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KENYATTA NATIONAL HOSPITAL BOARD

PLAN OF ACTION FOR REFORM

Volume 1

Comprehensive Report

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I. EXECUTIVE SUMMARY

I. EXECUTIVE SUMMARYI.A. Introduction

A Presidential Order of April 1987 made Kenyatta National Hospital (KNH) a State Corporation, governed by a Board of Directors. The Board asked the United States Agency for International Development (USAID) for assistance in identifying steps to improve management and efficiency and in considering cost-sharing for selected services. USAID called on its Resources for Child Health (REACH) Project to meet the request.

REACH organised a Team of Kenyans and Americans to carry out the study. The Team's work began on 9th November and ended on 26th February 1988. The goal of the assignment was: to provide the Board with practical recommendations to improve the effectiveness and efficiency of delivered services to better achieve the Hospital's mission in the health system of Kenya.

The present document constitutes the KNH Board's Action Plan for Reform of the management and organisation of the Hospital. A progress report was completed on 18th December 1987 and an interim report 22nd January 1988. The interim report presented preliminary recommendations that were considered and debated by the KNH Board during a one-day retreat. By the end of the retreat a consensus was reached among the Board and the Team on the basic set of recommendations that would constitute the action plan for reform.

The action plan provides options to the recommendations accepted during the retreat. The options are analyzed for strengths and weaknesses and tools for implementation are provided for each.

I.B Workslope Interpretation

The workslope provided to the Team has three parts: management-structure options; efficiency improvements; and fees (or cost sharing) for selected services.

To interpret the workslope, the Team identified, classified, and set priorities on problems falling within that framework. The identified problems were classified into clusters, then priorities were set. The clusters fell into four priority groups: (1st) ineffective clinical control, inadequate financial management, lack of information for decision making, and inadequate physical resource management; (2nd) inefficient use of personnel; (3rd) absence of appropriate organisational structure; (4th) lack of mission clarity, inadequate communication, and inadequate staff welfare arrangements. The Team gave its greatest attention in terms of breadth and depth to the first and second priorities.

The identified problems and the priority to be given to them were presented to the Team's clients, KNH Board Chairman Miriuki and Linda Lankeau of USAID. Chairman Miriuki responded favourably to the priority ranking and underlined the importance of reaching practical, implementable recommendations to get things working.

I.C Methods

The Team followed a systematic approach to addressing the problems identified by the interpretation of the scope of work. In addition, the Team sought to build a consensus with the KNH Board throughout. Starting from the prioritised list of problem clusters, the Study followed a many-step process: I-8

- o Hypothesis/solution development
- o Data-collection instrument development and workplan preparation
- o Testing and revision of instruments (Consensus point)
- o Enumerator training and data collection
- o Data analysis
- o Development of preliminary recommendations
- o Testing preliminary recommendations (Consensus point)
- o Option development and analysis of strengths and weaknesses
- o Implementation steps.

Consensus was built through the involvement of the Board and the Director throughout the study process. Dr. Agata worked with the Team on study planning; Mr. Muriuki endorsed problems and priorities; briefings were provided on Study progress at the time of each of the three reports; and the interim report provided the Board with a preview of the Team's preliminary recommendations so that it could provide feedback before the end of the Study. I-9

Each subgroup worked through each of its assigned problem clusters to identify hypotheses about the problems and possible solutions to be tested through data collection. More than forty different data sources were used by the Team, including patients, staff, and management of KNH and comparison facilities; medical records; and officials of related institutions. Data were collected through interviews, record reviews, observations, and review of documents. Team members, six nurse enumerators, and 36 ordinary enumerators gathered different types of data over a period of six and one-half weeks. I-10

Data analysis was both quantitative and qualitative. No sophisticated statistical techniques were used, mainly description statistics and cross-tabulations. I-11

The Team formulated options to each of the preliminary recommendations presented in the interim report for this report. The Team then analysed the strengths and weaknesses of each option. At least two options and their identified strengths and weaknesses were retained in each area to provide the I-12

Board with a choice of ways to address every problem and some grounds on which to make the choice. For each of the recommended options steps for implementation were laid out to serve as basic scopes of work for implementation. I-13

I.D Evidence and Findings

Chapter III presents the motivation for the Team's recommended options for action. It begins from the problems identified and the resulting hypotheses, including possible solutions. Then, evidence gathered by the Team to address the hypotheses is presented. The findings from analysis of the evidence lead to at least two alternative recommended options for action to solve the problem or problems. I-14

I.E Recommended Options

The remainder of this summary presents each of the recommended options, in the order they are presented and using the same numbering system as in Chapter IV. I-15

IV.A Management

IV.A.1 Planning and Organisation

IV.A.1.1 Organisation Structure

1. Develop an organisation structure that decentralises authority and responsibility.
2. Develop an organisation structure that centralises authority and responsibility.

IV.A.1.2. Establishment of a Planning Office

1. Establish a planning office
2. Establish a planning function through the Director and Associate Hospital Directors.

IV.A.1.3 Management and Administrative Information

1. Routinely identify information and information flows necessary for decision making and implement the appropriate collection and evaluation procedures.
 - o Identification of essential and sufficient information and elimination of extraneous information are steps that must be included in development of an effective manually operated system.
 - o Only after manually operated system is functioning should automation be considered.

ACKNOWLEDGEMENTS

The REACH/KNH Study Team owes great debts to many people and organizations. A study such as the one we have carried out cannot be successful without cooperation, consultation, and logistical support.

Several health services delivery institutions cooperated with the study Team in sharing data and permitting staff and patient interviews. Our thanks go to M. P. Shah Hospital, Nairobi Hospital, Westlands Cottage Hospital, Mater Misericordiae Hospital, and Crescent Medical Services. Particular thanks go to Aga Khan Hospital.

Cooperation also came in the form of sharing the same corridor with the Team. Dr. A. Kiura, his staff, and patients from KEMRI's Clinical Research Centre tolerated us over our ten weeks of work. We owe special thanks to the KEMRI telephone operators.

The College of Health Sciences, College of Health Professions, and Kenya Medical Research Institute cooperated with interviews.

Another form of cooperation came from the Ministry of Health, which released Messrs. Kalama and Mworira from their regular duties to participate on the team; from students of the University of Nairobi, Department of Economics, who put up with Team member Gerrishon Ikiara's absence during the study.

The most important cooperation came from the doctors, nurses, administrators, technicians, and other staff of KNH. We relied heavily on their time, good humor, and opinions to gather the information we needed to reach our conclusions and to formulate our recommendations. We hope that the reforms that flow from this report will make their jobs easier and more satisfying.

Several people provided the valued service of listening to and correcting our ideas about how to tackle the problems at KNH. They include R. Hopkins Holmberg and George Purvis of Aga Khan Health Services; Dr. David Sebina, Michael Mills, and Dr. Jagdish of the World Bank; Linda Lankenau and David Oot of USAID; Germano Mwabu of Kenyatta University; and KNH Board Chairman Nick Muriuki and KNH Director Naftali Agata, both of whom spent hours with Team representatives.

Much of the quality of our work is due to the fine work performed by six nurse enumerators and 36 ordinary enumerators, who are too numerous to mention by name individually.

The Family Planning in the Private Sector project provided the Team with much appreciated assistance, ranging from lending a photocopier to acting as our banker to recommending enumerators. Particular thanks go to Joan Robertson, Sophia Mbugua, Millicent Odera, and Esther Kibe.

From REACH's home office in Arlington, Virginia, U.S.A., Marti Pennay arranged plane flights, travel advances, tee-shirts, and special supplies. Edward Wilson helped with software and computers. Nancy Finklea of Abt Associates Inc. helped us track down Steve Franey countless times. Thanks to all three.

During our week of Team planning in Mombasa we were ably facilitated by Professional Training Consultants' Messrs. Obaso and Ochoro. They particularly helped the Team minimise cross-cultural problems.

The hotel accommodations in Mombasa, at the Leopard Beach, and in Nairobi, at the Serena, were first rate. The Serena also provided an excellent setting for the KNH Board retreat.

Our work could not have been produced as fast or as well without the wordprocessing and spreadsheet work of Josephine Kariuki, Ruth Ongong'a, Nancy Mwangi, and Grace Wanjiku. Ruth did double duty as office coordinator and paymaster. Rebeca Wong stepped off a plane to help coordinate wordprocessing during the week of our first progress report.

The Team got around town, some as far as Machakos, with the help of several drivers, notably Jackson Kimani and Peter Njenga Wairagi.

Our biggest thanks goes to Denise Lionetti of REACH. She made four visits to Kenya to help put together the team, negotiate contracts, and set up logistics. Denise had to be the flak catcher between USAID, AID/W, and the Kenyan Team members in a difficult time. She came through it all smiling.

Lastly, we wish to thank our sources of financial support, USAID/Nairobi and the AID/Science and Technology Bureau/Office of Health. In addition, Linda Lanckenau has made a beyond-the-call proactive effort to coordinate all of the parties involved on both the donor and Kenyan sides. Anne Tinker of S&T/H deserves special thanks for helping shepherd this project forward.

IV.A.2 Financial Management

IV.A.2.1 Financial Management and Operations

1. Create the post of Chief Financial Officer to be responsible for financial operations and management of the Hospital.
2. Expand the duties and responsibilities of the present Administrative Secretary (proposed Associate Hospital Director) to include financial operations and management of the Hospital.

IV.A.2.2 Budget and Expenditures

1. Decentralise responsibility and authority for recurrent budget and expenditure estimates to the departments.
2. Decentralise responsibility and authority for recurrent budget and expenditure estimates to the Associate Hospital Directors (senior management)

IV.A.2.3 Internal Accounting Controls

1. Develop and implement an internal accounting control programme under the direction and control of the Hospital Director and the KNH Board.
2. Enhance the controls over assets and supplies with the objective of implementing an internal accounting control programme in three to five years.

IV.A.3 Personnel Management

IV.A.3.1 Doctor Incentives

1. Increase consultants/specialists compensation and restrict their practice of medicine to KNH only.
2. Improve status of KNH's doctors by pursuing dual faculty/clinical appointments with the University of Nairobi College of Health Science.
3. Establish a Doctor's Practice Plan that would allow for the practice of medicine within KNH for:
 - o Doctors only
 - o All clinical, faculty, and technical staff.
4. Some combination of the preceding.

IV.A.3.2 Personnel Office

1. Develop a Personnel office to process and maintain employee files and records.

2. Strengthen the present Personnel office to process employee records and continue to maintain employee files with MOH.

IV.A.3.3 Staff Roles and Responsibility

1. Write a schedule of duties (job descriptions) for each KNH employee positions).
2. Initially write schedules of duties for middle and senior management positions and use job evaluation for the remaining staff.

IV.A.4 Physical Resource Management

IV.A.3.4 Incentive Structure for Mortuary Employees

1. Develop a scheme of service for mortuary employees with salary scales high enough to compensate them for the unpleasant nature of the job.
2. Introduce a standard fee for mortuary services and use the revenue generated to compensate employees.

IV.A.4.1 Management of Supplies and Inventory

1. Strengthen the Supplies Department to be fully responsible for re-ordering and inventory control for all departments or units of the Hospital.
2. Delineate the roles of user departments and the Supplies Department with respect to inventory control. Have user departments and Supplies Department each responsible for their own inventories.

IV.A.4.2 The Supplies Procurement System

1. Streamline tendering and purchasing procedures.

IV.A.4.3 Standardisation of Equipment Purchases

1. Standardise equipment purchases with other hospitals.
2. Remain an independent purchaser of equipment, but attempt to improve purchases by assessing spares availability, training of in-house maintenance crew, and abilities of local servicers before purchasing equipment.

IV.A.4.4 Preventive Maintenance

1. Develop a programme of preventive maintenance.
2. Complete all the pending maintenance repair work first, before or concurrently to embarking on a preventive maintenance programme.

IV.A.5 Management of Environmental Factors

IV.A.5.1 Mission Clarity

1. Interpret the Legal Notice to clarify the mission of the Hospital within the Kenya health delivery system.

IV.A.5.2 Referral Protocols and Procedures

1. Develop, communicate, and enforce referral protocols between KNH and Provincial and District facilities, private facilities, church facilities and Nairobi City Commission facilities. KNH should also set up a system for monitoring and evaluating referral patterns.
2. Status quo--continue the practice of weak referral protocols that allow some primary care cases to enter the hospital.

IV.A.5.3 Internal and External Communication

1. Create a Public Relations Office which will establish regular and consistent lines of communication.
2. Assign an Associate Hospital Director the responsibilities of public relations.

IV.B Efficiency

IV.B.1 Clinical Efficiency

IV.B.1.1 Admissions Department

1. Create an Admissions Department.
2. Leave admissions decentralised, but strengthen the tracking system and screening procedures in each of the wards and clinics. Make the systems and procedures uniform.

IV.B.1.2 Protocols for Quality Control

1. Establish standard treatment protocol for quality control, and committee review of therapy, diagnostics, and medications for most common diagnoses.
2. Establish a committee that retroactively reviews average length of stay/diagnostics/treatment for most frequent admissions by department.

IV.B.1.3 Diversion of Inappropriate Demand

IV.B.1.3.1 Reduction of Average Length of Stay

1. Use managerial controls and procedures to reduce average length of stay.
2. Increase the bed fees to the patient after the "normal" ALOS has been exceeded.

IV.B.1.3.2 Reduction of Excessive and/or Inappropriate Use of Diagnosis

1. Use managerial controls and procedures to discourage overuse or inappropriate use of diagnostics.
2. Charge a flat fee for a standard package of diagnostics according to the established protocol for the particular diagnosis and an additional fee for every prescribed diagnostic not included in the protocol.

IV.B.1.3.3 Reduction of Costs Associated With Bed and Meal Service

1. Eliminate food and bed service.
2. Charge fees for meals equal to the average meal cost and bed fees.

IV.B.1.3.4 Reduction of the Utilisation of Non-essential Drugs

1. Use managerial controls and procedures to reduce prescription of drugs not on the essential drug list.
2. Charge for all drugs prescribed to inpatients and outpatients that are not on the list of essential drugs at a premium price (higher than replacement cost).

IV.B.2 Administrative Efficiency

IV.B.2.1 Staffing Norms

1. Review staffing for all cadres of employees and develop staffing norms. Take into consideration that the intensity of care offered at KNH may be greater than that offered at other hospitals in Nairobi.

IV.B.2.2 Theatre Capacity

1. Increase theatre capacity in general surgery and orthopaedics by improving efficiency.
 - o Set up realistic daily surgical schedules.
 - o Increase capacity in those areas where there is excess demand by reallocating theatre time or expanding human or physical capacity, only once efficiency is improved.

IV.C Cost-Sharing

IV.C.1 Charge for Drugs and Diagnostics

1. Charge for each drug and diagnostic item prescribed by the doctor for both inpatients and outpatients.
2. Charge for a combination of packages of diagnostics and/or drugs based on average consumption by reason of admission or outpatient specialty.

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IV.C.2 Charge Bed Fees for Inpatients

1. Charge daily bed fees based on average cost of a ward bed.
2. Charge one-time bed fees based on overall ALOS for the hospital.
3. Charge a one-time bed charge for wards with ALOS less than three days (e.g., labour and delivery) and a daily bed charge for all other wards.
4. Charge a flat fee which becomes a daily fee after a clearly-defined number of days.

IV.C.3 Charge Fees for Outpatient Visits

1. Charge fees for each outpatient visit.
2. Charge outpatient fees for an episode of illness.

IV.C.4 Develop Strategies for Generating Revenue in Addition to Fees

1. Seek contracts with employers to provide a defined set of services to their employees, as is done by private hospitals.
2. Pursue arrangements with insurers or other prepayment schemes for groups such as cooperatives, employee organisations, etc.
3. Earn revenue through office rents or fees paid by doctors for seeing private patients in offices on the hospital premises and for use of highly specialised diagnostic or treatment technology.

II. BACKGROUND

II. BACKGROUND

The background chapter contains sections to introduce the origins of the study and precursors to the present report, to explain how the Study Team interpreted its scope of work, to describe the methods used to produce its outputs, and to explain how the report might be read by different readers. It prepares the way for the substantive results in the chapters that follow by giving a perspective on why and how the study was conducted. II-1

II.A Introduction

A Presidential Order of April 1987 made Kenyatta National Hospital (KNH) a State Corporation, governed by a Board of Directors. The Board asked the United States Agency for International Development (USAID) for assistance in identifying the necessary steps to improve the hospital's management and efficiency. The Board also asked for assistance in considering options for institution of cost-sharing for selected services. USAID called on its centrally-funded Resources for Child Health (REACH) Project to meet the Board's request. II-2

REACH organised a multi-disciplinary team of Kenyans and Americans (the REACH/KNH Study Team) to carry out the assigned task. The Team's work began on 9th November and ended on 26th February 1988. The goal of the assignment was to provide the Board with practical and implementable recommendations that use approaches and tools that KNH can employ to improve the effectiveness and efficiency of delivered services so as to better achieve the Hospital's established mission and role in the health delivery network of the Republic of Kenya. II-3

The present document constitutes the KNH Board's Action Plan for Reform of the management and organisation of the hospital. It is also the Team's final report to the Board. It follows on a progress report prepared on 18th December 1987 and an interim report prepared on 22nd January 1988. The interim report presented the Board with a series of recommendations that were based on the Team's preliminary findings and conclusions. These recommendations were then discussed among the Board and representatives of the Team during a retreat on 12th February 1988. The discussions clarified the recommendations, tested their practicality and acceptability (some were eliminated on these grounds), indicated where the Team needed to do additional work before the end of the study to meet Board concerns, and exposed some approaches to implementation of the reforms. By the end of the retreat a consensus was reached among the Board and the Team on the basic set of recommendations that would constitute the Plan of Action For Reform. II-4

The Action Plan goes beyond the interim report by providing options to the recommendations accepted during the retreat. Each option is analysed for its strengths and weaknesses. In addition, tools for implementation for the options are presented. Thus, this plan may be used as the manager's guide to implementation of the program of reform. II-5

II.B Workscope Interpretation

The study Team was provided with a scope of work to guide its work. The workscope provided was sufficiently broad to allow for interpretation in the design and conduct of the study. The interpretation given to the workscope by the Team drove the methods used and the outputs. This section begins by reviewing the workscope provided to the Team. Then how the Team interpreted it is explained, followed by a description of the methods use.

II-6

II.B.1 Scope of Work

The Scope of Work (Appendix A) is motivated by the change in management of the Hospital from the MOH to the KNH Board. The Board was given the mandate and power to address the problems of organisational complexity, centralised management, and inefficiency. An agenda for reform had begun to be defined before the study. It covered the areas of managerial, organisational, and administrative modalities to improve efficiency and consideration of cost-sharing programs to reduce net costs and improve efficiency, as well. Decentralisation of administration was cited as one of the avenues the Board wished to pursue in this regard. The workscope built on this agenda.

II-7

The workscope has three parts: management-structure options; efficiency improvements; and fees (or cost sharing) for selected services. Study results in each of the three areas was to provide the Board with information for decision making. A brief resume of the workscope's treatment of each area follows.

II-8

The management-structure portion of the study was to identify management, organisational, and administrative options to improve efficiency at KNH. This included how units are managed and run; interrelationships among units; relations with MOH, the medical, nursing, and medical-technologist training institutions (CHS and CHP), and the medical research unit (KEMRI); and budgetting, staffing, personnel deployment, reporting, and information practices. It also was to analyse the mix of services actually offered by KNH versus the purpose stated in the Legal Notice creating the State Corporation.

II-9

The efficiency portion of the study was to evaluate actual efficiency in delivery of services to allow the prioritisation of efforts for improvement. This included identification of inputs used and their costs to produce a representative set of services and comparison of those costs within the hospital and with other hospitals. Output of this work was to be used to formulate recommendations on efficiency-improvement steps, such as changes in input mix, services offered, administrative and budgetary authority, non-medical procedures, administrative relationships with other institutions, and the referral system, as well as complementary actions needed elsewhere in the health system.

II-10

The cost-sharing portion of the study was to examine options for the application of fees for selected services. Its objectives were to demonstrate the revenue that would be raised from charging selected fees; to investigate possible efficiency improvements resulting from charging fees; and to examine the effect of fees on the costs borne by users of services.

II-11

II.B.2 Workscope Interpretation

To interpret the workscope and render it operational, the Team took four steps: (1) preparation of a briefing paper; (2) problem identification; (3) problem classification; and (4) problem prioritisation. The preparation of the briefing paper allowed the Team's management specialists to get an overview of KNH's management problems to focus the study. The process of problem identification, classification, and prioritisation gave greater specificity to the broad terms of the scope of work.

II-12

Briefing Paper

The briefing paper was prepared based on information obtained by interviewing a cross-section of knowledgeable observers. These observers included KNH Director Dr. Naftali Agata; the managers of Aga Khan, M. P. Shah, and Nairobi Hospital, and Dr. David Sebina, the World Bank's regional health representative. The results of the interviews suggested four broad problem areas at KNH:

II-13

- o Too broad scope of care provided
- o Absence of management tools for effective control of resources
- o Low staff morale
- o Ineffective financial control

These problem areas suggested the following objectives for the Study:

II-14

- o Delineation of success requirements for KNH to achieve its mission
- o Identification of areas for productivity and efficiency improvements and the rational use of resources
- o Definition of an organisational framework and management accountability and control systems to improve service delivery, quality of care, and cost effectiveness

Identification, Classification, and Prioritisation of Problems

The next three steps in interpretation of the workscope, problem identification, classification, and prioritisation, were carried out during a week-long teamplanning retreat. The week of November 30 to December 5, 1987 was spent away from the Hospital, in Mombasa, to plan the study and to build the group into a cohesive unit. The Team was joined in its work by KNH Director Agata for four days. The first two and a half days of sessions were facilitated by Messrs. Obaso and Ochoro of Professional Training Consultants. Representatives of the study's two major clients, KNH Board Chairman Nick Muriuki and USAID/Kenya's Linda Lankenau, were briefed on the Team's identification and prioritisation of problems for study.

II-15

KNH's problems were identified through "brainstorming". The identified problems were classified into clusters; then priorities were set among the clusters for the Team's work. II-16

"Brainstorming"

Work began with the division of the Team into two groups to "brainstorm" on the problems faced by KNH in the areas of management and efficiency. One group produced a list of more than fifty problems; the other a list of thirty-eight problems. There was a great deal of overlap among the problems identified by the two groups. II-17

Classification of Problems

The identified problems had to be classified and grouped to be able to address them manageably. The first step was to sort out proposed solutions and symptoms from real problems. The proposed solutions identified were set aside for later consideration. Then symptoms, or problems that appeared as the result of other problems, were identified. From the remaining problems some were found to be "sub-problems" of higher-order problems. Nine higher-order problems were called "problem clusters". II-18

A mnemonic device was developed to place the brainstorming problems into the four classes (i.e., proposed solutions, symptoms, sub-problems, and problem clusters) under the systems elements of mission and goals of the Hospital, effects of the external environment on the Hospital, people-related problems, management processes, and non-personnel other resources. Each of the system elements was related to one or more of the topics listed in the terms of reference for the study (i.e., management/organisation, efficiency, and cost sharing). II-19

Setting Priorities

Once problems had been identified and classified, the Team set priorities for its work. The volume and scope of the problems was more than could be handled given the Team's human and time resources (ten working weeks would remain following the study planning week). The criteria used to set priorities and their weightings were: II-20

1. Acuteness and magnitude of the consequences of the problem (3 points)
2. Ability to address the problem within the short time frame (ten working weeks) and with the expertise present on the Team (2 points)
3. Ability to develop practical tools for implementation of solutions (1 point).

Once the problem clusters were ranked using the criteria, their order was re-assessed based on the interrelationships among them. This re-assessment did not change the priorities. II-21

The nine clusters fell into four levels of priority: four in the first group, one each in the second and third groups, and three in the fourth group: II-22

First Priority:

- o Ineffective Clinical Control
- o Inadequate Financial Management
- o Lack of Information for Decision Making
- o Inadequate Physical Resource Management

Second Priority:

- o Inefficient Use of Personnel

Third Priority:

- o Absence of Appropriate Organisational Structure

Fourth Priority:

- o Lack of Mission Clarity
- o Inadequate Communication
- o Inadequate Staff Welfare Arrangements

The Team gave its greatest attention in terms of breadth and depth to the first and second priorities. The third and fourth priorities were not ignored, all were treated in some way by the study. In effect, the priorities of two of the fourth-priority clusters, Mission Clarity and Communications were elevated during the course of the study, in the light of information collected. II-23

A presentation of the identified problems and the priority to be given to them was made to the study's clients, KNH Board Chairman Muriuki and Linda Laakenau of USAID. They were asked to comment on the priorities set by the Team. Chairman Muriuki responded favourably to the priority ranking and added some points of emphasis. He underlined the importance of reaching practical, implementable recommendations to get things working at the Hospital and stressed his desire to make KNH an outstanding example for the health system of Kenya. Ms. Laakenau stated that the rest of the Government of Kenya (GOK) health system was looking for a reformed KNH to be a model. II-24

The endorsement by the clients of the problem prioritisation, with added points of emphasis, allowed the Team to go forward with methods to address those problems. II-25

During the session presenting the problem prioritisation, the Team also presented its concept of the outputs of the study. Three types of outputs were proposed by the Team and accepted by the clients. They are: (1) a II-26

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consensus among the Board and Team around the recommended options for action to address KNH's problems; (2) a set of tools (or steps) for implementation of the action options; and (3) a two-volume set of written reports. One volume of the report follows traditional lines. It contains detailed documentation of the Team's work, including treatment of the methodology, evidence, and findings, in addition to recommended options, analysis of their strengths and weaknesses, and steps for their implementation. The second volume is an action plan focusing on the recommended options and how to implement them. It contains relatively few words. In its final version it will contain many diagrams to illustrate its words. It is the manager's guide to implementing management and efficiency reforms at KNH. Mr. Muriuki strongly endorsed the concept of the second volume by indicating that the Board wanted a short report focused on practical action options, written in terms that a manager can use.

II.C Methods

The Team followed a systematic approach to addressing the problems identified by the interpretation of the scope of work. In addition, the Team sought to build a consensus with its primary client, the KNH Board, throughout. Starting from the prioritised list of problem clusters, the study followed a many-step process to get to the final product. Those steps are summarised as follows:

II-

- o Hypothesis/solution development
- o Data-collection instrument development and workplan preparation
- o Testing and revision of instruments (Consensus point)
- o Enumerator training and data collection
- o Data analysis
- o Development of preliminary recommendations
- o Testing preliminary recommendations (Consensus point)
- o Option development and analysis of strengths and weaknesses
- o Implementation steps
- o Suggestions for next steps

Consensus has been built through the involvement of the Board and the Director throughout the study process. Dr. Agata spent four days working with the Team on study planning. Mr. Muriuki was presented with identified problems and priorities during study planning. The Team leadership and Dr. Agata met several times during the study. Mr. Muriuki and Dr. Agata were briefed on study progress at the time of completion of the progress, interim, and draft-final reports. The interim report gave the Board a preview of the

II-

Team's thinking by presenting preliminary recommendations at an intermediate point in the study (22nd January 1988). Moreover, the Board provided the Team with feedback on its preliminary recommendations at the Board retreat of 12th February 1988, where the interim report was the basis of discussions among the Board and Team representatives. Finally, consensus was built among the managers and staff of KNH through their participation in interactive interviews with team members.

Hypothesis/Solution Development

To develop hypotheses about and solutions for the identified problems, responsibility was given to Team subgroups for each cluster. The Team was divided into three subgroups (see Appendix B): management, efficiency, and cost-sharing, as specified in the workscope. The cost-sharing subgroup was assigned the task of pursuing that subject alone, as a potential solution to a number of problems, including insufficiency of financial resources and inappropriate use of services. The clusters were examined closely for content and how they overlapped before being assigned to subgroups. In so doing, parts of the cluster "absence of formal organisation structure" were assigned to other clusters, such that this cluster ceased to exist. Recognising that there is a great deal of overlap among them, the eight clusters were assigned as follows to the two subgroups, management and efficiency:

II-29

Management Subgroup

- o Ineffective Clinical Control
- o Inadequate Financial Management
- o Lack of Information for Decision Making
- o Lack of Mission Clarity

Efficiency Subgroup

- o Inefficient Use of Personnel
- o Inadequate Physical Resource Management
- o Inadequate Communication
- o Inadequate Staff Welfare Arrangements

Each subgroup worked through each of its assigned problem clusters to identify hypotheses about the problems and possible solutions to be tested through data collection. Then, the data needed to test the hypotheses, assist analyses, or to support solutions were identified. Lastly, their probable sources and the types of instruments needed for their collection were laid out. Below, the hypotheses and possible solutions to be tested are presented briefly for each cluster.

II-30

Clinical control grouped problems of over-long average length of stay (ALOS) and low patient turnover, inappropriate utilisation of KNH services, and long waiting lists. Explanations tested for their effect on ALOS and patient turnover included breakdowns in support services, doctors' lack of commitment to duties at KNH, interference of teaching and research with efficient patient care, inadequate functional arrangements among staff and departments, and uncontrolled physician decision making. Admission and treatment of un-referred primary and secondary inpatients and outpatients was the hypothesised explanation for the crowding of KNH with patients inappropriate to its purpose. That purpose is to be the national source of specialised care on referral. Long waiting lists were hypothesised to arise from the reasons cited above, plus the inefficient allocation of resources. II-31

Inadequate financial management grouped problems of unplanned and increasing cost of services at KNH, absence of appropriate planning, inadequate funds to meet KNH's needs, and lack of management and financial accountability. How budgets are planned and how expenditures are monitored was examined to verify whether inadequate financial management practices could explain unplanned and increasing costs. The criteria used for planning expenditures were studied to determine whether financial planning uses appropriate techniques to be efficient. Whether the accountability system was adequate to provide incentives for efficiency and disincentives for waste and losses was evaluated. Additionally, how the system plans for foreign exchange needs was examined. II-32

Lack of information for decision making included absence of appropriate information systems, lack of information expertise among KNH staff, and poor-quality analysis of information. The existing information systems were examined to find out whether they collect, synthesise, and supply needed information for decision making in usable form to the right people, at the needed frequency. Staff skills were assessed to determine their ability and availability to produce and use information. The quality of analysis was also to be assessed. II-33

Inadequate physical resource management grouped inadequate maintenance, shortages of supplies, ineffective procurement, inefficient use of space, and substandard food and laundry services. The reasons for inadequate maintenance were examined, including adequacy of skills, tools, equipment, and allocations of funds. Supplies/shortages were examined for causes including procurement not based on service priorities, inefficient use, procurement practices (including tendering), ordering procedures, and stock and inventory management. Whether space is efficiently used was evaluated. II-34

Inefficient use of personnel included lack of role specification, inadequate supervision, ineffective working relationships, insufficient multi-skill and management training of staff, insufficient in-service training for consultants, and under-staffing. Whether job descriptions exist; adequately delineate roles, responsibilities, and authority; and are used to deploy and evaluate performance for key staff was examined. The adequacy of selected staff to perform both technical and managerial tasks required by their posts was assessed. Also examined was the effect of non-KNH responsibilities (e.g., CHS professors and students) on performance. II-35

Absence of appropriate organisation structure grouped together problems of relations with the Kenya Medical Research Institute (KEMRI), the College of Health Sciences (CHS) (medical school), and the College of Health Professions (CHP) (nursing and allied health professions training); over-centralisation; and problematic relations with other health institutions (public and private, hospitals and non-hospitals). II-36

Lack of clarity of mission grouped the problems of the interpretation of KNH's purpose, the burden of unreferred outpatients, the physical size of the hospital, and the autonomy of KNH from the Ministry of Health (MOH) and other government institutions. II-37

Inadequate internal communications included problems of delays in decision making, ineffective internal communication, and inadequate inter-personal relationships. **Inadequate external communications** grouped together problems of poor public image, ineffective external communication, ineffective patient education, and lack of understanding of the medical system by the public. II-38

Inadequate staff welfare arrangements included the terms and conditions of service of KNH staff, under its new status as a parastatal, and the benefits package offered. II-39

Identified data needed to test these hypotheses and solutions took several forms: policy documents, recorded figures and procedures, people's opinions, and observable activities. More than forty different sources were listed, including patients, staff, and management of KHN and comparison facilities; medical records at KNH and Aga Khan Hospital; personnel and documents of Government of Kenya Ministries that interact with KNH as a State Corporation; and officials of the related institutions of KEMRI, the College of Health Sciences, and the College of Health Professions. II-40

Enumerators would be used to collect data through interviews using pre-coded questionnaires, record reviews, and observations of activities. Team members would review documents and conduct interactive interviews guided by sets of written questions. II-41

The identification of, classification of, and setting of priorities for problems at KNH, coupled with the identification of data needs, sources, and instrument types set a blueprint for the REACH/KHN Study. II-42

Instrument Development and Workplan Preparation

Two weeks were spent in final preparations for the study itself. Data collection instruments were put in final form and a detailed workplan for the remaining eight weeks of the study was produced by each subgroup. II-43

The development of the instruments took many steps. Subgroups' data needs were consolidated, sources for enumerator data gathering were verified, draft instruments were prepared and revised, enumerator leaders were trained, questionnaires were submitted for ethical review by KNH and clearance by II-44

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collaborating institutions, additional review and revisions were done with the help of the enumerator leaders, pilot testing of instruments was carried out with representative respondents and real records, and final revisions were made.

Subgroup data needs were consolidated to identify overlaps among the groups and to permit systematic verification of data sources. The latter was necessary for two purposes. First, so that instruments would not be developed for data sources that did not exist. Second, so that the subgroups could consider alternative methods of addressing problems for which an expected data source were missing.

II-45

Once first-draft instruments were prepared, the subgroups went through a multi-step process to refine them. First the drafts were reviewed for clarity and the necessity and sufficiency of each question. If a question was found not to be necessary to the testing of the hypothesis or solution, it was eliminated. If a question was found to be sufficient to provide the needed information, then related questions became superfluous and were eliminated. The subgroups next tested the instruments through role playing. At each step revisions were made.

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During this period the training of six enumerator leaders and six nurse-enumerators was begun so that they would be able to assist the Team in further refinement and pilot testing of the instruments.

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Nurse enumerators were required to carry out reviews of medical records at KNH and Aga Khan Hospital as a part of the efficiency and cost-sharing work. The study of inputs used for the common procedures of treatment of pneumonia and malaria, ordinary deliveries, and abdominal surgery were used to evaluate efficiency and to estimate costs. Further, the efficiency subgroup employed nurse enumerators to carry out patient-focused observations.

II-48

Before the draft instruments were pilot tested on representative respondents they were passed before the KNH Ethics and Research Committee for ethical vetting. Similarly, the instruments to be applied at collaborating institutions were passed to the management of each for review and approval.

II-49

Each subgroup again tested and revised its instruments, this time with the help of the enumerator leaders and nurse enumerators. The enumerators first read over the instruments, then discussed the clarity of questions and instructions with the subgroups. Where appropriate, role-playing with the enumerators was used to identify additional flaws in the instruments. Finally, pilot testing of the instruments was carried out by the enumerators. They used the instruments to interview representative respondents and reviewed actual records.

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Final revisions were made to the instruments based on these pilot tests. The test results also were used by the subgroups to estimate the needs for and schedules of enumerators for full-scale data collection.

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At the time that the final revisions to the data collection instruments were complete a progress report was prepared. This report: (1) reviewed the

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steps that had been taken by the Team to that point, (2) presented the overall and subgroup workplans, and (3) contained copies of the instruments. Dr. Agata and Mr. Muriuki were briefed on progress, as well.

Enumerator Training and Data Collection

Two types of enumerators were trained in two phases. (Details on enumerator training and performance are given in Appendix C.) Ordinary enumerators (thirty) were trained to collect information from records or respondents, or by observation, using pre-coded questionnaires or forms. Nurse enumerators (four Kenya Registered and two Kenya Enrolled nurses) were trained to review medical records and to carry out observations. II-53

Leaders (six) for the ordinary enumerators and the nurse enumerators were trained for five and three days, respectively, during the data collection instrument design period. Both groups were used to help pre- and pilot test the instruments. The leaders also were trained to assist in the later training of the ordinary enumerators. The latter took place over three days, prior to beginning full-scale data collection. II-54

Data were collected over a period of about six and one-half weeks. Subgroup members carried out the interactive interviews using a set of questions prepared in advance to guide them. Topics of interest not covered by the guides were pursued by the interviewers. Data were collected in the central administration, the departments, and the wards of KNH and at comparison facilities, including Aga Khan, M. P. Shah, Mater Misericordiae, Westlands Cottage, and Nairobi Hospitals, and Crescent Medical Society facilities. All three subgroups used both ordinary and nurse enumerators in their data collection. II-55

Overall coordination and supervision of the enumerator training and work was done by Team member Lydia Mwaura, assisted by member Agnes Gitau. II-56

Data Analysis

Given that data were collected in both quantitative and qualitative forms, data analysis was likewise both quantitative and qualitative. No sophisticated statistical techniques were used, mainly descriptive statistics and cross-tabulations. Specific analyses are presented along with each of the recommended options in Chapter III. II-57

Development of Preliminary Recommendations

The process of developing recommended approaches to KNH's problems began during problem identification at the beginning of the study and continued throughout. As mentioned above, the "brainstorming" exercise to identify KNH's management and efficiency problems resulted in the identification of possible solutions as well as problems. The possible solutions were the starting point for an exercise that the Team used beginning the third week of it's work to help it focus on the ultimate outputs. II-58

The exercise that focused the Team's thinking was to begin to set down preliminary recommendations at an early date, then update and modify them regularly as evidence was produced. A sub-committee of the Team with II-59

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representatives of each subgroup met several times during the study to add to, delete from, and modify the initial list of possible solutions.

For the interim report, this list of possible solutions was organised according to the areas mentioned in the workscope: management, efficiency, and cost-sharing. Subheadings emerged reflecting the problem clusters under each area. Under management came planning and organisation, finance, human resources, physical resources, and the environment. Under efficiency came clinical and administrative. Under cost sharing came fees to raise revenues and fees to divert demand. All of the subheadings survived from the interim report to the final, with the exception of fees to divert demand. The preliminary recommendations that fell in that group were not well received by the Board. Some of them have been retained as options to other means of addressing the problem of how to divert inappropriate demand, however.

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Testing Preliminary Recommendations

The Team presented its preliminary recommendations in the interim report to be able to test the feasibility of its ideas with the Board. The objective was to build a consensus with the Board on a package of solutions that would be practical and implementable and comprehensive in coverage of the problems. The Board provided the Team with feedback on the preliminary recommendations in this regard at the Board Retreat, held about three weeks after the distribution of the interim report.

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The Board Retreat lasted one full working day. It was held at a hotel in Nairobi in two adjoining conference rooms. All of the Board Members but one attended. The Team was represented by Team leader, Marty Makinen; deputy Team leader, Joseph Wang'ombe; Wilson Noreh; and Stephen Franey.

II-62

Attendees divided into two groups to take up clarity, practicality, and possible options to the preliminary recommendations and some new ideas the Team had formulated since the interim report, as well. Following more than four hours of frank and open group discussions, the entire body came together to talk over the highlights of the group discussions. Some of the issues raised by the interim report had not been previously discussed by the Board. The result of the day's work was a consensus among the Board and Team over more than 80 percent of the preliminary recommendations. The Board rejected some of the remainder and asked the Team to do more work on clarifying and expanding others.

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The Retreat was successful in building consensus. This was indicated by the Board's suggestion that the title of the Team's final report be some variant of "KNH Board Action Strategy" or "KNH Board Plan of Reform", rather than simply "REACH/KNH Study Team Final Report". Following the Retreat the Team was ready: (1) to provide the Board with the additional work it had indicated, (2) to formulate options to the accepted preliminary recommendations; (3) to analyse the strengths and weaknesses of the options; and (4) to provide steps for implementation.

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Option Development and Analysis of Strengths and Weaknesses

The preliminary recommendations presented in the interim report represented only one approach each, in most cases, to addressing some part of

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one or more of the identified problems. The workscope called for the Team to provide the Board with options to choose among. To meet this requirement the Team formulated options to each of the preliminary recommendations. Options were formulated for both preliminary recommendations that were accepted during the Board retreat and for those that were rejected. Options for rejected recommendations were especially important since the problem would remain unsolved without an acceptable approach.

The subgroups each formulated at least three alternatives to each preliminary recommendation. The technique used for arriving at alternatives was to attempt first to construct an approach to the problem addressed that could be considered the opposite of the original recommendation. Then, a second alternative was found by seeking a solution intermediate to the first two. Finally, the opposite approach to the second alternative generated a third. In some cases this procedure showed the group that another option or options somewhere between the four identified would provide a more attractive alternative.

II-66

The subgroups then analysed the strengths and weaknesses of each option in addressing the problem in question and with regard to other consequences its application would have. The subgroups' work then was considered by the Team as a whole to select the most competitive option or options (based on strengths and weaknesses) to the one accepted by the Board during the Retreat. The comments that the Board had made during the Retreat about the attractive and unattractive features of the preliminary recommendations were taken into account. For those preliminary recommendations that the Board rejected, a hard look at alternatives was taken to see if there might be two or more alternatives superior to the original recommendation.

II-67

At least two options and their identified strengths and weaknesses were retained in each area for presentation in the final report. This provides the Board with a choice of ways to address every problem and some grounds on which to make the choice.

II-68

Implementation Steps

Once the final set of recommended options was settled on, steps for implementation of each were laid out. These steps were formulated based on the Team members' experience. As they are presented, they may serve as basic scopes of work for implementation of the given recommendation.

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Suggested Next Steps

As with the implementation steps, the suggested next steps are based on the Team members' experience.

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II.D How to Read This Report

The remaining two chapters form the substance of the report. For the reader interested in understanding the Team's logic in reaching its conclusions, Chapter III presents the motivation for the Team's recommended options for action in the three areas of the workscope: management, efficiency, and cost sharing. For the reader interested in a full analysis of

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the alternative recommendations, Chapter IV analyses the options for their strengths and weaknesses in addressing the subject problem, then lays out steps for implementing each. For the reader only interested in how to put the chosen options into action, a companion volume is the manager's guide to implementation.

The motivation in Chapter III begins from the problems identified during brainstorming and the resulting hypotheses, including possible solutions. The evidence gathered by the Team to address the hypotheses then is presented. The Team's analysis of the evidence is described under the heading of findings. The findings lead to at least two alternative recommended options for action to solve the problem or problems. II-7

Chapter IV repeats each of the recommended options motivated in Chapter III then presents an analysis of the strengths and weaknesses of each. In addition to analysis of the option's ability to solve the problem, the external consequences of implementation of the option are evaluated. This analysis is intended to provide a framework for choice among the options. Once an option is chosen it must be implemented. To provide implementors with basic terms of reference for how to proceed, implementation steps are provided for each option. II-7

The companion volume to the present one contains a condensed version of Chapter IV of this report. It is intended to be an action document to be used by implementors. It contains none of the motivation discussions or reasoning behind the options. The strengths and weaknesses are presented along with the implementation steps for each recommended option. II-7

III. EVIDENCE, FINDINGS, AND RECOMMENDED OPTIONS

III. EVIDENCE, FINDINGS, AND RECOMMENDED OPTIONS

This chapter presents the recommended options for action to address the problems identified during the interpretation of the workscope. The options are organised according to the three components of the study: management, efficiency, and cost sharing. To motivate the derivation of each set of options, the questions posed by the problems addressed are presented first. Then, the evidence, or data, gathered to address the question is shown, followed by the findings from the analysis of the evidence. These findings lead to the recommended options. For each recommended action, at least two alternatives are provided.

III-1

The next chapter analyses the strengths and weaknesses of each recommended option and provides steps for implementation.

III-2

III. A Management

This section covers the derivation of the recommended options in the area of management. The discussions are grouped under the headings of planning and organisation, financial management, physical resources, human resources, and external environment. III-3

III.A.1 Planning and Organisation

Among the hypothesised problems at KNH is over-centralised management. This is found to be the result of an organisational structure that does not fit KNH's circumstances. Over-centralisation further manifests itself in a lack of appropriate planning. III-4

Planning and organisation provide structure for an institution. An organisation structure delineates authority, responsibility, and accountability. Planning provides a structure for the future, by specifying goals, a timeframe for achieving these goals, and coordinating activities to carry out the goals. III-5

Without sound planning, a hospital will lack direction. Without a sound organisation structure, a hospital will lack a framework in which it can efficiently operate. III-6

This section reviews and analyses evidence to produce options for addressing the organisational structure of KNH and the need to do more appropriate planning. It then makes recommendations about management and administrative information needs. III-7

III.A.1.1 Organisation Structure

An organisation structure delineates authority, responsibility, and accountability. The details of an organisation structure are organisation specific, as each organisation has different goals and emphasises different internal functions. There are some generic aspects of hospital organisation structures, however. They must often have one person--the Director or Head Administrator--at the top, a layer of senior managers next, and below that, middle managers. There are also often layers of supervisors and/or assistants below middle management. Organisations must strike a balance between having a structure that has many layers and small spans of control, or few layers and large spans of control. The former hampers operations as decisions may get hung up in the various layers. The latter case eliminates layers but makes spans of control too wide to be managed properly. III-8

Evidence and Findings

In assessing the organisation structure, the Team conducted interviews with various levels of management. III-9

Middle managers were asked who they directly reported to. More than twenty of the departments said that they reported to the director. This is III-10

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surprising for two reasons: a) the span of control is too large to effectively manage, and b) there exists a senior management level at KNH to whom the department managers should be reporting.

Twenty or more people is too large a span of control for the Director. Even if he were to meet with each one of these people for only an hour a week, half of his weekly time would be consumed. III-1

The Director should be spending time on "big picture" issues and strategic thinking. He should of course be informed about, and is ultimately responsible for, hospital operations, but he need not be directly involved in day to day operations. III-1

In addition, the question is raised as to why these twenty managers are not familiar with the appropriate lines of authority. Have they never been told that there is an Associate Director they directly? To what extent are the Associate Directors exercising authority? Negative answers to these questions reflect an organisation structure that should be strengthened. III-1

The issue of accountability also emerged through the interviews the Team conducted. Although there are some major problems in the Hospital, those managing the problem areas did not seem to face the prospect of disincentives (e.g., slower promotion, reduced salary increases, discipline) if the problems were not rectified. III-1

Recommended Options

To strengthen the organisation structure at KNH and narrow unmanageable spans of control, the Team recommends that KNH do one of the following: III-1

1. Develop an organisation structure that decentralises authority and responsibility.
2. Develop an organisation structure that centralises authority and responsibility.

III.A.1.2 Establishment of a Planning Office

Currently KNH does not have a planning office. The planning function is done by the Hospital Director and those at the senior management level. Before becoming autonomous, KNH relied on the planning done by the Ministry of Health Headquarters. This situation resulted in lack of an integrated plan for the hospital. There currently exist problems of absence of appropriate planning for manpower, finances, service operations, capital and equipment. III-1

Evidence and Findings

The Team conducted interviews which addressed issues in financial, capital, physical resource, and personnel management. It became apparent that there was a need to improve and coordinate strategic, tactical and operational planning in all these areas. For instance, the inability to plan for supply expenditures and lack of guidelines for purchasing can lead to an inadequate cash flow, which in turn leads to supply shortages. The inability to plan for III-1

patient services has resulted in the shortages of supplies and medications, and the underutilisation of costly services and overburdening of general service.

Recommended Options

The Team recommends the establishment of a strong, centralised planning office. This will facilitate planning. A well established and coordinated planning function will also assure more efficient use of available and future resources. The initial task of the planning office is to develop information requirements for KNH. These information requirements would be coordinated with the efforts suggested in subsection III.A.1.3, Management and Administrative Information. The information would include:

III-18

- o Inpatient/outpatient utilisation - trends and diseases
- o Management of inventory and technology
- o Staffing ratios and allocation
- o Clinical programmes
- o Organisation flow of information
- o Financial budgets etc.

A second task of the planning office would be to develop an integrated three-year hospital plan. The plan should incorporate many of the recommendations resulting from this study, and other improvements the hospital subsequently will make. As the office develops, it should undertake a marketing function (i.e., assess the needs of the patient population and the services offered by the hospital, and make insurance arrangements with insurers and employers).

III-19

To achieve integrated and cohesive hospital planning, the team recommends that KNH do one of the following:

III-20

1. Establish a planning office
2. Establish a planning function through the Director and Associate Hospital Directors (those positions reporting to the Director).

III.A.1.3 Management and Administrative Information

The complex environment that KNH operates within requires informed and knowledgeable managers. The planning decisions, as well as day-to-day operational decisions must be based on information that is current, accurate, and relevant to the situation. If KNH is to attain a level of informed decision making, there must be a system of Information Processing that identifies, analyses, compiles, and distributes this information.

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Evidence and Findings

The Team identified problems of a scarcity of information within KNH relating to an absence of appropriate planning, lack of information analysis expertise, and absence of appropriate systems. III-22

The lack of information was investigated through two means. First, interactive interviews on the topics of decision making and information were conducted with all levels of management in the Hospital. Second, a questionnaire was applied to all department managers, which included questions on decisions made and information received. III-23

The following feedback was obtained from 16 department managers: III-24

- o 70 percent said that they did not receive budget and/or expenditure information, but that they would like to
- o 30 percent said that they kept records of their department's output on a regular basis
- o 29 percent said that they received information from user departments or departments they interacted with but half of those were verbal, and 21 percent said that they did not receive this information at all from user departments, but would like to
- o 64 percent said they kept some sort of information relating to staff, either duty rosters, staff circulars, or information on leave time, absences, or sick time
- o Only five departments maintained an inventory and three stated an interest in maintaining stock records but few stated that they kept track of supply issues and receipts
- o 15 percent received census and bed-availability data.

Several interviews were conducted with senior managers. These managers received slightly more information than the department managers. They appeared to be handling crises all the time. III-27

Focusing on key administrative and management control points of budgets and expenditures, inventory and supplies, staffing, and workloads and outputs, the findings of the Team were as follows: III-2

Budgets and Expenditures

The department managers most keenly felt the inadequacies or non-existence of a financial information system. Although some occasionally saw a budget figure pertaining to their department, they were usually frustrated because they did not have much input into the figure nor were they subsequently allowed to plan expenditures. III-27

Inventories and Supplies

The second main area of frustration was lack of information on inventories and supplies. The frustration seemed to stem, however, not from a lack of information on supplies, but from a lack of supplies themselves. The supplies situation is usually at a crises point, so supplies are obtained wherever and whenever possible, and monitoring and planning inventory becomes a useless activity. III-28

Communication is lacking between the Supplies Department and the user department in the process of ordering supplies. Often the wrong supply is ordered if supplies has to "shop" for an item and does not consult the user department. III-29

Staffing

Deployment of staff seemed to be the area in which the managers had the most control. They do not have a voice in the budget so they cannot control their staff allocations, but they can control the deployment of their staff. III-30

Workloads and Outputs

Few departments maintain statistics on their workloads or outputs. There are several uses for this type of information, but the department managers are not given the incentives to use it. One use would be to use it to calculate unit costs, (assuming that you have quantities and/or values of inputs) A second use would be to compare past consumption to current consumption rates. This information could be used to expand or contract services, or justify budget requests. But when managers feel their budget requests will not receive due consideration, they have no incentive to collect or use the information. III-31

Nowhere was it found that departments were collecting extraneous or redundant information, with the exception of Medical Records. Some departments would collect information and then not use it correctly. Medical Records compiles hospital utilisation information on over 100 forms, but only produces the yearly statistical analysis and outpatient clinic utilisation numbers. Although assessment of the forms was not performed, their number indicates (this opinion is shared by the Medical Records Manager) that information collection and distribution procedures could be streamlined. III-32

When decentralisation occurs, department managers will be accountable for their area of operations. They can only be held accountable to the degree that they can make informed management decisions and hence control their areas. The Team therefore recommends that: III-33

- o The hospital routinely identifies information and information flows necessary for decision making and implement the appropriate collection and evaluation procedures.
- o An improved manually-operated information system should be a first step.

- o This improvement should begin by identification of essential and sufficient information and elimination of extraneous information in the areas of:
 - Budgets and expenditures
 - Inventories and supplies
 - Staffing
 - Workloads and outputs

- o Once a manually-operated system is functioning, automation should be considered.

III.A.2. Financial Management

The problems of unplanned and increasing costs, absence of appropriate planning, inadequate funds to meet needs, and lack of financial accountability are grouped under the heading of Financial Management. Financial management is the process of establishing control and accountability over assets and transactions. It requires careful financial planning and strict enforcement of financial guidelines. The development of the financial management process requires planning for the management of financial operations, establishing by data to monitor trends to assist in the forecast resource needs, and designing control and accountability guidelines. KNH must take control over its financial affairs as it develops into a self-sufficient parastatal corporation. III-3.

The Team's review of evidence led it to recommendations relating to financial management and operations, budget and expenditures, and internal accounting controls. III-35

III.A.2.1. Financial Management and Operations

The management of KNH recognises the need to assess the priorities of the Hospital when planning its operating and capital budgets in order to meet its mission and provide quality health care to Kenya citizens. Annually, KNH management prepares the Programme Review and Forward Development Budget, taking into consideration the Hospital's role as a referral, teaching, and research institution and the resources available. The Programme Review projects service demands. The Forward Budget projects financial requirements. III-30

The development of the 1987-88 Programme Review and Forward Development Budget was based on the estimated resource requirements for all departments and services within KNH. The department and clinical service managers prepare these estimates based on various factors they consider critical in operating their areas. These estimates are compiled and supporting documentation is assembled by the Chief Accountant and forwarded to the Ministry of Health for review and consideration. The Ministry of Health reviews the estimates and approves the budget based on guidelines approved by the Treasury. III-37

Evidence and Findings

In assessing the problems confronting KNH's achievement of its financial objectives, the Team identified the absence of appropriate planning as a primary obstacle. The major contributing factors are KNH's organisation III-3

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structure, and the level of financial management, and direction from the Ministry of Health (MOH) to KNH's Chief Accountant. The Team developed and applied a series of questionnaires to KNH department heads, chairmen, and senior management to assess the reporting relationship among and between areas, and to identify information utilised for area financial (Forward Budget) and service (Programme Review) projections. The questionnaire requested data on the type of information received or maintained by the department. Examples of information requested included:

- o Census by ward
- o Beds available
- o Laboratory utilisation
- o Radiology utilisation
- o Physiotherapy utilisation
- o Theatre utilisation
- o Pharmacy utilisation
- o Financial information
 - Forward budget
 - Department disbursements
 - Department salaries
- o Staff information
 - Duty schedule
 - Leaves
 - Sick time
 - Absences

We also requested that respondents identify which departments within KNH they interact with in accomplishing their functions. III-39

Our findings showed that 15 percent of the departments received census and bed-availability information, 21 percent of the departments received some combination of utilisation data (i.e., laboratory, radiology, physiotherapy, theatre, pharmacy), 21 percent received financial information, and 74 percent of the departments received staff information. We also found that 15 percent of the departments and services listed Accounting as an entity they interact with in accomplishing their tasks. III-40

For an institution as large and complex as KNH and with the historical financial constraints imposed upon it by MOH, it is startling to find only 15 percent of the departments interact with Accounting and only 21 percent receive any financial information. The development of a financial policy requires the dissemination of financial information to user departments and the interaction of those departments with Accounting. III-41

75

To further assess KNH's ability to develop a financial plan, the Team obtained and reviewed the area draft estimates for the 1987/88 Forward Budget. We examined the estimated resource requirements of a number of departments. Major resource requirements included: III-41

- o Medical supplies
- o Equipment replacement
- o Equipment repairs
- o Office supplies
- o Staff uniforms
- o Linen replacement
- o Drugs and medications
- o Chemicals and reagents
- o Film and processing agents

The Team discussed the development and supporting documentation of the draft estimates with the Chief Accountant and various department and service area managers. We learned that the estimates were based on prior years usage and anticipated needs of the department or service area. The Team was unable to obtain supporting documentation for the departments on draft estimates. The Hospital does not provide managers with standard methodologies for projecting patient demand or medications usage; department or service area staffing requirements; or standardised growth rates for outpatient services, radiology or laboratory services, office and general supplies, or other items. III-41

Exhibit III.A.2-1 shows the recurrent allocations for KNH from the Ministry of Health office for 1985/86, 1986/87 and 1987/88. III-41

Exhibit III.A.2-1

MINISTER OF HEALTH RECURRENT ALLOCATIONS

(Net Kenya Pounds)	<u>1985/86</u>	<u>1986/87</u>	<u>1987/88</u>
Total Vote	77,073,000	97,005,450	100,589,570
Allocation for KNH	9,413,565	10,819,260	11,539,200
KNH Allocation as % of Total Vote	12.21%	11.15%	11.47%
Percent of Increase Over Prior Year	-	14.9%	6.6%

Comparing the recurrent allocations to the increased length of inpatient services (see Exhibit III.A.2-2) at KNH during the same period we note that the recurrent allocations have continued to increase but these increases have not been proportional to the expansion of services. The clinical expansion of KNH into specialised units including Renal, Cardiology, Radiotherapy, and Intensive Care has been possible with the allocation of additional funds and has been done in the spirit of expanding services to meet the demands of a rapidly growing population and continuing to provide the latest in medical service technology for the Hospital's patients. The additional expenses to support these clinical expansions have come from the recurrent allocations. The ALOS has increased from 24 days in 1986 to 24.9 days in 1987.

III-45

Exhibit III.A.2-2

KNH ALOS 1986 AND 1987

	<u>1986</u>	<u>1987</u>
Inpatient	638,724	24.9

The management of a facility as large and complex as KNH, with over fifty departments and services, requires the expertise of a diverse group of senior managers. KNH currently has expertise in health care management that includes administration, policy, personnel, accounting, purchasing, and medical and clinical services. Absent among the senior managers is an experienced

III-46

financial coordinator and manager. The hospital has relied upon MOH for financial management and direction. The Hospital's Chief Accountant has the responsibility for coordinating the accounting transactions within KNH under the direction of MOH. This arrangement will not continue now that KNH is a parastatal. KNH has to provide its own financial management and direction.

Recommended Options

Providing financial management and direction for KNH will ensure the Board that the Hospital has the management expertise to operate within its financial constraints. Financial stability will ensure the needed resources for continuing the tradition of excellence in patient care and support the expanding of medical services at KNH. III-

The financial manager will be responsible for developing standard utilisation and growth measurements for departments and service area managers to evaluate the efficiency and effectiveness of their areas. These measures will be based on historical patient service utilisation, expected new clinical service growth, and KNH's ability to meet current patient service demand. III-

To achieve financial stability and growth through the efficient and effective operation of KNH departments and service areas, we propose that KNH choose between the following options: III-

1. Create the post of Associate Hospital Director-Treasurer to be responsible for financial operations and management of the Hospital
2. Expand the duties and responsibilities of the present Administrative Secretary (proposed Associate Hospital Director-Administrative Services to include financial operations and management of the Hospital).

The establishment of a Associate Hospital Director-Treasurer or the expansion of duties of the Administrative Secretary will be vital to the development of KNH as a self-sufficient corporation. The job description for an Associate Hospital Director-Treasurer, Associate Hospital Director-Administrative Services, and others are presented in Appendix D. III

III.A.2.2 Budget and Expenditures

The 1987/88 Programme Review and Forward Budget provided KNH management with the estimates of expenditures for all departments and service areas during the financial year. These estimates were developed by department and service-areas managers based on their assessment of the critical needs of their areas. They were reviewed by KNH management in accordance with the Treasury guidelines and expenditure constraints. III-

During the development of the 1987/88 Programme Review and Forward Budget the management of KNH was instructed to consider the requests of Treasury Circular No. 10, dated 31st July, 1987. This circular requested that only expenditure proposals for unavoidable and committed items of high priority be included in the forward budget, and stated that expenditures in excess of established limits would not be approved. III-



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The Ministry of Health's office issued, on 23rd September 1987, the approved Programme Review and Forward Budget covering 1987/88 to 1989/90 (see Exhibit III.A.2-3).

III-53

Exhibit III.A.2-3

DRAFT FORWARD RECURRENT BUDGET SUMMARY 1987/88 - 1989/90

(Printed Net Kenya Pounds)	<u>1987/88</u>	<u>1988/89</u>	<u>1989/90</u>
KNH Allocation	11,539,200	12,667,600	13,630,200

Comparing these printed estimates with KNH recurrent estimates for the same time period we note the financial shortfall KNH must address (see Exhibit III.A.2-4).

III-54

Exhibit III.A.2-4

RECURRENT ESTIMATES 1987/88 - 1989/90

(Net Kenya Pounds)	<u>1987/88</u>	<u>1988/89</u>	<u>1989/90</u>
MOH Printed Estimates	11,539,200	12,667,600	13,630,200
KNH Estimates	16,796,197	16,573,800	17,983,300
Financial Shortfall	<5,256,997>	<3,906,200>	<4,353,100>

Evidence and Findings

In assessing the financial shortfalls, the Team confirmed a number of hypothesised problems relating to: absence of appropriate planning; understaffing; poor critical analysis; and unplanned/increasing costs. The absence of a financial manager on the KNH senior management team further complicates these problems. Through the information obtained in the questionnaires and interviews with department heads, chairmen, and senior management, the Team found that the recurrent and development budgets were not developed using a standard methodology nor were patient utilisation statistics employed by department managers to estimate expenditures.

III-55

The estimates of department and service area expenditures are based on documentation that is compiled by the Chief Accountant. This information is historical operating expenditures and type of service provided at KNH. The

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Team reviewed the supporting documentation provided by the Chief Accountant and discussed the 1987/88 recurrent estimates with various department managers. In our review we were unable to obtain supporting documentation for the recurrent budget estimates (i.e., inpatient and outpatient service utilisation, inpatient day estimates, staffing needs, outpatient or Casualty estimates, inpatient or outpatient average drug or supply use, or average expenditures for patients or departments). This calls into question the accuracy and the ability to justify the estimates.

The need to accurately estimate expenditures for the many specialised health care services and research functions KNH provides to the citizens of Kenya is emphasised by the projected financial shortfalls shown in Exhibit III.A.2.4. III-57

To address these shortfalls and develop Forward Budgets that will realistically estimate the financial needs of KNH department managers requires accurate historical information and standardised methodologies. The present Programme Review and Forward Budget system does not provide methodology for estimating department expenditures nor does it provide managers with non-financial patient utilisation statistics. III-58

The methodology for standardising the Programme Review and Forward Budget system will require coordination of individual department needs, overall Hospital needs, and patient utilisation statistics. Priorities should be identified for the health services that are provided within KNH and for departments that are critical in supporting the delivery of care. Information that will assist in setting priorities includes, but is not limited to: III-59

- o Inpatient statistics by ward
 - Referral type
 - Admissions
 - Discharges
 - Average length of stay (ALOS)
- o Comparative disease statistics
- o ICD-9 disease statistics
- o Radiology and laboratory statistics
 - Inpatient
 - Outpatient/clinic
 - Casualty
- o Therapy statistics
 - Physiotherapy
 - Radiotherapy
 - Occupational
- o Orthopaedic statistics
- o Outpatient/clinic statistics by area

- New patients
- Referral type
- Total visits

- o Casualty statistics
 - Total visits
 - Number of admissions
 - Type of service

- o Number of Doctors by clinical specialty

- o Number of professional staff
 - Nurses by ward
 - Technologists by specialty
 - Technicians by specialty
 - Students by specialty

- o Clinical programmes proposed

- o Equipment by department, ward and service area.

This data is available within the medical records, personnel, theatre, nursing, bio-medical and other departments of KNH. Through analysis of this data prioritisation of KNH needs by patient, disease or other category can be developed. Utilisation of beds, and use of radiology, laboratory and therapy services can be estimated, as well as projection of expenditures for each patient, and allocations to specific departments.

III-60

Data for analysis can be extracted from various sources:

- Personnel: Develop staffing by area based on Duty Allocation Roster and Posts Established and Occupied list.

- Theatre: Develop operating procedure statistics based on theatre schedule and medical records statistics.

- Equipment: Develop equipment needs from bio-medical equipment inventory (must be updated) and department equipment inventory.

- Ward: Develop staff, medical supply, medication, linen, and other patient support needs from Ward Duty Allocation Rosters, Medical Records, inpatient statistics, and estimated expenditures for various categories.

- Outpatient: Develop staff, medical supply, medication, and other patient support needs from Medical Records outpatient/clinic statistics and estimated expenditures for services.

- 1/2'

The KNH Medical Records Department compiles patient statistics on Casualty, Outpatient Specialty Clinics, inpatient wards, and inpatient services. This information is summarised and printed by the Medical Records Department annually in the Kenyatta National Hospital Annual Statistical Return For The Year 1986. The Team reviewed the statistical data and found it to be both accurate and informative. III-6

Recommended Options

The identification and establishment of a standard methodology for the annual Programme Review and Forward Budget for KNH will provide the Board and Management with estimates that are based on comparative statistics among departments and between years. KNH patient service demand should be estimated using both historical utilisation and expanded clinical service requirements. This will allow management to accurately assess and set priorities for the expenditures of each department and service area. III-6

To achieve comparative expenditure estimates that reflect the needs of KNH we propose choice between following options: III-6

1. Decentralise responsibility and authority for recurrent budget and expenditure estimates to the departments or
2. Decentralise responsibility and authority for recurrent budget and expenditure estimates to the Associate Hospital Directors (senior management).

III.A.2.3 Internal Accounting Controls

The development of financial planning, enhancement of the Forward Budget methodology, and establishment of fees for selected services within KNH requires the strengthening of accounting controls to safeguard KNH assets and to assure that accurate and reliable financial records are maintained. III-6

Evidence and Findings

In assessing these functions the Team identified the major problem underlying the financial management of KNH as a lack of management and financial accountability. Our review found that the inventory of assets (i.e., equipment, furniture, etc.) was maintained in a Vote Book located in each department. These assets books were out of date and not representative of the assets in the department. In most cases, our review showed that equipment listed in the Vote Book was not in service because it required repairs, and many of the Vote Books had not been updated since the late 1970's. III-6

We also reviewed the inventory control procedures of the Supplies Department. Over ninety supply control cards were examined and the corresponding warehouse stock was counted. Our count found only three control cards that showed accurate inventory counts. The remaining cards were either overstated or the supply was exhausted. III-6

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The development and implementation of internal accounting controls through an Internal Audit Department will provide KNH Board and management with a sound financial management system. The establishment and maintenance of a system of internal accounting control is an important responsibility of management. Transactions are a basic component of business operations and therefore, the primary subject matter of internal accounting control. Transactions include exchanges of assets for services with parties outside the Hospital and transfers of assets or services within the hospital. The primary functions involved in the flow of transactions and related assets includes the authorisation, execution, and recording of transactions and the resulting accountability. This system should be under continuous supervision by management to ensure that it is functioning as prescribed. III-68

The independence, competence, and integrity of the Internal Audit function and their auditors' understanding of the prescribed procedures, provides an environment conducive to accounting control. The absence of these factors may result in an adverse environment that impairs control procedures that would otherwise be considered satisfactory. III-69

Recommended Options

Accounting control comprises the plan of organisation and the procedures and records that are concerned with the safeguarding of assets and the reliability of financial records. Controls are designed to provide reasonable assurance that: III-70

- o Transactions are executed in accordance with management's general or specific authorisation.
- o Transactions are recorded as necessary to maintain accountability and conform with generally accepted accounting principles or criteria.
- o Access to assets is permitted only in accordance with management's general or specific authorisation.
- o Recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

To achieve reasonable assurance that the assets of KNH are accounted for and that the financial records are reliable, we propose either of the following options: III-71

1. Develop and implement an internal accounting control programme under the direction and control of the Hospital Director and the KNH Board.
2. Enhance the controls over assets and supplies with the objective of implementing an internal accounting control programme in three to five years.

III.A.3 Personnel Management

Personnel are among a hospital's most valuable resources. It is the quality of the doctors, nurses, technical, and non-technical staff that, to a large extent, determines the quality of the hospital. Moreover, how personnel are used has an important effect on efficiency. The following subsections treat questions of incentives for doctors, management of personnel, assignment of roles and responsibilities to get the most from staff, and some special considerations with respect to mortuary employees. III-72

III.A.3.1 Doctor Incentives

Kenyatta National Hospital provides a medical environment for consultants, and University of Nairobi College of Health Science (CHS) faculty, and students. In 1986 approximately 450,000 patients were provided outpatient medical services, 140,000 patients were treated in Casualty, and over 65,000 patients were admitted to the Hospital. These services were provided by consultants assigned to KNH, University professors, lecturers, and over 750 Registrars, Medical Officers, Interns, and CHS undergraduate students. The goal of these professionals should be to provide top rate care to this heavy patient load, but their enthusiasm is low, primarily due to poor working conditions. III-73

Evidence and Findings

KNH has attempted to respond to the needs of the citizens of Kenya, by expanding the scope of medical services offered. It also participates in the education of all types of health professionals. What began as a unique and special national resource has broadened its scope while operating within financial constraints. Under these circumstances both quality and growth have suffered. III-74

These constraints coupled with the growing demand for health services have had a major effect on KNH. Doctors, who once practiced clinical medicine only at KNH now have substantial opportunity to engage in the private practice of medicine away from the hospital. III-75

In our interviews with Chairmen and consultants in various clinical specialties, the doctors complained that it is impossible to care for their patients professionally when the tools of modern health care in which they were trained were not available. The doctors complained of medication and supply shortages, inoperative diagnostic and treatment equipment, and inattentive professional and technical staff. Academic faculty complain that this is not the appropriate environment for preparing new doctors, nurses, and technicians. III-76

In some cases doctors treat patients who are referred not for definitive diagnosis and therapy, but because of inadequate supplies and services in the peripheral provincial hospitals and health centers. In other cases they treat patients who have chosen KNH for primary care and have circumvented the referral system. These types of occurrences are viewed by the faculty as III-77

inadequate for teaching, and by many of the doctors as organisational disorganisation.

Recommended Options

In assessing options the Team considered the relationships between KNH, the College of Health Sciences, and the College of Health Professionals and the patient material available for teaching health professionals. With the understanding that any deviation from the present doctor/professor relationship is potentially politically sensitive, the Team recommends the following options.

III-78

1. Increase consultants/specialists compensation and restrict their practice of medicine to KNH only
2. Improve status of KNH's doctors by pursuing dual faculty/clinical appointments with the University of Nairobi College of Health Sciencee
3. Establish a Doctor's Institutional Practice Plan that would allow for the practice of medicine within KNH for:
 - o Doctors only
 - o All clinical, faculty, and technical staff
4. Some combination of the preceding.

III.A.3.2 Personnel Office

The Personnel Office is the processing center for employee recruiting, screening, hiring, orientation, training, and management of personnel files. At KNH the personnel function is currently an extension of the Ministry of Health and does not have the capacity to process personnel or maintain employee files.

III-79

Evidence and Findings

The Team interviewed over 400 KNH employees, both staff and management-level personnel. Among the questions asked were those that addressed job knowledge, promotion criteria, orientation programs, adequacy of training programmes, reporting relationships, and promotion evaluation criteria. The Team also interviewed the Senior Personnel Officer.

III-80

The Team identified issues that KNH must address if it is to properly handle employee records. These included:

III-81

- o Maintenance of employee records from MOH
- o Space for employee records
- o Processing system to update employee records
- o Operation guidelines for:

46

- Hiring new employees
 - Screening and interviewing
 - Orientation programmes
 - Continuing education programmes
- o Management of staff welfare.
 - o Coordination of employee performance evaluation.

The interviews identified other issues that must be addressed as KNH begins to process employees within their own operation. From the employees interviews the following information was obtained. III-8

When asked what were the skill level and other requirements for promotion in their job: III-8

- o 2 percent stated what they thought the skill and requirements
- o 25 percent stated there were none
- o 73 percent stated they did not know.

When asked how promotions were determined: III-8

- o 24 percent did not know
- o 20 percent stated - on length of service
- o 16 percent stated - based on training
- o 13 percent stated - by application to MOH
- o 12 percent stated - recommendation of department head
- o 1 percent stated - by reaching the top of present job group
- o 14 percent stated - a combination of all of the above.

When asked if educational and orientation programmes at KNH are adequate to maintain general and technical skills: III-8

- o 60 percent stated - they were not
- o 27 percent stated - they were adequate
- o 13 percent stated - they had not had any or they did not know.

When asked what could be done to improve the morale of KNH employees, the majority of the responses fell in three categories: III-8

- o Promotions for work accomplishments
- o Salary increases
- o More staff for technical areas.

These findings show that the weaknesses in the present management of personnel have led to a pervasive problem of low morale throughout the hospital. Employees are KNH's most valuable resource, and based on our findings this resource does not know what is expected of it. III-87

Recommended Options

It is beneficial to KNH that employees are enthusiastic and happy in their jobs. If employees understand the job, and there are opportunities for advancement based on performance, employee efficiency and productivity will increase. To provide an environment that attends to the needs of the employee, the Team recommends the following: III-88

1. Develop a Personnel Office to process and maintain employee files and records or
2. Strengthen the present Personnel Office to process employee records and continue to maintain employee files with MOH.

III.A.3.3 Staff Roles and Responsibility

The efficient operation of services within KNH requires staff who strive to improve their performance. Motivated staff are also more effective and productive in their work environment. To be motivated staff must understand what is expected of them and have incentives to perform well. III-89

Although the present scheme of service for various cadres of staff provides for a career structure which allows for advancement, it does not provide a detailed schedule of duties for a specific job. The Team reviewed the scheme of service for health professionals and the staffing allocations within KNH and identified problems that required investigation. These were: over-centralisation, lack of role specification, and insufficient multi-skill management and training. III-90

Evidence and Findings

The Team prepared questionnaires, obtained department schedules of duties, reviewed schemes of service, conducted interviews, and observed staffing allocations within KNH. The morale, motivation, and general attitude of staff was noted. Professional staff (i.e., sisters, technicians, technologists, etc.) and general staff (i.e., domestic, telephone operator, transport, etc.) were interviewed to determine their understanding of their jobs and to assess KNH's provision of continuing education and opportunities for advancement. III-91

The Team interviewed and analysed questionnaires from staff, supervisors, managers, sisters, chairmen, senior managers, and doctors. Of these 54.9 percent had not received a schedule of duties or a description of the job they currently held. III-92

This information was more startling when compared to the years of employment these employees had been in their current position: III-9

<u>Years in Present Position</u>	<u>Percent of Total</u>
Less than 1	6.9
1-2	25.7
3-5	27.7
6-8	18.3
9-11	10.3
Over 12	11.3

The majority of these employees have been employed in their current position for more than three years, yet more than half do not have a schedule of duties for performing their jobs. Of the 45.1 percent who did receive schedule of duties or a description of their job, 67.7 percent stated they did more than their schedule of duties and the remainder (32.2 percent) stated their schedule of duties did reflect their job. III-9

The Team also observed staff allocations in various outpatient departments to determine how responsible staff are to their jobs. Our findings showed the following personnel were at their assigned position within one hour of the scheduled starting time: III-9

<u>Personnel</u>	<u>Percent Present</u>
Registrars	55
Specialists	47
Students	45
Nurses	94
Clerks	98
Subordinate Staff	97

The majority of the personnel absent were doctors, who are critical in treating patients. The delays in the doctors arrival have caused long queues and congestion in many of the outpatient clinics. III-9

Recommended Options

It is important to stress that employees who create and foster a positive image of their job accomplishments will be efficient, effective, and productive workers. A scheme of service and schedule of duties that creates a positive attitude and motivates the employee will promote the efficient and effective operation of services within KNH. They are useful tools in performance evaluations. III-97

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The Team recommends choice between the following options for implementation: III-98

1. Write schedules of duties (job descriptions) for all KNH employee positions or
2. Initially write schedules of duties for middle and senior management positions and use job evaluations for the remaining staff.

III.A.3.4 Incentive Structure for Mortuary Employees

Mortuary services in a hospital like KNH are crucial. any members of the public go to the mortuary to collect bodies of relatives and friends. If they are of poor quality, the mortuary services can spoil the public image of a hospital. III-99

Evidence and Findings

KNH mortuary services are currently very poor. Two complaints that the mortuary superintendant receives frequently are related to decomposition of the bodies at the mortuary, and unofficial charges by the mortuary attendants. III-100

According to the mortuary superintendant the decomposition of bodies is caused by broken equipment and congestion at the mortuary. The mortuary has only one band saw machine which has been operated since January 1987. It has 30 trolleys for keeping bodies, but 15 of them have been broken since 1987. III-101

The mortuary also has a low capacity relative to the size of the hospital. It can only accommodate 30 bodies in ideal refrigerated conditions, but most of the bodies remain in the mortuary between 60 and 90 days. This forces the mortuary to put two or more bodies in stretchers meant for only one body. When the study team visited the mortuary, there were bodies piled together in broken stretchers and on the floor with many of them in a highly decomposed state. III-102

There are complaints that when relatives come to collect bodies, unofficial fees are charged for bodies to be washed and dressed. The mortuary superintendant said that these were valid complaints, and that the practice had been going on for at least ten years. This practice gives the hospital a bad name as it is a blatant abuse: there is a sign displayed prominently in the mortuary which reads "MORTUARY SERVICES ARE FREE". Disciplinary measures are not taken against attendants charging unofficial fees. III-103

The superintendant said that the services which the mortuary is supposed to offer are storing of the body and releasing it to the relatives. According to him, the relatives are responsible for washing and dressing the body and putting it in the coffin. Virtually all the people who come to collect bodies fear handling them and make unofficial arrangements with attendants by paying a fee, usually over Ksh. 150, for each body. III-104

There have been further widespread complaints, however, that sometimes the bodies are not stored properly. One often has to pay a fee for the body to be refrigerated. Otherwise, it could be put on the floor, where it decomposes quickly.

III-10

The system of unofficial charges has affected staff relations in the mortuary. They are strained by competition among attendants to handle bodies. The stronger attendants and those who are fast to contact relatives end up with more money. Attendants also get more money than their supervisors, who do not directly handle bodies.

III-10

The system at KNH is different than that used at the city mortuary, where there is an official charge to the relatives collecting bodies. The city mortuary charges 100/= per day for storage of bodies and 100/= for washing and dressing the body for burial. The mortuary attendants and supervisors share the money collected. The system is said to have eliminated rivalry among the staff, raised their morale and reduced cases of unofficial charging.

III-10

The Team's analysis of the situation is:

III-10

- o Inadequate schemes of service and salary scales for mortuary employees makes them difficult to replace if dismissed, thereby inhibiting discipline for abuses.
- o Inadequate capacity for refrigeration causes some bodies to be improperly handled and provides an opportunity for favouritism and corruption.
- o Compensation should be provided for washing and dressing bodies; the public should know that these services are not provided at no charge.

Recommended Options

KNH needs to improve the quantity and quality of its mortuary services to eliminate the practice of charging unofficial fees. In this case no options are offered, only the following recommendations:

III-10

1. Develop a scheme of service for mortuary employees with salary scales high enough to compensate them for the unpleasant nature of the job.
2. Introduce a standard fee for mortuary services and use the revenue generated to compensate employees.
3. Increase mortuary capacity so that there is adequate refrigerated space for the expected number of bodies.

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III.A.4 Physical Resource Management

Physical resource management refers to the management of resources that are neither personnel nor financial. This includes: equipment, supplies, and drugs. III-110

Some of KNH's more urgent problems of inadequate maintenance, shortages of supplies, and ineffective procurement relate to physical resource management. This section addresses those problems under the headings of management of supplies and inventory, supplies procurement, standardisation of purchases, and preventive maintenance. III-111

III.A.4.1 Management of Supplies and Inventory

Complaints of supply shortages at KNH are common. Some of these problems are associated with the management of inventory and supplies at the Hospital. III-112

Evidence and Findings

The Team examined the supplies management system at KNH through interviews. The following information was discovered. III-113

The supplies department has no policy specifying at what levels the Hospital should start ordering more supplies to avoid shortages. This problem affects even the goods used commonly by many departments/wards in the Hospital and usually stocked in them. These "stocked items" have not been formally identified and listed. This is essential for their planned ordering. III-114

The rates of consumption of many items in the Hospital are not known, making it difficult to plan ordering and reordering, and to avoid expiry of perishable items. III-115

In the past, planned ordering was hampered by uncertainty about when money would be available. Often funds have not been available when certain items are needed. III-116

Most departments do not have specific votes. They therefore do not have specified amounts of money to spend in a given period. As a result department heads are not sensitive to expenditures incurred for supplies. III-117

Stock monitoring in the hospital is weak. A contributing factor is poor recordkeeping in the inventory system. The Team conducted a spot comparison of stock cards, bin cards, and physical counts in the Supplies Department, and found the following shortcomings. III-118

There were many discrepancies between the information shown in the stock control card at the supplies department and the information shown in the bin card at the stores. There were differences between stock control cards and the bin cards regarding unused amounts in 58 out of 88 items selected randomly. III-119

Stock-taking has not been regular at KNH. A shortage of personnel was given as the reason for it. III-120

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There were also serious discrepancies between amounts of the items shown in the bin card at the store and the physical inventory count. Out of the 88 items examined, there were differences between the bin card information and physical count in 34. Such differences could arise from taking items from the store without recording in the bin card, delays in recording the entries, or poor security. III-1

The poor recording of supplies is further shown by very weak coordination in recording changes in supplies as shown by the stock control card and bin card. Examination of the last entries on both cards for the 88 items showed that for only 11 of the items did the dates match and that there were many cases where the dates of last entries varied by more than one year. III-1

Inventory control was also lacking in the wards. Inventory movements have not been recorded in ward inventory books since the early 1980's. III-12

Recommended Options

The Hospital urgently needs to strengthen inventory control. To accomplish this the Team recommends choice between the following options: III-1

1. Strengthen the Supplies Department to be fully responsible for re-ordering and inventory control for all departments or units of the Hospital or
2. Delineate the roles of user departments and the Supplies Department with respect to inventory control. Make user departments and Supplies Department responsible for their own inventories.

III.A.4.2 The Supplies Procurement System

Soon after it became a parastatal body, KNH attempted to streamline the supplies procurement system. A document entitled 'Kenyatta National Hospital Procurement and Supply Service Guidelines' was provided. III-124

The guidelines created two bodies--the Tender Board and the Tender Committee--to ensure that the regulations governing supplies, approved policies, procedures and systems are followed. III-126

Even with these newly created guidelines and bodies, the tendering procedures of the Hospital are less than efficient. III-127

Evidence and Findings

The Tender Committee consisting of the KNH Director (Chairman), Administrative Secretary, a ministerial representative, technical officers from the relevant divisions in the hospital, Chief Accountant and the Senior Supplies Officer (secretary) adjudicates on quotations costing between Ksh. 20,000 and 100,000 per item or service in a financial year. III-1

The Tender Board adjudicates for tender of more than Ksh. 100,000 per item or service in a financial year. The Board consists of a member appointed by the Finance Committee (Chairman), Administrative Secretary, technical III-19

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officers from the relevant divisions, ministerial representative, Chief Accountant and Supplies Officer (Secretary).

The guidelines give the following procurement rules:

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- o Transactions which do not exceed Kshs. 2000/= may be paid for in cash.
- o Goods and services which in any one case do not exceed Kshs. 5000/= in value should be procured without written quotation. Comparative prices should, however, be obtained before the orders are placed to ensure that they are within market prices.
- o Goods and services worth over Kshs.5000/= and up to Kshs. 20,000/= may be procured without reference to the Tender Committee provided that:
 - At least three competitive quotations are invited
 - Adjudication of quotations is done by not less than three responsible officers including head of the user division or his representative (sub A.I.E. holder).
- o Goods and services and minor works worth less than Kshs.100,000/= may be purchased through quotations and such quotations shall be adjudicated by the Tender Committee.
- o Goods and services and construction works estimated to cost over Kshs. 100,000/= must be procured through open tender and adjudicated by the Tender Board.
- o Any officer who commits the corporation to make higher payments for stores or services than the ruling market prices justifies will be held responsible and may be called upon to make good such additional costs.

Other main provision in the guidelines include:

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- o Requirement for division heads to arrange for comprehensive specifications for items required.
- o The technical evaluation committee is charged with the technical evaluation of the tenders while commercial evaluation, concerning supplies rating and other financial aspects, is done by heads of relevant divisions and the supplies officer. The adjudication of tenders or quotations should take into consideration available professional, and other, information about the tenderer.
- o Successful bidders are expected to enter into contract with KNH.

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Although the above tender procedure seems capable of ensuring an efficient and fair procurement system there are weaknesses which need to be rectified to make the system more efficient. The following findings are based on the Team's interviews with suppliers, supplies department personnel and review of KNH records. Interviews with suppliers focused on what they supply, their experience as suppliers to KNH and other hospitals and obstacles encountered by them.

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It takes too long to award tenders. It took an average of five to eight months to award tenders in FY87. Several problems stem from the long delays to award tenders. Prices quoted in the tender documents are, in many cases, no longer realistic at the time tenders are awarded. This arises from exchange rate fluctuations and normal price increases. Also, items which were in stock at the time of tendering may no longer be available as the tenderers, not knowing the outcome of the tenders, sell to other customers.

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In addition, KNH often does not contest the price increases since the tender advertisements specify to the tender prices quoted are only valid for 90 days. This makes it difficult to determine those suppliers who are genuinely unable to supply the items at the tendered prices from those who use it as an excuse to force the Hospital to pay higher prices after winning the tender. Award of tenders within two months would strengthen the Hospital's legal claims against tenderers and enable tenderers to meet the tender conditions as well.

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Finally, the long delays make it difficult for the suppliers to plan importation of supplies or production. Suppliers may also incur higher costs to communicate with overseas suppliers.

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The Hospital could benefit from announcing prices offered by those who have won tenders. Public announcement of prices after tenders have been awarded could induce tenderers to lower prices in the following year to compete with previous winners. The Hospital would benefit from lower prices.

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Some suppliers complained that KNH tenders are vague because of lack of proper specifications of items and accompanying parts or services. For example, tenders for major equipment do not specify whether the tenderer is expected to install them and whether he is also responsible for supplying associated parts or consumables.

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Suppliers complained further that KNH seems to give a lot of weight to small price variations between tenderers, and failed to give sufficient attention to the reliability, character, experience and ability of the tenderers. This leads to situations where supporters of dubious capacity will tender but soon fail to deliver the goods.

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The KNH ordering system for items from the firms which have won tenders is a contributing factor to some of the problems the Hospital encounters. Orders are made in small quantities, relative to the quantities awarded in the tender. This raises the cost of supplying the items. It has sometimes made tenderers inflate their prices to cover that possibility. In some cases, firms which have won tenders do not receive purchase orders at all, or end up

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supplying a small proportion of what was awarded in the tender. The hospital sometimes sends purchasing orders at short notice even for items which require importation of raw materials. When the supplier is unable to supply at such short notice the hospital reverts to purchasing through more expensive quotations. Money could be saved by a well-planned ordering system, minimising the use of unplanned quotations.

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A number of weaknesses of purchasing through quotation were identified. Sometimes major suppliers are not informed about intended quotations. This gives advantage to a few firms and the appearance of favouritism. There were complaints that quotation information was not handled with sufficient confidentiality. There are also fraud cases where some people used other companies' official stamps to quote for items without the knowledge of those companies.

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The Hospital's payment for goods delivered also requires improvement. Invoices may take long periods before they are paid, making suppliers waste a lot of their time following their claims. One of the reasons given to explain delays in payment for goods supplied is that the LPO did not go through the correct procedures. Suppliers feel that this shows lack of coordination between the supplier and accounts department at the Hospital

Recommended Options

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In order to eliminate the above problems which hamper the operation of an efficient procurement system at KNH, the Team recommends that the tendering and purchasing procedures be streamlined.

III.A.4.3 Standardisation of Equipment Purchases

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Almost one-third of the equipment at KNH is not functioning. All efforts to keep equipment in working condition have been confounded by lack of spares, changes in technology, and inadequate updating of maintenance skills. One hypothesis investigated by the Team was whether procurement procedures lead to an equipment mix that the Hospital's maintenance crew is unprepared to handle.

Evidence and Findings

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To find out why maintenance efforts at KNH seemed to be constantly frustrated, the Team assessed department equipment, and conducted interviews with departments heads, other hospitals, and a sample of suppliers to KNH.

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Review of equipment procurement procedures showed that most of the general KNH equipment was acquired through the tender system by the central medical stores of KNH.

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The departmental heads and hospital maintenance units are not involved in actual inspection of equipment before acquisition. The Tender Committee is charged with that responsibility but may lack the technical skills necessary to fully assess the equipment's functional capacity.

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Other equipment, especially that of higher technology, is acquired through donor agencies. There is no policy on specifications for equipment obtained through donors.

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The data on equipment repair needs in KNH departments showed that 42 percent of the time, the repair is impossible because of lack of spares. Many spares are not available after a few years. Guarantees of availability are not asked from suppliers.

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Because of the varied types of equipment, the Maintenance Department require a variety of tools for service. Currently they estimate that they lack 28 percent for optimal work performance. Because of constant changes in equipment, maintenance crews need frequent updates to their skills.

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Interviews and record reviews conducted at four other hospitals in Nairobi and among suppliers found that most equipment used in the hospitals (including KNH) are supplied locally.

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Recommended Options

The KNH Maintenance Department cannot function optimally, primarily because of procurement procedures which do not consider maintenance requirements of equipment and availability of spares. In order to improve this situation, the Team recommends choice between some combination of the following options:

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1. Standardise equipment purchases with other hospitals.
2. Remain an independent purchaser of equipment, but attempt to improve purchases by assessing spares availability, training of in-house maintenance crew, and ability of local servicers before purchasing equipment.
3. Involve user units in technical evaluation of tenders for equipment.
4. Ask tenderers to guarantee spares availability for the expected lifetime of the equipment.
5. Ask tenderers to supply training for Hospital maintenance staff as part of tenders.

III.A.4.4 Preventive Maintenance

Among the identified problems affecting maintenance of equipment in KNH was the lack of preventive maintenance. This involves planning appropriately regular servicing and checks of equipment before breakdowns occur. Departments use equipment without servicing until it breaks down. Then calls are made to the maintenance department. To deliver quality health care efficiently, KNH must have well functioning equipment. Therefore, a programme of preventive maintenance is essential. In the past, KNH kept servicing

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schedules for its equipment. Although initially expenditure on preventive maintenance could be high, the long-term savings could be enormous. To gather data on this question the Team reviewed departmental equipment and maintenance records of KNH.

Evidence and Findings

Through a departmental and physical inventory, the Team discovered that 28 percent of the equipment needs repair or replacement. Through questionnaires it was found that 80 percent of the staff were aware that maintenance is a problem. The same proportion said that equipment maintenance problems lowered their output. Further investigation into the problem revealed that in 42 percent of the cases the problem is delays in carrying out the repairs. In 42 percent of the cases there were no spares to carry out repairs. Only 5 percent of the time is the problem attributed to lack of skills of the maintenance crew. However, 28 percent of the maintenance crew need further training. According to departmental questionnaires and inspection, it was found that the problem of maintenance affects both general and high technology items in the following proportions:

III-153

<u>Type of Item</u>	<u>Percent of Departments Reporting Problem</u>
General items	16%
High technology	14%
Both high and general	62%
Others	7%

The team investigated the response times by the maintenance department to carry out repairs for general or high technology items. This investigation revealed the following:

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- o General items: 51 percent of the time repairs are done within the first two weeks. 49 percent of the time repairs take up to one year never at all. These are generally for minor repairs where spares, tools and technical skills are available. The remainder of the repairs (49 percent) could take up to one year or as of our review date had been completed. These delays were caused by a number of issues that include:
 - o Procurement process for spares that took a long time
 - o Inadequate training of staff
 - o Inadequate foreign exchange policy for imported spares
 - o Lack of proper tools
 - o Inappropriate policies for disposing of equipment that was non-repairable.

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- o High technology items: 22 percent of the time repairs are within the first week of request, 53.7 percent of the time they are done within or up to 1 year (cumulative percentage), and 46.3 percent of the time repairs are done after 1 year or never at all.

Coordination of repairs and scheduling is lacking. In addition, departments' requests for repairs are made verbally, which makes it difficult for the Maintenance Department to track their workload and pending orders.

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A review of all departments revealed that no schedules exist for preventive maintenance. Furthermore, the maintenance departments does not have equipment-specific instruction manuals showing service schemes for the equipment.

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The Team finds that preventive maintenance is not routine at KNH. This increases the burden of repairs since breakdowns are not avoided and departments are not prepared when breakdowns occur. Repairs take longer and are not certain to be carried out since there is no forward planning for repairs and service maintenance. Obviously, in this case, as in most cases, prevention is better than cure.

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Recommended Options

In order to improve the quality of services and lower long-term maintenance costs through a preventive maintenance programme, the Team recommends choice between the following options:

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1. Develop a programme of preventive maintenance or
2. Complete all the pending maintenance repair work first before, or concurrently to, embarking on a preventive maintenance programme.

III.A.5 Management of Environmental Factors

The purpose of this study is to provide practical and implementable recommendations to improve the effectiveness and efficiency of delivered services to better achieve the Hospital's mission and role in the health delivery network. KNH's efficiency and effectiveness is influenced by both internal and external factors and conditions. This section describes the evidence and findings assembled by the Team in assessing the effects of external (environmental) problems and presents recommended options for their solution. This section is organised into the following three subsections:

III-159

- o Mission Clarity
- o Referral Protocols and Procedures
- o Internal and External Communication.

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III.A.5.1 Mission Clarity

The Legal Notice of the Presidential Order making Kenyatta National Hospital (KNH) a State Corporation broadly specified the mission of the Hospital. The functions of KNH under this new parastatal status are to: III-160

- o Receive patients on referral from other hospitals or institutions within or outside of Kenya for specialised health care.
- o Provide facilities for medical education for the University of Nairobi and for research either directly or through other cooperating institutions.
- o Provide facilities for education and training in nursing and other health and allied professions.
- o Participate as a national referral hospital in national health planning.

The Legal Notice reaffirmed the original functions envisioned for KNH when the Hospital was rebuilt in 1981. However, both interpretation by internal managers and external constituents, and environmental factors and conditions directly affect the implementation of any organisation's mission. This section describes KNH by comparing the Hospital's existing activities to its mission as stated in the Legal Notice, identifies environmental factors that contribute to its current role, and presents our recommendation on the need for mission clarity. Further implications of clarifying the mission on management efficiency and organisational effectiveness at KNH are explained. III-161

Study Questions

As we assessed the organisation, management and efficiency of KNH it became clear that a factor that contributes to the problems identified, is a lack of clear understanding of the Hospital's mission. In an attempt to resolve this issue the following questions were addressed in this study: III-162

- o How does the care and medical training provided at KNH compare with the mission as specified in the Legal Notice?
- o What environmental factors affect KNH's role?
- o How does the KNH Board of Directors interpret the Legal Notice?

The answers to these questions are presented in our findings and conclusions and form the basis of our recommendations in this area. III-163

Evidence and Findings

To obtain an accurate picture of KNH--as measured by the care the Hospital delivers and the services it provides--we collected quantitative and III-164

qualitative information from hospital records and interviews with those in and outside of KNH. Our initial area of investigation focused on the extent to which KNH provides specialised referral health care. A key to this assessment was the working definition applied to the operative terms, specialised and referral.

The term specialised care connotes a distinction in degree or level. A set of terms frequently employed to describe levels of care is: primary, secondary and tertiary. The distinction between each level is determined by the severity of the patient's illness, and the corresponding specialty training required by personnel (i.e., doctors and nurses) and/or the sophistication of the equipment or drugs necessary to diagnose and treat the condition. Most clinical specialties and subspecialties (e.g., nephrology, ophthalmology, urology, etc.) deliver a range of care at each level. However some, such as general clinic practice, exclusively provide primary care. For purposes of our analysis specialised care refers to a subset of secondary and all tertiary care. III-165

Referral care is that which is transferred from one provider (i.e., doctor, clinic, or hospital) to another for consultation or to make available clinical or technical expertise not found at the point of origin. This practice is most often used for unusual cases and conditions infrequently, if ever, seen by the referring entity, but treated often by a few select providers. Once the referred patient has been treated he/she is returned to the referring source for follow-up and ongoing care. III-166

Specialised referral care is therefore defined as select secondary and all tertiary level services transferred by external providers, who have exhausted all available resources (i.e., specialised personnel, equipment and drugs), to consultants at KNH for treatment. Referrals to KNH can occur through the following four avenues: III-167

- o Casualty
- o KNH Filter Clinics
- o Specialty Clinics
- o Provincial, District, Nairobi City or private facilities.

To determine the percentage of total admissions originating from each source, a sample of patient records for admissions occurring in October, November and December of 1987 were examined. Our analysis revealed that approximately 18 percent of all patients admitted during this period came with referrals from specialty clinics or provincial/district hospitals. Another 59 percent of patients were admitted through Casualty, and the remaining 23 percent came through the Filter Clinics. III-168

While each avenue of access to KNH can and is supposed to result in a referral for inpatient hospitalisation, two of these sources--Casualty and the Filter Clinics--may be inappropriate points of entry given our definition of specialised referral care. Patients coming from both the Casualty and Filter Clinics are currently entering KNH without having been seen/referred by any III-169

other provider in the system. This creates a situation where KNH is delivering services which could be provided by less-specialised resources elsewhere in the system. While some of the patients gaining access to KNH through Casualty or the Filter Clinics may eventually be referred to the Hospital for care, the implication is that a minimum of 23 percent should be treated in other facilities/settings.

To determine the degree to which inappropriate care is provided at KNH the 20 most frequently treated diagnoses at KNH were analysed. The proportion of specialised care was assessed by reviewing the range of illnesses/conditions within each diagnosis and the average length of stay, and then discussing the level of care provided with the doctors on the Team.

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The analysis suggested that 68 percent of the most frequently treated diagnoses and 24 percent of all diagnoses in 1986 contained a moderate number of cases that could be treated in environments less specialized than KNH. This finding is supported by the results of an in-depth assessment of selected diagnoses. For example, a review of pneumonia cases revealed an average length of stay of 5.2 days. This low length of stay and the distribution of medications prescribed, suggests that the acuity of a portion of the patients treated corresponds with primary and secondary levels of care. These data, and findings from interviews, indicate that the composition of care provided by KNH is influenced by the following:

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- o Relatively unconstrained access to hospitalisation through Casualty and the Filter Clinics
- o Referrals of cases from Provincial, District, and Nairobi City Council facilities that could be managed locally.

It appears that KNH does provide specialised referral care, but not exclusively. While our analysis indicates that a moderate proportion of KNH's historical workload could be classified as primary and secondary care, we were not able to calculate the exact percentage or its implications for utilisation or resource consumption.

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The care KNH currently provides and its role in the health delivery system--and more specifically its role in the city of Nairobi--has been influenced by the following environmental factors:

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- o Lack of sufficient physical facilities, personnel, and supplies to meet the demand for primary and secondary care, particularly in the City of Nairobi and, to a lesser extent, in the surrounding provinces and districts.
- o Absence of an enforced referral policy at KNH and an established infrastructure for referrals among doctors throughout the country.
- o The perception among many Kenyans--especially those who self-refer--is that the best doctors and capabilities are available at KNH, which is the inpatient facility of last resort.

These factors place KNH in an intractable position, for if the Hospital does not provide the requested care, no services will be provided. Until these environmental factors are addressed it will be difficult for KNH to provide exclusively specialised referral care.

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A second area of investigation is the effect that KNH's educational role has on the provision of specialised referral care. The basis of this assessment was a series of interviews conducted with representatives of KNH, the College of Health Sciences (CHS), the College of Health Professions (CHP), the Kenya Medical Research Institute (KEMRI), MOH, the Commission for Higher Education, the University of Nairobi, and the Kenya Medical Association. The qualitative information we gathered from these interviews is reflected in the discussion that follows.

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While CHS and CHP utilise other health care facilities for the education and training of medical and health professionals, KNH is a primary site. The incentives of teaching organisations and students conflict with the roles of specialised referral hospitals over the following points:

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- o It is easier and more cost effective to educate and train professionals in a centralised location.
- o Faculty and students tend to constantly seek expansions of the breadth and scope of patients cared for and services offered to increase the base of training material and experience.
- o Evaluating the accuracy of diagnostic and treatment regimens requires follow-up and, in many instances, longitudinal interaction with patients.

The findings from our interviews suggest that each of the preceding tendencies is currently expressed in some form at KNH. The negative effect on the exclusive provisions of specialised care on referral are: the promulgation of inappropriate referral practices, increases in average lengths of stay, and inefficiency associated with an attempt to offer a broad base of training on a specialised category/level of patients. The implication is that while education and training is part of KNH's role, it also is an environmental factor contributing to the inefficiency and ineffectiveness and the inability to deliver exclusively specialised referral care.

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Recommended Options

There are a number of environmental factors affecting KNH's health delivery role. A comparison of the care the Hospital currently delivers with the mission specified in the Legal Notice suggests a number of differences. These differences, however, are unimportant in the absence of the KNH Board of Directors' interpretation of the Legal Notice.

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Therefore, the Team recommends that the KNH Board of Directors choose among the range of possible interpretations of the Legal Notice thereby clarifying the mission of the Hospital within the Kenya national health delivery system. The options open to the Board range from a strict to a less-

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strict interpretation of the Legal Notice.

A strict interpretation of the purpose to be a referral facility for specialised care would mean that KNH should not admit any primary or secondary patients or treat non-referred outpatients. The patient load of the Hospital would be greatly reduced using this interpretation. There would also be implications for staffing norms, overall cost of operations, cost per patient, and potential revenue from cost sharing. Further, the medical, nursing, and other health training at KNH would require modification as a result of the absence of non-specialised patients. III-180

A less-strict interpretation would allow some amount of primary and secondary inpatient and non-referred outpatient care to be provided at KNH. This would make the management of the Hospital more complicated, increase the demand for limited space, cloud the purpose of the Hospital, provide a better mix of patients for medical education, and perhaps, improve the prospects for raising revenue through cost sharing. In addition, this interpretation would reduce the burden on alternative facilities in Nairobi and elsewhere. III-190

III.A.5.2 Referral Protocols and Procedures

The Legal Notice which constituted KNH as a State Corporation states that the purpose of KNH is "to receive patients on referral from other hospitals or institutions within or outside Kenya for specialised care." A strict interpretation of this purpose would mean that KNH should not admit any primary or secondary patients. At present however, at least 20 percent of the patients presenting at KNH are non-specialised. Nairobi City Commission health facilities and the facilities under the P.M.O. Nairobi area are inadequate to deal with the volume of primary and secondary patients. III-191

Evidence and Findings

The Team reviewed approximately five hundred inpatient files to determine how patients had gained access to the Hospital. Out of these five hundred files, it was determined that 422 patients (eighty-three percent) entered the Hospital through either the Casualty or Filter Clinics. (Fifty-five percent came through casualty, and twenty-eight percent came through the Filter Clinics.) Since a referral letter is not required for a patient to come through these areas, it was assumed that many of these patients (at least half) were unreferred. Unreferred patients result in longer queues, more congestion, higher costs, greater demands on limited resources, and compromises the mission of KNH. III-192

The record review was supported in interactive interviews with top clinicians at KNH. They indicated that KNH receives many referrals that could be managed at the provincial or district hospitals. A majority of these referrals lack adequate medical notes, thus requiring physicians at KNH to order basic diagnostic investigative tests to be carried out in KNH. This contributes to inappropriate use of KNH facilities and higher costs. III-193

Even the seemingly inadequate referral procedures are not strictly enforced. Some of those interviewed said that patients often come to the hospital of their own accord because they think they will get the best care at KNH. These patients are often not turned away because it is "psychologically III-194

not good to send them back".

Whether KNH wishes to be strictly a tertiary referral hospital or provide some primary and secondary care as well, it needs to control admissions and monitor patient origin. This can be achieved through development and communication to all those concerned of clear and firm criteria for referral between KNH and other institutions. The development of the protocols and procedures should be done in the short term while the reinforcement should take place in the medium or long term. III-195

In the light of the foregoing the Study Team recommends a choice between the following options: III-196

1. Develop, communicate, and enforce referral protocols between KNH and provincial, and district, private, church and Nairobi City Commission facilities. Set up a system for monitoring and evaluating referral patterns at KNH.
2. (Status quo) Continue the practice of weak referral protocols that allow primary care cases to enter the hospital.

III.A.5.3 Internal and External Communication

KNH is plagued by a poor public image. News of inadequate supplies and unenthusiastic staff often makes the press. Stories circulate through the general public about patients being ignored and having to wait in long queues and dissatisfied doctors and nurses. It is difficult to rectify a poor public image but it is not too late for KNH; many people still think that it offers the best possible care. The overall image of the Hospital can be boosted significantly if deliberate and concerted image promoting efforts are made by management. III-197

The Team hypothesised that inadequate internal and external communications contribute to KNH's image problem and investigated the following: III-198

- o Inadequate communication with patients and the general public.
- o Inadequate communication of senior management with middle management and staff.
- o Ineffective patient education coupled with lack of appropriate understanding of the medical system.
- o Ineffective internal and external communication systems.

Evidence and Findings

Although historically KNH has appeared positively in the news when important milestones are marked in the history of the country, negative press coverage is the norm. KNH often appears in the news when there is something adverse to report or when there is a crisis facing the hospital. III-199

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The image KNH conveys internally is not an improvement. Persistent shortages of supplies and inadequate attention to the staff by superiors and the Personnel Department have contributed to low staff morale. Interactive interviews revealed that many managers were discouraged because they had stayed in one job group for a long time without a promotion. Several said that they would like communications from senior management on changes and events in the hospital. Supplies shortages and broken down equipment lead to despondency of the professional staff: doctors, nurses, and technicians are dissatisfied because they do not have what they need to perform their duties.

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Low staff morale or lack of commitment on the part of the staff is, unfortunately, immediately conveyed to the patients. Through interviews and observations, the Team studied staff-patient relations at the Hospital. After being seen by doctors 93 percent of the patients interviewed stated that it was not explained to them where to go next.

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Through observations, the Team also found that a large fraction of nurses and other staff working in the inpatient units are discourteous and unethical in dealing with inpatients. Incidents of lack of courtesy ranged from shouting at patients, being rude to patients, ignoring patients' relatives and asking patients to assist with some of the tasks which should rightly be undertaken by hospital staff.

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Cases of discourteous behaviour ranged from ignoring patients' requests for assistance and using unsterilised thermometers, to giving instructions contrary to doctors orders.

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Communication between wards and service areas is weak. When transfers of patients are made from one department to another or from the delivery ward to maternity, they often wait for many hours. Outpatient waiting times are also long and the reasons given for waiting included "no doctor", "files lost", "no appointment", "wrong clinic", and "delays in getting clinical results".

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Despite long waiting times, patients interviewed have a high opinion of KNH. They state that "KNH is the only hospital where one is told what is wrong with him and is treated properly". Patients are therefore prepared to wait for as long as it takes to see a doctor at KNH. This latter response from patients interviewed supports the Team's premise that despite shortcomings that have characterised its operations and management in the past, many patients are still faithful to KNH. Concerted efforts to improve internal and external communications could boost the image of the Hospital and could certainly make it the "centre of excellence" it strives to be.

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Recommended Options

In light of the above evidence and findings the Team recommends that KNH improve its lines of communications with internal and external constituents. Vehicles of communication might include:

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- o Inpatient and outpatient information bulletins
- o Patient satisfaction surveys
- o Creation of a complaints/suggestions department

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- o Ombudsman to solve patient problems
- o Monthly or twice-monthly staff newsletters
- o Newsletters to staff and middle management from the Director or senior management
- o Improved relations with the external media.

To improve communications through the above and other means, the Team III-20 recommends choice between the following options:

1. Create a Public Relations Office to establish regular and consistent lines of communication.
2. Assign an Associate Hospital Director the responsibilities of public relations.

III.B. Efficiency

To provide the best possible health services, KNH must get the most out of the limited resources available to it. Many of the recommended options for action that are discussed under management and cost sharing will improve efficiency. In this section specific recommendations are made on options for improving clinical and administrative efficiency. Clinical efficiency recommendations are made to help KNH to be able to improve the quality of services provided and reduce unnecessary consumption of resources, as well. Two concrete examples are provided for the improvement of administrative efficiency. The recommended principles to be used in deploying and scheduling personnel are illustrated in the options for nursing staff. Improved efficiency in allocating scarce physical assets is illustrated by the case of operating theatres.

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III.B.1 Clinical Efficiency

Clinical efficiency measures the quality and quantity of clinical services produced against the resources consumed by them. The more quickly inpatients and outpatients can be moved through a hospital, while maintaining quality standards, the fewer resources are consumed and the more patients the Hospital may serve. Efficiency in terms of quality is produced when patients consistently receive treatment that meets medical standards. Quality control may produce resource savings, as well. Higher-quality care uses more effective medicines and procedures that shorten steps.

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This section addresses treatment protocols and the admissions function, two clinical areas in which KNH is inefficient.

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III.B.1.1 Admissions Department

Key indicators of clinical efficiency in resource consumption are average length of stay (ALOS) and bed-turnover rates. KNH was reported to have over-long ALOS and long inpatient waiting lists for elective procedures. At KNH there is no centralised admissions function to coordinate bed availability and monitor ALOS. These items were investigated by the Team to find ways to improve clinical efficiency.

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Evidence and Findings

Evidence from interactive interviews and record reviews support the hypothesis that the ALOS at KNH is overly long. A review of the Monthly/Yearly Inpatient Statistical Returns shows that the ALOS is long (24 days for 1987) and the bed-turnover rate is low. Interactive interviews with senior physicians indicate that internal communication coordination, cooperation and collaboration between clinical departments and between clinical and support departments is ineffective. Physicians have also expressed a need to have a centre to coordinate admissions.

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At present, admissions are done either through Casualty or through the clinics. Emergencies are admitted through Casualty straight to the wards. Elective cases are usually admitted through the specialty clinics, although

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patients are sometimes told to go to a ward to check for free beds. Private doctors also admit patients through the specialty clinics.

Because individual specialty clinics are only open certain days of the week, admissions into the certain wards are done only on the days that their clinics are open. These procedures vary from ward to ward and are not clear-cut. III-21'

The discharge procedure faces similar bottlenecks. Consultants discharge patients during ward rounds. For some clinical divisions these rounds are infrequent (sometimes once every two weeks). The absence of daily admissions and discharges in each ward slows down the flow of inpatients, resulting in long ALOS and long wait lists for admission. III-21-

Although some clinicians interviewed state that patients are scheduled for surgery at the time of admission, others said that patients are scheduled after ward rounds (i.e., after the patient has been admitted). A record review gave further indication that admissions are not coordinated with surgery schedules. Files for 112 surgical inpatients who underwent surgery in 1986 and 118 similar files for 1987 were examined. The date of admission and date of operation were noted. Out of the 112 files for 1986, thirty-eight percent of the patients were in the hospital over two weeks before being wheeled to the operating theatre. For fifty-seven percent of these patients, this time lapse was over three days. The percentages are similar for 1987. III-21

Discharges are also sometimes not controlled. There is a problem of discharged patients remaining in the wards after being discharged. In a one-day survey, 3.3 percent of all inpatients in KNH had been previously discharged. They had remained in the Hospital an average of three days since discharge. Of them, 54 percent were waiting for transport. Many of the wards did not have this problem on the particular day of the survey, but mentioned that they often did have the problem. III-21/

Origin of referral is not adequately documented by the Medical Records Department or in the registers maintained in Casualty. Only some of the out-patient clinics collect information on admissions. Information on admissions by diagnosis and patient origin is difficult to compile. Furthermore, information as to where a patient is within KNH is not readily available. III-218

Recommended Options

To strengthen the admissions function and decrease per patient resource consumption at KNH, the Team recommends choosing between the following options: III-2 9

1. Create an Admissions Department.
2. Leave admissions decentralised, but strengthen the tracking system and screening procedures in each of the wards and clinics. Make the systems and procedures uniform.

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Whichever option is chosen, the following improvements should be made:

III-220

- o Central monitoring and control of admissions, discharges, and available beds
- o Patient-location and referral-origin information
- o Use of an admissions screening process to enforce agreed upon admission criteria (e.g., no admission of surgical patients unless theatre time is scheduled).

III.B.1.2 Protocols for Quality Control

KNH is the largest and most advanced health care institution in the country, and is expected to be a centre of excellence, especially with respect to the quality of health care. The Team addressed the issue of treatment and diagnostic protocols to determine whether procedures are in place to assure that care is being provided effectively and efficiently. Questions that surrounded this topic were related to the unplanned and increasing costs of health care services, high average length of stay, inappropriate patient turnover, absence of appropriate systems and insufficient in-service training for consultants.

III-221

Evidence and Findings

To assess the quality control of service provided at KNH, the Team examined four common diagnoses (malaria, abdominal surgery, normal delivery and pneumonia) which represented about 16 percent of total discharges at KNH in 1986. Similar records were examined at Aga Khan Hospital for comparison purposes. Indicators of clinical efficiency resulting from this examination are shown in Exhibits III.B.1.1-1 to 4.

III-222

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Exhibit III.B.1.1-1

CLINICAL EFFICIENCY INDICATORS - ABDOMINAL SURGERY DISCHARGES 1986

	<u>*KNH¹</u>	<u>**AKH²</u>
ALOS	8.7	7.0
Range of stay (days)	1-47	1-47
Lab request (per patient)	1.8	5.0
Lab completed (percent)	---	---
Radiology requests (per patient)	0.4	0.6
Radiology completed (percent)	85	94
Other procedures ³ requested (per patient)	2.2	2.5
Other procedures completed (percent)	98	100
Medications prescribed ⁴ (total)	31	69
Medications (per patient)	4.9	10.3

* Kenyatta National Hospital

** Aga Khan Hospital

- 1 The 65 of 70 medical records selected at random showing a unique diagnosis of abdominal surgery.
- 2 The 49 of 50 medical records selected at random showing a unique diagnosis of abdominal surgery.
- 3 Blood transfusions, parasite cultures, etc.
- 4 Number of different medications prescribed.

Exhibit III.B.1.1-2

CLINICAL EFFICIENCY INDICATORS: MALARIA DISCHARGES 1986

	<u>*KNH¹</u>	<u>**AKH²</u>
ALOS	3.9	3.4
Range of stay(days)	1-15	1-8
Lab request (per patient)	2.9	6.5
Lab completed (percent)	68	100
Radiology requests (per patient)	0.04	---
Radiology completed (percent)	0	---
Other procedures ³ requested (per patient)	0.7	---
Other procedures completed (percent)	86	---
Medications prescribed ⁴ (total)	39	32
Medications (per patient)	3.4	4.8

* Kenyatta National Hospital

** Aga Khan Hospital

1 The 55 of 70 medical records selected at random showing a unique diagnosis of malaria.

2 The 28 of 50 medical records selected at random showing a unique diagnosis of malaria.

3 Blood transfusions, parasite cultures, etc.

4 Number of different medications prescribed.

Exhibit III.B.1.1-3

CLINICAL EFFICIENCY INDICATORS: PNEUMONIA DISCHARGES 1986

	<u>*KNH¹</u>	<u>**AKH²</u>
ALOS	5.2	4.6
Range of stay(days)	1-41	2-12
Lab request (per patient)	1.2	3.2
Lab completed (percent)	67	100+
Radiology requests (per patient)	0.3	1.0
Radiology completed (percent)	100	93
Other procedures ³ requested (per patient)	0.3	---
Other procedures completed (percent)	67	100
Medications prescribed ⁴ (total)	27	20
Medications (per patient)	3.0	4.0

* Kenyatta National Hospital

** Aga Khan Hospital

1 The 51 of 70 medical records selected at random showing a unique diagnosis of malaria.

2 The 27 of 45 medical records selected at random showing a unique diagnosis of malaria.

3 Blood transfusions, parasite cultures, etc.

4 Number of different medications prescribed.

Exhibit III.B.1.1-4

CLINICAL EFFICIENCY INDICATORS: NORMAL DELIVERIES 1986

	<u>*KNH¹</u>	<u>**AKH²</u>
ALOS	2.4	2.9
Range of stay(days)	1-26	1-5
Lab request (per patient)	0.3	1.9
Lab completed (percent)	19	98
Radiology requests (per patient)	0.3	2.1
Radiology completed (percent)	---	---
Other procedures ³ requested (per patient)	0.6	0.9
Other procedures completed (percent)	71	82
Medications prescribed ⁴ (total)	13	31
Medications (per patient)	1.4	4.0

* Kenyatta National Hospital

** Aga Khan Hospital

1 The 51 of 70 medical records selected at random showing a unique diagnosis of malaria.

2 The 27 of 45 medical records selected at random showing a unique diagnosis of malaria.

3 Blood transfusions, parasite cultures, etc.

4 Number of different medications prescribed.

It appears from these reviews that, in general, the Aga Khan Hospital is more efficient than KNH in its use of diagnostics and therapeutics. Across all four diagnostic categories, fewer diagnostic tests were ordered per diagnosis. Furthermore, the completion rate of the tests was 100 percent at AKH, as compared to just over 50 percent at KNH. Doctors at KNH also wrote fewer prescriptions per diagnosis than those at KNH.

III-2

Recommended Options

To ensure that the highest quality of care is provided at KNH, the Team recommends choice between the following:

III-2

1. Form clinical quality control committees to establish standard treatment protocols and to carry out medical audits of therapy, diagnostics, and medications for the most common diagnoses.
2. Establish a clinical quality-control committee that retroactively reviews average length of stay/diagnostics/treatment for most frequent admissions by department.

III.B.2 Administrative Efficiency

Efficiency may be improved administratively by making better use of personnel and physical resources. In both cases the demand for services should guide allocations. Once overall allocations are made, the scheduling of staff, facilities, and equipment should again follow demand to assure efficiency. Applications of this principle to nursing staff and operating theatre time follow.

III-

III.B.2.1 Staffing Norms

The level of staffing in a hospital is a crucial factor in the efficiency of its operations. Since personnel is a hospital's most single costly resource (in 1987, personnel and related expenses made up 58 percent of KNH's total expenditures), personnel should be used as efficiently as possible. This involves striking a balance between overstaffing, (not utilising personnel to maximum capacity) and understaffing (which would decrease quality of care).

III-

Evidence and Findings

Through interactive interviews, the Team discovered that KNH has not developed its own staffing norms for nurses and other cadres. So far it has been guided roughly by the general norms developed by the MOH. It is claimed, however, that the shortages of certain skilled cadres, such as doctors and nurses, that attempts to follow norms have been hindered.

III-

Although sufficient evidence was not gathered to test this claim for doctors, it appears to be true for nurses. The current norms are stated in numbers of nurses per hospital bed. Using this ratio, KNH is understaffed compared to AKH and Nairobi Hospital, as is shown in Exhibit III.B.?-1.

III-

Exhibit III.B.2-1

1987 NURSE STAFF COMPARISONS

	<u>KNH</u>	<u>AKH</u>	<u>Nairobi</u>
Number of nurses	870	400	150
Number of beds	1,478	198	194
Number of patients days	548,870	54,282	60,691
<hr/>			
Nurses/bed	0.6	2.0	0.8
Nurses/pt. day	.002	.007	.003

Since staffing should increase or decrease depending on workload, it is more valid to use a workload number as a denominator. In the case of the wards, this workload number is patient days. Exhibit III.B.2-1 are comparisons using the ratio of nurses per patient day. Using this measure, KNH is even more understaffed compared to the two private hospitals.

III-229

The same holds true for overall hospital staff (excluding doctors) as is shown in Exhibit III.B.2-2.

III-230

Exhibit III.B.2-2

1987 OVERALL HOSPITAL STAFFING COMPARISONS

	<u>KNH</u>	<u>AKH</u>	<u>Nairobi</u>
Number of employees*	3,353	664	700**
Number of pt. days	548,870	54,282	60,691
Employees/pt. day	.006	.012	.012

*excludes doctors

**approximate

The Team was not able to gather staffing information for individual cadres of employees. However, it should be kept in mind that although KNH appears to be understaffed overall and for nurses, it could be overstaffed for other categories of employees.

III-231

If KNH implements certain recommendations given in this report, average length of stay will decrease and inappropriate demand will be diverted. Patient days would decrease significantly. If KNH cut its current ALOS in

III-232

730

half (to twelve days), its staffing ration would be comparable to Aga Khan and Nairobi Hospitals. If the Hospital moved further towards achieving its mission and diverted some inappropriate demand, it would decrease further the number of patient days. Following such changes the Hospital might be over-staffed.

Given that KNH is currently understaffed overall and there is little information on staffing for individual categories of employees, it needs to undertake a major review of staffing needs. Subsequently, norms for all departments and wards should be established. III-2

The situation is even more urgent if KNH decreases its length of stay and/or diverts some inappropriate demand. In this case workload will change drastically, and KNH will need to carefully monitor staffing levels to adapt to the changes. III-2

Recommended Option

To make more efficient use of personnel the Team recommends that a choice be made between: III-2

1. Undertake a review of staffing needs and subsequently establish staffing norms for all departments and wards, for all cadres.
2. Apply the staffing norms used by the private hospitals in Nairobi as an interim step, then adjust those norms to fit KNH's situation.

To complement more efficient staffing of units, by linking personnel allocations to demand, KNH likewise should link deployment of personnel within units to demand. Within units the Team recommends that a performance evaluation criterion should be deployment of personnel according to demand for services. For example, if nighttime patient demands for services in a given ward were half of daytime demands, then the nurses assigned to that ward would be properly deployed if half as many (no more, no fewer) as the day duty nurses were assigned night duty. III-2

III.B.2.2 Theatre Capacity

There is currently excess demand for the surgical theatres at KNH. The waiting lists for surgeries, both within the hospital and without, are long. There is a need to increase capacity to accommodate the excess demand, either by adding theatres or by using the existing theatres more efficiently. III-2

Evidence and Findings

To address the problem of excess demand for theatres the Team conducted interactive interviews with physicians and nurses, and reviewed the theatre logs for a period of one week and surgical patients' files as well. III-

The information on patient wait lists for surgical wards is scattered and difficult to compile. Each ward books admissions in diaries kept on the ward. If a patient cannot be admitted on the particular day he was booked, he is re-booked for another day. Time did not permit the team to review III-

7/21

individual ward diaries and compile length of wait lists, but through interactive interviews we found that there are wait lists for most surgeries, the longest being the list for Paediatric Surgery, which extends until about 1990.

Not only are patients outside the hospital waiting to get into the surgical wards, but patients within the hospital are waiting to get into the theatres. The team reviewed over 100 files for both 1986 and 1987. In 1986, 48 percent of surgical patients waited over a week for their surgeries, 28 percent waited over 3 weeks. For 1987, the numbers are similar: 42 percent waited over a week, and 27 percent waited over 3 weeks. III-240

The problem is reflected in the surgical wards' average lengths of stay. Three surgical wards had average lengths of stay of over 30 days. It cannot be stated definitively, however, whether this was due to waits to get into the theatre, long post operative periods, inadequate patient turnover, or a combination of several factors. III-241

It appears that the theatres are not operating efficiently. The physicians and nurses interviewed said that the theatres did not operate at full capacity. The main reasons were lack of blood and lack of supplies. III-242

A record review supported these reports. The theatre log was reviewed for a period of several days for each theatre. On the days we reviewed, 147 surgeries were scheduled, and 31 percent were not done. The reasons given were: no blood (40 percent), no time (43 percent) and other reasons (which included doctor busy elsewhere, patient not properly prepared, etc.) (17 percent). III-243

Exhibit IV.B.2-1 compares actual hours of theatre time with total allocated operation hours for each theatre. III-244

Exhibit IV.B.2-1

THEATRE CAPACITY

Surgical specialty	Total days in sample	No. theatre hours *	Hours actual operation	Percent capacity
Ortho.	6	48	41.5	85
Neuro.	4	32	31	97
Ophth.	1	8	4	50
General	9.5	76	51	67
Gynae.	3	24	17	71

* No. of theatre hours available for days sampled
(No. of days in sample times 8 hours)

There was insufficient data available for the other surgical specialties. III-24f

The data suggests that the theatres could be accomodating many of the surgical patients waiting in the wards or the people on the wait lists, if they did not face problems like lack of blood, patients not prepared, surgeons being late, etc. III-24f

There are also equipment problems that constrain capacity in theatre, of 858 pieces of 31 different types of equipment reviewed in the main theatre, 44 percent were non-functioning. III-24f

Although time did not permit the Team to look at the appropriateness of theatre allocations, it was discovered that the clinical specialty with the longest waiting list, Paediatric Surgery, is only allocated 2 days of theatre time per week. The interviewee, however, mentioned that this was because there used to be only one Paediatric surgeon. That number is now four, so they have requested more theatre time. III-24f

Recommended Option

To improve efficiency in the use of operating theatres the Team recommends that the following steps be taken: III-25f

- o Give priority to supplies and blood needed for surgery, to reduce cancellations and postponements
- o Discipline surgeons who do not appear for scheduled operations and who do not have legitimate excuses

- o Repair the equipment in the theatres, giving priority to that needed to put them into service
- o Allocate theatre time among specialties according to demand
- o If all of the above steps have been taken and there is still excess demand, expand human and physical capacity.

III.C Cost Sharing

The following objectives guided the examination of cost sharing issues:

III-251

- o Identify and examine options for implementation of fees for selected services at KNH
- o Estimate the revenue which would be generated according to different options
- o Assess the burden to consumers and effects on utilisation of charging fees
- o Identify and assess possible efficiency improvements which could result from charging fees.

The Team collected and analysed data to address the following questions:

III-252

- o What is the experience of other hospital and health facilities with respect to charging fees?
- o Who are the clients of KNH and what utilisation responses might be expected from them when fees are implemented?
- o What are the costs associated with delivery of services at KNH and what are their implications for establishing fees?
- o What revenues could be generated under different fee alternatives?
- o What are the implications of charges in terms of burden on patients?

The evidence and findings connected with each these questions are discussed in the subsections below. We present the experience that private sector facilities have with charging fees for services and discuss the applicability to KNH of the practices of these facilities with regard to setting fee policy. We identify characteristics of clients of various facilities, including KNH, and the utilisation patterns of for-fee and no-fee services. Finally, we identify and examine the costs of selected services, the prices KNH might set in relation to these costs, and the burden that fees

III-253

might place on KNH's clients. All major Exhibits for this section are shown in Appendix E. In the final subsection we present the recommended options for action on implementation of cost sharing for selected services.

III.C.1 Fee Experience at Other Facilities

The Team conducted interviews with six private health institutions located in Nairobi to see how they operate financially. Four major private hospitals--The Aga Khan Hospital, Nairobi Hospital, M. P. Shah Hospital and Mater Misericordiae Hospital--offer a range of services comparable to KNH. Two clinics--Westlands Cottage and Crescent Medical Care--provide outpatient services. Westlands Cottage provides inpatient services which are different from those provided at the large institutions. A questionnaire which identified mechanisms of financing and financial operations was administered to chief executives or other officers suggested by them. The results obtained from analysis of the data are discussed below.

III-254

Evidence on Financial Operations of Facilities

This section presents the evidence gathered in the sampled private facilities with respect to their revenue objectives, pricing policies, payment exemptions, payment and collection procedures, and sources of revenue other than patient fees. Exhibit IIIC1 summarises the basis for decision making regarding revenues and prices. Exhibit IIIC2 compares charges for selected services.

III-255

Revenue Objectives

This section discusses what the private facilities set as their overall revenue goals, what factors are included in setting these goals, and how and when they review and revise their revenue targets.

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Overall Goal. The total income received from all areas of the hospital must be sufficient to operate the hospital, to carry out new developments, and to maintain and repair plant and equipment. Attention, therefore, is given to what each patient or patient day generates against the total cost of running the hospital.

III-257

Review and Revision of Revenue Goals. Each of the facilities reviews its revenue objectives if and when operations can't be financed without budget deficits. Patient charges are increased when the total cost (TC) minus subsidies is greater than revenue expected from patients. An illustrative formula is shown below:

III-258

$$TC-SUBSIDY = (REVENUE/PATIENT DAY) \times (EXPECTED TOTAL PATIENT DAYS)$$

Hospitals generally review revenue performance every one to two years.

Hospitals include the following when considering total cost:

III-259

- o Staff
- o Drugs
- o Diagnostics
- o Consumables
- o Administration and Overhead
- o Depreciation
- o Desires Surplus (profit or funding for improvement or expansion)

Pricing Policy

This section describes the methods used by the private facilities to set prices for radiology, pharmaceuticals, laboratory exams, and ward beds. Further, it discusses the reasons that private facilities change prices and the rationale for differential prices.

III-260

Radiology Prices. All hospitals depend on professional bodies to structure radiology fees. However, these fees only are used as guidelines. Actual prices are tailored to be within the capability and access of their clients. Fees for radiology examinations range from Ksh. 140 to 400 for commonly occurring events and Ksh. 400 to 4000 for special events.

III-261

Pharmaceuticals Prices. Most facilities charge an additional 15 to 30 percent above the wholesale price. This ensures an operational surplus.

III-262

Laboratory Prices. Charges are based on the cost of the test plus a 15 to 20 percent mark up. Only one hospital bases its charges on a combination of costs and fees determined by professional bodies.

III-263

Ward Bed Prices. In setting prices for ward-bed days, private hospitals consider the charges set by competitors. Most of the hospitals consider that they have a specific clientele to whom they cater, but clientele such as middle-income groups are shared. Thus, hospitals must compare their charges with one another. To attract clientele, a hospital would lower its charges or improve the service as perceived by the consumer. Therefore, the pricing of beds and other services may vary from cost.

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Price Changes. All hospitals review and change prices at a frequency of 1 to 2 years. Reasons given for the changes are as follows:

III-265

- o Increase in cost of inputs
- o Rise in staff wages
- o Increase in cost of drugs

- o Inflation
- o Bad debt
- o Anticipated new developments
- o Market competition.

Differential Pricing. The practice of charging different prices for Kenya and non-Kenya residents is used in one private hospital in Nairobi. KNH sets differential charges for non-Kenya residents. One private facility charges higher fees for a specific category of illness, venereal disease, because the group believes it is an illness contracted due to carelessness. Therefore, the individual is charged slightly higher fees to deter repeat attacks. III-266

Payment Exemptions

Some services are provided free of charge to all clients while specific groups of people are identified as requiring payment exemption for other services. Those services offered free of charge to all clients by the surveyed facilities include services subsidized by the GOK (e.g., immunisations and family planning). One hospital also includes ante-natal care in this category. The facilities identify those patients to be given exemptions from payment for other services by having them complete eligibility forms certified by authorities and/or elders. III-267

Payment and Collection Procedures

This section discusses the payment systems used by the sampled facilities, including third-party arrangements, collection procedures, and handling bad debts. III-268

Payment Systems. The types of payment schemes operated include: III-269

- o Direct cash payments
- o Prepaid mechanisms
- o Insurance mechanisms
- o Employer contracts.

The proportion of revenue attributed to each of the above are shown below for four facilities: III-270

		NH	MPS	CMC	MM
PERCENTAGE OF REVENUE ATTRIBUTED TO EACH	Self (direct cash)	10	45	100	47
	Employer	80	45	N/A	51
	Insurance	10	10	N/A	3

Third Party Arrangements. For three of the four facilities, the majority of revenues comes from employer contracts and insurance schemes. Arrangements are made by the hospitals with employers who pay for health care services for employees and dependents. The hospital agrees to provide the services at a discount. III-271

None of the facilities makes arrangements with insurance companies. Two facilities used to make such arrangements, but when the insurance companies did not honor large bills, the arrangements were abandoned. III-272

Currently two facilities do the following: III-273

- o AKH gives new clients advice on insurance and arranges for discounts
- o M. P. Shah introduces clients to insurance companies only for conditional undertakings (i.e., commitments to pay the bill and specifying what will be paid).

Collection Procedures. All hospitals require a deposit at the time of admission. The deposit ranges from Ksh. 600 to 10,000 depending on the hospital, and the type of accommodation (see Exhibit IIIC1). If hospitalisation exceeds the expected length of stay, fee notes are sent weekly to the patient. Immediate and full recovery of the bill is expected at the time of discharge. III-274

All the private hospitals honour National Hospital Insurance Fund (NHIF) cards. Some require production of the card on admission. Coverage of costs by NHIF is partial for all of the hospitals. The minimum disbursement by NHIF is Ksh. 60 per day and the maximum is Ksh. 150. AKH earns about 10 percent of its revenues from NHIF. III-275

Handling Bad Debt. All of the private health facilities experience bad debt ranging from 2 to 5 percent of total patient revenue. For most facilities, the bad debt situation has been worsening over the last five years. III-276

Continuous invoicing is the most powerful and commonly used tool for debt recovery. Lawyers are employed to a limited extent because they have been found to be ineffective. One hospital uses debt collectors and finds this to be quite effective. Another hospital uses debt secretaries. The debt secretary is a nurse cum social worker who follows up debts. This mechanism has been found to be effective. III-277

Other Revenue Sources

AKH and Mater benefit from substantial grants. They are used mainly for development expenditures. Nairobi Hospital and Crescent Medical Care receive some community support. M. P. Shah and Westlands Cottage depend on fees charged for all revenues. None of the facilities receives a government grant. III-278

Findings and Implications for KNH

The following conclusions were reached from the evidence gathered from the private hospitals: III-279

- o All of the hospitals studied charge for services offered.
- o All of the hospitals consistently operate at near break-even between revenues and operating expenditures. This enables them to run their services adequately.
- o Apart from direct cash payments, all of the hospitals make use of employer contracts as third-party payers.
- o Two of the six hospitals receive development grants from funding agencies, and two benefit from community support.
- o All of the hospitals experience bad debt.

Revenue Objectives. The experience of the private hospitals shows that it is possible to run a major medical concern from the fees paid. Management has to pay close attention to fee levels, costs, and efficiency to continue operating within revenues, however. For KNH it appears possible to offset a substantial portion of their operating costs from charges. III-280

To raise revenue and assist in reducing the demand for subsidies from the Treasury, KNH may consider a separate private wing, operating on the same lines as Nairobi Hospital and AKH. This approach may be assisted by the development of private offices for KNH doctors on the Hospital premises (see subsection IV.A.3.1 for details). III-281

Given that a high proportion of revenues earned by private health institutions comes through employers, KNH should direct marketing strategies to making similar arrangements and investigate arrangements with insurers, as well. III-282

Payment Exemptions. Given its social responsibility, KNH may not wish to operate its services wholly from revenue generated. It may wish to grant exemption from fees to certain categories of patients or services. Suggested criteria for choosing services for exemption are those for illnesses which are ethically sensitive; or highly specialized; or require long. Included among such services may be: III-283

- o Emergency and acutely life threatening conditions
- o Long-term conditions which require hospitalisation

- o Infectious diseases of national importance--T.B., AIDS, etc. (although there may be less-costly alternatives to hospitalisation at KNH for care of these patients)
- o Area of health promotion and disease prevention.

Only one of the private facilities gives exemptions to the poor, invalid, aged, and orphans. Because it has a social purpose, KNH must devise ways of identifying people in these or other categories so they may be attended to at no charge (see section III.C.2). III-284

Collection Procedures. Unless mechanisms are set up for collecting deposits from patients on admission and for following up on unpaid fees, it is likely that KNH will incur an excessive amount of bad debt. III-285

III.C.2 Client Characteristics and Utilisation

The purpose of this section is to identify what effect fees can be expected to have on clients. Data were collected and analysed to answer the following questions: III-286

- o What is the socioeconomic profile of KNH clients?
- o How is their socioeconomic profile different from those in the paying facilities?
- o Do KNH clients utilise other facilities and vice versa?
- o Why do clients come to KNH or bypass KNH or facilities closest to their home?
- o What are KNH clients' experiences with paying for health services?

Methodology

Interviews were conducted among 839 outpatient clients. The sample included 554 clients from KNH, 148 from AKH, 44 from Westlands Cottage Hospital and 93 from Crescent Medicare centres at Kibera and Pumwani. All except KNH charge for medical services. The interviewees were randomly selected from the daily outpatient clients at all four facilities during a two week period in January 1988. At KNH the interviewer included every fifth client who passed through the filtering point of each of the four outpatient clinics: paediatrics, male, female, and eye. The same procedure was repeated at AKH. However, clients were identified at the registration desk. At Westlands Cottage and Crescent, the interviewer chose every third client. These last two facilities have a smaller volume of patients than KNH and AKH. III-287

Socioeconomic Profile

A socioeconomic profile of clients was created based on characteristics of residence, declared household monthly income, household size, employment, and occupation. Nairobi residential districts were categorized into low-income, middle-income and high-income districts. Eastlands, Kibera, Mathare, etc. were identified as low-income areas; Ngara, City Centre, and Eastleigh as middle income; Muthaiga, Karen, Langaga, etc. as high income. The outskirts of Nairobi and the districts outside were isolated as independent categories. Exhibit IIIC3 summarizes these socioeconomic characteristics for clients of each facility. III-288

Each of the health facilities serves clients from both low-income and high-income districts. Clients from low-income districts form more than 50 percent of clients at both KNH and Crescent. About one-third of clients at the higher cost facilities--AKH and Westlands Cottage--came from low-income areas. III-289

Clients from low-income districts frequent the paying facilities nearly as much as KNH. Evidence from the surveys also shows that many clients of the III-290

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paying hospitals have used KNH previously: 52 percent of ANH clients have used KNH previously, 34 percent from Westlands Cottage, and 72 percent from Crescent Medicare. A further interpretation is that KNH potentially has clients from the same group as the facilities that charge for services.

Clients from nearly all income and employment groups visit KNH (see Exhibit IIIC3). The overall mean number of persons earning income in the household of the client is 1.4. The separate means for each facility show no statistically significant difference. Every facility sampled serves people from most of the employment categories. However, KNH serves a higher proportion of the unemployed. Mean household income from the first income earner in the household shows statistically significant differences among the facilities. Those at KNH have lower earnings than patients elsewhere. However, overall household income from individual earnings is higher at KNH than at Westlands or Crescent Medical, perhaps because household size of KNH clients is larger. Aga Khan has the highest monthly household income. A large proportion of all clients live in households which own land. The proportion owning land is highest at KNH, but land income is highest among Aga Khan clients. III-291

The overall interpretation is that clients for KNH exhibit similar socio-economic characteristics to those who use the paying facilities. However, KNH attracts a higher proportion of lower-income and the unemployed. Hence the need to develop criteria for determining qualifications for exemptions or lower charges in the structure of service charges. III-292

Choice of Facility

Clients were asked for the reasons they bypass the facility closest home to come to KNH or why they would bypass KNH (Exhibit IIIC4). Nairobi City Council clinics and MOH health centres make up the bulk of the facilities nearest to KNH clients, 53 percent and 25 percent, respectively. Fifty-three percent of those who bypass the facility nearest home to come to KNH do so because they are referred to KNH. Other important reasons given by clients for bypassing facilities closer to home to go to KNH or to paying facilities are availability of proper staff and medicine. KNH was chosen as a specialised and best facility by 21 percent and 19 percent of its clients, but only 24 percent utilised it for their last illness. The most frequently utilised facility for the last illness was the MOH Health Centre. The most commonly reported reasons for choosing these facilities were that they were closer to home and they received better treatment by the staff. III-293

Clients' Expectations for KNH

Clients expect improvements of the services at KNH with imposition of fees. Clients were asked to indicate what improvements they would expect, and how they rated the services at KNH. The responses are tabulated in Exhibit IIIC5. From these results, management interventions should address factors that influence waiting time. III-294

KNH Client Experience with Payment for Medical Care

Exhibits IIC6-7 indicate the experience of KNH clients with paying for health services in other facilities. Approximately 30 percent of KNH clients reported making expenditures for medical attention, laboratory and X-ray exams, and medications in connection with their present illness or a previous family illness. The range of payments for medical consultation was Ksh 3-3000; for medications the range of payment was Ksh 4-7000; for laboratory and X-ray procedures clients paid between Ksh 20-3000. About 14 percent of those who declared no income had previously paid for health services. Those with relatively high incomes benefit as much as low income families from the free services at KNH. III-295

III.C.3 Costs of KNH ServicesEvidence

This subsection identifies and examines the costs associated with selected services at KNH. The Team focused their data collection and analysis efforts in the following areas: III-296

- o Estimating the average daily cost of a ward bed
- o Estimating the average cost of a discharge for the most common reasons for admission
- o Estimating the average cost of diagnostics and medications associated with an outpatient visit.

The methodological approach that was used and the findings for each are presented below. III-297

Estimating the Average Daily Cost of a Ward BedMethodology

To estimate the daily cost of a ward bed, the Team made several simplifying assumptions. The basic resource components attached to a ward bed were assumed to include administrative services, nursing services, and doctor time. The procedures for calculating the cost of these components are discussed below. Given the lack of available data regarding resource use by ward or service area, the Team could find no acceptable algorithm for allocating administrative costs to individual wards or service areas, nor between inpatient and outpatient services. Therefore, administrative costs were apportioned equally across all hospital beds. Similarly, doctors' salaries were allocated evenly among beds. Three ward bed categories were identified for estimating the cost of nursing services: general surgical beds, general medical beds, and labour and delivery beds. Nursing salaries were distributed to beds according to the deployment of their services. The Team recognises that these assumptions may result in mis-estimations in the daily cost of a ward bed. Greater precision in the estimates ultimately must rely on the availability of more detailed information regarding actual resource use. III-298

Administrative Costs

The components for the calculation of administrative costs are presented in Exhibit IIIC8. The appropriate budget line items were identified from the KNH 1987/1988 budget. Both the approved budgetary line items and the revised requirements were used to provide lower and upper boundaries of ward bed costs. Labour costs were determined according to the number of filled positions in each grade as listed in the KNH In-post Staff Deployment, 11/9/87. Personnel who were identified as providing neither medical, technical support, nor outpatient services were considered to be administrative staff. Salaries were calculated at the midpoint of the salary range for the grade. III-299

Salaries for Doctors and Nurses

Doctors' salaries include both the budgetary line item for contracted professional services and salaries for filled positions by grade. Salaries for nurses were determined according to the number of filled positions by grade for each of the three categories of wards. III-300

Calculation of Daily Ward Bed Cost

The upper and lower estimates for each of the three ward bed categories are presented in Exhibit IIIC9. It must be recognized that these estimates are precisely that, estimates. The estimates are useful in providing orders of magnitude of the basic costs of ward beds but many improvements and refinements can and should be made. III-301

Estimating the Average Costs of Hospitalisation for Four Common Admissions

Methodology

The methodological approach used by the Team was to base the cost of a hospitalisation for a specific diagnosis on the actual resources used during a patient's hospital stay. This method requires identification of all the inputs used in connection with a specific hospital stay, either by observation or review of medical records. The Team opted to review medical records since KNH's patient records are cross-referenced according to the International Classification of Disease Codes, and a large number of cases could be reviewed in a short period of time. III-302

The team selected four diagnostic categories to determine the cost of hospitalisation for an episode of illness. Normal delivery and pneumonia were selected based on their ranking as the first and third ranking reason for hospitalization since 1983. Malaria was chosen as a third diagnostic category because it ranked fourth in discharges in 1986 and had steadily increased in importance as a reason for hospital discharge since 1983. Abdominal surgery was selected as a surgical category given its prominence as the second most common surgical procedure in 1986. Discharges for these four diagnostic categories accounted for 18 percent of total 1986 hospital discharges. III-303

The quantity and type of diagnostic and therapeutic procedures used and the length of the hospital stay can be readily identified from the patient's medical record. Qualified nurses were used to conduct these reviews. Seventy KNH patient medical records were randomly selected for each of the diagnostic categories from 1986 discharges. For the purpose of making comparisons, 50 patient records for abdominal surgery, pneumonia, and malaria and 70 normal deliveries were randomly selected for review at Aga Khan hospital. III-304

The costs of diagnostics and therapeutic procedures should be on actual resource use. Since data were inadequate to determine actual costs, the Team used the proposed schedule of charges developed by KNH for laboratory and x-ray exams as the next best approximation for these costs. Procurement or stock prices were used as approximations for the cost of medications. No acceptable method was identified for determining the costs for other medical procedures. The number and type of these procedures are noted for each III-305

diagnostic category, but their costs are not reflected in the hospitalisation costs shown.

Cost of Hospitalisation for Diagnostic Categories

The average cost of a discharge for a particular diagnosis is computed as the sum of: the average daily ward bed cost for the average length of stay; medication costs; and laboratory and X-ray costs. Since the costs inherent in the use of other medical procedures could not be estimated, the average cost of a diagnosis is underestimated by the value of their average use. The average cost is computed for discharges with primary but no secondary diagnosis. Exhibits IIIC14-IIIC17 present the average cost of a discharge for each diagnostic category. Given the nature of the data and the omission of costs of other procedures, the figures represent rough approximations of resource use for particular admissions. They are illustrative, therefore, of the order of magnitude of costs rather than precise estimates. III-306

Exhibits IIIC10-IIIC13 present the diagnostic and therapeutic inputs identified in the KNH medical record review for each of the four diagnostic categories. Only results from discharges with primary diagnoses are included in these tables. Both the number of diagnostics and procedures requested in the doctors' medical plans and the number of test actually conducted are included in the Exhibits. Costs were assigned based on the number requested (planned) rather than the number actually carried out (executed). Since shortages of supplies often cause plans to go unrealised, the doctor's medical plan is a better indicator of the cost of fully treating a patient. III-307

Estimating Costs Associated with Outpatient Visits

The marginal costs of providing outpatient services were considered to be the diagnostic and medication costs associated with an outpatient visit. To estimate the type and quantity of diagnostics and medications consumed in an outpatient visit, the Team used several approaches. III-308

Medications

The outpatient pharmacy retains the prescription forms presented by the patient to receive medications. A random selection of four days of prescriptions for each of the months of September and December 1986 was reviewed, and the types and quantities of medications were tabulated. An average course of therapy was identified for each medication, and the total cost of prescriptions was calculated based on stock prices. The results are presented in Exhibit IIIC18. III-309

Over the eight days sampled, a total of 17 different products were prescribed for 2802 outpatients. The average number of prescriptions per outpatient was 1.4. Given the imprecise nature of data, this estimate should be used with caution, however. The assessment of other observers is that the number of medications prescribed per outpatient exceeds two. The average cost of a course of therapy was Ksh. 93. If the expensive courses of therapy for a small number of hypertensive patients are removed, the average course-of-therapy cost per patient drops to Ksh. 73. III-310

Nine products accounted for over 60 percent of the volume of prescriptions. In rank order they are tetracycline (antibiotic); cotrimoxazole (sulphonamides); chropeniramine (antihistamine); paracalamol (antirheumatic); aspirin; flazyl (amoebicide); hydrocortizine cream; imipirmine hydrochloride (antidepressant); and multivitamins. The average prescription cost for these nine products was Ksh. 20. III-311

Laboratory Exams

The types and quantity of laboratory exams associated with an outpatient visit were tabulated from a review of a total of 277 outpatient records from the male and female outpatient filter clinics and the paediatric clinic for 1986. Prices of laboratory exams from KNH's fee schedule were used as approximations for the resource costs of a particular laboratory exam. Exhibit IIIC19 presents the results. Fees charged for the same exam at Aga Khan and M. P. Shah are included for comparison purposes. III-312

Twenty-two different laboratory exams were performed ranging in cost from Ksh. 20 to 420. The average number of laboratory exams was 0.6 per outpatient at an average cost of Ksh. 71. III-313

X-Ray Exams

The team reviewed x-ray ledgers for April and September 1986 and tabulated the types and quantities of x-ray exams for outpatients. Outpatient use of x-ray exams is shown in Exhibit IIIC20. The cost of an outpatient x-ray exam was approximated by using the KNH schedule of charges. Prices from other hospitals are included for comparison. A crude estimate of 0.14 x-rays per outpatient visit was derived by taking the average monthly number of x-ray exams and dividing it by the average number of monthly outpatient visits. The average cost of an outpatient X-ray was Ksh. 173. III-314

Findings

Identification of Areas for Potential Savings

Medications considered non-essentials are identified in Exhibits IIIC10-IIIC13 and IIIC18. While for the most part, only essential drugs are prescribed, it should be noted that use of class 2 antibiotics in pneumonia and surgery cases makes up 36 percent of the total medication cost. Since only a small number of patients actually require class 2 antibiotics, considerable savings could be achieved by substituting class 1 antibiotics in the majority of cases. III-315

Estimating Potential Revenues

The average costs of services provides a reasonable tool for considering appropriate fee levels, particularly as KNH considers how to move in the direction of greater financial self-sufficiency. Although the team has been able to make only rough estimates of the costs of selected services, these estimates can provide an order of magnitude of revenues which could be generated using different fee options. Exhibit IIIC21 presents calculations for several of the fee options discussed in Chapter IV. III-316

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Revenue from inpatient services is estimated using two alternative bed charges and charges for all medications and diagnostics. Revenue estimates for outpatient services assume that visits and the medications and diagnostics associated with the visit will carry charges. Patient volume was based on 1986 figures from the Medical Records Annual Report. Utilisation rates are drawn from the Team's estimates given above. Charges are based on the estimated daily cost of a ward bed and the proposed KNH fee schedule for x-rays and lab exams. Charges for medications are grouped in cost categories based on stock prices and courses of therapy. KNH needs to learn more about the costs of these services and medications before it establishes concrete prices. III-317

Two assumptions are made regarding the level of free care that KNH will provide. Twenty-five percent is a lower bound, based on our survey results that 13 percent of the outpatients surveyed had no income and had not paid for care elsewhere; other hospitals had debt experience of 1-5 percent; and that an unknown proportion of the population will not pay the full price for services. Fifty percent free care was used as an upper bound. III-318

Using the lowest charges and maximum amount of free care, (i.e., a flat bed fee charge, outpatient-visit fee, medication and diagnostic charges and 50 percent free care), the revenues generated would be approximately 18 percent of KNH's 1986-87 approved budget (K pounds 11.5 million). If beds were charged for on a daily basis and all outpatient visits, medications, and diagnostics carried charges, and assuming only 25 percent free care, the revenues generated would be roughly equivalent to 39 percent of the 86-87 budget. III-319

Burden on Patients

The burden that fees will represent to current and future patient-clients of KNH is an important issue for KNH management and the Board to consider. To some extent, cost sharing is already practiced at KNH. Patients are accustomed to paying for dental services, and normal deliveries, and some X-ray and radiotherapy fees. Universal charges for services at KNH, however, will require adjustments by population. It is worthwhile to examine what burden the proposed fees would represent for the KNH patient population. III-320

Outpatients

Since our survey of clients indicated that most KNH patients had frequented health facilities which charged for services, we assume that the majority of patients would have little difficulty paying Ksh. 10-20 for an outpatient visit. We have no information about the number of visits made per episode of illness, but even if a patient requires three visits, a total charge of Ksh. 30-60 probably does not represent a excessive burden for most patients. III-321

If diagnostics and medications that are associated with the outpatient visit carry charges, the financial burden to patients increased. Most, if not all, outpatients receive at least one medication with their visit. Using stock prices for medications, half the patients would need to pay up to Ksh. 50 for a prescription. Twenty percent would be required to pay as much as Ksh. 200. An outpatient visit with one medication prescribed, therefore, III-322

PLAN OF ACTION FOR REFORM

could cost between Ksh. 60 and Ksh. 210. (A small number of patients have to be maintained on expensive therapies such as hypertensive drugs. These patients would most likely have to be heavily subsidised.)

Our review of outpatient medical records indicated that 60 percent of the outpatient visits required laboratory tests but very few had X-rays. Applying the current KNH fees schedule, seventy-five percent of these patients would have to pay up to Ksh. 70 and perhaps 5 percent would be charged as much as Ksh. 250. A very small number of patients would require X-ray exams adding Ksh. 120 to Ksh. 140 to the total charge. The majority of outpatients appear to require few diagnostics and inexpensive medications and would pay approximately Ksh. 60 to Ksh. 130. Patients with more complicated cases could have total charges upwards of Ksh. 250-300. It should be noted that our outpatient record review did not include the specialty clinics that are likely to be more intensive users of lab and X-ray exams. III-323

The costs of a discharge for the four disease categories presented in Exhibits IIIC14 - IIIC17 are probably the best lower bound approximations of the burden on clients for inpatient care, if fees are based on costs of services. Patients with longer lengths of stay and more serious disease episodes would incur higher charges that may be excessive to a large number of patients. III-324

To alleviate the excessive financial burdens on patients, KNH must establish concrete criteria and mechanisms for insuring access to adequate care for low-income and indigent people. To help spread the burden of treating costly but rare illnesses, KNH should encourage risk pooling schemes for clients, e.g., employer and cooperative coverage of health services and other forms of insurance. III-325

III.C.4 Summary of Recommended Options

As a result of the above analyses the Team recommends the following III-326 options with regard to the institution of cost sharing:

Charge for Drugs and Diagnostics

1. Charge for each drug and diagnostic item prescribed by the doctor for both inpatients and outpatients.
2. Charge for a combination of packages of diagnostics and/or drugs based on average consumption by reason of admission or outpatient specialty.

Charge Bed Fees for Inpatients

1. Charge daily bed fees based on average cost of a ward bed.
2. Charge one-time bed fees based on overall ALOS for the hospital.
3. Charge a one-time bed charge for wards with ALOS less than three days (e.g., labour and delivery) and a daily bed charge for all other wards.
4. Charge a flat fee which becomes a daily fee after a clearly-defined number of days.

Charge Fees for Outpatient Visits

1. Charge fees for each outpatient visit.
2. Charge outpatient fees for an episode of illness.

Develop Strategies for Generating Revenue in Addition to Fees

1. Seek contracts with employers to provide a defined set of services to their employees, as is done by private hospitals.
2. Pursue arrangements with insurers or other prepayment schemes for groups such as cooperatives, employee organizations etc.
3. Earn revenue through office rents or fees paid by doctors for seeing private patients in offices on the hospital premises and for use of highly specialised diagnostic or treatment technology.

IV. STRENGTHS, WEAKNESSES AND IMPLEMENTATION
FOR RECOMMENDED OPTIONS

IV. STRENGTHS, WEAKNESSES, AND IMPLEMENTATION STEPS FOR RECOMMENDED OPTIONS

This chapter analyses the strengths and weaknesses of each of the recommended options presented in the previous chapter, then lays out steps for their implementation. Two or more alternatives are offered for nearly every area of action. To help inform the choices among the options, the strengths and weaknesses of each alternative are presented. This analysis is based on the option's effectiveness in addressing the subject problem or problems and any other desirable or undesirable consequences it might have. The steps for implementation are the guide to applying the chosen option. They are presented as basic scopes of work for implementation. Once again, the chapter is organised according to the three components of the study: management, efficiency, and cost sharing.

IV-1

Each subsection of the chapter briefly recapitulates the reasons for recommending action in the given area, then restates the recommended options, before analysing strengths and weaknesses, and presenting implementation steps.

IV-2

IV.A Management

This section takes up the Team's recommended options to address management problems derived in section III.A. It reports on the Team's work with respect to planning and organisation; management of financial, human, and physical resources; and the environment in which KNH must live. IV-3

IV.A.1 Planning and Organisation

Recommended options in three topic areas are the subject of this subsection: the organisation structure of KNH's management, the need to have a planning function, and information flows for management and administration. IV-4

IV.A.1.1 Organisation Structure

To strengthen the organisation structure and narrow unmanageable spans of control, the Team recommends that KNH choose between the following: IV-4

1. Develop an organisational structure that decentralises authority and responsibility or
2. Develop an organisation structure that centralises authority but shifts some responsibility from the Hospital Director to senior managers.

The remainder of this subsection first describes how an organisation structure that is appropriate to the needs of an institution can be developed. Then, the strengths and weaknesses of the alternative recommended options are laid out. IV-5

Option 1--Develop an organisation that decentralises authority and responsibility

This option highlights the Team's assessment that KNH needs to change its organisation structure to reflect the Hospital's new status, with the objective of decentralising decision making by delegating authority, responsibility and accountability to lower levels in the organisation. The actual delegation of authority, responsibility, and accountability should be specified in each position description and evaluated in annual personnel appraisals and reviews for promotion. The role of the organisation structure is critical however, in facilitating achievement of the objectives of decentralisation and retaining necessary management controls. IV-6

A tailored organisation structure should reflect the specific philosophies and requirements of the Board of Directors and Management of KNH. The process of tailoring to meet the Hospital's philosophy and requirements requires considerable interaction to exchange information/ideas and to test the implications of various combinations and alternatives. In preparation for developing a specific set of options that reflect the Hospital's needs, the remainder of this discussion focuses on the content, principles, and some examples of possible models for developing an organisation structure. IV-7

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There are certain elements that must be present in an organisation structure for it to be effective. These include: IV-8

- o Delineation of all functions (e.g., planning, welfare, pharmacy, etc.)
- o A set of titles that connotes organisational hierarchy
- o Consistent and equal authority and responsibility for functions with the same title or grade
- o A span of control for upper management positions
- o The reporting relationships and interaction between and/or among positions
- o The point of access and relationship of external entities (e.g., reporting, advising, etc.)
- o Identification of staff functions/entities.

With the preceding elements forming a framework for the organisation structure, the foundation is established using a set of guiding principles. IV-9

The approach used to manage and the organisation structure that is developed to codify that approach should be grounded in a set of guiding principles. These principles must reflect the Board's objectives and philosophy regarding delegation of responsibilities and management control. The following are some guiding principles that the Board may wish to incorporate as it develops an organisation structure. These principles include: IV-10

- o Manageable span of control
- o Ability to effectively delegate authority, responsibility and accountability
- o Use of the structure to highlight important and/or problematic functions
- o Recognition of the experience and capabilities of current personnel
- o Delineation of relationships and control of external entities
- o Flexibility to accommodate modifications without starting over
- o Conformity to mission.

Application of these or other principles in developing the organisation structure will ensure that the results reflect the Board's values and management objectives. IV-11

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There are a number of models that incorporate the principles and elements outlined above. These models represent a spectrum of options for organising and managing health care institutions. The boundaries of the spectrum are defined by either a purely departmental (e.g., laboratory, central sterile supply department (CSSD), occupational therapy, etc.,) or clinical (e.g., surgery, anesthesia, pathology, etc.,) approach to management of the hospital. The applicability of any option along the spectrum is dependent on the nature of the relationship a hospital has with its medical staff, and the role the institution wants and/or must give doctors in the management of the services provided. This is a particularly relevant issue for KNH as one of the major problems and opportunities facing the Hospital is the nature of its future relationship with the College of Health Sciences (CHS) and the University of Nairobi.

IV-12

Three examples of options along the spectrum of possible management and organisational alternatives are presented in Exhibits IV.A.1-1 through IV.A.1-3. A discussion of the highlights of each option is provided below. The Team recognises that none of these options perfectly fits KNH, and thus presents them to elicit discussion and further thinking by the Board on this topic.

IV-13

Medical/Teaching Option

This option highlights the management approach most frequently used by university teaching hospitals or hospitals affiliated with medical schools. In this option the hospital is organised to correspond with medical school departments or along clinical lines. The emphasis of this organisational approach is education and training, with medical school faculty heading all clinical areas and being integral components of the hospital. Service departments (e.g., CSSD, occupational therapy, etc.,) that do not have a medical training component are organised to produce inputs for clinical care and are controlled by the type and quantity of patients treated.

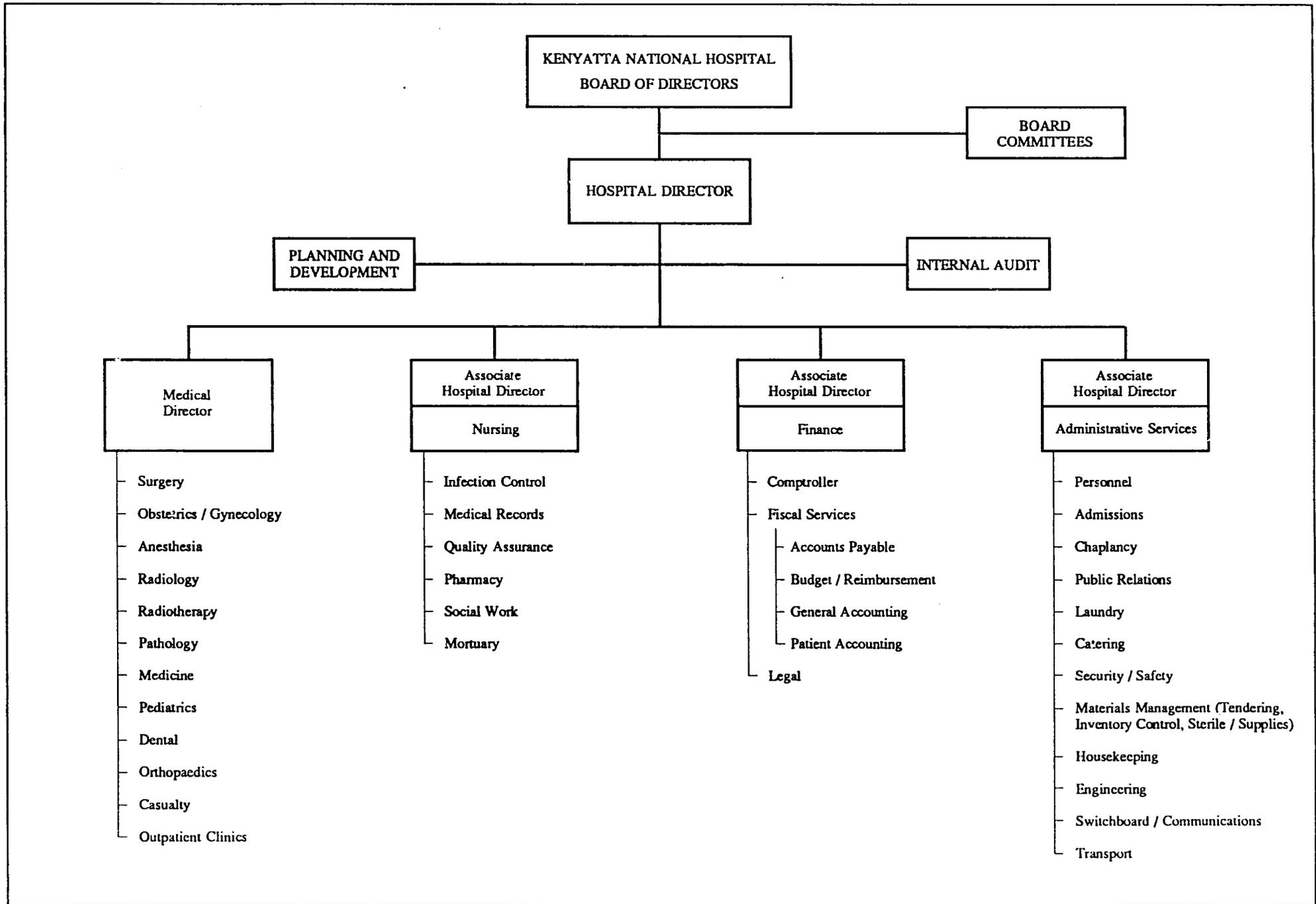
IV-14

The strength of this type of model is typically the quality of the diagnostic and therapeutic services provided and the educational environment that is supported. The weakness is often ineffective management as faculty frequently have dual roles and are less interested in administrative responsibilities.

IV-15

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Kenyatta National Hospital Study EXAMPLE ORGANIZATION STRUCTURE - - MEDICAL/ TEACHING OPTION



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Kenyatta National Hospital Study
EXAMPLE ORGANIZATION STRUCTURE - - ADMINISTRATIVE OPTION

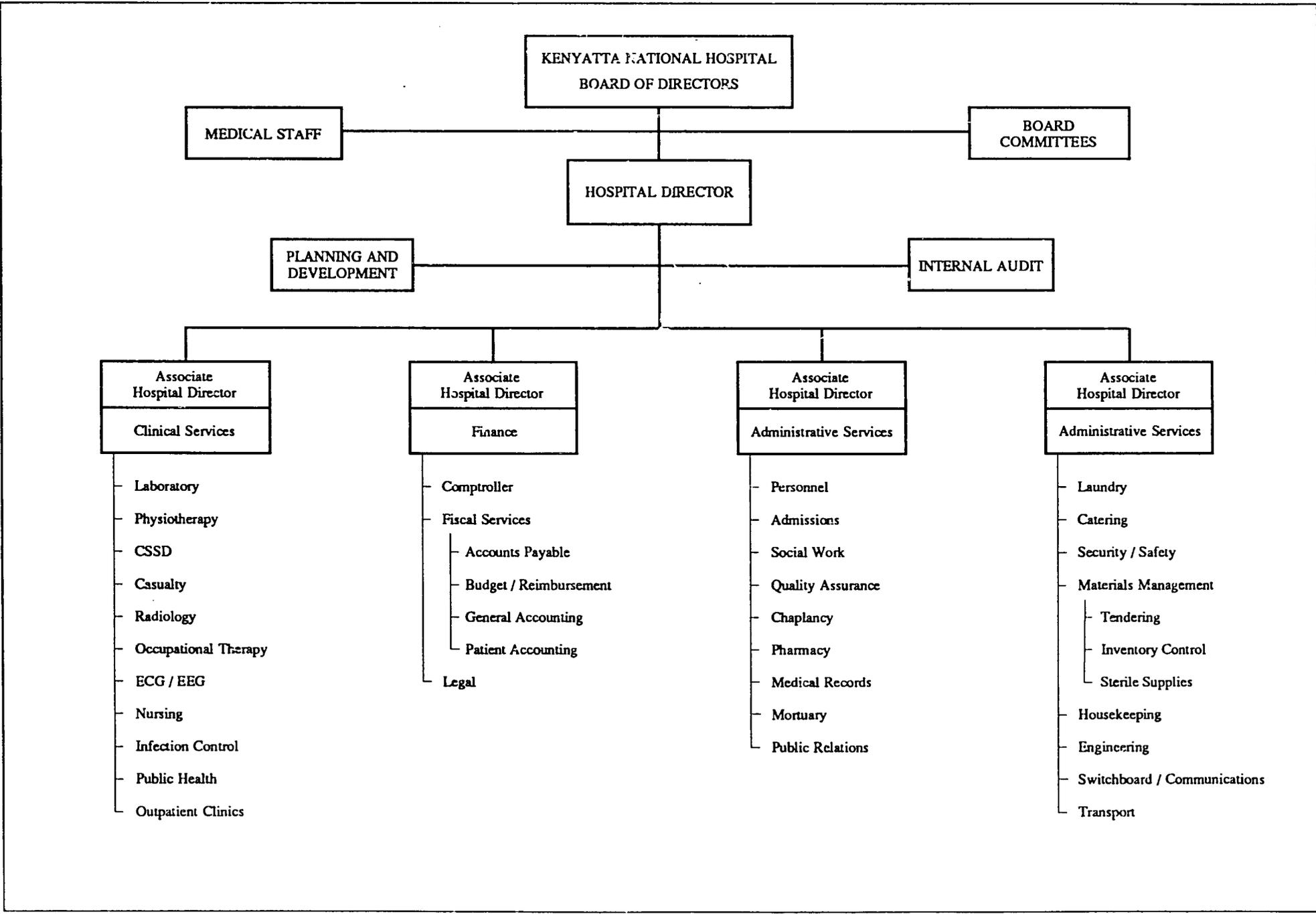
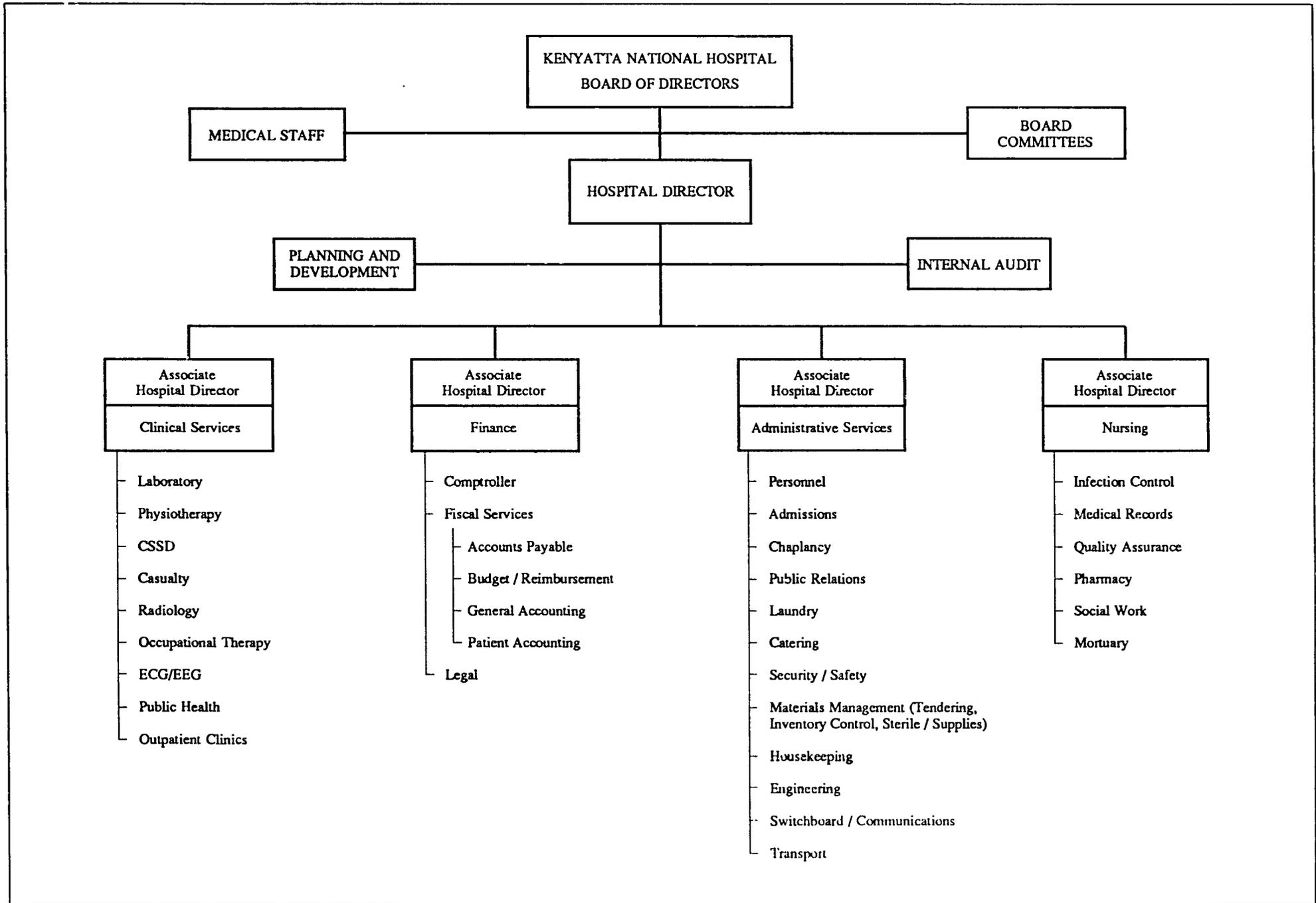


Exhibit IV.A.1-3
Kenyatta National Hospital Study
EXAMPLE ORGANIZATION STRUCTURE - - CLINICAL OPTION



Administrative Option

The administrative option structures the management and organisation of the hospital around the clinical service departments (e.g., laboratory, physiotherapy, radiology, etc.). This option emphasises delivery of patient care, separating purely clinical activities from the remainder of the functions performed in the hospital. This approach is most frequently used in private non-teaching hospitals although it can be employed in institutions affiliated with medical schools by matching clinical faculty with administrative managers. Doctors in this alternative are guests of the institution and not part of it organisationally. Their role is to treat patients or to train students, leaving the management of non-patient activities to others. In this model doctors are organised into a medical staff/faculty that reviews credentials, has standing committees, and medically audits its members activities. These functions need and should be performed under any organisation option, the only difference being the locus of the activity and the point of management oversight. In this model the locus of activity is the doctor as a user of the facility, rather than as a hospital employee. The point of management oversight of the medical staff in this model would be the Board, rather than the hospital's administration.

IV-16

The strength of this type of model is typically the administrative and operational control gained in delivering patient care. The weakness is that clinical activities require more institutional coordination as they lack a specific home in this type of structure.

IV-17

Clinical Option

This option is intermediate to both the medical/teaching and administrative alternatives. There are many intermediate options along the spectrum. The choice of a particular place along the spectrum depends on the principles used in developing an institution's management structure. The clinical model shown in Exhibit IV.A.1-3 is similar to the administrative option with the exception of the role of nursing in the organisation. In this model nursing has both a patient care (i.e., management of the wards) and an administrative role. This alternative specifies the roles and relationship between nursing and the medical staff in the delivery of patient care. The Board may wish to more fully consider the importance of this distinction and its applicability at KNH as it develops alternative management and organisation structures.

IV-18

The preceding discussion has highlighted a few examples of organisation models, presenting only a small fraction of the number of alternatives available. We complete the discussion of this option by assessing its strengths and weaknesses and identifying proposed implementation steps.

IV-19

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Strengths

The strengths of Option 1 are that it:

IV-20

- o Clarifies the span of control and hierarchy within the Hospital
- o Allows the Hospital Director to concentrate on activities that only he can perform
- o Expedites the decision making process by delegating authority to those in the organisation that are most cognizant of the factors relevant to the particular decision to be made
- o Increases the management capabilities of Hospital personnel.

Weaknesses

The following are potential weaknesses of Option 1:

IV-21

- o Authority and responsibility might be shifted to individuals who do not have the capacity to handle it.
- o Improving the capabilities of personnel is costly both in money and time, and makes retention a more likely problem.

Implementation Steps

Many of the implementation steps addressed in this plan of action for reform of KNH are interrelated. This is especially true in the development of options for how to manage and organise the Hospital. The implementation steps that follow reflect these considerations as well as the need to continue the process toward development of an organisation structure for managing the activities performed at the Hospital.

IV-22

- o Determine the type of organisational relationship KNH wants with CHS, CHP, KEMRI and others.
- o Identify the priorities and philosophy that comprise the guiding principles to be used in developing the Hospital's organisation structure.
- o With technical support from an outside consultant create possible options for organizing KNH.
- o Test various options with a select group of interested parties (e.g., the head of medical staff, the chief nursing officer, representatives for CHS and CHP, etc.), while assessing the relative skills of those who would be given increased managerial responsibilities.
- o Develop position descriptions and promotion criteria for all senior and middle management positions.

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- o Determine the need for phased implementation of the organisation structure and the associated required strategies and iterative steps.
- o Implement the new structure communicating the changes to all Hospital staff and doctors.

Option 2--Develop an organisation structure that centralises authority but shifts some responsibility from the Hospital Director to senior managers

The intent of this option is similar to Option 1. The difference is primarily one of degree. While the Team feels strongly that decision making at KNH is sluggish and unresponsive because it is highly centralised, it also recognises that the breadth of management skills and capabilities does not extend very far down the organisation structure. Option 2 therefore is not truly distinct from Option 1 but a subset that attempts to factor current conditions into the design of the Hospital's organisation structure.

IV-23

Strengths

The strengths of Option 2 are that it:

IV-24

- o Clarifies the span of control and hierarchy within the Hospital
- o Provides the Hospital Director with increased time for activities that only he can perform
- o Delegates some of the decisionmaking process to a lower level in the organisation.

Weaknesses

The following are the weaknesses associated with Option 2:

IV-25

- o The overall management skills of Hospital personnel are not improved.
- o Management responsiveness may be impeded by the high degree of centralisation.
- o Improving the capabilities of personnel is costly both in money and time, and makes retention a more likely problem.

Implementation Steps

The steps necessary to implement Option 2 are identical to those for Option 1. Option 2 may represent one approach for coordinating the development and expansion of personnel skills with the increased responsibilities associated with a decentralised organisation structure.

IV-26

IV.A.1.2 Planning Office

Kenyatta National Hospital needs to establish a planning function which will carry out strategic and operational planning for the Hospital in an integrated and cohesive manner. The immediate task of this function would be to develop information requirements for the Hospital. Historical information on hospital operations is needed in order to plan for the future. This function should prepare a three to five year hospital plan, in which many of the recommendations made in this study are incorporated. In time a marketing function should also be undertaken. This would assess the needs of the Hospital's patient population and services offered by the hospital, and investigate insurance arrangements with insurers and employers. The long term goal of the planning function is to position the hospital for success in the future by ensuring that activities designed for planning are carried out in an integrated and cohesive manner.

IV-27

The Team has identified two options to establish a planning function at Kenyatta.

IV-28

1. Establish a dedicated planning function with an independent role and responsibilities.
2. Add planning responsibilities to the job descriptions of the Director and Associate Directors.

Option 1--Establish a dedicated planning function with an independent role and responsibilities

Strengths

- o Will ensure that adequate resources and attention are provided to address the current and future needs of the Hospital
- o Formalises the planning process and creates a vehicle to incorporate the news of the Board, Administration and management
- o Ensures understanding, consensus, and commitment across departments/activities as a result of Hospital-wide input into the process
- o Provides a central location for the accumulation and dissemination of information used in the planning process.

Weaknesses

- o Increases Hospital cost through the addition of new department and staff
- o Partial implementation and/or inappropriate execution may not produce a clear and focused direction.

Implementation Steps

The Board should appoint a five-man committee to 1) establish operation guidelines' 2) determine planning priorities; and 3) develop information requirements for KNH. This Committee will consist of: IV-29

- o Chairman of Development and Maintenance Committee of the Board
- o Associate Directors of Administration, Nursing and Clinical Services and Finance
- o Any other member(s) may be incorporated as the situation may dictate.

The Committee will become a permanent Planning Committee working together with the Planning Officer who will be recruited. IV-30

The role of this Committee and the Planning Officer would be to carry out strategic, tactical and operations planning for the hospital. The first assignment would be to prepare a three-year plan to implement the reforms the Board accepts from this study. This plan should be practical and operational. It should indicate the steps required to reach milestones at the end of each year of the plan and it should identify financial and other resource requirements. IV-31

The other functions of the Committee and the Planning Officer would include: IV-32

- o Work with the Finance Office in the development of budgets.
- o Short and long range plans for KNH. Long range plans will include preventive maintenance, clinical programmes and doctor/speciality requirements
- o A marketing activity, responsible for seeking arrangements with insurers and other third party payers.

Option 2--Add planning responsibilities to the job descriptions of the Director and Associate Director

Strengths

- o By utilising the knowledge and experience of senior managers to establish the Hospital's future direction, the planning process will be focused at a macro level
- o Will not increase Hospital costs because present staff will be assigned additional responsibilities.

Weaknesses

- o This centralised approach will not provide a vehicle to incorporate department managers views, thus reducing their level of understanding, consensus, and commitment to the process
- o The planning function may not receive the necessary time and resources required to fulfil its envisioned objectives.

Implementation Steps

The steps listed under Option 1 would be similar here except a Planning Officer would not be recruited. IV-33

IV.A.1.3 Management and Administrative Information

The complex environment of KNH requires managers who are informed about their areas of operation. Once they are informed, they can be held accountable. This will strengthen many areas of the hospital. To attain a level of informed decision making, there must be system of information processing that identifies analyses, compiles, and distributes the information. IV-34

The Team recommends that the Hospital routinely identify information and information flows necessary for decision making, and implement the appropriate collection procedures. Identification of essential and sufficient information and elimination of extraneous information are steps that must be included in development of an effective manually operated information system. Only after a manually operated system is functioning should automation be considered. IV-35

Implementation Steps

It is recommended that the Director and senior management (i.e., Associate Hospital Directors) set up an Information Committee to identify and develop the needed information systems. Not just the department managers needs should be addressed; information needs of Supervisors, the Associate Directors, the Director, and the Board should be addressed as well. Aside from initially sitting on the Committee, the Associate Directors and Director will have the ongoing responsibility of ensuring that the systems do not break down: they must make sure that the information is collected regularly and guide their respective managers in the use of this information, as necessary. IV-36

The Information Committee is composed of the Director, Associate Director, and the Managers of Personnel, Medical Records, and Supplies. The first task of the Committee is to identify the common information needs of the department managers. This will have been accomplished by the Associate Director previously meeting individually with their managers to discuss information needs. Their focus should be on immediate needs, and will probably include four areas of information: financial, personnel, supplies, and workloads (utilisation). If the Associate Directors can think of additional individual needs of their respective managers, they should bring it up for discussion in the Committee. IV-37

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The objective at this point is to identify needs that are essential for the efficient operation of a department, so as to avoid an impractical scope of work. Marginal information needs can be addressed at a later date. IV-38

Once information needs have been established, the Committee should identify the source and accuracy of each piece of information. Financial information will probably flow from the Chief Accountant's office. Workload statistics and inventories will be retained by the departments themselves, Inpatient utilisation statistic will come from Medical Records, staff allocations and salaries will come from Personnel, and non-inventory supply information will come from Supplies. IV-39

The reporting frequency of the information should be identified as well as the source and accuracy. For example, it would probably be most useful to have expenditures reported on a monthly basis. IV-40

For each type of information, the Committee should determine whether systems for collecting and distributing the information currently do or do not exist. Some needed information may not be collected and distributed at all. Some may be collected but not distributed, and some may be collected and distributed but not in a timely or accurate fashion, or perhaps not in a useful format. IV-41

The committee must then strengthen or streamline information systems and establish those that are new for the types of information that would be best to collect, see section III.A.2.2. IV-42

IV.A.2 Financial Management

The implementation of financial management controls and accountability will ensure that the operations of Kenyatta National Hospital (KNH) are functioning within the financial constraints imposed, and that assets and transactions are properly and accurately recorded. This section presents the strengths, weakness, and implementation steps relating to the Team's recommended options for financial management and operations, budget and expenditures, and internal accounting controls. The options evaluated below are based on the results of the assessment described in section III.A.2. IV-43

IV.A.2.1 Financial Management and Operations

Providing financial management and direction for KNH will ensure the Board that the Hospital has the management expertise to operate within the financial constraints imposed upon it. Our recommended options for achieving Financial Stability and growth through the efficient and effective operation of KNH include: IV-44

1. Creating the post of Associates Hospital Director-Treasurer to be responsible for financial operations and management of the Hospital.
2. Expanding the duties of the present Administrative Secretary (proposed Associate Hospital Director-Administrative Services) to include Treasurer responsibilities.

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Option 1--Create post of Associate Hospital Director-Treasurer to be responsible for financial operations and management in the Hospital.

Strengths

The strengths of Option 1 are that it:

IV-45

- o Will give financial matters the management attention they require
- o Will facilitate financial planning
- o Will assist internal accounting control
- o Will facilitate the implementation of cost sharing programmes
- o Will promote the development of standard methodologies for forward budget
- o Will provide financial management expertise within KNH.

Weakness

The one weakness associated with Option 1 is:

IV-46

- o Additional expense to create the post and provide supporting staff.

Implementation Steps

The Board should appoint a committee from its members to include the KNH Hospital Director to:

IV-47

- o Define the financial objectives and goals of the Hospital
- o Develop a job/position description for the Associate Hospital Director-Treasurer
- o Determine the scheme of service for the position
- o Identify, interview, and select candidates for the post.

The Committee will define the reporting relationship of the Associate Hospital Director-Treasurer and the Board.

IV-48

The Associate Hospital Director-Treasurer will be an Associate Hospital Director with responsibility and delegated authority for the financial operation and management of KNH. He will have the responsibility for the control and accountability of KNH assets and will be delegated authority to authorise and execute transactions for KNH Board and Hospital Director.

IV-49

The Associate Hospital Director-Treasurer will also ensure the financial reliability of KNH through performance of cash management, capital management and the application of financial reporting in accordance with general accepted accounting standards or other criteria. The Treasurer will be responsible for the execution of transactions in accordance with management's general or specific authorisation, for recording these transactions accurately, and for the preparation of financial statements in conformity with generally accepted accounting principles.

IV-50

Lastly, the Associate Hospital Director-Treasurer will supervise and be supported by Senior Managers responsible for Accounting, Revenue, and Financial Planning. The Accounting Manager will be responsible for the recording and accountability of transactions and will maintain the general ledger and subsidiary records. The Revenue Manager will be responsible for the recording and collection of patient charge (cost sharing) procedures and will maintain the patient accounts receivable system. The Financial Planning Manager will be responsible for the budget, statistical analysis, and financial growth of KNH and will maintain the capital records of the Hospital.

IV-51

The establishment of a financial management position is vital to the development of KNH as a self-sufficient corporation.

IV-52

Option 2--Expand the duties of the present Administrative Secretary (proposed Associate Hospital Director) to include Treasurer responsibilities

Strength

The one strength of Option 2 is that it:

IV-53

- o Will not result in the creation of another senior post.

Weaknesses

The following are the weaknesses associated with Option 2:

IV-54

- o Treasurer duties might not get the attention they deserve as the Administrative Secretary has many other duties
- o There is the potential for a possible conflict of interest between the planning and implementation of administration and finance functions
- o The financial expertise required to manage the Parastatal would not be provided.
- o The financial planning, Forward Budget preparation, and internal control functions will not be coordinated by an experienced financial manager.

Implementation Steps

The Board should appoint a Committee consisting of its members to include the Hospital Director to define the financial objectives and goals of the Hospital.

IV-55

The Board should appoint a committee of its members to include the Hospital Director to define the financial objectives and goals of the Hospital. The Committee will review the job description of the Associate Hospital Director-Administrative Services and identify the additional duties and responsibilities to ensure that the financial function is fulfilled. The Committee will define the reporting relationship of the Senior Associate Hospital Director and the Board. IV-56

IV.A.2.2 Budgets and Expenditures

The development of standard methodologies for the annual Programme Review and Forward Budget will provide KNH management with estimates that are based on the requirements necessary to continue providing specialised health care services. The following are our recommended options for achieving these objectives: IV-57

1. Decentralise responsibility and authority for recurrent budget and expenditure estimates to the departments.
2. Decentralise responsibility and authority for recurrent budget and expenditure estimates to the Associate Hospital Directors (senior management).

What follows is an evaluation of the strengths and weaknesses of each option and the proposed implementation steps. IV-58

Option 1--Decentralise responsibility and authority for recurrent budget and expenditure estimates to the departments

Strengths

The strengths of option 1 include: IV-59

- o Strengthens management of the Hospital at the department level.
- o Enables specialisation in decision making.
- o Increases awareness by department managers of the cost of resources used in their area and creates accountability for department resource consumption.
- o Develops realistic planning based on patient needs and associated departments requirements.
- o Provides patient and general information on KNH services to senior and middle managers and departments.
- o Places control of the departments' resources with the department manager establishing both responsibility and authority to manage the area.

Weaknesses

Potential weaknesses related to option 1 include:

IV-60

- o The resource requirements for training department manager in budgeting and financial management are not currently available.
- o Lack of current accounting controls to monitor the process.
- o Requires the development of strong controls to monitor the process and the creation of disciplinary and dismissal procedures to dissuade the mis-use and mis-management of funds.

Implementation Steps

The development of standard methodologies for the annual recurrent and development budget will be crucial for the implementation of either Option 1 or 2.

IV-61

The Board should appoint a Budget Committee comprised of five Board members. The charge of the Budget Committee will be to approve KNH's annual recurrent and development budget that will be prepared by the Hospital's management staff. The Hospital Director should appoint from the management staff members of a KNH Budget Review Committee. This internal Committee will provide on-going review of the annual recurrent budget and establish the annual development guidelines.

IV-62

A Budget Review Committee should include the following cadres of responsibility:

IV-63

- o Associate Hospital Directors representing the following areas:
 - Administration
 - Clinical
 - Finance
 - Nursing
- o Department Managers from three clinical areas
- o Senior Supply Officer
- o Senior Personnel Officer
- o Senior Engineering Officer
- o Controller (proposed assistant to the Treasurer)

The charge of the Budget Review Committee will be to review annually the recurrent and development budgets using methodologies identified for estimating the resource needs (i.e., staffing, supplies, medication, and equipment) of KNH based on data available to support these methodologies. The components for estimating resources includes:

IV-64

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- o Staffing requirements by skill level for all patient service areas and major support departments (e.g., maintenance, bio-medical engineering, personnel, supply, administration, finance, etc.,).
- o Medical supply consumption by ward and patient service area
- o Medication consumption by ward and patient service area
- o Maintenance required for all departments
- o Bio-medical engineering required for all departments and patient service areas
- o General supply consumption for all departments
- o New and replacement equipment requirements of all departments
- o Space requirements of all departments
- o Costs by department
 - Staffing
 - Medical supplies
 - General supplies
 - Maintenance
 - Equipment
- o Inpatient census by month
- o Inpatient days by month and ward
- o Inpatient days by ward and disease
- o Average length of stay by ward
- o Average length of stay by disease
- o Patient service volumes by department
- o Outpatient clinic volume per day, week, and month by specialty
- o Casualty volume per day, week, and month.

These components will form the basis for developing trends for forecasting patient utilisation of inpatient wards, specialty clinics, casualty, and service areas, (radiology, laboratory, physiotherapy, etc.,) and for estimating equipment needs, supply and medication consumption. The Budget Review committee will review and analyse the following data:

IV-65

- o Medical Records statistical data should be compiled for the past five years to develop inpatient and outpatient trends.

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- o Bio-medical engineering requests should be summarised to develop equipment maintenance costs for all departments.
- o Department Vote Books should be updated to include an inventory of all equipment and its expected useful life.
- o Supply should develop consumption trends based on SIII, invoices, and purchase orders for major departments, and develop stock inventory accounts for general use items.
- o Pharmacy should develop consumption trends by diagnosis, ward, outpatient and casualty areas.
- o Administration should develop projected resource needs of critical KNH services to include prioritising services by department, estimating staffing needs and consumption rates for supplies and medication, and equipment replacement and repair costs.

Based on historical data compiled from these areas, utilisation trends will be prepared. These historical trends will provide the foundation for projecting future resource needs. IV-66

The Budget Review Committee will develop guidelines for estimating future patient days by ward, disease, or other category utilising the historical inpatient utilisation rates and population growth trends. Similar guidelines will be developed for all patient service, outpatient, and casualty utilisation, and correlated with patient supply and medication consumption rate estimates. The guidelines for staffing requirements, should consider the hours of service required, complexity of tasks to be completed, technology and knowledge required, and available support to be provided. Equipment guidelines should be based upon the clinical services priorities of KNH. IV-67

The Budget Review Committee should develop input documents to support all department recurrent and development budget estimates. This documentation should be based on the historical and projected data provided by each department. Guidelines for preparing the support documents should incorporate criteria for KNH management review. IV-68

After formulating the methodology and documenting the guidelines for recurrent and development budgets, the Budget Review Committee will brief the Board Budget Committee charged with implementing Options 1 and 2. If option 1 is implemented the Board Budget Committee will charge the Associate Hospital Director-Treasurer with the responsibility for each KNH department. He will distribute input documents, historical trend information, and guidelines to each department. The departments will be responsible for the completion of all recurrent and development budget documents in accordance with approved KNH guidelines. The Associate Hospital Director-Treasurer will be responsible for the following: IV-69

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- o Review of each departments recurrent and development budget
- o Verification and review of documentation supporting the budget
- o Analysis supporting documentation in accordance with guidelines developed by the Budget Committee
- o Preparation of a summary of each departments recurrent and development budget and comparison of requested resources by a common unit of measures.
- o Preparation of a summary of expected revenue collections and MOH allocations for the budget year.
- o Recommendation of directions or critical actions relating to KNH's service needs and department recurrent and development budget requests.

The Associate Hospital Director-Treasurer will present the review and analysis with the compiled KNH recurrent and development budget to the Budget Review Committee for assessment and approval. The Budget Review Committee will forward their approval with comments, to the Board Budget Committee for review and implementation. The Budget Review Committee will be responsible for timely review of actual operating results with recurrent budget estimates and for reconciling differences. IV-70

Option 2--Decentralize responsibility and authority for recurrent budget and expenditure estimates only to the Associate Hospital Directors

Strengths

The strengths of option 2 include:

- o Fewer people for the Chief Accountant to interact with
- o Less expensive internal accounting controls will be required.

Weaknesses

The Team identified the following weaknesses with option 2:

- o Department managers will be less sensitive to resource costs
- o Will not strengthen management of the Hospital management would not be strengthened at the department level
- o Decision making will still be centralized
- o Financial planning will be based on the needs of KNH as viewed by senior management
- o Department accountability for resources would not be established

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- o Department managers will be responsible for their area without having authority over the control of resources.

Implementation Steps

The implementation steps for this option would be the same as those for option 1.

IV.A.2.3 Internal Accounting Controls

The establishment and maintenance of a programme of internal accounting control is an important responsibility of management. The system of internal accounting control should be under continuous supervision by management to ensure that it is functioning as prescribed, and is modified as appropriate to reflect changing conditions. To assure this we propose the following recommended options. IV-71

1. Develop and implement a hospital accounting system and an internal accounting control programme under the direction and control of the Hospital Director and the KNH Board.
2. Develop and implement a hospital accounting system and enhance the controls over assets and supplies with the objective of implementing an internal accounting control programme in three to five years.

What follows is an evaluation of the strengths and weaknesses of each option and the proposed implementation steps. IV-72

Option 1--Develop and implement a hospital accounting system and an internal accounting control programme under the direction and control of the Hospital Director and the KNH Board

Strengths

The strengths of option 1 are that it:

- o Assures independence of the administration of the programme and provides objectivity in reviewing the significance of accounting transactions
- o Maintains accountability at all department levels
- o Controls inventory of supplies and medication
- o Provides a system of checks (controls) and balances (responsibility and accountability) for the control of inventory and loss of equipment and supplies due to theft, mis-management and/or inappropriate use for all departments/activities of the Hospital
- o Provides an accounting system that supports the preparation of financial statements.

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Weakness

The only weakness identified with option 1 is:

- o Initial expenditures will impact cash flow of the Hospital but on-going savings of the programme could offset these costs

Implementation Steps

- o The Board should appoint an internal Committee comprised of five Board members to develop the terms of reference for the design and implementation of a hospital accounting system and an internal accounting control programme.
- o The Committee should solicit proposals from external consultants, Certified Public Accountants, or other organisations for the design and implementation of a hospital accounting system and an internal accounting control programme based on the terms of reference.
- o The Committee should determine the management of the Internal Accounting Programme and the reporting relationship to the Hospital and Board, estimating a budget for this function
- o The Committee should develop a job/position description for the management of the Internal Accounting Programme.
- o The Committee should identify key Hospital management personnel to coordinate the implementation of the accounting system and the Internal Account Control Programme.

Option 2- Develop and implement a hospital accounting system and enhance the controls over assests and supplies with the objective of implementing an internal accounting control program in three to five years

Strengths

The strengths associated with option 2 include:

- o Provides controls over inventory of supplies and medication inventory
- o Provides a system of controls to reduce the loss of equipment and supplies due to theft, mis-management and/or inappropriate use for select departments/activities of the Hospital.

Weaknesses

The following are weaknesses inherent in Option 2:

- o Does not maintain total accountability

- o Provides a system of checks and balances for only select departments/activities
- o Difficult to manage when control is partially implemented
- o Does not assure independence of the administration of the programme nor provide objectivity in reviewing the significance of accounting transactions since only certain transactions are under the control of the programme.

Implementation Steps

The steps necessary to implement Option 2 are identical to those for IV-73 Option 1. The development of an internal accounting control program is primarily a process of obtaining an understanding of the flow of transactions through each significant accounting application. Such an understanding is obtained through discussions with appropriate KNH personnel and review of documentation and records.

The Board should appoint an internal Committee comprised of five Board IV-74 members to solicit proposals from Certified Public Accounting Firms or other organisations for the design and implementation of a hospital accounting system and an internal accounting control program. The accounting system requirements should be developed by the Chief Financial Officer or, if that position is vacant, recommendations from the proposing Certified Public Accounting firms or other organisations should be requested.

The accounting system must support the preparation of financial IV-75 statements in conformity with generally accepted accounting principles or other criteria applicable to such statements. The internal accounting control programme must define the success for determining the significance of accounting transactions related to.

- o Accounting control procedures that should be implemented
- o Potential errors and irregularities that could occur based on existing procedures
- o Descriptions and other information to support the potential effectiveness of prescribed procedures for:
 - Cash Receipts--Cash received or handled before initial recording, cash recording and cash receipts
 - Cash Disbursement--Cash disbursement authorization, cash disbursement recording, and cash funds disbursement
 - Cash Balancing--Imprest or other working funds custody, cash reconciliation
 - Fee and charges--Initial fee/charge preparation, fee/charge recording and fee/charge processing

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- Trade Receivables Record--Subsidiary records maintenance, general ledger account reconciliation, and statement preparation
- Purchasing and Receiving--Purchase authorization, purchase orders preparation and approval, receiving orders preparation and vendor invoice verification, recording purchases, and maintaining trade payable records
- Payroll Status--Employee status, compensation, benefits, and other employee terms authorisation, payroll master, files, payroll disbursement authorisation, payroll disbursement custody handling, preparation, and recording, payroll cash balancing
- Inventory--Handling inventory transactions authorisation and approval, purchase records, subsidiary inventory records, reconciliation of subsidiary records with general ledger accounts, and physical inventory
- Custody of Property--Physical existence of property, property transactions authorisation and approval, property additions recording, depreciable lives and depreciation methodology, subsidiary records maintenance, and reconciliation of subsidiary records with general ledger accounts
- Journal entries and general ledger--general ledger entries authorisation, approval, preparation, and verification for journal entries and general ledger posting.

These proposals should be reviewed by the Board and the option of IV-76 internal accounting control should be implemented.

IV.A.3 Personnel Management

This section addresses four topics in personnel management: incentives for doctors, a personnel function, staff roles and responsibilities, and incentives for mortuary employees. IV-77

IV.A.3.1 Doctor Incentives

The growing demand for health services has had a major impact on KNH doctors. These doctors, who once only practiced clinical medicine at KNH, are now engaged in the private practice of medicine away from the Hospital. To return the loyalties of the doctors to KNH, and with the understanding that any deviation from the present doctor/professor structure is potentially politically sensitive, The Team recommends the following options. IV-78

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1. Increase consultants/specialists compensation and restrict their practice of medicine to KNH only.
2. Improve status of KNH's doctors by pursuing dual faculty/clinical appointments with the University of Nairobi College of Health Science.
3. Establish a Doctor's Practice Plan that would allow for the practice of medicine within KNH for:
 - o Doctors only
 - o All clinical, faculty, and technical staff.
4. Some combination of the proceeding.

Option 1--Increase consultants/specialists compensation and restrict their practice to KNH only

Strengths

- o Increase consultants' income and provides a favourable means to increase loyalty of consultants to the Hospital
- o Decreases potential of consultants/specialists taking a second job to earn more income
- o Provides KNH with more doctors time
- o Provides incentive for doctors to be more productive thus increasing the patient workload and possibly the time consultants have to see patients.

Weaknesses

- o Restriction could be detrimental to ongoing support of the Hospital
- o Additional expense of compensation could be a burden to the Hospital.

Implementation Steps

- o The Board should appoint a committee to determine the impact on the Hospital for each of the options.
- o The Committee should review the scheme of service and social benefit programme for the doctors with the respective Ministries governing the programmes.
- o The Committee should determine the appropriate strategy for the Hospital and develop and approach to negotiate with the Hospital's doctors, and/or CHS faculty.

Option 2--Improve status of KNH's doctors by pursuing dual faculty/ clinical appointments with University of Nairobi College of Health Science

Strengths

- o Increase KNH doctor status within the medical and university community
- o Provides incentive for doctors to be more productive thus increasing the patient workload and possibly the time consultants have to see patients
- o Increases loyalty of consultants to the Hospital.

Weaknesses

- o Additional expense of compensation could be a burden to the Hospital
- o Does not decrease the potential of consultants/specialists taking a second job to earn more income
- o Does not provide KNH with more doctor time.

Implementation Steps

The steps to implement this option would be the same as those for Option 1.

Option 3--Establish a Doctor's Practice Plan that would allow for the practice of medicine within KNH for

- o Doctors only
- o All clinical/faculty and technical staff.

Strengths

- o Increases consultants' income and provides a favourable means to increase loyalty of consultants to the Hospital.
- o Decreases potential of consultants/specialists taking a second job to earn more income.
- o Provides KNH with more doctors time.
- o Provides incentive for consultants to be more productive thus increasing the patient workload and possibly the time consultants have to see patients.
- o Provides KNH with more doctors (and technical staff) time.

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- o Provides benefits to CHS clinical/faculty professionals to earn additional income and expand practice of medicine.
- o Provides benefits to CHP clinical/faculty professionals to earn additional income and expand practice of medicine.

Weaknesses

- o Additional expense of development may be a burden to the Hospital.
- o Difficult to administer and manage a practice as large as this may be.
- o The inclusion of some or all professionals (doctors only or all clinical/faculty and technical staff) may impact loyalty, efficiency and effectiveness of service within the Hospital.

Implementation Steps

Option 3 would be the development of a group practice that allows IV-79 doctors, faculty, and possible technical staff to earn fees generated from private practice patients. The development of the group concept will include:

- o Doctors/faculty would have space in KNH for treating fee for service private patients
- o KNH would receive rental fee for space
- o KNH would provide radiology, laboratory, and other services to the group
- o KNH and CHS would have contractual arrangements for administrative and clinical responsibility over clinical care
- o Doctors/faculty will have contractual arrangements with KNH for inpatient, outpatient, and casualty services that are not fee for service
- o KNH and/or CHP would receive a percent of the private patient fee for:
 - Capital improvement
 - Education
 - Research
- o Doctors/faculty would have access to treating fee for service private patients
- o Doctors/faculty would have some type of clinical faculty appointment and meet departmental criteria for competence

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- o KNH will have contractual arrangements to provide billing, accounting, and collection of fees

The steps necessary to implement Option 3 are identical to Option 1 with the following additional steps: IV-80

- o The Committee will establish the goals and objectives of the practice plan, delineating the relationship between itself and the practice plan, and develop a job/position description for the post of Practice Plan Officer.
- o The Committee should recruit and hire a Practice Plan Officer.

The development of the Doctor's Practice Plan could be phased in gradually and include access to primary care for the population around the City of Nairobi. All these options are potentially politically sensitive and must be carefully examined and analysed prior to proceeding. IV-81

IV.A.3.2 Personnel Office

It is beneficial to KNH that employees are enthusiastic and happy in their jobs. If employees understand their jobs and there are opportunities for advancement, the employee's efficiency and productivity will improve. To provide an environment that attends to the needs of the employee, the Team recommends the following options: IV-82

1. Develop a Personnel Office to process and maintain employee files and records.
2. Strengthen the present personnel office to process employee records and continue to maintain employee files with MOH.

Option 1--Develop a Personnel Office to process and maintain employee files and records

Strengths

- o Will establish a formalized structure for recruiting, hiring, disciplining and dismissing employees thus providing control over human resources
- o Will provide a formal staff appraisal system to coordinate staff performance reviews
- o Will provide managers with assistance and direction in hiring
- o Personnel Office staff will be knowledgeable in health care
- o Will coordinate staff training to ensure it is current and up-to-date

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- o Will provide counsel for staff with personal questions
- o Staff files will be located at the Hospital, providing centralised control.

Weakness

- o Additional expense of Personnel Office may be a burden to the Hospital.

Implementation Steps

The KNH Director should appoint a Personnel Committee consisting of three of the Associate Hospital Directors. The Committee's charge will be to develop a Personnel Office function within KNH. IV-83

The Personnel Committee should review the present Personnel Office organisation and establish goals and objectives for the new Personnel Department. Once this is completed, the Committee should develop operating and procedural guidelines for the Personnel Department, such as: IV-84

- o Hours of operation
- o Skills of staff
- o Information requirement
- o Report preparation requirements
- o Staff duties and responsibilities.

In addition, the Committee should:

- o Identify guideline requirement for KNH staff performance evaluation
- o Work with the committee developing schedule of duties (job descriptions)
- o Develop file maintenance system for review of staff file and performance evaluation.

The Personnel Committee should solicit the assistance of a Human Resource Management consultant (possibly from MOH) in determining the needs of KNH Personnel Office. The development of office operating guidelines, employee file maintenance, and guidelines for processing new and continuing employee information will require expertise beyond that available at KNH. IV-85

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Option 2--Strengthen the present Personnel Office to process employee records and continue to maintain files with MOH

Strengths

- o Will provide a formal staff appraisal system and coordinate staff performance reviews
- o Will provide managers with assistance and direction in hiring
- o Will coordinate staff training to ensure it is current and up-to-date
- o Will be less expensive to implement management functions than to physically relocate the department.

Weaknesses

- o Will not provide control over human resources because staff files are not available for review.
- o Staff will not have counsel on personnel questions (staff files are not located at KNH)

Implementation Steps

The implementation steps for Options 2 are identical to Option 1 in the IV-86 area of enhancement of personnel functions.

The enhancement of the Personnel Office to be the processing center for IV-87 employee hiring, screening, evaluation, orientation, training, and management of human resources will provide managers a structure to better manage staff, and staff with resources that promote their advancement and well being.

IV.A.3.3 Staff Roles and Responsibilities

In order to improve the efficiency of KNH staff, schedules of duties (job description) that define the role, responsibility and reporting relationship of jobs should be written. These will re-define the career structure of the employee when incorporated with the scheme of service for the position. The options recommended by the Team are: IV-88

1. Write schedules of duties (job description) for all employee positions.
2. Initially write schedule of duties for middle and senior management positions and use job evaluations for other positions.

The strengths and weaknesses of these options are as follows:

IV-89

Option 1--Write schedules of duties (job description) for all employees positions

Strengths

- o Will identify job role in supporting KNH service
- o Will identify job responsibilities for performance of service
- o Will identify job reporting relationship and the organisation position
- o Will provide employees with and understand of job skills and qualifications
- o Will reduce employee job confusion
- o Will provide criteria for developing a career path for employee
- o May increase employee morale, efficiency, effectiveness, and productivity.

Weaknesses

- o Depending on the level of detail and support required, it may be expensive to develop
- o Job role, responsibility and reporting relationship may be subjective to input of person writing the description
- o Requirements to develop detailed and comprehensive job/position descriptions will consume a considerable amount of Hospital management's time.

Implementation Steps

The KNH Director should appoint a Personnel Committee comprised of the four Associate Hospital Directors (Nursing, Administration, Finance, and Clinical) and the Senior Personnel Officer. The charge of the Personnel Committee will be to develop schedules of duties (job description) for KNH job positions. The committee will complete their charge and disband. IV-90

The Personnel Committee should identify the job position designated by the Board for review (based on Option 1 or 2) and establish guidelines for the development of schedule of duties. These guidelines include the following for each position. IV-91

- o Minimum qualifications
- o Minimum skill requirements
- o Experience and training
- o Duties of position
- o Responsibilities of position

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- o Reporting relationship
- o Promotion schedule performance
- o Evaluation criteria

The committee should request assistance from the personnel office and solicit assistance from an external Human Resource or organisation Management Consultant, to design input documents that would collect required information from department and other managers. The process will include the following: IV-92

- o Identify all position for review by department and level
- o Determine if a schedule of duties exists for each position
- o Designate managers responsible for completing input documents and assign positions
- o Develop time schedule for completion of documents
- o Workshop for managers instructing them in the guidelines for the input documents.
- o Coordinate completion of input documents
- o Review input documents and finalise schedule of duties for positions
- o Develop performance evaluation criteria for positions
- o Enhance Annual Staff Appraisal Report to include schedule of duties information
- o Design staff Appraisal Report and guidelines for evaluation
- o Forward schedule of duties and Staff Appraisal Report guidelines to KNH Director for comment and approval
- o Conduct workshops to train managers, supervisor, and other personnel in the performance evaluation guidelines
- o Conduct information sessions for employees to present the schedule of duties for the respective job positions
- o Implement position schedule of duties and performance evaluation guidelines

The committee will complete its charges and disband.

The development of position schedule of duties and performance evaluation guidelines will provide each position with a well-defined career structure within the qualifications, merit, and ability of the duties and responsibilities of the position. IV-93

Option 2--Initially write schedule of duties for senior and middle managers and use job evaluations for other employee positions

Strengths

- o Will identify senior and middle managers job role, responsibilities, and reporting relationships
- o Will provide objective criteria for senior and middle managers performance evaluation
- o Allows gradual introductions and use of job description techniques to the Hospital's employees.

Weaknesses

- o Does not provide job roles and responsibilities for a majority of employees positions
- o Without job roles and responsibilities for Hospital professional and support staff, supervision remains a problem.
- o Does not provide criteria for performance evaluation for a majority of essential staff positions
- o Does not provide incentive to increase moral, efficiency, effectiveness or productivity for the essential staff positions.

Implementation Steps

The implementation steps for Option 2 would be the same as those for Option 1. IV-94

IV.A.3.4 Incentives in Mortuary

To avoid giving KNH a bad public image and to generally improve services the following recommendations are made. The recommendations are made on the basis that the job of a mortuary attendant is unpleasant. Therefore a premium must be paid to find people willing to take such a job. The job therefore requires special incentives above other hospital cadre of staff. To help defray this extra cost, KNH may wish to to introduce an official charge for all bodies collected at the mortuary. It is recommended that the incentive structure for mortuary employees be revised to reduce the incentives for abuse. IV-95

There are two ways in which the incentives can be structured:

1. Develop a special scheme of service for mortuary employees with salary scales high enough to compensate them for the unpleasant nature of the job.
2. Introduce a standard fee for mortuary services and use some of the money to share between mortuary employees. Some of the fee collected would be used towards the expansion of mortuary services and part of it would be shared equally by all the mortuary staff.

In addition to the above, the Hospital should also consider expanding mortuary facilities to cope with the demand. The remainder of this section discusses the strengths, weaknesses, and implementation steps for the above two options. IV-97

Option 1--Develop a special scheme of service for mortuary employees with salary scales high enough to compensate them for the unpleasant nature of the job.

Strengths

- o It will eliminate unofficial charges
- o The method would avoid creating a incentive scheme radically different from other departments at KNH.
- o An attractive scheme of service will enable discipline and supervision to be effectively administered.

Weaknesses

- o The level of salary which may be required to provide sufficient incentives could be too high compared with other hospital staff and job categories
- o If the salary levels are not high enough, unofficial charges will continue.

Implementation Steps

A committee should be formed the Associate Director in charge of administration, representatives from Personnel Department, representatives from Pathology, Chief Nursing Officer and Mortuary Superintendent. The committee will be responsible for developing a scheme of service attractive to mortuary employees, given the nature of their job. The Committee will be charged with recommending a strong supervisory mechanism to ensure that the mortuary supervisors are accountable for any shortcomings at the mortuary. IV-98

Option 2--Introduce a standard fee for mortuary services and use some of the money to share between mortuary employees. Some of the fee collected would be used towards expansion of mortuary services and part of it would be shared equally by all the mortuary staff.

Strengths

- o Will eliminate unofficial charges
- o Will help standardise mortuary fees
- o Does not require a special scheme of service
- o Will motivate the staff to offer better services.

Weaknesses

- o The practice could encourage staff from other department to demand a share of it an incentive programme similar to this programme
- o It could lead to complaints that money raised through provision of a service by a public institution was going to individual staff members.

Implementation Steps

The implementation steps of this option would be identical to Option 1, IV-99 except that the Committee would also be required to:

- o Determine what standard fee should be charged for mortuary services
- o Recommend the mechanism for collection of fees
- o Determine what proportion of the money collected goes fowards expansion and improvement of the mortuary services, and what goes to the staff.
- o Inform public about free and for-fee services.

IV.A.4 Physical Resource Management

The recommended options for three topics are the subject of this subsection. The three topics are: management of supplies and inventories, streamlining the procurement system, standardising equipment purchases, and preventive maintenance. IV-100

IV.A.4.1 Strengthen Management of Supplies

The following two broad recommendations are made to improve the supplies and stock management at the hospital. IV-101

1. Strengthen the Supplies Department to be fully responsible for reordering and inventory control for all departments or units of the Hospital.

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2. Delineate the roles of user departments and the Supplies Department with respect to inventory control. Have user departments and Supplies Department each responsible for their own inventories.

Option 1--Responsibility for inventory control and re-ordering will be with the Supplies Department

Strengths

- o Controlling the inventory will reduce shortages of essential items
- o It does not require as much additional staff because it is more centralised enabling the hospital to enjoy economies of scale
- o It is easier to manage because of the organised and structured system
- o It enables prioritisation of supply needs during financial austerity.

Weaknesses

- o If roles are not clearly specified these could be a potential conflict between user departments and supplies department when prioritising needs
- o Strengthening supplies procurement mechanism could make the mechanism relatively inflexible to urgent requests.
- o If controls for perishable items are not properly defined, it could lead to overstocking and consequently to expiry of some of the perishable supplies like drugs.

Implementation Steps

The implementation of this recommendation should be the responsibility of the Associate Hospital Director in charge of Administration and a committee with representatives from Supplies Department, Pharmacy and two user departments. The Committee should establish policies and operating guidelines for the maintenance and control of Hospital supplies. It should also develop procedures for inventory control, inventory ordering, and supply requisition and distribution. Specific tasks of the Committee might include: IV-102

- o Draft a supplies manual to be used by all departments
- o Determine stock holding levels and related inventory control policies
- o Estimate supplies consumption levels by various departments
- o Strengthen storage and security procedures in the whole system involving supplies department, the main store and user departments

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- o Establish a section in the supplies department to up-date inventory books
- o Improve the recording system so that purchases and orders by user departments are promptly recorded in the stock control and bin cards.

Option 2--Delineate the roles of user departments and the Supplies Department with respect to inventory control

Strengths

- o Avoids misunderstandings between user departments and the Supplies Department when supplies are ordered or supply needs are determined
- o User departments are able to get what they need quickly through participation in the procurement process
- o Would make departments more sensitive to their stock levels.

Weaknesses

- o More responsibility for staff department managers
- o It makes it more difficult to maintain control established for purchases and contracts
- o Could provide vehicle for mis-management and/or mis-use of supplies
- o It makes prioritisation of overall hospital needs difficult. (Prioritisation of hospital needs could be crucial during periods of financial scarcity).
- o If there are no separate votes for departments, the method could encourage over-ordering by some departments.

Implementation Steps

Steps would be the same as for Option 1.

IV-103

IV.A.4.2 The Supplies Procurement System

Although the recent supply procurement guidelines provide a good IV-104 foundation on which an efficient procurement system can be built, the system requires streamlining in several ways:

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There should be more effective enforcement and implementation the guidelines in areas such as confidentiality of tender information of individual tenderers, and the need to consider relevant aspects of submitted tenders to avoid giving price variations too much weight. IV-105

There should be a review of the guidelines after they have been in force for two years in order to see what aspects require changes. IV-106

Processing of tenders should be made much faster, being completed within a month after the closing date. Notification and signing contractual documents between the hospital and tender winners should be carried out within 2 weeks after the opening of the tenders. IV-107

This will have the following advantages: IV-108

- o Reduces the problem of the prices quoted by the tenderers becoming unrealistic
- o Enables the hospital to have legal backing to enforce prices and other terms quoted by the tenderers. This will in turn make it possible for the hospital to list black-list suppliers who are unable to meet terms offered in tenders
- o The suppliers will have more time to plan their importation of raw materials and production of good to be supplied to the hospital
- o Reduces the need to have many unplanned piecemeal purchases of supplies which are time-consuming and expensive
- o Reduces uncertainties and delays to the suppliers, which in turn lower their costs especially in terms of communicating with their overseas agents. This should enable the tenderers to quote lower prices due to expected low costs in supplying the tendered goods or services

The opening of tenders and the announcement of tender winners and prices quoted should be done in public and in the presence of interested tenderers currently have about the impartiality of the hospital procurement system and will also enhance price competitiveness of suppliers in subsequent tenders. IV-109

Following the signing of contracts with tenders winners, the hospital should have planned ordering. The orders should be in large enough quantities at any particular time to avoid inconveniencing suppliers. This could in the long run help suppliers to quote relatively lower prices. IV-110

The advertised tender should be as specific as possible to enable suppliers to know all the necessary details of the required supplies. IV-111

To minimise misuse of quotation more comprehensive procedure should be developed to ensure that the procurement system is not manipulated to force the hospital to purchase unnecessarily many items through quotations. IV-112

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Major suppliers of goods/services should receive information so as to avoid the common complaint that only a few favoured suppliers are informed. IV-113

Implementation Steps

The tender committee should spell out the minimum conditions which should be fulfilled in procurement through quotations. This should include a design of an open broader and effective communication machinery between KNH and supplies. One of the ways should be that tenders and quotation information of the hospital should be displayed in a lockable glass notice board accessible to all interested suppliers. IV-114

IV.A.4.3 Standardisation of Equipment Purchases

Maintenance efforts at KNH are constantly frustrated. When equipment breaks down, it is often difficult to buy spare parts for it. In a country with foreign exchange restrictions, it is important to be cognizant of the availability of spare parts and technical capability in the country when buying equipment. The Team recommends two options for achieving this: IV-115

1. Standardise equipment purchases with other hospitals.
2. Remain an independent purchaser of equipment, but attempt to improve purchases by assessing spares availability, training if in-house maintenance crew, and abilities of local servicers before purchasing equipment.

Option 1--Standardise equipment purchases with other hospitals

Strengths

- o Working equipment will increase the Hospital staff's morale
- o Availability of spares will be assured.
- o It will provide a cadre of specially trained personnel that can promptly respond to maintenance requests.
- o Procurement standardisation improve staff skills, knowledge of equipment repair, and morale.

Weaknesses

- o Implementation of group purchases and standardisation may be slow or difficult especially that involving private and government hospitals.

Implementation Steps

The Hospital Director should appoint a Maintenance Committee composed of the Senior Supplies Officer, an Associate Director, and several department managers. The Committee should contact area hospitals and establish the goals IV-116

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and objectives for the purchase of equipment and spares. The committee will assess departmental capital equipment needs, based on workload/or utilisation. They will do a survey of equipments to assess their lifespan. They will also:

- o Prepare procurement guidelines and issue them to suppliers. Make sure the other hospitals use similar criteria and guidelines
- o Procure equipments that fit the standards set by the committee
- o Arrange payments according to contractual agreements
- o Equipments standardisation is going to be a continuous process. Any occasion arising for new equipment purchase the procedures and guideline must be followed. However the procurement in groups requires constant consultations and supervision of whether guidelines are followed. This whole process may take over one year.

Where donors give equipments—the committee should regularise the quipment IV-117 acquisition. A donor policy should include the following guidelines:

- o Equipment type - and its fuctions
- o Life span of the equipment stipulated
- o Spares guarantee and for a given period
- o Personnel skills for maintainance required should be negotiated and provided.
- o Costs for a similar equipment must be assured at end of life span of present equipment.
- o Seek donors willingness to purchase what is required and not what they want to donate.

Option 2--Remain an independent purchaser of equipment, but attempt to improve purchases by assessing spares availability, training of in-house maintenance crew, and abilities of local servicers before purchasing equipment

Strengths

- o Availability of spares will be assured
- o Will improve staff motivation because functional equipment will increase morale
- o Would not have to interact with other hospitals on sensitive equipment issues.

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Weaknesses

- o Would not have the advantage of skilled maintenance personnel of other hospitals
- o Would not have other hospitals to fall back on if unavailable spares were required.

Implementation Steps

The steps for implementation would be the same as those for Option 1, except that KNH will not be dealing with other hospitals.

IV.A.4.4 Preventive Maintenance

Inadequate maintenance of equipment is one of KNH's largest and most pervasive problems. Investigation by the Team revealed that approximately 28 percent of all of the Hospital's equipment is in need of repair. Equipment is not serviced routinely, and instruction manuals for servicing do not exist. IV-118

A preventive maintenance program would alleviate the problem of equipment breaking down and holding up hospital operations. It would greatly reduce the amount of repairs needed, and perhaps the seriousness of repairs as well. IV-119

To ensure that preventive servicing is done at KNH rather than crises repairs, the Team offers the following options: IV-120

1. Develop and implement a programme of preventive maintenance.
2. Complete all pending repairs concurrently or before embarking on a preventive maintenance programme.

Option 1--Develop and implement a programme of preventive maintenance

Strengths

- o Saves money in the long run
- o Prevents disruption of work/operations that are caused by sudden breakdowns, and improves hospital efficiency
- o Increased the lifespan of equipment
- o Reduces the time that the equipment is out of order (down time of equipment)
- o Improves staff morale.

Weaknesses

- o Could lead to a situation where non-useful equipment or unserviceable equipment are routinely serviced at a high cost to hospital

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- o Eliminates outdated equipment slowly
- o Will not eliminate the problem of equipment needing immediate repairs.

Implementation Steps

To develop a scheme of preventive maintenance a Hospital Maintenance Committee will be formed. This committee is the same one formed in Section IV.A.4.3. The committee will ensure that a hospital wide equipment inventory is completed. The information provided from the inventory should include, if possible: IV-121

- o Type of equipment
- o Serial number
- o Manufacturer
- o Functioning or not functioning
- o Age and remaining lifespan of equipment
- o History of repairs
- o Dealer--local or not local.

For each piece of functioning equipment, the committee will also find out: IV-122

- o Spare parts needed on a regular basis
- o Service frequency
- o Whether equipment can be serviced inhouse or through a dealer

From the above information on the functioning equipment the committee should determine the cost and manpower requirements of a preventive maintenance programme. If there are not enough financial or human resources available, equipment to be put on the programme will have to be prioritized. IV-123

The Committee should then delegate responsibilities for preventive maintenance to the three sections of the Maintenance Department: buildings, electrical, and mechanical. IV-124

Next, contract or hire services for equipments not handled by hospital maintenance crew. Then, guidelines and schedules of maintenance for the whole hospital should be established. IV-125

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A permanent subcommittee of the whole hospital maintenance and development committee will then enforce and direct the programme, guidelines and schedules. Equipment inventories should be done on a regular basis. IV-126

Option 2--Complete all pending repairs concurrently to or before embarking on a preventive maintenance programme.

Strengths

This option would have all the strengths of Option 1, plus the following: IV-127

- o Forces the management to take inventory of broken down equipment and prioritise repairs on demand
- o Quickly eliminates outdated equipment from the Hospital
- o Improves staff morale

Weaknesses

- o Initially more costly than Option 1, but saves money in the long run
- o Could lead to conflicts over priorities of which equipment gets repaired

Implementation Steps

The steps would be the same as those in Option 1, except that an estimated repair cost for each piece of non-functioning equipment should be determined and then these repairs should be prioritized, based on cost, urgency of repair, whether the equipment is obsolete, etc. The Hospital should then re-allocate or request the additional funds. IV-128

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IV.A.5 Management of Environmental Factors

This section evaluates the recommended options for addressing the environmental problems delineated in Section III.A.5. The strengths and weaknesses of each identified option are presented along with an action plan in the form of specific implementation steps. This section is organized into the following five subsections: IV-129

- o Mission Clarity
- o Development and Enforcement of Referral Protocols and Procedures
- o Internal and External Communication.

IV.A.5.1 Mission Clarity

A hospital's mission statement is the path that guides the future direction of the institution, establishing the boundaries and framework for decision making. Kenyatta National Hospital's (KNH) mission was broadly specified in the legal Notice that established the Board of Directors and made the institution a State Corporation. One of the roles of a Board of Directors is to interpret an institution's mission. Given the impact of environmental factors on KNH's current role, the Team's only recommendation associated with the problem of mission clarity was that the KNH Board of directors definitively interpret the Legal Notice, clarifying the mission of the Hospital within the Kenya health delivery system. The team felt that this was an over-riding issue--and thus highlighted it in the Interim Report presented to the Board on the 22nd January, 1988--because it would clarify the Hospital's future direction thus allowing for more specificity in developing recommended options. IV-130

The Board of Directors of KNH addressed the issue of mission clarity at the Board Retreat conducted on the 12th February, 1988. In interpreting the Legal Notice the Board unanimously confirmed its desire to fully embody the mission statement with a priority placed on achieving that end at the earliest possible date. A strict interpretation of the Legal Notice was made by the Board and was further clarified with the establishment of the objective to be a "Center of Excellence" and a leader in the delivery of quality health care services in the Republic of Kenya. IV-131

Quick achievement of KNH's mission is inhibited by a number of environmental factors that are beyond the control of the KNH Board, and could take a number of years to be ameliorated (e.g., the lack of sufficient physical facilities and personnel to meet the inpatient primary and secondary care needs of residents of the City of Nairobi). Proactive encouragement and support of external organizations by the Board is encouraged, but in the absence of innovative solutions is not likely to have a significant impact in more quickly fulfilling the Hospital's intended mission. Having received a IV-132

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clear interpretation of KNH's mission from the Board, the Team turned its attention to the identification of options for expediting its implementation. The following are three recommended options for shortening the timeframe required for KNH to realise its intended mission.

1. Incorporate the activities conducted in the Infectious Disease Hospital (IDH) into KNH turning the IDH facility over to either the Nairobi City Council (NCC) or the Provincial Medical Officer (PMO) for Nairobi.
2. Relocate the primary and secondary care activities currently performed at KNH to a portion of the old hospital for use by NCC or the PMO Nairobi until alternative inpatient facilities are constructed.
3. Isolate a portion of the current KNH facility and dedicate it solely to the provision of primary and secondary care.

The remainder of this subsection evaluates the strengths and weaknesses of each of the preceding options. An action plan delineating individual implementation steps is also provided as a guide for the Board and management of KNH. IV-133

Option 1--Incorporate the activities conducted in IDH into KNH turning the IDH facility over to either NCC or the PMO for Nairobi

This particular option is multi-dimensional--designed to achieve a physical consolidation of clinical functions that are consistent with KNH's mission, improve managerial and operational effectiveness, and the timeframe for realizing the Hospital's mission. A pictorial representation of the discussion which follows is presented in Exhibit IV.A.5-1. IV-134

The Board of Directors and management of KNH are currently responsible for the operation of three physically separated facilities; the Kenyatta National Hospital, the Infectious Disease Hospital, and the Spinal Injury Hospital (SIH). All three hospitals are referral facilities, however only KNH and IDH provide specialised levels of care. SIH's services are primarily rehabilitative in nature and therefore not consistent with KNH's mission. We recommend as part of this option, and the overall management consolidation process, that KNH transfer SIH to MOH. IV-135

The second component of this recommended consolidation would be to physically co-locate the functions performed within IDH into the KNH tower. This is consistent with the specialised components of KNH's mission and is operationally effective, as many of the laboratory tests ordered by IDH doctors are performed at KNH. To accommodate IDH's programs and services within KNH, the primary and secondary care functions currently provided at the Hospital would be relocated to the IDH facility. This physical removal of non-specialised and unreferral activities is intended to dramatically expedite the achievement of KNH's mission. IV-136

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We envision the IDH facility being operated as a general acute care hospital. Its scope of services would include both inpatient, outpatient clinic, and casualty care. Under this option the filter clinics operated by KNH would be closed and that activity transferred to the IDH facility. The services performed in casualty should also be transferred to IDH and/or other facilities when the volume and complexity of care can be accommodated. As with other types of illnesses/conditions, patients seen in casualty departments should be stabilised and referred to KNH if specialized services are required. By removing casualty and the filter clinics from KNH, the two most significant avenues of unconstrained access to the Hospital will be closed allowing for better enforcement of referral policies and procedures. IV-137

The Team believes this option is feasible because it satisfies KNH's social welfare and political responsibilities while making available a badly needed facility for the delivery of inpatient services to residents of Nairobi. The former IDH facility and, if necessary, the staff to operate it should be temporarily provided to the new manager--either NCC or the PMO for Nairobi. The choice of which entity operates this hospital is the Boards, and should be based on operational and political expediency criteria. IV-138

This option would also facilitate the disaggregation of non-specialised and tertiary education and training activities for medical/health professionals at KNH. The Board should seek in refining its relationship with CHS and CHP to have only specialised education and training functions occur at KNH. However, while this refinement would contribute to the improvement in effectiveness and efficiency of KNH and is consistent with the Hospital's mission, it should not become the issue that impedes the implementation of the remaining components of this option. What follows is an evaluation of the strengths and weaknesses of this option. IV-139

Strengths

The strengths of Option 1 are that it: IV-140

- o Consolidates all specialised referral care within the KNH facility
- o Physically separates primary and secondary levels of care from KNH resulting in a clean operational and managerial solution
- o Can be quickly implemented without abandoning the Hospital's social welfare responsibilities
- o Provides residents of the City of Nairobi with a badly needed inpatient facility
- o Focuses the clinical education of doctors and allied health personnel training at KNH on specialised referral care only
- o Assists in dispelling the common public perception that KNH provides all levels of care.

Weaknesses

The weaknesses associated with Option 1 include the following:

IV-141

- o Infection control practices within KNH may not be sufficient to clinically incorporate the activities currently performed at IDH within the tower.
- o Unbundles clinical education and training activities to multiple locations for CHS and CHP.

Implementation Steps

Some form of Option 1 was initially considered during the Abdullah Commission Study and rejected. Should the Board decide to pursue this option it must position its proposal so as to minimise any resistance from affected parties. If consensus could be reached with representatives from NCC, MOH, CHS, and CHP this option could be implemented quickly and would likely have a dramatic affect on KNH's ability to fulfill the objectives of the reform. A list of the major steps for implementing Option 1 follow.

IV-142

- o Assess the physical space implications of the following:
 - o Eliminating the delivery of primary and secondary care at KNH and relocating it to IDH.
 - o Moving all the clinical and service activities currently provided at IDH to KNH.
 - o Identify the facility, departmental and access modifications that would be necessary at KNH to control cross-infection rates and the spread of communicable diseases.
 - o Meet with representatives from NCC, MOH, CHS, and CHP to discuss the practical feasibility and acceptability of this option and the likely operating entity (i.e., either NCC or PMO Nairobi).
 - o Gain consensus among interested parties on this option, delineating specific requirements (e.g., modification of IDH for use as a general hospital), a task plan, and a timetable for implementation.
 - o Establish a multi-organisational Transfer Committee responsible for coordinating and executing the task plan.
 - o Notify employees, patients, and the public of the impending changes in facility use and administration, and its implication for the type and scope of care to be delivered at KNH.

Option 2--Relocate the primary and secondary care activities currently performed at KNH to a portion of the old hospital for use by NCC or the PMO Nairobi until alternative inpatient facilities are constructed

This option seeks to expedite the achievement of KNH's mission by reusing the old hospital for inpatient care. This objective is reached by focusing the Hospital's activities on the mission it desires to fulfill, while providing either NCC or the PMO Nairobi with a needed inpatient medical facility. The space vacated by the elimination of primary and secondary care at KNH could be used to consolidate appropriate tertiary referral functions currently housed in the old hospital, or to expand the depth and breadth of selected specialised services. IV-143

Given the proximity of this solution, KNH management must isolate itself from the proposed services provided in the old hospital facility and seek to minimise the impact of any patient confusion related to the location of select care. An assessment of the strengths and weaknesses of this option are presented below. IV-144

Strengths

The strengths of Option 2 are that it: IV-145

- o Physically separates primary and secondary levels of care from KNH resulting in a clean operational and managerial solution
- o Can be quickly implemented without abandoning the Hospital's social welfare responsibilities
- o Provides residents of the City of Nairobi with a badly needed inpatient facility
- o Focuses the clinical education of doctors and allied health personnel training at KNH on specialized referral care only.

Weaknesses

The following are the weaknesses identified with Option 2: IV-146

- o The old KNH facility is nearly filled to capacity with health and health-related functions (e.g., a dental unit, the orthopaedic unit, World Health Organization (WHO) activities, clinical research, etc.,) that would need to be relocated.
- o The cost of upgrading the old Hospital for temporary reuse as an inpatient facility may be high.
- o Use of the old hospital for delivery of primary and secondary care could increase congestion on the KNH campus and may contribute to patient confusion related to the location of specific services and KNH's health delivery role.

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Implementation Steps

The specific implementation steps required to operationalise this option are similar to those for Option 2. Physical space considerations in Option 2 focus on the old hospital facility rather than the Infectious Disease Hospital with the concern over cross-infection rates becoming a non-issue in this alternative. The feasibility of consolidating and relocating existing activities in the old hospital and the identification of any physical space modifications and their associated costs and timeframe are important early implementation steps. Another difference worth noting during implementation is the need for establishing agreements between KNH and the operating entity (i.e., either NCC or the PMO Nairobi) regarding the demand for and use of support department resources (e.g., laboratory, radiology, laundry, etc.,) and the method of payment for those services. IV-147

Option 3--Isolate a portion of the current KNH facility and dedicate it solely to the provision of primary and secondary care

Option 3 is recommended by the Team as a viable alternative to the status quo should Options 1 and 2 be rejected for political reasons or become impractical to implement. Under this option KNH would establish and enforce more stringent admissions policies for primary and secondary levels of care thereby effectively controlling the quantity of care to be delivered. This decision would be further reinforced by the creation of physical barriers within the Hospital which limit the amount of available space for non-specialised care as well as restrict the demand and access to support department services. IV-148

To be effective a senior manager would need to be identified and given the authority and responsibility for managing this "hospital within a hospital" so as to ensure the achievement of desired mission objectives and the managerial and operational isolation of this activity from the remainder of KNH. This option is the least viable solution over an extended period of time for expediting the achievement of KNH's mission. Other proactive measures would need to be pursued by the Board if additional avenues of environmental relief--such as the operation of additional ambulatory care facilities and the opening of inpatient hospitals within the City of Nairobi--did not become available in the near-term. An assessment of the strengths and weaknesses of this option are presented below. IV-149

Strengths

The following are the strengths of Option 3: IV-150

- o Restricts the resources KNH commits to the delivery of primary and secondary levels of care
- o Separates non-specialised levels of care within KNH
- o Can be quickly implemented without abandoning the Hospital's social welfare responsibilities.

Weaknesses

The weaknesses of Option 3 are that it:

IV-151

- o Utilises valuable physical space for non-specialised care
- o Is operationally and administratively cumbersome
- o Diverts limited service department resources (e.g., laboratory, radiology, etc.,)
- o Contributes to a lack of clear public perception regarding KNH's health delivery role
- o Limits avenues for consolidating those activities that are most closely associated with the Hospital's mission.

Implementation Steps

The action plan for implementing Option 3 includes the following steps:

IV-152

- o Review medical records collecting diagnosis and utilisation information to determine the current workload associated with the delivery of primary and secondary levels of care at KNH.
- o Identify that portion of current care that could be diverted to other providers, and the resulting physical space requirements for the non-specialised care unit.
- o Determine the necessary facility modifications and the associated costs to isolate this activity from the remainder of the Hospital.
- o Develop a task plan and timetable for implementation and initiate the activity.
- o Establish a new admissions policy and an approach for monitoring compliance, informing doctors and staff of the proposed new unit and its intended mission.
- o Recruit a senior manager and the personnel from within KNH to staff this new unit.

Achievement of KNH's mission as interpreted by the Board is a critically important milestone in the process of reform. Given the dynamic health delivery environment that the Hospital is a part of, and the shortage of resources throughout the system, a proactive stance by the KNH Board of Directors to fulfil its mission could be the key necessary to obtaining some measure of self-sufficiency in the future. The Team strongly encourages the Board to proactively pursue all reasonable options for achieving this objective.

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IV.A.5.2 Referral Protocols and Procedures

Legal Notice No. 106 of 6th April 1987 which constituted KNH as a state corporation states that the purpose of the Hospital is "to receive patients on referral from other hospitals or institutions within or outside Kenya for specialised care". A strict interpretation of the purpose to be a referral facility for specialized care would mean that KNH should not admit any primary or secondary patients. At present, however, the Nairobi City Commission health facilities and the facilities under the P.M.O. Nairobi area are inadequate to deal with the primary and secondary patients now being attended to at KNH. IV-154

To strengthen KNH's role as a tertiary referral hospital, the Team IV-155 recommends the following:

1. Develop, communicate, and enforce referral protocols between KNH and provincial and district facilities, private facilities, church facilities, and Nairobi City Commission facilities. KNH should also set up a system for monitoring and evaluating referral patterns.
2. Status quo - continue to provide limited primary care.

Option 1--Develop, communicate, and enforce referral protocols.

Strengths

- o Will reduce the long queues of unreferral patients at KNH and decongest the hospital.
- o Will facilitate the achievement of the hospitals Mission as stated in the Legal Notice.
- o Will facilitate better use of high level skills and expertise.
- o Will enable the KNH Board to take early action with those concerned to facilitate the decongestion of KNH.
- o Will iron out existing problematic relationships with other hospitals and N.C.C.
- o Will force referring institutions refer only cases needing specialist attention at KNH.

Weaknesses

- o Will be difficult to enforce.
- o Has to be implemented gradually.
- o Success in implementation will depend largely on external factors outside direct control (Environmental factors - i.e. provision of adequate facilities to take current PHC and secondary patients attending KNH.)

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Implementation Steps

The KNH Board will authorise the Director to appoint a Committee consisting of top Physicians from the major clinical divisions (Division Chairmen) The Chief Hospital Secretary should be the Secretary to this Committee. The Committee's terms of reference will be to: IV-156

- o Establish clear and firm protocols (criteria) and procedures for referral to KNH.
- o Develop an indicative implementation plan and implementation steps which will include various deadlines for which categories of unreferral patients will no longer be seen at KNH.
- o Develop necessary mechanisms and procedures to enforce the protocols. The mechanisms should allow access to critical groups of patients who require the skills, expertise and equipment that is available at KNH.
- o Set up a system of monitoring and evaluating implementation.

The Task Committee's report on the above issues should be presented to the Board for approval within four months after the commencement of their work which should begin immediately after the submission of the Teams Report. IV-157

After the approval of the Referral protocols and procedures, implementation should be undertaken by the Heads of Clinical Divisions under the overall direction of the Director and administrative support from the Associate Director in charge of administration as follows:- IV-158

Using the protocols and the indicative implementation plan developed above identify steps and actions that can be taken in the short and long term by KNH and those concerned and document appropriately. IV-159

Develop a plan to communicate the criteria and procedures for referral to KNH and submit copies to: IV-160

- o The Ministry of Health Headquarters
- o Provincial and District Hospitals
- o MOH Nairobi City Commission
- o Private practitioners - both doctors and institutions.
- o Church Hospitals
- o The general public.

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The committee should then discuss and obtain agreement on key issues, deadlines and milestones for both the short and long term steps and actions in the implementation plan. IV-161

They should publicise the agreements (consensus) reached on the implementation of the protocols and procedures in the Mass Media for general information. The short term measures should then be implemented. IV-162

Using the protocols and procedures give necessary inputs guidance and advice to the PMO Naorbi area Mathari Hospital and MOH, N.C.C. to speed up the facilities improvement plan to facilitate speedy implementation of the decongestion process for KNH and agree on the phasing of the implementation of the long term steps. IV-163

Option 2--Status quo - continue to allow a limited number of primary and secondary care patients

Strengths

- o Easy to administer
- o Beneficial to the patients in view of the inadequate facilities and expertise at the Provincial and District hospitals and N.C.C. health facilities
- o Provides a better mix of patients for medical education.

Weaknesses

- o Results in long queues of unreferrred patients and congestion at the hospital
- o Makes management of the hospital more complicated
- o Does not facilitate optimal use of the skills, expertise, and other facilities at KNH in its role as a national referral and teaching hospital
- o Does not encourage the other hospitals in the referral chain to do their 'best' before referring patients to KNH
- o Creates friction between KNH management and other hospitals in the referral chain
- o Does not facilitate the achievement of KNH's Mission.

Implementation Steps

There would not be any implementation steps for Option 2. IV-164

IV.A.5.3 Internal and External Communications

Kenyatta National Hospital is plagued by a poor public image. News of inadequate supplies and unenthusiastic staff often makes the press. Stories IV-165

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circulate throughout general public about patients being ignored and having to wait in long queues and dissatisfied doctors and nurses. It is very difficult to rectify a poor public image, but it is not too late for KNH: many people still think that it offers the best care in the country. The overall image of the Hospital can be boosted significantly if deliberate and concerted image promoting efforts are made by the hospital management.

The Team hypothesised that inadequate internal and external communications contributed to KNH's image problem, and investigated the following: IV-166

- o Inadequate communications with patients and the general public.
- o Inadequate communication of senior management with middle management and staff
- o Ineffective patient education coupled with lack of appropriate understanding of the medical system
- o Ineffective internal and external communication systems

The Team discovered that the Hospital does indeed have communication problems in the above areas. We recommend that KNH improve its lines of communications with internal and external communications. Some of the means for doing this might include: IV-167

- o Inpatient and outpatient information bulletins
- o Patient satisfaction surveys
- o Creation of a complaints/suggestions department
- o Ombudsman to solve patient problems
- o Monthly or twice monthly staff newsletters
- o Newsletters to staff and middle management from the Director or senior management
- o Improve relations with the external media

To improve communications through the above and other means, the Team recommends the following options: IV-168

1. Create a Public Relations Office which will establish regular and consistent lines of communication.
2. Assign an Associate Hospital Director the responsibilities of public relations.

Option 1--Create a Public Relations OfficeStrengths

Creation of a Public Relations Office will:

IV-169

- o Boost KNH's public image to patients, relatives, the general public and the Government and lead rapport.
- o Improve patient education and understanding of KNH.
- o Improve inter-departmental cooperation and collaboration.
- o Minimise patients complaints and improve patient satisfaction.
- o Provide a forum for external suggestions for improvements of services offered by the hospital.
- o Improve client (customer) relations with KNH through the use of a hospital facility to solve patients problems.
- o Improve relations with the environment - suppliers, investors, the mass media; tax-payers and other interested groups and facilitate better understanding of the hospitals role as defined in the Mission Statement given in Leger Notice No. 106 of 6/4/1987.
- o Improve quality of care to patients.
- o Facilitate communication between KNH professionals and professionals in other similar hospitals in the country/regions and hence broaden its influence and boost its status.

Weaknesses

- o Implementation of the recommendation will need additional resources both development and recurrent e.g. equipment, physical facilities, additional funds, materials and skilled and support personnel.
- o Impact will be gradual and initially may not be dramatic.
- o Will need investment both in the short and long run. Funds for recurrent expenses have to be provided on annual basis to keep the public relations activities and programmes going.

Implementation Steps

Once the Board approves the recommendation to create a Public Relations Office the Director will designate the Chief Hospital Secretary to coordinate a team of three officers consisting of himself (CHS) the senior Personnel

IV-170

Officer and the Chief Accountant to make necessary arrangements and plans and to obtain the necessary resources to facilitate the creation of the office as recommended by the Team. The terms of reference for the three man team will be:

- o To prepare the functions, duties, responsibilities, authority, operational and reporting relationships in accordance with the recommendation. The P.R.O. will fall under the Associate Hospital Director in-charge of Administrative services.
- o To determine the academic, and professional qualifications for the post of the officer to be in charge of the office.
- o To determine terms and conditions of service for the officer which are commensurate with his duties, responsibilities and which are competitive with similar positions in other state corporations.
- o Determine the size of the office in terms of the total staff complements; equipment; supplies and operational expenses initially and when the office becomes fully developed.
- o Define the position of office in the Hospital, its organisation structure and 'lines for coordination' with operational and staff departments.
- o Identify sources of funds and other resources to implement the recommendation.

Once the steps outlined above are accomplished, the plan and budget will be submitted to the Director who would obtain necessary authority from the Board (Finance Committee) to set aside the resources required to set up the office. As soon as the resources are available, necessary administrative organizational and arrangements will be made to provide a furnished equipped office plus money to purchase the necessary printing and other materials. The possibility of using printing facilities at the Health Education Unit (HEU) of the Ministry of health to print KNH staff Newsletters; patient brochures Press releases etc. should be explored at this stage.

IV-171

The next step would be to advertise and fill the post(s) necessary to start the operations of the office. After the placement of staff in their respective positions, the P.R.O. will start the image - improvement programme for KNH as prioritized by the Board. The Board and KNH Management will periodically monitor the success of the office against the approved implementation plan and make adjustments where necessary. When fully developed the activities of the P.R.O.s office will include:

IV-172

- o Active liaison with the mass media to boost the image of KNH.
- o The preparation and distribution of in-and-out-patient information bulletins.
- o Compilation, editing and production of periodic staff

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Newsletters.

- o Conducting periodic patient satisfaction surveys and disseminating the findings to KNH Management for action.
- o Compilation of complaints and suggestions for improvements from patients, relatives and the general' public for necessary action by KNH management.
- o Solving patient problems.

The Public Relations office should be fully operational within one year after the submission of the Study Team's Report to the KNH Board. IV-173

Option 2--Assign an Associate Hospital Director the responsibilities of public relations

Strength

This option will have all the strengths listed above, plus: IV-174

- o Will be less expensive than Option 1, because the Hospital won't need additional funds or manpower.

Weakness

- o May overload the Associate Director, and therefore communications may not be given the attention it deserves.

Implementation Steps

The steps for Option 2 would be very similar to those for Option 1, excluding the logistics of setting up a new office and hiring additional staff. IV-175

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IV.B EFFICIENCY

This section repeats the recommended options to address efficiency problems to present the Team's analysis of the strengths, weaknesses, and implementation steps of each. The section is divided into two subsections. The first looks at clinical efficiency, the second at administrative efficiency. IV-176

IV.B.1 Clinical Efficiency

Strengths, weaknesses, and implementation steps for recommended options with regard to three areas of clinical efficiency are discussed in this subsection: the admissions department, treatment protocols for quality assurance, and diversion of inappropriate demand. IV-177

IV.B.1.1 Admissions Department

The current admissions procedures at KNH contribute to low patient turnover and long ALOS. There are no clear-cut admissions criteria, and no central place where visitors can find out the location of patients. To strengthen the admissions function at the Hospital, the Team recommends choice between the following options: IV-178

1. Create an Admissions Department.
2. Leave admissions decentralised, but strengthen the tracking system and screening procedures in each of the wards and clinics. Make the systems and procedures uniform.

Option 1--Create an admissions department

Strengths

- o Will streamline admissions procedures.
- o Will facilitate efficient use of beds, and help to reduce ALOS and overcrowding.
- o Will streamline billing of patients.
- o Will help to improve communication between clinical departments, doctors, and Medical Records.
- o Will facilitate better communication with patients.

Weakness

- o Will require additional resources.

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Implementation Steps

In order to implement establishment of an Admissions Department a committee should be appointed to determine, develop, document and initially implement a set of criteria for admissions. The Committee should consist of the Associate Director responsible for clinical services (chairman), representatives from the Nursing, Finance, Administration and Medical Records Departments and two Clinical Specialists (representing Medicine and Surgery). IV-179

The function of the Committee will be to produce criteria for KNH admissions. This will be accomplished through review and revision of current admissions criteria and practices for Casualty filter and referral patients. By adhering to the admissions criteria, the Hospital should be able to both coordinate admissions with the availability of facilities and steer the hospital towards its mission. For instance, one of the criterion may be that surgical patients are not admitted until they are scheduled for surgery. This would prevent long length of stays in the surgical wards resulting from being admitted then not being operated on promptly. Or, as another example, if beds are not available in a medical ward, an elective medical admission from the clinics could be booked for a later date. IV-180

In addition to coordinating admissions with availability of facilities, adherence to criteria could also help steer the Hospital towards its mission. If the Hospital decides it wishes to be only a tertiary referral, for example, it should strictly enforce the rule that no patients are admitted without a valid referral letter. IV-181

All of the criteria will be communicated to all provincial, district, private hospitals and other physicians utilising KNH. IV-182

After the KNH Board approves the Committee's recommendations, an admissions process consistent with the criteria should be implemented. The implementation of the process will be done in liaison with, and include active participation of, all the staff who will be responsible for carrying out implementation. The implementation of the Admissions Process will include: IV-183

- o Developing guidelines for operations:
 - Hours of operation--Information required upon admission
 - Location and equipping of the department
 - Organisational control
 - Staffing
 - Referrals
 - Casualty admissions
 - Discharge notification.

- o Developing departmental policies and procedures supporting guidelines for operations.

- o Developing admission scheduling procedures and policies:
 - Pre-admission notification to the wards before admission from the clinics.

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- Pre-admission theatre scheduling.
- o Develop information collection instruments that will routinely gather information on:
 - Number of referrals by source
 - Admission per physician/clinical discipline
 - Transfers
 - Origin of patients

By tracking the type and source of admissions, the Hospital will be better able to adapt its service mix to the needs of its patient population.

- o Determine the skill-mix, management structure for the Admissions Department equipment and other resource requirements
- o Designate responsible authority for hiring and training personnel and implementing the admissions function.

The Committee will present its recommendations for Board approval within six months of appointment. The Committee will be disbanded after the Admissions Department has functioned for six months. IV-184

Option 2--Leave admissions decentralized, but strengthen the tracking system and screening procedures in each of the wards and clinics. Make the systems and procedures uniform.

Strength

- o No conflict with the current practice of consultant.

Weaknesses

- o Difficult to provide patient location information because of decentralisation
- o Difficult to track admissions and referral information needed for planning.

Implementation Steps

The steps would be the same as in Option 1, except that the admissions procedures and criteria would be implemented in each of the wards instead of by an admissions department. IV-185

IV.B.1.2 Treatment Protocols for Quality Assurance

One of the Hospital's main goals is to deliver the highest quality of care possible. As one step towards assuring quality care, the Team offers the following recommendations related to treatment protocols: IV-186

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1. Form clinical quality-control committee(s) to establish standard treatment protocols and to carry out medical audits of therapy, diagnostics, and medications for the most common diagnoses. Establish a committee to periodically review whether protocols have been applied.
2. Establish a clinical quality-control committee that retroactively reviews average length of stay, diagnostics and treatment for the most frequent admissions by department.

Option 1--Form clinical quality-control committees to establish standard protocols and of therapy, diagnostics, and medications for common diagnosis. Establish a committee to periodically review whether protocols have been applied.

Strength

- o Establishes criteria for evaluation of clinical services

Weaknesses

- o Assumes support services (e.g. supplies, maintenance, etc.) are adequate.
- o May create biased management of some cases (by applying standard protocol too rigidly)

Implementation Steps

The Board should designate the Director to set up committees to monitor the quality of medical care. There should be a committee for each clinical service, made up of: the chief of the service, the charge sister on each of the wards for that service, and selected doctors and nurses. The committees' functions will include: IV-187

- o Regular review of admissions, average length of stay and discharges for the committees' respective clinical service
- o Coordination with the Admissions Committees in setting treatment protocols for each admission or diagnosis
- o Setting guidelines on clinical ward rounds, mortality conferences, tissue committees, etc.

For monthly meetings, the committee would review a sample of files from Medical Records, and discuss whether protocols had been followed. IV-188

Option 2--Establish a clinical quality-control Committee that retroactively reviews the average length of stay, diagnostics and treatment for most frequent admissions by department.

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Strengths

- o Helps reduce average length of stay.
- o Provides incentives for effective clinical case management (feed back to clinical services)
- o Quality control would be more flexible.

Weaknesses

- o No basic criteria to base review (review will be subjective)
- o No criteria on which to assign cost norms.
No methods for doctors to monitor the quality of their performance.
- o May not be a strong enough mechanism for quality control.

Implementation Steps

The steps for the implementation of this option would be similar to those outlined in option 1 above, except that the committee would not develop protocols beforehand, they would consider each patient on a case-by-case basis. IV-189

IV.B.1.3 Diversion of Inappropriate Demand

This subsection provides an analysis of the strengths and weaknesses of an implementation steps for the recommended options to divert the inappropriate utilisation services at KNH. There are four topic areas in the subsection addressed at reducing: average length of stay, excessive and/or inappropriate use of diagnostics, costs associated with bed and meal service, and the utilisation of non-essential drugs. IV-190

IV.B.1.3.1 Reduction of Average Length of Stay

To reduce average length of stay at KNH, and subsequently improve efficiency, the Team recommends the following options: IV-191

1. Use managerial controls and procedures to reduce average length of stay.
2. Increase the bed fees to the patient after the "normal" ALOS has been exceeded.

Option 1--Use managerial controls and procedures to reduce average length of stay

Strength

- o Use of managerial controls does not put the patient in the position of being penalised for a long stay that is beyond his or her control. Managerial controls would also help improve the quality of care.

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Weakness

- o Managerial controls and procedures may not be strong enough to reduce lengths of stay to their minimums
- o Where the procedures provide strong incentives to doctors to minimize stays there is some risk of unnecessarily early discharges.

Implementation Steps

- o Use the protocols developed by the clinical quality control committee(s) to monitor length of stay.
- o Make adherence to protocols a criterion for evaluation of doctors and clinical department managers, to provide incentives to reduce unnecessarily long lengths of stay.

Option 2--Increases the bed fees to the patient after the "normal" ALOS has been exceeded

Strength

- o Gives a strong signal to doctors and patients to minimise length of stay.

Weaknesses

- o Patients could be penalised unfairly for stays longer than the "normal" ALOS as a result of doctors' inattention (e.g., not performing rounds on a regular basis).
- o Billing would be more complicated since all bed charges would have to be checked against the "normal" ALOS.
- o Patients may feel they are being forced to leave the Hospital early or penalised for care they should be receiving.

Implementation Steps

- o Use the average lengths of stay from the treatment protocols for groups of diagnostic categories, developed by the clinical quality-control committee(s), to establish the range beyond which length of stay will be deemed as overlong.
- o Make adherence to protocols for ALOS a criterion for evaluations of doctors and clinical department managers, to provide incentives to minimize inappropriately long lengths of stay.
- o Determine the chronic and terminal conditions which will be exempted from the extra charge.

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- o Determine the fee, based on ward bed costs and the target percentage of cost recovery to be charged during the acceptable length of stay and the fee to be charged during the extended length of stay.
- o Communicate all of the above rules to the involved departments, namely, finance, admissions and the wards.

IV.B.1.3.2 Reduction of Excessive and/or Inappropriate Use of Diagnosis

In order to reduce excessive and/or inappropriate use of diagnostics at KNH, the following options are recommended: IV-192

1. Use managerial controls and procedures to discourage over use or inappropriate use of diagnostics.
2. Charge a flat fee for a standard package of diagnostics according to the established protocol for the particular diagnosis and an additional fee for every prescribed diagnostic not included in the protocol.

Option 1--Use managerial controls and procedures to discourage overuse or inappropriate use of diagnostics

Strengths

- o The major strength of using managerial mechanisms to reduce the inappropriate or excessive use of diagnostics is that patients are not penalised for decisions made that are beyond their control. Doctors rather than patients are the decision makers regarding the number and type of diagnostics that will be prescribed for each patient. Another advantage to this approach is that it can contribute to improved clinical practice.

Weakness

- o A weakness of this approach is that strong managerial controls are required to change doctors' behaviour. There are no incentives for the patient to behave differently, and the incentives for doctors to change their use of diagnostics may be rather weak.

Implementation Steps

- o Use the protocols developed by the clinical quality-control committee(s) to monitor diagnostics prescribed
- o Make adherence to protocols a criterion for evaluation of doctors and clinical department managers, to provide incentives to minimise use of inappropriate and unnecessary diagnostics.

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Option 4--Charge a flat fee for a standard package of diagnostics according to the established protocol for the particular diagnosis and an additional fee for every prescribed diagnostic not included in the protocol

Strengths

- o Provides a strong signal to both doctors and patients to reduce excessive use of diagnostics. Doctors will be encouraged to weigh more carefully their decisions to prescribe outside of a protocol.
- o Will contribute to improved clinical practice and provide additional revenue when the standard package is exceeded.

Weaknesses

- o Would be administratively complex
- o May provide too strong a disincentive to use diagnostics, particularly in cases where there is a suspected secondary diagnosis.
- o May provide only a marginally stronger incentive to reduce inappropriate utilisation of diagnostics than charging for each individual diagnostic
- o May penalise patients for decisions that are made beyond their control
- o Billing would be more complex.

Implementation Steps

- o Quality Control Committee should identify the most common diagnoses particular to their area (e.g. specialty outpatient Clinics, General Medical and Surgical wards, etc.)
- o Identify the standard package of diagnostics for each diagnosis, as determined by the treatment protocols established by the committee.
- o Identify the average and marginal (additional cost of an additional unit) costs for producing all diagnostics. Establish charges for the standard packages based on a combination of average and marginal costs (Example: use the diagnostic with the highest average cost as the base and add on the marginal costs of the other diagnostics)
- o Develop diagnostic order forms for doctor's requests that will facilitate calculation of charges at collection/billing office and provide notice to the doctor that an extra charge will be made to the patient.

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- o Prepare materials and methods to inform doctors and staff regarding implementation of charging procedures
- o Train collection clerks on procedure.

IV.B.1.3.3 Reduction of Costs Associated With Bed and Meal Service

To reduce the costs associated with bed and meal service to mothers accompanying hospitalised children under the age of five, the Team recommends the following options: IV-193

1. Eliminate food and bed service.
2. Charge fees for meals equal to the average meal cost and bed fees.

Option 1--Eliminate food and bed service

Strength

- o Food costs would be saved and more beds would be available. There would be less crowding if mothers were not in the wards.

Weakness

- o Visiting mothers would have to have an alternative place to be fed. The burden on nurses would increase if mothers did not stay in the Hospital to care for their children.

Implementation Steps

- o Evaluate the savings resulting from reduced costs, increased bed availability, and reduced crowding, against the costs of more-intensive nursing services on paediatric wards, to determine whether net savings result.
- o Determine alternative sites for mothers to be fed.
- o Prepare materials and methods to inform mothers of the policy.

Option 2--Charge fees for meals equal to the average meal cost and bed fees

Strengths

The strengths of charging for meals are:

IV-194

- o Reduces hospital congestion, by encouraging some to seek meals elsewhere
- o Decreases food costs

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- o Generates revenue
- o Frees beds.

Weakness

This option has one weakness:

IV-195

- o Increased labour demand for the domestic cleaning staff and nurses as some mothers would no longer accompany their children.

Implementation Steps

- o Evaluate the value of projected revenues to be earned, savings in food costs, and increased bed availability against the costs of more nursing and domestic cleaning staff time, to determine resulting net savings.
- o Prepare materials and methods to inform mothers of the policy.
- o Establish the mechanism for handling receipts by spelling out the billing, collection and accounting procedures.

IV.B.1.3.4 Reduction of the Utilisation of Non-essential Drugs

To reduce the utilisation of non-essential drugs the Team recommends two options: IV-196

1. Use managerial controls and procedures to reduce prescription of drugs not on the essential drug list.
2. Charge for all drugs prescribed to inpatients and outpatients that are not on the list of essential drugs at a premium price (higher than replacement cost).

Option 1--Use managerial controls and procedures to reduce prescription of drugs not on the essential drug list

Strengths

Managerial controls that reduce the quantity of non-essential drugs prescribed by doctors will: IV-197

- o Save money, much of which will be foreign exchange
- o Contribute to streamlining inventory and warehouse management
- o Reduce waste

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- o Improve clinical performance
- o Not penalise patients for doctors' prescribing practices.

This approach is less complex to administer in the absence of changes for drugs. However, if charges for drugs are implemented, an overall pricing policy is required, and the administrative advantage of this option is diminished. IV-198

Weakness

Managerial controls may be a weak instrument for reducing the prescription of non-essential. In addition, the mechanisms to monitor doctor's prescribing behavior can be complicated. IV-199

Implementation Steps

- o Set up an information system to monitor the prescription system of non-essential drugs.
- o Compare prescribing of non-essentials to the treatment protocols developed by the clinical quality-control committee(s).
- o Make adherence to protocols for prescription of non-essentials a criterion for evaluation of doctors and clinical department managers to minimise inappropriate prescriptions.

Option 2--Charge for all drugs prescribed to inpatients and outpatients that are not on the list of essential drugs at a premium price (higher than replacement cost)

Strengths

The strengths of charging premium prices for non-essential drugs are that both patients and doctors are made aware of the higher costs of these drugs and the generation of additional revenue. The advantages of Option 1 also obtain. IV-200

Weakness

The major weakness of this option is that it places a burden on patients for doctors' prescribing practices over which patients have little control. Premium pricing for non-essential may also introduce further complexity into pricing policy decisions and administration. IV-201

Implementation Steps

- o Establish procedures which will report procurement costs for pharmaceuticals in a routine and timely fashion for pricing

- o Develop policy guidelines or criteria, to be used in setting prices of drugs (full cost recovery or subsidized prices; mechanisms for adjustment of prices; etc.).
- o Determine the standard premium to be attached to non-essentials.

IV.B.2 Administrative Efficiency

This subsection discusses the strengths, weaknesses and implementation steps for the Team's recommendations on staffing norms and capacity in operating theatres. IV-202

IV.B.2.1 Staffing Norms

The level of staffing in a hospital affects the efficiency of its operations. Since personnel is a hospital's single most costly resource, it should be used as efficiently as possible. A balance should be struck between overstaffing (not utilising personnel to maximum capacity), and understaffing (which would reduce quality of care), so that staffing meets the demand for services. IV-203

To make staffing at KNH more efficiently correspond to demand for services, the Team recommends choice between the following options: IV-204

1. Undertake a review of staffing needs and subsequently establish norms for all departments and wards for all cadres.
2. Apply the staffing norms used by the private hospitals in Nairobi, as an interim step; then adjust those norms to fit KNH's situation.

Option 1--Undertake a review of staffing needs and subsequently establish staffing norms for all departments and wards, for all cadres.

Strengths

- o Reduces overstaffing and understaffing of departments and wards
- o Improves the quality of services offered
- o Reduces unnecessary personnel expenses
- o Facilitates the hiring of the right type and mix of staff

Weakness

- o Review may take time, causing delay in adjusting the staffing of those departments and wards which may be currently inefficiently staffed.

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Implementation Steps

- o The planning office, with assistance from staff, management and consultants, should undertake a detailed review of the current staffing of all departments and wards.
- o A committee, coordinated by the planning office and composed of the Associate Hospital Directors of clinical services and administration, nursing, and three other departments, should establish staffing norms for all areas. The committee should take into consideration existing studies on nursing (e.g., The Kenya Nursing Project 1976-1978, MOH), and norms used by other hospitals in and out of Kenya. For nursing and other specialised services staffing norms should be based on more specific criteria than simply number of beds. Such criteria should include patient type, nature of diagnosis, and intensity of service needed in a department or ward.
- o The norms established should be used to adjust staffing (upward or downward) in all units. Proposed increases or decreases in established posts should be based on the application of the norms to projected demand for services.
- o The norms should be reviewed annually and revised when necessary.
- o Make deployment of personnel within units a criterion for evaluation of performance.

Option 2--Apply the staffing norms used by the private hospitals in Nairobi, as an interim step; then adjust those norms to fit KNH's situation.

Strengths

- o Reduces overstaffing and understaffing of departments and wards
- o Improves the quality of services offered
- o Reduces unnecessary personnel expenses
- o Facilitates the hiring of the right type and mix of staff
- o Does not have to wait for review to begin to take action to improve efficiency.

Weakness

- o The norms used in the private hospitals may be inappropriate to KNH. Their application could worsen efficiency.

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Implementation Steps

- o Survey the staffing norms used by private hospitals for all units for all cadres.
- o Choose from among those norms that could best fit KNH, then apply them to adjust staffing.
- o As for Option 1, form a committee on staffing norms to study how the private hospital norms should be modified to better fit KNH's situation.
- o Use the modified norms and projected demand to justify proposed adjustments in established posts.
- o Review the norms annually and revise as necessary.
- o Make deployment of personnel within units a criterion for evaluation of performance.

IV.B.2.2 Increase Capacity in Theatres' Capacity

To improve efficiency in the use of operating theatres the Team recommends that the following steps be taken: IV-205

- o Give priority to supplies and blood needed for surgery, to reduce cancellation and postponements
- o Discipline surgeons who do not appear for scheduled operations and who do not have legitimate excuses
- o Repair the equipment in the theatres, giving priority to that needed to put them into service
- o Allocate theatre time among specialties according to demand
- o If all of the above steps have been taken and there is still excess demand, expand human and physical capacity.

Implementation Steps

The theatre user's committee should set up a monthly reporting system to permit it to monitor theatre utilization. The report can be assembled by reviewing the theatre logs and matron's notes. Concurrently, the committee should make up more realistic daily theatre schedules. IV-206

The reporting format should probably include (for each theatre): daily number of surgeries scheduled, types of surgery in daily schedule and corresponding diagnosis, daily number of surgeries not completed and reasons why they weren't completed. A monthly summary should show: total surgeries scheduled, total surgeries not completed, frequencies of reasons surgeries not completed and and summary totals for each type of surgery. The monthly summaries should include totals for each theatre and a combined total. IV-207

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At month's end, the committee should review the report. If any surgeries were not completed a scheduled, the committee should assign responsibility for investigating the reasons why they were not completed. The individuals are also responsible for coming up with solutions, and giving a progress report at the next committee meeting. IV-208

The committee should also set up a monthly reporting system for surgical wait lists. Information could be obtained from the wards. The report should include number of patients on wait lists at the beginning and end of the month, (to indicate whether the lists is growing or decreasing), and number of additions and deletions to the list (to calculate a turnover rate or "ALOS" on the wait list). The committee should compare the wait lists to utilisation in the theatres. If certain theatres have long wait lists but are running at full capacity while others ave no wait list and are not running at full capacity, then a re-allocation of theatre time is in order. If wait lists are long even though all theatres are running at full capacity, then the theatre should request additional human (additional staff, nurses, or surgeons) or physical (additional theatre, additional equipment, or maintenance of non-functioning equipment) resources. The monthly reports and analyses of these reports can be used as justification for these requests. IV-209

IV.C COST-SHARING

KNH would like to be as financially independent from MOH as possible. Charging fees to patients so that they share the burden of the costs of services is one important way to raise revenues. Section C of Chapter IV examines several options for implementation of fees, estimates the revenues that could be generated, assesses the financial burden of fees on consumers, and identifies possible efficiency improvements which could result from charging fees. A set of recommended options for charging fees and other revenue-raising alternatives are presented. IV-210

In this section the recommended options for cost sharing are analysed for their strengths and weaknesses. Implementation steps are provided for each type of fee. This is followed by discussion of some of the issues to be faced in implementing a cost-sharing system. IV-211

All fees raise revenue. Differences in types of fees arise from: the incentives or disincentives they create for consumption; the burden they place on individual patients; and the complexity they generate for pricing and administration. Before fees are implemented at KNH, several conditions must be met. First, the overall quality of services has to be improved. Second, practical criteria and procedures must be in place for identifying the medically indigent and assuring their access to free care. Finally, billing and collection procedures and the appropriate accounting and security systems must be operational. IV-212

The strategies for generating revenues such as prepayment plans and arrangements with insurers or employers, over the longer term, may provide more stable sources of revenue for KNH. These strategies are not incompatible with the social welfare objectives of KNH or its perceived role as a referral IV-213

institution to fulfil its mission. While such strategies cannot be implemented before management reforms are completed, they should be considered as part of KNH's strategic planning efforts.

The recommended options in this section cover charges for drugs and diagnostics, bed fees for inpatients, fees for outpatient visits, and strategies for generating revenue outside of fees. For each option an analysis of strengths and weaknesses is presented with respect to incentives for consumption of services, burden on patients, and complexity of pricing and administration. The analysis is followed by a list of steps necessary to implement the option. The last subsection discusses overall implementation issues. IV-214

IV.C.1 Charge for Drugs and Diagnostics

Two options for charging for drugs and diagnostics are: IV-215

1. Charge for each drug and diagnostic item prescribed by the doctor for both inpatients and outpatients or
2. Charge for a combination of packages of diagnostics and/or drugs based on average consumption by reason of admission or outpatient specialty.

Option 1--Charge for each drug and diagnostic item prescribed by the doctor for both inpatients and outpatients

Strengths

The strength of this option is that the revenues generated are proportional to the resources consumed by the patient (i.e., patients who consume more drugs pay proportionately for them). In addition, charges for individual items provide a strong disincentive for over consumption. IV-216

Weaknesses

A weakness of this option is that the financial burden is greater for those patients who require more diagnostics and drugs. In addition, pricing and billing can become complex when a large number of items are involved. An alternative to individual drug prices would be for items of similar class and cost category to carry the same price. IV-217

Implementation Steps

- o Establish guidelines or criteria to be used in setting prices of drugs and diagnostics (full cost recovery or subsidised prices: mechanisms for adjustment of prices, etc).
- o Identify the supplies and labour inputs required for the production of all diagnostics; determine their costs; set price in relation to cost. Alternatively, set prices for diagnostics at a rate near to but below what private hospitals charge.

- o Set prices for drugs in relation to procurement prices plus the pro rata administrative costs of procurement, warehousing, and distribution. Consider reducing the number of individual drug prices by combining drugs of similar class and procurement price into a single class/cost price category.
- o Establish procurement policies which will provide information on changes in drug prices in a routine and timely fashion.
- o Establish a schedule for review and revision of prices, based on the rate of inflation of costs of inputs (i.e., labour and supplies). (N.B. the faster the rate of inflation, the more frequently prices should be revised.)
- o Develop forms to be used and procedures to be followed by departments and service-area staff to facilitate the billing and collection process.
- o Monitor revenues generated and compare with expenditures (e.g., compare monthly revenues generated from charges for medications with monthly expenditures on pharmaceuticals). Adjust fee levels as the hospital gains experience and knowledge about the costs of delivering services; consider the effect on competitiveness with other facilities in making price adjustments; assure that KNH prices are as high as other government facilities.
- o Develop a programme of communications to inform hospital staff and the general public about the cost-sharing system.

Option 2--Charge for a package of diagnostics and/or drugs based on average consumption by reason of admission or outpatient speciality.

Strength

A strength of this option is that billing is simplified. Second, all patients of the same type will pay the same amount. IV-218

Weaknesses

This option has several weaknesses. It provides little or no disincentive for overutilisation of drugs and diagnostics. Pricing is complex and requires much more detail than is currently available regarding the reasons for admission or outpatient visits and the utilisation of diagnostics and medications associated with them. IV-219

Implementation Steps

- o All of the steps identified in the above option are required here as well.

- o Determine the average consumption of diagnostics and drugs for the most common reasons for admission and for outpatient visits. Use teams of doctors to develop protocols for standard prescriptions of diagnostics and medications for the common reasons of admission and outpatient visits (see subsection III.B.1.2 on clinical quality control). Determine the appropriate medications and diagnostics to be "packaged" together based on these two information sources.
- o Set prices based on average and marginal costs. Identify the average and marginal costs for producing all diagnostics and establish charges for the standard package based on a combination of average and marginal costs (e.g., use the diagnostic or drug in the package with the highest average cost as the base and add on the marginal costs of the other diagnostics and drug).

IV.C.2 Charge Bed Fees for Inpatients

Four options have been identified as choices for the application of bed fees for inpatients: IV-220

1. Charge daily bed fees based on average cost of a ward bed or
2. Charge one-time bed fees based on overall ALOS for the hospital or
3. Charge a one-time bed charge for wards with ALOS less than three days (e.g., labour and delivery) and a daily bed charge for all other wards or
4. Charge a flat fee which becomes a daily fee after a clearly-defined number of days.

Option 1--Charge daily bed fees based on average cost of a ward bed.

Strengths

There are several strengths to charging daily bed fees. They are simple administratively; they provide an incentive to patients and staff to reduce ALOS; and cost recovery is facilitated because patients pay in proportion to the services they consume. IV-221

Weaknesses

Several weaknesses are attached to this option. It imposes a heavy burden on patients who are hospitalised for a long time. It does not accommodate cost variation across wards. Special inpatient facilities (e.g., ICU have costs unique to them). Special rates may need to be determined for these facilities. IV-222

Implementation Steps

- o Establish guidelines or criteria to be used in setting prices (full cost recovery or subsidised prices, mechanisms for adjustment of prices, etc.).
- o Develop a basis for determining average ward bed cost (see subsection III.C.3 for a first approach).
- o Review prices at other government and private facilities to determine the competitiveness of proposed KNH prices.
- o Identify service areas which may justify special charges because of their cost characteristics. Set prices based on these costs.
- o Determine frequency of price review and changes as a function of inflation in input costs.
- o Establish mechanisms for payment; consider requiring deposits on admission.
- o Establish a billing office to carry out collection functions.

Option 2--Charge one-time bed fees based on overall ALOS for hospital.

Strengths

This option is administratively simple. Billing is simplified. It evens out the burden on patients of short and long stays. IV-223

Weaknesses

The major weakness of this option is that it provides no incentive to reduce hospital length of stay. Furthermore, short stays subsidise long stays. People with short stays may feel that they are treated unfairly when they are charged the same as long staying people. IV-224

Implementation Steps

Follow the same steps as for Option 1, except for the step regarding special charges for certain service areas. In addition, the following steps are required: IV-225

- o Determine the ALOS
- o Multiply the average daily ward bed cost by the ALOS to determine the rate of subsidy.
- o Establish the fee for ALOS that will be affordable and acceptable to consumers, and yet serves the objective of raising the desired revenue.

Option 3--Charge a one-time bed charge for wards with ALOS less than three days (e.g., labour and delivery) and a daily bed charge for all other wards

Strength

This option provides a strong incentive to reduce hospital stays and it generates revenue. IV-226

Weaknesses

Billing is complex and difficult to handle. IV-227

Implementation Steps

The steps are similar to Option 1, except for the step regarding special charges for certain service areas. In addition, the following steps are required: IV-228

- o Identify the wards with an ALOS less than three days.
- o Determine the average ALOS
- o Multiply the average daily ward bed cost by the ALOS of the wards within ALOS less than three days to determine the one-time charge.
- o Use the average daily ward bed cost and pricing guidelines to determine the charges for other wards.
- o Develop materials to explain the payment system to patients.

Option 4--Charge a flat fee which becomes a daily fee after a clearly defined number of days

Strengths

A strength of this option is that it discourages overlong stays. Patients and doctors know that after a certain number of days hospitalisation costs will rise. This option also evens out the burden between short and medium stay patients. IV-229

Weaknesses

The weaknesses of this option include the need to determine the number of days after which the daily charge would begin. Protocols on the expected length of stay for diagnostic categories would have to be developed. Billing is complex. IV-230

Implementation Steps

- o Follow the same steps as for Option 1, except for the step regarding special charges for certain service areas.
- o Develop length of stay protocols to determine days after which daily charges should begin (this could be done in conjunction with development of clinical quality control protocols, see III.B.1.2).
- o Multiply the average daily ward bed cost by the number of days decided for the fixed charge; then apply the pricing guidelines to determine the amount.
- o Use the average daily ward bed cost and pricing guidelines to determine the daily charge.
- o Develop materials to explain the payment system to patients.

IV.C.3 Charge Fees for Outpatient Visits

The following are two recommended choices for charging fees for IV-231 outpatient visits:

1. Charge fees for each outpatient visit or
2. Charge outpatient fees for an episode of illness.

Option 1--Charge fees for each outpatient visitStrengths

This option is administratively simple and can generate a large volume of revenue, even if prices remain relatively low. (If the 1986 outpatients had paid just Ksh. 10 for their outpatient visits, the total amount would have been equivalent to 1 percent of 1986 operating costs.) A charge for each outpatient visit provides a strong incentive for patients to limit their utilisation of outpatient services to non-frivolous illnesses. In addition, the revenues generated are proportional to the resources consumed by the patient, that is, patients consuming more outpatient services will pay more than patients consuming fewer services. IV-232

Weaknesses

A weakness of this option is that the financial burden is greater for IV-233 those patients who require more outpatient services.

Implementation Steps

- o Establish guidelines or criteria, to be used in setting prices for outpatient services (full cost recovery or subsidised prices; mechanisms for and timing of price changes, etc).

- o Identify the labour and overhead costs associated with filter outpatient visits and outpatient visits in each of the speciality outpatient clinics. Set prices in relation to those costs. Alternatively, set prices at a rate below what private hospitals and doctors charge.
- o Develop billing and collection procedures.
- o Develop materials to explain the payment system to patients.

Option 2--Charge outpatient fees for an episode of illness

Strengths

While this option is administratively complex, it has the advantage of relieving the financial burden for those patients that require a number of outpatient visits for an illness. It has an added advantage of providing a straight-forward mechanism for providing free preventive services. IV-234

Weaknesses

This approach encourages over-utilisation of outpatient services unless accompanied by procedures to monitor utilisation. IV-235

Implementation Steps

- o Establish guidelines or criteria, to be used in setting prices for outpatient services (full cost recovery or subsidized prices; mechanisms for and timing of price changes, etc.).
- o Determine the most common episodes of illness in the outpatient clinics, the average number of visits per episode, and the labour and overhead charges associated with these visits. Determine their costs; set prices for episodes of illness in relation to average cost.
- o Develop materials to explain the payment system to patients.
- o Develop procedures to monitor and control utilisation.
- o Develop billing and collection procedures.

IV.C.4 Develop Strategies for Generating Revenue in Addition to Fees

Three strategies are proposed to allow KNH to generate revenues from sources other than user fees. Any one may be pursued, or any combination. IV-236

1. Seek contracts with employers to provide a defined set of services to their employees and dependents, as is done by private hospitals.

2. Pursue arrangements with insurers or other prepayment schemes for groups such as cooperatives, employee organisations, etc.
3. Earn revenue through office rents or fees paid by doctors for seeing private patients in offices on the Hospital premises and for use of specialised diagnostic or treatment technology.

Strengths

These proposals have the strength of diversifying revenue sources for KNH. Strategy 3, discussed in Section III.A.3.1 of the report, would have the advantage of enabling KNH to retain specialists within KNH premises.

Weaknesses

The major weakness in these proposals is that KNH must have the capability to manage such schemes. This will entail an investment in startup costs and training to establish such schemes. IV-237

Implementation Steps

These activities can be seen as part of a long run strategy. Setting up the schemes should be a function of a Planning Office and a designated Marketing Section would be responsible for seeking contracts with groups. IV-238

IV.C.5 Implementation Issues

Implementation of cost sharing at KNH involves some issues that transcend the individual options about how to choose the services to charge for and the level of fees. These issues include the relationship between charges set by KNH and those set by Nairobi City Commission (NCC) facilities; preparation of consumer opinion for cost sharing; choice of services for which to begin charging; and provisions for serving those with a reduced ability to pay. IV-239

Relationship with Nairobi City Commission Cost Sharing

It is proposed in Section IV.A.5.2 that KNH encourage the improvement of NCC facilities. In the implementation of cost-sharing proposals, we recommend that KNH coordinate with NCC. KNH does not need to wait to start its cost sharing scheme until NCC is ready. However, after internal preparations are complete, KNH should inform NCC about the timing and levels of fees. Once NCC begins charging fees, KNH should keep its fees at the same or higher level for similar services. This will discourage patients from bypassing NCC facilities to come to KNH. IV-240

Preparation of Consumers for Cost Sharing

Nairobi consumers should be prepared and positioned to accept payment of fees for health services at KNH. The charges must be politically acceptable. Consultations should be held with influential politicians over the IV-241

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characteristics of the cost sharing system. An effort should be made to determine how to educate consumers. Acceptable, practical methods for exemption from payment should be clearly explained to the public. Two steps KNH could take are:

- o Arrange for statements to be made by key politicians on the acceptability of the new charges
- o Issue a clarification bulletin, give newspapers interviews, etc. to inform the population about the cost-sharing charges.

Choosing the Services on which to Commence the Fee Scheme

It will be impossible to introduce fees on all services simultaneously. It will be necessary to select a few services to start with, then, over time, to add others. The following are criteria that might be used to choose where to start: IV-242

- o Services with which KNH has experience in fee collection
- o Services for which prices are not complex to determine (e.g., drugs, x-ray, and laboratory)
- o Services for which it is easy to compute average cost
- o High-volume services (e.g., outpatient services, normal deliveries)
- o High-cost and high-volume services (e.g., normal delivery, drugs, see section III.C for revenue estimates).

Assuring Services for the Poor

The cost sharing system need a mechanism to allow for the poor to receive free or lower-priced care. The data gathered by the Team suggests that the proportion of the those unable to pay at all among KNH clients will be at least 13 percent. This is the percentage of KNH outpatients in our sample who declared no monthly household income and had never paid for medications (Exhibit IIIC7). The actual proportion likely will be higher when fees are imposed since a large proportion of KNH clients (58 percent) come from low-income areas (Exhibit IIIC4). IV-243

Part of the explanation of the bad debt experienced by private hospitals is inability of the clients to pay full charges for the services they have consumed. Interviews with other hospitals show that they experience bad debt on the order of 1-5 percent of expected fee revenue. Given that it serves a poorer clientele, KNH may be expected to experience bad debt of 5 percent or more. A combination of the 13 percent indigents and 5 percent bad debts would indicate that KNH might not collect 18 percent or more of the expected fee revenue. Assuming reduced-price care for a proportion of the population, the team estimates 25 percent as a lower bound on free care. The following two steps should be taken in this regard: IV-244

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- o Establish criteria to determine who qualifies for lower fees or free care. These criteria could include residence, employment, household income, family size, age, etc.
- o Assign to the billing office the duty of using the criteria to screen admissions and outpatients to determine qualification for lower fees or free care (see section on billing office for more suggestions).

APPENDICES

APPENDIX A

SCOPE OF WORK
STUDY OF KENYATTA NATIONAL HOSPITAL

Background

Kenyatta National Hospital (KNH) has been beset by problems related to organizational complexity, centralized management, and inefficiency in recent years. To help remedy this situation the Government of Kenya (GOK) has taken the following steps:

- o improvement of the personnel of the central administration by creating new posts at higher grades;
- o separation of KNH from direct management by the Ministry of Health (MOH) by giving it semi-autonomy as a State Corporation;
- o removal of remote outpatient facilities from KNH's responsibility.

Step (i) provided KNH with the basic necessary skills to implement efficiency improvements; step (ii) provided the authority; and step (iii) began to reduce the overly-ambitious scope of activities for which KNH is responsible.

The State Corporation, the KNH Board, was created on 6 April 1987 by Presidential Order. This Order defines the functions of KNH to be:

- o To receive patients on referral
- o To provide facilities for medical education and for research
- o To provide facilities for nurse and other health professions training
- o To participate in national health planning.

Further, the KNH Board has the power to:

- o Receive and disburse money on behalf of the hospital
- o Make by-laws for the efficient management of the hospital

With the mandate and the power to address KNH's problems, the Board has begun to define an agenda for reform. This agenda includes seeking managerial, organizational, and administrative modalities which would lead to improved use of resources. It also includes consideration of cost-sharing

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programs to both reduce net costs and to improve efficiency.

The Board's inclination is to seek to improve management by strengthening administrative capabilities at de-centralized levels so that authority may be delegated. Some steps have already been taken in this direction. However, much remains to be considered and decided with respect to what structures and modalities of de-centralization would lead to the most efficient use of resources.

One action has already been taken and another is under consideration with regard to cost sharing. Among the first actions taken by the Board was to seek to gain approval to set fees for 100 amenity beds sufficient to make them self-financing. Consideration also is being given to institution of cost-sharing for adult outpatient services. Currently, nearly 2000 outpatients (adults and children) are seen daily at KNH. These outpatients are costly to the hospital in both money and efficiency terms. Moreover, treatment of outpatients falls outside KNH's newly-redefined functions.

The Studies of efficiency-improvement options and fees for adult outpatient services, described below, will provide the KNH Board with the desired information for making decisions on how to implement the reform agenda. The Board will provide overall guidance on the studies. Under Board direction, USAID and S&T/Health will contract for technical assistance (both Kenyan and outside) to carry out the studies, in close collaboration with the staff of the World Bank in Nairobi and Washington, D.C. All findings will be reviewed exclusively with the KNH Board prior to preparation of final reports and prior to any discussion with parties not directly involved in the studies.

The scopes of work for studies of efficiency-improvement options and cost sharing for adult out-patients follow:

Efficiency-Improvement Options--The study of efficiency-improvement options has two aspects. The first is to address the management structure options for efficiency improvement; the second is to examine efficiency itself.

The first part of the study will provide policy-choice information on the management and organizational structures and modalities which affect efficient resource allocation. The study will examine these questions in the following manner:

- o Identification of the management, organizational, and administrative options to improve efficiency at KNH, including how divisions and support departments are managed and run, interrelationships among divisions, relations between divisions and support departments, relation to the MOH, relation to the University of Nairobi College of Health Sciences (including the dental, medical, and nursing schools) and the Kenya Medical Research Institute (KEMRI), possibilities for prospective budgeting, staffing and deployment of personnel, information and reporting systems, etc.; and
- o Analysis of the mix of services KNH should supply appropriate

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to its role as spelled out in the Order creating the Board (e.g., as the source of tertiary referral hospital services).

The second part of this study will evaluate the actual efficiency of KNH in delivering services. The payoffs from efficiency improvements in different areas of hospital operations will be identified. With this information the KNH Board will be able to prioritize initiatives to improve efficiency, either through policy changes or by actions by hospital management. The study will examine actual efficiency in the following manner:

- o Identification of the inputs used and their costs to produce a representative set of the services that KNH provides (including support services, such as stores, laundry, and kitchen, as well as the services provided by the various medical divisions); and
- o Comparison of those costs: (i) among divisions to determine relative intra-hospitals efficiency; and (ii) between KNH and other hospitals to determine inter-hospital efficiency. (Comparison will be made with other hospitals in Kenya, with the recognition that private hospitals like M. P. Shah, Nairobi Hospital, and Aga Khan Hospital operate under a different framework than does KNH. The framework KNH operates under means that its cope of activities and style of management must be different from the private hospitals. Efficiency comparisons will take into account the restrictions of the framework. Where possible, comparision also will be similar institutions in neighbouring countries which provide similar services, such as in Zimbabwe and Malawi).

This information will be used to formulate recommendations on steps to use to improve KNH's efficiency (e.g., changes in input mix, changes in services offered, changes in administrative and budgetary authority, changes in non-medical procedures, changes in administrative relationships between KNH and other institutions, changes in the referral system, and complementary actions needed elsewhere in the health system). It will evaluate the resource savings expected to result from the implementation of each of the recommendations, as well.

Methods

This study will be carried out using the following methods:

- o Review of relevant literature including the Health Strategy for Kenya, W. Koinange; Delivery and Financing of Health Services in Kenya, G. K. Ikiara and V. N. Kimani; Alternatives for Financing Health Services in Kenya and The Health Care Financing and Development Agency Project, C. Stevens, the report of the February 1987 World Bank health mission; the MOH Health Financing policy paper, expected in mid-September 1987; the Abdullah Committee Report; any reports available on the conversion of University Teaching Hospital in Lusaka and

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Muhumbili Hospital in Dar-es-Salaam from dependence on MOHs to parastatals; hospital studies done in Zimbabwe and Malawi; and the Coopers and Lybrand, Organization, Management and Transport Study.

- o Review of existing records and accounts (e.g. KNH annual reports and Medical Records Department data) and primary data collection, where necessary, to study the inputs used (including personnel, pharmaceuticals, floor and bed space, equipment, laboratory and radiological services, support services, and central administration) to provide the management of a representative episode of illness (adjusting or the initial condition of patients treated) and their marginal and average costs; and
- o Interview of personnel from central-administration to service-provider level in all divisions and support departments at KNH.

Output

The output of the study will be a report or reports containing objectives, description of methods used to obtain data, findings, and conclusions and recommendations.

Provisional Human Resources Required (in person weeks)

National health economists 21; national hospital management specialist 10.5; expatriate health economist (team leader) 8; expatriate Reach hospital management specialist 10.5; expatriate Aga Khan hospital management 9; enumerators 37.

Fees for Selected Hospital Services--This study will examine options for the application of cost-sharing fees for selected services. Cost sharing means that the beneficiaries will pay some fraction of the total cost of the service. The services to be considered in this study will include, but not be limited to, diagnostics, such as laboratory tests and X-ray, and other support services, such as physical therapy. The objectives of the study are to: (i) demonstrate what revenue would be raised from charging selected fees of various levels; (ii) investigate possible efficiency improvements that might result from charging fees and changing procedures for performing services; and (iii) examine the effect of fees on the costs borne by users of the services.

The information gathered will be used to provide the KNH Board with options for pricing of various services. The options will include estimates of the total revenue that would be paid by the average in- and out-patient; the charges that would be paid by patients with conditions that would require heavy use of the services; and an estimate of what, if any, efficiency improvements could be expected from charging fees. Further, recommendations will be made with regard to how fees should be administered, including when patients should be informed of prices of services, when and by whom fees should be collected, and possible innovative methods for reducing the burden of fees on those suffering from illnesses that make heavy use of such

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services. Finally, recommendations will be made as to how the cost-sharing system should be monitored to allow evaluation of whether it meets expectations when actually put into practice.

Methods

The following methods will be used to collect data for analysis:

- o Marginal and average costs of providing the services will be estimated;
- o The number of services currently performed by KNH will be estimated in several ways:
 - o Over one year (note: the number performed in a year may be less than the total number prescribed because of stockouts of supplies and equipment breakdowns);
 - Per in- and out-patient (per bed day and per admission); and
 - Per case for illnesses that require heavy use of such services.
- o Comparison of the above rates will be made with other hospitals where data are available (taking into account the different types of cases seen and their severity and the different prescribing practices of physicians working at the various hospitals); and
- o Examination of the methods used by other hospitals to charge fees for such services, paying particular attention to whether and how the methods used deter over use (improve efficiency) and whether and how the methods try to protect patients from an excessive burden of charges.

Output

A report will be prepared containing objectives, methods, findings, and conclusions and recommendations.

Provisional Human Resources Required (in person weeks)

national health economist; ex-patriate health economist (team leader) 5; ex-patriate hospital administrator (Aga Khan) 5.5; and enumerators 24.

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APPENDIX B

REACH/KNH Study Team

Marty Makinen, Reach, Team Leader

Management Subgroup

Martha Waldron, Reach, Chairman
Wilson Noreh, KNH
Stanley Kalama, MOH, Secretary
Francis Mworira, MOH
Sceven Franey, Reach
Lydia Mwaura, KEMRI, Enumerator Coordinator
Dr. Anthony Vuturo, Reach

Efficiency Subgroup

Dr. Simeon Kiugu, KEMRI, Chairman
Stan Hildebrand, Reach, Secretary
Gerrishon Ikiara, University of Nairobi
Agnes Gitau, KEMRI, Assistant Enumerator Coordinator

Cost-Sharing Subgroup

Joseph Wang'ombe, College of Health Sciences, Co-Chairman, Deputy Team Leader.
Catherine Overholt, Co-Chairman
Dr. G. Otieno Rae, MOH Machakos

APPENDIX C

COORDINATION AND SUPERVISION OF LEADERS
AND ENUMERATORS IN THE REACH/KNH STUDY.

Lydia W. Mwaura, Enumerator Coordinator/Supervisor

Orientation and training of leaders (enumerator supervisors), ordinary enumerators and nurse enumerators was carried out to prepare and equip them for the study.

COMPOSITION OF THE TEAM

Leaders (6).

They were brought in from the Family Planning Private Sector (FPPS) organization. Their role was to supervise the ordinary enumerators. Two leaders were trained for each of the following subgroups:

- o The Management Subgroup
- o The Efficiency Subgroup and
- o -he Cost-sharing Subgroup.

Orientation and training of the leaders was carried out from 14th - 18th December 1987. This included:

1. General presentation and conduct of enumerators.
2. Job description and enumerator remunerations.
3. Approach to interviewees and confidentiality.
4. Pretesting of instruments.

Details of the above are shown in the attached documents. During this period, the leaders took part in pretesting the data collection instruments in preparation for the full scale data collection exercise scheduled to start on 6th January 1988. It was also during the orientation/training period that the leaders were assigned to the subgroups that they were going to work with.

Nurse Enumerators (6).

The nurse enumerators were recruited from Kenyatta National Hospital. Four were Kenya Registered nurses and two were Kenya Enrolled nurses. All had previous experience in similar enumeration exercises.

From 16th - 18th December 1987, orientation and training was conducted for the nurse enumerators. Two of this cadre of enumerators were assigned to

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work with each of the three subgroups named above and all took part in pretesting the data collection instruments in their respective subgroups.

Ordinary Enumerators (30).

The ordinary enumerators were also brought in by the Family Planning Private Sector. Some of them had previous experience as enumerators having worked with the FPPS in a similar capacity. However, only one enumerator had previously been involved in a hospital study.

Orientation and training of the ordinary enumerators was carried out from 4th - 6th January 1988. As with the leaders and nurse enumerators, the ordinary enumerators were assigned to each of the three subgroups i.e.

8 ordinary enumerators for the Management Subgroup

9 ordinary enumerators for Efficiency Subgroup

13 ordinary enumerators for Cost-sharing Subgroup

The study team had initially requested for a total of 36 ordinary enumerators from the FPPS. The aim was to have 31 enumerators working in the study at any one time. The other 5 enumerators were to remain on standby should there be any cases of absconding, incompetence or dismissal. However, the FPPS sent a total of 31 enumerators to the study team. Nine of these enumerators had never been exposed or trained in methods of collecting research data. To overcome this major problem, some basic training in data collection was conducted for these enumerators after which they were evenly distributed among the 3 subgroups. The leaders were asked to work closely with these enumerators and to report on their performance daily. It turned out that their performance was satisfactory and no major problems were experienced in data collection.

Data collection

The data collection exercise started on 6th January 1988 as scheduled. The performance of the Kenya Registered nurses was superior to that of the Kenya Enrolled nurses in terms of fewer errors in their questionnaires. Coordination and supervision of the nurse enumerators was also easier than that of the ordinary enumerators. This was probably due to their professional training as well as their smaller number compared to that of the ordinary enumerators. Most enumerators were willing to be corrected whenever they were wrong and were generally cooperative.

The nurse enumerators attached to the cost-sharing subgroup had a more involving task than those in the other two subgroups. Their work involved going through records in the patients' files in records departments both at KNH and Aga Khan hospital and coding the data in prepared questionnaires. My duty entailed going through each questionnaire counterchecking and correcting any overlooked errors. This provided a good opportunity for me and the nurse enumerators to revise and refresh our minds with regard to certain investigative procedures as well as medications given to some categories of patients with malaria, pneumonia, abdominal surgery and those who had had normal child delivery. There was a clear cut difference between the

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management of patients in Kenyatta National Hospital compared to Aga Khan hospital in terms of the number of investigations planned by doctors and the number and types of medications prescribed. The nurse enumerators attached to the Management and Efficiency subgroups collected data in various wards and departments in KNH.

During the data collection exercise, several meetings were held with leaders alone or together with the enumerators. These meetings focused on the job performance of the leaders and the enumerators. On these occasions, we reviewed our progress and sorted out any problems related to the exercise.

On the whole, few problems were experienced. These were mainly due to delays in getting the necessary information which resulted in frustration on the part of the enumerators. However, one ordinary enumerator was dismissed from the study for being dishonest.

SUMMARY

A total of 43 enumerators were recruited for the study. These included leaders (enumerator supervisors), nurse enumerators and ordinary enumerators. After orientation and training, leaders, nurse enumerators and ordinary enumerators were allocated to each of the three subgroups in the study: the Management, the Efficiency and the Cost-sharing subgroups.

The data collection exercise started on schedule. The exercise progressed well and only a few insignificant problems were encountered. These were sorted out during group meetings or on individual basis as necessary.

I found good interpersonal relationship vital while dealing with this large number of people. Knowledge of the chain of command within the study team helped to eliminate confusion among the members.

Judging from my experience, it would be wrong to assume that minimum supervision is needed by enumerators who have long experience working in research projects. On the contrary, I found that constant supervision was necessary particularly in a study like this one which was being carried out in a hospital where all the data gathered had to be accurate.

On my part, I found the task of coordinating and supervising such a large group of leaders and enumerators both challenging and demanding. However, the cooperation I received from members of the study team made the task easier than it would have otherwise been.

APPENDIX D

Job Descriptions

KENYATTA NATIONAL HOSPITAL

Management Guide

Director

In accordance with policies and directives established by the Board of Directors, accountable as Director for planning, organizing, and directing the overall operation of Kenyatta National Hospital.

In conjunction with the Board and senior management, conceive and initiate short- and long-range plans and objectives to ensure that the Hospital continues to meet national and regional health care needs; develop a plan of organization, establish operating policies and determine the authority and responsibilities of subordinate personnel.

Delegate to senior management responsibility for establishing objectives for the various divisions and programs for which they are accountable; meet with senior management on a regular basis to evaluate their performance.

Accountable for ensuring that adequate records are maintained to keep the Board fully informed of overall Hospital activities; present to the Board, or its committees, periodic reports reflecting the professional services and administrative activities of the Hospital.

Direct, through Treasurer, the development of annual operating and capital equipment budgets for the Hospital; present overall budget to the Budget Committee of the Board.

Establish policies for ensuring accountability from the medical staff, serve as the liaison for communications between the Board of Directors and the medical staff.

Develop a system for coordinating and integrating all resources available for health care services in order to ensure that all standards are met to provide patients with a high quality of medical, nursing and paramedical care.

Responsible for assuring that effective and harmonious working relationships exist between all those associated with the Hospital including administrative and professional personnel, Medical Staff at all levels and Board members.

Represent the Hospital to other health care organizations, agencies, and professional associations on a regional and national level. Actively participate in joint venture with other organizations to enhance health care delivery systems in the regional area.

Perform special projects as requested by the Board.

KENYATTA NATIONAL HOSPITAL

Management Guide

Senior Associate Hospital Director

Under general direction of the Director, plan, organize, direct, and control all aspects of Hospital operations; maintain primary liaison with the Hospital's Medical Staff and leadership; assist the Director in developing corporate plans and strategies; and participate in Hospital Board meetings.

In conjunction with the Director, establish the Hospital's organizational structure; organize and select task forces and project teams to address major Hospital operating issues; and prepare, review and/or promulgate policy statements and procedures required for implementation and understanding of Hospital programs.

Provide executive coordination and direction to Associate Hospital Directors, including Administration, Treasurer, Human Resources, and Nursing, with respect to their Hospital operating responsibilities; provide administrative direction to assigned Hospital departments and functions, including Materials Management, Casualty Medicine, and Management Engineering. Establish objectives with Associate Hospital Directors and department heads; assess departmental performance in relation to established goals; and ensure that Hospital operating departments are meeting operational objectives.

Through Associate Hospital Directors and managers, provide for hiring, training, assignment and scheduling of departmental personnel. Evaluate performance of Associate Hospital Directors and department managers, and recommend their compensation, promotion, transfer, or dismissal as appropriate in accordance with Hospital policy.

In conjunction with the Director and Associate Hospital Director, and Treasurer, coordinate preparation of the Hospital program review and forward budgets and participate in determination of final budget recommendations to the Hospital Board, particularly with respect to the expense components of the operating budget. Review reports reflecting actual performance to budget and ensure that corrective measures are taken as required.

Serve as administrative representative on various Hospital and outside committees. Conduct or participate in senior management and department head meetings. Responsible for developing an administrative team concept and for maintaining effective working relationships between division, department, and Medical Staff personnel and leadership.

Maintain primary liaison with leadership and members of the medical staff, coordinating such activities with the Hospital's Medical Director; prepare agenda and serve as administrative representative to the Medical Staff Executive Committee; and participate in other key Medical Staff committees.

Regularly attend and participate in Board, Executive and Finance Committee meetings.

Management Guide
Senior Associate Hospital Director

Keep informed on developments in hospital administrative profession through study and attendance at meetings and conferences.

Direct the activities of the organization in the absence of the Director and perform other related executive functions as assigned.

KENYATTA NATIONAL HOSPITAL

Management Guide

Associate Hospital Director - Treasurer

Under general direction of the Director, serve as chief financial officer of the Hospital; oversee the Hospital's Medical Records, and Admitting departments; and perform treasury functions for the institution.

As a member of the senior management staff, participate in the development of Hospital objectives and plans; conceive, investigate and recommend a wide range of programs designed to meet the needs of the Hospital and the Financial Division. Participate in preparation of policy statements and procedures required for implementation of Hospital programs.

As chief financial officer, oversee all financial operations of the Hospital, including general and grant accounting, budget and reimbursement, and patient accounts. Review and finalize all financial reports, including monthly management and Board reports. Review and respond to proposed adjustments and management recommendations submitted annually by independent auditors.

Serve as chief financial officer for ongoing and future operations of the organization, including development and monitoring of budgets, financial feasibility studies, strategic business plans, cash flow and lease-buy analyses, reimbursement and regulatory and economic developments impacting on the organization and recommend strategies to respond.

Participate in and advise Board committees and provide advice to the Director and Senior Associate Hospital Director, including analysis of financial implications of new administrative proposals.

Represent the organization in its relations and negotiations with third party payors, regulatory agencies, banks, insurers, investment advisors, and the general financial community.

Perform treasury functions, including cash management and assistance in administration of endowment and special purpose funds.

Oversee operation of the Medical Records and Admitting Departments through department heads and related managers.

As a member of the senior management staff, participate in the development of Hospital objectives and plans; conceive, investigate and recommend a wide range of programs designed to meet the needs of the Hospital and the Financial Division. Participate in preparation of policy statements and procedures required for implementation of Hospital programs.

Perform other related administrative duties as assigned.

KENYATTA NATIONAL HOSPITAL

Management Guide

Associate Hospital Director, Planning and Marketing

Under general direction of the Director, plan, organize, and provide administrative direction of the Planning and Marketing functions for the Hospital.

As a member of the senior management staff, participate in meetings of the Executive Council and the Executive Staff; conceive and recommend strategic plans and marketing programs for the Hospital and the corporation; develop policy statements required for implementation and understanding of plans and programs. Provide staff support and serve as resource to the Strategic Planning Committee of the Board.

Participate with the Medical Staff in the development of marketing strategies for new delivery systems and/or programs; coordinate development of programs and procedures to implement policies concerning type, cost, volume and quality of medical services.

Analyze market trends which influence the use and image of services at the Hospital; identify products and recommend new programs.

Research current and potential market segments; conduct feasibility studies, and initiate external diversification.

Promote and maintain a harmonious working relationship between Planning and Marketing Departments and other Hospital departments, physicians and members of the community.

Actively participate in community and professional affairs to maintain and enhance the image of the Hospital with health service agencies, the community, and general public.

Keep informed of developments in health care field through study and attendance at professional meetings and seminars.

Perform other related technical and administrative functions as required.

KENYATTA NATIONAL HOSPITAL

Management Guide

Associate Hospital Director, Human Resources

Under general direction of the Director, responsible for planning, coordinating, and administering policies relating to all phases of human resources.

As a member of senior management participate in the development of Hospital plans and objectives; conceive and recommend policies and programs designed to meet the needs of the Hospital and its employees. Participate in the preparation of policy statements, procedural guides and manuals required for implementation and understanding of employee relations programs. Ensure that the personnel policies are appropriate and administered equitably for all employees.

Accountable for overseeing the operation of Personnel, Housekeeping, Laundry and Linen, Telecommunications and Security, and Cafeteria. Establish objectives with subordinate managers; assess departmental performance in relation to established goals; and ensure that departments are meeting operational objectives.

Through subordinate managers, provide for hiring, training, assignment, and scheduling of departmental personnel. Evaluate performance of subordinate managers and recommend their compensation, promotion, transfer, or dismissal as appropriate in accordance with hospital policy. Review personnel actions and recommendations of subordinate managers.

Responsible for coordinating preparation of assigned departments' program review and budgets; review and initiate appropriate changes in line with overall corporate objectives. Review reports reflecting actual performance to budget and take corrective measures as required. Maintain fiscal control over divisional expenditures, securing approvals for unusual or non-budgeted items.

Serve as administrative representative on various Hospital, Board, Medical Staff, and outside committees. Participate in senior management and department head meetings.

Responsible Hospital-wide for the recruitment and selection of employees; ensure adequate and effective staffing for each department; review and analyze the efficiency and manpower utilization; and accountable for generation, maintenance and confidentiality of all employee records.

Ensure that for each hospital position the salary and social welfare scheme are internally equitable and externally competitive. Accountable for developing salary and welfare adjustments and recommend their adoption by the Board.

Support and enhance organizational cooperation and coordination by maintaining open communications with all levels of hospital staff. Plan and implement programs designed to promote positive employee attitudes; provide to

Management Guide

Associate Hospital Director, Human Resources

supervisory and non-supervisory personnel the understanding and solution of organizational and individual problems.

Audit and evaluate existing personnel policies and programs in terms of their cost and effectiveness in meeting Hospital objectives; make recommendations to the Director regarding new approaches, policies, and programs; attend Board meetings and other Board committees as requested.

Keep informed of developments in human resources field through study and attendance at meetings and seminars. Responsible for keeping management and supervisors apprised of changes affecting employee relations practices.

Perform other related administrative duties as assigned.

KENYATTA NATIONAL HOSPITAL

Management Guide

Associate Hospital Director, Patient Care Services

Under general direction of the Senior Associate Hospital Director, accountable for planning, organizing, and directing all functions of the Patient Care Services Division. Responsible for continuous delivery of high quality of patient care through effective management of medical, human, financial and physical resources.

As a member of senior management, participate in the development of Hospital objectives and plans; conceive and recommend a wide range of patient care programs designed to meet the present and future needs of both the Hospital and the Patient Care Services Division. Participate in the preparation of policy statements and procedures required for implementation of Hospital programs.

Responsible for providing administrative direction of assigned departments and programs including Medical/Surgical Units, Maternity, Pediatrics, Ambulatory Clinics, Operating Theatre, Casualty Department and Nursing Education.

Develop, define and maintain standards of nursing practice; evaluate nursing care delivery systems, implementing revisions to systems to utilize new techniques, overcome problems and improve efficiency. Accountable for ensuring that nursing practice is in compliance with established standards, and regulations.

Direct and oversee the initiation, implementation and evaluation of programs which provide for orientation and continuing professional growth and development of all Patient Care staff.

In conjunction with Human Resources Division, provide for the recruitment and selection of Division personnel; evaluate performance of subordinate directions and recommend their compensation, promotion, transfer, or dismissal as appropriate in accordance with Hospital policy. Review personnel actions and recommendations of department directors.

Serve on various Hospital and Medical Staff committees; serve as ex officio member of Medical Staff Executive Committee; meet regularly with Chiefs of Service and Medical Director to maintain effective working relationships between Patient Care Division and the Medical Staff.

Conduct weekly meetings of Nursing Administrative Managers; meet monthly with Nurse Managers.

Responsible for coordinating preparation of assigned departments' Program review and forward budgets; review and initiate appropriate changes in line with Hospital objectives. Review reports reflecting actual performance to budget and take corrective measures as required.

Management Guide

Associate Hospital Director, Patient Care Services

Keep informed of developments in the patient care field through attendance and participation at meetings and seminars.

Perform other related professional or administrative functions as required.

KENYATTA NATIONAL HOSPITAL

Management Guide

Associate Hospital Director, Administrative Services

Under general direction of the Senior Associate Hospital Director, plan, organize, direct, and control activities of assigned Hospital departments and corporate subsidiaries.

As a member of the senior management staff, participate in the development of Hospital objectives and plans; conceive, investigate, and recommend a wide range of programs to meet the needs of both the Hospital and the Administrative Services Division. Participate in preparation of policy statements and procedures required for implementation of Hospital programs.

Responsible for administrative direction of assigned Hospital departments and programs, including Laboratory, Radiology, Radiation Therapy, Cardiopulmonary Services, Rehabilitation Services, and Pharmacy. Establish objectives with subordinate managers; assess departmental performance in relation to established goals; and ensure that departments are meeting operational objectives.

Through subordinate managers, provide for hiring, training, assignment and scheduling of departmental personnel. Evaluate performance of subordinate managers and recommend their compensation, promotion, transfer or dismissal as appropriate in accordance with Hospital policy. Review personnel actions and recommendations of subordinate managers.

Responsible for coordinating preparation of assigned departments' Program review and forward budgets; review and initiate appropriate changes in line with overall Hospital objectives. Review reports reflecting actual performance to budget and take corrective measures as required. Maintain fiscal control over divisional expenditures, securing approvals for unusual or non-budgeted items.

Serve as administrative representative on various Hospital, Medical Staff and outside committees. Participate in senior management and department head meetings. Conduct periodic meetings with subordinate managers. Responsible for maintaining effective working relationships between departments within the Administrative Services Division and between Division departments, Medical Staff, and other Hospital departments.

Keep informed on developments in Hospital administrative profession through study and attendance at meetings and conferences.

Perform other related administrative functions as assigned.

APPENDIX E

Exhibit IIIC2

COMPARISON OF FACILITY CHARGES (Ksh)

TYPE OF BED SERVICE	KNH	MM	MPS	AKH	Nairobi Hos		WC	CMC
	Ksh	Ksh	Ksh	Ksh	Res	Non	Ksh	Ksh
General Ward Bed	20	350	350	425	520	520	200	
Single Room		450	500				250	
Single Room with two beds (Duplex)		600	500	750				
Duplex Room for Sole use of one patient		500	750	875	950	1200		
Special Private Room (with attached B/room and toilet)		800	900	1600	2500	3000		
Intensive Care Unit Bed 1st 7 days			1500	95	2400	2760		
From 8th day onwards			1200	2280	2400			
Use of Resp. per day			300					
PAEDIATRICS								
1) General Bed		400		320				
2) Special Care		180		550				
3) Private Room		450		650				
MATERNITY								
1. Ward Bed	20	350	300	425	460	760		
2. Single Room		450	450	650	920	1190		
3. Special Room		550	750	750	1160	1450		
DELIVERY FEES								
Midwives Delivery	200	480						
Resident Doctors (Clinic Patients only)	200	700						
LABOUR WARD FEES								
Normal Delivery	200	450	500	650				
Vacuum Extraction Forceps etc.		550	550	650				
Caeserean Section (Theatre) Pvt./Pat.		1000	1300					
Caeserean Section Clinic Patient. (Includes fees for obs. Anaesthetist and Theatre)		3800						
NURSERY								
Normal Delivery		120						
Special Care Unit		180						

KNH=Kenya National Hospital
 MM=Mater Misericordiae
 MPS=M.P. Shah
 AKH=Aga Khan Hospital

NH=Nairobi Hospital
 WC=Westlands Cottage Hospital
 CMC=Crescent Medical Centre

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EXHIBIT IIIC3

SOCIOECONOMIC CHARACTERISTICS OF FACILITY CLIENTS

	FACILITY				Total Sample
	KNH	AKH	W'lands Cottage	Crescent	
Area of Residence					
LOW INCOME					
Eastlands	22	25	14	24	22
Mathare, Kibera, etc.	36	9	20	46	31
MIDDLE INCOME (includes City Centre, Ngara, and Eastleigh)	15	22	7	23	17
HIGH INCOME	7	14	50	3	10
Outskirts of Nairobi	13	21	2	3	13
Districts out of Nairobi	6	7	-	1	5
Others	1	2	5	-	1
Employment Status					
Housewife	26	14	25	49	26
Artisan	11	4	2	1	8
Trader	9	10	5	13	9
Clerk	25	18	18	14	22
Middle Management	8	22	18	14	11
Upper Management	0	5	9	-	1
Unemployed	18	5	9	9	14
Others	4	23	14	4	7
Landowners (household owns land)	80	62	45	67	74
Family Size	5.5	5.0	4.0	4.8	5.3
Average household monthly income from wages	2673	4893	2039	2031	2960
Yearly reported income from land holdings	1687	5227	706	1714	2923
Total monthly per capita household income					

EXHIBIT IIIC4

REASONS CLIENTS DO NOT GO TO NEAREST FACILITY TO HOME (in percent)

Reasons	FACILITY				Total Sample
	KNH	AKH	W'lands Cottage	Crescent	
Fees	3	2	-	-	2
Referred	54	24	6	-	40
May have been sent here anyway	9	1	11	1	7
Selected for me by some one else	5	1	9	4	5
No medicine at the closer facility	9	30	25	8	13
No proper staff at closer facility	10	9	5	35	12
No doctor	2	-	7	2	2
No opinion	8	32	41	49	18

Exhibit IIIC5

SERVICES FOR IMPROVEMENT AT KNH
IN ORDER OF IMPORTANCE TO THE CLIENTS

<u>Service</u>	<u>Percent</u>
Waiting Time	31
Things should happen faster	24
Staff/patient relationships	16
Availability of drugs	12
Patients should be able to locate places faster	10
Others	7

HOSPITAL RATING BY CLIENTS

<u>Rating</u>	<u>Percent</u>
Very Good	21
Good	70
Bad	7
Very Bad	2

903-

Exhibit IIIC6

PAYMENTS BY KNH FOR PREVIOUS TREATMENT OF PRESENT ILLNESS (Ksh)

Monthly Household Income (Ksh)

	0 - 499		500-1199		1200-2000		2001-3999		4000-6100		6101+		Total	
	Ksh	No.	Ksh	No.	Ksh	No.	Ksh	No.	Ksh	No.	Ksh	No.	Ksh	No.
Average amount paid for medical consultation for present illness	70	(18)	116	(16)	150	(11)	104	(23)	192	(9)	192	(9)	123	(86)
Average amount paid for medication for previous consultation for present illness	28	(3)	215	(4)	100	(2)	472	(13)	1164	(7)	150	(2)	507	(31)
Average amount paid for lab, X-ray, etc. for previous consultation for present illness	160	(3)	330	(2)	140	(3)	287	(4)	195	(2)	100	(1)	213	(15)

hdu.

Exhibit IIIC7

PAYMENTS BY KNH CLIENTS FOR TREATMENT OF OTHER FAMILY ILLNESS

Monthly Household Income (Ksh)

	0 - 499		500-1199		1200-2000		2001-3999		4000-6100		6101+		Total	
	Ksh	No.	Ksh	No.	Ksh	No.	Ksh	No.	Ksh	No.	Ksh	No.	Ksh	No.
Average amount paid for consultation for last family illness	228	(20)	128	(9)	139	(8)	580	(20)	414	(10)	373	(9)	341	(76)
Average amount paid for lab and X-rays for last consultation for family illness	121	(4)	133	(4)	2999	(1)	174	(5)	430	(3)	261	(3)	347	(20)
Average amount paid for medications for last family illness	447	(11)	110	(8)	123	(7)	620	(14)	156	(7)	596	(8)	385	(55)

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Exhibit IIIC8

COMPONENTS FOR CALCULATION OF DAILY WARD COSTS (K POUNDS)

A. Administrative/overhead		
1.	Budget line items in Kenya Pounds.	
	- Passage and expenses (080)	63,000
	- Transport operating expenses (100)	60,000
	- Travelling and accommodation expenses (110)	35,000
	- Postal and telegram expenses (120)	1,000
	- Telephone expenses (120)	123,000
	- Entertainment allowance (130)	-
	- Committee and board expenses (131)	-
	- Electricity, water, conservancy (140)	1,000,000
	- Patient food (161)	530,000
	- Doctor and nurses food (165)	63,000
	- Senior staff canteen (166)	12,000
	- Staff welfare (167)	-
	- Purchase of cleaning material (170)	72,000
	- Uniform and clothing patient (171)	90,000
	- Purchase uniform & clothing (172)	53,000
	- Library expenses (173)	500
	- Purchase of stationery (174)	28,000
	- Advertising & publicity (175)	3,000
	- Purchase of material stationery (176)	40,000
	- Payment of rates & rents (residential (181)	250,000
	- Hire of transport, plant, machinery (186)	2,000
	- Miscellaenous & other charges (190)	12,000
	- Pending bills (191)	-
	- Staff development (192)	1,000
	- Local seminars (194)	22,000
	- Insurance (195)	-
	- Legal expenses (196)	-
	- Medical expenses (197)	-
	- Maintenance plant, equipment, machinery (250)	75,000
	- Maintenance of store & office equipment (251)	10,700
	- Maintenance of building & estate (260)	20,000
	Subtotal	2,566,180
	2. *Administrative salaries	1,442,375
B.	**Doctors salaries	
	1. Specialists and officers	1,006,773
	2. Contracted professional services	1,000
	Subtotal	1,000,773

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Exhibit IIIC8 (continued)

C. **Nurses salaries (by category of ward)		
1.	General surgery wards (34 nurses/128 beds)	69,576
2.	General medical wards (57 nurses/180 beds)	117,939
3.	Labour and delivery wards	
	- Labour (28 nurses/17 beds)	63,009
	- New born (3070 of 32 nurses)	21,924
	Subtotal	<u>84,933</u>
D. Requested budget increments in line items and contracted professional services)		
	Subtotal	3,557,000

Note: Allowances associated with salaries not included.

* 1730 individuals in grades A-P; salary for grades calculated at midpoint of grade range; includes personnel in administrator, nursing administrator, supplies, maintenance, housekeeping, laundry, food service.

** 208 individuals in grades L-Q; salaries for grade calculated at the midpoint of the grade range

Exhibit IIIC9

AVERAGE DAILY COST OF A WARD BED (Ksh)

A. General surgery wards

1. average daily admin/overhead cost	119	
2. average daily doctor cost	30	
3. average daily nursing cost	30	
	—	
	Subtotal	179
4. Including requested budget increments	106	
	—	
	Total	284

B. General medical wards

1. average daily admin/overhead	119	
2. average daily doctor cost	30	
3. average daily nursing cost	40	
	—	
	Subtotal	189
4. Including requested budget increments	106	
	—	
	Total	295

C. Labour and delivery ward

1. average daily admin/overhead	119	
2. average daily doctor cost	30	
3. average daily nursing costs		
- Labour ward	203	
- New born	70	
	—	
	Subtotal	422
4. Including requested budget increments	106	
	—	
	Total	528

NOTE: If this same methodology were applied to amenity ward beds, the lower bound of the estimate would be Ksh 195 and the upper bound would be Ksh 305.

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Exhibit IIIC10

COST COMPONENTS OF MALARIA HOSPITAL DISCHARGES (KSH)

LABORATORY EXAMS	KNH PROPOSED PRICES ¹	QUANTITY		TOTAL COST
		PLANNED	EXECUTED	
All culture and Sens	90	10	5	900
Blood Culture	110	8	3	880
Mantoux Test	30	2	1	60
LSF	190	9	6	1,710
Haemogram (HB, WBC)	20	14	5	280
ESR	35	1	1	35
Blood Slide/Mal Par	25	80	71	2,000
Blood for PCV	90	10	5	900
Blood Grouping/Match	40	1	1	40
Widal Test	55	1	1	55
Sickling Test	35	1	0	35
Stool for O/C	30	5	1	150
Urinanalysis	25	3	2	75
U/E	160	6	1	960
Blood Sugar	155	7	5	1,085
Subtotal		158	108	9,165
RADIOLOGY EXAMS				
X-Ray Spine	180	1	0	180
ABC X-Ray	120	1	0	120
Subtotal		2		300
OTHER PROCEDURES				
Mal parasite culture	400	1	0	
Lumbar puncture		10	7	
IV fluids	89	6	6	
Blood transfusion		16	15	
Physiotherapy		2	0	
EKG		1	1	
EEG		0	1	

¹ Used as an approximation of cost

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Exhibit IIIC10 (continued)

MEDICATIONS	PROCUREMENT PRICE ²	QUANTITY	TOTAL COST
Chloroquin	3.04	40	122
Quinine		10	0
Amodiaquine	1.88	7	13
Fansidar	6.00	4	24
Septrin	14.00	17	238
Dexamethazone	90.00	1	90
Valium	4.67	3	14
Analygesics	30.00	15	450
Crystapen	62.00	11	682
Gentamycin	100.00	3	300
Actal	30.00	3	90
Flagyl	11.36	2	23
Ampicillin	163.80	3	491
Chloram phenicol	224.00	5	1,120
Palvidine	12.00	1	12
Phenobarb	29.16	7	204
Lasix	227.59	11	2,503
Multivit	20.70	6	124
Faso	41.40	4	166
Folic Acid	4.50	5	23
Digoxin	82.37	5	412
Franol	32.00	1	32
Buscopan	147.11	1	147
*Zente	40.00	2	80
G.V.	10.00	3	30
Erythromycin	116.83	1	117
Folate	5.00	2	10
Ketrax	10.00	1	10
*Glycothynoi	80.10	2	160
Hydrocortisone	120.00	1	120
Actifed	25.00	1	25
Ventolin	68.00	3	204
Cloxacillin	290.00	1	290
Piriton	0.74	2	1
Calcium gluconate	6.00	1	6
Nystatin	238.00	1	238
Largactil	1242.00	1	1,242
Laroxyl/Amyliplytine	10.00	1	10
Subtotal	3599.25	188	9,823

* Non-essential drugs

² For course of therapy

Exhibit IIIc11

COST COMPONENTS OF PNEUMONIA HOSPITAL DISCHARGES (Ksh)

LABORATORY EXAMS	KNH PROPOSED PRICES ¹	QUANTITY		TOTAL COST
		PLANNED	EXECUTED	
All cultures and sens.	90	4	3	360
All gramstain	35	1	0	35
Spectrum for AFBs	35	13	8	455
Mantoux Test	30	9	3	270
Spectrum Culture/sens. TB	95	3	0	285
Blood Culture	110	3	0	330
Microscopy	30	1	1	30
Haemogram (HB)	20	10	7	200
Haemogram (a8)	90	1	0	90
ESR	35	4	3	140
Blood grouping x match	40	1	1	40
Blood slide malaria	35	6	11	210
Stool O/C	30	3	1	90
U/E	160	1	1	160
LFT	190	1	0	190
Blood sugar	155	1	1	155
Widal test	55	1	1	55
Subtotal		63	41	3,095
RADIOLOGY EXAMS				
Chest X-Ray	120	4	3	480
Direct PA	120	13	14	1,560
Subtotal		17	17	2,040
OTHER PROCEDURES				
IV Fluids	89	3	3	267
Respiratory function		1	0	
NG Tubes		1	1	
Oxygen		8	5	
Blood transfusion		1	0	
Lumbar puncture		1	0	

¹ Used as an approximation of cost.

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Exhibit IIIC11 (continued)

MEDICATIONS	PROCUREMENT PRICE ²	QUANTITY	TOTAL COST
Antibiotics (Class 1)	62	61	3,782
*Antibiotics (Class 2)	1500	33	49,500
Analgesics	50	16	800
Sedatives	29	2	58
Bronchodilator	94	8	752
Lasis	228	3	683
Digoxin	82	1	82
Deworm drug	16	2	33
Haematinics	41	1	41
Antimalarial	3	5	15
Multivite	21	1	21
Adrenaline	50	1	0
G.V	10	3	0
Piriton	1	2	1
Vit K	51	1	0
Calcium gluconate	40	1	0
Sodium chloride		1	0
Nitrofuraantoin	41	1	0
Mycostatin	238	1	238
Flagyl	11	1	11
Thiazina	89	1	89
Largactil	1242	1	1,242
Plasil	65	1	0
DFT18	36	1	36
Actals	30	1	30
Buscopan	147	1	147
Calpol	3	1	3
Subtotal			57,566

* Non-essential drugs

² For course of therapy

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Exhibit IIIC12

COST COMPONENTS OF NORMAL DELIVERY HOSPITAL DISCHARGES (Ksh)

LABORATORY EXAMS	KNH	QUANTITY		TOTAL COST
	PROPOSED PRICES ¹	PLANNED	EXECUTED	
Haemogram (HM)	20	1	0	20
Bloodgrouping x match	40	13	2	250
Urinanalysis	25	5	2	125
U/E	160	1	0	160
Esbach test	25	1	0	25
Subtotal		21	4	850
OTHER PROCEDURES				
IV fluids	89	12	7	1,068
Episiotomy		19	17	0
Repair perineal tear		3	2	0
Removal Modolds stretch		1	1	0
Amniocentesis		2	1	0
Phsiotherapy		1	0	0
Bilateral T/C		1	1	0
Enema		1	1	0
Oxygen		2	0	0
Subtotal		42	30	1,068
MEDICATIONS	PROCUREMENT PRICE ²	QUANTITY		TOTAL COST
Antihypertensives	90	1		90
Sedatives	29	17		496
Tranquilizers	30	4		120
Analygesics	50	5		250
Velntolins	68	1		68
Ergometrine	2	55		114
Syntocinon	5	7		35
Heporin	300	1		300
Atiopin	6	2		11
Aldomet	1026	1		1,026
Hydrallezine	90	2		180
Flagyl	65	1		65
Buscopan	147	1		147
Subtotal		98		2,902

¹ Used as an approximation of cost

² For course of therapy

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Exhibit IIIC13

COST COMPONENTS OF ABDOMINAL SURGERY HOSPITAL DISCHARGES (Ksh)

LABORATORY EXAMS	KNH PROPOSED PRICES ¹	QUANTITY		TOTAL COST
		PLANNED	EXECUTED	
All culture and sens	90	8	5	720
All gramstain	35	1	2	35
Blood culture and sens	110	4	3	440
Mantoux	30	1	1	30
AFBS	35	2	1	70
Haemogram (HB)	20	21	19	420
ESR	35	1	1	35
Blood grouping x match	40	31	22	1,240
Blood slide	35	8	6	280
PTI	30	2	1	60
Coagulation screen	2600	1	3	2,600
Urinanalysis	25	3	2	75
Histology	250	12	12	3,000
U/E	160	15	13	2,400
Blood chemistry	350	1	3	350
Screen amylase	50	3	4	150
Screen calcium	55	2	2	110
Blood sugar	50	2	3	100
Pregnancy test	50	1	1	50
Widal test	55	0	1	0
Subtotal		119	105	12,165
RADIOLOGY EXAMS				
X-ray abdominal	120	6	9	720
Chest X-ray	120	3	2	360
Pelvic X-ray	120	1	0	120
IVP300	3	2	900	
Ultra Sound	540	11	9	5,940
Barium meal	300	1	1	300
Spine X-ray	180	2	0	360
Subtotal		27	23	8,700
OTHER PROCEDURES				
Blood transfusion		12	11	
Enema		3	4	
Anaesthesia local		59	58	
N-G tube		15	12	
IV fluids		48	49	
Physiotherapy		6	6	
Flatus tube		1	2	
Endoscopy		1	1	

¹ Used as an approximation of cost

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Exhibit IIIC13 (continued)

MEDICATIONS	PROCUREMENT PRICE ²	QUANTITY	TOTAL COST
Analgesics	50.00	23	1,150
Pethidons	33.00	64	2,112
Atropine	1.00	55	55
Pentothal	11.90	2	24
Curare	60.00	22	1,320
Neostegmine	60.00	14	840
Antibiotics (Class 1)	62.00	24	1,488
*Antibiotics (Class 2)	1,500.00	42	63,000
Haematenics (feso-4)	41.40	4	166
Flagyl	11.36	8	91
Chloroquin	3.04	6	18
Pavulon	60.00	2	120
Valium	4.67	8	37
Camoquin	10.00	3	30
Lasis	227.59	1	228
Pentop	0.74	2	1
Largaetil	1,242.00	1	1,242
Hydrocortisone	120.00	2	240
Actals	30.00	1	30
Actifed	25.00	1	25
Thiazine	88.71	2	177
*Tagamet	400.00	1	400
Insulin	670.00	1	670
*Bisolvan	40.00	1	40
Imodium	50.00	1	50
Thiopentons	11.90	8	95
*Aspergic	10.00	1	10
Deworming drugs	16.35	2	33
Ketalar	51.98	4	208
Ergometrine	10.00	1	10
Suxamethonium	60.00	2	120
Subtotal			74,030

* Non-essential drugs

¹ For course of therapy

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Exhibit IIIC14

AVERAGE COST OF A PNEUMONIA* DISCHARGE (Ksh)

		Total
Bed cost		992
ALOS (days)	5.25	
Daily ward bed cost (Ksh) (general medical ward)	189	
Laboratory costs		61
Avg. no. exams/patient	1.24	
Avg. cost/exam (Ksh)	49	
Radiology costs		35
Avg. no. exams/patient	0.29	
Avg. cost/exam (Ksh)	120	
Procedures		NA
Avg. no. exams/patient		
Avg. cost/exam (Ksh)		
Medications		1,135
Avg. no./patient	2.98	
Avg. cost/medication (Ksh)	381	
Total Cost		2,223
Total Cost - Adjusted for Requested Budget Increment		2,722

NA=not available

* Only cases with a primary pneumonia diagnosis are used for analysis; cases with secondary diagnoses are excluded.

Exhibit IIIC15

AVERAGE COST OF A MALARIA* DISCHARGE (Ksh)

		Total
Bed cost		731
ALOS (days)	3.87	
Daily ward bed cost (Ksh) (general medical ward)	189	
Laboratory costs		166
Avg. no. exams/patient	2.87	
Avg. cost/exam (Ksh)	58	
Radiology costs		5
Avg. no. exams/patient	0.03	
Avg. cost/exam (Ksh)	150	
Procedures		NA
Avg. no. exams/patient	0.06	
Avg. cost/exam (Ksh)	NA	
Medications		179
Avg. no./patient	3.44	
Avg. cost/medication (Ksh)	52	
Total Cost		1,081
Total Cost - Adjusted for Requested Budget Increment		1,580

NA=not available

* Only cases with a primary diagnosis of malaria are used for analyses; cases with secondary diagnosis are excluded.

Exhibit IIIC16

AVERAGE COST OF A NORMAL DELIVERY (Ksh)

		Total
Bed cost		1,000
ALOS (days)	2.87	
Daily ward bed cost (Ksh) (general medical ward)	422	
Laboratory costs		12
Avg. no. exams/patient	0.3	
Avg. cost/exam (Ksh)	40	
Procedures		18
Avg. no. exams/patient	0.7	
Avg. cost/exam (Ksh)	25	
Medications		42
Avg. no./patient	1.4	
Avg. cost/medication (Ksh)	30	
Total Cost		1,072
Total Cost - Adjusted for Requested Budget Increment		1,323

NA=not available

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Exhibit IIIC17

AVERAGE COST OF AN ABDOMINAL SURGERY DISCHARGE (Ksh)

		Total
Bed cost		1,557
ALOS (days)	8.7	
Daily ward bed cost (Ksh) (general medical ward)	179	
Laboratory costs		184
Avg. no. exams/patient	1.8	
Avg. cost/exam (Ksh)	102	
Radiology costs		129
Avg. no. exams/patient	0.4	
Avg. cost/exam (Ksh)	322	
Procedures		NA
Avg. no. exams/patient	2.23	
Avg. cost/exam (Ksh)	NA	
Medications		1,171
Avg. no./patient	4.9	
Avg. cost/medication (Ksh)	239	
Theatre cost		1,500
(based on M. P. Shah charges, includes anesthesia)		
Total Cost		4,541
Total Cost - Adjusted for Requested Budget Increment		5,393

NA=not available

Exhibit IIIC18

OUTPATIENT PRESCRIPTIONS AND COSTS (Ksh)

CLASS	PRESCRIPTION	NO.	DOSE	UNIT PRICE	STD COURSE OF THERAPY	COST OF COURSE OF THERAPY	TOTAL COST	
ANTI-DEPRESSANT	AMITRIPTYLINE-HYDROCHLORIDE	13	25mg	0.1	90	9	117	
	IMIPRAMINE - HYDROCHLORIDE	135	25mg	0.6	90	54	7,290	
ANTIBIOTICS	AMIDICYLLIN SYRUP	3	125mg /5ml	66.6	(150ml) 1	67	200	
	AMPICILLIN CAP	37	250mg	1.4	56	77	2,849	
	AMPICILLIN SYRUP	6	125mg /5ml	47.7	(100ml) 1	48	284	
	ERYTHROMYCIN ETHYLSUCCINATE SYRUP	1	200mg /5ml	62.7	(100ml) 1	63	63	
	ERYTHROMYCIN TABS	1	250mg	2.1	56	11	117	
	PENICILLIN V. SYRUP	5	125mg	29.7	(150ml) 1	30	150	
	PENICILLIN V. TABS	2	250mg	0.7	56	39	78	
	TETRACYCLINE - HYDROCHLORIDE SKIN OINT.	17	3X	7.9	1	8	133	
	TETRACYCLINE-HYDROCHLORIDE EYE OINT.	2	1X	5.4	1	5	11	
	MYCOSTATIN PESS	1	1 pac 15pess	4.1	15	61	61	
	AMIDICYLLIN CAPS 250 MG	35	250mg	4.3	21	91	3,173	
	TETRACYCLINE ED CAP. 250MG	596	250mg	0.5	56	30	18,103	
	CAP AMPICLOX (AMPICILLIN-CLOXACILLIN) 500MG		500mg	5.9	28	164	0	
ANTI-BIOTININE	CHLORPHENIRAMINE MALEATE SYRUP	42	4mg/5	40.0	(150ml) 1	40	1,680	
	CHLORPHENIRAMINE TABS	350	4mg	0.0	21	1	257	
ANTI-HYPERTENSIVE	METHYLDOPA TABS	55	250mg	1.9	540	1026	56,430	
	METHYLDOPA TABS	12	500mg	3.7	540	1971	23,652	
	PROPRANOLOL HYDROCHLORIDE TABS	1	40mg	2.0	90	184	184	
	DEMLISQUINE SULPHATE TAB	2	20mg	2.5	540	1350	2,745	
VINKALIN PINDOLOL TAB BP	6		4.2	60	252	1,512		
CLAMETHIDINE SULPHATE TAB. S.P. 25MG	10	25mg	3.3	60	195	1,950		
ANTI-MALARIAL	CELOBOQUINE PROSPATE SYRUP	1	50mg/	40.4	(20ml) 1	40	40	
	CELOBOQUINE PROSPATE TABS	75	150mg base	0.3	12	3	21	
	AMODIAQUIN 200 MG (CAMOQUIN)	2	200mg	0.6	3	2	4	
	SULPHAMETHOXY-BAZINE 500MG PYRIMETHAMINE 25MG METAKELFIN	3		3.0	2	6	18	
	PROGUANTIL ED TAB S.P. 100MG	3	100mg	0.1	12	2	5	
	ANTI-SPASMODIC	HYOSCINE-B-BUTYLBROCHIDE	39	10mg	3.5	42	147	5,737
		ANTI-ASTHMATICS	FRANOL SYRUP	3	120ml	32.0	(150ml) 1	32
	FRANOL TABLET		89		0.3	90	25	2,242
	SALBUTANOL SYRUP		5	2mg/5	33.6	210	7056	35,280
	SALBUTANOL TABLETS		30	4mg	0.8	90	68	2,041
SALBUTANOL INHALATION	20		200	159	1	159	3,180	
BELOTIDE INHALEX	1			212	1	212	212	
DERMATOLOGICAL DRUGS	BETAMETHASONE VALERATE CREAM	5	100X 15gp	21.6	6	130	648	
	BETAMETHASONE VALERATE OINT.	1	0.1X 15gp	21.6	6	130	130	
ANTI-SEPTIC	DEBONIDE CREAM SPC	2	15gp	42.6	6	256	511	
	HYDROCORTISONE 1% CREAM	158	1210g Tube	13.4	6	80	12,654	
	METHYLATED SPIRIT	1	20Ltr	380	(150) 1	380	380	
	SAVLON CONCENTRATE	31	5Ltr	430	(700ml) 1	430	13,330	
	CHLORHEXIDINE GLUCONATE JOLIN 20% S.P. 1 LTR	1	1Ltr	199	1	199	199	
DIURETIC	EBITANE ANTISEPTIC SVLN	1	5Ltr	638	1	638	638	
	SAVLON							
	SPIRIT							
	FENFENOLIDE TABS	25	60mg	3.8	60	228	5,690	
COMBINES	HYDROFLUMETHAZINE TAB 50MG	56	50mg	0.3	60	16	874	
	EPIDIBOLACTONE TABS	32	25mg	0.5	60	28	909	
	ACTAZOLANIDE TAB (DIAMEX)	5	250mg	0.3	360	92	459	
TETRACORTIL EYE/EAR SUSPENSION	2	3.5g Tube	54.0	4	224	448		

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Exhibit IIIC18 (continued)

CLASS	PRESCRIPTION	NO.	DOSE	UNIT PRICE	STD COURSE OF THERAPY	COST OF THERAPY	TOTAL COST
EXPECTORANT AND COUGH SUPPRESSANT	BISACODYL TABS	7	5mg	0.9	42	39	271
CYTOTOXIC DRUGS	CYCLOPHOSPHAMIDE TAB (50MG)	5	50mg	1.5	168	252	1,260
	METHOTREXATE TABS	3	2.5mg	3.0	1248	3744	11,232
	MERCAPTOPURINE TABS. B.P.	1	50mg	0.5	720	389	389
ANTHELMINTIC (ANTHRA-NEMIC)	FLACYL TAB METHYLDIAZOLE	161	200mg	0.3	42	11	1,829
	FASICTH (TINIDAZOLE TAB)	15	500mg	0.3	12	3	48
THYROID AND HYPOTHYROID PREPARATORY	THYROXINE TAB	1				252	
ANTHELMINTIC	BERBENIUM HYDROXYBIPYRATES GRANULES 5MG (SACHET ALCOPAR)	2	5gm	16.3	1	16	33
	NICLOXANIDE TABS (YOKESAN)	2	500gm	0.2	4	1	2
ANTI-CONVULSANT	ETHOSUXIMIDE CAPS B.P. 250MG (ZARONTIN)	3	250mg	2.5	60	150	450
	PHENYTOIN SODIUM TAB 100M (EPAUNIN)	21	100mg	0.2	90	22	463
	CARBAMAZEPINE	5	200mg	0.7	60	41	204
	STILBENESTYL 5MG TAB	1	5mg	0.0	30	1	1
SEDATIVE AND TRANQUIL-LIZER	PREDNISOLONE BP (154MG)	1	15mg	0.0	1080	29	29
	PREDNISA. 91TONE BP (50MG)	52	30mg	0.1	540	29	1,488
	CHLORPROMAZINE HD TAB. BP 25MG	1	250mg	3.5	360	1242	1,242
	HALOPERIDOL TAB 5MG	4	5mg	0.1	240	27	109
ANALGESIC ANTI-PYRETIC ANTI-INFLAMMATORY	ASPIRIN TABS	245	300mg	0.1	42	3	681
	INDOMETHACIN CAPS	77	25mg	0.2	90	21	1,629
ANTI-HEMATIC	PARACETAMOL	335	500mg	0.2	14	3	1,102
	DIAZEPAM (2MG)	95	2mg	0.3	14	5	444
	BURCAN	1	300mg	8.1	21	170	170
	DP 118 DIPHENOXOLINE	1	30mg	2.4	42	100	100
SULPHONAMIDES	CO-TRIMOXAZOLE TABS	372	400.8 mg	0.6	14	9	3,233
	CO-TRIMOXAZOLE SYRUP	9	200.4 mg	24.0	ml 70	1680	15,120
VITAMIN PREPARATION	MULTIVITAMIN SYRUP	6	5Lcra	170	ml 2	340	2,840
	MULTIVITAMIN	132	5Lcra	0.2	90	21	2,732

CLASS	PRESCRIPTION	NO.	DOSE	UNIT PRICE	STD COURSE OF THERAPY	COST OF THERAPY	TOTAL COST
ANTI-OCULANTS	MARFABIS SODIUM TABS B.P. 3MG	5	3mg	0.2	30	5	23
ANTI-FUNGALS	CLOTRIMAZOLE 1% CREAM 15CM TUBE (CANESTEN)	18	15gm	119	2	238	4,288
	CLOTRIMAZOLE VAC. PESS. (PACK X 6)	96	1Pack	149	6	893	85,764
	GRISOFULVIN TAB B.P. 500MG	5	500mg	4.8	90	428	2,142
ANTI-SCLISTOMAL	MIRIDAZOLE TABS 500MG (AMBILMAR)	2	500mg	5.5			
ANTI-TUBERCULOSIS	ISONIAZID/RIFLAMYCIDIN TAB (100.50)BP (TBIAZIMA)	2		0.1	1620	89	177
ANTI-TRICHOMAL DRUGS	TINIDAZOLE TABS 500MG (FASICTH)	15	500mg	0.3	4	1	16
BASIC CHEMICALS EXCEPTORALISIS	DITHENOL B.P. (BOTT X 25CM)	1	1000g	145	1	145	145
	LIQUID PARAFFIN 5LT. BACC	2	18c1	103	(100ml) 1	103	206
	SALICYLIC ACID	30	1kg	51.7	1	52	1,550
	BENZOIC ACID	30	1kg	28.7	1	29	860
	CRISTIAN VIOLET (CV) CRYSTALS BP 500 CM STS	6	500gm				
CARDIAC GLYCOSIDES	TAB. DIGOXIN B.P. 0.25MG	16	0.25	0.5	180	82	1,318
DRUGS ACTING ON THE EYE AND ENT	ACETAZOLAMIDE TAB. 250MG (D'ANCE)	5	250mg	0.3	360	92	459
IRON HYDROPOETIC PREPS	FELPONS SULPHATE COMP. TAB BP 200MG	45	200mg	0.5	90	41	1,863
	FOLIC ACID TAB. B.P. 5 MG	35	5mg	0.2	30	5	158
MARCOTICS	DIPHENOXIDE TAB (DP118) 30MG	1	30mg	0.9	42	36	36
HYPNOTICS	MITAZEPAM (MOGADON 5MG)	16	5mg	1.0	7	7	112
ANTI-ARCINA	IBOLDIL-RETARD (AYERST CIBA)	1	60mg	1.1	240	259	259
ANTACID AND ANTI-ULCER	GASTROPEPINE 500MG	1		11.7	45	529	529
ANTI-HEMORRHOIDAL	PROCTOSEDYL	4		1.3	24	30	122
	PROCTOGLYDROL SUPPOSITORY	2		13.0	243	3155	6,311
LAXATIVE	SENOKOT	38		0.0	100	5	207

TOTAL PRESCRIPTIONS: 3,860
 COST (Rsh): 359,672
 COST/PRESCRIPTION (Rsh): 93

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Exhibit IIIC19

OUTPATIENT LABORATORY EXAMS

	MALE FILTER	FEMALE FILTER	PAED CLINIC	TOTAL OF OPD	HOSPITAL CHARGES FOR EXAMS (Ksh)			TOTAL COST at KKH (Ksh)
					KKH	NPS	AKH	
BLOOD SLIDE	10	1	5	16	35	40	50	560
BLOOD SUGAR.CTT	2	4		6	155	180	250	930
HAEMOGRAM	6	10	10	26	90	145	160	2340
SB	3			3	20	40	45	60
WARTON TEST	1	1		2	30	30	50	60
OCCULT BLOOD	2			2	25	30	40	50
SPUTUM FOR AFBs	1			1	35	40	50	35
STOOL FOR O/C	16	14	5	35	30	45	50	1050
E.S.E.	1			1	25	30	30	25
UREA AND ELECTROLYTE	6	7	4	17	160	230	210	2720
URINALYSIS	15	10	2	27	25	45	50	675
URINE FOR C/S	3	1	6	10	90	90	135	900
KIDNEY TEST	3	3		6	50	60	70	300
HTLV	1			1	420	420	420	420
STOOL C/S	1			1	80	90	135	80
LFT	4			4	190	180	350	760
SEGEN ANALYSIS	1			1	45	80	100	45
HIGH VAGINAL SMAB (HVS)		5		5	90	90	135	450
URINE FOR PREG. TEST		5		5	50	80	70	250
BLOOD CULTURE			1	1	90	100	135	90
BILIRUBIN (PAID BLOOD)			7	7	90	130	135	630
C.S.F. FOR C/S			1	1	120	130	135	120
TOTAL NUMBER OF PATIENTS	105	106	66	277				

TOTAL OPD INVESTIGATIONS: 178
 TOTAL COST (Ksh): 12,350
 COST/OPD VISIT (Ksh): 71

OPD-Outpatient Department
 KKH-Kemystta National Hospital
 NPS-N. P. Shah Hospital
 AKH-Aga Khan Hospital

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Exhibit IIIC20

OUTPATIENT RADIOLOGY EXAMS, PRICES, AND COSTS (Ksh)

	NUMBER OF OUTPATIENTS			PRICES OF RADIOLOGY EXAMINATIONS			TOTAL COST AT KNH
	Mar 87	Sep 87	TOTAL	KNH	MPS	AKH	
SMALL X-RAY	1,795	1,851	3,646	140	253	266	510,440
LARGE X-RAYS	854	893	1,747	120	140	210	209,640
ULTRA SOUND	223	182	405	540		494	218,700
BARIUM	89	175	264	300	535	553	79,200
IVP	11	50	61	300	620	750	18,300
ANGIOGRAM	5	1	6	540	2,100	4,000	3,240
HSG	24	39	63	420	500	580	26,460
MYELOGRAM		2	2	420	800	1,000	840
CHOLECYSTOGRAM	2	1	3	300	550	575	900
VENOGRAM	3	4	7	420	750	900	2,940
CYSTOURETHROGRAM	1		1	300	500	750	300
SPLenic VENOGRAM	1		1	420	180	1,200	420
TOMOGRAM	1		1	420			420
SIALOGRAM	1		1	420	550	550	420
PTC			0				0
DACROCYSTOGRAM	1		1	420			420
SINOGRAM		1	1	420	450	450	420
VENTRICULOGRAM			0	540			0
ORAL							0
CHOLECYSTOGRAM		2	2	300	455	575	600
RETROGRADE							
PYELOGRAM			0	300	600	700	0
GENITOGRAM		2	2				0
URETHROGRAM		4	4	260	600	600	1,040

TOTAL OUTPATIENTS: 6,218
 TOTAL COST (Ksh): 1,074,700
 COST/OUTPATIENT (Ksh): 173

KNH=Kenyatta National Hospital
 MPS=M. P. Shah Hospital
 AKH=Aga Khan Hospital

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EXHIBIT IIIC21a

Revenues: Inpatient Services

**OPTION 2A: CHARGE DAILY BED FEES
AT KSH. 185 PER DAY**

		Amount of Free Care Provided	
		25%	50%
1.	Normal delivery discharges ALOS = 2.4 days 1986 discharges = 7378	2,456,874	1,637,916
2.	All other discharges Overall ALOS = 8 days* 1986 discharges = 53,426	59,302,860	39,535,240
Expected Revenue:		61,759,734	41,173,156

OPTION 2B: CHARGE FLAT BED CHARGE

1.	Normal delivery Fee: 1/2 cost of ALOS = 500 1986 discharges = 7378	2,766,750	1,844,500
2.	All other discharges Fee: 1/2 cost ALOS = 750 1986 discharges = 53,426	30,052,125	20,034,750
Expected Revenue:		32,818,875	21,879,250

* Current hospital ALOS is 10 days which would be expected to drop to 8 when reforms are implemented.

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Exhibit IIIC21b

Revenues: Inpatient Services

Option 1A: CHARGE FOR ALL MEDICATIONS
AND DIAGNOSTICS

	No Free Care Provided	Amount of Free Care Provided	
		25%	50%
1. Medications			
a) Normal delivery 10,329 medications			
Assume:			
50% at Kah 30	154,935		
50% at Kah 50	258,225		
Expected Revenue	413,160	309,870	206,580
b) Surgical discharges 7,343 discharges 34,512 medications			
Assume:			
30% at Kah 10	103,536		
50% at Kah 60	103,536		
20% at Kah 200	1,380,480		
Expected Revenue:	1,587,552	1,190,664	793,776
c) All other discharges 46,083 discharges 138,249 medications			
Assume:			
20% at Kah 20	552,996		
50% at Kah 60	4,147,470		
30% at Kah 200	8,294,940		
Expected Revenue:	12,995,406	9,746,554	6,497,703
Total Expected Revenue from Inpatient Medications:	14,996,118	11,247,088	7,498,059
2. Laboratory Exams			
a) Normal delivery			
Assume:			
100% at Kah 40	295,120		
b) Surgical discharges 16,448 exams			
Assume:			
50% at Kah 50	411,200		
70% at Kah 150	1,233,600		
c) All other discharges 92,166 exams			
Assume:			
30% at Kah 30	829,494		
50% at Kah 90	4,147,470		
20% at Kah 150	2,764,980		
3. X-Ray Exams			
a) All discharges 60,804			
Assume:			
100% at Kah 100	816,480		
Total Expected Revenue from inpatient charges for lab and X-Ray tests	10,498,294	7,873,720	5,249,147

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Exhibit IIIC2lc

Revenues: Outpatient Services

Option 3A: CHARGE FOR ALL OUTPATIENT VISITS AT KSH. 10

Total outpatient visits	Assume no free care
1986 = 267,415	2,674,150

Option 1A CHARGE FOR ALL MEDICATIONS AND DIAGNOSTICS

	No Free Care Provided	Amount of Free Care Provided	
		25%	50%

1. Medications

Total Prescriptions = 374,381

Assume:

10% at Ksh 10	374,381
15% at Ksh 30	1,684,714
30% at Ksh 50	5,615,715
20% at Ksh 100	7,487,620
20% at Ksh 200	1,497,524
5% at Ksh 500	9,359,525

Expected Revenue:	26,019,479	19,514,609	13,009,739
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2. Laboratory Exams

Total Exams = 160,449

Assume:

40% at Ksh 35	2,246,286
35% at Ksh 70	3,931,000
20% at Ksh 150	4,813,470
5% at Ksh 250	2,005,612

Expected Revenue:	12,996,368	9,747,276	649,814
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N.B. The distribution of medication and laboratory charges approximates the frequency distributions encountered in record reviews.

3. X-Ray exams

Total Exams = 37,438

Assume:

60% at Ksh 140	3,144,792
30% at Ksh 120	1,347,768
10% at Ksh 350	37,438

Expected Revenue:	4,529,998	3,397,498	2,264,999
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Total Expected Revenue from Outpatient Services	46,219,995	35,333,533	18,598,702
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