

**DEPARTMENT OF ECONOMICS & INDUSTRIAL MANAGEMENT
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND
TECHNOLOGY, KUMASI**

**STRATEGIC PLANNING AND ORGANISATIONAL PERFORMANCE
IN HEALTH DELIVERY SERVICE -
A CASE-STUDY OF THE TRUST HOSPITAL**

**A DISSERTATION SUBMITTED TO THE BOARD OF POST
GRADUATE STUDIES, IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS
INDUSTRIAL MANAGEMENT**

BY

EDWARD ATO TETTEH

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OCTOBER, 2000

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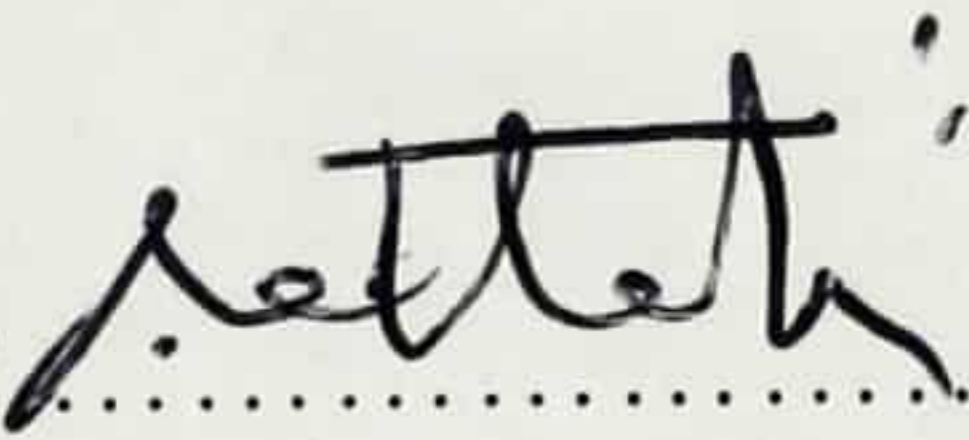
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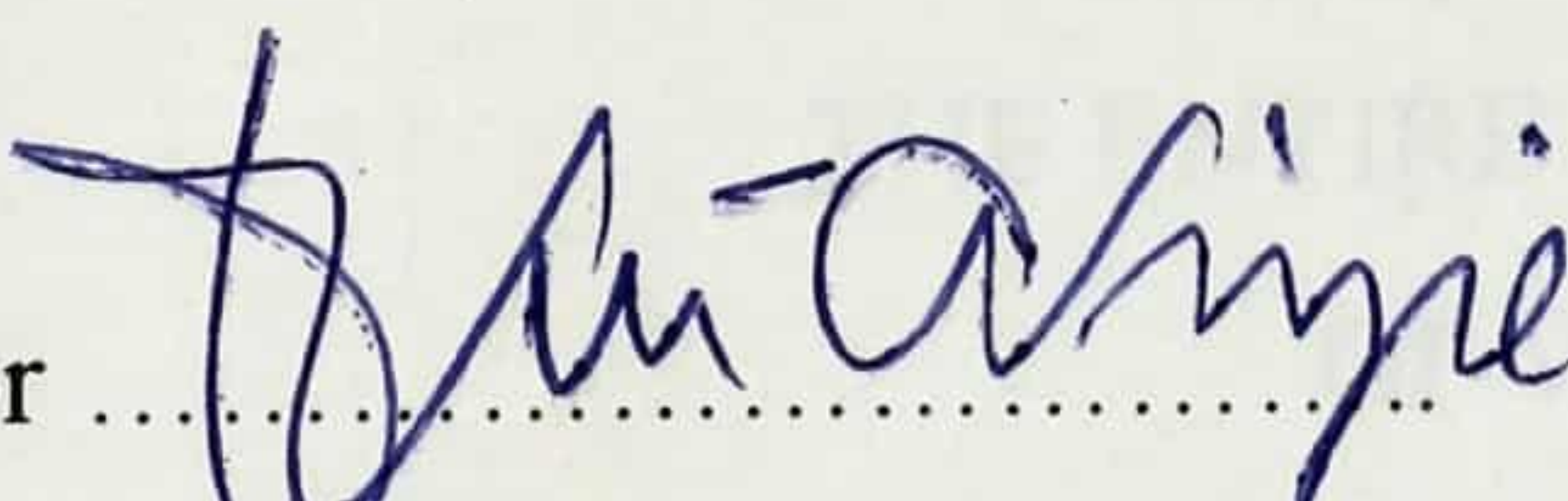
DECLARATION

I, **Edward Ato Tetteh**, declare that I have personally, under supervision, undertaken the study herein submitted.

Signature: 

Date: 27th NOVEMBER, 20

I declare that I have supervised the student in undertaking the study herein submitted and confirm that the student has my permission to present it for assessment.

Supervisor 
K.J. OPOKU AFRIYIE

Date: 4th December 20

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DEDICATION

**TO MY DEAR WIFE AND CHILDREN
WHOSE UNTIRING EFFORTS HAVE
CONTRIBUTED TREMENDOUSLY TOWARDS
THE PRODUCTION OF THIS WORK,**

AND

**THE ENTIRE TETTEH FAMILY
OF WINNEBA
FOR THEIR MORAL AND
SPIRITUAL SUPPORT**

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ABSTRACT

The Trust Hospital was established to provide quality healthcare to SSNIT employees and their dependants as well as to the community. It has since its establishment encountered various problems. These include low revenue generation, high operating cost and low level of profit performance. As a means of dealing with these problems the hospital, from 1996, started introducing various strategies. These are new services, price discrimination strategy, fast track service, night service charge and short-term investment. Unfortunately these strategies have not been able to halt the low level of profit performance and ensure efficient performance. They have also not been able to generate adequate return on investment. This study was therefore aimed at identifying some of the major problems facing the hospital and also at assessing the impact of the strategies already introduced. It was also to assess the overall strategic direction of the hospital. Based on the assessment, the strengths and weaknesses of the strategies were to be identified, after which a model strategic plan was to be drawn. To meet these research objectives three types of analytical methods namely financial analysis, statistical analysis and environmental scanning were employed. The study revealed among other things that the hospital has no clear or documented strategic direction. Under this circumstance, the hospital cannot assume a proactive posture, which is essentially needed for the organisation's survival and growth. The study also revealed that although the total revenue generated by the hospital has been increasing since the introduction of strategic planning, the annual average revenues have not changed significantly. This reflects the fact that the revenue units contribute less revenue than before. To resolve these problems and others detected in the course of the study the researcher has proposed a ten – year vision for the hospital and drawn up an action plan to accomplish this goal. The researcher has also offered some recommendations that would help turn around the organisation's performance.

CHAPTER 1

INTRODUCTION

1.1 Literature Review

1.1.1 The Issues

Strategic planning has assumed much prominence in management. The main reason is that the environment in which businesses operate is turbulent in the sense that many aspects of the environment change frequently. Radical changes, discontinuities or instability occurring in the environment have been noticed on the global level since the late 1950s and early 1960s. Some of the changes are the influx of foreign competition, emergence of global market place, technological innovation and shifts in needs, wants and attitudes of customers¹.

This new environmental turbulence poses new challenges and needs a new management approach for its resolution. Unlike situations of environmental stability for which management by exception is appropriate, environmental instability calls for a new forward planning technique that does not depend on historical trends². The forward planning technique is known as strategic planning. This together with strategy implementation and strategy evaluation constitute a new general management concept called strategic management³. Strategic planning refers to the development of a long-range course of action to achieve goals. It usually encompasses periods ranging from five to ten years⁴.

Such a plan sets the organisation's policy and priorities for such activities as the determination of future scope, diversification of services, staffing of professionals, determination of financial policy and marketing approaches⁵.

Strategic planning is a process which involves several steps. These are:

- definition of the organisation's guiding philosophy.
- definition of the organisation's mission.
- determining its present position.
- determining where management wants the organisation to be (that is, determining its vision).
- determining how to move the organisation from its present position to where it wants it to be (that is crafting a strategy for the organisation).⁶

On defining the organisation's guiding philosophy the following can be said. An organisation's guiding philosophy states its values, beliefs and how its business is to be conducted. It establishes the relationship between the organisation and its stakeholders. It also provides the general frame work for establishing organisation's policies.

Defining the mission of an organisation means stating the reason for its existence. It is the organisation's overall goal and provides its sense of direction. An organisation's mission defines its line of business, indicates its products or services, specifies the market it currently serves and one it intends serving in the future. The mission should be clear and achievable. Without a clear mission it becomes very difficult for an organisation to develop its objectives and strategies. The mission of some organisations are explicitly stated, while that of others are implicit. It is however essential that the mission of an organisation is very well communicated and internalised by managers and employees. This is because it becomes a framework for work performance, decision making and the setting of priorities⁷.

An organisation's mission must be broad to make it possible for it to explore new opportunities and at the same time very specific so as to prevent the organisation from

going far off. Although mission statements seldom change, they need not remain static indefinitely. They must be altered when significant changes occur in the organisation's environment. Some of these changes are declining profits and market share, change in technology and market demography.

Determining the present position of the organisation involves analysing the internal and external environment of the organisation. These analyses will help reveal the organisation's strengths and weaknesses as well as identifying the threats and opportunities present in the organisation's environment.

Determining where management wants the organisation to be essentially involves determining the organisation's vision. This is the desired level of attainment within a specified time frame. It is a long range objective of the organisation. The bottom line of strategic planning and management is to identify and define a vision for one's organisation and evolve appropriate strategies that will make the vision happen⁸.

Finally, determining how to move the organisation from its present position to where management wants it to be involves crafting a strategy for the organisation. A strategy describes the way an organisation will achieve its goals having considered its strengths, weaknesses, opportunities and threats (SWOT). The underlying assumption of a SWOT analysis is that such analysis will help managers to formulate a successful strategy⁹. A strategy however need not be static. When fundamental changes occur in the environment of the organisation or the goals of the organisation change, it may be necessary to change the strategy itself.

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1.1.2 Strategic Planning and Health Delivery Service

Strategic planning has become a very important function for top management of health institutions because of the rapid changes occurring in the health care environment. The past few years have witnessed accelerated pace of change in this environment. These include the introduction of health reforms by the government, the payment of user fees at public health institutions and the establishment of more clinics and hospitals. Others are rehabilitation and equipping of hospitals, establishment of health insurance companies and the expansion of private clinics and hospitals. These changes have generated keen competition in the health care industry and have also had considerable impact on the operation of health care institutions.

Strategic planning in a health delivery service thus entails a continuous process of evaluating the long term changes in the health care environment and assessing their effects on the operations of a health care institution. By including environmental factors on its planning process such an institution becomes proactive in its actions. The influential factors in the environment that can adversely affect its operations are uncovered in time and the appropriate strategies adopted to minimise their effects when they occur.

Even though it is difficult to predict the specific directions that health care policies and programmes will take in the future it is important that future development is envisioned in order to plan effectively¹⁰.

Strategic planning is therefore essential for good organisational performance. Many empirical studies support a positive relationship between strategic management and good performance. Other studies have however, reported mixed results as a result of shortcomings in the methodologies employed by these organisations¹¹.

1.2 Profile of The Trust Hospital

1.2.1 Historical Background

The Trust Hospital is an investment of Social Security and National Insurance Trust (SSNIT). It was established as a clinic in 1975 to cater for the health needs of the staff of SSNIT and their dependents. As a clinic it offered medical services in the area of outpatient care (managed by general practitioners), laboratory and pharmacy services to its patients. Its hours of operation were from 8am to 2 pm.

In 1993, it was transformed into a 50-bed hospital to offer medical services to the staff of SSNIT and some registered financial institutions and their dependents. It was later opened to the general public to help recover the huge investment made in setting up the hospital.

On achieving a hospital status, its outlook changed resulting in an expanded service delivery. The outpatient department was accordingly expanded to cover specialist services. In-patient services were also introduced while operating facilities were expanded to cover areas indicated in section 1.3.5. Its hours of operation were also expanded to a 24-hour service delivery.

1.2.2 Mission

The mission of the hospital is the provision of quality health care to SSNIT employees and their dependants as well as to the community¹².

1.2.3 Objectives

The objectives of the hospital as derived from the mission statement are the provision of quality health care to the community, patient transfer and medical evacuation.¹³

Patient transfer involves the movement of patients from the hospital to other medical facilities for further management. Medical evacuation, on the other hand entails the movement of people injured in disasters to medical facilities for treatment.

What is missing from the above-mentioned objectives is the motive of the hospital as far as profit generation is concerned, that is whether the hospital is a profit making or non-profit making organisation. Such a disclosure is very essential as it forms the basis of assessment of the hospital's performance as well as determining the strategic direction of the hospital.

Since, however, the hospital is classified both on the organisational chart and investment bulletin of SSNIT as an investment it is expected to generate profits. It is for this reason that a call is being made for a review of the hospital's objectives to include profit making. This is very important because profit motive is a fundamental business objective, which is very critical to the survival and growth of the hospital. It is apparent that where the hospital is not generating profits it will not be in the position to achieve its other objectives. In addition, profit motive tends to enhance performance because it acts as a motivational force towards high productivity.

1.2.4 Scope of Services

Based on the objectives, the hospital provides health care in various forms. These include general outpatient department care, fast track service, laboratory services and clinical imaging. Others include pharmacy services, ambulance services, medical examination for employment, annual medical profile examination, visa medical examination, dietetic advice and specialist services in various forms as indicated in section 1.2.5.

1.2.5 Personnel and Facilities

As of August 2000 the hospital had 31 physicians practising in various departments. These include general/family practice, general surgery and paediatrics. Others are anaesthesiology, neurosurgery, orthopaedic surgery, internal medicine, obstetrics and gynaecology, pediatrics, ophthalmology, dermatology, Ear, Nose and Throat (ENT) surgery, radiology, cardiology and public health. The rest are physiotherapy, dietetics, fast track clinic and pharmacy.

Diagnostic facilities available at the hospital include hematology, biochemistry, X'ray, microbiology, ultrasound, Electro-cardiograph (ECG), mammography and endoscopy. These facilities are in very good condition and on the average are able to meet about 90% of the patients' needs.

The hospital also operates a satellite clinic at Tema. The facilities available at the clinic include an outpatient department manned by two general practitioners, laboratory, a day ward and pharmacy. It also operates a Ear, Nose and Throat (ENT) clinic. Its hours of operation are from 8am to 2pm and sees on the average 70 patients daily¹⁴.

1.2.6 Organisational Structure

The hospital is headed by a Managing Director who reports to Board of Directors. The Managing Director has an oversight over a three-tier organisational structure, namely medical services, administration and finance departments.

The medical services department is headed by Chief of Medical Services who has an oversight over Medical Practice, Nursing, X'ray, Laboratory, Theatre and Pharmacy units. The Hospital Administrator is the Head of Administration and has a direct responsibility for Medical Records, Catering, Maintenance, Housekeeping, Security and Transport units. The Financial Manager is in charge of Accounts, Information

Technology and Purchasing and Supplies units.

Thus all the three work to the Managing Director. The Managing Director and Board of Directors are responsible for decision making and policy formulation, whereas the Chief of Medical Services, Financial Manager and Hospital Administrator are responsible for implementation of decisions made and policies formulated.¹⁵

1.3 Statement of Problem

A health care institution is an open system in the sense that it affects and is also affected by the environment in which it operates. The dynamic nature of this environment as indicated in section 1.2 calls for strategic thinking to ensure good organisational performance. Organisations which fail to take cognisance of this change and institute appropriate measures are likely to face various operating problems which may lead to their extinction. These include loss of key personnel and customers to competitors, decrease in revenue and operating losses.

The Trust Hospital has experienced various problems since its establishment. These include low revenue generation, high operating cost and low level of profit performance. As a means of dealing with these problems the hospital from 1996 started introducing various strategies which are indicated below.

From 1996 to 1998 new services which were not being offered by most private clinics and hospitals were introduced. These included neurosurgical consultation, paediatric surgery, orthopaedic surgery, mammography, visa medical examination and cardiology.

In 1997 a price discrimination strategy was also introduced as a means of increasing the revenue of the hospital. This entails charging different fees for patients who pay up-front and those who receive medical service on credit basis.

Another strategy introduced by the hospital as a means of solving the above-mentioned problems was Fast Track service. This was introduced in 1998. This is an expedited health delivery service. Patients who opt for this service do not queue at any of the service points and therefore pay higher fees.

Other strategies introduced were night service charge and short term investment activities. The night service charge is a 30 percent mark up charge on consultation fees and is paid by patients who report to the hospital after 8.00pm. The short term investment on the other hand involves investment of idle funds in short term securities.

These strategies unfortunately have not been able to halt the low level of profit performance and ensure efficient performance. The hospital has also not been able to generate adequate returns on its investment. Infact the rate of return on the hospital's investment for the period 1994 - 1999 was well below the market rate of return on treasury bill which was 29.53% in 1994, 37.50% in 1995, 42.46% in 1996, 42.80% in 1997, 21.66% in 1998 and 22.27% in 1999 as indicated in appendix XI.

1.4 Objectives of Study

The present study identifies some of the major problems faced by The Trust Hospital and assesses the impact of the strategies already introduced.

It also assesses the overall strategic direction of the hospital. Based on the assessment, strengths and weaknesses in the hospital's strategies are identified. Thereafter, an attempt is made to draw up a model strategic plan for the hospital.

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METHOD OF STUDY**2.1 Analytical Methods**

In order to achieve the research objectives three types of analytical methods were employed. These were financial analysis, statistical analysis and environmental scanning. The first two methods were employed to analyse the internal environment of the hospital for the purpose of revealing the strengths and weaknesses of the hospital. In a financial analysis, tools such as comparative and ratio analyses were employed to analyse the financial statements and the financial data collated from them. Various financial ratios were thus computed. Under the statistical analysis, statistical measures namely mean, analysis of variance (ANOVA) and testing of hypothesis were employed to make inferences from the sets of data collated.

The third method, environmental scanning was used to analyse the hospital's external environment in order to determine the threats the hospital faces and the opportunities it has in the environment. Relevant factors, namely social and economic factors which influence the operations of the hospital at the present and in the future were examined. Environmental scanning is largely an awareness process used by organisations to identify and adopt environmental factors into their planning process¹. The scan is performed to uncover influential factors that can materially affect an organisation's strategies and which may be beyond the organisation's direct control².

These analytical methods were employed to assess the impact of the strategies introduced from 1996 to 1998. These types of analyses are often referred to as strengths, weaknesses, opportunities and threats (SWOT) analysis.

2.2 Data Collection Methods

The data used in making the financial analysis was collated from the following original documents:

- Profit and Loss Accounts and Balance sheets of the hospital for the period 1994 - 1999.
- Budget statements of the hospital for the period 1994 - 1999.
- Outpatient and Inpatient statistics of The Hospital for the period 1994 - 1999.

As regards the statistical analysis, data was collated from only the Profit and Loss Accounts of the hospital for the period 1994 - 1999. The data used for the other areas of internal analysis was collated from the strategic concerns of the hospital as shown in section 3.1 and the assessment of the strategies introduced by the management of the hospital as indicated in section 4.1.

In environmental scanning, the areas scanned included government regulations and programmes on health. The information used for this purpose was collated from Medium Term Health Strategy under Ghana Vision 2020, Health Sector 5-year programme of work (1997 - 2001) and Management Arrangements for Implementation of the Medium Term Programme of Work (1997 - 2001). Another area scanned was the demographic trends in the country and here the information was collated from Ghana's Demographic and Health survey (1998) and Ghana Classified.com. Finally, in the area of the economic policies and development of the country, the information used for scanning was collated from Ghana's Budget Statements and Economic Policies for 1999 and 2000, Ghana Vision 2020 and Ghana Economic outlook 1997 and 1998.

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² Ibid.

CHAPTER 3

STRATEGIC CONCERNS OF THE TRUST HOSPITAL AND STRATEGIES ADOPTED

3.1 Strategic Concerns

The Trust Hospital which was originally regarded as a medical department of Social Security and National Insurance Trust when it was set up is now considered as an investment¹. This is the underlying reason for opening the hospital to the public. As an investment it is expected to generate enough profits in order to survive and grow. This change in status therefore poses a lot of challenges to the hospital and also raises a lot of issues which are very strategic and critical to the success of the hospital. Some of these concerns are discussed below.

3.1.1. Operating Cost

A vital aspect of running a successful health delivery service is the delivery of medical services at the least possible cost with the highest quality of care². Reaching these noble goals is what everyone in the health care setting is constantly striving to accomplish³. This is the case because the issue of cost is critical to the survival of every business. High cost means low profit and vice versa. Many businesses have folded up because of their inability to cover their cost of operation.

The ratio of operating cost to revenue is a very important ratio as far as cost recovery is concerned and denotes the efficiency with which the resources of an organisation are used to generate revenue. An organisation can be said to be inefficient if it achieves its objectives at a financial loss to its owners⁴.

The ratio of the hospital's operating cost to revenue has been computed in appendix VI. This appendix contains various ratios computed to assess the financial performance of the hospital. This ratio was 102.6%, 98.5%, 110.1%, 95.3%, 102.9% and 98.1% in 1994, 1995, 1996, 1997, 1998 and 1999 respectively. These results show that the hospital has a high cost of operation. The major components of the hospital's operating cost are personnel cost and direct input cost. The ratio of personnel cost to total operating cost for the period 1994 to 1999 as computed in appendix VI was 51.4% in 1994, 43.6% in 1995, 41.1% in 1996, 40.4% in 1997, 44.0% in 1998 and 47.6% in 1999. This ratio shows that personnel cost is on the high side. In the case of direct input cost which refers to the material resources consumed in providing health care to patients, its ratio to total operating cost for the period 1994 to 1999 as computed in appendix VI was 37.3% in 1994, 39.2% in 1995, 37.3% in 1996, 44.6% in 1997, 35.9% in 1998 and 36.4% in 1999. The ability of the hospital to make savings in these areas will result in a remarkable improvement in its profit performance.

3.1.2 Revenue

Revenue generation is of strategic importance to businesses as it affects their ability to survive and grow. This is because revenue affects the cash flow of a business and without it a business is deprived of the needed liquidity to conduct its affairs. As an investment the hospital is expected to generate enough revenue to enable it survive and grow. In order for the hospital to achieve this objective in its environment of emerging competition, it must adopt proactive measures that will help it generate revenue which is large enough to cover its operating cost and obtain profits that can be ploughed back to increase its capital base.

However, the ratio of operating cost to revenue for the period 1994 to 1999 as

indicated in section 3.1.1 shows that the revenue generated by the hospital is hardly enough to cover its cost of operation let alone earning adequate profits that can be ploughed back to strengthen its capital base. This is a potential danger for the hospital as far as its ability to survive and grow is concerned.

3.1.3 Investment Intensity

Investment intensity is also of much concern to businesses because it has an impact on return on investment. Investment intensity has an inverse relationship with return on investment, so the higher the investment intensity, the lower the return on investment and vice versa ⁵.

Investment intensity is defined as the ratio of net assets to revenue and thus depicts the ability of an organisation to generate revenue from its investments. High investment intensity therefore means that an organisation is not generating enough revenue from its investment and is an indication of the existence of idle assets or excess assets ⁶. Investment intensity is thus a major determinant of profitability and an essential tool in resource management. Apparently businesses with high investment intensities are not able to achieve profit margins sufficient to offset the amount of investment made ⁷. It is therefore essential for businesses to endeavor to achieve low investment intensity in order to achieve high return on investment.

The investment intensity of the hospital for the period 1994 to 1999 as computed in appendix VI was 162.3% in 1994, 153.6% in 1995, 118.7% in 1996, 95.8% in 1997, 101.1% in 1998 and 99.8% in 1999. These results indicate that the investment intensity of the hospital is too high and is an indication of the existence of idle assets or excess assets. In

order to confirm this observation, a schedule of the hospital's assets was prepared as indicated in appendix VII. This appendix shows that the expenditure on medical equipment increased from ₵282.1m in 1994 to ₵2,289.1m in 1999, an increase of 711.4% as compared to investment in ward equipment, which increased from ₵114.1m to ₵196.9m and building which increased from ₵1,167.1m to ₵1,528.9m during the same period recording an increase of 72.6% and 31% respectively. The rate of increase in investment in medical equipment therefore far exceeds that of building and ward equipment indicating a mismatch of facilities. Infact although operating facilities like beds, wards, waiting rooms and consulting rooms have not seen much increase in investment since the establishment of the hospital, investment in medical equipment has seen tremendous increase. There is therefore underutilisation of medical equipment with its attendant effect on revenue generation. An investigation into the case of mismatch of facilities by the researcher revealed that the present structure of the hospital lacks the capacity to accommodate facility expansion. Fortunately, for the hospital plans are far advanced to acquire new premises to solve this problem.

3.1.4 Customers

The issue of customers is very critical to the success of every business as there is no business without customers. Since having customers means being in business, every business must essentially adopt strategies that will attract, retain and motivate customers to help market its products or services. To be able to attract and retain customers the hospital must know what patients expect from it, what should be done to satisfy them and also appreciate how its relationship with customers can impact positively or negatively on the operations of

the hospital ⁸.

In order for the hospital to impact positively on its customers with a view to increasing its revenue it must provide total quality service to its customers. Total quality service means meeting the needs of customers in a professional, timely and courteous manner ⁹. Total quality helps an organisation to add more value to its products or services and enables it to meet the real needs of its customers. For example patients want waiting time reduced, they want to receive all prescribed drugs from the same facility, and they want better reception and more sympathetic attention ¹⁰. Studies show that quality has served as a successful business strategy and companies that have used quality principles to improve their business performance are creating competitive advantages ¹¹. Business research supports this assertion by concluding that quality and market share increase profitability¹².

The hospital having recognised the importance of this strategy in achieving competitive advantage has over the years been taking measures aimed at delivering total quality care to its patients. These include the recruitment of highly skilled professional and technical staff as well as organising training programmes aimed at improving its customer services.

Table 3.1 shows the strength of the hospital's professional and technical staff as at the end of August 2000.. The doctor – patient ratio at the hospital is one doctor to about 80 patients¹³ as against a ratio of one doctor to about 200 at The Teaching Hospitals¹⁴. For a hospital with a bed capacity of fifty, the hospital's staff strength is considered adequate to render high quality care.

TABLE 3.1

The Trust Hospital
Schedule of Professional & Technical Staff
As At August 2000

Department		Specialist	Gen. Practitioners	Total
<u>Medical</u>				
1. Anesthesiology		1		1
2. Cardiology		1		1
3. Dermatology		1		1
4. Dietetics		1		1
5. Ear, Nose & Throat		1		1
6. General Surgery		1		1
7. Internal Medicine		1	10	11
8. Neurosurgery		1		1
9. Obstetrics & Gyanaecology		2		2
10. Ophthalmology		2		2
11. Orthopaedics		1		1
12. Pediatrics		2	1	3
13. Physiotherapy		1		1
				27
<u>Nursing</u>	<u>Gen. /Midwifery</u>	<u>Theatre</u>	<u>Public Health</u>	
	48	16	3	67
<u>Laboratory</u>	<u>Chemistry</u>	<u>Hematology</u>	<u>Microbiology</u>	
	7	8	5	20
<u>Xray</u>	<u>Specialist</u>	<u>Radiographers</u>	<u>Technicians</u>	
1. Radiology	1	3	5	9
2. Ultrasonography	1			1
3. Electrocardiograph	1			1
4. Mammography	2			2
				13
<u>Pharmacy</u>	<u>Pharmacist</u>	<u>Technicians</u>		
	4	7		11
Grand Total				138
Source: Study				

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Table 3.2 also depicts the health outcome of in-patients managed from 1996 to 1999.

Out of the patients population of 7490 admitted at the hospital, 96% improved in health and were accordingly discharged, 1.3% were referred to other medical facilities for further management while 2.7% died. This health outcome is an ample testimony of the quality of care of the hospital.

Table 3.2

The Trust Hospital

Health Outcome of In-Patients Management

For the period 1996 - 1999

	<u>1996</u>		<u>1997</u>		<u>1998</u>		<u>1999</u>		<u>Total</u>	
	No.	%	No.	%	No.	%	No.	%	No.	%
1. Patients treated and discharged	1731	96.2	1805	96.2	1703	95.5	1954	96.2	7193	96
2. Patients referred to other medical facilities in Ghana	20	1.1	14	0.7	22	1.2	25	1.2	81	1.1
3. Patients flown outside the country for further management	4	0.2	-	-	2	0.1	6	0.3	12	0.2
4. Patient who died on admission	45	2.5	57	3.0	56	3.1	46	2.3	204	2.7
Total	<u>1,800</u>		<u>1,876</u>		<u>1,783</u>		<u>2,031</u>		<u>7,490</u>	

Source: Study

The hospital's efforts at improving its customer services can also be seen from its expenditure on customer care. In 1998 and 1999 for instance the hospital spent an amount of ₵30m on customer care workshop organised for its staff. In spite of these efforts there have

been isolated cases of poor customer services being rendered to some of its patients over the years.

3.1.5 Return On Investment

The relationship between net profit and the capital invested in generating that profit is one of the most widely recognised measures of enterprise performance ¹⁵. Return on Investment (ROI) which is defined here as the ratio of net profit to net assets (capital employed) is a measure of a organisation's overall performance in generating a profit ¹⁶. It therefore means that the higher the ROI, the better the performance.

Financial performance is the first and foremost purpose of business enterprise ¹⁷. It is basically the reason for its existence. This operating performance determines the ability of the enterprise to survive financially, to attract suppliers of funds, and to reward them financially ¹⁸. An organisation with a high ROI thus becomes attractive to suppliers of funds and thus enhances its ability to increase its capital base. An organisation with a low return on investment on the other hand faces the risk of capital flight and subsequently a decrease in its capital base.

In view of the alternative uses to which capital can be put, it is very essential to assess the adequacy of the return on investment generated by an organisation. To do this an organisation's return on investment must be compared with the return on the highest yielding investment portfolio. This will help to ascertain if it is worthwhile carrying on such investment.

The return on investment of the hospital for the period 1994 to 1999 as computed in appendix VI was -1.6% in 1994, 1.0% in 1995, -8.5% in 1996, 4.9% in 1997, -2.8% in 1998

and 1.9% in 1999. The hospital's performance for the period under review was therefore low and inadequate when compared with the market rate of return on treasury bill indicated in appendix XI which was the highest yielding portfolio investment during the said period. The hospital's performance thus limits its ability to survive financially and also to attract supplier's funds.

3.1.6 Short-Term Liquidity

Cash is generally considered as the life blood of every organisation as without it an organisation cannot survive. Many organisations have been divested or liquidated because of inadequate liquidity. Short-term liquidity of an organisation is measured by the degree to which it can meet its short-term obligations. This measure reveals the ability of an organisation to convert assets into cash. Short-term liquidity is of strategic importance to an organisation and its importance can be appreciated by examining the problems that organisations with lack of liquidity to meet short term obligations face.

Such organisations are not able to meet their obligations when they fall due. This situation can lead to the forced sale of long-term investments and assets and in its most severe form, to insolvency and bankruptcy ¹⁹. Lack of liquidity can also lead to reduced profitability as business normally slacks under such conditions and eventually result in loss of capital invested by the owners of the organisation.

To the creditors of the organisation, lack of liquidity means delay in debts collection or loss of amounts due them. This eventually leads to loss of suppliers credit. To the customers of an organisation, lack of liquidity leads to non-performance on the part of the

organisation and eventually leads to loss of confidence in the organisation. Since there is no business without customers, an organisation with lack of liquidity faces extinction.

It can therefore be appreciated from the above that short term liquidity is very critical to the success of every undertaking. For, if an organisation is unable to meet its obligations as they fall due, its continued existence becomes doubtful and therefore renders other measures of performance unimportant. In order to assess the liquidity of the hospital the following ratios were computed.

The first one is working capital ratio or current ratio. This is defined as ratio of current assets to current liabilities. High current ratio gives an assurance that current liabilities can be paid out of current assets. High current ratio also indicates that there is reserve funds which can serve as margin of safety against uncertainty and random shocks to which the flow of funds in an organisation are subject ²⁰. The standard current ratio is 2:1. It is believed that if the current ratio is 2:1 it is sound; and anything below this is bad. Although anything above this standard is considered good because it gives a superior coverage of current liabilities, it may also mean a wasteful accumulation of liquid resources as such resources do not earn adequate return for the organisation ²¹.

The current ratio for the hospital for period 1994 to 1999 as computed in Appendix VI was 27:1 in 1994, 79:1 in 1995, 5:1 in 1996, 10:1 in 1997, 17:1 in 1998 and 46:1 in 1999. The current ratio of the hospital is therefore high and is an indication of the existence of excessive liquid resources.

Acid Test ratio is another liquidity ratio which is of much importance to businesses. This ratio is also known as "quick ratio" because it is assumed to include assets that are quickly convertible into cash. It is defined as the ratio of current assets less stock and debtors

(cash and cash equivalents) to current liabilities. It measures the degree to which an organisation's current liabilities are covered by the most liquid current assets ²². Here the standard ratio is 1:1. However, the acid test ratio of the hospital for the period 1994 to 1999 as computed in appendix VI was 13:1 in 1994, 16:1 in 1995, 0.4:1 in 1996, 1:1 in 1997, 7:1 in 1998 and 27:1 in 1999. These results also show that the acid test ratio of the hospital is high.

Another factor which has an impact on the liquidity of a business is the average collection period for debtors. This measures the number of days it takes on the average to collect debts (account receivable). The number of days is obtained by dividing 360 (the approximate round number of days in a year) by debtors turnover (net sales on credit divided by average debtors). The performance of an organisation as far as debts collection period is concerned can be evaluated by comparing the debts collection period to the credit terms granted by the organisation. When the average collection period is longer than the credit period granted by the organisation, then it means that there is either problem of poor debts collection, difficulty in obtaining prompt payment from customers inspite of diligent debt collection efforts or there is the existence of customers in financial difficulty ²³.

The debts collection period of the hospital for the period 1994 to 1999 as calculated in appendix VI was 84 days in 1994, 79 days in 1995, 93 days in 1996, 154 days in 1997, 119 days in 1998 and 60 days in 1999 as compared to 28 days credit period granted by the hospital. This shows that the debt collection period of the hospital is too long and therefore demands immediate managerial action to correct the problem.

Stock turnover is another measure which has a considerable impact on an organisation's liquidity and profitability. Stock represents investments made for the purpose

of obtaining a return. For this reason a certain level of stock (inventory) must be kept in order to generate an adequate level of revenue. If the inventory level is not adequate the expected return will not be realised. On the other hand, excessive inventory tie up funds which otherwise can be invested profitably elsewhere. In addition excessive inventories create expenses such as storage cost, insurance and loss of value through physical deterioration and obsolescence. Inventory turnover ratio which is defined as the ratio of cost of goods sold to average inventory measures the average rate of speed which inventories move through and out of the organisation. High ratio therefore means good performance. The stock turnover of the hospital for the period 1994 to 1999 as computed in appendix VI was 3 times in 1994, 2 times in 1995, 2 times in 1996, 4 times in 1997, 4 times in 1998 and 2 times in 1999.

Another measure of inventory turnover is the period the hospital takes to sell inventory. This is very useful in assessing the purchasing policy of the hospital. It is defined as 360 days divided by average inventory turnover. A high ratio means that inventory takes too long a time to sell and is an indication of the existence of excessive inventories which tie up capital and deprive the organisation of revenue it could have earned if such capital had been invested elsewhere. The number of days the hospital took to sell inventory during the period 1994 to 1999 as computed in appendix VI was 140 days in 1994, 177 days in 1995, 199 days in 1996, 82 days in 1997, 97 days in 1998 and 152 days in 1999. These results show that on the average it takes a longer time for the hospital to sell an inventory and is an indication of excessive inventory and a poor purchasing policy.

3.2 Strategies Introduced by Management

The strategies introduced by the management of the hospital were aimed at achieving cost savings and at expanding its revenue generating capacity in order to realise adequate return on investment ²⁴. The strategies introduced included the following:

3.2.1 New Services

Services which were not offered by most private clinics and hospitals were introduced and these included neurosurgical consultation and paediatric surgery which were introduced in 1996. Others were orthopaedic surgery, mammography and Visa medical Examination (VME) introduced in 1997 and cardiology introduced in 1998.

3.2.2 Fast Track Service

This is an expedited health delivery service. Patient who opt for this service do not queue at any of the service points and therefore pay higher fees. This service is aimed at meeting the expectations of business executives and expatriates who demand expeditious services. It is also aimed at reducing the long waiting time at the various service points. This special service involves segmenting the health market and tailoring marketing mix (price, promotion, place and product) to meet the needs of patients.

3.2.3 Price Discrimination Strategy

This strategy involves charging different rates for private and corporate clients. Corporate clients pay 20 percent more than their private counterparts. This strategy is aimed

at making the hospital more attractive to private clients, who pay upfront and also at recovering cost incurred in pre-financing the medical needs of corporate clients.

3.2.4 Night Service Charge

This is a 30 percent mark up charge on consultation fee and is paid by patients who report to the hospital after 8.00pm for treatment. This strategy is aimed at reducing the pressure on the hospital's resources in the night in order to bring about efficiency in service delivery.

3.2.5 Short Term Investment

Treasury management and investment activities were started in 1998 in order to increase the revenue generating capacity of the hospital. This involves the investment of excess funds of the hospital in short-term securities. This short-term resource management replaces the old system where the hospital's funds were transferred to reduce its indebtedness to the parent organisation without any form of investment.

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CHAPTER 4

ASSESSMENT OF CURRENT STRATEGIES

The assessment of the current strategies of the hospital was carried out in two phases, namely assessment of the strategic planning process of the hospital and the assessment of the specific strategies introduced by the hospital.

This study was accomplished by interacting with the management of the hospital as well as heads of various departments. In addition, various documents of the hospital were examined. These included management accounts and reports for the period 1994 to 1999, budget statements for the period 1994 to 1999 and minutes of Board of Directors meetings. Others included brochures published by the hospital and reports of a number of consultants contracted over the years to carry out studies on the hospital.

4.1 Assessment of Strategic Planning Process of the Hospital

In order for an organisation to ensure that a strategy it introduces is effective it must first determine its strategic direction. This is the organisation's vision, which depicts where it wants to be. The second step involves the determination of its present position. This depicts the organisation's strengths and weaknesses, the opportunities it has and threats it faces in its environment. The final step involves mapping a strategy that will move the organisation from its present position to where it wants to be, that is the attainment of its vision¹.

The strategic planning process of the hospital was therefore assessed based on the above criteria. The assessment revealed that the hospital has no clear or documented vision. The hospital can thus be said to lack a strategic direction, which is very essential for good

organisational performance. This is particularly so because without a strategic direction an organisation fails to assume a proactive posture which is very important for achieving competitive advantage.

4.2 Assessment of Specific Strategies Introduced by Management

The specific strategies introduced by the management of the hospital as indicated in section 3.2 were assessed based on the data obtained from the financial analysis performed in appendices V - X.

4.2.1 New Services

The performance of the new services introduced was assessed based on their contribution to total revenue from 1996 to 1999 as indicated in appendix X. This appendix shows the ratio of revenue generated by new services introduced to total revenue of the hospital. In 1996 the new services contributed 0.6% to the total revenue. In 1997, the new services contributed 1.63% to the total revenue, while in 1998 and 1999, they contributed 4.7% and 3.3% respectively to the total revenue. From this analysis it can be seen that the contribution of the new services to revenue generation has been very low.

The new services introduced have the potential to contribute immensely to revenue generation, but what is left to be done is how to effectively implement a marketing strategy to achieve the desired results. This shortcoming was acknowledged by the hospital's management in its management report for 1997 ²

In the area of marketing strategies it is worth noting some of the efforts made by the medical groups elsewhere. These include the preparation and distribution of patient

brochures aimed at presenting the advantages and attractiveness of the medical group's service capabilities to potential patients ³. The most successful efforts have been based on comprehensive market analysis and planned marketing strategies ⁴.

4.2.2 Fast Track Service

This service generated revenue of ₦57.1m in the first year of its introduction, as indicated in appendix V. This appendix depicts the actual performance of the hospital in the various revenue generating centres against revenue estimate for the period 1994 to 1999. The performance of this strategy (ie ₦57.1m) against a revenue estimate of ₦26.6m in 1998 is therefore very remarkable. Even though its performance increased to ₦81.6m in 1999, it fell short of the revenue estimate for that year. The inability of this strategy to achieve its target is attributed to a fall in the expected activity level, that is a fall in the number of patients expected to patronise this service.

This service however can make a lot of impact in revenue generation if it is to operate from 8.00am to 5.00pm without a break. Presently it operates from 10.00am to 12noon and from 2.00pm to 5.00pm because only one doctor runs the clinic. To enable the clinic benefit from expanded service hours, another doctor can be posted there to run the clinic during the break hours.

4.2.3 Price Discrimination Strategy

This strategy was introduced in some revenue generating centres in 1997 as indicated in appendix VIII. Apart from drugs, visa medical examination, theatre inputs, morgue and miscellaneous income, price discrimination is applied at all the other revenue generation

centres where on the average corporate clients pay 20% more than their private counterparts.

In order to assess the impact of this strategy a year to year comparative analysis was made of the total revenue generated by these centres over the period 1996 to 1999. This analysis indicates that the total revenue generated by the hospital as a result of the introduction of the price discrimination strategy was ₦2995.3m in 1997, ₦4,371.7m in 1998 and ₦5,950.6m in 1999. Comparatively the revenue generated in 1997 was 57.2% higher than that of 1996, that of 1998 was 46.0% higher than the revenue in 1997 while the revenue generated in 1999 was 36.1% higher than that of 1998. This analysis indicates that revenue is increasing at a decreasing rate. This must be viewed against a backdrop of an increase in the number of services offered by the hospital during the period under review. This is a potential danger for the hospital as far as revenue generation is concerned.

As against revenue estimate, the hospital's performance in 1997 as depicted in appendix IX was 6% higher. In 1998, it exceeded revenue estimate by 8%, while in 1999, the revenue generated exceeded the revenue estimate by 3%.

In reference to the comparative analysis made above, it is important to note that although revenue can be increased by increasing service charges there is a limit for this. This is because the hospital's corporate clients have medical expenditure ceilings for their staff and dependents. Therefore any increase over and above certain level will not bring in the needed revenue because the number of patients that has to be seen to generate the desired revenue will not be obtained.

4.2.4 Night Service Charge

This is a consultation charge paid by patients who report to hospital after 8.00pm for treatment. It is a 30 percent mark up charge on general consultation fee paid by patients who report for treatment during the day. The objective of introducing this special charge is to reduce the pressure on the hospital's human resources in the night. This is because the hospital operates with reduced staff strength in the night as a means of minimising its expenditure on human resources.

This strategy which was introduced in 1998 has brought about a reduction in patient patronage of medical services in the night resulting in a fall in total attendance as can be seen in appendix XIV. This is because patients find it more expensive attending hospital in the night. Until the introduction of this strategy, the hospital attendance in night was very encouraging. This strategy has therefore prevented the hospital from deriving full benefit from its 24-hour operation. The benefit of expanded service hours is thus lost. Medical research conducted elsewhere indicates that a large cross-section of the public and employers say that daytime service hours are inconvenient⁵. Many patients prefer to have their visit prior to or after work hours⁶.

In order to assess the impact of this strategy, the general consultation revenue generated by the hospital was compared over the period 1996 to 1999 as indicated in appendix III. The revenue generated by this service was ₦781.7m in 1996, ₦1,131.2m in 1997, ₦1,404.8m in 1998 and ₦1,503.1m in 1999. This comparative analysis shows that general consultation revenue generated in 1997 was 44.7% higher than that of 1996. In 1998, the revenue generated was 24.2% higher than that of 1997, while in 1999 the revenue generated was only 7% more than that of 1998. These results show that revenue generated

by this service is increasing at a decreasing rate. This is a potential danger for the hospital.

4.2.5 Short Term Investment

Treasury management and investment activities in 1998 resulted in a revenue of €86.8m compared to an amount of €12.8m generated in 1997. This further increased to €520.2m in 1999⁷. Judging from these results it can be said that the performance of this strategy has been remarkable. This strategy would have even performed better if management were proactive in its endeavours through the preparation of cash budgets. This would have given them the expected idle funds well in advance to enable them determine the best investments to do.

One significant issue, which emerged from the assessment carried out, was that the strategies of the hospital have not been reviewed since they were introduced. This must be viewed against the backdrop of a decline in the performance rate of some revenue generating units. It must however be noted that strategies ought not to remain static as pointed out in the section 1.1. When changes occur in an organisation's environment or when the goals of the organisation change they ought to be changed. The need for a periodic review of strategies cannot be overemphasized. Indeed this is necessary to ensure that strategies introduced achieve the desired results.

4.3 Statistical Analysis of Revenue

4.2.2 Analysis of Variance

The tool employed to test the statistical significance of the revenue generated by the hospital after the introduction of strategic planning was analysis of variance (ANOVA). This

analysis was conducted to ascertain whether the introduction of strategic planning has brought about better than average performance in revenue generation. Basically this analysis looked at the differences in the annual average revenues, that is the contribution per revenue generation units over the period 1994 to 1999 to see whether there has been any significant change.

In order to assess the impact of the strategies introduced on revenue generation ANOVA was used to test the null hypothesis that “there is no difference between the annual average revenues of the hospital from period 1994 to 1999”. An average revenue here is defined as total revenue per revenue unit rather units of services. Where the result of the analysis is significant then it means there is a difference in the annual average revenues of the hospital. This implies that the introduction of strategic planning has impacted positively on revenue generation and this calls for a rejection of the null hypothesis. If on the other hand, the result is insignificant, then it means the introduction of strategic planning has not impacted positively on the revenue generation of the hospital and therefore calls for the acceptance of the null hypothesis. The various steps used in the computation of the ANOVA and the results obtained are found in appendix XII.

4.3.2 Results of Analysis

These results indicate that the F^* computed is 1.12 as compared to F value on the distribution table of 2.74. Since F^* value of 1.12 is less than F value of 2.74 on the distribution table, it means that the F^* computed is insignificant. This calls for the acceptance of the null hypothesis. The result therefore means that the introduction of strategies by the hospital has not brought about any significant change in the annual average

revenues generated by the hospital.

4.4 SWOT Analysis

The analysis of strengths, weaknesses, opportunities and threats (SWOT analysis) of the hospital was carried out in two phases namely internal and external analyses.

4.4.1 Internal Analysis

The internal analysis of the hospital was conducted to determine the hospital's strengths and weaknesses. It was carried out by examining the data obtained from the financial analysis performed as found in appendix VI and statistical analysis conducted as indicated in section 4.3. Other areas examined for the purpose of conducting the internal analysis of the hospital were the data obtained from the assessment of the strategies introduced by the hospital as shown in section 4.0 and the strategic concerns of the hospital as indicated in section 3.1. These analyses revealed the following as the strengths and weaknesses of the hospital

(a) Strengths

(i) Highly Skilled Professional and Technical Staff.

The hospital is able to attract highly skilled professional and technical staff personnel because of the attractive remuneration it offers. Indicated in table 3.1 is the structure of the technical and professional staff of the hospital. As a result of the high quality of care provided at the hospital by these staff as indicated in table 3.2 patient patronage of the services of the hospital has increased over the years. The population of in-patients increased

from 1800 in 1996 to 2031 in 1999, as indicated in table 3.2 while the population of outpatients, also increased from 100,295 in 1994 to 108,952 in 1999 as shown in appendix XIV.

The health outcome of in-patients managed from 1996 to 1999 as indicated in table 3.2 shows that out of a total of 7,490 patients admitted at the hospital as many as 96% saw an improvement in their health status and were accordingly discharged. 1.3% were referred to other medical facilities for further management while 2.7% died on admission. This health outcome is an indication of a high quality care and gives credence to the level of skill of the hospital's technical and professional staff..

The average length of stay at The Trust Hospital which is a measure of quality of care was 6.3 days at the end of 1999 ⁸. This is less than 7.5 days which is the average length of stay of patients at the teaching hospitals in the country as at the end of 1999 ⁹.

(ii) **Modern Operating Facilities and Diagnostic Equipment**

As indicated in section 1.3.5, the hospital has modern operating facilities and diagnostic equipment, which enable it to offer high level quality care in a wide range of services. For instance in the area of mammography there are only two hospitals in the country that have facilities for breast cancer management. These are The Trust Hospital and Korle Bu Teaching Hospital. The hospital in October 2000 also acquired a C.T scan at a cost of ₵3.0bn, making it the second hospital in the country after Korle Bu to acquire such high technology equipment. This equipment is used for the scanning of the brain, abdomen, limbs, and spine of a patient.

The hospital's investment in this area as seen in appendix VII has increased

tremendously over the years. From an initial amount of ₦282.1m in 1994, investment in medical equipment increased to ₦2,289.1m in 1999, an increase of over 711%. The condition of the hospital's operating facilities and diagnostic equipment explains why the referral of patients from the hospital to other medical facilities for further management has been very low over the years. (See table 3.2)

(iii) Expanded Operational Hours

The hospital operates an expanded service hour system, offering a 24 – hour service delivery in all its departments. Most of the competitors of the hospital operate 24 – hour emergency services only in some selected departments. This situation therefore gives The Trust Hospital a competitive advantage over its rivals.

(iv) Proven Competence for Spinal Surgery

The competence of the hospital's professional and technical staff as indicated in section 4.4.1(a)i coupled with its modern and efficient operating facilities as stated in section 4.4.1(a)ii make the hospital one of the leading hospital's in the country. Indicators stated below also support this assertion.

The Trust Hospital in co-operation with the Hospital for Special Surgery in the United States of America undertakes spinal surgery twice every year in the country. This is the only facility available in the country. Until this arrangement patients who required such treatment had to be flown outside the country.

v) Corporate Clientele

The hospital's clientele has also increased significantly over the past years and continues to increase as indicated in section 4.4.1. Also as depicted in table 4.1 the hospital

offers medical services to over 140 corporate clients operating in various sectors of the economy.

Table 4.1

**The Trust Hospital
Composition of Corporate Clients
As At August, 2000**

Industry	No. of Companies
Banking Institutions	12
Non-Banking Financial Institution	12
Health Insurance	3
Other Insurance	4
Telecommunication	7
Mining and Energy	22
Embassies and Foreign Missions	10
NGO's	13
Manufacturing	9
Technical Services	13
Families	3
Broadcasting & Information Service	2
Water	1
Meat Processing	1
Construction	5
Textiles	1
Trading	15
Airline	4
Hotels and Restaurants	2
Educational Institutions	1
Totals	140

Source: Study

Also more than 80 percent of clients of the three health insurance companies in the

country have chosen the hospital as their first choice healthcare provider ¹⁰. This is an indication of the level of trust people have in the hospital. Another indication of the perception of the public as regards standard of the hospital is the rate at which professional and technical staff like doctors, nurses pharmacists and technicians apply to do their internship at the hospital. A number of research organisations have over the years used the hospital as their case study ¹¹.

(vi) One Shop Medical Facility

All the services of the hospital are provided under one roof. Patient movement for medical attention is drastically reduced, thus making it more convenient to patients. The layout of the hospital facilities can thus be described as patient focused. This therefore adds value to its services. Patients enter only one building and receive almost all the services they require. This unique facility layout differentiate it from a lot of medical centres where their facilities are spread out and patients have to commute from one building to another for treatment.

(b) Weaknesses

(i) High Inventory of Pharmaceuticals

Stock (inventory) is an investment made for the purpose of obtaining a return. An adequate level of inventory is therefore necessary for efficient management of the hospital. It is for this reason that inventory control becomes a vital managerial function. Whereas inadequate inventory leads to loss of revenue, excessive inventory ties up capital, which can

be invested profitably elsewhere. Excessive inventory also creates other costs such as storage, insurance and loss in value of inventory through physical deterioration and obsolescence. These costs reduce the profitability of an organisation. The balance sheet of The Trust Hospital for the period 1994 to 1999 as found in appendix IV shows an inventory level of €291.2m at the end of 1994, €506.2m in 1995, €875.5m in 1996, €639.0m in 1997, €819.3m in 1998 and €1,618m in 1999. These levels of inventory are therefore very high. In order to determine how high these inventories are, the period it takes the hospital to sell them was computed. As can be found in appendix VI, it took the hospital on the average 140 days, 177 days, 199 days, 199 days, 82 days, 97 days and 152 days to sell its inventory in 1994, 1995, 1996, 1997, 1998 and 1999 respectively. These results show that it takes the hospital a very long period of time to sell its inventory, an evidence of over-stocking. It also indicates that the hospital has been locking up its capital in stocks, thus losing the revenue it would have earned if it had invested the capital elsewhere.

(ii) No Documented or Clear Strategic Direction

The assessment of the strategies introduced by the hospital as can be found in section 4.1 indicates that the hospital has no clear or documented vision which is essentially needed to chart a strategic direction for the hospital. Under such a situation, the hospital cannot assume a proactive posture which is very vital in achieving a competitive advantage in its environment of intense competition (see 4.4.2 (b) iii).

(iii) High Operating Cost

The hospital's operating cost as a percentage of its total revenue for the period 1994 to 1999 as computed in appendix VI shows that it was 102.6% in 1994, 98.5% in 1995, 110.1% in 1996, 95.3% in 1997, 102.9% in 1998 and 98.1% in 1999. These ratios indicate that the operating cost of the hospital is too high and must therefore be controlled to ensure high profit performance.

(iv) Poor Track Record in Implementing Strategies

It has become apparent from the assessment of the strategies of the hospital carried out in section 4.1 that ineffective implementation of strategies is one of the main reasons for the low performance of the new services introduced from 1996 to 1998. It has also come to light that there is lack of periodic review of strategies. These weaknesses ought to be corrected to ensure efficient performance.

(v) Long Debt Collection Period

Debt collection is one of the factors that affect an organisation's liquidity as noted in section 3.1.6. This is because it helps to improve the cash flow of the organisation. In order to assess the performance of the hospital in this area, the credit period allowed by the hospital was compared with its debt collection period from 1994 to 1999. Appendix VI shows that on the average the number of days the hospital took to collect debt was 84 days in 1994, 79 days in 1995, 93 days in 1996, 154 days in 1997, 119 days in 1998 and 60 days in 1999 as compared to 28 days credit period allowed by the hospital. These results show that the hospital has a long debt collection period which has to be corrected to enable it

improve its cash flow position.

(vi) High Investment Intensity

The investment intensity of an organisation as stated in section 3.1.3 depicts its ability to generate revenue from its investment. It is defined as the ratio of net assets to revenue. The investment intensity of the hospital for the period 1994 to 1999 as computed in appendix VI was 162.3% in 1994, 153.6% in 1995, 118.7% in 1996, 95.8% in 1997, 101.1% in 1998 and 99.8% in 1999. These results show that the hospital has a high investment intensity, which means that the hospital is not generating enough revenue from its investment. This situation is an indication of under capacity utilization of assets.

(vii) Inadequate Structural Capacity to Accommodate Future Expansion

As noted in section 3.1.3, the present structure of the hospital lacks the capacity to accommodate facility expansion. Under such a situation facilities like wards, beds, waiting rooms and consulting rooms which are currently overstretched cannot be expanded. This has led to undercapacity utilization of medical equipment with its attendant effect on revenue generation.

4.4.2 External Analysis

The external analysis of the hospital was conducted by means of environmental scanning. Environmental scanning is an awareness process performed by organisations to uncover influential factors in their external environment which can materially affect their activities. This process helps to unearth the opportunities and threats in the organisation's

environment. In order to achieve this objective the following environment were scanned.

(a) **Social Environment**

(i) **Demography**

Ghana has one of the highest population rates in the world. If the current growth rate of 3% is maintained then the population of the country will hit 19.5m by the close of the year 2000¹². Ghana has a youthful population structure with a high dependency ratio as a result of its high fertility level. About 42% of the population are under 14 years, 45.4% are between 15 and 64 years and 4% of the population are 65 years and over. This gives a dependency ratio of one to one. In the medium term the population of the elderly is expected to increase¹³.

Even though the rural population is still the majority, the urban population is growing very fast. In 1984, the urban population constituted 32% of the total population of the country. With the urban population growing at an estimated annual rate of 4.1%, 40% of the population will be residing in the urban areas, mainly the cities of Accra, Tema, Kumasi, Tamale and Sekondi - Takoradi by the year 2000¹⁴.

The persistent high population growth and the increasing urban population pose a serious challenge to health services. This therefore calls for an expansion in the health services in order to contain the situation. Maternal child services will also have to expand to cope with the problems associated with high fertility rate. As more people live longer, the demands for family planning and other services will increase. These are the challenges that must be met by the health system¹⁵.

(ii) **Health Reforms**

To meet these challenges, the government in 1996 introduced health reforms as part of its medium strategy towards vision 2020. The health reform programme is aimed at achieving the following specific health status by the year 2001:

- Increase life expectancy from 55 to 61 years
- Reduce infant mortality rate from 66 to 55 deaths per 1000 live births
- Reduce under five mortality from 132 to 100 per 1000 live births
- Reduce maternal mortality rate from 214 to 100 per 100,000 live birth
- Reduce adult mortality rate by 30%¹⁶.

The introduction of the health reforms has brought about tremendous improvement in the public health delivery service. Areas of improvement include construction of new hospitals and clinics, rehabilitation of old hospitals, supply of hospital equipment and consumables. Others are expanded service hours (24-hour service) in areas such as OPD, emergency service, blood bank, pharmacy and laboratory services¹⁷.

Specialist outreach clinics have also been started in a number of regional hospitals to improve access to specialist care as well as assist develop specialist clinical skills and capacity at the regional level¹⁸. There has also been a tremendous improvement in public health services, health services quality and management.

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(b) Economic And Competitive Environment

(i) The Economy Of Ghana

Ghana has a mixed economy, consisting of a dominant agriculture sector, a relatively small capital - intensive modern sector and rapidly expanding informal sector¹⁹. Sectorial contribution to GDP are agriculture 41%, industry 14% and services 45%²⁰.

The economy experienced a great deal of deterioration during the 70's and early 80's after relative prosperity in the 1960's. Real GDP fell by 30% between 1975 and 1982. Merchandise exports fell by an annual average of 6.4%, while volume of imports registered a fall of 8% annually from 1973 to 1983. Inflation rose to an average of 123% in 1993. This economic situation had a telling effect on health delivery²¹.

In order to solve these economic problems, the government in 1983 embarked upon an economic recovery programme. This has succeeded in turning around the economy of the country. The annual average GDP growth rate of Ghana is now 4.5%. Inflation as at the end of 1999 stood at 13.8%. In spite of this achievement poverty is still widespread. A recent study indicates that about 31% of Ghanaians live below the poverty line²². There is therefore a limited access to good health care.

Ghana's long term vision is to turn the country into a middle income country by the year 2020. This entails increasing income per head from \$370 to \$500, attaining a GDP growth rate of 8% and reducing population growth, rate from 3% to 2%²³. Indicated below however, are the projected macroeconomic targets for the medium term: (2000 - 2002).

- an average real GDP growth rate of 5.4%;
- an end - of - period rate of inflation of 8.0%
- an average overall budget deficit equivalent to 4.0% of GDP;

- an average primary budget surplus equivalent to 3.1 percent of GDP; and
- an average overall balance of payment surplus of US \$107million ²⁴.

Since the demand for health care is dependent on the income levels of people, the attainment of the goals of the economic programme means tremendous improvement in the health status of Ghanaians. Under the governments medium term expenditure framework (2000 - 2002), health coverage is expected to be expanded and quality of services improved through continued development of health infrastructure. The period will therefore witness construction of more hospitals and health centres, refurbishment and upgrading of hospitals. Specialist outreach services are also expected to be strengthened. Under this strategy all regions would be fully covered in specialist areas of internal medicine, paediatrics, obstetrics and gynaecology and general surgery ²⁵.

(ii) **The Health Care Market**

The health care market in the country consists of providers of health care, consumers of health care products and services, suppliers of medical equipment and consumables and providers of health finance. The consumers of health care products and services are presently estimated around 19 million, while providers of health care as at end of 1999 were made up of 175 hospitals, 610 health centres and 1,625 clinics ²⁶. This number of health care providers however excludes traditional health care providers who are practising traditional medicine across the country.

(iii) **The Competitive Environment**

There are four main categories of health care providers. These are the public, private

profit making, private not for profit and traditional systems.

(a) The Public Health Care System

This is centered around the Ministry of Health and is the main system through which the government provides health care to its people. As at the end of 1999, the Ministry of Health and Quasi - Government had 84 hospitals, 394 health centres and 730 clinics²⁷.

(b) Private-Profit – Making Health Institutions

These are predominantly medical practitioners (physicians, nurses and midwives) operating small private clinics or hospitals with a view to generating profit. At the end of 1999, there were 50 private hospitals, 153 health centres and 203 clinics²⁸.

(c) Private Not-for Profit Health Institutions

Health care providers in these category include organisations such as religious missions, Planned Parenthood Association of Ghana (PPAG) and others. It is estimated that members provide health care to about 40% of the population (predominantly in rural areas) and account for about 30% of hospital beds and in - patient admissions and 35% of out - patient care. As at the end of 1999, there were 41 mission hospitals, 63 health centres and 692 clinics²⁹.

(d) Traditional Health System

This system has a host of providers practising as specialists, psychic healers or herbalists. This category of providers offer a wide range of services including clinical,

maternity and preventive services. A recent study showed that about 50% of Ghanaians use herbal preparation as a first choice for self - medication when they fall ill ³⁰.

All these health care providers are in competition. However, the major competitors of The Trust Hospital in the Accra - Tema metropolis include Korle - Bu Teaching Hospital, Ridge Hospital, Police Hospital, Legon Hospital, Achimota Hospital, 37 Military Hospital, Nyaho Medical centre, Cocoa Clinic and Kumordjie clinic. Between 2000 and 2002, two private modern hospitals are expected to be put up in Accra. These are Accra International Hospital with a bed capacity of 150 and Airport city Hospital and Medical centre with a bed capacity of 60 ³¹.

4.4.3 Results of Analysis

The results of the external analysis revealed the following as opportunities and threats.

(a) Opportunities

(i) Economic and Competitive Environment

The demand for private high technology medical care has substantially increased since Ghana moved towards a market oriented economy and continues to increase. The Trust Hospital will have to take advantage of this to expand its facilities. The establishment of health insurance companies will also increase the access of people to health facilities and improve the liquidity of health care providers.

(ii) **Social Environment**

The growth in urbanization and industrialization will increase the demand for health care services. The expected increase in life expectancy will bring about an increase in the population of the elderly. This is an opportunity for the hospital to start a home care delivery service.

(b) **Threats**

(i) **Economic and Competitive Environment**

There is a lot of competition in the industry. Moreover more high technology private hospitals are expected to put up in Accra - Tema metropolitan area within the next two years. This is expected to affect the business of the hospital in no small way. Interest rates and exchange rates are not likely to fall tremendously in the next few years. This will adversely affect the hospital ability to raise credit to expand its business. Its cost of operation is also expected to remain high thus reducing its profitability.

The SWOT analysis factors of the hospital are shown in Table 4.2. This table shows the results of the internal and external analysis of the hospital. Specifically it shows the strengths and weaknesses of the hospital, the threats it faces and opportunities it has in its external environment.

TABLE 4.2

SWOT ANALYSIS FACTORS FOR THE HOSPITAL

		STRENGTHS	WEAKNESSES
INTERNAL ANALYSIS	--	Highly skilled professional and technical staff.	-- High investment in inventories
	--	Modern operating facilities and diagnostic equipment	-- No clear strategic direction -- High operating cost
	--	Expanded operational hours (24-hour operating hospital)	-- Poor track record in implementing strategies
	--	Proven Competence for Spinal Surgery	-- Long debt collection period -- High investment intensity
	---	Corporate Clientele	-- Inadequate structural capacity to accommodate expansion.
	--	One shop medical facility	
		OPPORTUNITIES	THREATS
EXTERNAL ANALYSIS	--	Expected increase in demand for high technology medical care to boost the revenue of the hospital	-- Entry of high technology medical centres to reduce patronage of hospital's service
	--	Introduction of health insurance schemes to increase accessibility to health care and improve liquidity of health care providers	-- Adverse shift in foreign exchange and interest rates to increase cost of operation.
	--	Expected rise in life expectancy to create opportunity for diversified health care	-- Improved supply of medical equipment and consumables at government hospitals and clinics to reduce demand for private medical care.

Source: Study

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²⁴ Government of Ghana, Budget Statement and Economic Policy for 2000 Financial Year, Ghana Publishing Corporation, Accra, February 2000, p. 36

²⁵ Ibid pp. 61 - 63

²⁶ Ministry of Health, Medium Term Health Strategy towards Vision 2020, Accra, 1999, p.53.

²⁷ Ibid

²⁸ Ibid

²⁹ Ibid

³⁰ Ibid

³¹ Social Security and National Insurance Trust Investment Bulletin, August, 2000 p.3

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The study carried out has revealed, among other things, that total revenue generated by the hospital has been increasing since the introduction of strategic planning. However, the hospital's annual average revenues have not changed significantly. (See section 4.3.2). This reflects the fact that the revenue units contribute less revenue than before. In order for the strategies introduced to impact positively on the hospital's revenue generation, they must be reviewed in the light of the hospital's strengths, weaknesses, opportunities and threats as indicated in Table 4.1. As the table indicates, there are five strengths the hospital has to build on, seven weaknesses to overcome, three opportunities to exploit and three threats to mitigate for the purpose of improving upon its profit performance.

In the area of revenue generation, it is recommended that a marketing unit be set-up to improve upon customer services. The hospital can also take advantage of its expanded service hours by reducing its night service charges so as to increase its revenue. This can be done by abolishing its night service extra charge and instead introduce a peak load pricing strategy as practised by telecommunication organizations. Under this strategy, customers who demand services during peak hours are charged higher than customers who consume services during low or off-peak hours. This ensures that the services of the organization are patronized throughout the day thereby maximizing revenue. The hospital must also expand the present capacity of its wards, beds waiting rooms and consulting rooms and also establish new facilities like dental care, accident center, satellite clinics and magnetic reasoning image (MRI) in order to boost its revenue generation.

The assessment of the impact of price discrimination strategy in section 4.2.3 indicates that the revenue generated by this strategy is increasing at a decreasing rate. This is a potential danger for the hospital. It must be noted that although the revenue of the hospital can be increased by increasing charges, there is a limit for this. This is the case because corporate clients who constitute about 70 percent of the hospital's patient population and who pay 20 percent more than their private counterparts for medical services have medical expenditure ceilings for their staff and dependants. Therefore any price increase that will result in their medical expenditure exceeding these ceilings will not bring in the needed revenue as the number of patients that have to be seen to generate the desired revenue will not be obtained. In this regard, it is recommended that the price differential between corporate clients and their private counterparts be reduced as and when the base rate is increased.

Our findings in chapter 4 indicate that the hospital has no clear or documented strategic direction or vision. Under this circumstance the hospital cannot assume a proactive posture which is essentially needed for the organisation's survival and growth. In order for the hospital to survive and grow in its environment of intense competition it must ensure that in drawing up a strategic plan it sets out a clear vision and mission and also details out the objectives and what exactly must be done to achieve the set objectives. In the light of this, a ten-year vision is proposed for the hospital and an action plan made to ensure the accomplishment of this goal (Tables 5.1 to 5.3).

Again in its bid to ensure the delivering of quality service to its customers, the hospital recruited and continues to recruit highly skilled technical and professional staff. This has however left in its trail a high ratio of personnel cost to total operating cost thus bringing

about low profitability. This is the case because the hospital has not been able to recover its personnel cost through its charges. The inability of the hospital to do this, stem from the fact that it does not want to be seen as charging high fees because of the misconception of the general public that the hospital was put up with workers' contributions to the social security fund. This misconception however should not be allowed to influence the decision of the management of the hospital to ensure the delivery of quality service to the community.

This is because the recruitment of poor quality staff will ruin the hospital's ability to deliver quality service. Moreover, since the management of Social Security and National Insurance Trust, the immediate owners of the hospital, sees it as an investment, it must recover cost in order to survive and grow. The hospital must therefore aim at full cost recovery in the long run. In the interim, however, the hospital must undertake a periodic upward adjustment on a graduated scale with a view to achieving a full cost recovering by the year 2010.

Finally, it has been observed, that the hospital's performance in the area of return on investment has been very poor. This therefore hampers the hospital's ability to survive financially and to attract suppliers of funds in order to increase its capital base. A great deal of efforts along the lines proposed under the ten-year vision and action plan indicated in tables 5.1 to 5.3 must therefore be made by the management of the hospital in order to turn around the organization's performance.

MODEL ACTION PLAN FOR THE IMPLEMENTATION OF THE TEN (10) YEAR VISION OF THE TRUST HOSPITAL (VISION 2010)

ITEM	TIME	RESPONSIBILITY
Redefine the mission and vision of the hospital, and set targets to be achieved by the year 2010.	March 2001	Administration
Setup Marketing Unit to market the services of the hospital	June 2001	Administration
Enter into agreements with private hospitals and clinics to utilize the hospital's diagnostic facilities for the purpose of enhancing revenue generation.	September 2001	Marketing, Xray, and Laboratory
Reduce inventory to 6weeks consumption level; Reduce pharmacy input cost to 60% of pharmacy revenue..	December 2001	Pharmacy, and Accounting
Facilitate payment process of corporate medical bills by linking patients hospital numbers to staff numbers or insurance policy numbers	December 2001	Information Technology, and Accounting
Reduce credit period for corporate clients from 28days to 21days, and decrease debt collection period from 60days to 21days.	December 2001	Accounting, and Marketing
Increase hospital attendance during the night.	March 2002	Marketing
Expand the capacity of present facilities and establish new ones to include Accident Centre, CT Scan, Dental Unit, Magnetic Reasoning Image.	December 2003	Administration
Setup Human Resources Unit to effectively manage and arrange training programs for staff.	December 2003	Administration
Reduce ratio of personnel cost to revenue from 47% to 33%.	December 2005	Accounting, and Administration
Increase number of satellite clinics to five.	December 2008	Administration
Train Medical Officers in specialists care in order to reduce the hospital's dependence on Locum Consultants.	December 2010	HRD
Achieve a 26% return on investment (ROI)	December 2010	All Departments

TABLE 5.2

THE TRUST HOSPITAL
PROJECTED OPERATING STATEMENT
FOR THE PERIOD JAN-2001 TO DEC-2010

	Actual Dec-99	Projected Dec-00	Projected Dec-01	Projected Dec-02	Projected Dec-03	Projected Dec-04	Projected Dec-05	Projected Dec-06	Projected Dec-07	Projected Dec-08	Projected Dec-09	Projected Dec-10
Item Revenue	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
1 Pharmacy	3,624,363	4,168,017	5,835,224	8,169,314	11,437,040	16,011,856	22,416,598	31,383,237	43,936,532	61,511,145	86,115,604	120,561,845
2 Laboratory	1,823,938	2,754,146	4,131,220	5,783,707	8,097,190	11,336,067	15,870,493	22,218,690	31,106,166	43,548,633	60,968,086	91,452,129
3 Xray	631,963	808,913	1,213,369	1,698,717	2,378,203	3,329,484	4,661,278	6,525,789	9,136,105	12,790,547	17,906,766	26,860,149
4 Theatre Inputs	362,059	648,086	907,320	1,270,248	1,778,347	2,489,686	3,485,560	4,879,784	6,831,698	9,564,377	13,390,127	18,746,178
5 Catering	234,036	409,563	614,345	921,517	1,382,275	2,073,413	3,110,119	4,665,179	6,997,768	10,496,652	15,744,978	23,617,466
6 Gen + Exe. Wards	383,430	663,334	928,667	1,300,134	1,820,188	2,548,264	3,567,569	4,994,596	6,992,435	9,789,409	13,705,173	19,187,242
7 Theatre Operations	408,192	730,664	1,022,929	1,432,101	2,004,941	2,806,918	3,929,685	5,501,558	7,702,182	10,783,055	15,096,276	21,134,787
8 Registration	68,116	115,797	173,696	260,544	390,816	586,223	1,025,891	1,538,836	2,308,254	3,462,382	5,193,572	9,088,751
9 Gen. Consultation	1,503,106	1,593,292	2,230,609	3,122,853	4,371,994	6,120,792	8,569,109	11,996,752	16,795,453	23,513,634	32,919,088	46,086,723
10 Fast Track Cons.	81,631	125,712	175,996	246,395	344,953	482,934	676,108	946,551	1,325,172	1,855,240	2,597,336	3,636,271
11 Gynae Cons	240,114	362,572	507,601	710,641	994,898	1,392,857	1,950,000	2,730,000	3,822,000	5,350,800	7,491,120	10,487,568
12 Surgical Cons	40,275	57,191	80,067	112,093	156,931	219,703	307,584	430,618	602,865	844,011	1,181,616	1,654,262
13 Paediatric Cons	91,762	144,066	201,693	282,370	395,318	553,445	774,823	1,084,753	1,518,654	2,126,115	2,976,561	4,167,186
14 Eye Consultation	111,441	119,242	166,939	233,714	327,200	458,080	641,311	897,836	1,256,970	1,759,758	2,463,662	3,449,127
15 ENT Cons	34,873	39,755	55,657	77,920	109,088	152,724	213,813	299,338	419,074	586,703	821,384	1,149,938
16 Dermatology Cons	12,040	14,930	20,901	29,262	40,967	57,354	80,295	112,413	157,378	220,329	308,461	431,846
17 Physician Spec. Cons	38,462	52,693	73,770	103,278	144,589	202,425	283,395	396,753	555,455	777,637	1,088,691	1,524,168
18 Neurosurgical Cons	3,325	4,090	5,726	8,016	11,222	15,711	21,996	30,794	43,111	60,356	84,499	118,298
19 Orthopaedics	34,858	43,921	61,490	86,085	120,519	168,727	236,218	330,705	462,987	648,182	907,455	1,270,438
20 Physiotherapy	69,675	107,996	143,635	191,035	254,076	337,921	449,435	597,749	795,006	1,057,357	1,406,285	1,968,799
21 Dietetic Cons	5,698	10,370	15,556	23,333	35,000	52,500	78,750	118,125	177,187	265,781	398,671	598,007
22 ECG	44,858	77,604	103,214	137,274	182,575	242,825	322,957	429,532	571,278	759,800	1,010,534	1,414,747
23 Ultrasound	53,544	74,426	98,987	131,652	175,098	232,880	309,730	411,941	547,882	728,683	969,149	1,356,808
24 Mammogram	8,899	15,395	23,093	34,639	51,959	77,939	116,908	175,362	263,043	394,564	591,846	887,769
25 Visa Med. Exam.	195,054	159,944	159,944	159,944	159,944	159,944	159,944	159,944	159,944	159,944	159,944	159,944
26 Cardiology	26,410	82,135	123,203	184,804	277,206	415,809	623,713	935,570	1,403,355	2,105,033	3,157,549	4,736,324
27 Morgue	3,731	3,694	5,541	8,311	12,466	18,699	28,049	42,073	63,110	94,665	141,998	212,997
28 Investment Income	601,359	240,544	721,631	432,978	649,468	974,202	1,461,302	2,191,954	3,287,930	4,931,895	7,397,843	11,096,765
29 Miscellaneous	15,000	20,000	30,000	45,000	67,500	101,250	151,875	227,813	341,719	512,578	768,867	1,153,301
30 Other Services	-	-	150,000	225,000	393,750	689,063	1,205,859	1,808,789	2,713,184	4,069,775	6,104,663	9,156,995
31 Satellite Clinics	-	-	25,000	37,500	56,250	84,375	126,563	189,844	284,766	427,148	640,723	961,084
32 Total Revenue	10,752,212	13,648,092	20,007,021	27,460,382	38,621,972	54,394,067	76,856,931	108,252,880	152,578,664	215,196,191	303,708,529	438,327,912
33 Direct Inputs	3,839,009	3,762,229	5,267,120	7,373,968	10,323,556	14,452,978	21,679,467	30,351,254	42,491,756	59,488,458	83,283,842	116,597,378
Operating Profit (Loss)	6,913,203	9,885,864	14,739,901	20,086,413	28,298,416	39,941,089	55,177,464	77,901,626	110,086,908	155,707,733	220,424,687	321,730,533
Other Operating Cost												
34 Direct Personnel	4,009,637	5,453,106	7,361,694	9,202,117	12,422,858	15,528,572	20,187,144	27,252,644	34,065,805	47,692,128	61,999,766	86,799,672
35 Benefits	1,010,773	1,667,775	2,168,108	2,818,541	3,664,103	4,763,333	6,192,334	8,359,650	10,867,545	15,214,563	19,778,932	27,690,505
36 Occupation	413,229	549,595	714,473	928,815	1,207,459	1,569,697	2,040,606	2,652,788	3,448,624	4,483,212	5,828,175	7,576,628
37 Motor Running	186,521	296,568	385,539	501,201	651,561	847,029	1,270,543	1,651,707	2,147,218	2,791,384	3,628,799	4,717,439
38 Gen. Expenses	375,119	495,157	643,704	836,815	1,171,542	1,640,158	2,296,222	3,214,710	4,500,594	6,300,832	8,821,165	12,349,631
39 Repairs+Mtlce	86,526	117,675	152,978	198,871	278,420	389,788	545,703	763,984	1,069,578	1,497,409	2,096,373	2,934,922
40 Depreciation	629,159	1,088,445	1,414,979	1,839,472	2,575,261	3,605,365	5,047,512	7,066,516	9,893,123	13,850,372	19,390,521	27,146,729
41 Bad Debts	-	49,429	73,700	100,432	141,492	199,705	275,887	389,508	550,435	778,539	1,102,123	1,608,653
Total Other Operating Cost	6,710,964	9,717,752	12,915,174	16,426,264	22,112,695	28,543,649	37,855,951	51,351,508	66,542,923	92,608,439	122,645,855	170,824,179
Net Profit (Loss)	202,239	168,112	1,824,727	3,660,149	6,185,721	11,397,440	17,321,513	26,550,118	43,543,984	63,099,294	97,778,832	150,906,354
* Return On Investment	1.89	1.46	10.12	12.99	14.23	17.69	18.81	20.17	22.76	22.97	24.59	26.01

Source: Study

TABLE 5.3

THE TRUST HOSPITAL
PROJECTED PERCENTAGE INCREASES
FOR THE PERIOD JAN-2001 TO DEC-2010

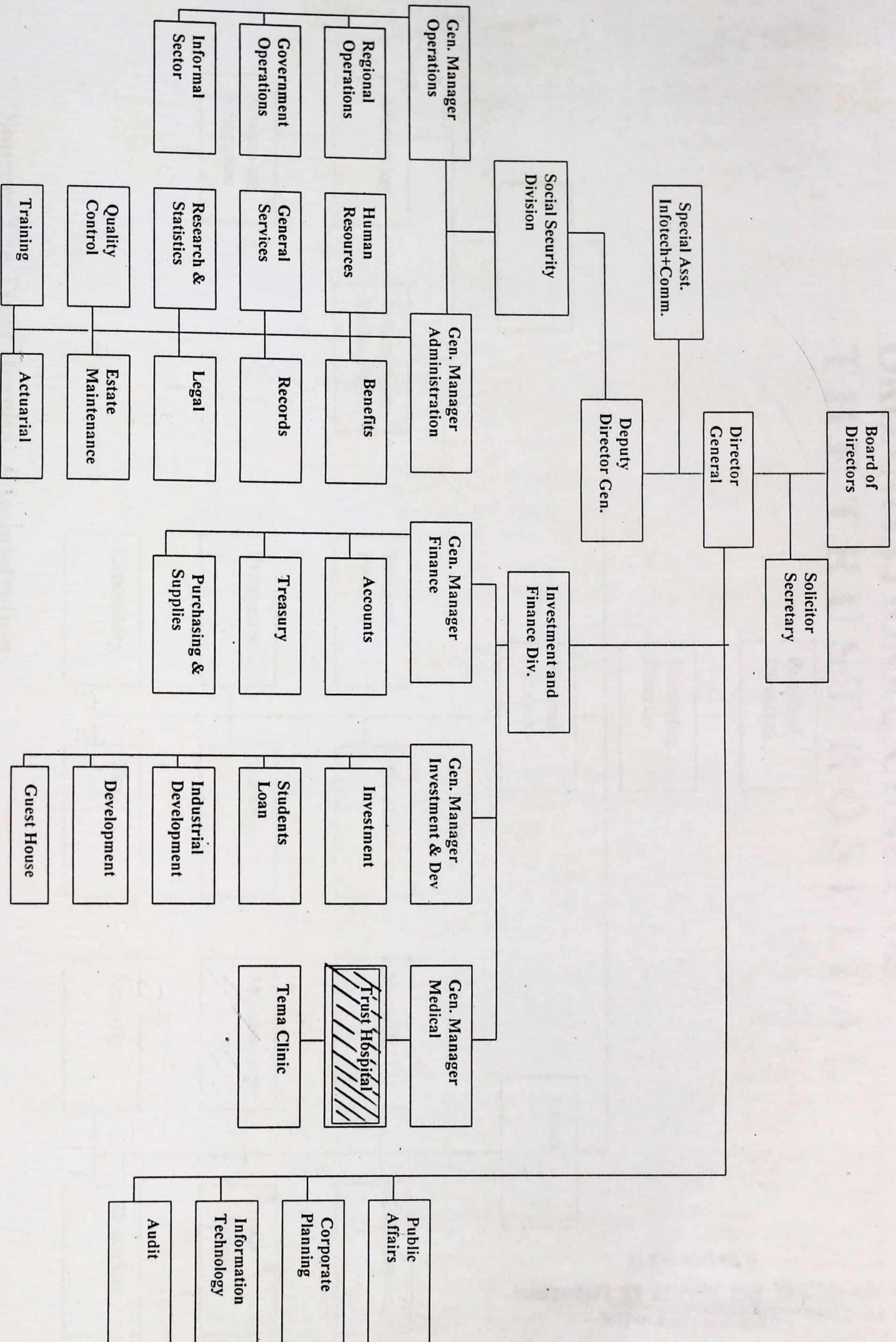
Description	Actual Dec-99	Estimated Dec-00	Projected Dec-01 based on 2000	Projected Dec-02 based on 2001	Projected Dec-03 based on 2002	Projected Dec-04 based on 2003	Projected Dec-05 based on 2004	Projected Dec-06 based on 2005	Projected Dec-07 based on 2006	Projected Dec-08 based on 2007	Projected Dec-09 based on 2008	Projected Dec-10 based on 2009
1 Pharmacy	1.15	1.15	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
2 Laboratory	1.51	1.51	1.50	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.50
3 Xray	1.28	1.28	1.50	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.50
4 Theatre Inputs	1.79	1.79	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
5 Catering	1.75	1.75	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
6 Gen + Exe.Wards	1.73	1.73	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
7 Theatre Operations	1.79	1.79	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
8 Registration	1.7	1.7	1.50	1.50	1.50	1.50	1.75	1.50	1.50	1.50	1.50	1.75
9 Gen.Consultation	1.06	1.06	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
10 Fast Track Cons.	1.54	1.54	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
11 Gynae Cons	1.51	1.51	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
12 Surgical Cons	1.42	1.42	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
13 Paediatric Cons	1.57	1.57	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
14 Eye Consultation	1.07	1.07	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
15 ENT Cons	1.14	1.14	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
16 Dermatology Cons	1.24	1.24	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
17 Physician Spec.Cons	1.37	1.37	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
18 Neurosurgical Cons	1.23	1.23	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
19 Orthopaedics	1.26	1.26	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
20 Physiotherapy	1.55	1.55	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.40
21 Dietetic Cons	1.82	1.82	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
22 ECG	1.73	1.73	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.40
23 Ultrasound	1.39	1.39	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.40
24 Mammogram	1.73	1.73	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
25 Visa Med.Exam.	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
26 Cardiology	3.11	3.11	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
27 Morgue	0.99	0.99	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
28 Investment Income	0.40	0.40	3.00	0.60	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
29 Miscellaneous	0.25	0.25	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
30 Other Services				1.50	1.75	1.75	1.75	1.75	1.50	1.50	1.50	1.50
31 Satellite Clinics				1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
32 Direct Inputs Cost	0.98	0.98	1.40	1.40	1.40	1.40	1.50	1.40	1.40	1.40	1.40	1.40
33 Direct Personnel Cost	1.36	1.36	1.35	1.25	1.35	1.25	1.30	1.35	1.25	1.40	1.30	1.40
34 Benefits Cost	1.65	1.65	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.40
35 Occupation Cost	1.33	1.33	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
36 Motor Running Cost	1.59	1.59	1.30	1.30	1.30	1.30	1.50	1.30	1.30	1.30	1.30	1.30
37 Gen.Expenses Cost	1.32	1.32	1.30	1.30	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
38 Repairs+Mtce Cost	1.36	1.36	1.30	1.30	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
39 Depreciation	1.73	1.73	1.30	1.30	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
40 Bad Debts	0	0	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05

Source: Study

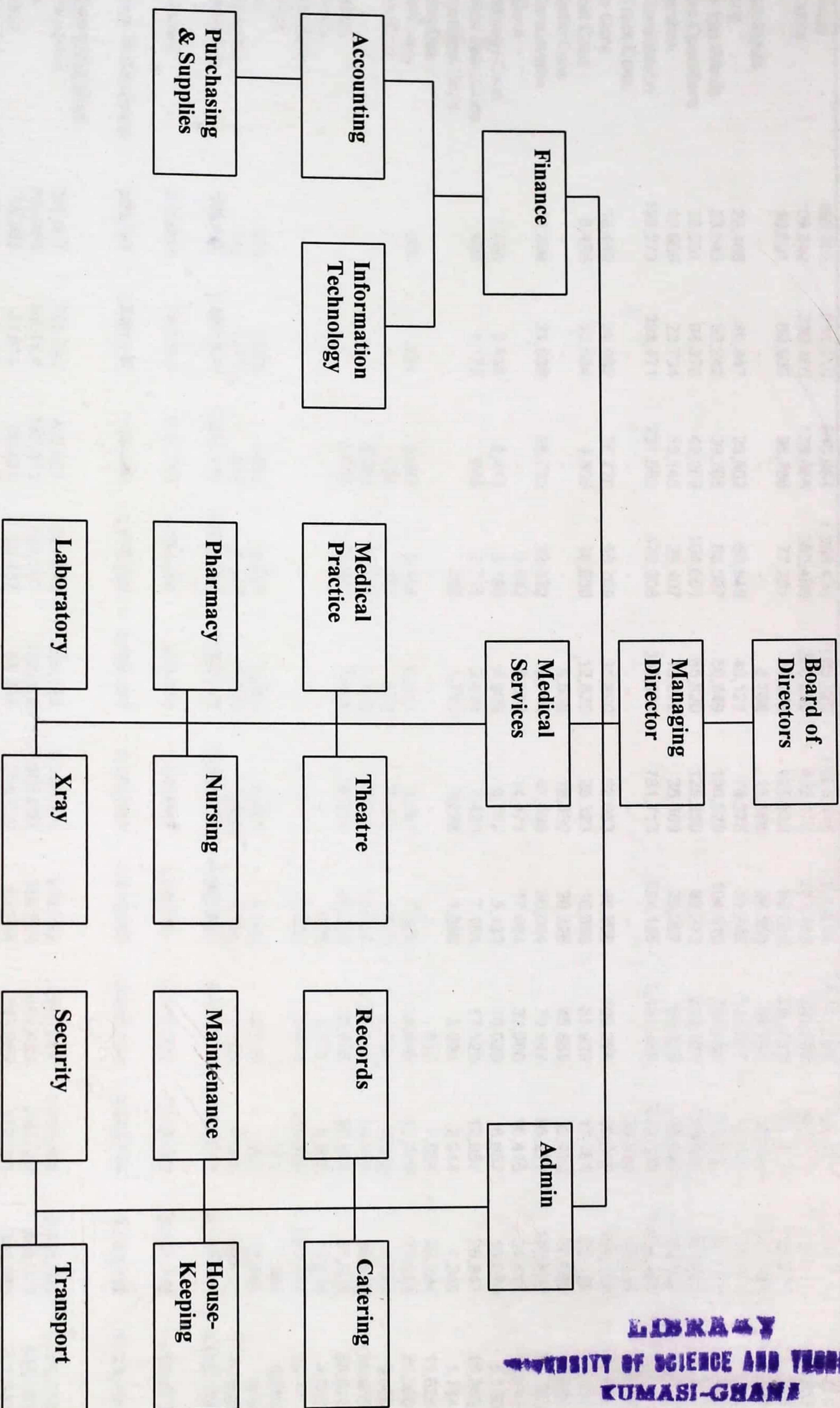
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SSNIT ORGANISATIONAL CHART (2000)



ORGANISATIONAL CHART OF THE TRUST HOSPITAL



Source: The Trust Hospital Administration

THE TRUST HOSPITAL
OPERATING STATEMENT
FOR THE PERIOD JAN-1994 TO DEC-1999

	Actual Jun-94	Actual Dec-94	Actual Jun-95	Actual Dec-95	Actual Jun-96	Actual Dec-96	Actual Jun-97	Actual Dec-97	Actual Jun-98	Actual Dec-98	Actual Jun-99	Actual Dec-99
Item Revenue	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
1 Pharmacy	495,965	981,918	640,684	1,268,434	805,222	1,925,315	1,578,814	3,496,603	1,820,323	3,208,761	1,566,729	3,624,363
2 Laboratory	109,842	239,465	178,658	389,489	203,230	432,173	283,324	625,950	569,535	1,226,247	849,253	1,823,938
3 Xray	30,601	60,936	38,769	77,201	54,875	125,533	92,334	230,425	141,070	296,577	216,328	631,963
4 Theatre Inputs	-	-	-	-	8,766	15,159	26,563	59,794	58,033	100,585	165,358	362,059
5 Catering	23,486	49,447	28,902	60,849	40,121	78,375	71,742	131,837	43,800	120,672	126,330	234,036
6 Gen + Exe. Wards	23,545	52,242	39,705	88,097	50,849	100,028	104,510	208,960	135,508	281,576	199,242	383,430
7 Theatre Operations	32,051	68,376	49,059	104,661	65,820	125,350	92,213	212,120	133,605	284,295	197,247	408,192
8 Registration	10,609	23,734	13,145	29,407	16,072	35,509	23,267	50,968	25,424	62,105	39,870	68,116
9 Gen. Consultation	192,273	398,471	231,569	479,908	349,994	781,713	554,155	1,131,239	672,196	1,404,822	710,420	1,503,106
10 Fast Track Cons.	-	-	-	-	-	-	-	-	26,756	57,134	41,020	81,631
11 Gynae Cons	18,449	39,082	26,770	56,709	31,890	62,083	46,868	100,984	80,940	161,150	119,691	240,114
12 Surgical Cons	6,425	12,554	9,509	18,580	12,825	25,323	16,886	31,939	17,785	38,133	20,119	40,275
13 Paediatric Cons	-	-	-	-	8,538	19,850	20,326	45,885	30,410	60,059	42,938	91,762
14 Eye Consultation	10,296	21,938	15,733	33,522	18,714	47,636	36,084	79,147	49,227	102,857	51,793	111,441
15 ENT Cons	-	-	-	2,842	6,830	14,471	17,094	32,060	16,416	31,411	19,512	34,873
16 Dermatology Cons	1,488	3,195	2,415	5,185	4,909	6,712	5,132	10,028	6,657	16,071	5,100	12,040
17 Physician Spec. Cons	400	1,175	945	2,775	3,421	7,423	7,151	17,523	12,857	26,847	16,263	38,462
18 Neurosurgical Cons	-	-	-	150	1,740	3,278	1,359	3,094	2,014	4,249	1,784	3,325
19 Orthopaedics	-	-	-	-	-	-	-	812	7,664	22,224	11,626	34,858
20 Physiotherapy	609	1,534	2,282	5,744	5,271	8,897	7,028	18,692	18,549	39,811	29,300	69,675
21 Dietetic Cons	-	-	757	980	472	1,079	1,473	2,986	2,025	3,774	3,566	5,698
22 ECG	-	-	5,390	11,640	7,120	18,007	14,835	27,436	16,348	39,636	28,950	44,858
23 Ultrasound	-	-	6,050	20,322	7,655	12,255	15,330	32,028	37,426	81,621	38,518	53,544
24 Mammogram	-	-	-	-	-	-	450	1,183	1,920	7,614	4,039	8,899
25 Visa Med. Exam.	-	-	-	-	-	-	15,336	58,444	151,676	291,731	95,177	195,054
26 Cardiology	-	-	-	-	-	-	-	-	576	2,862	6,388	26,410
27 Morgue	319	1,605	1,965	9,891	3,281	5,521	1,566	2,926	507	17,640	969	3,731
28 Miscellaneous	496	1,477	812	2,418	1,157	5,939	3,766	9,055	4,666	199,637	90,666	616,359
29 Total Revenue	956,854	1,957,149	1,293,119	2,668,804	1,708,772	3,857,629	3,037,606	6,622,118	4,083,913	8,190,101	4,698,196	10,752,212
30 Direct Inputs	374,905	747,951	516,715	1,030,868	579,611	1,585,042	1,236,691	2,815,352	1,513,882	3,026,335	1,546,891	3,839,009
31 Operating Profit (Loss)	581,949	1,209,198	776,404	1,637,936	1,129,161	2,272,587	1,800,915	3,806,766	2,570,031	5,163,766	3,151,305	6,913,203
Other Operating Cost												
32 Direct Personnel	393,067	787,995	409,867	821,675	534,164	1,142,321	958,242	1,965,057	1,419,481	3,038,502	1,756,205	4,009,637
33 Benefits	109,459	243,304	145,811	324,107	222,879	603,088	264,515	584,433	282,622	665,073	516,957	1,010,773
34 Occupation	15,330	34,914	38,831	88,437	51,731	214,729	83,398	193,289	167,251	366,060	201,337	413,229
35 Motor Running	21,811	48,063	40,148	88,469	57,602	200,645	44,010	169,604	101,561	200,242	81,784	186,521
36 Gen. Expenses	13,702	35,368	25,017	64,574	39,487	131,976	56,590	121,656	100,673	490,007	150,534	375,119
37 Repairs+Mice	3,731	12,320	7,971	26,324	18,461	67,635	29,140	66,808	51,751	106,010	44,406	86,526
38 Depreciation	45,777	97,281	84,908	180,438	134,050	302,772	179,500	395,833	232,303	533,199	222,938	629,159
39 Bad Debts	-	-	-	4,380	-	-	-	-	-	-	-	-
40 Total Other Operating Cost	602,877	1,259,245	752,553	1,598,404	1,058,374	2,663,166	1,615,395	3,496,680	2,355,642	5,399,093	2,974,161	6,710,964
41 Net Profit (Loss)	(20,928)	(50,047)	23,851	39,532	70,787	(390,579)	185,520	310,086	214,389	(235,327)	177,144	202,239

Source: Study

APPENDIX IV
THE TRUST HOSPITAL
BALANCE SHEET
FOR THE PERIOD JAN-1994 TO DEC-1999

Item	Actual Jun-94 ₹'000	Actual Dec-94 ₹'000	Actual Jun-95 ₹'000	Actual Dec-95 ₹'000	Actual Jun-96 ₹'000	Actual Dec-96 ₹'000	Actual Jun-97 ₹'000	Actual Dec-97 ₹'000	Actual Jun-98 ₹'000	Actual Dec-98 ₹'000	Actual Jun-99 ₹'000	Actual Dec-99 ₹'000
Net Assets												
1 Net Fixed Assets	1,856,601	2,040,230	3,195,952	2,971,396	3,218,825	3,232,173	3,320,983	3,590,789	3,679,009	3,962,079	3,940,266	4,102,642
Current Assets												
2 Stocks	500,374	291,177	328,359	506,204	875,756	875,476	898,570	639,039	503,799	819,291	1,348,320	1,618,098
3 Medical Debtors	392,327	321,118	451,340	409,165	387,685	696,640	814,368	1,979,443	1,612,514	1,892,023	1,577,259	1,258,434
4 Other Debtors	212,953	555,184	23,894	158,644	114,090	47,142	88,978	319,255	204,917	270,767	151,070	34,784
5 Short Term Investments	-	-	-	-	-	-	-	-	-	1,137,535	2,252,317	3,707,396
6 Cash and Bank	90,524	11,620	96,406	67,432	186,639	90,898	819,759	115,288	384,322	458,414	242,093	152,875
Total Current Assets	1,196,178	1,179,099	899,999	1,141,445	1,564,170	1,710,156	2,621,675	3,053,025	2,705,552	4,578,030	5,571,059	6,771,587
Current Liabilities												
7 Trade Creditors	(31,659)	(43,794)	(35,448)	(14,430)	(32,965)	(362,595)	(365,784)	(302,008)	(241,886)	(263,352)	(864,298)	(145,979)
8 Net Current Assets	1,164,519	1,135,305	864,551	1,127,015	1,531,204	1,347,561	2,255,890	2,751,017	2,463,666	4,314,678	4,706,762	6,625,609
9 Net Assets	2,914,627	3,175,535	3,634,530	4,098,411	4,750,030	4,579,734	5,576,872	6,341,805	6,142,675	8,276,757	8,647,028	10,728,251
Financed By:												
10 SSNIT	2,904,544	3,225,582	3,610,681	4,093,513	4,654,733	4,874,939	5,542,016	6,535,494	7,244,853	8,704,787	8,927,074	10,954,145
11 Income Surplus	10,083	(50,047)	23,849	4,898	95,297	(295,205)	34,856	(193,689)	(1,102,178)	(428,030)	(280,046)	(225,894)
	2,914,627	3,175,535	3,634,530	4,098,411	4,750,030	4,579,734	5,576,872	6,341,805	6,142,675	8,276,757	8,647,028	10,728,251

Source: Study

APPENDIX V
THE TRUST HOSPITAL
OPERATING STATEMENT
FOR THE PERIOD JAN-1994 TO DEC-1999

Item	Budget		Actual		Budget		Actual		Budget		Actual		Budget		Actual		Budget		Actual		Budget		Actual	
	Dec-94	Dec-94	Dec-94	Dec-94	Dec-95	Dec-95	Dec-95	Dec-95	Dec-96	Dec-96	Dec-96	Dec-96	Dec-97	Dec-97	Dec-97	Dec-97	Dec-98	Dec-98	Dec-98	Dec-98	Dec-99	Dec-99	Dec-99	Dec-99
Revenue	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000
1 Pharmacy	943,200	981,918	1,274,300	1,268,434	1,780,444	1,925,315	2,957,960	3,496,603	4,490,739	3,208,761	4,181,544	3,624,363												
2 Laboratory	115,682	239,465	283,272	389,489	496,309	432,173	690,470	625,950	1,168,255	1,226,247	1,647,401	1,823,938												
3 Xray	52,185	60,936	75,265	77,201	106,406	125,533	148,560	230,425	267,754	296,577	382,584	631,963												
4 Theatre Inputs	-	-	-	-	56,757	23,925	53,174	59,794	68,215	100,585	146,854	362,059												
5 Catering	67,080	49,447	58,580	60,849	76,492	78,375	134,460	131,837	181,980	120,672	300,275	234,036												
6 Gen + Exe. Wards	75,348	52,242	84,406	88,097	99,642	100,028	222,048	208,960	288,874	281,576	379,605	383,430												
7 Theatre Operations	124,800	68,376	88,400	104,661	151,635	125,350	151,925	151,925	194,900	284,295	414,504	408,192												
8 Registration	35,444	23,734	25,942	29,407	32,144	35,509	37,500	50,968	69,750	62,105	75,081	68,116												
9 Gen. Consultation	424,848	398,471	414,000	479,908	898,416	781,713	1,018,875	1,131,239	1,315,008	1,404,822	1,727,455	1,503,106												
10 Fast Track Cons.	-	-	-	-	-	-	-	-	26,620	57,134	92,792	81,631												
11 Gynae Cons	80,030	39,082	52,370	56,709	63,780	62,083	86,250	100,894	134,992	161,150	201,438	240,114												
12 Surgical Cons	21,470	12,554	17,410	18,580	29,985	25,323	37,950	31,939	45,040	38,133	47,666	40,275												
13 Paediatric Cons	-	-	-	-	17,076	19,850	34,500	45,885	89,632	60,059	74,193	91,762												
14 Eye Consultation	31,200	21,938	31,200	33,522	37,428	47,636	55,683	79,147	96,240	102,857	128,572	111,441												
15 ENT Cons	-	-	-	2,842	15,600	14,471	26,910	32,060	45,544	31,411	39,815	34,873												
16 Dermatology Cons	5,200	3,195	5,200	5,185	9,817	6,712	26,910	10,028	13,664	16,071	20,088	12,040												
17 Physician Spec. Cons	10,400	1,175	5,200	2,775	7,800	7,423	17,940	17,523	19,048	26,847	33,559	38,462												
18 Neurosurgical Cons	-	-	-	150	3,900	3,278	4,485	3,094	3,632	4,249	3,983	3,325												
19 Orthopaedics	-	-	-	-	-	-	8,970	812	5,520	22,224	27,779	34,858												
20 Physiotherapy	2,028	1,534	5,304	5,744	8,000	8,897	19,760	18,692	17,020	39,811	50,559	69,675												
21 Dietetic Cons	100	-	336	980	944	1,079	1,140	2,996	2,172	3,774	7,030	5,698												
22 ECG	10,260	-	10,660	11,640	17,805	18,007	20,700	27,436	33,750	39,636	55,365	44,858												
23 Ultrasound	22,730	-	14,520	20,322	15,310	12,255	37,950	32,028	33,750	81,621	76,520	53,544												
24 Mammogram	-	-	-	-	-	-	39,000	1,183	9,000	7,614	7,614	8,899												
25 Visa Med. Exam.	-	-	-	-	-	-	-	58,444	105,000	291,731	311,195	195,054												
26 Cardiology	-	-	-	-	-	-	-	-	-	2,862	3,578	26,410												
27 Morgue	1,450	1,605	2,365	9,891	6,561	5,521	6,000	2,926	4,000	17,640	4,500	3,731												
28 Miscellaneous	-	1,477	-	2,418	2,000	5,939	4,000	12,821	10,000	199,637	275,654	616,359												
29 Total Revenue	2,023,455	1,957,149	2,448,730	2,668,804	3,934,251	3,866,395	5,843,120	6,625,804	8,740,099	8,190,101	10,717,203	10,752,212												
30 Direct Inputs	716,808	747,951	983,076	1,030,868	1,376,332	1,585,042	2,432,885	2,815,352	3,685,315	3,026,335	3,694,655	3,839,009												
31 Operating Profit (Loss)	1,306,647	1,209,198	1,465,654	1,637,936	2,557,919	2,281,353	3,410,235	3,810,452	5,054,784	5,163,766	7,022,548	6,913,203												
Other Operating Cost																								
32 Direct Personnel	880,408	787,995	807,695	821,675	1,114,556	1,123,239	1,802,221	1,965,057	3,024,710	3,038,502	3,898,017	4,009,637												
33 Benefits	122,007	243,304	251,825	324,107	510,286	603,088	559,762	584,433	641,250	665,073	858,388	1,010,773												
34 Occupation	53,232	34,914	76,952	88,437	171,745	142,606	175,257	193,289	254,961	366,060	389,291	413,229												
35 Motor Running	78,511	48,063	89,965	88,469	160,925	136,725	170,855	169,604	164,350	200,242	212,356	186,521												
36 Gen. Expenses	54,575	35,368	55,325	64,574	102,956	93,683	114,687	121,656	146,657	490,007	234,432	375,119												
37 Repairs+Mlce	10,500	12,320	17,740	26,324	58,401	67,635	102,400	66,808	73,831	106,010	118,547	86,526												
38 Depreciation	92,300	97,281	162,885	180,438	281,789	283,690	463,479	395,833	503,182	533,199	698,166	629,159												
39 Bad Debts	-	-	-	4,380	-	-	-	-	-	-	-	-												
40 Total Other Operating Cost	1,291,533	1,259,245	1,462,387	1,598,404	2,400,658	2,450,666	3,388,661	3,496,680	4,808,941	5,399,093	6,409,197	6,710,964												
41 Net Profit (Loss)	15,114	(50,047)	3,267	39,532	157,261	(169,313)	21,574	313,772	245,843	(235,327)	613,351	202,239												

APPENDIX VI
THE TRUST HOSPITAL
FINANCIAL STATEMENTS ANALYSIS
FOR THE PERIOD JAN-1994 TO DEC-1999

Item	Jun-94	Dec-94	Jun-95	Dec-95	Jun-96	Dec-96	Jun-97	Dec-97	Jun-98	Dec-98	Jun-99	Dec-99
Fin. Statements Extracts	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000	₹'000
1 Turnover (Revenue)	956,854	1,957,149	1,293,119	2,668,804	1,708,772	3,857,629	3,037,606	6,622,118	4,083,913	8,190,101	4,698,196	10,752,212
2 Net Assets	2,914,627	3,175,535	3,634,530	4,098,411	4,750,030	4,579,734	5,576,872	6,341,805	6,142,675	8,276,757	8,647,028	10,728,251
3 Net Profit / (Loss)	(20,928)	(50,047)	23,851	39,532	70,787	(390,579)	185,520	310,086	214,389	(235,327)	177,144	202,239
4 Gross Profit	581,949	1,209,198	776,404	1,637,936	1,129,161	2,272,587	1,800,915	3,806,766	2,570,031	5,163,766	3,151,305	6,913,203
5 Total Operating Cost	977,782	2,007,196	1,269,268	2,629,272	1,637,985	4,248,208	2,852,086	6,312,032	3,869,524	8,425,428	4,521,052	10,549,973
6 Direct Input Cost	374,905	747,951	516,715	1,030,868	579,611	1,585,042	1,236,691	2,815,352	1,513,882	3,026,335	1,546,891	3,839,009
7 Personnel Cost	502,526	1,031,299	555,678	1,145,782	757,043	1,745,409	1,222,757	2,549,490	1,702,103	3,703,575	2,273,162	5,020,410
8 Stock	500,374	291,177	328,359	506,204	875,756	875,476	898,570	639,039	503,799	819,291	1,348,320	1,618,098
9 Medical Debtors	392,327	321,118	451,340	409,165	387,685	696,640	814,368	1,979,443	1,612,514	1,892,023	1,577,259	1,258,434
10 Current Assets	1,196,178	1,179,099	899,999	1,141,445	1,564,170	1,710,156	2,621,675	3,053,025	2,705,552	4,578,030	5,571,059	6,771,587
11 Current Liabilities	31,659	43,794	35,448	14,430	32,965	362,595	365,784	302,008	241,886	263,352	864,298	145,979
12 Net Sales on Credit	669,798	1,370,004	905,183	1,868,163	1,196,140	2,700,340	2,126,324	4,635,483	2,858,739	5,733,071	3,288,737	7,526,548
13 Cur. Assets Less Stock	695,804	887,922	571,640	635,241	688,414	834,680	1,723,105	2,413,986	2,201,753	3,758,739	4,222,739	5,153,489
14 Cur. Assets - Stock - Debt	303,477	566,804	120,300	226,076	300,729	138,040	908,737	434,543	589,239	1,866,716	2,645,480	3,895,055
Ratios												
i Gross Profit Margin (GP / Turnover x 100)	60.82	61.78	60.04	61.37	66.08	58.91	59.29	57.49	62.93	63.05	67.07	64.30
ii Net Profit Margin (Net Profit / Turnover x 100)	(2.19)	(2.56)	1.84	1.48	4.14	(10.12)	6.11	4.68	5.25	(2.87)	3.77	1.88
iii Return On Investment (Net Profit / Net Assets x 100)	(0.72)	(1.58)	0.66	0.96	1.49	(8.53)	3.33	4.89	3.49	(2.84)	2.05	1.89
iv Investment Intensity (Net Assets / Turnover x 100)	304.61	162.25	281.07	153.57	277.98	118.72	183.59	95.77	150.41	101.06	184.05	99.78
v Personnel Cost / Revenue (Per'nel Cost / Turnover x 100)	52.52	52.69	42.97	42.93	44.30	45.25	40.25	38.50	41.68	45.22	48.38	46.69
vi Assets Turnover (Turnover / Net Assets x 100)	32.83	61.63	35.58	65.12	35.97	84.23	54.47	104.42	66.48	98.95	54.33	100.22
vii Current Ratio (Cur. Assets / Cur. Liabilities)	38:1	27:1	25:1	79:1	47:1	5:1	7:1	10:1	11:1	17:1	6:1	46:1
viii Acid Test Ratio (Cur. Ast - Stocks - Debtors / Current Liabilities)	10:1	13:1	3:1	16:1	9:1	0.4:1	2:1	1:1	2:1	7:1	3:1	27:1
ix Debtors Turnover (Net Sales on Credit / Debtor Avg. Collection Per'd. in Day)	1.71	4.27	2.01	4.57	3.09	3.88	2.61	2.34	1.77	3.03	2.09	5.98
x Stock Turnover (Input Cost / Stock)	0.75	2.57	1.57	2.04	0.66	1.81	1.38	4.41	3.00	3.69	1.15	2.37
xii Days Taken to Sell Inventory (360 / Stock Turnover) days	480	140	229	177	544	199	262	82	120	97	314	152
xiii Personnel Cost / Tot. Op. Co (Per'nel Cost / Tot. Op. Co x 100)	51.39	51.38	43.78	43.58	46.22	41.09	42.87	40.39	43.99	43.96	50.28	47.59
xiv Direct Input / Tot. Op. Co (Dir. Input / Tot. Op. Co x 100)	38.34	37.26	40.71	39.21	35.39	37.31	43.36	44.60	39.12	35.92	34.22	36.39
xv Tot. Operating Cost / Rev (Tot. Op. Cost / Rev. x 100)	102.19	102.56	98.16	98.52	95.86	110.12	93.89	95.32	94.75	102.87	96.23	98.12

Source: Study

APPENDIX VII
THE TRUST HOSPITAL
FIXED ASSETS SCHEDULE (1994 - 1999)

	1994 ¢'000	1995 ¢'000	1996 ¢'000	1997 ¢'000	1998 ¢'000	1999 ¢'000
Land and Building						
Opening Bal	1,167,086	1,167,086	1,439,375	1,515,979	1,528,894	1,528,894
Additions	-	272,289	76,604	12,915	-	-
	1,167,086	1,439,375	1,515,979	1,528,894	1,528,894	1,528,894
Annual Increase in FA		272,289	76,604	12,915	-	-
% Change 1994-1999						31.00
Medical Equipment						
Opening Bal	282,107	282,107	1,362,130	1,430,840	1,647,516	2,027,267
Additions	-	1,080,023	68,710	216,676	379,751	261,862
	282,107	1,362,130	1,430,840	1,647,516	2,027,267	2,289,129
Annual Increase in FA		1,080,023	68,710	216,676	379,751	261,862
% Change 1994-1999						711.44
Ward Equipment						
Opening Bal	114,125	114,125	122,815	126,444	147,979	193,437
Additions	-	8,690	3,629	21,535	45,458	3,504
	114,125	122,815	126,444	147,979	193,437	196,941
Annual Increase in FA		8,690	3,629	21,535	45,458	3,504
% Change 1994-1999						72.57
Other Equipment						
Opening Bal	217,046	217,046	248,349	371,800	493,986	779,194
Additions	-	31,303	123,451	122,186	285,208	150,130
	217,046	248,349	371,800	493,986	779,194	929,324
Annual Increase in FA		31,303	123,451	122,186	285,208	150,130
% Change 1994-1999						328.17
Furniture & Fittings						
Opening Bal	32,089	32,089	42,718	95,552	222,369	298,892
Additions	-	10,629	52,834	126,817	76,523	126,445
	32,089	42,718	95,552	222,369	298,892	425,337
Annual Increase in FA		10,629	52,834	126,817	76,523	126,445
% Change 1994-1999						1,225.49
Motor Vehicles						
Opening Bal	125,454	278,264	278,264	497,503	761,872	867,891
Additions	152,810	-	219,239	274,118	106,019	227,781
Disposal / Transfer	-	-	-	(9,749)	-	-
	278,264	278,264	497,503	761,872	867,891	1,095,672
Annual Increase in FA		-	219,239	264,369	106,019	227,781
% Change 1994-1999						293.75
Total Fixed Assets	2,090,717	3,493,651	4,038,118	4,802,616	5,695,575	6,465,297
Annual Increase in FA		1,402,934	544,467	764,498	892,959	769,722
% Change 1994-1999						209.24

Source: Study

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APPENDIX VIII
THE TRUST HOSPITAL
EFFECT OF PRICE DISCRIMINATION (PD) ON
REVENUE GENERATION
FOR THE PERIOD JAN-1994 TO DEC-1999

Period Affected By Price Discrimination												
	Actual Jun-94 £'000	Actual Dec-94 £'000	Actual Jun-95 £'000	Actual Dec-95 £'000	Actual Jun-96 £'000	Actual Dec-96 £'000	Actual Jun-97 £'000	Actual Dec-97 £'000	Actual Jun-98 £'000	Actual Dec-98 £'000	Actual Jun-99 £'000	Actual Dec-99 £'000
Item Revenue												
1 Pharmacy	495,965	981,918	640,684	1,268,434	805,222	1,925,315	1,578,814	3,496,603	1,820,323	3,208,761	1,566,729	3,624,363
2 Theatre Inputs	-	-	-	-	8,766	15,159	26,563	59,794	58,033	100,585	165,358	362,059
3 Visa Med.Exam.	-	-	-	-	-	-	15,336	58,444	151,676	291,731	95,177	195,054
4 Morgue	319	1,605	1,965	9,891	3,281	5,521	1,566	2,926	507	17,640	969	3,731
5 Miscellaneous	496	1,477	812	2,418	1,157	5,939	3,766	9,055	4,666	199,637	90,666	616,359
* Sub - Total	496,780	985,000	643,461	1,280,743	818,426	1,951,934	1,626,045	3,626,822	2,035,205	3,818,354	1,918,899	4,801,566
Annual Increase							1,674,888			191,532		983,212
% Increase							85.81			5.28		25.75
Services affected by PD												
6 Laboratory	109,842	239,465	178,658	389,489	203,230	432,173	283,324	625,950	569,535	1,226,247	849,253	1,823,938
7 Xray	30,601	60,936	38,769	77,201	54,875	125,533	92,334	230,425	141,070	296,577	216,328	631,963
8 Catering	23,486	49,447	28,902	60,849	40,121	78,375	71,742	131,837	43,800	120,672	126,330	234,036
9 Gen + Exe.Wards	23,545	52,242	39,705	88,097	50,849	100,028	104,510	208,960	135,508	281,576	199,242	383,430
10 Theatre Operations	32,051	68,376	49,059	104,661	65,820	125,350	92,213	212,120	133,605	284,295	197,247	408,192
11 Registration	10,609	23,734	13,145	29,407	16,072	35,509	23,267	50,968	25,424	62,105	39,870	68,116
12 Gen.Consultation	192,273	398,471	231,569	479,908	349,994	781,713	554,155	1,131,239	672,196	1,404,822	710,420	1,503,106
13 Fast Track Cons.	-	-	-	-	-	-	-	-	26,756	57,134	41,020	81,631
14 Gynae Cons	18,449	39,082	26,770	56,709	31,890	62,083	46,868	100,984	80,940	161,150	119,691	240,114
15 Surgical Cons	6,425	12,554	9,509	18,580	12,825	25,323	16,886	31,939	17,785	38,133	20,119	40,275
16 Paediatric Cons	-	-	-	-	8,538	19,850	20,326	45,885	30,410	60,059	42,938	91,762
17 Eye Consultation	10,296	21,938	15,733	33,522	18,714	47,636	36,084	79,147	49,227	102,857	51,793	111,441
18 ENT Cons	-	-	-	2,842	6,830	14,471	17,094	32,060	16,416	31,411	19,512	34,873
19 Dermatology Cons	1,488	3,195	2,415	5,185	4,909	6,712	5,132	10,028	6,657	16,071	5,100	12,040
20 Physician Spec.Cons	400	1,175	945	2,775	3,421	7,423	7,151	17,523	12,857	26,847	16,263	38,462
21 Neurosurgical Cons	-	-	-	150	1,740	3,278	1,359	3,094	2,014	4,249	1,784	3,325
22 Orthopaedics	-	-	-	-	-	-	-	812	7,664	22,224	11,626	34,858
23 Physiotherapy	609	1,534	2,282	5,744	5,271	8,897	7,028	18,692	18,549	39,811	29,300	69,675
24 Dietetic Cons	-	-	757	980	472	1,079	1,473	2,986	2,025	3,774	3,566	5,698
25 ECG	-	-	5,390	11,640	7,120	18,007	14,835	27,436	16,348	39,636	28,950	44,858
26 Ultrasound	-	-	6,050	20,322	7,655	12,255	15,330	32,028	37,426	81,621	38,518	53,544
27 Mammogram	-	-	-	-	-	-	450	1,183	1,920	7,614	4,039	8,899
28 Cardiology	-	-	-	-	-	-	-	-	576	2,862	6,388	26,410
** Sub - Total	460,074	972,149	649,658	1,388,061	890,346	1,905,695	1,411,561	2,995,296	2,048,708	4,371,747	2,779,297	5,950,646
Annual Increase							1,089,601			1,376,451		1,578,899
% Increase							57.18			45.95		36.12
*** Grand Total	956,854	1,957,149	1,293,119	2,668,804	1,708,772	3,857,629	3,037,606	6,622,118	4,083,913	8,190,101	4,698,196	10,752,212
Annual Increase							2,764,489			1,567,983		2,562,111
% Increase							71.66			23.68		31.28

Source: Study

APPENDIX IX
THE TRUST HOSPITAL
EFFECT OF PRICE DISCRIMINATION (PD) ON
REVENUE GENERATION
FOR THE PERIOD 1994 TO 1999

FOR THE PERIOD 1994 TO 1999										
						Period Affected By Price Discrimination				
	Actual Dec-94	Budget Dec-94	Actual Dec-95	Budget Dec-95	Actual Dec-96	Actual Dec-97	Budget Dec-97	Actual Dec-98	Actual Dec-99	Budget Dec-99
Item Revenue	Dec-94 £'000	Dec-94 £'000	Dec-95 £'000	Dec-95 £'000	Dec-96 £'000	Dec-97 £'000	Dec-97 £'000	Dec-98 £'000	Dec-99 £'000	Dec-99 £'000
1 Pharmacy	981,918	943,200	1,268,434	1,274,300	1,925,315	3,496,603	2,957,960	3,208,761	4,490,739	3,624,363
2 Theatre Inputs	-	-	-	-	15,159	59,794	53,174	100,585	68,215	362,059
3 Visa Med.Exam.	-	-	-	-	-	58,444	-	291,731	105,000	195,054
4 Morgue	1,605	1,450	9,891	2,365	5,521	2,926	6,000	17,640	4,000	3,731
5 Miscellaneous	1,477	-	2,418	-	5,939	9,055	4,000	199,637	10,000	616,359
* Sub - Total	985,000	944,650	1,280,743	1,276,665	1,951,934	3,626,822	3,021,134	3,818,354	4,677,954	4,801,566
Performance Variance						605,688		(859,600)		(118,181)
Variance Percentage (%)						20.05		(18.38)		(2.40)
Services affected by PD										
6 Laboratory	239,465	115,682	389,489	283,272	432,173	625,950	690,470	1,226,247	1,168,255	1,823,938
7 Xray	60,936	52,185	77,201	75,265	125,533	230,425	148,560	296,577	267,754	631,963
8 Catering	49,447	67,080	60,849	58,580	78,375	131,837	134,460	120,672	181,980	234,036
9 Gen + Exe.Wards	52,242	75,348	88,097	84,406	100,028	208,960	222,048	281,576	288,874	383,430
10 Theatre Operations	68,376	124,800	104,661	88,400	125,350	212,120	151,925	284,295	195,900	408,192
11 Registration	23,734	35,444	29,407	25,942	35,509	50,968	37,500	62,105	69,750	68,116
12 Gen.Consultation	398,471	424,848	479,908	414,000	781,713	1,131,239	1,018,875	1,404,822	1,315,008	1,503,106
13 Fast Track Cons.	-	-	-	-	-	-	-	57,134	26,620	81,631
14 Gynae Cons	39,082	80,030	56,709	52,370	62,083	100,984	86,250	161,150	134,992	240,114
15 Surgical Cons	12,554	21,470	18,580	17,410	25,323	31,939	37,950	38,133	45,040	40,275
16 Paediatric Cons	-	-	-	-	19,850	45,885	34,500	60,059	89,632	91,762
17 Eye Consultation	21,938	31,200	33,522	31,200	47,636	79,147	55,683	102,857	96,240	111,441
18 ENT Cons	-	-	2,842	-	14,471	32,060	26,910	31,411	45,544	34,873
19 Dermatology Cons	3,195	5,200	5,185	5,200	6,712	10,028	26,910	16,071	13,664	12,040
20 Physician Spec.Cons	1,175	10,400	2,775	5,200	7,423	17,523	17,940	26,847	19,048	38,462
21 Neurosurgical Cons	-	-	150	-	3,278	3,094	4,485	4,249	3,632	3,325
22 Orthopaedics	-	-	-	-	-	812	8,970	22,224	5,520	34,858
23 Physiotherapy	1,534	2,028	5,744	5,304	8,897	18,692	19,760	39,811	17,020	69,675
24 Dietetic Cons	-	100	980	336	1,079	2,986	1,140	3,774	2,172	5,698
25 ECG	-	10,260	11,640	10,660	18,007	27,436	20,700	39,636	33,750	44,858
26 Ultrasound	-	22,730	20,322	14,520	12,255	32,028	37,950	81,621	33,750	53,544
27 Mammogram	-	-	-	-	-	1,183	39,000	7,614	9,000	8,899
28 Cardiology	-	-	-	-	-	-	-	2,862	-	26,410
** Sub - Total	972,149	1,078,805	1,388,061	1,172,065	1,905,695	2,995,296	2,821,986	4,371,747	4,063,145	5,950,646
Performance Variance						173,310		308,602		153,190
Variance Percentage (%)						6.14		7.60		2.64
*** Grand Total										
Performance Variance	1,957,149	2,023,455	2,668,804	2,448,730	3,857,629	6,622,118	5,843,120	8,190,101	8,741,099	10,752,212
Variance Percentage (%)						778,998		(550,998)		35,009
						13.33		(6.30)		0.33

APPENDIX X

THE TRUST HOSPITAL

CONTRIBUTION OF NEW SERVICES TO

REVENUE GENERATION

FOR THE PERIOD JAN-1994 TO DEC-1999

Item	Revenue	Actual Jun-94 £'000	Actual Dec-94 £'000	Actual Jun-95 £'000	Actual Dec-95 £'000	Actual Jun-96 £'000	Actual Dec-96 £'000	Actual Jun-97 £'000	Actual Dec-97 £'000	Actual Jun-98 £'000	Actual Dec-98 £'000	Actual Jun-99 £'000	Actual Dec-99 £'000
1 Pharmacy	495,965	981,918	640,684	1,268,434	805,222	1,925,315	1,578,814	3,496,603	1,820,323	3,208,761	1,566,729	849,253	1,823,938
2 Laboratory	109,842	239,465	178,658	389,489	203,230	432,173	283,324	625,950	569,535	1,226,247	296,577	216,328	631,963
3 Xray	30,601	60,936	38,769	77,201	54,875	125,533	92,334	230,425	141,070	100,585	165,358	126,330	362,059
4 Theatre Inputs	-	-	-	-	8,766	15,159	26,563	59,794	58,033	120,672	126,330	199,242	234,036
5 Catering	23,486	49,447	28,902	60,849	40,121	78,375	71,742	131,837	43,800	135,508	281,576	197,247	383,430
6 Gen + Exe. Wards	23,545	52,242	39,705	88,097	50,849	100,028	104,510	208,960	135,508	281,576	197,247	197,247	408,192
7 Theatre Operations	32,051	68,376	49,059	104,661	65,820	125,350	92,213	212,120	133,605	284,295	62,105	39,870	68,116
8 Registration	10,609	23,734	13,145	29,407	16,072	35,509	23,267	50,968	25,424	62,105	710,420	710,420	1,503,106
9 Gen. Consultation	192,273	398,471	231,569	479,908	349,994	781,713	554,155	1,131,239	672,196	1,404,822	57,134	41,020	81,631
10 Fast Track Cons.	-	-	-	-	-	-	-	-	-	26,756	161,150	119,691	240,114
11 Gynae Cons	18,449	39,082	26,770	56,709	31,890	62,083	46,868	100,984	80,940	161,150	38,133	20,119	40,275
12 Surgical Cons	6,425	12,554	9,509	18,580	12,825	25,323	16,886	31,939	17,785	38,133	60,059	42,938	91,762
13 Paediatric Cons	-	-	-	-	8,538	19,850	20,326	45,885	30,410	102,857	51,793	19,512	111,441
14 Eye Consultation	10,296	21,938	15,733	33,522	18,714	47,636	36,084	79,147	49,227	31,411	16,071	5,100	34,873
15 ENT Cons	-	-	-	-	6,830	14,471	17,094	32,060	16,416	6,657	26,847	16,263	12,040
16 Dermatology Cons	1,488	3,195	2,415	5,185	4,909	6,712	5,132	10,028	6,657	12,857	4,249	1,784	3,325
17 Physician Spec. Cons	400	1,175	945	2,775	3,421	7,423	7,151	17,523	12,857	22,224	22,224	11,626	34,858
18 Neurosurgical Cons	-	-	-	150	1,740	3,278	1,359	3,094	7,664	22,224	22,224	11,626	34,858
19 Orthopaedics	-	-	-	-	-	-	-	812	7,664	22,224	22,224	11,626	34,858
20 Physiotherapy	609	1,534	2,282	5,744	5,271	8,897	7,028	18,692	18,549	39,811	29,300	3,566	5,698
21 Dietetic Cons	-	-	757	980	472	1,079	1,473	2,986	2,025	3,774	3,774	3,566	5,698
22 ECG	-	-	5,390	11,640	7,120	18,007	14,835	27,436	16,348	39,636	28,950	28,950	44,858
23 Ultrasound	-	-	6,050	20,322	7,655	12,255	15,330	32,028	37,426	81,621	38,518	4,039	53,544
24 Mammogram	-	-	-	-	-	-	450	1,183	1,920	7,614	291,731	95,177	195,054
25 Visa Med. Exam.	-	-	-	-	-	-	15,336	58,444	151,676	2,862	6,388	969	26,410
26 Cardiology	-	-	-	-	-	-	-	-	507	17,640	199,637	90,666	3,731
27 Morgue	319	1,605	1,965	9,891	3,281	5,521	1,566	2,926	507	17,640	199,637	90,666	3,731
28 Miscellaneous	496	1,477	812	2,418	1,157	5,939	3,766	9,055	4,666	199,637	90,666	90,666	616,359
29 Total Revenue	956,854	1,957,149	1,293,119	2,668,804	1,708,772	3,857,629	3,037,606	6,622,118	4,083,913	8,190,101	4,698,196	10,752,212	10,752,212
New Services													
1 Neurosurgical Cons	-	-	-	150	1,740	3,278	1,359	3,094	2,014	4,249	1,784	42,938	91,762
2 Paediatric Cons	-	-	-	-	8,538	19,850	20,326	45,885	30,410	60,059	11,626	11,626	34,858
3 Orthopaedics	-	-	-	-	-	-	-	812	7,664	22,224	22,224	11,626	34,858
4 Visa Medical Exam.	-	-	-	-	-	-	15,336	58,444	151,676	291,731	95,177	95,177	195,054
5 Cardiology	-	-	-	-	-	-	-	-	576	2,862	6,388	6,388	26,410
Total	-	-	-	150	10,278	23,128	37,021	108,235	192,340	381,125	157,913	351,409	351,409
% of Total Revenue	-	-	-	0.01	0.60	0.60	1.22	1.63	4.71	4.65	3.36	3.27	3.27

Source: Study

MONEY MARKET RATES: 1990 - 1999

	Weighted Average Discount Rates			Interest Equivalent				
	30-day	91-day	182-day	30-day	91-day	182-day	1-Year	2-Year
1990								
1991								
1992	24.99	27.99	27.49	25.51	30.09	31.86	29.24	29.50
1993	30.00	32.00	30.00	30.76	34.77	35.28	33.25	34.00
1994	24.00	28.03	26.59	18.36	30.14	30.66	29.53	29.69
1995	-	36.72	32.45	-	40.47	38.72	37.50	33.00
1996								
Q1	-	40.99	33.50	-	45.66	40.22	39.49	33.00
Q2	-	41.00	35.22	-	45.67	42.72	39.55	33.50
Q3	-	42.29	36.00	-	47.27	43.88	41.91	33.50
Q4	-	42.80	36.00	-	47.91	43.88	42.46	33.50
1997								
Q1	-	42.80	38.60	-	47.91	47.80	42.80	33.50
Q2	-	42.80	36.00	-	47.91	45.07	42.80	33.50
Q3	44.00	42.80	36.80	45.65	47.91	45.07	42.80	33.50
Q4	-	41.00	38.60	-	45.67	47.80	42.80	33.50
1998								
Q1	-	39.50	38.00	-	43.81	46.88	42.80	33.50
Q2	36.00	39.50	35.47	24.73	41.39	43.21	39.62	33.25
Q3	-	32.12	29.60	-	34.93	34.74	31.70	31.47
Q4	-	26.87	24.45	-	28.79	27.84	21.66	28.76
1999								
Jan	-	25.75	23.50	-	27.52	26.62	19.01	-
Feb	-	25.84	23.50	-	27.62	26.62	19.00	-
Mar	-	25.83	23.50	-	27.61	26.62	19.00	-
Apr	-	25.54	23.42	-	27.28	26.52	19.00	-
May	-	24.32	21.99	-	25.89	24.70	19.00	-
Jun	-	24.48	22.23	-	26.07	25.00	19.00	-
Jul	-	24.48	22.27	-	24.98	22.69	19.30	-
Aug	-	24.50	22.30	-	25.00	22.72	19.30	-
Sep	-	25.03	22.36	-	26.70	25.17	20.21	-
Oct	-	29.06	24.50	-	31.33	27.91	21.50	-
Nov	-	31.46	26.00	-	34.15	29.89	22.39	-
Dec	-	31.50	26.00	-	34.18	29.87	22.27	-
2000								
Jan	-	31.50	26.00	-	34.18	29.87	22.22	-
Feb	-	31.50	26.00	-	34.18	29.87	22.18	-
Mar	-	31.50	26.34	-	34.18	30.53	22.37	-
Apr	-	31.56	26.49	-	34.26	30.52	22.19	-
May	-	32.43	26.84	-	35.28	30.99	22.43	-
Jun	-	39.49	34.20	-	43.80	41.23	29.77	-

Note: Rates were as at end period

SOURCE: FIDELITY GROUP (Discount House)

APPENDIX XII

STEPS IN ANOVA COMPUTATION

STEP 1

The operating statement of the hospital for the period 1994 - 1999 was arranged in a table as found in Appendix XIII.

STEP 2

The scores in each group were added to get the sum of each group.

STEP 3

Each number in the table was squared and the squared values added together.

68,880,668,995,101,000,000

STEP 4

All the group sums were added to get the grand total

49,826,473,000

STEP 5

The grand total was squared, and divided by 281 to get correction term:

8,835,150,931,031,060,000

STEP 6

The correction term was subtracted from the sum of squares total, SS_t
ie Step 3 value - Step 5 value

60,045,518,064,069,900,000

STEP 7

The sum of each of the groups were squared,
divided by the number of measures in each group
and results added together (SS_t)

11,462,023,823,669,400,000

STEP 8

Squares between groups were summed (SS_b)
ie Step 7 value - Step 5 value

= 2,626,872,892,638,340,000

STEP 9

SS_w , Squares within groups were summed.
(Step 6 value - Step 5 value)

TOTAL = $SS_t - SS_b$
= 57,418,645,171,431,600,000

STEP 10

df for SS_t = 281 - 1 = 280
df for SS_b = 12 - 1 = 11
df for SS_w = df for SS_t - df for SS_b = 269

STEP 11

Mean Squares

$MS_t = SS_t / df = (\text{Step 6 value} / df \text{ for } SS_t) = \underline{214,448,278,800,250,000}$

$MS_b = SS_b / df = (\text{Step 8 value} / df \text{ for } SS_b) = \underline{238,806,626,603,485,000}$

$MS_w = SS_w / df = (\text{Step 9 value} / df \text{ for } SS_w) = \underline{213,452,212,533,203,000}$

STEP 12

Test of sign (F)* = $MS_b / MS_w = 1.12$

STEP 13

SOURCE	SS	df	ms	F	P
TOTAL	68, 880, 668, 995, 101,000,000	280	-		
BETWEEN GROUPS	2,626,872,892,638, 340,000	11	Ms _b	1.12	<0.01
WITHIN GROUPS	57,418,645,171,431 ,600,000	269	Ms _w		

$F^* = ms_b / ms_w = 1.12, 11, 269$

RESULTS

Indicated below are the results obtained from the above computation:

Sum of squares between groups	2,626,872,892,638,340,000
Sum of squares within groups	57,418,645,171,431,600,000
Total sum of squares	68,880,668,995,101,000,000
Group sums	49, 826,473,000
Correction term	8,835,150,931,031,060,000
Sum of squares	60,045,518,064,069,400,000
Ms_t	214,448,278,800,250,000
Ms_b	238,806,626,603,485,000
Ms_w	212,554,572,915,290,000,
F^*	1.12
F value (distribution table) ($p < 0.01$)	2.74

Source: Study

ANOVA Computation - Step 3 Results

	Jun-94	sqr	Dec-94	sqr
1 Pharmacy	495,965,000.00	245,981,281,225,000,000	981,918,000	964,162,958,724,000,000
2 Laboratory	109,842,000.00	12,065,264,964,000,000	239,465,000	57,343,486,225,000,000
3 Xray	30,601,000.00	936,421,201,000,000	60,936,000	3,713,196,096,000,000
4 Theatre Inputs	0.00	-	-	-
5 Catering	23,486,000.00	551,592,196,000,000	49,447,000	2,445,005,809,000,000
6 Gen + Exe Wards	23,545,000.00	554,367,025,000,000	52,242,000	2,729,226,564,000,000
7 Theatre Operations	32,051,000.00	1,027,266,601,000,000	68,376,000	4,675,277,376,000,000
8 Registration	10,609,000.00	112,550,881,000,000	23,734,000	563,302,756,000,000
9 Gen. Consultation	192,273,000.00	36,968,906,529,000,000	398,471,000	158,779,137,841,000,000
10 Fast Track Cons.	0.00	-	-	-
11 Gynae Cons	18,449,000.00	340,365,601,000,000	39,082,000	1,527,402,724,000,000
12 Surgical Cons	6,425,000.00	41,280,625,000,000	12,554,000	157,602,916,000,000
13 Paediatric Cons	0.00	-	-	-
14 Eye Consultation	10,296,000.00	106,007,616,000,000	21,938,000	481,275,844,000,000
15 ENT Cons	0.00	-	-	-
16 Dermatology Cons	1,488,000.00	2,214,144,000,000	3,195,000	10,208,025,000,000
17 Physician Spec. Cons	400,000.00	160,000,000,000	1,175,000	1,380,625,000,000
18 Neurosurgical Cons	0.00	-	-	-
19 Orthopaedics	0.00	-	-	-
20 Physiotherapy	609,000.00	370,881,000,000	1,534,000	2,353,156,000,000
21 Dietetic Cons	0.00	-	-	-
22 ECG	0.00	-	-	-
23 Ultrasound	0.00	-	-	-
24 Mamogram	0.00	-	-	-
25 Visa Med Exam.	0.00	-	-	-
26 Cardiology	0.00	-	-	-
27 Morgue	319,000.00	101,761,000,000	1,605,000	2,576,025,000,000
28 Miscellaneous	496,000.00	246,016,000,000	1,477,000	2,181,529,000,000
29 Total Revenue	956,854,000.00	298,688,397,266,000,000	1,957,149,000	1,196,596,572,235,000,000

Source: Study

ANOVA Computation - Step 3 Results

Jun-95		Dec-95		Jun-96	
	sq		sq		sq
640,684,000	410,475,987,856,000,000	1,268,434,000	1,608,924,812,356,000,000	805,222,000	648,382,469,284,000,000
178,658,000	31,918,680,964,000,000	389,489,000	151,701,681,121,000,000	203,230,000	41,302,432,900,000,000
36,769,000	1,503,035,361,000,000	77,201,000	5,959,994,401,000,000	54,875,000	3,011,265,625,000,000
				8,766,000	76,842,756,000,000
28,902,000	835,325,604,000,000	60,849,000	3,702,600,801,000,000	40,121,000	1,609,694,641,000,000
39,705,000	1,576,487,025,000,000	88,097,000	7,761,081,409,000,000	50,849,000	2,585,620,801,000,000
49,059,000	2,406,785,481,000,000	104,661,000	10,953,924,921,000,000	65,820,000	4,332,272,400,000,000
13,145,000	172,791,025,000,000	29,407,000	864,771,649,000,000	16,072,000	258,309,184,000,000
231,569,000	53,624,201,761,000,000	479,908,000	230,311,688,464,000,000	349,994,000	122,495,800,036,000,000
26,770,000	716,632,900,000,000	56,709,000	3,215,910,681,000,000	31,890,000	1,016,972,100,000,000
9,509,000	90,421,081,000,000	18,580,000	345,216,400,000,000	12,825,000	164,480,625,000,000
				8,538,000	72,897,444,000,000
15,733,000	247,527,289,000,000	33,522,000	1,123,724,484,000,000	18,714,000	350,213,796,000,000
		2,842,000	8,076,964,000,000	6,830,000	46,648,900,000,000
2,415,000	5,832,225,000,000	5,185,000	26,884,225,000,000	4,909,000	24,098,281,000,000
945,000	893,025,000,000	2,775,000	7,700,625,000,000	3,421,000	11,703,241,000,000
		150,000	22,500,000,000	1,740,000	3,027,600,000,000
2,282,000	5,207,524,000,000	5,744,000	32,993,536,000,000	5,271,000	27,783,441,000,000
757,000	573,049,000,000	980,000	960,400,000,000	472,000	222,784,000,000
5,390,000	29,052,100,000,000	11,640,000	135,489,600,000,000	7,120,000	50,694,400,000,000
6,050,000	36,602,500,000,000	20,322,000	412,983,684,000,000	7,655,000	58,599,025,000,000
1,965,000	3,861,225,000,000	9,891,000	97,831,881,000,000	3,281,000	10,764,961,000,000
812,000	659,344,000,000	2,418,000	5,846,724,000,000	1,157,000	1,338,649,000,000
1,293,119,000	503,650,557,339,000,000	2,668,804,000	2,025,594,196,826,000,000	1,708,772,000	825,894,152,873,999,000

Source: Study

ANOVA Computation - Step 3 Results

Dec-96	sqr	Jun-97	sqr	Dec-97	sqr
1,925,315,000	3,706,837,849,225,000,000	1,578,814,000	2,492,653,646,596,000,000	3,496,603,000	12,226,232,539,609,000,000
432,173,000	186,773,501,929,000,000	283,324,000	80,272,488,976,000,000	625,950,000	391,813,402,500,000,000
125,533,000	15,758,534,089,000,000	92,334,000	8,525,567,556,000,000	230,425,000	53,095,680,625,000,000
15,159,000	229,795,281,000,000	26,563,000	705,592,969,000,000	59,794,000	3,575,322,436,000,000
78,375,000	6,142,640,625,000,000	71,742,000	5,146,914,564,000,000	131,837,000	17,380,994,569,000,000
100,028,000	10,005,600,784,000,000	104,510,000	10,922,340,100,000,000	208,960,000	43,664,281,600,000,000
125,350,000	15,712,622,500,000,000	92,213,000	8,503,237,369,000,000	212,120,000	44,994,894,400,000,000
35,509,000	1,260,889,081,000,000	23,267,000	541,353,289,000,000	50,968,000	2,597,737,024,000,000
781,713,000	611,075,214,369,000,000	554,155,000	307,087,764,025,000,000	1,131,239,000	1,279,701,675,121,000,000
62,083,000	3,854,298,889,000,000	46,868,000	2,196,609,424,000,000	100,984,000	10,197,768,256,000,000
25,323,000	641,254,329,000,000	16,886,000	285,136,996,000,000	31,939,000	1,020,099,721,000,000
19,850,000	394,022,500,000,000	20,326,000	413,146,276,000,000	45,885,000	2,105,433,225,000,000
47,636,000	2,269,188,496,000,000	36,084,000	1,302,055,056,000,000	79,147,000	6,264,247,609,000,000
14,471,000	209,409,841,000,000	17,094,000	292,204,836,000,000	32,060,000	1,027,843,600,000,000
6,712,000	45,050,944,000,000	5,132,000	26,337,424,000,000	10,028,000	100,560,784,000,000
7,423,000	55,100,929,000,000	7,151,000	51,136,801,000,000	17,523,000	307,055,529,000,000
3,278,000	10,745,284,000,000	1,359,000	1,846,881,000,000	3,094,000	9,572,836,000,000
8,897,000	79,156,609,000,000	7,028,000	49,392,784,000,000	812,000	659,344,000,000
1,079,000	1,164,241,000,000	1,473,000	2,169,729,000,000	18,692,000	349,390,864,000,000
18,007,000	324,252,049,000,000	14,835,000	220,077,225,000,000	2,986,000	8,916,196,000,000
12,255,000	150,185,025,000,000	15,330,000	235,008,900,000,000	27,436,000	752,734,096,000,000
-	-	450,000	202,500,000,000	32,028,000	1,025,792,784,000,000
-	-	15,336,000	235,192,896,000,000	1,183,000	1,399,489,000,000
5,521,000	30,481,441,000,000	1,566,000	2,452,356,000,000	58,444,000	3,415,701,136,000,000
5,939,000	35,271,721,000,000	3,766,000	14,182,756,000,000	2,926,000	8,561,476,000,000
3,857,629,000	4,561,896,230,181,000,000	3,037,606,000	2,919,686,058,284,000,000	9,055,000	81,993,025,000,000
				6,622,118,000	14,089,734,257,854,000,000

Source: Study

ANOVA Computation - Step 3 Results

	Jun-98	sqr	Dec-98	sqr
	1,820,323,000	3,313,575,824,329,000,000	3,208,761,000	10,296,147,155,121,000,000
	569,535,000	324,370,116,225,000,000	1,226,247,000	1,503,681,705,009,000,000
	141,070,000	19,900,744,900,000,000	296,577,000	87,957,916,929,000,000
	58,033,000	3,367,829,089,000,000	100,585,000	10,117,342,225,000,000
	43,800,000	1,918,440,000,000,000	120,672,000	14,561,731,584,000,000
	135,508,000	18,362,418,064,000,000	281,576,000	79,285,043,776,000,000
	133,605,000	17,850,296,025,000,000	284,295,000	80,823,647,025,000,000
	25,424,000	646,379,776,000,000	62,105,000	3,857,031,025,000,000
	672,196,000	451,847,462,416,000,000	1,404,822,000	1,973,524,851,684,000,000
	26,756,000	715,883,536,000,000	57,134,000	3,264,293,956,000,000
	80,940,000	6,551,283,600,000,000	161,150,000	25,969,322,500,000,000
	17,785,000	316,306,225,000,000	38,133,000	1,454,125,689,000,000
	30,410,000	924,768,100,000,000	60,059,000	3,607,083,481,000,000
	49,227,000	2,423,297,529,000,000	102,857,000	10,579,562,449,000,000
	16,416,000	269,485,056,000,000	31,411,000	986,650,921,000,000
	6,657,000	44,315,649,000,000	16,071,000	258,277,041,000,000
	12,857,000	165,302,449,000,000	26,847,000	720,761,409,000,000
	2,014,000	4,056,196,000,000	4,249,000	18,054,001,000,000
	7,664,000	58,736,896,000,000	22,224,000	493,906,176,000,000
	18,549,000	344,065,401,000,000	39,811,000	1,584,915,721,000,000
	2,025,000	4,100,625,000,000	3,774,000	14,243,076,000,000
	16,348,000	267,257,104,000,000	39,636,000	1,571,012,496,000,000
	37,426,000	1,400,705,476,000,000	81,621,000	6,661,987,641,000,000
	1,920,000	3,686,400,000,000	7,614,000	57,972,996,000,000
	151,676,000	23,005,608,976,000,000	291,731,000	85,106,976,361,000,000
	576,000	331,776,000,000	2,862,000	8,191,044,000,000
	507,000	257,049,000,000	17,640,000	311,169,600,000,000
	4,666,000	21,771,556,000,000	199,637,000	39,854,931,769,000,000
	4,083,913,000	4,188,360,730,423,000,000	8,190,101,000	14,232,479,862,705,000,000

Source: Study

ANOVA Computation - Step 3 Results

	Jun-99	sqr	Dec-99	sqr	
	1,566,729,000	2,454,639,759,441,000,000	3,624,363,000	13,136,007,155,769,000,000	
	849,253,000	721,230,658,009,000,000	1,823,938,000	3,326,749,827,844,000,000	
	216,328,000	46,797,803,584,000,000	631,963,000	399,377,233,369,000,000	
	165,358,000	27,343,268,164,000,000	362,059,000	131,086,719,481,000,000	
	126,330,000	15,959,268,900,000,000	234,036,000	54,772,849,296,000,000	
	199,242,000	39,697,374,564,000,000	383,430,000	147,018,564,900,000,000	
	197,247,000	38,906,379,009,000,000	408,192,000	166,620,708,864,000,000	
	39,870,000	1,589,616,900,000,000	68,116,000	4,639,789,456,000,000	
	710,420,000	504,696,576,400,000,000	1,503,106,000	2,259,327,647,236,000,000	
	41,020,000	1,682,640,400,000,000	81,631,000	6,663,620,161,000,000	
	119,691,000	14,325,935,481,000,000	240,114,000	57,654,732,996,000,000	
	20,119,000	404,774,161,000,000	40,275,000	1,622,075,625,000,000	
	42,938,000	1,843,671,844,000,000	91,762,000	8,420,264,644,000,000	
	51,793,000	2,682,514,849,000,000	111,441,000	12,419,096,481,000,000	
	19,512,000	380,718,144,000,000	34,873,000	1,216,126,129,000,000	
	5,100,000	26,010,000,000,000	12,040,000	144,961,600,000,000	
	16,263,000	264,485,169,000,000	38,462,000	1,479,325,444,000,000	
	1,784,000	3,182,656,000,000	3,325,000	11,055,625,000,000	
	11,626,000	135,163,876,000,000	34,858,000	1,215,080,164,000,000	
	29,300,000	858,490,000,000,000	69,675,000	4,854,605,625,000,000	
	3,566,000	12,716,356,000,000	5,698,000	32,467,204,000,000	
	28,950,000	838,102,500,000,000	44,858,000	2,012,240,164,000,000	
	38,518,000	1,483,636,324,000,000	53,544,000	2,866,959,936,000,000	
	4,039,000	16,313,521,000,000	8,899,000	79,192,201,000,000	
	95,177,000	9,058,661,329,000,000	195,054,000	38,046,062,916,000,000	
	6,388,000	40,806,544,000,000	26,410,000	697,488,100,000,000	
	969,000	938,961,000,000	3,731,000	13,920,361,000,000	
	90,666,000	8,220,323,556,000,000	616,359,000	379,898,416,881,000,000	
	4,698,196,000	3,893,139,790,642,000,000	10,752,212,000	20,144,948,188,472,000,000	68,880,668,995,101,000,000

Source: Study

THE TRUST HOSPITAL
MONTHLY DISTRIBUTION OF OUT-PATIENT
ATTENDANCE 1994 - 1999

MONTH	YEAR					
	1994	1995	1996	1997	1998	1999
JANUARY	8,476	8,826	9,996	9,015	11,000	9,260
FEBRUARY	8,037	8,029	8,120	8,211	9,396	9,095
MARCH	8,049	9,066	7,777	8,499	9,741	8,750
APRIL	7,809	8,573	8,180	10,262	9,223	8,006
MAY	7,692	9,415	8,196	10,319	9,370	8,411
JUNE	8,578	9,518	10,282	11,512	10,307	9,423
JULY	9,190	10,565	12,714	11,945	10,652	10,980
AUGUST	8,359	10,795	11,489	10,991	9,845	10,023
SEPTEMBER	8,377	9,086	8,406	9,363	9,402	8,866
OCTOBER	9,076	8,884	8,573	9,584	8,758	8,889
NOVEMBER	8,418	8,490	8,019	9,153	9,598	8,625
DECEMBER	8,234	8,119	8,019	10,207	9,112	8,624
TOTAL	100,295	109,366	109,771	119,061	116,404	108,952

AVERAGE MONTHLY ATTENDANCE	8,358	9,114	9,148	9,922	9,700	9,079
AVERAGE DAILY ATTENDANCE	275	300	301	326	319	298

Source: The Hospital Administration

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THE TRUST HOSPITAL

ANNUAL OUT-PATIENT SPECIALITY CONSULTATION REPORT 1995 - 1999

<u>SPECIALITY</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
OBSTETRIC / GYNAECOLOGY	6,124	6,829	6,368	7,046	8,352
SURGERY	1,817	2,068	2,014	1,976	1,779
OPHTHALMOLOGY	3,190	3,161	4,211	4,085	3,875
PAEDIATRICS	107	2,040	3,141	3,459	3,957
DERMATOLOGY	729	1,203	616	874	680
PHYSICIAN SPECIALTY	466	556	777	994	1,226
E.N.T	400	1,402	1,285	1,154	1,060
PAEDIATRIC SURGERY	-	179	133	53	90
NEURO-SEURGERY	20	230	149	173	90
ORTHOPEDICS	-	-	44	825	1,055
CARDIOLOGY / ECHO.	-	-	-	311	616
SPINE CLINIC	-	-	48	34	30
DIABETIC CLINIC	6	99	286	494	422
VISA MEDICAL EXAM	-	-	535	1,936	1,414
DIETETICS	N/A	217	29	265	628
PHYSIOTHERAPY	877	1,170	1,899	3,347	3,620
TOTAL	13,736	19,154	21,535	27,026	28,894

SOURCE: Hospital Administration

The Trust Hospital

Distribution Of In-Patients By Main Group Of Diseases

DISEASE CLASSIFICATION	YEAR							TOTAL
	93	94	95	96	97	98	99	
Infectious and Parasitic	68	147	227	277	289	209	271	1,488
Malignant Neoplasm	3	3	9	14	17	19	35	100
Benign Neoplasm	-	4	27	66	72	77	73	319
Blood-forming Organs	4	20	59	80	72	72	112	419
Endocrine, Nut. Metabolic	4	17	33	42	46	63	76	281
Mental and Behavioural	4	6	7	4	4	8	10	43
Diseases of the Nervous	2	11	13	22	20	26	35	129
Eye and Adnexa	-	4	7	6	6	19	17	59
Ear and Mastoid Process	-	-	2	2	2	2	4	12
Circulatory System	19	75	77	111	149	131	167	729
Respiratory System	21	43	86	185	188	162	216	901
Digestive System	21	150	142	247	229	248	213	1,250
Skin and Subcutaneous	5	9	13	40	40	28	37	172
Musculoskeletal System	5	11	10	32	21	27	27	133
Genitourinary System	11	19	70	139	90	86	91	506
Pregnancy, Childbirth	1	5	183	323	427	374	412	1,725
Puerperal Condition	-	-	3	3	6	8	7	27
Congenital Malformations	-	1	1	17	15	2	6	42
Ill-defined Conditions	14	15	68	80	88	117	92	474
Injury	6	16	15	35	32	42	56	202
Burns and Poisoning	8	9	13	26	20	25	23	124
External Causes	1	5	6	18	8	13	21	72
All Others	-	3	7	31	34	24	29	128
Total	197	573	1,078	1,800	1,875	1,782	2,030	9,335

Source: The Hospital Administration