering from alcohol and/or drug abuse with an underlying psychiatric problem from those merely suffering from alcohol and drug abuse. Oftentimes, it is advantageous to provide psychiatric and alcohol/substance abuse treatment units within the same medical facility. This arrangement provides for the transfer of patients to the appropriate unit which can best provide for an individual's needs.

An alcohol/drug abuse patient treatment program provides for the rehabilitation of persons gainfully employed whose performance or social interaction with other individuals is impaired. Such a program provides a true rehabilitation program conducted by professionals such as therapists, social workers, and psychologists. A program of this nature can be provided in conjunction with psychiatric therapy, and the professionals involved in one program can well be utilized in the other program. Southeastern General Hospital in Lumberton operates an inpatient alcohol/chemical dependency unit. Outpatient

treatment for alcohol/chemical dependency is available at Cape Fear Memorial Hospital in Fayetteville. In light of the availability of treatment for alcohol/chemical dependency, it is recommended that:

6. X County Hospital should not establish an inpatient alcohol and drug abuse treatment program.

Physical Rehabilitative Services

The acute-care hospital bed represents only one phase of the healthcare delivery system in the X County service area. X County Hospital has a limited physical rehabilitation program, and these services are provided primarily by the physical therapy department. However, the service is handicapped by the lack of a full-time physical therapist. The physical therapist that covers the department on a part-time basis is based in Whiteville, North Carolina.

Few studies have investigated the coordinated acute rehabilitative programs offered by various institutions. This is especially true of acute inpatient rehabilitation programs offered by community hospitals.

It has been set forth by some authorities that approximately 15 to 20 percent of all acute-care hospital patients need some form of physical rehabilitative service. Delay in obtaining such service often prolongs the stay of these patients in acute-care beds.

The preceding discussion indicates the importance of an active physical rehabilitation program at X County

Hospital. Because of the importance of the program to the overall treatment of X County residents, it is recommended that:

7. X County Hospital should aggressively recruit a physical therapist to develop and operate an outpatient physical rehabilitation program.

Long-Term Care and Home Health Services

While the basic needs of long-term care patients do not differ fundamentally from acute-care patients, there are subtle differences which increase the burdens on the acute-care general hospital. This is especially true if adequate facilities for long-term care patients are not readily available. There are three basic levels of long-term care:

- Skilled Nursing Care
- Intermediate Nursing Care
- Residential Care

At the present time, there is not a shortage of long-term care beds in the area. Because of the availability of long-term care beds in the area, it is recommended that:

8. X County Hospital should not convert ten licensed acute-care beds to "short-term skilled nursing beds" (swing beds) at the present time. However, careful monitoring of this situation may indicate a change if nursing home beds are not available in a reasonable amount of time within the area.

Home health services may be defined as a complex of medical, health, and health-related services brought into the home singly or in combination of promoting, maintaining or restoring health. At the present time there are two home health programs in the area, one

governmental (X County Home Health Program) and one proprietary (Comprehensive Care Home Health Program). Because adequate facilities are available in the immediate area, it is recommended that:

9. X County Hospital should continue its support of the area home health programs, but should not sponsor such a program at the present time.

Hospital Bed Need

During the past several years, there has been a significant decline in the utilization of the beds at X County Hospital. Through the reorientation of certain services and the addition of other services, it is anticipated that the downward trend will level off. Therefore, it is imperative that the Hospital take appropriate action as soon as possible to insure that the inpatient nursing units are competitive and pleasing to patients and physicians alike. Currently, X County Hospital has many patient rooms that will require renovation. Obviously, the type of action taken must increase the market penetration to be effective.

On the basis of the use of beds during the past several years, and the anticipated gain in market share of the Hospital's service area, it is recommended that:

10. X County Hospital should maintain licensure for a total of 62 acute-care beds to provide for potential regain of market share and predicted service area growth.

The preceding recommendation indicates the anticipated "re-gain" of market share. It is important to ensure that facilities are readily available for X County

residents so that they do not have to seek healthcare from hospitals in surrounding counties.

At the present time, X County Hospital has designated the two beds in a semi-private room (reasonably close to the medical/surgical nurses' station) as "special care" beds. There is a genuine need for intensive care beds at the Hospital to provide full-service hospital care for X County residents. Because of the need to provide critical care services, it is recommended that:

11. The hospital should continue to provide critical care services and consider expanding the Intensive Care Unit from 2 to four beds.

Diagnostic and Treatment Services

The volume of many of the diagnostic and treatment services provided by X County Hospital have increased rather significantly during the past several years.

While certain additions have been made to the Hospital, some of the departments are in need of renovation and/or relocation to provide adequate circulation and convenience for patients using the facility.

It is noted that the structure, while adequate through the 1970's and the early 1980's, must provide additional space for certain ancillary and support activities as well as for patient care units. Such a program will position the institution for the forthcoming "competitive environment" of the next decade. This environment has already begun, and has been endorsed by

various levels of government.

In order to provide adequate space, equipment and the environment conducive to providing the highest quality of patient care, it is recommended that:

12. The physical plant of X County Hospital should be expanded and renovated in order to provide adequate patient care accommodations and sufficient space for ancillary support activities.

Marketing Strategies

There are several marketing strategies that must be used in the development of a competitive environment. At this point, few will question the fact that hospitals are in a competitive situation, competing oftentimes for patients from another institution's service area. In this connection, it is extremely important that the Hospital consider the strategic opportunities outlined in this plan. These marketing strategies together with the recommendations contained in this chapter, should favorably position the Hospital for the increased competition that is already taking place.

Because of the importance of remaining competitive in today's environment and looking to the future, it is recommended that:

13. The Board of Directors, the medical staff and the administration of X County Hospital, should place in action the recommendations as outlined in this study.

The marketing strategies or "strategic opportunities" as outlined in this report are as follows:

- Adopt a physical plant expansion and renovation program that will provide adequate space for hospital departments and activities.
- In concert with the Medical staff and the Board of Directors, hospital management should consider the development of a physician recruitment program to augment the existing Medical Staff, and to adequately serve the residents of X County.
- Development of an updated obstetrical unit with the cooperation of the physicians utilizing obstetrical facilities at X County Hospital.
- Maximize the development of outpatient ancillary services, providing a referral source for area physicians.
- Evaluate the need for a "Family Wellness Center" in cooperation with the local health agencies and members of the Medical Staff. Such an activity would include services as library and resource center, child/pre-natal information, osteoporosis screening, sickle cell screening, and other activities which would be of interest to families. Such a program could also be extended to include physical examinations, cholesterol screenings, blood pressure and diabetic screenings, nutrition counseling, etc.

The "strategic opportunities" and the recommendations contained in this chapter should be implemented as soon as possible. The implementation of the recommendations and the strategic opportunities should position X County Hospital to succeed in the competitive healthcare environment which currently exists in this area.

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