Malaria elimination and prevention of resurgence of Malaria

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Outline

. Global Status and Commitments

. WHO Guidance and support

. Progress and Impact

. Issues-Challenges-Lessons Learnt
Global Status & Commitments
Trends in External Malaria funding

- AMFm
- Others
- World Bank
- DFID
- PMI
- Global Fund

Funds disbursed

Future funding based on commitments, pledges and projections

US$ (millions)


4th SIDS Meeting, Sao Tome & Principe 16-18 April 2013

World Health Organization
Malaria control: reducing disease burden to a level where it is no longer a public health problem

Malaria pre-elimination: A time during which well-functioning malaria control programmes are further oriented to increase coverage of quality laboratory and clinical services, strengthen reporting and surveillance systems, followed by adjustments to halt transmission nationwide.

Elimination: reduction to 0 of the incidence of infection in a defined geographical Area/interruption of local mosquito-borne transmission

Prevention of reintroduction: The continued deployment of appropriate malaria transmission prevention with emphasis on vigilance to identify any imported cases, clear those infections, and stop any possibility of resumed local transmission.

Eradication: permanent reduction to 0 of worldwide incidence
Countries and territories where malaria was eliminated over the period 1955–1972 (GMEP)

Africa: Mauritius*, la Réunion*

Americas: Cuba*, Dominica*, Grenada and Carriacou*, Jamaica*, Saint Lucia*, Trinidad and Tobago*, United States of America and its outlying areas of Puerto Rico and the Virgin Islands*, Venezuela (northern part only)*

Asia: Brunei Darussalam*, Jordan, Lebanon, Palestine, Qatar, Singapore*, Taiwan*

Europe: Bulgaria*, Cyprus*, Hungary*, Italy*, Netherlands*, Poland*, Portugal*, Romania*, Spain*, former Soviet Union (with exception of Azerbaijan and Tajikistan), former Yugoslavia (Bosnia and Herzegovina, Croatia, Kosovo, Republic of Macedonia, Montenegro, Serbia, Slovenia)*

*Countries/areas that have completed WHO certification as malaria-free.
# Malaria Elimination – Global Status

<table>
<thead>
<tr>
<th>WHO Region</th>
<th>Pre-elimination</th>
<th>Elimination</th>
<th>Prevention of reintroduction</th>
<th>Certified malaria-free within last 5 years, or no local transmission reported for over a decade</th>
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<tbody>
<tr>
<td>Africa</td>
<td>Cape Verde</td>
<td>Algeria</td>
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<td>Americas</td>
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<td>Paraguay</td>
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<td>Eastern Mediterranean</td>
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<td>Saudi Arabia</td>
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<td>Syrian Arab Republic</td>
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<td>Europe</td>
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<td>Georgia¹</td>
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<td>Russian Federation¹</td>
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<td>South East Asia</td>
<td>DPR Korea</td>
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<td>Western Pacific</td>
<td>Malaysia</td>
<td>Republic of Korea</td>
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</table>
Malaria Burden in the WHO African region

- 80% of the malaria cases
- 90% of 660,000 malaria deaths worldwide
- 86% of malaria deaths in U5 Children 17% of under five mortality in the region
- Pregnant women are among the most vulnerable groups
- Reduction in economic growth

- MDG target is to: “have halted by 2015 and begun to reverse the incidence of malaria”.
- Reduce global malaria cases by 75% by 2015 (from 2000 levels)
- Eliminate malaria in 10 new countries (since 2008) and in the WHO Europe Region by 2015
WHO Guidance and support
Malaria Interventions and systems strengthening

Prevention
- LLINs
- IRS
- IPTp
- IPTI, Seasonal chemoprevention

Diagnosis & Treatment
- Health facilities
- Community (ICCM)
- Private sector
- Parasite based diagnosis
- Microscopy & RDTs
- ACTs
- Treatment of Severe Malaria

Surveillance, M&E
- HMIS
- Surveys
- Surveillance & epidemics preparedness and response
- OR risk mitigation impact documentation

Systems Strengthening & New Tools
Planning for Malaria Control & Elimination

Malaria programme reviews: a manual for reviewing the performance of malaria control and elimination programmes

TRIAL EDITION, MARCH 2010

OBJECTIVES

General objective

- To determine an optimal short and mid-term (18 months) strategic direction with respect to malaria elimination in East and Southern Africa;
- Propose a generic change in management algorithm for countries moving towards elimination.

Specific Objectives

- To review surveillance data for the last 12 months, identify key gaps in data and propose changes in implementation and its management;
- Develop plans to strengthen malaria surveillance and implementation for achieving malaria pre-elimination/elimination;
- To agree on a monitoring plan (quarterly follow up for each of the countries).

Immediately after the meeting

- Refine country strategic plans;
- Finalise 2011-2012 implementation for the country;
- Quarterly follow up plans expanded and finalised.
Planning for Malaria Control - 2013

Malaria Programme Review (9)
- Eritrea, Zimbabwe

Malaria Strategic Plan (17)
- Eritrea, Tanzania Main, Zanzibar, Zimbabwe

M&E Plan (24)
- Botswana, Ethiopia, Kenya, Malawi, Namibia, Uganda, Zambia, Swaziland

MSP MTR (12)
- Botswana, Ethiopia, Kenya, Malawi, Namibia, Uganda, Zambia

ESA
- Chad, Congo, Eq Guinea

CA
- Angola, Burundi, Cameroon, Chad, DRC, Eq Guinea

WA
- Cape Verde, Gambia, Ghana, Guinea, Liberia, Nigeria, Sierra Leone

Benin, Burkina Faso, Niger, Senegal, Togo
WHO Guidance Prevention

GLOBAL MALARIA PROGRAMME

INSECTICIDE-TREATED MOSQUITO NETS: a WHO Position Statement

Indoor residual spraying
Use of indoor residual spraying for scaling up global malaria control and elimination

World Health Organization
To optimize the benefit of deploying ACTs... it will be necessary to deploy them as widely as possible – this means at most peripheral health clinics and health centres, and in the community. Deployment through the formal public health delivery system alone will not reach many of those who need treatment. Ultimately, effective treatment needs to be available at community or household level...
Progress in intervention coverage

- Increased households owning at least one LLIN from 3% in 2000 to **53%** in 2012

- IRS expanding 5% in 2005 to **11%** coverage 2012

- IPTp in countries where recommended

- ACTs at community level
Leadership and Burden Reduction

- **13 countries 2013 ALMA Award for Excellence** (Liberia, Guinea, Cameroon, Mozambique, Kenya, Rwanda, Uganda, Cape Verde, Namibia, São Tomé and Príncipe, South Africa, Swaziland and Zambia)

- **Cross-border initiatives**
  - SADC Elimination 8 (Angola, Zambia, Mozambique, Zimbabwe, Namibia, Botswana, South Africa, Swaziland)
  - Senegal, Gambia, Mali, Mauritania, Niger, Chad

- **Overall estimated incidence of malaria has fallen by 33%**

- **10 countries on track to meet MDG Target of reducing malaria incidence by 75% by 2015** (Cape Vert, STP, Comoros data)

- **Island pre-elimination/elimination** SIDS, Zanzibar, Bioko
Typical additional programme activities and considerations in different phases of elimination [DRAFT SEPTEMBER 2012]

<table>
<thead>
<tr>
<th>Nationwide, and entire population residing within borders</th>
<th>Minimum package by stage: entry criteria</th>
<th>pre-elimination = transition phase</th>
<th>elimination</th>
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</thead>
<tbody>
<tr>
<td><strong>Major criteria</strong></td>
<td><strong>Malaria situation</strong></td>
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<tr>
<td></td>
<td>• SPR &lt; 5% among suspected malaria patients throughout the year</td>
<td>• 1 per 1000 population per year in most affected district</td>
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<td>• A &quot;manageable number&quot; of cases: not more than 5 per 1000 population per year in most affected district</td>
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<tr>
<td><strong>Case management, especially diagnosis</strong></td>
<td>• All malaria cases are microscopically confirmed in public and private sector; microscopy QA systems being put in place</td>
<td>• Routine QA/QC expert microscopic diagnosis</td>
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<td>• National policy for radical treatment in place</td>
<td>• 100% radical treatment of <em>P. vivax</em>; ACT plus gametocytocidal treatment for <em>P.falciparum</em></td>
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<tr>
<td><strong>Surveillance, monitoring and evaluation</strong></td>
<td>• Malaria is a notifiable disease: all malaria cases are immediately notified by public and private sectors</td>
<td>• Active case detection</td>
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<td></td>
<td>• Centralized register on cases, vectors and foci</td>
<td>• Cases and foci investigation and classification</td>
<td></td>
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<tr>
<td></td>
<td>• Elimination database initiated</td>
<td>• Collect documentation for eventual certification (optional)</td>
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<tr>
<td><strong>Minor criteria</strong></td>
<td><strong>Programme goal</strong></td>
<td></td>
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<tr>
<td></td>
<td>• Programme reorientation from control towards elimination approach</td>
<td>• Halt local transmission nationwide</td>
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<tr>
<td><strong>Vector control and malaria prevention</strong></td>
<td>• Total IRS coverage in foci; IVM and LLIN as complementary measures in specific situations</td>
<td>• Also vector control to reduce receptivity in recent foci</td>
<td></td>
</tr>
<tr>
<td><strong>Health systems and financing</strong></td>
<td>• Central nucleus of national malaria programme expertise: minimum = epidemiologist, parasitologist, entomologist, laboratory specialist</td>
<td>• Largely reliant on domestic resources</td>
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<td>• HS covers all populations including migrants and other hard to reach minorities</td>
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<tr>
<td></td>
<td>• Mobilization of domestic resources</td>
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</tbody>
</table>

1 Major criteria: all required
2 Minor criteria: the more the better: all are eventually needed but not specific enough for classification
Control  Pre-
elimination  Elimination  Prevention of  Reintroduction

WHO certification

Consolidation

Stable high transmission

1\textsuperscript{st} program reorientation

2\textsuperscript{nd} program reorientation

Unstable Low transmission

SPR <5% in fever cases

<1 case/1000 Population at risk/year

0 locally acquired cases

WHO certification

3 years
Vector & Parasite monitoring Bioko Island
(Source BIMCP)

Average Anopheles per light trap night

Parasite Prevalence in 2-14 years

Legend
- Human Landing collections & Light Trap Collections

Level 1: 2+
Level 2: 1 to < 2
Level 3: 0 to < 1
No data

World Health Organization

4th SIDS Meeting, Sao Tome & Principe 16-18 April 2013
Zanzibar Pre-Elimination: 2015 & Beyond

**Vision:**
- Zanzibar free of malaria

**Mission:**
- Provision of quality, affordable and cost effective interventions to all

**Guiding Principles and Values:**
- Ethical practice, human rights, fairness and social inclusion, solidarity, gender responsiveness, cultural identity and humane care

**Goal:**
- Zero locally acquired cases by 2017

**Objectives**
- To test 100% of suspected malaria cases with parasitology and treat
- To achieve 100% coverage with IRS in targeted areas and 100% coverage with ITNs/LLINs
- To conduct active case detection in all Shehias every 2 weeks and investigate 100% of cases
- To increase the % of febrile cases reporting within 24 hours of onset of illness to 80% 2017
- To establish functional coordination structures elimination at national, district and Shehia levels (2013)
Patient presents with signs and symptoms

Conduct RDT/Microscopy

or

Negative Result: Differential Diagnosis

Positive Result

Uncomplicated: Treat with AL

Severe /Complicated: IV and IM Quinine followed by Oral Quinine

Report case to 977

SMS to Surveillance team

Within 7 days

ACI and ACD at HH Level

Paper records entered weekly into MSDS

Analysis and review by CSO/GIS

Simon Kunene, NMCP Manager
Challenges-Lessons Learnt/Way Forward
Challenges

- Inadequate coordination and harmonization/alignment
- Gaps in funding to reach ambitious targets *Domestic+++*
- Inadequate Human resource for quality service delivery & surveillance
- Weak linkages between research institutions and NMCPs for evidence based implementation
- Stock-outs of ACTs, RDTs and insecticides
- Weak surveillance and monitoring systems and use of appropriate technology
- Evidence for well-defined transitional end points from control to pre-elimination and elimination
- Inadequate cross border collaboration
Wisdom of history...

Taveta, Kenya

Garki, Nigeria

Gezira, Sudan

Kapsabet, Kenya

Zanzibar (I)

Zanzibar (II)

Mauritius

Madagascar

Swaziland

4th SIDS Meeting, Sao Tome & Principe 16-18 April 2013
Lessons learnt

- Ownership/alignment of stakeholders and resources
- Stratify risk and target interventions
- Sustain comprehensive package - domestic funding +++
- Enhance Community/Civil society involvement
- Strengthen and maintain overall disease surveillance

- Every case (infection) counts
- Investigate/classified each case=⇒ know each individual and determinants of infection
- Geographical focus = unit of intervention
- Intervention quality needed for elimination brings tremendous public health benefits
- Generate evidence for decisions and mitigate threats
  - Epidemics preparedness/response
- Prevent reintroduction:
  - Border/cross border issues

Develop/deploy new tools/technologies
THANK YOU