Medical Device Needs in a Developing Country
by
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"Recognizing that health technologies equip health-care providers with tools that are indispensable for effective and efficient prevention, diagnosis, treatment and rehabilitation and attainment of internationally agreed health-related development goals, including those contained in the Millennium Declaration…"
St. Francis Hospital in Ifakara, Tanzania, faces;
Health care challenges: Deaths.
At SFH in 2007

- Malaria
- HIV
- Pneumonia
- CBI
- AWD
- Septicamia
- CCF
- Anaemia
- Meningitis
- PTB
- Renal Failure
- G/E
- Eclampsia

NB-HIV/AIDS leading.
Health care challenges: Late diagnosis.

The leading cancer for females is cervical cancer, accounting for 40% of all cancer cases.

The leading cancer for males is Kaposi’s sarcoma, accounting for 15% of all cancer cases fueled by HIV/AIDS.

The leading cancer for children is Burkitts lymphoma.

35,000 new cancer cases occur each year.

27,000 patients die each year.

All these require robust diagnostic equipment technology which is easily available and accessible.
Health care challenges: Late diagnosis

Cleft before

Cleft after
Health care challenges: Overcrowding

Overcrowding wards more than one patient per bed.
Health care challenges: Type of available equipment

- Outdated technology.
- Non-function equipment.

✓ Need efficient, more effective and easy to handle Equipment.
Health care challenges:
Type of available equipment

Suction machine
Monitor
EMO anaesthetic machine

Human resource requirement.
Health care challenges cont...

“Some country hospitals are unable to carry out sometimes even basic emergency surgical interventions due to lack of continuous oxygen supply and anaesthesia equipment, which explains the difficulty of patient referral especially in urgent situations, resulting in death and disability.”

Health care challenges cont...

- In Tanzania only 10 pathologists / Cytologists are present!
- 6 of them are at the National Hospital.
- Biopsy results takes 3-4 weeks.
- CT scan only in major hospitals and MRI only at two Hospital.
- Medical imaging is expensive to most people!
Medical Device Needs for Provision of Surgical Care

• Laboratory Equipment
  – 80% of the world's population has access to 20% of the supply blood products, of which little is consistently safe.

• Intensive Care Units
  – Few hospitals in developing countries have ICUs.
Health care challenges cont...: Global burden of surgical disease.
WHO Global Initiative: Emergency and Essential Surgical Care Forum.
Global initiative cont...: Analysis / monitor within the health system including Med.Dev.

Regional outlook

Note: These are all LDCS with the same needs for support with Medical Equipment, Instruments and Technology.

Health care challenges cont....:
Access to Oxygen in 12 African Countries

- 75 (34.3%) had at least one face mask and tube set always available.
- 66 (29.1%) had regular access to at least one oxygen cylinder.
- 55 (24.6%) possessed a fully functioning oxygen concentrator.

The way forward

Save the children lives in the LDCs

Guide to Anaesthetic Infrastructure and Supplies at Various Levels Of Health Care Facilities
Emergency and Essential Surgical Procedures
(Compiled from WHO manual Surgical Care at the District Hospital 2003)

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Small hospital / health centre</th>
</tr>
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<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td>Rural hospital or health centre with a small number of beds and a sparsely equipped operating room (O.R) for minor procedures</td>
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<tr>
<td></td>
<td>Provides emergency measures in the treatment of 90–95% of trauma and obstetrics cases (excluding caesarean section)</td>
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<tr>
<td></td>
<td>Referral of other patients (for example, obstructed labour, bowel obstruction) for further management at a higher level</td>
</tr>
</tbody>
</table>

**WHO Generic Essential Emergency Equipment List**

This checklist of essential emergency equipment for resuscitation describes minimum requirements for emergency and essential surgical care at the first referral health facility.

<table>
<thead>
<tr>
<th>Capital Outlays</th>
<th>Quantity</th>
<th>Date checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resuscitator bag valve and mask (adult)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resuscitator bag valve and mask (paediatric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen source (cylinder or concentrator)</td>
<td></td>
<td></td>
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<tr>
<td>Mask and Tubings to connect to oxygen supply</td>
<td></td>
<td></td>
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<tr>
<td>Light source to ensure visibility (lamp and flash light)</td>
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<td></td>
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<tr>
<td>Stethoscope</td>
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<td></td>
</tr>
<tr>
<td>Suction pump (manual or electric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood pressure measuring equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermometer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scalpel # 3 handle with #10,11,15 blade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scalpel # 4 handle with #22 blade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scissors straight 12 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scissors blunt 14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oropharyngeal airway (adult size)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oropharyngeal airway (paediatric size)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forceps Kocher no teeth 12-14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forceps, artery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney dish, stainless steel approx. 26x14 cm</td>
<td></td>
<td></td>
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<tr>
<td>Tourniquet</td>
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<td></td>
</tr>
</tbody>
</table>

The way forward cont...

Quality

Efficiency

Effective

Capacity building through Training on Technology.

Maintenance and care of equipment.

Research

Improving access to safe, effective and innovative quality medical devices.
References


• [www.who.int/surgery](http://www.who.int/surgery)

THANKS
and welcome to the Land of Kilimanjaro