Report from the Global Malaria Programme

Malaria Policy Advisory Committee Meeting
WHO HQ Geneva, 5 March 2015

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On behalf of the global malaria team
World Malaria Report 2014

- Released on 9 December 2014
- Annual reference on the status of global malaria control & elimination. Data to 2013 and 2014
- Principal data source is national malaria control programmes. Support from: WHO regional offices, ALMA, CDC, DHS/Measure, FIND, GHG UCSF, Global Fund, JHSPH, Kff, Oxford University, RBM, Tulane University, UNICEF, UNSE, USAID
- Summarizes key malaria targets & goals
- Documents trends in financing, intervention coverage and malaria cases and deaths
- Profiles for 6 WHO regions and 97 endemic countries and areas
Infections with *P. falciparum* in sub Saharan Africa

- Even with population growth the number of people infected in SSA decreased from 173 million in 2000 to 128 million in 2013.
- Infection prevalence in children aged 2–10 years fell from 26% in 2000 to 14% in 2013, a decline of 48%. Falls were particularly pronounced in central Africa.
Infections with *P. falciparum*, by country 2013

- Nigeria and DRC accounted for 40% of all infections in 2013
- Estimated rates of infection, standardized to children aged 2–10 years, were highest in West Africa in 2013, with countries in this region accounting for 7 of the 10 highest values of *PfPR2–10*
Changing ITN coverage and infection prevalence \((PfPR)\) 2000-2013
Trends in estimated malaria case incidence and mortality rates

- Worldwide, between 2000 and 2013, estimated malaria mortality rates fell by 47% in all age groups and by 53% in children under 5 years of age.

- If the annual rate of decrease that has occurred over the past 13 years is maintained, then malaria mortality rates are projected to decrease by 55% in all ages, and by 61% in children under 5 years of age by 2015.
Change malaria mortality rate 2000-2013
Estimated cases and deaths averted by reduction in incidence and mortality rates between 2001 and 2013

Table 8.4 Estimated cases and deaths averted by reduction in incidence and mortality rates between 2001 and 2013

<table>
<thead>
<tr>
<th>Region</th>
<th>Cases averted (million)</th>
<th>Percentage of total</th>
<th>Deaths averted (million)</th>
<th>Percentage of total</th>
<th>Deaths averted &lt;5 (million)</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>African</td>
<td>444</td>
<td>66%</td>
<td>3.93</td>
<td>92%</td>
<td>3.92</td>
<td>95%</td>
</tr>
<tr>
<td>Region of the Americas</td>
<td>19</td>
<td>3%</td>
<td>0.01</td>
<td>0%</td>
<td>0.00</td>
<td>0%</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>72</td>
<td>11%</td>
<td>0.08</td>
<td>2%</td>
<td>0.04</td>
<td>1%</td>
</tr>
<tr>
<td>European</td>
<td>0.3</td>
<td>0%</td>
<td>0.00</td>
<td>0%</td>
<td>0.00</td>
<td>0%</td>
</tr>
<tr>
<td>South-East Asia</td>
<td>106</td>
<td>16%</td>
<td>0.17</td>
<td>4%</td>
<td>0.09</td>
<td>2%</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>30</td>
<td>4%</td>
<td>0.08</td>
<td>2%</td>
<td>0.06</td>
<td>1%</td>
</tr>
<tr>
<td>World</td>
<td>670</td>
<td>100%</td>
<td>4.28</td>
<td>100%</td>
<td>4.11</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: WHO estimates

- 670 million fewer cases and 4.3 million fewer malaria deaths occurred between 2001 and 2013 than would have occurred had incidence and mortality rates remained unchanged since 2000.
- 3.9 million deaths averted (92%) were in children aged under 5 years in sub-Saharan Africa.
- These accounted for 20% of the 20 million fewer deaths that would have occurred in sub-Saharan Africa between 2001 and 2013 had under-5 mortality rates for 2000 remained unchanged. Thus reductions in malaria deaths have contributed substantially to progress towards achieving the target for MDG 4 in sub-Saharan Africa.
ITN coverage – large increases but below target

49% of at risk population in sub-Saharan Africa had access to an ITN in 2013, 44% were sleeping under an ITN
Coverage with IRS has recently declined but improvement in population covered by any method since 2005.
Resistance reported to all classes of insecticide
Increase in uptake in IPTp more modest since 2007; There are missed opportunities for delivering IPTp
Rate of diagnostic testing is increasing and is higher in public sector than private.
Ratio of tests performed to ACTs administered is increasing even as ACT procurements rise.

Figure 5.5 Ratio of malaria diagnostic tests (RDTs and microscopy) provided to ACTs distributed by NMCPs, WHO African Region, 2006–2013

Figure 6.3 ACT deliveries from manufacturers to the public and private sectors, by drug and presentation, 2005–2013

Source: ACT deliveries (2005–2013*), data provided by eight companies eligible for procurement by WHO/UNICEF.

Elimination status

19 countries are in the pre-elimination or elimination phase as of December 2014

In 2013, two countries reported zero indigenous cases for the first time (Azerbaijan and Sri Lanka), eleven maintained zero cases (Argentina, Armenia, Egypt, Iraq, Georgia, Kyrgyzstan, Morocco, Oman, Paraguay, Turkmenistan and Uzbekistan)

Four countries <10 local cases (Algeria, Cabo Verde, Costa Rica and El Salvador)

<table>
<thead>
<tr>
<th>Region</th>
<th>Pre-elimination</th>
<th>Elimination</th>
<th>Prevention of reintroduction</th>
<th>Malaria free</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFR</td>
<td>Cabo Verde</td>
<td>Algeria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMR</td>
<td>Belize</td>
<td>El Salvador</td>
<td>Argentina</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Costa Rica</td>
<td></td>
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<tr>
<td></td>
<td>Ecuador</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Mexico</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paraguay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EUR</td>
<td>Turkey</td>
<td></td>
<td>Georgia, Kyrgyzstan, Uzbekistan</td>
<td>Turkmenistan – 2010, Armenia – 2011</td>
</tr>
<tr>
<td></td>
<td>Azerbaijan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tajikistan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEAR</td>
<td>Bhutan</td>
<td></td>
<td>Sri Lanka</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Democratic People’s Republic of Korea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WPR</td>
<td>Malaysia</td>
<td></td>
<td>Republic of Korea</td>
<td></td>
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</table>

AFR, African Region; AMR, Region of the Americas; EMR, Eastern Mediterranean Region; EUR, European Region; SEAR, South-East Asia Region; WPR, Western Pacific Region

Source: National malaria control programme data
Funding for malaria – large increases but below target

Total funding for malaria in 2013 US$ 2.7 billion
US$ 527 million from domestic sources
Key statistics

Since the year 2000

- Average malaria infection prevalence declined 48% in children aged 2–10, from 26% to 14% in 2013.
- The number of malaria infections at any one time dropped 26%, from 173 million to 128 million in 2013.
- Malaria mortality rates have decreased by 47% worldwide and by 54% in the WHO Africa Region.

In 2013

- Only US$ 2.7 billion of the US$ 5.1 billion required to achieve global malaria control and elimination targets were available through international and domestic funds.

- 49% of the at-risk population had access to an ITN in their household.
- 44% of the population at risk were sleeping under an ITN, indicating that 90% of people used the nets available to them.
- 278 million of the 840 million people at risk of malaria in sub-Saharan Africa lived in households without even a single ITN.

- 57% of pregnant women received at least one dose of IPTp, and 17% received three or more doses in the nine reporting countries.
- 15 million of the 35 million pregnant women did not receive a single dose of IPTp.

- 147 million patients worldwide were tested for malaria by microscopic examination.
- 62% of patients with suspected malaria cases in the WHO African Region received a diagnostic test in public health facilities.
# Key statistics

<table>
<thead>
<tr>
<th>147 million</th>
<th>62%</th>
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<td>patients worldwide were tested for malaria by microscopic examination.</td>
<td>of patients with suspected malaria cases in the WHO African Region received a diagnostic test in public health facilities.</td>
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<table>
<thead>
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<th>70%</th>
<th>56–69 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>of malaria patients could be treated with ACTs distributed to public facilities in Africa; however, because not all children with fever are brought for care, less than 26% of all children with malaria received an ACT.</td>
<td>children with malaria did not receive an ACT.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>584000</th>
<th>528000</th>
</tr>
</thead>
<tbody>
<tr>
<td>malaria deaths (range 367 000–755 000) occurred worldwide; 78% of malaria deaths occurred in children aged under 5 years.</td>
<td>malaria deaths (range 315 000–689 000), 90% of the global total, occurred in the WHO African Region.</td>
</tr>
</tbody>
</table>

## By 2015

If the annual rate of decrease over the past 13 years is maintained, malaria mortality rates are projected to decrease by 55% globally and by 62% in the WHO Africa Region. Malaria mortality rates in children aged under 5 years are projected to decrease by 61% globally and 67% in the WHO Africa Region.
Since last MPAC meeting

- Update on artemisinin resistance (September 2014)
- Technical consultation to update the WHO Malaria microscopy quality assurance manual (October 2014)
- Information note on recommended selection criteria for procurement of malaria RDTs (November 2014)
- Guidance on temporary malaria control measures in Ebola-affected countries (November 2014)
- World Malaria Report 2014 (December 2014)
- Eliminating malaria: case study 7. Elimination of malaria on the island of Reunion: 40 years on (January 2015)
- Eliminating malaria: case study 8. Progress towards elimination in Malaysia (January 2015)
- Policy brief on single-dose primaquine as a gametocytocide in Pf malaria (January 2015)
Unplanned reactive role of WHO (three examples)

- New tool development
  - Ivermectin
- Review implementation practices and roll out of SMC
- Ebola response
Anticipated WHO Guidance 2015

- Guidelines for the treatment of malaria, 3rd Edition
- ERG on LLIN durability to guide procurement decisions
- ERG on MDA, MSAT and FSAT
- Intermittent screening and treatment (IST) for malaria in pregnancy
- Public health role of RTS,S vaccine
- Strategy for elimination of malaria with prioritization for P. falciparum in the GMS
- Programme monitoring for malaria control
- Health facility survey manual
- Rapid impact assessment
- Malaria programme reviews
- Elimination field manual
There is a strong and renewed interest on the role of mass drug administration and associated interventions involving focal or massive testing and treatment. Increasingly NMCPs receive repeated requests from bilateral aid agencies and research groups to invest in these interventions, and clear WHO guidance is needed.

WHO/GMP is convening an independent group of experts to review the role of MDA, MSAT and FSAT in reducing malaria burden, epidemic control, elimination and Ebola containment.

The ERG will provide guidance on the optimal conditions for application of MDA, MSAT and FSAT in relation to endemicity levels, optimal combination of medicines and dosages, use of diagnostics, timings and number of MDA rounds, IEC and pharmacovigilance, strategies to ensure uptake and adherence and optimal combination of vector control interventions.
Malaria transmission is intense in the West African countries affected by the 2014 Ebola outbreak

- The orange/brown shaded areas show the percentage of children infected with malaria parasite and the blue dots show areas affected by Ebola as of December 2014.
- In Guinea, Liberia, Sierra Leone, recent household surveys indicate nearly half of under-5 children have malaria parasites.
- An estimated 6.6 million malaria cases and 20,000 malaria deaths occurred in these three countries in 2013.
- Malaria and Ebola can have similar clinical presentations, but can be distinguished by blood tests; malaria affects children more than Ebola, with 47% of malaria cases and 90% of malaria deaths occurring in this age group.
Countries affected by Ebola had moderate levels of malaria intervention coverage before the outbreak

- Access to insecticide treated nets (ITNs) has been increasing in Africa; however, before the outbreak in 2013, less than half of the population in Ebola-affected countries had access to an ITN in their household.

- However, coverage with ITNs should increase as Guinea completed a national ITN distribution campaign in 2013, Sierra Leone did in 2014 and Liberia will complete one in 2015.

- Before the outbreak, in these countries, approximately 33% of children with fever were brought for care at a public health facility.

- The proportion of febrile children who received antimalarial medicine was 52% in Guinea, 67% in Liberia, and 65% in Sierra Leone.
WHO has provided guidance on temporary malaria control measures in Ebola-affected countries

- Although difficult to quantify, access to malaria diagnostic and treatment services decreased during the outbreak, and, as a consequence, the malaria burden has increased.

- WHO provided specific guidance on interim malaria prevention and control strategies in countries affected by Ebola with the aim to:
  1. reduce malaria morbidity and mortality,
  2. lower the number of febrile patients with malaria to “unload” Ebola assessment services, and
  3. increase the protection of front-line health workers engaged in the fight against these two deadly diseases.

Ebola response in Sierra Leone

- Population: 6.1 million
- Economy: Before Ebola: 5.9% ➔ After: 2.2%
- Funding partner: Mainly Global Fund
- Ebola (26 Feb): >11,370 cases, 3,490 deaths
Mass Drug Administration (MDA) as emergency response in Ebola-affected countries

Rationale: Unprecedented health system challenges

- Reduced care seeking and number of health staff
- Reduced access to treatment of malaria cases
- Temporary suspension of diagnosis (Mic, RDT)
- LLINs mass campaign in June 2014 ➔ high coverage
- Diminished IPTp-SP due to lower ANC services for pregnant women

**Sierra Leone:** AS-AQ-two rounds in 8 (Ebola-affected) of 14 districts (2.6 million people) in Dec 2014 and Jan 2015

- WHO measuring impact of the MDA (March, 2015)

**Liberia:** AS-AQ- two rounds in Monrovia (300 000 people)
GMP/WHO: Post-Ebola support plans

GMP/WHO: One year plan for the 3 countries

- Part of overall rehabilitation of the health systems
- Policy dialogue and updates (diagnosis, treatment, vector control, community level including iCCM; IPTi-SP)
- Support in fund raising and increase partner presence
- Strengthening of staffing at WHO country offices
- Training on case management and safety in view Ebola
- Studies on therapeutic and insecticide resistance
- Strengthening of surveillance, monitoring and evaluation
- Procurement and supply of commodities
- Planned cost of the support: US$ 906,000
  - Sierra Leone (US$ 374,000)
  - Liberia (US$ 266,000)
  - Guinea (US$ 266,000)
GMS: Significant progress towards 2015 targets

Cambodia

Thailand

Vietnam

Myanmar

Lao PDR

China PR
ERAR project

Staff providing regional support

Regional hub, Cambodia
- Coordinator, Emergency response to art. resistance
- Technical officer, M&E
- Technical officer, Adv. & communication
- Assistant

WHO China
- Technical officer, Pharmaceuticals

WHO Thailand
- Technical officer, Migrant & Mobile populations
- Technical officer, TES

WPRO, Manila
- Medical officer, TES and research

WHO GMP, Geneva
- Technical officer, Reporting and surveillance

Staff providing country specific support

WHO China
- Medical officer, Communicable diseases
- National officer, Malaria

WHO Cambodia
- Malaria Medical officer
- Medical officer, M&E
- National officer, Malaria

WHO Laos
- Medical officer, malaria
- National officer, Malaria

WHO Viet Nam
- Medical officer, malaria
- National Officer, Malaria
- National officer, Containment activities

WHO Myanmar
- Malaria Medical officer
- Containment coordinator
- National Officer, M&E
- National Officer, Containment activities

Dark shaded: funded with ERAR project funding
Call to elimination in the Greater Mekong subregion

- In process of developing GMS elimination plan, working with countries and partners
- Process close to finishing – current focus on architecture
- Countries at the centre
- Partners include APLMA, Global Fund, BMGF
- Build on ERAR project
- more in Session 3
2015 shaping up to be an exciting year

MALARIA CASES & DEATHS ARE FALLING FAST
Since 2000, the malaria mortality rate has fallen by 58% in African children under five years of age
#endmalaria

WHO-GMP is looking forward to working with all of you so that together we can end malaria