Technical Expert Group for Surveillance Monitoring and Evaluation

GLOBAL MALARIA PROGRAMME

Geneva, 14 March 2013
Outline

• Status of systems for surveillance, monitoring and evaluation
• Existing guidance
• Proposed Surveillance, Monitoring and Evaluation TEG
### Proportion of cases detected by surveillance systems

<table>
<thead>
<tr>
<th>Region</th>
<th>Estimated number of cases 2010</th>
<th>Reported number of cases 2010</th>
<th>Reported/estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>174 000</td>
<td>18 000</td>
<td>11%</td>
</tr>
<tr>
<td>Americas</td>
<td>1 100</td>
<td>700</td>
<td>59%</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>10 400</td>
<td>1 000</td>
<td>10%</td>
</tr>
<tr>
<td>Europe</td>
<td>0.2</td>
<td>0.2</td>
<td>87%</td>
</tr>
<tr>
<td>South-East Asia</td>
<td>32 000</td>
<td>2 400</td>
<td>9%</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>1 700</td>
<td>260</td>
<td>13%</td>
</tr>
<tr>
<td><strong>World</strong></td>
<td><strong>219 000</strong></td>
<td><strong>22 500</strong></td>
<td><strong>10%</strong></td>
</tr>
</tbody>
</table>

Malaria surveillance systems detect only 10% of cases estimated to occur annually.
Bottlenecks in case detection

- Malaria cases
- Seeking treatment
- At a government health facility
- Covered by surveillance system
- Tested
- Reported
Proportion of cases seeking treatment

Estimated number of malaria cases in 2010

- Africa
- Americas
- Eastern Mediterranean
- Europe
- South-East Asia
- Western Pacific
Proportion of cases seeking treatment at a government health facility

Estimated number of malaria cases in 2010

- Africa
- Americas
- Eastern Mediterranean
- Europe
- South-East Asia
- Western Pacific
Bottlenecks in case detection by WHO region

- Cases
- Seeking treatment
- Treated in public sector
- Tested
- Reported

Proportion of cases

Africa | Americas | Eastern Mediterranean | Europe | South-East Asia | Western Pacific

0% | 20% | 40% | 60% | 80% | 100%

World Health Organization

Global Malaria Programme
Case detection rates are lowest in countries with the highest number of malaria cases.

A reliable assessment of trends can be made in 58 countries out of 99 with ongoing transmission using data submitted to WHO.

These countries account for only 34 million or 15% of total estimated cases in 2010.
## Number of household surveys (DHS, MICS, MIS)

<table>
<thead>
<tr>
<th>Region</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFR</td>
<td>7</td>
<td>8</td>
<td>4</td>
<td>11</td>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>AMR</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>EMR</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>EUR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>SEAR</td>
<td>2</td>
<td></td>
<td>2</td>
<td>1</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>WPR</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>World</td>
<td>12</td>
<td>11</td>
<td>8</td>
<td>13</td>
<td>6</td>
<td>50</td>
</tr>
</tbody>
</table>
Issues for Surveillance Monitoring and Evaluation

Surveillance and Impact
• Case detection rates are 10% and lowest in countries with the highest number of malaria cases. A reliable assessment of trends can not be made in 41 countries out of 99 with ongoing transmission using data submitted to WHO. These countries account for 85% of total estimated cases in 2010.
• Not more than 15 household surveys conducted per year.

Programme coverage
• ITN coverage is modelled as recent household survey data are not always available. Estimates problematic when mass campaigns are done.
• Routine data on diagnostic testing not reported reliably for many countries. Household survey data sparse. Biased estimates.
• Difficult to track the extent to which confirmed malaria cases receive an antimalarial medicine because diagnostic test results are not usually linked to the treatment given to patients (in routine systems or household surveys) – Tracking the number of antimalarials procured or distributed is unsatisfactory.

Financing
• For most donors data on external financing for malaria control is only up to 2010.
• Domestic financing data are difficult to gather
Guidance provided by WHO

Indicators

Indicators, reporting systems, data use etc
Guidance provided by other partners

- Household Survey Indicators for Malaria Control

Indicators, reporting systems, data use etc
### Indicators recommended by WHO/ RBM

**Table 2.2 Indicators for measuring progress towards GMAP objectives and targets**

<table>
<thead>
<tr>
<th>GMAP Objective or Target</th>
<th>Key Indicator</th>
<th>Further Analysis</th>
<th>Supporting Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 1</strong></td>
<td>Reduce global malaria deaths to near zero* by end 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Objective 1</strong> Reduce global malaria deaths to near zero* by end 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Target 1.1</strong> Achieve universal access to case management in the public sector</td>
<td>Proportion of suspected malaria cases that receive a parasitological test</td>
<td>Complement of monthly health facility reports</td>
</tr>
<tr>
<td></td>
<td><strong>Target 1.2</strong> Achieve universal access to case management, or appropriate referral, in the private sector</td>
<td>Proportion of children under 5 years old with fever in the last 2 weeks who had a finger or heel stick</td>
<td>Proportion of children under 5 years old with fever in the last 2 weeks for whom advice or treatment was sought</td>
</tr>
<tr>
<td></td>
<td><strong>Target 1.3</strong> Achieve universal access to community case management (CCM) of malaria</td>
<td>Proportion of confirmed malaria cases that receive first-line antimalarial treatment according to national policy</td>
<td>Proportion of health facilities without stock-outs of key commodities by month</td>
</tr>
<tr>
<td></td>
<td><strong>Objective 2</strong> Reduce global malaria cases by 75% by end 2015 (from 2000 levels)</td>
<td>Proportion receiving first-line treatment among children under 5 years old with fever in the last 2 weeks who received any antimalarial drugs</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Objective 2</strong> Reduce global malaria cases by 75% by end 2015 (from 2000 levels)</td>
<td>Confirmed malaria cases (microscopy or RDT) per 1000 persons per year</td>
<td>Has diagnostic effort changed over time?</td>
</tr>
<tr>
<td></td>
<td><strong>Objective 2</strong> Reduce global malaria cases by 75% by end 2015 (from 2000 levels)</td>
<td>Has health facility reporting completeness changed over time?</td>
<td>Complete of monthly health facility reports</td>
</tr>
<tr>
<td></td>
<td><strong>Objective 2</strong> Reduce global malaria cases by 75% by end 2015 (from 2000 levels)</td>
<td>Have test positivity rates changed over time?</td>
<td>Malaria test positivity rate</td>
</tr>
<tr>
<td></td>
<td><strong>Objective 2</strong> Reduce global malaria cases by 75% by end 2015 (from 2000 levels)</td>
<td>Parasite prevalence: proportion of children aged 6–59 months with malaria infection</td>
<td>Proportion of children aged 6–59 months with a hemoglobin measurement of &lt;8 g/dL</td>
</tr>
<tr>
<td></td>
<td><strong>Objective 2</strong> Reduce global malaria cases by 75% by end 2015 (from 2000 levels)</td>
<td>Is there other evidence of morbidity change?</td>
<td></td>
</tr>
</tbody>
</table>

*Note: *Indicates the end of a target year.
Gaps in Guidance

- Monitoring access to diagnostic testing and treatment – household surveys, health facility surveys, routine systems

- Overall monitoring and evaluation guidance – when and how often to use household surveys, the role of routine systems.

- MERG guidance
  - Does not necessarily reflect latest guidance of WHO
    - ITN indicators
  - Does not necessarily respond to latest MPAC recommendations
    - IPTp
    - SMC
    - Primaquine single dose for *P. falciparum*
  - Tends to focus on data for international monitoring rather than programmes
Proposed Surveillance, Monitoring and Evaluation TEG

Role
To advise GMP/MPAC on matters related to malaria surveillance, monitoring and evaluation

Topics
• finances
• vector control
• diagnosis and treatment
• morbidity and mortality,
• elimination

Methodologies
• health management information systems
• household surveys
• demographic surveillance systems

Some of the same people as MERG