

HEALTH TECHNOLOGY MANAGEMENT IN KENYA

BY

Ms SALOME MWAURA
(CHAIR PERSON AMEK)

22nd IFHE Congress in Norway
15 April 2012

Introduction

- Medical equipment/devices are devices developed to solve a health problem and improve quality of life.
- Health care providers require medical devices for effective and efficient preventive, diagnosis, treatment and rehabilitation services.
- Therefore medical devices are indispensable for attainment of health related goals including MDGs.

Introduction Cont'd

- Due to the importance of Medical Devices the WHO expanded its scope and replaced the term with Health technologies.
- Health technology is widely used in modern health care.

Definition

- Health technology is the application of organised knowledge and skills in the form of devices, medicine, vaccines, procedures and systems developed to solve a health problem and improve quality of life.

Examples of health technologies

- Electrosurgical machines
- Autoclaves
- Patient monitors (ECG, Temperature, Pulse Oximetry)
- Defibrillators
- CT technology
- Ultrasonography
- MRI technology
- Laser technology
- Digital X-ray imaging

Targets of healthcare technology

- Improve quality of Health delivery service
- Improve efficiency
- Improve effectiveness
- Reduce cost
- Improve accessibility of health care services
- Meet objectives of the health service providers

Challenges of health technology

► HT has a life cycle hence a life span:

- Invention
- Production
- Installation, commissioning and training
- Operation/maintenance and repair
- Decommissioning
- Disposal
- Replacement or new technology

Challenges cont'd

- ▶ Each stage must be managed properly to ensure quality of performance, safety of patients and users, prolong life span and ensure value for money.
- ▶ HTs are very expensive and if not properly managed can result to:
 - wastage
 - no impact on burden of diseases
 - cannot function properly
- ▶ How is HT life cycle managed?
“It’s a big headache in Kenya.”

Role of Biomedical Engineering

- Clinical Engineers deal specifically with maintenance management of clinical equipment i.e. Equipment used directly on patients e.g. anaesthetic machines, Defibrillators etc
- Biomedical Engineers deal with maintenance and management of all clinical equipment and other equipment not directly used on patients such as:
 - Hospital trolleys
 - Bedside lockers

-
- Electrical works and plants
 - Civil works and systems
 - mechanical works and plants etc.
-
- Majority of the developing countries can only afford Biomedical engineering staff whom they assign all these duties.

-
- Biomedical engineering is a multidisciplinary field comprising:
 - Electrical Engineering
 - Mechanical Engineering
 - Computer Engineering
 - Information technology
 - Industrial Engineering
 - Civil Engineering
 - Architecture
 - Others, so long as knowledge is applied to solve a health technology problem

Health Technology Planning

- If you fail to plan you are planning to fail.
- For proper Management of HT there must be a work plan.
- Work plan must consist of at least the following
 - Proper Inventory Record
 - Basic management
 - Training plan (User and technical)
 - Installation plan

-
- Maintenance plan (PPM chart and schedule, with list of spare parts, materials required to implement and approximate costs)
 - Repair plan with costs and schedule for repairs and price of spare parts.
 - Repairs must be prioritized
 - Disposal plan
 - Technological gaps and requirement to bridge the gap

Other HTM planning activities

- Risk Management
- Quality assurance
- Technology Assessment
 - Original products vs Counterfeits
 - Appropriate technology vs Latest technology
- Facility designs and project management (theatres, radiology etc)
- Equipment life cycle cost

Why are there still broken down medical equipment?

- Is it lack of technical skills to repair these equipment?
- Is there inadequate technical knowledge on HT issues?
- Is it lack of Technical Documentation?
- Is it lack of spare parts?
- Is it lack of funds?
- Is it lack of support?

Innovation in Health Technology

- Bio-meds needs to be innovative by:
 - Asking why same problems each year
 - Coming up with innovative ideas
 - Keeping up with technology and make proper technological decisions
 - Solving health problems using available new innovative health technology
 - Selecting what is “Appropriate” and not always the latest technology
 - Embracing self study

Challenges of Biomedical Engineering practice

Random sampling of few public hospitals raised the following issues of concern:

- Bio-meds are still not fully integrated into our health systems
- Budgetary allocation for maintenance and investment in medical equipment/health technology is very low and not based on any data
- Technical competence of Bio-meds to repair/provide maintenance service is questionable (level of training)
- Most Health facilities are poorly managed

Challenges cont'd

- Some health workers not willing to adopt new technology and continue using obsolete procedures and technology.
- Most Health facility managers do not understand HT issues.
- Lack of technical documentation
- Inadequate testing and measuring equipment and knowledge on use of these equipment

Challenges cont'd

- Vendors/dealers are unwilling to sell spare parts to hospitals or sell at exorbitant prices in an attempt to push for maintenance contracts
- Sabotage by:
 - Users grounding equipment in order to refer patients to their clinics
 - Bio-meds grounding equipment for selfish gains
 - Vendors grounding other vendors equipment in order to discredit their competitors

Challenges cont'd

- Donated used equipment
 - These are not controlled resulting to inappropriate equipment, cannot be installed or used
 - Remaining life span unknown – dumping
 - Not cost effective
 - Safety and performance unknown
 - Is it worth?

Summary of issues

- Lack of regulations and standards
- Lack of professional ethics and code of regulation
- Lack of Health policy and guidelines
- Inadequate technical training
- Hospital Management issue

Way forward

- Policy
- Guidelines
 - Operational guidelines
 - Management guidelines
 - Donation of used medical equipment guidelines
- Professional ethics and standards
 - Continuous Professional Development (CPD)
 - Behaviour at workplace

Way forward cont'd

- Training institutions
 - Improve on curriculum development
 - Train how to think rather than how to pass exams
 - Improve capacity of their trainers
 - bring in other professionals on board
 - Audit performance of their trainees

Conclusion

- Health technology will bring a revolutionary change in the health sector. Health workers need to start embracing it.
- Patients are also increasingly becoming aware of their health rights and this is a threat to health workers.
- Most IT lecturer's have to update properly before teaching.

Conclusion cont'd

- You are in business – your business is to provide technological solutions to health problems and to continually improve on these solutions
- You must understand the problems and requirements of your clients/customers (equipment users, patients and community) and embrace the culture of satisfying their needs/expectations
- Team work is necessary.



Thank you