Malaria in Africa: Progress, Danger signs, Catching up

Sub-regional Malaria Program Managers Meeting in Africa

RBM /CRSPC

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Outline

• Progress in malaria control and elimination
• Danger signs of stagnation or reversal of gains – Need to work differently
• Catching up – Getting back on track
• List of technical guidelines
Progress
Great strides – 590,000 malaria deaths everted, 2000-2018

FIG. 2.8.
Comparison of current estimated malaria deaths with expected deaths had malaria incidence remained at 2000 levels globally. Source: WHO estimates.

Estimated number of deaths if malaria mortality rate remained the same as that of 2000

Estimated deaths based on current progress in malaria mortality rate

WHO: World Health Organization.
Great strides – 93 million infections prevented, 2000-2018

FIG. 2.7.
Comparison of current estimated malaria cases with expected cases had malaria incidence remained at 2000 levels globally. Source: WHO estimates.

WHO: World Health Organization.
Success is possible

Certification of malaria free countries

Global progress towards malaria elimination

- Fewer than 10,000
- Fewer than 1,000
- Fewer than 100
- Fewer than 10

Number of countries:

- 2010: 11
- 2011: 26
- 2012: 17
- 2013: 19
- 2014: 24
- 2015: 25
- 2016: 33
- 2017: 34
- 2018: 49

Global progress towards malaria elimination
Danger signs – Need to work differently
## Global Technical Strategy on Malaria

### Goals

<table>
<thead>
<tr>
<th>Goals</th>
<th>Milestones</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reduce malaria mortality rates globally compared with 2015</td>
<td>At least 40%</td>
<td>At least 75%</td>
</tr>
<tr>
<td>2. Reduce malaria case incidence globally compared with 2015</td>
<td>At least 40%</td>
<td>At least 75%</td>
</tr>
<tr>
<td>3. Eliminate malaria from countries in which malaria was transmitted in 2015</td>
<td>At least 10 countries</td>
<td>At least 20 countries</td>
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<tr>
<td>4. Prevent re-establishment of malaria in all countries that are malaria free</td>
<td>Re-establishment prevented</td>
<td>Re-establishment prevented</td>
</tr>
</tbody>
</table>

### FIG. 2.9.

Comparison of progress in malaria case incidence considering three scenarios: current trajectory maintained (blue), GTS targets achieved (green) and worst case scenario, that is a return to mean peak past incidence in the period 2000–2007 (red). Source: WHO estimates.

- Current estimates of global case incidence (WMR 2019)
- GTS milestones (baseline of 2015)
- Forecasted trend if current trajectory is maintained
- Return to mean peak past incidence (worst case scenario)

Danger signs, 2 – Dwindling average funding per person at risk of MAL

- 2018 estimated investment: US$ 2.7 billion
  - Less than 2017 investment of US$ 3.2
  - Well below required US$ 5.0 billion to stay on track to GTS milestones
- Domestic and foreign assistance for health and development likely to suffer due to recent global economic downturn potentiated by the COVID 19 pandemic
Danger signs, 3 – Health systems bottlenecks; many people missing out key interventions

- 20 years of incredible progress in scaling up; Yet challenges exist in access and use of interventions

- Underlying health systems bottlenecks, many left behind:
  - 40% cases undiagnosed, not treated
  - 35% not protected by effective vector control
  - Only 20% of pregnant women protected by chemoprevention
  - 45% gap b/w ANC1 (80% attendance) and IPTp1 (35% coverage)
  - Low (48%) ITN use in U5

- Who is missing out and what barriers do they face?

- All people should have access to the services they need (does not mean everything).

- Improving platforms of delivery and smarter use of resources: Focus on efficiency and equity
COVID19 lessons abound:
- The threat of infectious disease on social and economic wellbeing
- COVID19 disrupted the delivery of essential services due to demand and supply factors (pulse survey data)
  - Demand: 76% of countries reported reduction in OPD care and attendance – due to: lockdowns hindering access, and financial difficulties during lockdowns
  - Supply: 66% of countries reported cancellation of elective services – due to: staff redeployment to provide COVID19 relief, unavailability of services owning to closure of health facilities or health services, and supply chain difficulties
  - Exposed the fragility of delivery systems (even the most sophisticated ones)
  - Exposed the weakness of public health functions (data systems, etc.)
  - Mainstreamed the importance of being able to adapt
  - Upended the global economy, shrinking the pot for investments in health (ironic)

NMPs adapted successfully:
- Incredible work by malaria programmes to ADAPT and safely deliver campaigns

What do we learn from COVID, what do we need to do differently as a result of COVID?
Danger signs, 5 – Changing ecology: the example of An. Stephensi invasion in Africa

- Detected in
  - Djibouti (2012)
  - Ethiopia (2016)
  - S.Sudan (2019)
  - Somalia

- High spread rate: 125-150km/year

- Major threats - High urbanization + High Pop increase rates in Africa
  - High urban population (43.8%)
  - Annual growth rate (4.1%)

- Countries to take preemptive action – Surveillance and response
Danger signs, 6 – High insecticide resistance of MAL vectors

Pyrethroids

Organochlorines

Carbamates

Organophosphates
Artemisinin resistance

- In 2020 Rwanda published documentation of artemisinin resistance (de novo K13 mutation) – de novo mutation, no documented clinical impact on the patients, the patients clinically recovered fully;
- Widespread resistance a threat to efficacy of the ACTs, the recommended for clinical treatment of malaria caused by Plasmodium falciparum, the cause of over 90% of malaria cases) in Africa
- Countries to maintain surveillance

pfhrp2/3 deletion

- HRP2 deletion results in false P. falciparum RDT negatives and missing of malaria cases. HRP2 deletion documented in Eritrea and Ethiopia – have changed or exploring to change of mRDTs
- Countries to undertake the appropriate investigations for HRP2/3 deletions
  - Generic protocols are available in English and French languages.
  - Some countries already trained on the protocol – Kenya, Rwanda, Uganda, Tanzania, Zambia, Ethiopia and Eritrea; training planned for some others before COVID19 – Senegal, Mali, Burkina Faso, Cote D’ivoire, Gambia, Guinea and Niger
Danger signs, 8 – Threats of malaria epidemics

MAL Epidemics, AFRO, 2019/20
1. Angola;
2. Kenya;
3. Madagascar;
4. Niger;
5. South Sudan;
6. Zimbabwe;
7. Burundi;
8. Namibia

Ongoing
Closed
Normal
Non-AFRO
Catching up
Responding to the danger signs 1 – HBHI, the 2018 response to slowing MAL progress

- HBHI, a country led, partner enabled approach for evidence-informed action that gets high burden countries back on track towards a malaria-free future;
- HBHI, a holistic approach with four mutually reinforcing response elements
  - political will;
  - strategic information;
  - better guidance; and
  - coordinated response.

- Maps of Douala and Yaoundé showing high concentration of public health facilities.
- As a substitute to LLIN deployment, high levels of case management and surveillance would be a suitable option for these two large cities (about 5 million people live in these two cities)
Responding to the danger signs 2 – What should we do differently? How should we work differently?

- **Countries:**
  - What should countries do differently?
  - How should countries work differently?

- **WHO:**
  - What should WHO do differently?
  - How should WHO work differently?

- **Partners:**
  - What should Partners do differently?
  - How should Partners work differently?
List of technical guidelines
Comprehensive Guidelines

For more info:
https://www.who.int/health-topics/malaria#tab=tab_1
Thank you in various languages:

- спасибо (Russian)
- GRACIAS (Spanish)
- 谢谢 (Chinese)
-ありがとう (Japanese)
- MERCI (French)
- DANKE (German)
- धन्यवाद (Hindi)
- شكراً (Arabic)
- OBRIGADO (Portuguese)