WHO Conference on Health Aspects of Tsunami Disaster in Asia

Repair and Recovery of Health Systems

Phuket, Thailand
4–6 May 2005
Health System Recovery

- WHO Scope of work is defined …
- Rehabilitation Strategy recognized …
- Core programmatic areas have been elaborated …

- …but not to forget that to revamp a crippled health sector also means to increase its equity, effectiveness, appropriateness and efficiency
Rehabilitation Strategy

The WHO Rehabilitation Strategy primarily focuses on the core elements of a health system that are indispensable for any program to function:

- Health infrastructure
- Supply of drugs, vaccines and medical equipment
- Human resources
- Information systems (disease surveillance, resource inventory and tracking)
- Referral systems and transportation
Capacity Development

- Health System Recovery also calls for the establishing of permanent in-country capacity.
- Capacity building needs to be supported by a comprehensive set of tools to assist national authorities to address these challenges.
The Reality ....
Sinthamaruthu District Hospital
Ampara District, Sri Lanka

Kattankudy District Hospital,
Batticaloa District, Sri Lanka
Galle Hospital
Sri Lanka
Strategies

- Scenarios can be built by following a top-down approach, by starting with a consideration of the national envelope and deducing from it what services will be affordable.

- This approach suits better severely disrupted contexts, where health care is fragmented, health authorities are absent or incipient, and most information is not available.
Strategies (continued)

• The analysis may start the other way round, following a **bottom-up approach**, considering the facility and progressing to compute the total requirements of the sector.
WHO Supported Tools

Tools presented here, specifically focus on Healthcare Technology (HCT) auditing, resource planning, modelling and management
## Top-Down Approach

<table>
<thead>
<tr>
<th>Task</th>
<th>Tools</th>
</tr>
</thead>
</table>
| Estimate the present level of aggregate services, disease profiles, facility locations. | • SAM  
  • AccessMod  
  • EHTP |
| Estimate HCT Capacity                                               | • AccessMod  
  • Audit Manager |
| Compare the resource envelope likely to be available to the health sector in the mid- and long-term | • EHTP |
## Bottom-Up Approach

| Elaborate a reconstruction scenario, while maintaining the present service delivery model. | • AccessMod  
• EHTP  
• Audit Manager |
|---|---|
| Estimate the size and composition of the existing hospital network, trying to remove ‘ghost’ facilities, i.e., those destroyed or permanently (to be) closed down | • SAM  
• AccessMod  
• Audit Manager |
| Usually, several available lists compiled by different parties present striking inconsistencies. A way to handle them is to build a database of health facilities, with which many problems can be spotted and reconciled | • SAM  
• Audit Manager  
• VH TeMP  
• AccessMod |
## Bottom-Up Approach (2)

Each facility must be characterized by key variables (number of beds, staffing, functioning departments, services etc.), selected in order to determine its functional capacity.

| AccessMod   | EHTP         | Audit Manager | VH TeMP | SAM       |

Classify existing facilities, according to their location and performance level.

| AccessMod | SAM | Audit Manager |

A common pattern is the underutilisation of peripheral facilities, both of primary and secondary level, due to inadequate support, reduced access, poor performance – this has to be recorded.

<p>| AccessMod | SAM | Audit Manager |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Service Availability Mapping (SAM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of Tool</td>
<td>Assessment of the current service and resource availability at the district and facility levels</td>
</tr>
<tr>
<td>Description</td>
<td>Questionnaire based tool to determine service and resource availability at the district and facility levels.</td>
</tr>
</tbody>
</table>

**Questionnaire overview:**
Section 1: General characteristics
Section 2: General purpose equipment
Section 3: Injection and sterilization equipment
Section 4: Human resources
Section 5: Trained staff
Section 6: Drugs and commodities
Section 7: Lab tests

**Section 2. General purpose equipment.** This section of the questionnaire explores the availability of specific health-related resources.

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Blood pressure machine</td>
<td>Yes………</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No………</td>
</tr>
<tr>
<td>202</td>
<td>Stethoscope(s)</td>
<td>Yes………</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No………</td>
</tr>
</tbody>
</table>

We are interested in knowing if the following health-specific resources are available in this facility. These are all yes/no questions. Please indicate whether or not the following are available and functional in this facility:

- Blood pressure machine: Yes/No
- Stethoscope(s): Yes/No
# HCT Tools – Facility Audit

<table>
<thead>
<tr>
<th>Name</th>
<th>Audit Manager (AM)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose of Tool</strong></td>
<td>HCT Audit and Condition Assessment of Physical Resources (Medical Devices, Facility) and Human Resources</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Computerized Tool to audit healthcare technology resources, assign condition, functionality and provide initial condition assessment. Creates resource inventories. Medical device and physical infrastructure reference database included</td>
</tr>
</tbody>
</table>

![VH Audit Manager](Vision Health Audit Manager)
### HCT Tools – GIS (AccessMod)

<table>
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<th>Name</th>
<th>GIS - AccessMod</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose of Tool</strong></td>
<td>Geographic information system allowing patient access and coverage modelling.</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Computerized geographic information system allowing modelling of physical access to hospitals based on the patterns of land use, water bodies, population centres, buildings, roads, and other infrastructure.</td>
</tr>
</tbody>
</table>
## HCT Tools – EHTP

<table>
<thead>
<tr>
<th>Name</th>
<th>Essential Healthcare Technology Package (EHTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of Tool</td>
<td>HCT Resource Planning Tool.</td>
</tr>
<tr>
<td>Description</td>
<td>Computerized Tool to determine healthcare technology resource requirements. These are based on healthcare interventions, rather than facilities, and integrate disease profiles, constraints, clinical protocols and country specific conditions.</td>
</tr>
</tbody>
</table>
### HCT Tools – HCT Management

<table>
<thead>
<tr>
<th>Name</th>
<th>Technology Management Package (TeMP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of Tool</td>
<td>HCT Management System</td>
</tr>
<tr>
<td>Description</td>
<td>Computerized Tool covering all aspects of HCT Management, including: audit, inventory, maintenance, spare part management, procurement, utilization and performance analysis</td>
</tr>
</tbody>
</table>

![Diagram of Healthcare Technology Maintenance Process]

**Processes**
- Inventory Management
- Maintenance
- Facilities Maintenance
- Spare Parts Management
- Inventory Movement
Methodology

EHTP addresses integrated health resource planning and management, meeting health priorities through optimizing response to resource needs which is based on consensus & evidence based clinical practice guidelines.
Concept

Medical Device

Intervention

Drugs

Facilities

Human Resource

Tsunami Health Conference

World Health Organization
Healthcare Delivery Scenario

Strategic Level

Human Resource

Pharmaceuticals

Medical Equipment

Operational Level
System Overview

- Sharing of resources
- Clinical Guidelines
- HCT Constraints
- Simulations and Planning
- EHTP Editor
- Country Database
- Reference Database
- Patient Profiles

World Health Organization
Clinical Guidelines

- Full editor to map guidelines
- Over 4500 linked clinical procedures
- Modelling of idea and real guidelines
Patient Profiles

Work load indicators modelled on
- patient load;
- epidemiological profiles
- hospital admission data
Modelling of Resources

- Time modelling taking into consideration constraints and patient profiles
Dynamic Lists

- Work load
- Dynamic quantities
- Cost of interventions
- Recurrent cost estimates
- Resource sharing
Thank You

For more information

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