Child Health in Complex Emergencies
Child Mortality:
Is the Millennium Goal realistic?

There is a need to find new ways to expand coverage of available and effective interventions.


Source: Data from Ahmad OB, Lopez AD & Inoue M. The decline in child mortality: a reappraisal. Bull WHO, 2000, 70(10), with trend extended through 2015 (in red) and linear...
Child survival in complex emergencies: Some facts.

- Often, the highest mortality rates in populations in complex emergency situations are in children below 5 years.
- Childhood mortality rates are highest during the acute or early phases of a complex emergency.
- In refugee camp situations the mortality rate in children below 5 years is more than twice than the overall crude mortality rate.
Important causes of childhood mortality in complex emergencies

- High disease burden & excess mortality from established 'killers'
  e.g. diarrhoea, pneumonia,
- Epidemics are a constant threat
  e.g. cholera, meningitis
- Eradication/elimination efforts are threatened
  e.g. polio, guinea worm
- Drug resistance emerges rapidly e.g. epidemic dysentery

Mortality in Afghanistan 2001
Source: SCF Survey

- Diarrhoeal Disease 25%
- Measles 16%
- Pneumonia 20%
- Other (Infectious and non-infectious causes) 39%
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Crude Mortality Rate = 4/10,000/day (Six times baseline)
The causes of childhood morbidity in complex emergencies

• Morbidity may vary by phases of emergency. During acute emergency, the most common causes are: diarrhoeal diseases, acute respiratory infections, measles, malaria, and severe malnutrition.

• Outbreaks of other infectious diseases are also common: polio in Angola (Valente 2002), pertussis (WHO 2003), leishmaniasis (Rowland 1999, Ahmad, 2002) in Afghanistan, meningococcal meningitis in Sudan (Newton 2000), and typhoid fever in Bosnia and Herzegovina (Bradaric 1996).

• Complex emergencies can disrupt disease control programmes and facilitate the transmission of diseases by exacerbating crowded conditions and poor nutritional status and contribute to resistance.
Major causes of under 5 morbidity and mortality in humanitarian emergencies

- Diarrhoeal diseases
- Measles
- Malaria
- Acute respiratory infections and pneumonia
- Malnutrition
- Micronutrient deficiencies
# Mortality in the paediatric ward of the IFRC referral hospital Tanzania

## Sept-Oct 1995

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number (%) of cases</th>
<th>Fatal cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria falciparum</td>
<td>76 (51)</td>
<td>25</td>
</tr>
<tr>
<td>Severe anemia</td>
<td>71 (47)</td>
<td>35</td>
</tr>
<tr>
<td>Dehydration</td>
<td>38 (25)</td>
<td>29</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>35 (23)</td>
<td>25</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>34 (23)</td>
<td>47</td>
</tr>
<tr>
<td>Bacterial enteritis</td>
<td>29 (19)</td>
<td>33</td>
</tr>
</tbody>
</table>
Reasons for continued high mortality among children in complex emergencies

- Inadequate food aid, shelter, water, sanitation
- Inappropriate infant and child feeding
- Preventive measures against outbreaks not sufficient (e.g. immunization, clean drinking water).
- Case management of sick children not appropriate
Challenges: ensuring good practices

• How to achieve universal standards of care?

• Training
  • need for pre-emergency training
  • how best to conduct training in an emergency?
  • what levels of health workers should be targeted?

• Implementation and quality assurance
  • develop guidelines
  • modify existing guidelines (e.g. IMCI, ETAT)
  • work with governments to endorse standards
  • distribute guidelines through partners
Three elements of response

- Situation assessment, analysis, strategy development and review
- Support to and coordination of an effective response
- Effective working with local institutions – especially ministries of health and local governments
Review of child health in complex emergencies

• Broad definition of complex emergency
  – armed conflict
  – population displacement
  – food insecurity

• Emphasizes acute phase
  – …but recognizes the importance of the post-emergency phase

• Children younger than 10 years of age
  – maternal health not addressed
Complex Emergency situations & stable situations: Differences in the care of children

- Large numbers of children to be assessed and treated
- Less uniformity in health service delivery
  - Many different organizations involved
  - Different types of health care workers
- Inadequate referral services
Clinical Guidelines in use

- Typically, different guidelines are used (including international or national ones)
- IMCI guidelines used infrequently
Guidelines limited or lacking

- Emergency resuscitation
- Neonatal conditions
  - asphyxia, prematurity and infection
- HIV/AIDS
  - diagnosis and management
- Tuberculosis
  - case finding and treatment
- Trauma & abuse
- Mental health problems
Strengths of IMCI guidelines

• Address major causes of child mortality
• Integrate case management & prevention
• Potentially combined with Emergency Triage Assessment and Treatment (ETAT)
• Targeted at clinical officers & nurses, but can be simplified for community health workers/volunteers
Limitations of IMCI Guidelines

• Address clinical management & some public health measures (e.g. immunisation & nutrition) but not an overall public health approach
• Do not address all the causes of mortality & morbidity
• Long - standard - training course
• Frame of reference: stable situation (e.g. time required for patient encounter, reliance on referral care for the management of severely ill children)
Recommendations I

- Evidence-based, locally-adapted guidelines should be adopted by MOH
- Technical support should be provided by WHO, UNICEF and other organizations
- Preparedness plan:
  – clinical guidelines
  – coordination
  – training
  – drug delivery
Recommendations II

- Focus on rapid reduction in child mortality
- Address management of severe disease in absence of referral services
- Target level of HCW likely to provide care
- Realistic allotment of time per patient
- Facilitate transition to a functional health care system
**Chart 2. Triage of all sick children**

**EMERGENCY SIGNS**
If any sign positive: give treatment(s), call for help, draw blood for emergency laboratory investigations (glucose, malaria smear, Hb)

1. **ASSESS: AIRWAY AND BREATHING**
   - Obstructed breathing or
   - Central cyanosis or
   - Severe respiratory distress
   - ANY SIGN POSITIVE*
     - TREAT
     - IF FOREIGN BODY ASPIRATION
       - Manage airway in choking child (Chart 3)
     - IF NO FOREIGN BODY ASPIRATION
       - Manage airway (Chart 4)
       - Give oxygen (Chart 5)
       - Make sure child is warm

2. **ASSESS: CIRCULATION**
   - Cold hands with:
     - Capillary refill longer than 3 seconds, and
     - Weak and fast pulse
   - ANY SIGN POSITIVE*
     - Check for severe malnutrition
     - Stop any bleeding
     - Give oxygen (Chart 5)
     - Make sure child is warm
     - IF NO SEVERE MALNUTRITION:
       - Insert IV and begin giving fluids rapidly (Chart 7)
       - If not able to insert peripheral IV, insert an external jugular or intraosseous line (see pages 127–128)
ETAT tables

- Triage all sick children
- Manage the airway in a choking child
- Manage airway in obstructed breathing
- Give oxygen

- Position the unconscious child
- IV fluids for shock
- IV fluids for shock in malnutrition
- diazepam for convulsions
- give iv glucose
- treat severe dehydration
WHO-UNICEF consultation - recommendations

- Leadership & coordination
- Stepwise management of complex emergencies
- Clinical guidelines for child health in complex emergencies
  - A single, comprehensive manual for health workers, & a complementary one for volunteers