Setting up an Early Warning System for epidemic prone diseases in humanitarian crisis Darfur region Sudan April-May 2004
Approach /methodology

- Identification of national and international partners (commitment FMOH, UN, NGOs)
- Participative approach to prioritize HE
- Situation analysis, epi profile
- Continuous consultation (to revise draft protocol)
- Field testing (camps, SMOH, NGOs)
- Final revision
Travel agenda

- 24 Apr-5 May Khartoum (FMOH, UN agencies, MSF, MDM, USAID, Unicef, ICRC)
- 5-11 Nyala (Unicef, WFP, MSFH, MSFF)
  - Kalma camp
- 11-15 El Fasher (SCUK, ICRC, GOAL, MDM, IRC, Oxfam)
  - Bushok camp
- 15-17 Geneina (MEDAIR, MSFF, ICRC)
  - Riad
- 17-18 Nyala
- 18-21 Khartoum (WHO planning meeting)
Objectives

• To ensure timely detection response and control of outbreaks by early detection at local level of time and place clustering of cases among IDPs in Darfur region

• To monitor trend of communicable diseases in order to take appropriate public health actions

• To estimate workload of different health units involved in the system to rationalise resource allocation
Population under surveillance

- All Internal Displaced Population
  - Camps
  - Aggregations around villages
  - Hosted

- Progressive enrollment according to accessibility

- Possibility to expand the system to whole population
Health events under surveillance

• 10 communicable diseases/syndromes
  – Acute Watery Diarrhoea
  – Bloody Diarrhoea
  – AFP
  – ARI
  – NNT
  – Malaria
  – Suspected measles
  – Suspected meningitis
  – Acute Jaundice syndrome
  – Acute unknown fever

• Severe malnutrition
• Injuries
Case definition thresholds definition

- Agreement on case definitions
- Agreement on thresholds to trigger actions:
  - 1 case of measles,
  - 1 case of AFP,
  - 1 case of severe malnutrition,
  - 1 case of NNT,
  - Doubling cases of meningitis in two weeks (minimum 2 cases)
  - Unusual deaths in patients older ≥ 5 presenting watery diarrhoea
  - Any unexpected health event (e.g. cluster of severe diseases, cluster of deaths)
Type of system

- Passive
- Exhaustive
- Aggregated data by camp
- Cases and Deaths
- Two Age groups (0-4 & 5+)
- Weekly data collection
# Surveillance form

<table>
<thead>
<tr>
<th>Disease</th>
<th>Incidence</th>
<th>Deceased</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute watery diarrhoea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholera</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amoebiasis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dysentery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typhoid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe measles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other communicable diseases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute hazards syndrome</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reporting period from Saturday... To Friday...**
Confirmation, diagnosis capacities
Laboratory support short term

• Selection and agreement with National PHL in Khartoum as reference laboratory (enrolled in Lyon programme)
• Strengthening diagnosis capacities
• Positioning media transportation
• Selection of private carrier (Polio)
• Information to all partners
• Allocation of budget
Annex 4: Specimen Referral Sheet

<table>
<thead>
<tr>
<th>State:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Unit:</td>
</tr>
<tr>
<td>Camp Name:</td>
</tr>
<tr>
<td>NGO:</td>
</tr>
<tr>
<td>Specimen Date of collection:</td>
</tr>
<tr>
<td>Specimen Date of sending:</td>
</tr>
<tr>
<td>Name of the patients:</td>
</tr>
<tr>
<td>Age:</td>
</tr>
<tr>
<td>Sample type:</td>
</tr>
<tr>
<td>Suspected Diagnosis:</td>
</tr>
<tr>
<td>Name of the collector:</td>
</tr>
<tr>
<td>Notes:</td>
</tr>
</tbody>
</table>

*Specimen date of receiving at the Public Health laboratory in Khartoum:*
Microscopic identification

Culture

Serology

Diagnosis capacities of Public Health Laboratory Khartoum

Antibiotic susceptibility

Dr. Mubarak Karsani
Laboratory support medium/long term

- Assessment of field laboratories in the States
- Strengthening local diagnosis capacities
- Enroll lab technicians
Response and control

- Definition and agreement on thresholds definition to trigger actions
- Rumours verification at camp level
  - Community leaders/medical assistants/NGOs
- Outbreak response team at state level
  - WHO officers/MOH epi/NGOs
- Specific budget allocated for response capacities
- Preparedness
  - Cholera
  - Shigellosis
  - Malaria
  - EPI
Data entry, analysis and report

Darfur Early Warning System

Visual Basic, EpInfo6.04, EpiData 3.1
• Number of new cases and deaths for each health event by week
• Total attendance per week
• Case Fatality Ratio for each health event
• Proportional morbidity by age groups (0-4 and 5+)
• Distribution of new cases by geographical level
• Distribution of new cases by age groups and geographical level
• Number of deaths by age and geographical level,
• Number of health facilities reporting/number of health facilities expected to report
• Incidence of health events by week and geographical level
• Under Five years Mortality rate per 10,000 population per week
• Crude Mortality rate per 10,000 population per week
• Timeliness from camps to the state
• Timeliness from the state to the federal level
• Completeness of the reporting units

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>0-4</th>
<th>5+</th>
<th>Death 0-4</th>
<th>Deaths 5+</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAV DIAR</td>
<td>3</td>
<td>15</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>BLD DIAR</td>
<td>25</td>
<td>20</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>MEASLES</td>
<td>5</td>
<td>15</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MALARI A</td>
<td>70</td>
<td>150</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>AFR</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ADDIC</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MFI</td>
<td>15</td>
<td>35</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>MFINF</td>
<td>10</td>
<td>70</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>MALKINF</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MIR</td>
<td>4</td>
<td>23</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>OTHERS</td>
<td>100</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>277</td>
<td>380</td>
<td>15</td>
<td>117</td>
</tr>
</tbody>
</table>

TABLE 1.1: CFR by age group

Weekly

- State
- Administrative Unit
- Camp
Training in Data entry, Analysis, Report, Bulletin production
Data entry, analysis and report

Camps

North Darfur

South Darfur

West Darfur

States

Federal State

Federal Ministry of Health
Today update

- One epidemiologist coordinating the system (El Sakka 11 months)
- 3 local WHO offices
- National epidemiologist and statisticians identified and supported
- Preparedness
- First week (29 May-04 June) of data collection
Thank you