Implementing Malaria Surveillance as a CORE Intervention

Dr. Elizabeth Juma

Global Malaria Programme

World Health Organization
Outline

• Definition and objectives of malaria surveillance
• Components of malaria surveillance system
• Role of surveillance in different malaria settings
• Challenges
• Suggested strategies for implementing surveillance as a core intervention
• Conclusion
What is the definition of surveillance?

- the continuous and systematic collection, analysis and interpretation of disease-specific data
- the use of that data in the planning, implementation and evaluation of public health practice

Why is surveillance critical?

- to support reduction of the burden of malaria
- contribute to the elimination of malaria and prevention of re-establishment
What Makes up a Malaria Surveillance System?

- **People**
  - patients and communities
  - health facility staff
  - decision-makers

- **Recording**
- **Dissemination and use**
- **Interpretation and evaluation**
- **Reporting**
- **Analysis**
- **Presentation**

**Global Malaria Programme**
Role of Surveillance in Three Types of Settings

1. In high transmission settings:
   - provide data for overall analysis of trends
   - permit stratification and planning of resource allocation.

2. Where malaria is being eliminated:
   - identify infections early to prevent onward transmission
   - determine the most likely location of infection
   - identify, investigate and eliminate foci of continuing transmission

3. Preventing re-establishment:
   - identify imported cases early to prevent local cases
   - identify outbreaks quickly to prevent re-establishment.
Surveillance Along the Continuum

- **Component A**: Enhance and optimize vector control
- **Component B**: Increase sensitivity and specificity of surveillance systems to detect, characterize and monitor all cases (individual and in foci); see component D
- **Component C**: Population-wide parasite clearance and additional or new interventions (when or where applicable)
- **Component D**: Investigate and clear individual cases, manage foci and follow up

Source: WHO, 2017
<table>
<thead>
<tr>
<th>Surveillance Characteristics Along the Malaria Continuum</th>
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<tbody>
<tr>
<td><strong>Case detection</strong></td>
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<tr>
<td>Passive case detection</td>
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<tr>
<td>Passive and active case detection</td>
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<tr>
<td><strong>Recording</strong></td>
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<tr>
<td>Outpatient and inpatient registers</td>
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<tr>
<td>Brief case forms</td>
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<td>Extensive individual case forms</td>
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<tr>
<td><strong>Reporting frequency</strong></td>
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<tr>
<td>Monthly</td>
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<tr>
<td>Weekly</td>
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<tr>
<td>Immediately</td>
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<tr>
<td><strong>Resolution of reported data</strong></td>
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<tr>
<td>Aggregate cases by sex and age</td>
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<td>Line list of cases</td>
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<td>Individual detailed case reports</td>
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<tr>
<td><strong>Degree of case classification</strong></td>
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<tr>
<td>Confirmed cases</td>
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<tr>
<td>Local vs. imported</td>
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<tr>
<td>Indigenous, introduced, imported, relapsing/recrudescent</td>
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<tr>
<td><strong>Radius of response</strong></td>
</tr>
<tr>
<td>National, regional</td>
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<tr>
<td>District, village</td>
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<tr>
<td>Focus, household</td>
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<tr>
<td><strong>Response time</strong></td>
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<tr>
<td>Monthly or quarterly</td>
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<td>Weekly</td>
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<td>Case investigations within 24-48 hrs, focus investigation within 1 week</td>
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Implementing malaria surveillance as a core intervention

Challenges of malaria surveillance

- Poor planning and coordination
- Weak laboratory / diagnostic capacity
- Inadequate number / training of health workers
- Lack of technical guidelines and reporting tools
- Poor supervision
- Lack of feedback
- Poor communication systems
- Inadequate financial resources
Implementing malaria surveillance as a core intervention

Strategies

Management for surveillance

• Coordination of stakeholders (who, where, what are their roles and responsibilities)
• Communication and communication systems (strategy, systems, risk communication, advocacy messaging)
• Financial resources – (is there a plan, is it costed)

Commodities

• Laboratory capacity / diagnostics (where and how will the cases be detected)
• What systems need to be strengthened?

Human Resources capacity

• Adequate numbers
• Training
• Supervision (regular / mentorship)

Processes

• Strategic approach (what is the objective – where is the programme along the continuum?) – see next slide
• Technical guidelines (setting of standards e.g., case definitions)
• Reporting tools
• Information systems (EHRs, linkages between systems) – see next slide
Implementing malaria surveillance as a core intervention - Process

Strategic approach

• Defines the objective of surveillance. The programme therefore determines:
  • the specific case detection method to be used (passive detection, active case detection)
  • the speed at which data needs to flow through the system (immediate vs routine)
  • the rapidity of response required (immediate investigation of cases or clusters of cases vs analysis of data on a regular basis with subsequent adjustments to a control programme)
Implementing malaria surveillance as a core intervention – Process

Information systems

- Integration is recommended as far as possible
- The level of coordination/integration in the national surveillance system can affect:
  - performance of the system
  - cost of the system
  - sustainability of the system
Conclusion

• The core functions of the malaria surveillance system are:
  • Case detection
    o reporting
    o investigation and confirmation
    o analysis and interpretation
    o action
  • Response actions / control
  • Feedback
  • Policy development

• Implementing surveillance as a core intervention requires that programmes think of it strategically, like other interventions, with inputs and costs aimed at delivering the desired outcome.