



# CASE STUDY

## MUHIMBILI NATIONAL HOSPITAL



### About Client

Client	: Muhimbili National Hospital
Location	: Dar-es-Salaam
Segment	: Healthcare - Hospital
Project Title	: Implementation of Napier Healthcare – Hospital Information System with Public Health Modules
Bed Strength	: 1300
Specialties	: Obstetrics & Gynaecology, HIV & Counselling, Physiotherapy, Neurology



## CLIENT PROFILE:

Located in the capital city of Dar es Salaam, Muhimbili National Hospital is a 1,300-bed facility and the largest hospital in Tanzania. Serving four million people living in the Dar es Salaam region, the Muhimbili National Hospital is the main referral and teaching hospital, as well as the national reference laboratory for the country.

Abbott Laboratories and the government of Tanzania announced a partnership, Tanzania Care, to modernize the country's public health care infrastructure and improve services and access to care for people living with HIV/AIDS and other serious illnesses. Axios, an organization dedicated to improving health care in developing countries, is serving as the implementing partner for Tanzania Care.

Tanzania Care involves the renovation and modernization of the Muhimbili National Hospital, and the extension of HIV voluntary counselling and testing (VCT) services to the country's 21 regional hospitals. One of the primary goals of the new program is to assist the national hospital in establishing itself as a "Centre of Excellence" and restoring its role as the country's primary research, referral and teaching facility. This multi-year, multi-million dollar initiative will include, apart from creating infrastructure for patients and clinical works and training the health staff: Creating a management structure, department organization, budget process, planning cycle and financial controls within the Muhimbili National Hospital; Upgrading information technology, security, and waste management and health information systems throughout the hospital.



## PREVIOUS SOLUTION

After an eight month tendering and evaluation exercise involving more than eight IT vendors from US, India, South Africa and Middle East Asia, Abbott Consulting Services, a subsidiary of the funding agency Abbott, chose Napier Healthcare Limited, a leading healthcare software vendor from India to implement the IT vision of transforming MNH as a Centre of Excellence. Amongst the many key factors, which were considered for the evaluation, three factors were most important for the system to be selected for MNH.

- **Ability to use the software with ease**
- **Comprehensive nature of the solution offered**
- **Comprehensive training plan for the users**

Accurate, timely and appropriate information is needed for a more effective, efficient and equitable health care system. However, reliable information is frequently inadequate. In most of the countries, health and management information system is not only ineffective but also inefficient. There is also a lack of data quality management.

Napier Healthcare solves poor data collection and processing practices, unreliability and inadequacy of the data, or the lack of transforming data into information. Designing the system in a way where the data is collected at the source and the data is validated as it moves up the information channel, give the IT system the reliability and the credibility factor.



One of the major obstacles in the implementation of quality improvement initiatives in low and Middle-income countries is the lack of timely and appropriate information for local or frontline health services managers. Transforming data into useful information is one of the greatest challenges in the development of a well-functioning information system. Napier Healthcare's integrated approach, and phase wise implementation plan allowed the users to build the complete IT strategy spread over a reasonable period of time. One of the challenges in the development of healthcare management information system is how to find the optimal balance between comprehensiveness and efficiency. Napier Healthcare, through its experience with more than >70 healthcare institutions including hospitals, has been able to strike the right balance between comprehensiveness and efficiency.

Napier Healthcare has more than 23 different modules spread over five major systems, which look at different perspectives from various stakeholders' viewpoint. The implementation, which incorporates various standards like HL 7 (Health Level Seven), ICD-10, ICD-10-PCS and DICOM 3.0 has been designed to give the IT a global outlook and will make the same a part of centre for excellence. The software has subsystems like Patient management, Resource management, Clinical management and Financial and inventory management. A comprehensive MIS looks at various parameters like revenue / cost / expenditure / resource in a holistic way. The system generates more than 800 reports and answers more than 600 queries that are the cornerstone of the software. The ability to drill down the information from summary to detail based on various facets including time and department will help the management exercise better control.



The intuitive nature of the solution – Napier Healthcare, offered by Napier Healthcare appealed to the team which comprised of Director Consulting, Supply Channel and e-commerce of Abbott Laboratories, Managing Consultant from Abbott Laboratories Health Systems division and Director of Medical services from Muhimbili National Hospital. The way the software users like front office operators, ward nurses, pharmacists and laboratory technicians were explained the features of the software and the process flow, gave a glimpse of the intuitive nature of the solution. One of the main features of Napier Healthcare implementation is the training methodology for users at different levels. Napier Healthcare trained more than 150 users over 100 sessions on the use and trouble shooting. Training was delivered for levels like operational, functional and strategic and for medical, non-medical and general users. The sessions were both, theoretical and practical, and did not only help the users use the system but also helped them understand the processes within their areas of operation. A comprehensive course was designed for the system engineers to run the system after the implementation. A learned worker is a more efficient worker, and this was one of the factors where Napier Healthcare scored over the other vendors.



## ENGAGEMENT OVERVIEW:

To propel its growth plans and to integrate all the functionalities in the hospital, MNH entrusted Napier Healthcare the task of implementing Napier Healthcare – Online Healthcare Information System customized to its needs. The scope includes implementation of the following modules:



### **Patient Management Module**

- Admission, Discharge
- Bed Transfers
- Billing Process
- Cashiering Process
- Nursing and Ward Management



### **Clinical Management Module**

- Laboratory Information System
- Blood Bank
- Operation Theatre
- ICCU/ICU
- Nursing Station



### **Resource Management Module**

- Pharmacy Management Module
- Payroll and Human Resource



### **Finance Management Module**

- Accounts Payable / Accounts Receivable
- Linen and Laundry