World Health Organization

Malaria Policy Advisory Committee (MPAC) Draft Meeting Agenda

Dates: 5-7 March 2015. Location: Salle B, WHO HQ, Geneva

Thursday, 5 March 2015

Time	Session	Purpose	Type
9.00 am 10:00 am	Session 1: Welcome from Chair, MPAC *(K Marsh)* Report from the Director, GMP *(P Alonso)* Update from RBM *(F Nafo-Traore)*	For information	open
10.30 am	**coffee**		
11.00 am 12:00 pm	Session 2: GMP strategy refresh *(P Alonso)* GMP policy-making document *(E Shutes)*	For advice For advice	open
12.30 pm	**lunch**		
1.30 pm	Session 3: Update on the Greater Mekong subregion elimination strategy *(E Christophel/ L Ortega)*	For advice	open
4.00 pm	**coffee**		
4.30 pm	Session 4: Malaria Terminology *(A Bosman)* Proposed ERG on malaria in pregnancy *(A Bosman)*	For advice For advice	open
5.30 pm	**End of day/ cocktail reception**		

GLOBAL MALARIA PROGRAMME

World Health Organization

Report from the Global Malaria Programme

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

Pedro Alonso
Director, Global Malaria Programme
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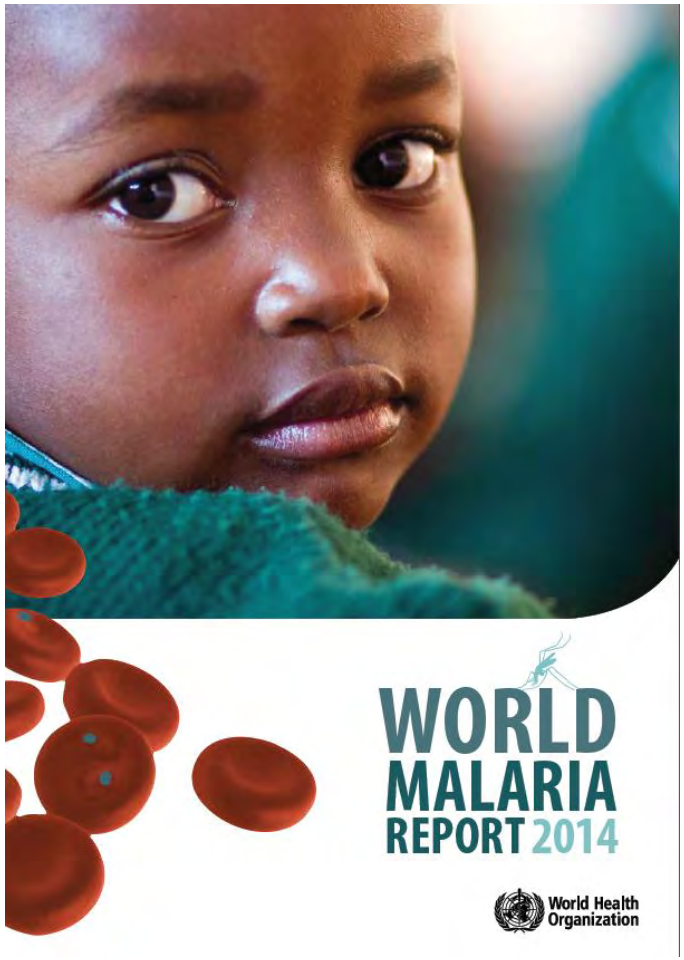
On behalf of the global malaria team

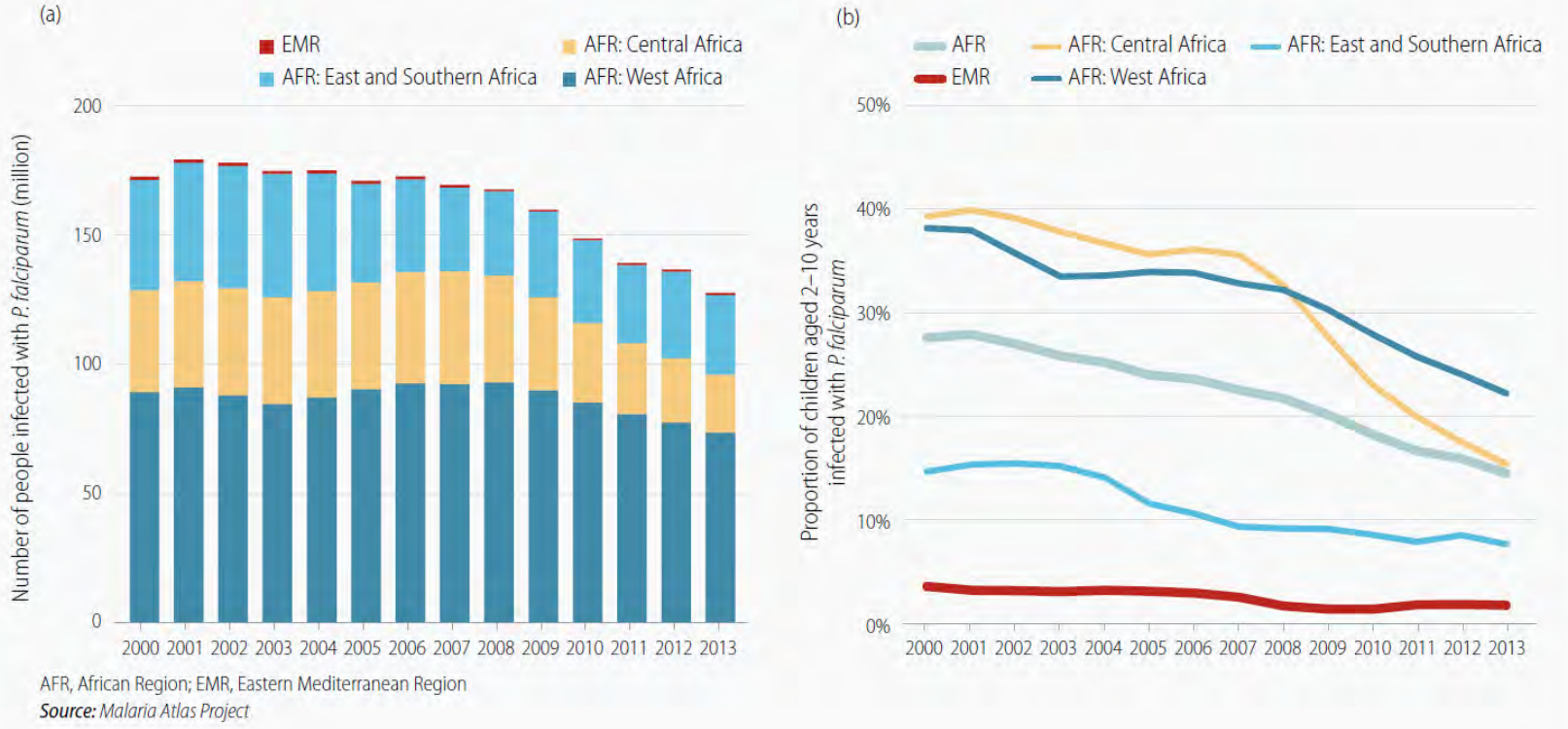
World Malaria Report 2014



- 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

Figure 8.4 Change in a) estimated number of *P. falciparum* infections in sub-Saharan Africa 2000–2013 and b) proportion of children aged 2–10 years infected with *P. falciparum* 2000–2013



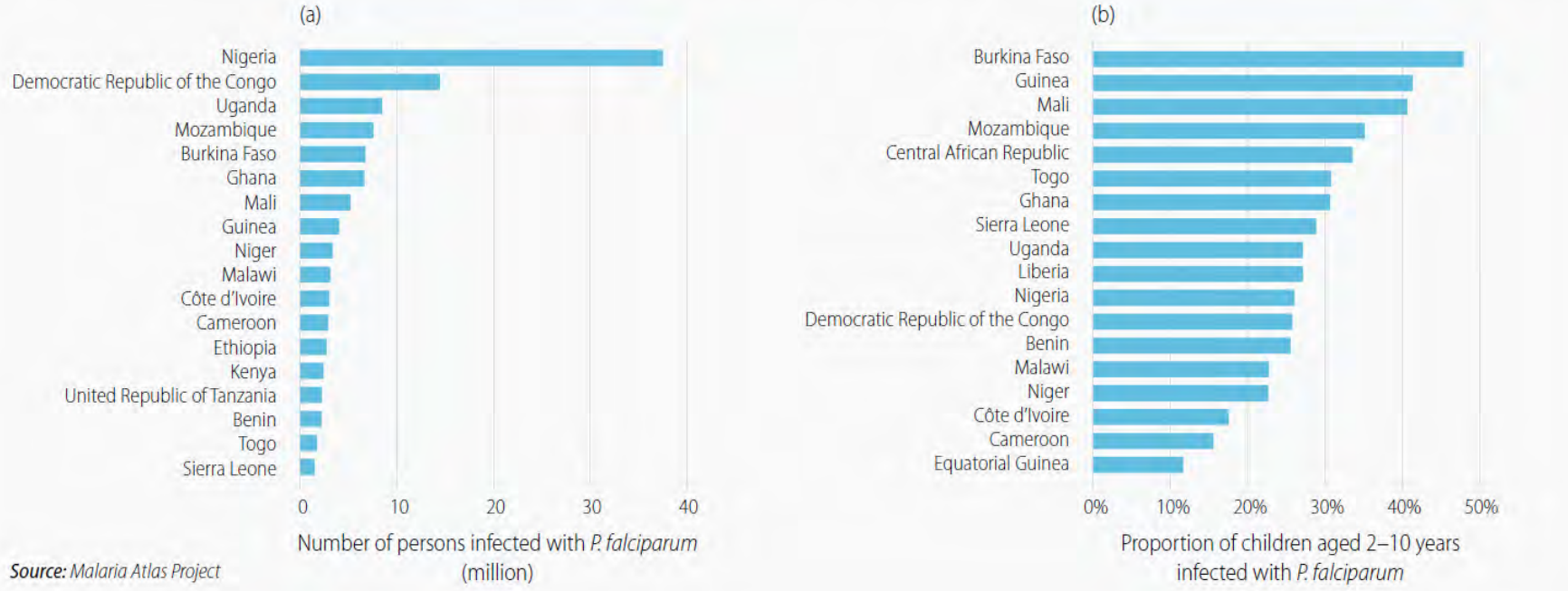
AFR, African Region; EMR, Eastern Mediterranean Region

Source: *Malaria Atlas Project*

- 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

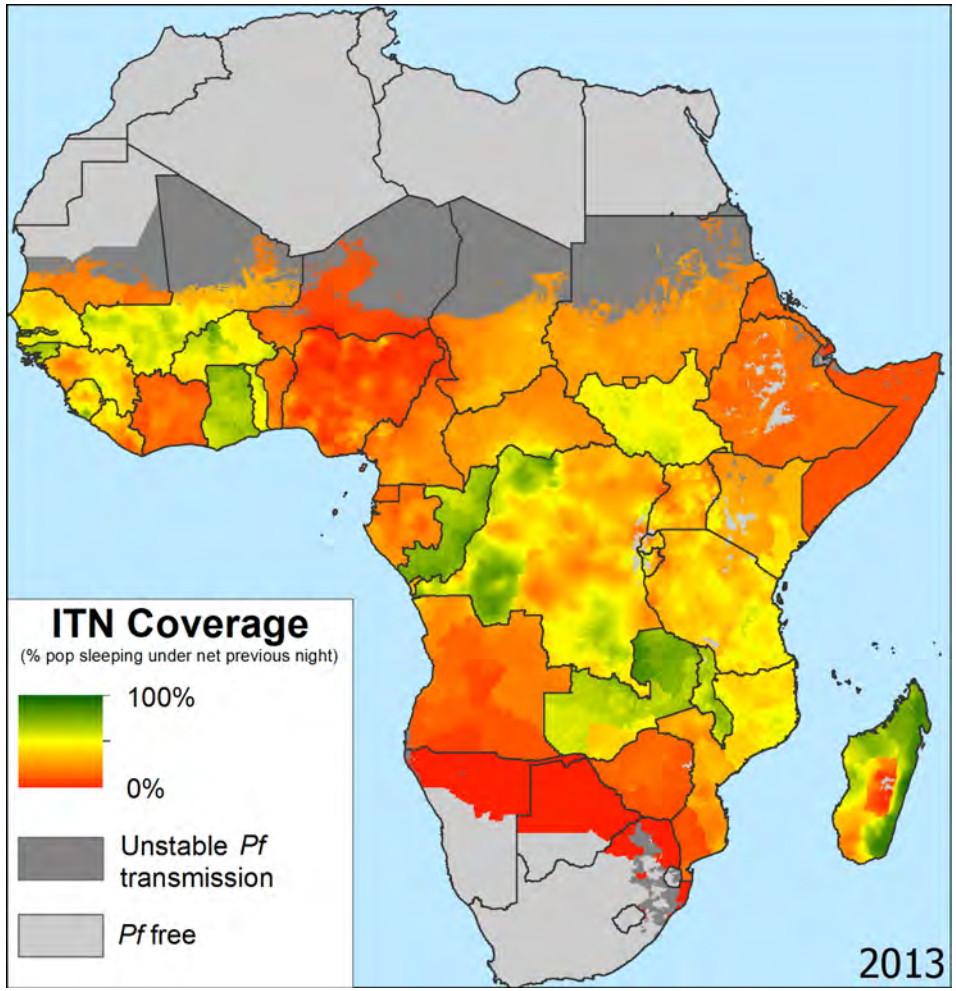
Infections with *P. falciparum*, by country 2013

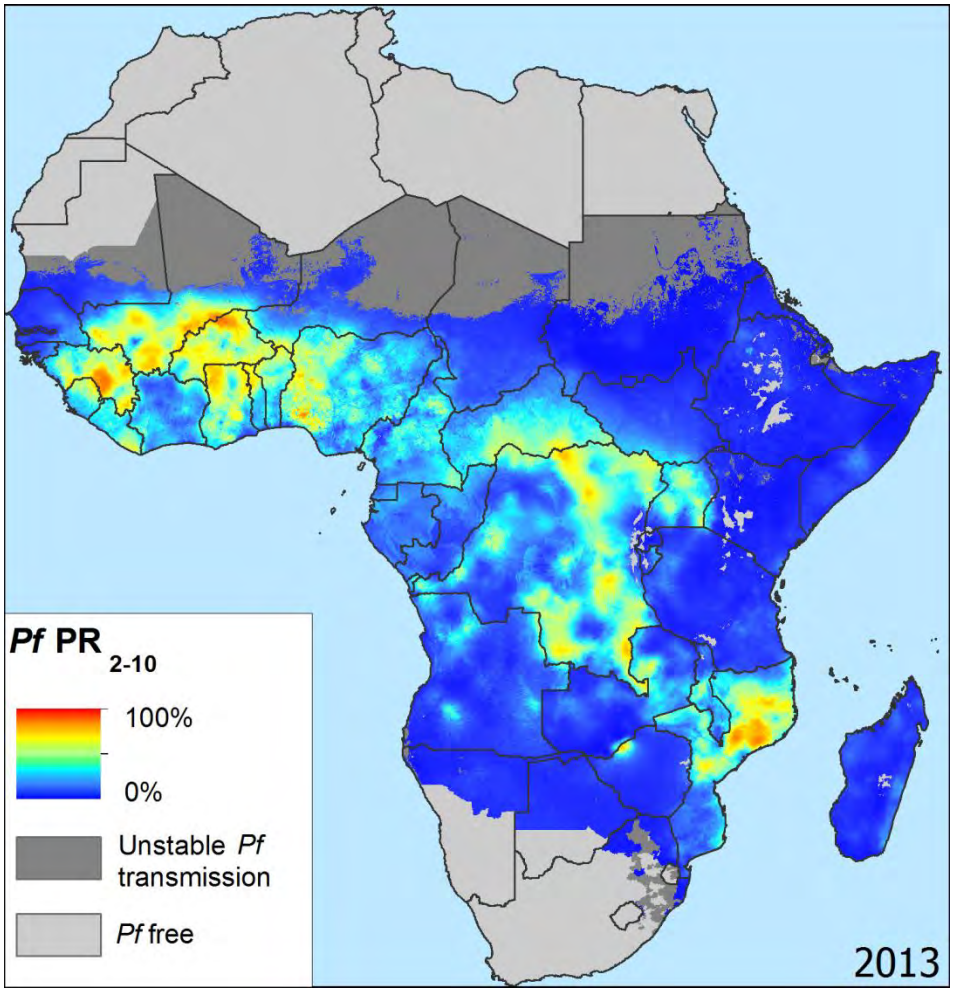
Figure 8.3 a) Countries accounting for 90% of the estimated number of *P. falciparum* infections in sub-Saharan Africa, 2013, ranked by number of infections in all ages, and b) countries ranked by the proportion of children aged 2–10 years infected with *P. falciparum*



- 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 *Pf*PR2–10

Changing ITN coverage and infection prevalence (*Pf*PR) 2000-2013

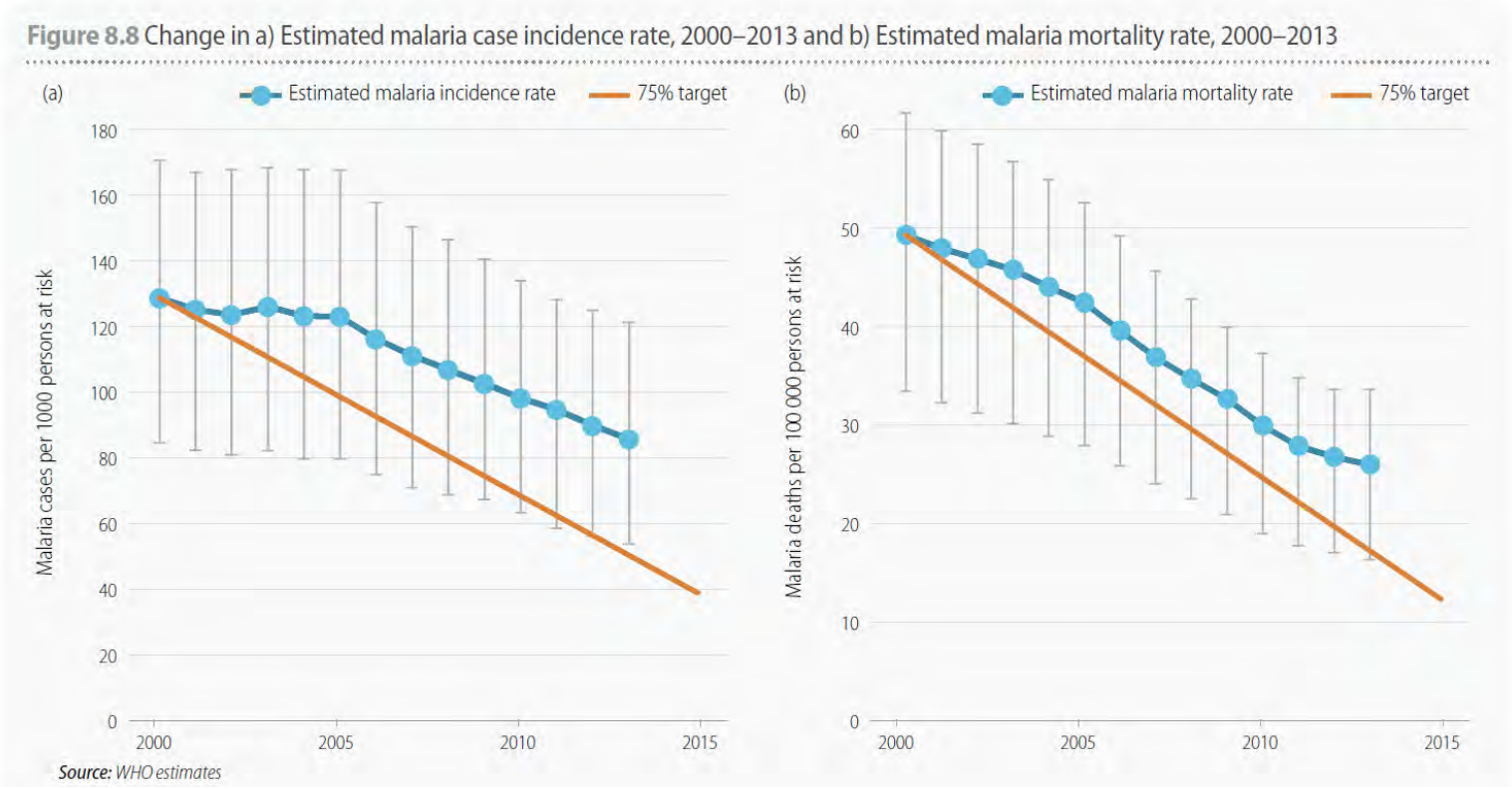




map malaria atlas project

WHO Collaborating Centre in Geospatial Disease Modelling

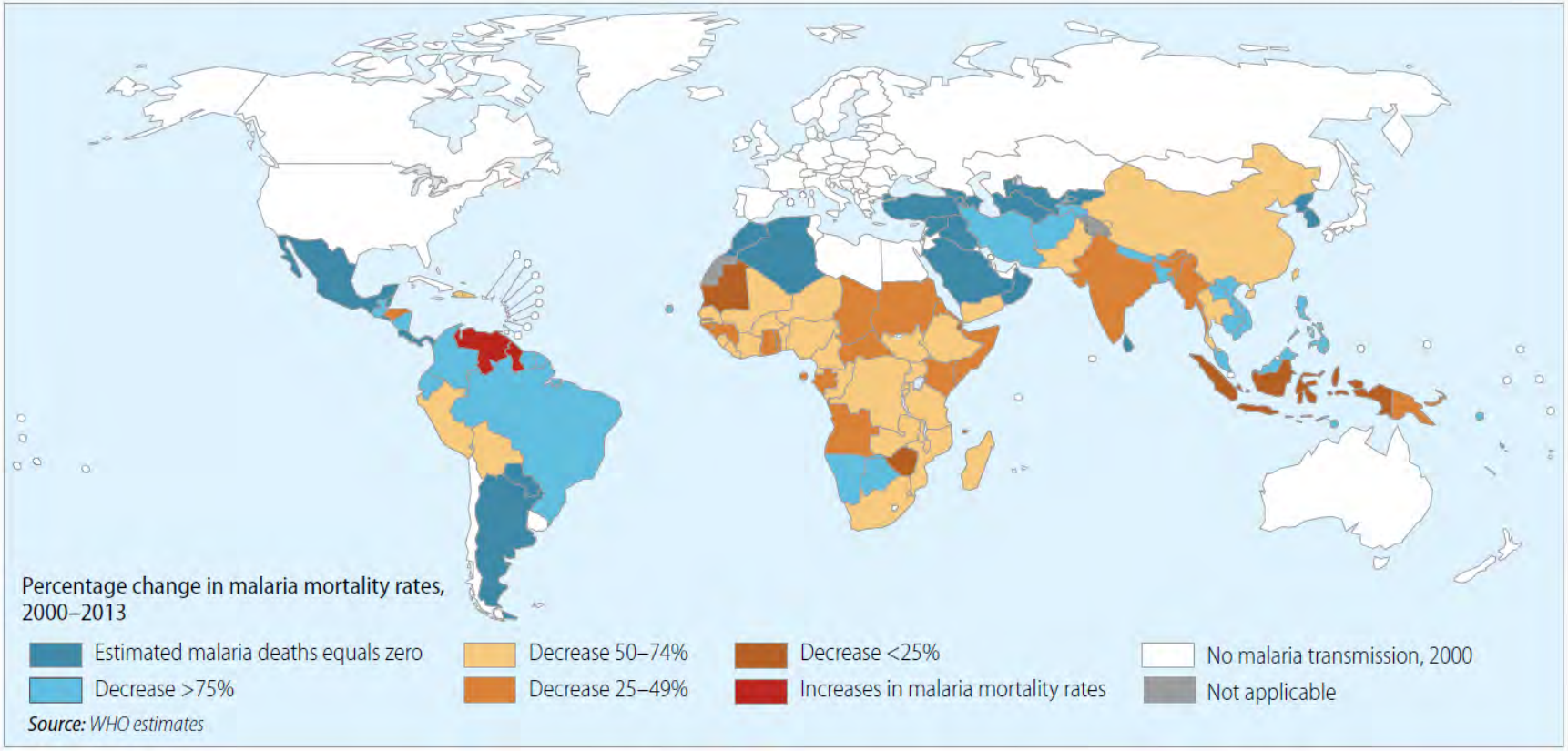
Trends in estimated malaria case incidence and mortality rates



- 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

Figure 8.9 Percentage change in malaria mortality rates, 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

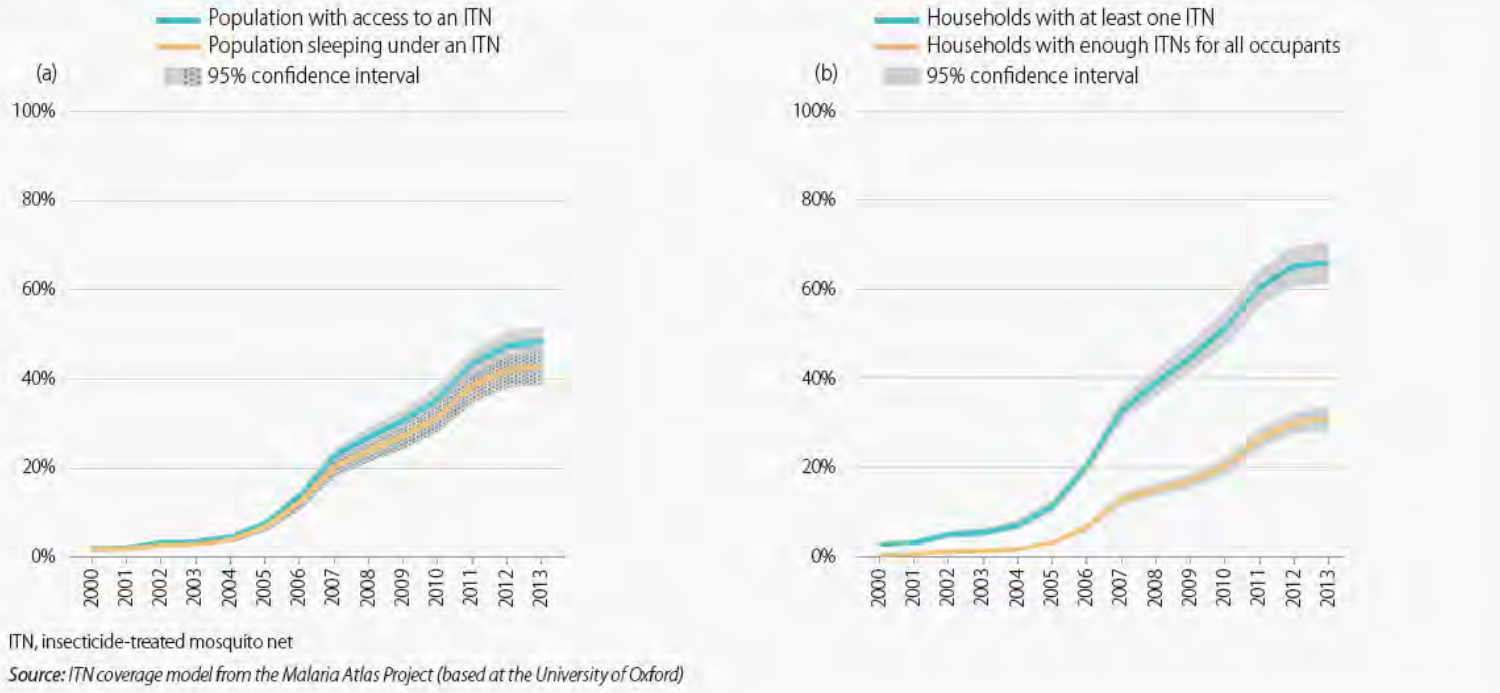
Region	Cases averted		Deaths averted		Deaths averted <5	
	2001–2013 (million)	Percentage of total	2001–2013 (million)	Percentage of total	2001–2013 (million)	Percentage of total
African	444	66%	3.93	92%	3.92	95%
Region of the Americas	19	3%	0.01	0%	0.00	0%
Eastern Mediterranean	72	11%	0.08	2%	0.04	1%
European	0.3	0%	0.00	0%	0.00	0%
South-East Asia	106	16%	0.17	4%	0.09	2%
Western Pacific	30	4%	0.08	2%	0.06	1%
World	**670**	**100%**	**4.28**	**100%**	**4.11**	**100%**

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

Figure 3.1 a) Proportion of population with access to an ITN and proportion sleeping under an ITN, b) Proportion of households with at least one ITN and proportion of households with enough ITNs for all persons, sub-Saharan Africa, 2000–2013



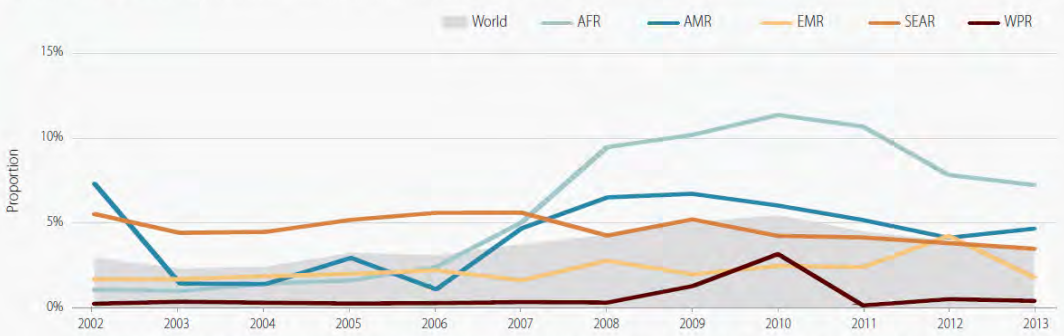
ITN, insecticide-treated mosquito net

Source: ITN coverage model from the Malaria Atlas Project (based at the University of Oxford)

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

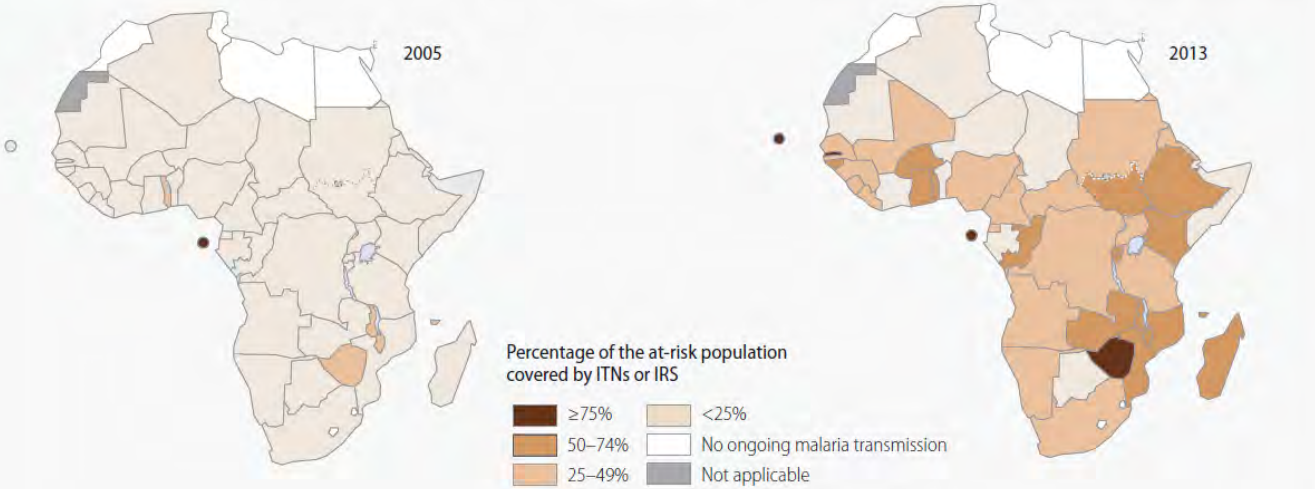
Figure 3.7 Proportion of population at risk protected by IRS, by WHO region, 2002–2013



AFR, African Region; AMR, Region of the Americas; EMR, Eastern Mediterranean Region; IRS, indoor residual spraying; SEAR, South-East Asia Region; WPR, Western Pacific Region

Source: National malaria control programme reports

Figure 3.8 Proportion of the population at risk protected by ITNs or IRS, in sub-Saharan Africa, 2005 and 2013



IRS, indoor residual spraying; ITN, insecticide-treated mosquito net

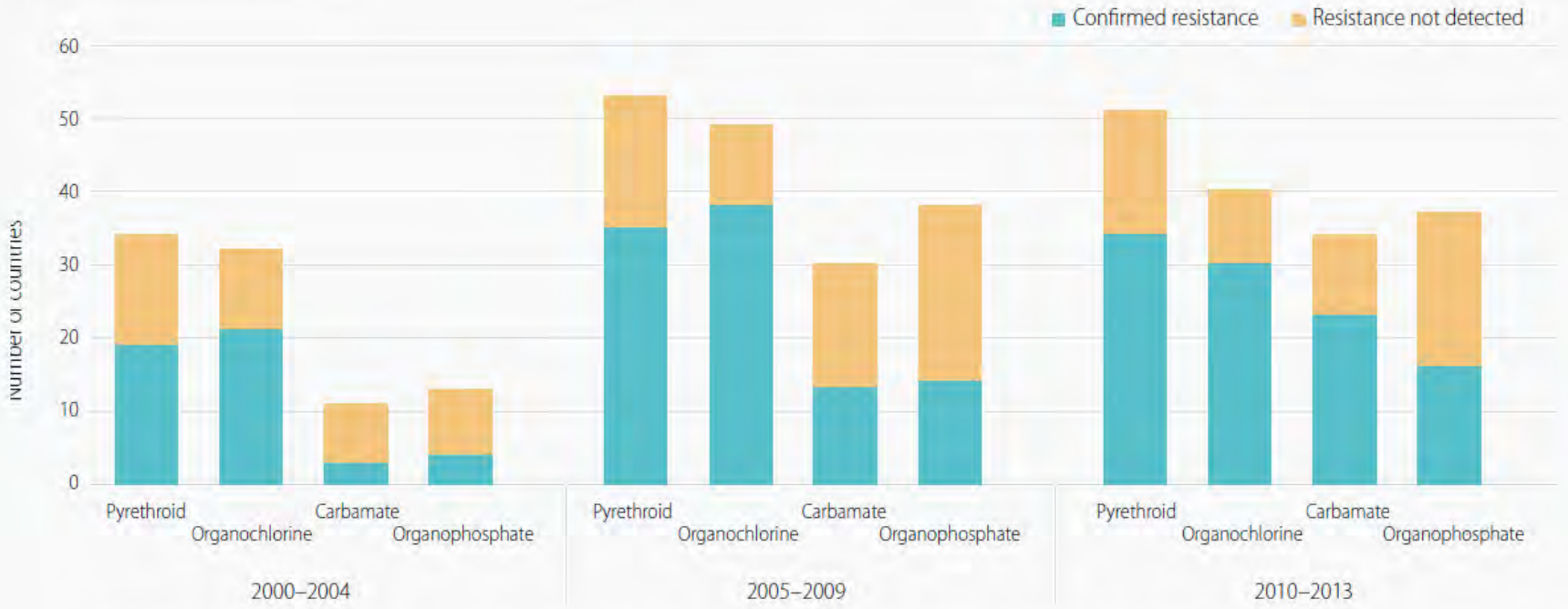
Source: NMCP reports, insecticide-treated mosquito net coverage model from Malaria Atlas Project

World Health Organization

Global Malaria Programme

Resistance reported to all classes of insecticide

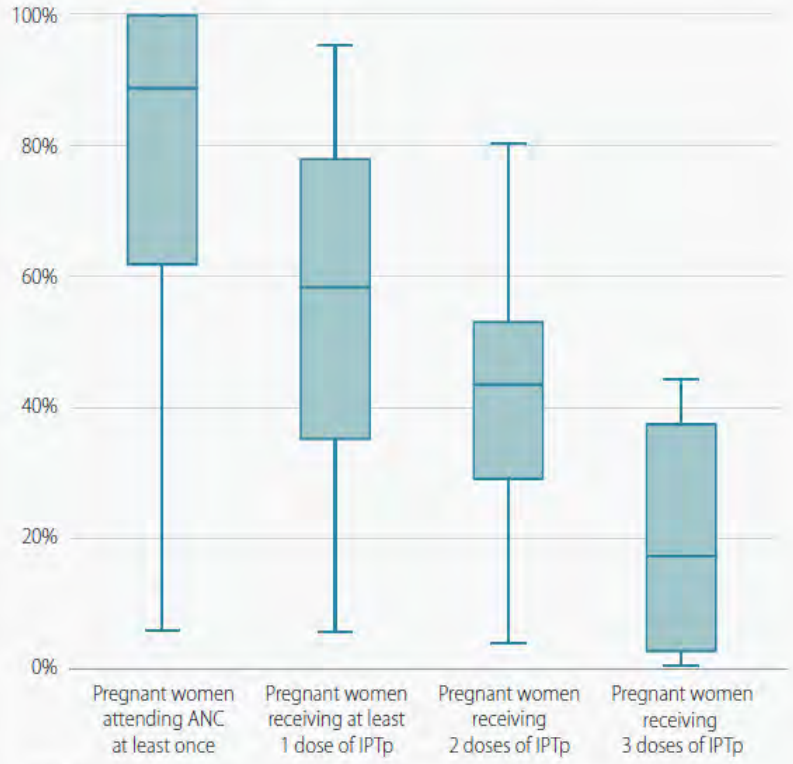
Figure 3.9 Number of countries reporting insecticide resistance monitoring results, by insecticide class and years of monitoring activity



Source: *National malaria control programme reports, African Network for Vector Resistance, Malaria Atlas Project, President's Malaria Initiative, published literature*

Increase in uptake in IPTp more modest since 2007; There are missed opportunities for delivering IPTp

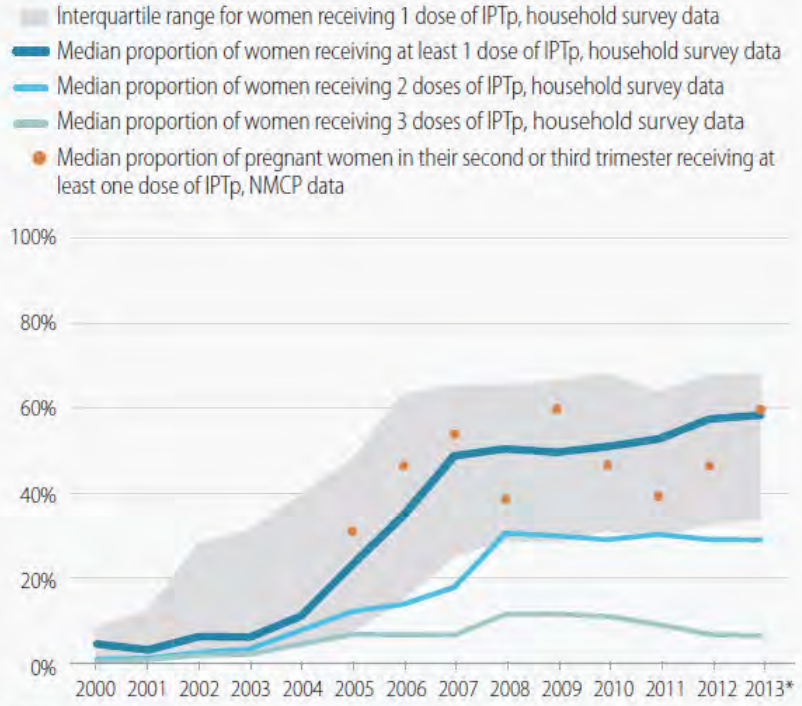
Figure 4.1 Proportion of pregnant women attending ANC and proportion receiving IPTp, by dose, among sub-Saharan countries reporting, 2013



ANC, antenatal care; IPTp, intermittent preventive treatment in pregnancy

Source: *National malaria control programme reports, UN population estimates*

Figure 4.2 Proportion of pregnant women receiving IPTp, by dose, by year of pregnancy in survey and by reporting year for NMCP, Africa, 2000–2013



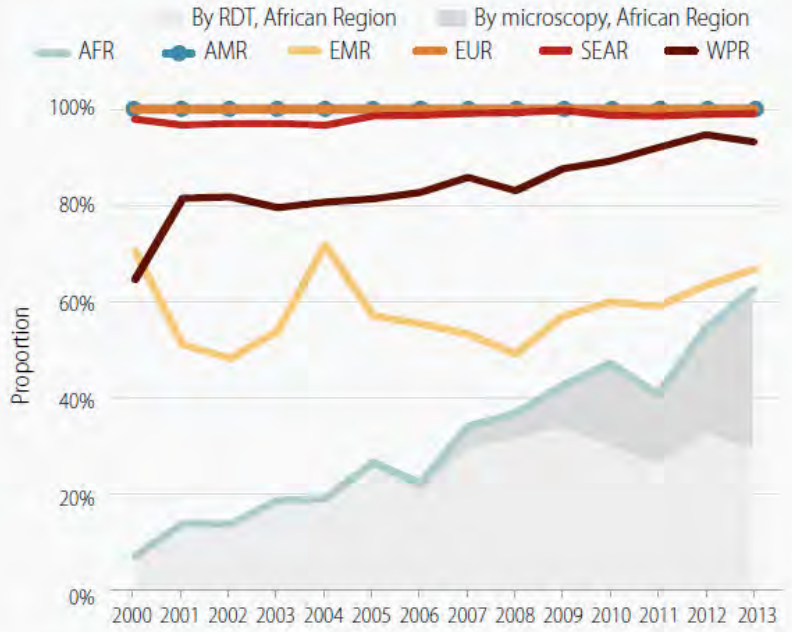
IPTp, intermittent preventive treatment in pregnancy; NMCP, national malaria control programme

* Median proportions using household data are based on six-year trend analyses

Source: *Demographic health surveys, malaria indicator surveys, multiple indicator cluster surveys and other household survey data, NMCP reports, UN population estimates*

Rate of diagnostic testing is increasing and is higher in public sector than private

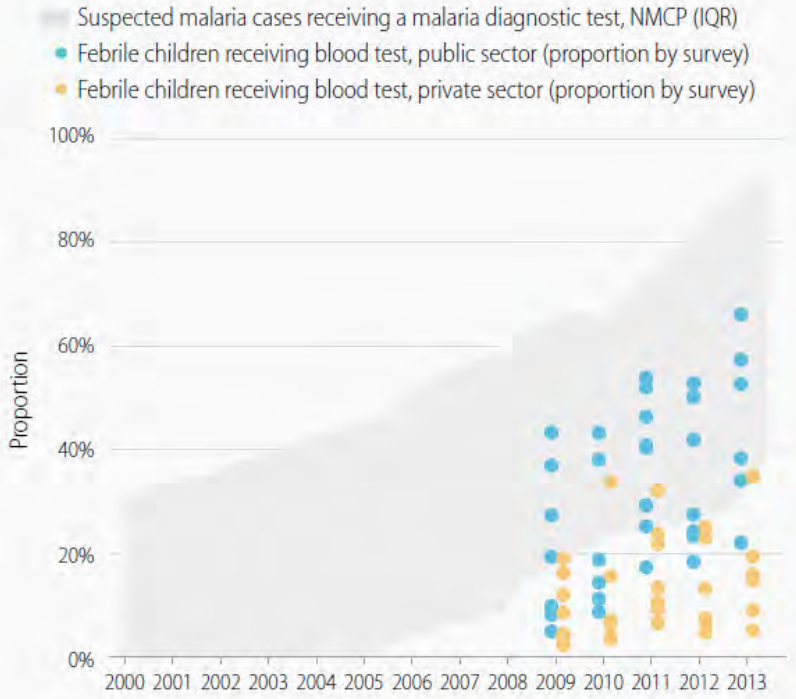
Figure 5.1 Proportion of suspected malaria cases attending public health facilities that receive a diagnostic test, by WHO region, 2000–2013



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

Source: *National malaria control programme reports*

Figure 5.2 Proportion of febrile children receiving a blood test, by health sector, in household surveys, and proportion of suspected malaria cases receiving a parasitological test in NMCP reports, sub-Saharan African countries with available data, 2000–2013

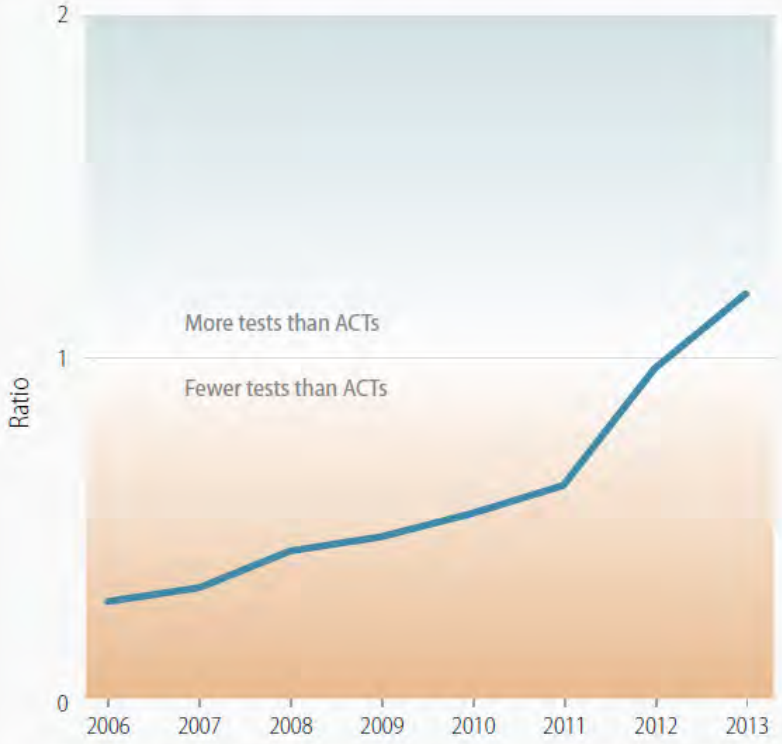


IQR, interquartile range; NMCP, national malaria control programme

Source: *NMCP reports and household surveys*

Ratio of tests performed to ACTs administered is increasing even as ACT procurements rise

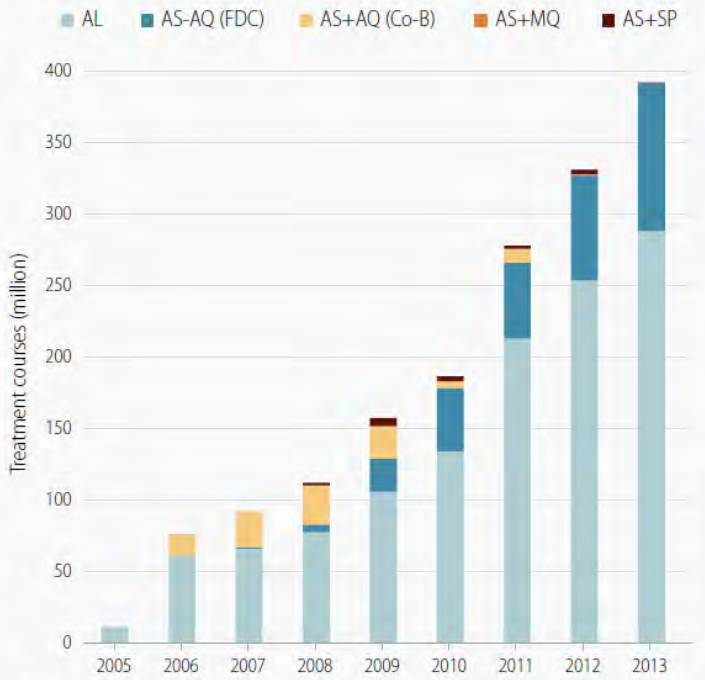
Figure 5.5 Ratio of malaria diagnostic tests (RDTs and microscopy) provided to ACTs distributed by NMCPs, WHO African Region, 2006–2013



ACT, artemisinin-based combination therapy; NMCP, national malaria control programme; RDT, rapid diagnostic test

Source: NMCP reports

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



ACT, artemisinin-based combination therapy; AL, artemether-lumefantrine; AMFm, Affordable Medicine Facility–malaria; AQ, amodiaquine; AS, artesunate; Co-B, co-blister; FDC, fixed-dose combination; MQ, mefloquine; SP, sulfadoxine-pyrimethamine

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

**2005–2009 data reflects public sector only; 2010– 2013 data includes public sector plus AMFm (public and private sectors).*

Elimination status

Table 8.1 Classification of countries by stage of elimination

Region	Pre-elimination	Elimination	Prevention of reintroduction	Malaria free
AFR	Cabo Verde	Algeria		
AMR	Belize Costa Rica Ecuador El Salvador Mexico Paraguay	Argentina		
EMR		Iran (Islamic Republic of) Saudi Arabia	Egypt Iraq Oman Syrian Arab Republic	Morocco – 2010 United Arab Emirates – 2007
EUR		Turkey Azerbaijan Tajikistan	Georgia Kyrgyzstan Uzbekistan	Turkmenistan – 2010 Armenia – 2011
SEAR	Bhutan Democratic People's Republic of Korea	Sri Lanka		
WPR	Malaysia	Republic of Korea		

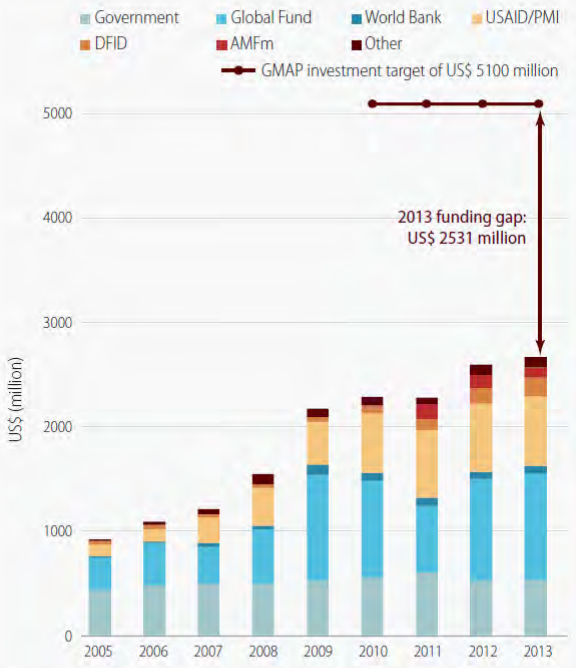
AFR, African Region; AMR, Region of the Americas; EMR, Eastern Mediterranean Region; EUR, European Region; SEAR, South-East Asia Region; WPR, Western Pacific Region

Source: National malaria control programme data

- 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)

Funding for malaria – large increases but below target

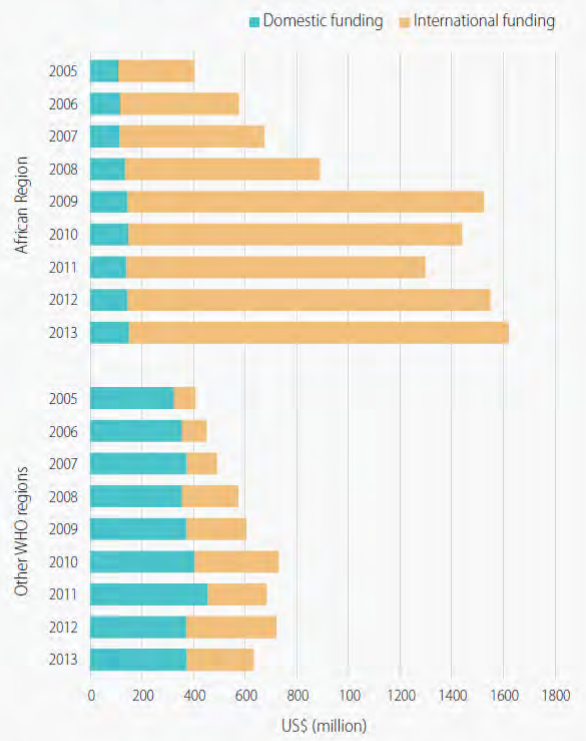
Figure 2.1 Trends in total funding for malaria control and elimination 2005–2013, and 2013 estimated funding gap



AMFm, Affordable Medicine Facility–malaria; DFID, United Kingdom Department for International Development; Global Fund, Global Fund to Fight AIDS, Tuberculosis and Malaria; GMAP, Global Malaria Action Plan; PMI, United States President's Malaria Initiative; USAID, United States Agency for International Development

Source: National malaria control programmes; Global Fund, USAID and Centers for Disease Control and Prevention (CDC) websites; Organisation for Economic Co-operation and Development (OECD) creditor reporting system; and Roll Back Malaria 2008 GMAP

Figure 2.2 Trends in domestic and international funding in the WHO African Region and other WHO regions, 2005–2013



Source: National malaria control programmes; Global Fund to Fight AIDS, Tuberculosis and Malaria and President's Malaria Initiative websites; OECD creditor reporting system; and Roll Back Malaria 2008 Global Malaria Action Plan

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.

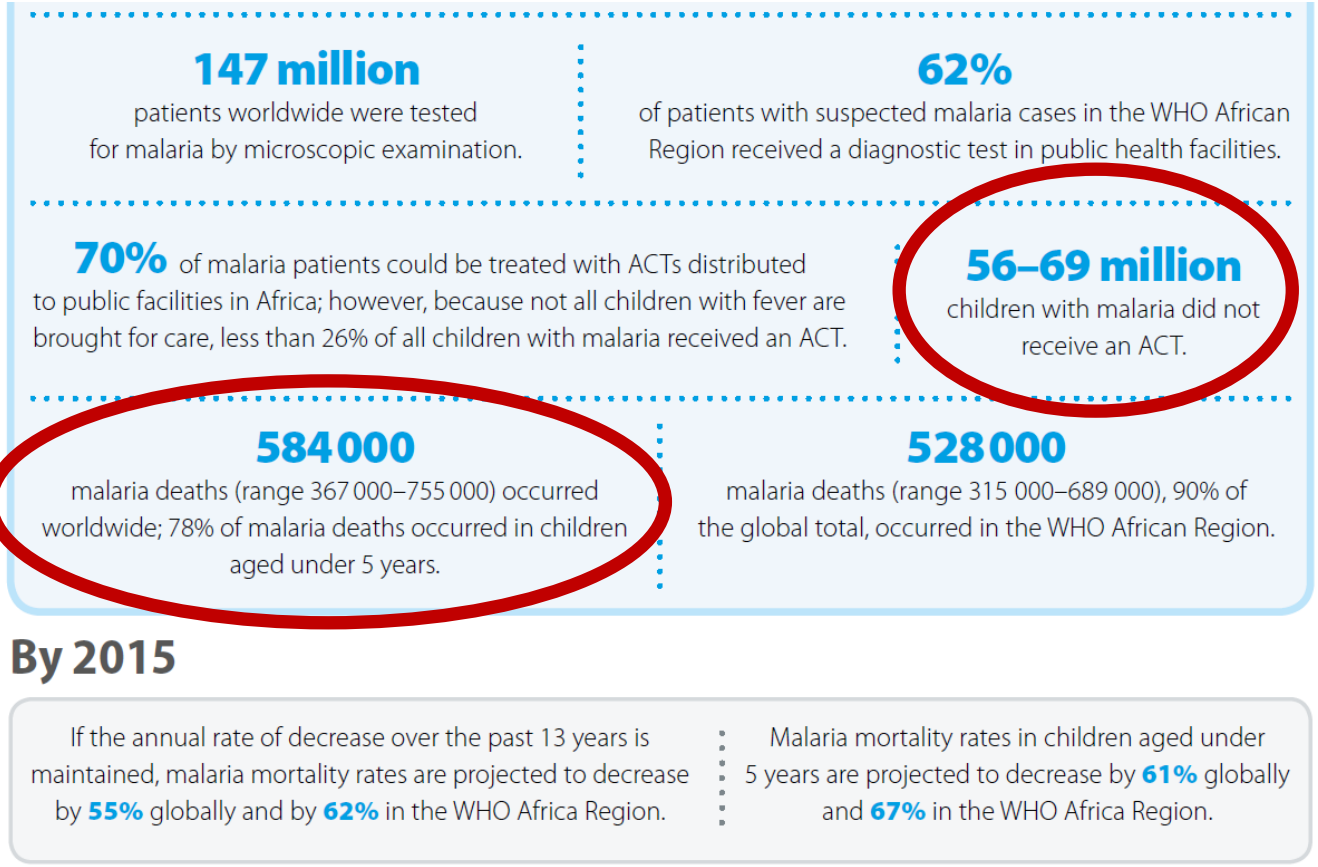
57%
of pregnant women received at least one dose of IPTp, and **17%** received three or more doses in the nine reporting countries.

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



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 6. Progress towards subnational elimination in the Philippines (January 2015)
- 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

WHO Evidence Review on MDA, MSAT and FSAT 20–22 April 2015

- 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

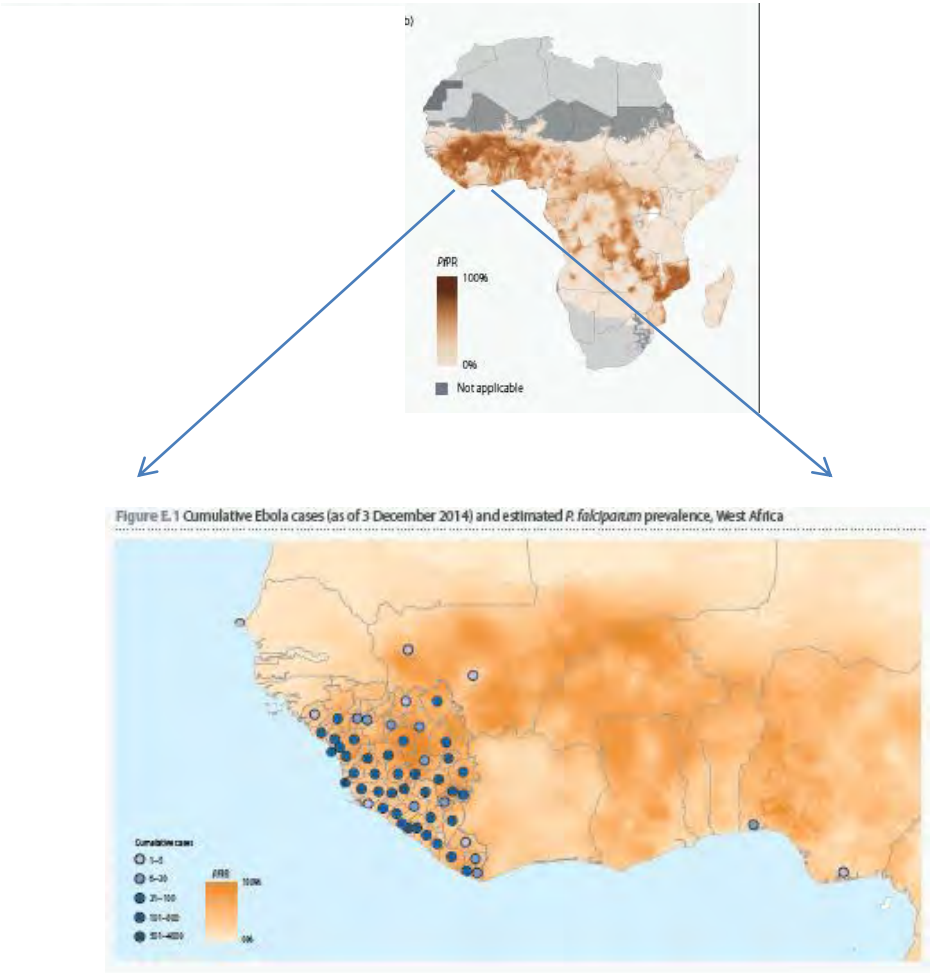
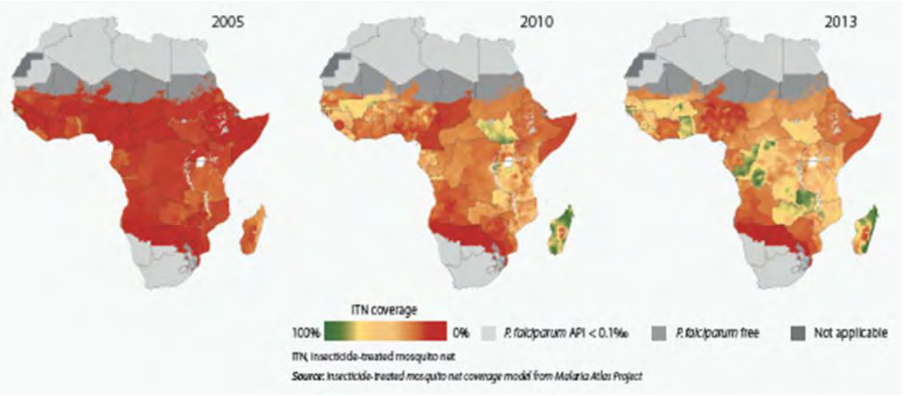


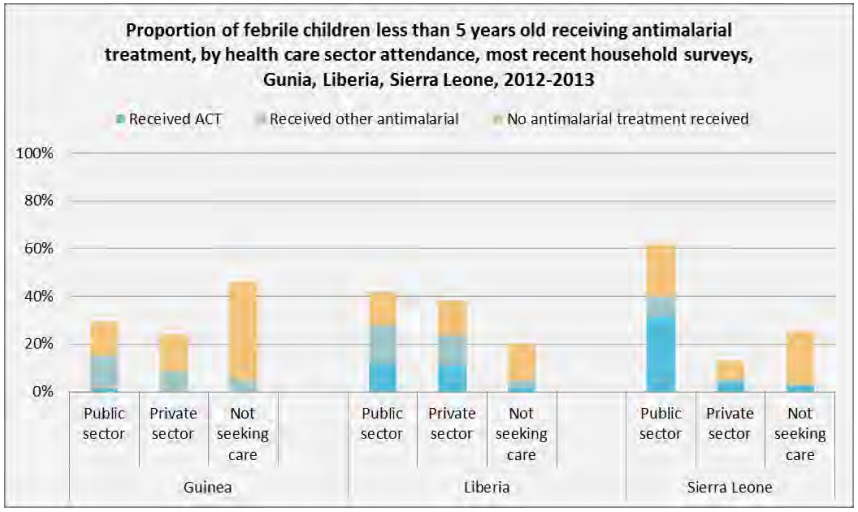
Figure E.1 Cumulative Ebola cases (as of 3 December 2014) and estimated *P. falciparum* prevalence, West Africa

- 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

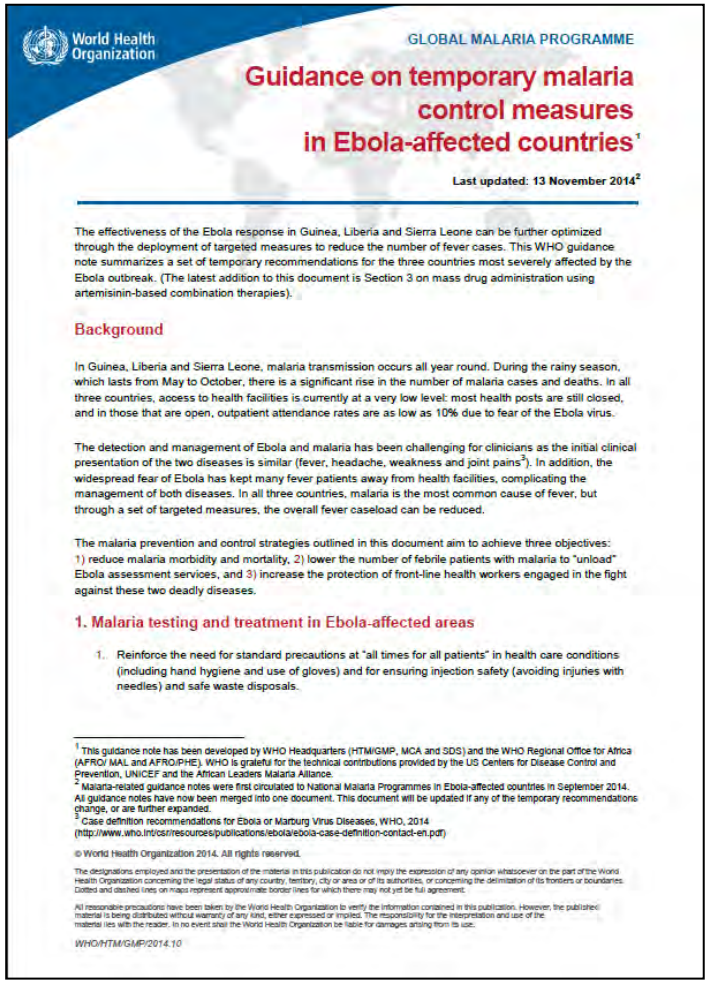
Countries affected by Ebola had moderate levels of malaria intervention coverage before the outbreak

- 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



World Health Organization

GLOBAL MALARIA PROGRAMME

Guidance on temporary malaria control measures in Ebola-affected countries[1]

Last updated: 13 November 2014[2]

The effectiveness of the Ebola response in Guinea, Liberia and Sierra Leone can be further optimized through the deployment of targeted measures to reduce the number of fever cases. This WHO guidance note summarizes a set of temporary recommendations for the three countries most severely affected by the Ebola outbreak. (The latest addition to this document is Section 3 on mass drug administration using artemisinin-based combination therapies).

Background

In Guinea, Liberia and Sierra Leone, malaria transmission occurs all year round. During the rainy season, which lasts from May to October, there is a significant rise in the number of malaria cases and deaths. In all three countries, access to health facilities is currently at a very low level: most health posts are still closed, and in those that are open, outpatient attendance rates are as low as 10% due to fear of the Ebola virus.

The detection and management of Ebola and malaria has been challenging for clinicians as the initial clinical presentation of the two diseases is similar (fever, headache, weakness and joint pains[3]). In addition, the widespread fear of Ebola has kept many fever patients away from health facilities, complicating the management of both diseases. In all three countries, malaria is the most common cause of fever, but through a set of targeted measures, the overall fever caseload can be reduced.

The malaria prevention and control strategies outlined in this document aim to achieve three objectives: 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.

1. Malaria testing and treatment in Ebola-affected areas

1. Reinforce the need for standard precautions at "all times for all patients" in health care conditions (including hand hygiene and use of gloves) and for ensuring injection safety (avoiding injuries with needles) and safe waste disposals.

[1] This guidance note has been developed by WHO Headquarters (HTM/GMP, MCA and SDS) and the WHO Regional Office for Africa (AFRO/ MAL and AFRO/PHE). WHO is grateful for the technical contributions provided by the US Centers for Disease Control and Prevention, UNICEF and the African Leaders Malaria Alliance.

[2] Malaria-related guidance notes were first circulated to National Malaria Programmes in Ebola-affected countries in September 2014. All guidance notes have now been merged into one document. This document will be updated if any of the temporary recommendations change, or are further expanded.

[3] Case definition recommendations for Ebola or Marburg Virus Diseases, WHO, 2014 (http://www.who.int/csr/resources/publications/ebola/ebola-case-definition-contact-en.pdf)

WHO/HTM/GMP/2014.10

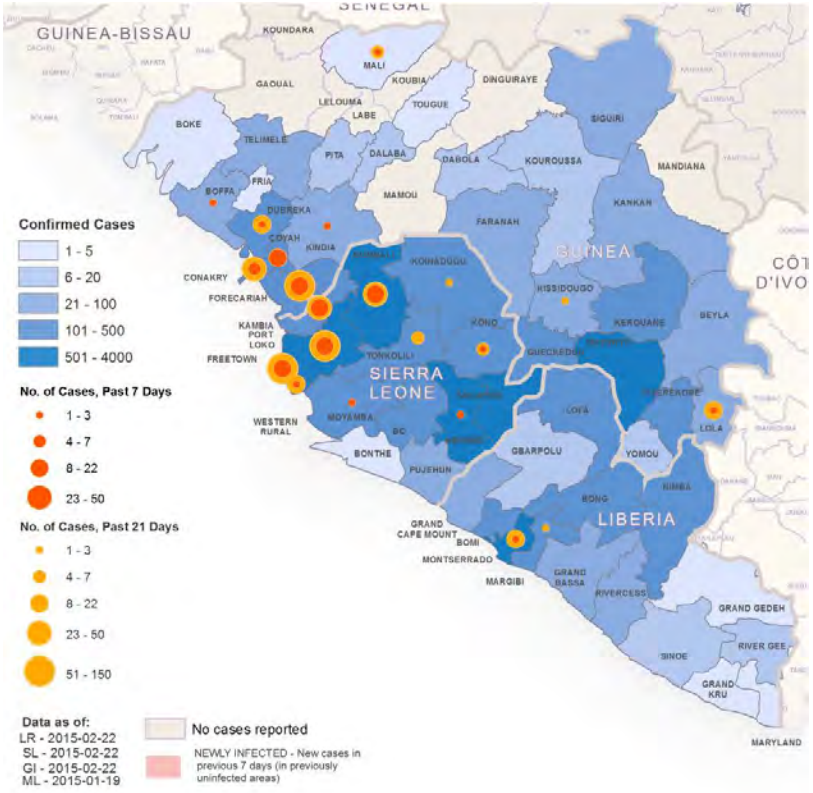
- Although difficult to quantify, access to malaria diagnostic and treatment services decreased during the outbreak, and, as a consequence, the malaria burden has increased.
- WHO provided specific guidance on interim malaria prevention and control strategies in countries affected by Ebola with the aim 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.

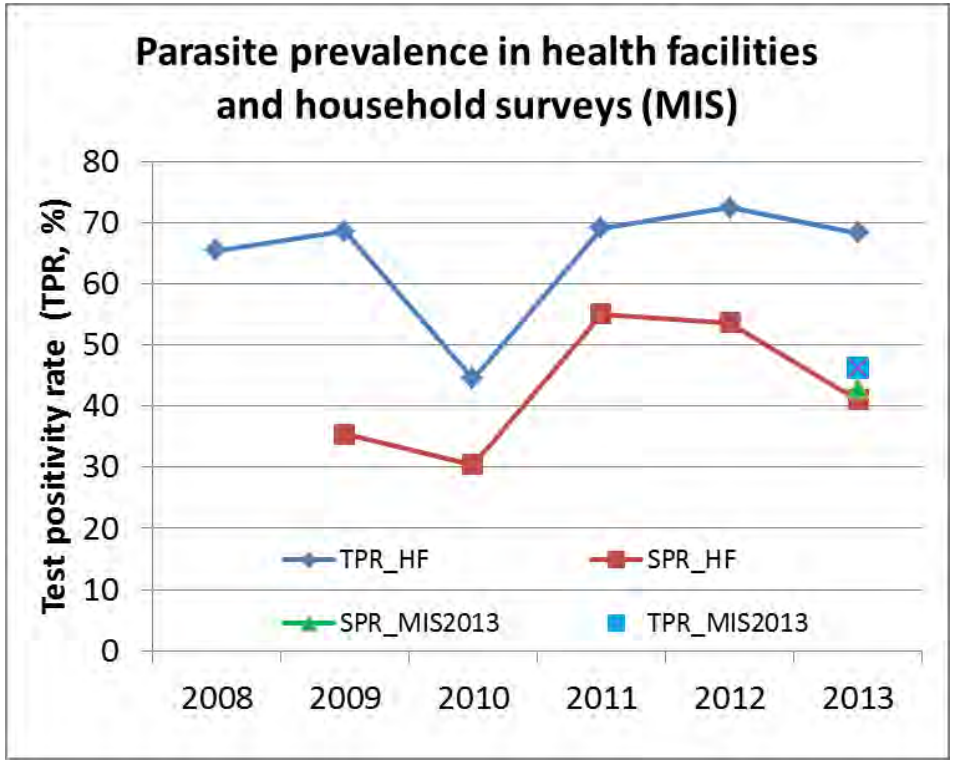
http://apps.who.int/iris/bitstream/10665/141493/1/WHO_HTM_GMP_2014.10_eng.pdf

Ebola response in Sierra Leone

- Population: 6.1 million
- Economy: Before Ebola :5.9%
  ➔ After: 2.2%
- Funding partner: Mainly Global Fund

- Child mortality: 257 (1990) ➔ 156 (2013 DHS)
- 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)

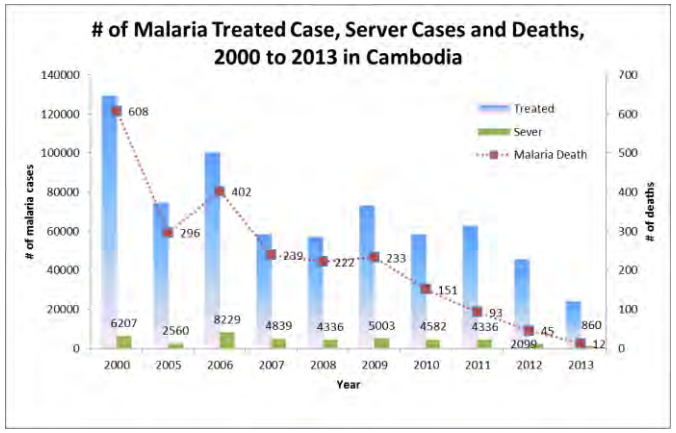
GMP/WHO: Post-Ebola support plans

GMP/WHO: One year plan for the 3 countries

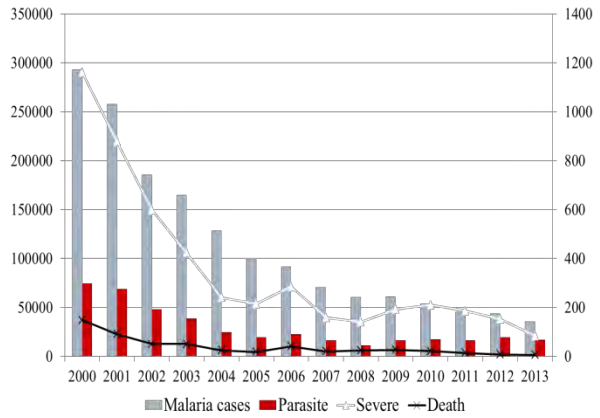
- Part of overall rehabilitation of the health systems
- Policy dialogue and updates (diagnosis, treatment, vector control, community level including iCCM; IPTi-SP)
- Support in fund raising and increase partner presence
- Strengthening of staffing at WHO country offices
- Training on case management 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

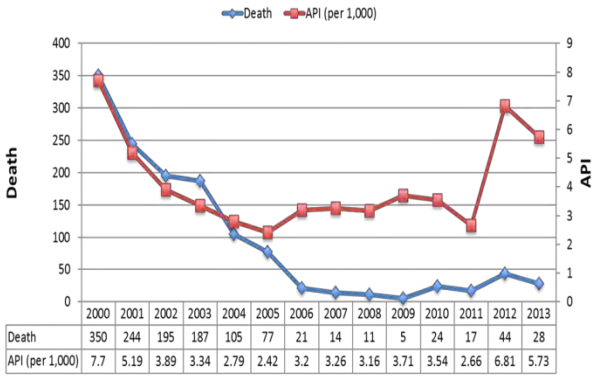
Cambodia



Vietnam

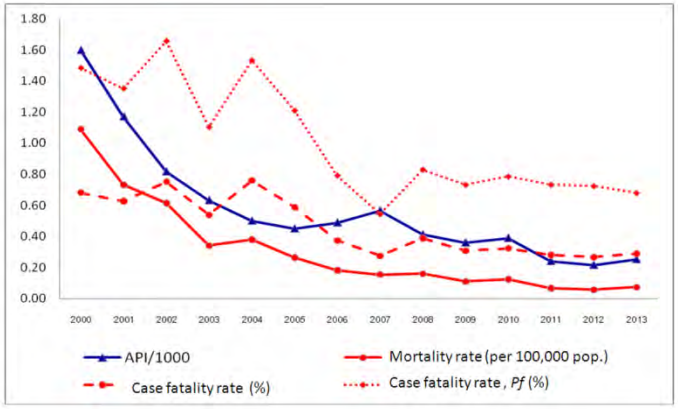


Lao PDR

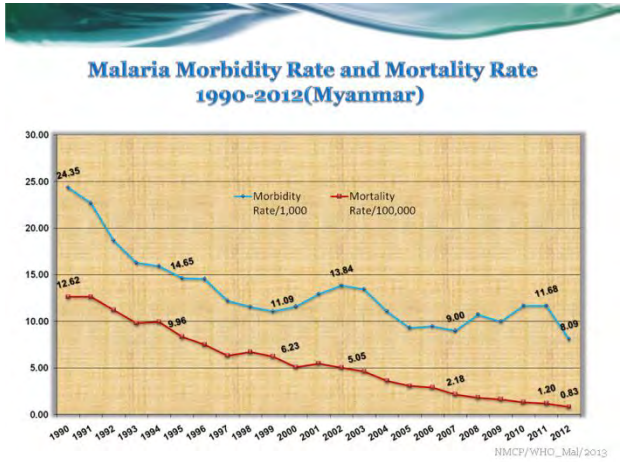


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Death	350	244	195	187	105	77	21	14	11	5	24	17	44	28
API (per 1,000)	7.7	5.19	3.89	3.34	2.79	2.42	3.2	3.26	3.16	3.71	3.54	2.66	6.81	5.73

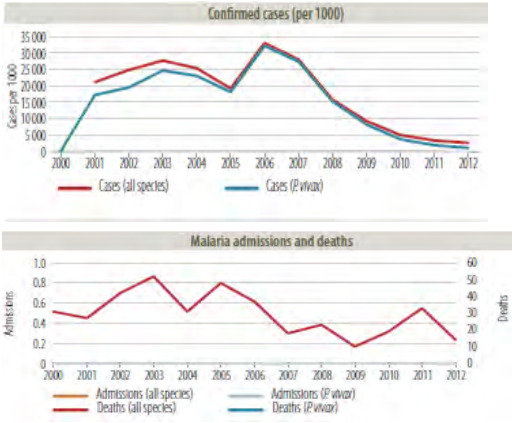
Thailand



Myanmar



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 Thailand

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

WHO China

- Technical officer, Pharmaceuticals

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 Myanmar

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

WHO Viet Nam

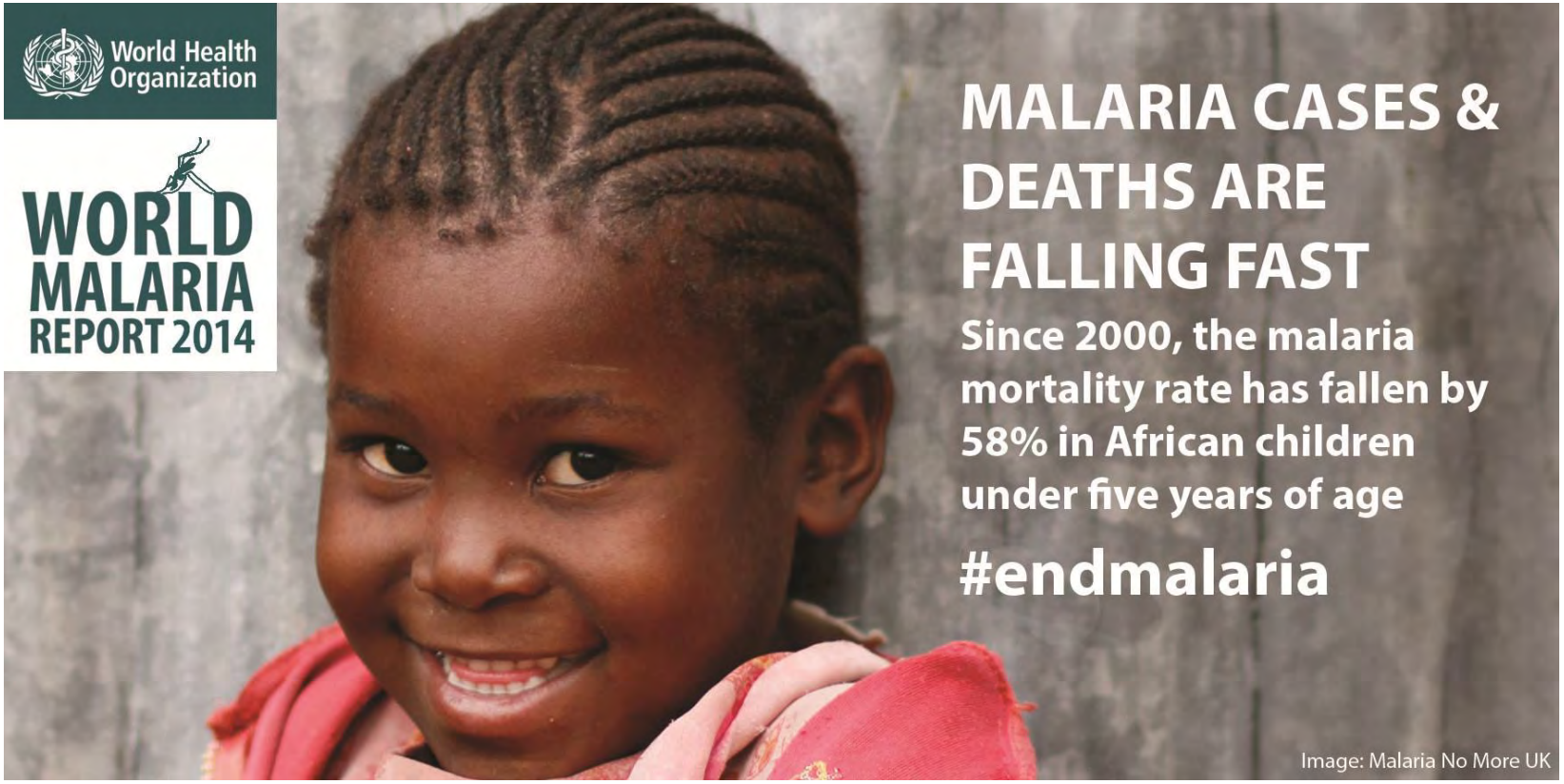
- Medical officer, malaria
- National Officer, Malaria
- National officer, Containment activities

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



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

"Towards a Malaria-Free World: A Global Case for Investment and Action 2016-2030"

Malaria Policy Advisory Committee, Geneva, Switzerland

March 5th 2015

Swiss TPH | Deloitte. Contracted by Roll Back Malaria

ROLL BACK MALARIA PARTNERSHIP

Update on document: process and review

1) The shared vision, goals, targets and milestones

2) The participatory consultative process

3) Document overview, priority issues

4) Next steps

Vision, goals, milestones and targets 2016 - 2030

Vision	A world free of malaria		
Goals	Milestones		Targets
	2020	2025	2030
1. Reduce malaria mortality rates globally compared with 2015	≥40%	≥75%	≥90%
2. Reduce malaria case incidence globally compared with 2015	≥40%	≥75%	≥90%
3. Eliminate malaria from countries in which malaria was transmitted in 2015	At least 10 countries	At least 20 countries	At least 35 countries
4. Prevent re-establishment of malaria in all countries that are malaria-free	Re-establishment prevented	Re-establishment prevented	Re-establishment prevented

The participatory consultative process

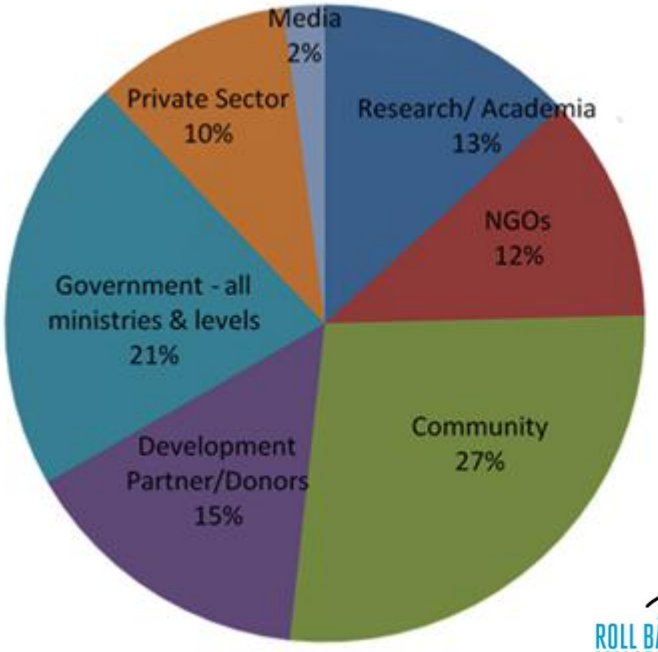
- 6 **Regional Consultations** **340 stakeholders**
- 12 **National Consultations** **800+ stakeholders**
- **Key informant interviews** **120+ stakeholders** participated
- **Social media engagement** , webpage, LinkedIn, twitter, ideas scale
- **Current online survey** already **50+ respondents** in first 2 weeks since release

Community consultation in India

The engagement visits took place in Guwahati and Nagaon District in Assam State.

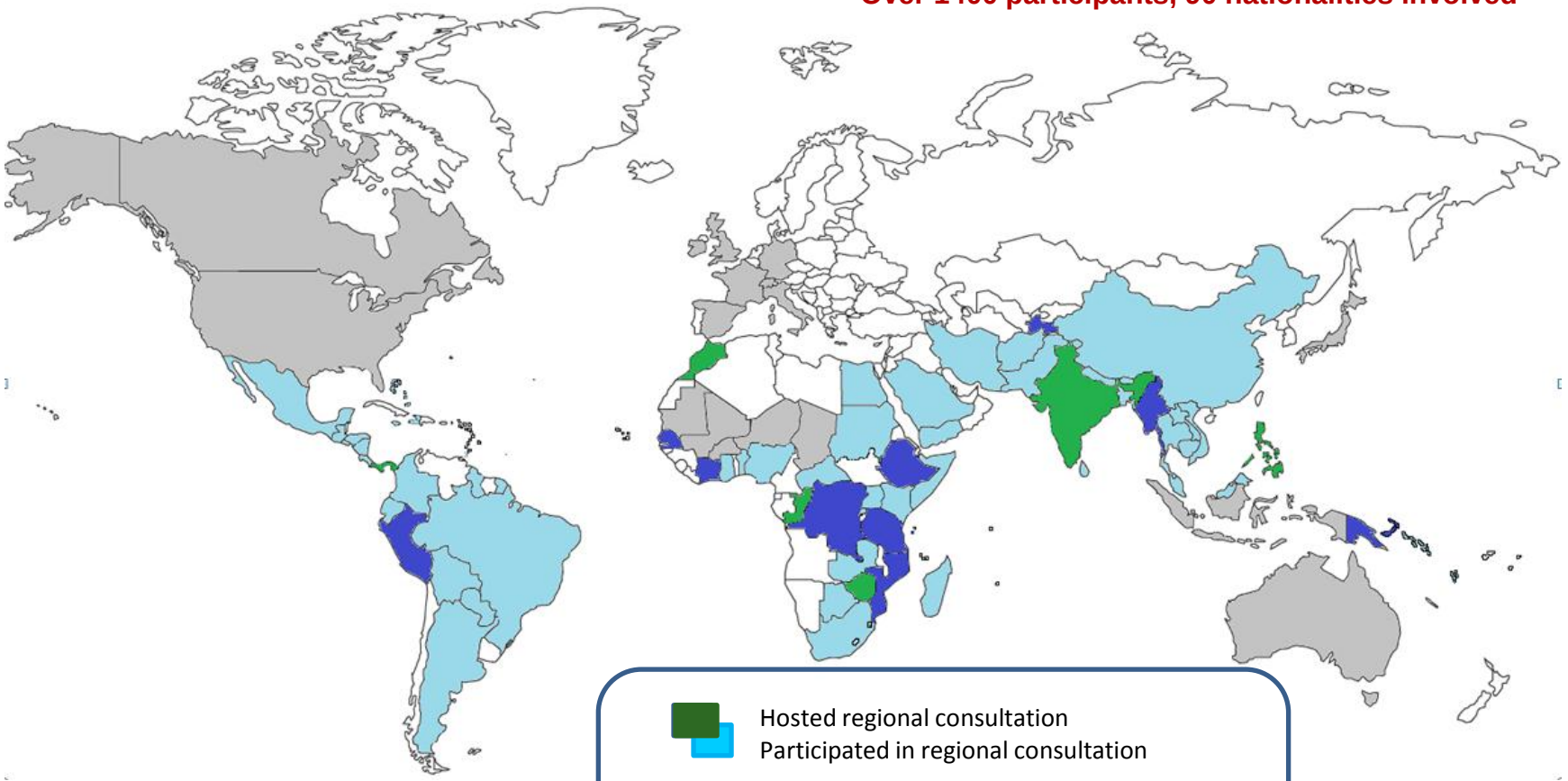
Community consultation in the Philippines

The engagement visits took place in Rizal and Palawa Provinces.



The participatory consultative process

Over 1400 participants, 90 nationalities involved



Swiss TPH | Deloitte.

ROLL BACK MALARIA PARTNERSHIP

Document overview, priority issues

Call to action

- Recognize **progress to date** while highlighting significant **work remaining**
- **Introduce the WHO technical strategy and this document and show how they fit together**– building on the original GMAP, but not the same (situation has changed since 2008), expand the call to the wider health sector, and other sectors

Advocate

- **Build the case for investment in malaria, demonstrating the returns for economies, households and health systems**

Align and position

- Position malaria in the broader development agenda post 2015 and show the importance of social, environmental and biological factors in malaria transmission/the global response.

Accelerate Progress

- Identify the **challenges** that are holding us back, and the **opportunities and efficiencies** that we can take advantage of. Make recommendations for action in priority areas.
- Provide a **reference point** for engaging all sectors, creating and strengthening partnerships, leveraging the key strengths of the different players, maximizing the resources we have available and strengthening accountability.

Towards a Malaria-Free World: A Global Case for Investment and Action

Current document outline

- **Call to Action**
- Introductory **Chapter 1**
- **Chapter 2** builds the **global case for investing** to achieve the 2030 malaria goals and shows the return on the investment
- **Chapter 3** positions malaria in the SDG agenda
- **Chapter 4** provides direction for **action in critical areas** for the achievement of the 2030 malaria goals. It makes use of case studies and examples from across the world regions and RBM constituencies.
- **Chapter 5** provides a limited number of indicators for monitoring progress in the critical areas of chapter 4.

Additionally, a short advocacy version is in development to target audiences such as Heads of State and other decision makers.

Document overview, priority issues

Priority actions needed to ensure progress towards 2030 malaria goals:

1. leveraging broader political & development agenda to work across sectors and borders
2. understanding the financial landscape and mobilizing resources
3. improving policies and the enabling environment
4. strengthening and integrating in health systems
5. engaging communities for a people-centered approach
6. strengthening the evidence to inform future progress
7. fostering and sharing innovation and solutions

Document overview, priority issues

Goal 1: Sustained investment in the social sectors, including health and malaria, unlocks the potential of human capital to generate growth. For a 10% reduction in malaria, there is a corresponding 0.3% rise in annual GDP. At household level, reducing malaria protects household income from lost earnings and the costs of seeking care.

Goal 2: Sustainable agricultural practices help reduce malaria. People who suffer less from malaria can work their fields more consistently, resulting in better harvests and improved food security. Well-nourished people, especially children are better able to fight malaria.

Goal 3: The scale up of malaria interventions averted at least 670 million bouts of malaria illness and 4.3 million malaria deaths between 2001 and 2013. Preventing malaria in pregnancy gives newborns a far healthier start in life. Lowering the burden of malaria makes a substantial contribution to improvements in child health, the often resulting decline in fertility rates, and the associated increase in the investment that parents can make in each of their children.

Goal 17: The many multisectoral partnerships in place to reduce and eliminate malaria have a positive collateral effect, and also bring progress to other domains of development.

Goal 4: Reducing malaria enables children to attend school regularly and learn more effectively. This significantly improves their school performance, and later wage-earning capacity. As a mother's/care-giver's level of education increases, so do the chances that their children will access malaria prevention and treatment services, and survive childhood.

Goals 10 and 16: A targeted response to malaria actively improves the health of the poorest, enabling vulnerable families to break the vicious cycle of disease and poverty, and helping to make sure that no-one is left behind. Investing in malaria reduction contributes to the creation of more cohesive, inclusive societies. Stable countries are more likely to attract international investment and ODA.

Goal 5: Freeing women and school-age girls from the burden of caring for family members when they fall sick with malaria increases their likelihood of completing school, entering and remaining in the workforce, and participating in public decision-making.

Goals 9, 11, 15: Ensuring major construction and development projects, including extractive practices like mining and logging, do not introduce or increase malaria allow the benefits of progress to be reaped, while also protecting human health and ecosystems. Safe and sustainable cities, with well-planned infrastructure and improved housing help reduce exposure to mosquitoes, and facilitate greater access to health and malaria services.

Goal 6: Improving water management and sanitation not only generate major health benefits and increase the sectors resilience to climate change, but also have the potential to prevent at least 500,000 malaria deaths per year.

Goals 8, 12: Reducing malaria creates healthier, more productive workforces which can help to attract trade and commerce. When combined with pro-poor policies, these are the drivers of job creation, inclusive growth and shared prosperity. Enterprises that invest in their workers reduce the costs of doing business, increase their competitiveness, and enhance their reputation.

Goals 7 and 13: Early warning systems for malaria can also track climatic interaction with other disease and the activities of other sectors. Solar panels introduced to power insecticide-free mosquito traps, also bring power to people's homes, resulting in wider benefits. Use of Intermittent Rice Irrigation not only reduces malaria, it also frees water for other uses, and reduces methane emissions.

Placing malaria in the SDG agenda

Next steps:

- **Public online review** English *17 February - 18 March,* Spanish and French *2-31 March*
- **Events to promote 'GMAP2' implementation:** SARN/EARN meeting *16-20 March* (23 countries); APMEN annual meeting *25-28 March* (18 countries)
- Integrate recommendations from **Taskforce on Architecture and Governance** (*March* retreat)
- Present document for **RBM Board approval** in *May 2015*
- Prepare for **joint GTS / 'GMAP2' launch**

Taskforce members

Name	Constituency/Organisation	GTS steering committee role
David Brandling-Bennett	Co-Chair (Gates)	GTS steering committee member
Bernard Nahlen	Co-Chair (PMI)	
Alastair Robb	Donor countries (DFID)	
Lisa Goldman	Private Sector (Sumitomo)	
Andre Tchouatieu	Private Sector (Sanofi)	
Rima Shretta	Research & Academia (UCSF)	
David Schellenberg	Research & Academia (LSHTM)	
Noel Chisaka	Multilateral DP (WB)	
Wichai Satimai	Endemic country (Thailand)	GTS steering committee member
Ana Carolina Santelli	Endemic country (Brazil)	GTS steering committee member
Sheila Rodovalho (alternate)	Endemic country (Brazil)	
Dharma Rao (alternate)	Endemic country (India)	
Anshu Prakash	Endemic country (India)	
Zulfiqar Bhutta	Endemic country (Pakistan)	GTS steering committee member
Corine Karema	Endemic country (Rwanda)	GTS steering committee member
Simon Kunene	Endemic country (Swaziland)	
James Whiting	Northern NGO (Malaria No More)	
Esther Tallah	Southern NGO (CCAM)	
Erin Shutes (alternate)	Ex Officio Member (GMP, WHO)	
Pedro Alonso	Ex Officio Member (GMP, WHO)	GTS Chair
Fatoumata Nafo-Traoré	Ex Officio Member (RBM)	GTS steering committee member

Thank you for your time and attention

Caritas-India

Centre Suisse de Recherches Scientifiques

Ifakara Health Institute

Philipinas Shell Foundation

Swiss TPH Kinshasa

Malaria Consortium + PMI

Myanmar Health & Development Consortium

Republican Trop.Disease Centre

MACEPA

Naval Medical Research Unit

Presidents Malaria Initiative (PMI)

PSI PNG/ MTWG

Swiss TPH | Deloitte.

ROLL BACK MALARIA PARTNERSHIP

Malaria Policy Advisory Committee Meeting
5–7 March 2015, Geneva, Switzerland
Background document for Session 2

Update on the WHO Global Malaria Programme strategy refresh

February 2015, Geneva, Switzerland

Introduction

The Global Technical Strategy for Malaria 2016–2030 will be formally considered for adoption during the World Health Assembly in May 2015, and the Global Malaria Programme (GMP) recently recruited a new Director. These two elements provide a unique opportunity to revisit GMP's role and clarify how GMP will relate to other critical partners and support Member States and their partners to achieve the milestones and targets of the technical strategy.

The GMP strategy review process started at the beginning of December 2014, with the help of a team from the Boston Consulting Group, and will last until the end of March 2015. Building on inputs and feedback from internal and external stakeholders, GMP is reviewing its past and current activities and structure at the three levels of WHO. The aim is to identify areas to increase capacity and articulate how GMP will support Member States and their partners, as outlined above.

The aim of this document is to update the Malaria Policy Advisory Committee (MPAC) on this review process and on the reasons that led GMP to undertake it. During the session on 5 March 2015, we will provide a quick overview of the preliminary results of this strategy refresh, and we look forward to participants' thoughts and feedback.

Background

The Global Technical Strategy for Malaria 2016–2030 provides a comprehensive framework for countries to develop tailored programmes for accelerating towards malaria elimination. The strategy emphasizes that progression towards malaria-free status does not consist of a set of independent stages. Rather, it is a continuous process requiring a structuring of programmes in line with subnational stratification by malaria risk, based on high-quality surveillance data. It underlines the need to ensure universal coverage of core malaria interventions, and proposes milestones and goals for 2020, 2025 and 2030. It also identifies areas where innovative solutions will be essential to achieve the goals, and outlines the global financial implications of implementing the strategy. The technical strategy was endorsed by the Executive Board of the World Health Assembly in January 2015, and is expected to be adopted by the World Health Assembly in May 2015.

The technical strategy articulated the role of the Secretariat along seven key activities:

- set, communicate and disseminate normative guidance, policy advice and implementation guidelines;

WHO/HTM/GMP/MPAC/2015.1

- provide guidance to Member States in reviewing, updating and implementing their national strategies;
- track progress and work with countries to improve surveillance and data management;
- monitor regional and global malaria trends;
- promote research and knowledge generation on key topics;
- assess and issue recommendations for products, tests, medicines and vaccines; and
- regularly update and review the technical strategy.

Issues for MPAC consideration: GMP strategy refresh process

Overall process: the approach for this review process follows three phases, each about one month in length.

1. Phase 1: Data analysis and engagement of internal stakeholders (5 December 2014 to 16 January 2015)

The first phase focused on gathering input and collecting data on GMP's current roles and responsibilities and on its structure. The objectives for the first phase were to:

- analyse current roles and responsibilities
- assess the efficiency of key processes and activities
- highlight interfaces with other entities both within and outside WHO
- identify potential capacity and skills gaps.

The information was largely collected through interviews with internal stakeholders and technical workshops devoted to specific topics. Interviews were conducted with the full WHO headquarters staff, as well as the six regional advisors and a number of country representatives from all six WHO regions. The discussion covered both strategic questions and structural, process-oriented topics.

Following the first phase of interviews, six technical topics were identified for more in-depth work: elimination, surveillance, *Plasmodium vivax*, technical support, capacity-building and implementation research. Specific workshops involving staff members from all units were held to gather data on current activities, identify potential gaps and discuss options for GMP's engagement.

The first phase was concluded in mid-January through a one-day staff retreat that included regional advisors, to review a summary of the interviews and workshops, and launch Phase 2 discussions on the potential priorities.

2. Phase 2: Opportunity assessment and structural requirements (19 January to 20 February 2015)

The second phase was focused on evaluating and prioritizing potential roles and responsibilities for GMP. It included an assessment of each activity's strategic importance, of the capacity of GMP to undertake the activities, and the structural implications of each option.

An interview process focused on external stakeholders was then undertaken, to gather key partners' input on the activities of WHO's Global Malaria Team. These interviews were focused on current activities and potential options for the future.

In addition to these external inputs, continued discussions were held with GMP staff to evaluate potential impacts and outline the necessary structural changes.

3. Phase 3: Recommendation development

The third and final phase, which is currently underway, will lead to a decision on the strategic adjustments to be made to GMP's positioning and structure. Key areas of focus will be defined, and interfaces with other WHO entities and partners will be outlined. From the strategy refresh, a new external communication strategy will be derived, and early priorities and main challenges for GMP will be identified. The department structure and available skills will also be adapted to reflect the strategic evolution.

Key deliverables for the GMP strategy refresh

The deliverables for the GMP strategic plan and organization are:

- a clear, concise strategy document describing GMP's activities, roles and responsibilities in relation to its partners, and high-level structural requirements for implementation;
- key priorities for the next 5 years;
- a new structure for the department; and
- a communication and engagement strategy for internal and external audiences.

Requested action by MPAC

For advice and feedback on the preliminary strategy refresh presented on 5 March 2015.

GLOBAL MALARIA PROGRAMME

World Health Organization

Global Malaria Programme strategy refresh

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

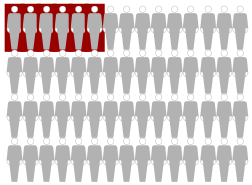
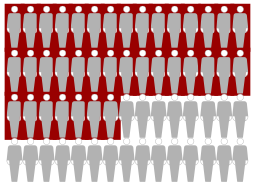
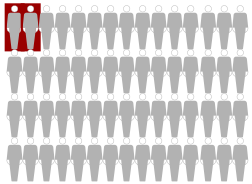
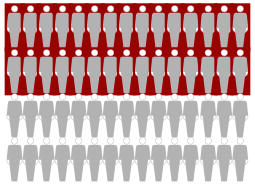
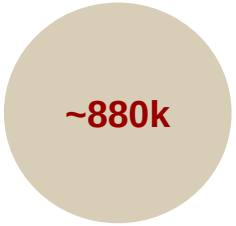
Agenda

Context

Strategic focus for WHO-GMP

Structure

Since 2000, substantial progresses achieved against Malaria

2000		2013
	**<10% Patients with suspected Malaria in WHO African Region received a Diagnosis test**	 **~60% Patients with suspected Malaria in WHO African Region received a Diagnosis test**
	**<3% of population at risk had access to ITN**	 **~50% of population at risk had access to ITN**
	**Number of Malaria cases**	 **Number of Malaria cases**
	**Number of Deaths**	 **Number of Deaths,** i.e. an estimated decline of mortality rates by ~**50%** globally

Source: World Malaria Report 2014

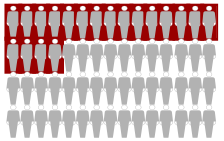
Yet, malaria continues to have a devastating impact on people's health and livelihoods around the world

Insufficient funding

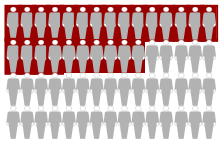
Required to achieve global targets for control and elimination

Available in 2013 through international and domestic funds

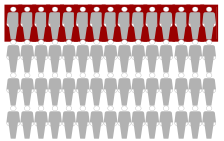
Far from universal coverage



~280 of the 840M people at risk in Sub-Saharan Africa lived in households without even a single **ITN**



15 of the 35M pregnant women did not receive a single dose of **IPTp**



Less than 26% children with malaria received an ACT, i.e. ~60 M children did not receive an ACT

Still high prevalence & mortality

~200 million cases occurred globally

- Of which, **~80%** in the WHO Africa Region,
- And **8%** globally due to *P. vivax*

~580 000 malaria deaths occurred worldwide

- Of which, **~80%** occurred in children aged under 5,
- And **90%** in the WHO Africa Region

Source: World Malaria Report 2014

In this context, the definition of the Global Technical Strategy represents a major step forward

The Global Technical Strategy for Malaria 2016 – 2030:

Sets the most ambitious goals for malaria since 1955

- Sets highly ambitious goals, with clear objectives to:
- reduce mortality & case incidence by ≥90% by 2030,
- and eliminate malaria from ≥ 35 countries by 2030
- Brings us 'as close as you can get to eradication' with available tools

+

And benefits from a strong legitimacy in the community

- Highly inclusive process, praised by several Member States
- Received unanimous support from Countries at the WHO EB during the week of Jan 26th
- Likely to be endorsed by the upcoming WHA this May

1. 1968: discontinuation of the Global Malaria Eradication programme

The Technical Strategy calls both for an acceleration of efforts, and a shift on strategic priorities

Ambitious goals calling for an acceleration of efforts

	2020	2025	2030
Reduce malaria mortality rates vs. 2015	**≥40%**	**≥75%**	**≥90%**
Reduce malaria case incidence vs. 2015	**≥40%**	**≥75%**	**≥90%**
Eliminate malaria from countries	**≥ 10** countries	**≥ 20** countries	**≥ 35** countries
Prevent re-establishment in all malaria-free countries	**Pre-vented**	**Pre-vented**	**Pre-vented**

Strategic framework increasing focus on elimination & surveillance

3 key pillars

1. **Ensure universal access** to malaria prevention, diagnosis and treatment
2. **Accelerate efforts towards elimination** and attainment of malaria-free status
3. **Transform malaria surveillance** into a core intervention

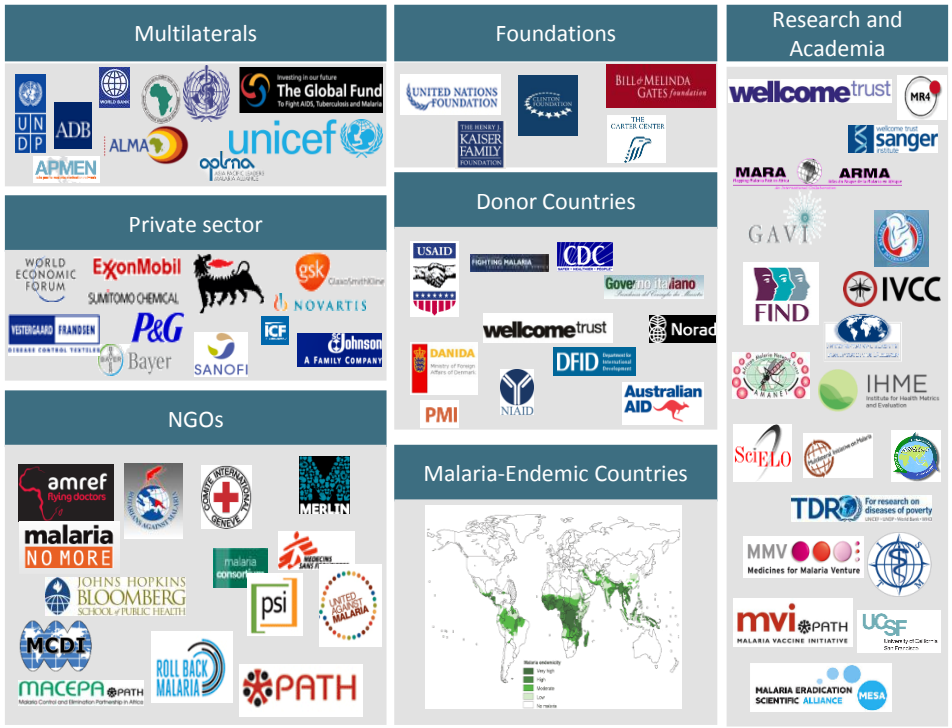
2 supporting elements

1. **Harnessing innovation and expanding research**
2. **Strengthening the enabling environment**

Need to adjust WHO - GMP positioning accordingly to best support the implementation of this Technical Strategy

Within a strong malaria community, WHO uniquely positioned to cover several key roles outlined in the Technical Strategy

WHO committed to work closely with a strong and diverse malaria community



And undertake the following activities to support Member States

- Set and disseminate normative guidance, policies & implementation guidelines, incorporating innovative tools & strategies
- Assess and pre-qualify vector control products, diagnostics and medicines
- Provide guidance and technical support to Member States to review, update & implement national strategies
- Support countries in strengthening their national malaria surveillance systems, and monitor global progresses
- Monitor regional and global malaria trends
- Promote research & knowledge generation on key topics
- Regularly update & review the technical strategy

Within WHO, GMP committed to coordinate efforts with other WHO departments, and with Regional & Country offices

Coordination with other WHO departments[1]

- GMP is WHO's disease-specific programme on malaria, building on expertise in all dimensions of malaria control and elimination
- GMP coordinates with other WHO departments on all issues related to malaria

+

Coordination with Regional and Country offices

- GMP can draw on the unique global footprint of WHO's Regional and Country Offices, present in all malaria-endemic countries
- GMP ensures an effective dissemination of malaria guidance across the three layers of the organization
- GMP helps coordinate and catalyze the effort of all WHO malaria staff to maximize impact

GMP well positioned to coordinate WHO efforts on malaria control & elimination

1. Includes: Family, Women's and Children's Health (FWC), Immunization, Vaccines and Biologicals (IVB), Maternal, Newborn, Child and Adolescent Health (MCA), Essential Medicines anb Health Products (EMP), Control of Neglected Tropical Diseases (NTD), Special Programmes for Research and Training in Tropical Diseases (TDR), Health System and innovation (HIS) with work on DHIS2

Agenda

Context

Strategic focus for WHO-GMP

Structure

A few guiding principles underpin the strategic positioning of WHO-GMP

- **Strategic positioning of WHO-GMP should reflect:**
  - WHO mandate,
  - The strategic priorities outlined in the Global Technical Strategy,
  - The needs from the malaria community, especially malaria-endemic countries

- **WHO-GMP should focus on the roles for which its unique position within the malaria community grants it a clear "comparative" advantage**

- **When executing, WHO-GMP should actively engage with the malaria community through structured, transparent and open collaboration**

Three key building blocks for GMP's strategy moving forward

1 Improve ways of working to increase effectiveness of our teams

Norms & Standards: Fine tune policy making process and improve packaging & dissemination of new policies

Progress tracking: Fine-tune the World Malaria Report to make it more transparent (methodologies used, etc), more inclusive (editorial committee), etc.

Technical support: In coordination with Regions & Countries **–** Increase effectiveness of existing staff through prioritization of efforts & reinforced planning

Capacity building: Pursue current activities (regional training), and develop a plan to progressively create a coalition of Partners regarding trainings

2 Maintain activities & resources on current areas of expertise

Diagnostics: ensure access to quality diagnostics & provide guidance on existing and new tools

Treatment: update and develop guidelines on preventive & therapeutic drugs and ensure access to good quality drugs

Drug resistance: monitor efficacy of all drugs, both treatment and prevention & provide advice on best drugs to use by indication

3 Strengthen resources to better cover critical technical fields

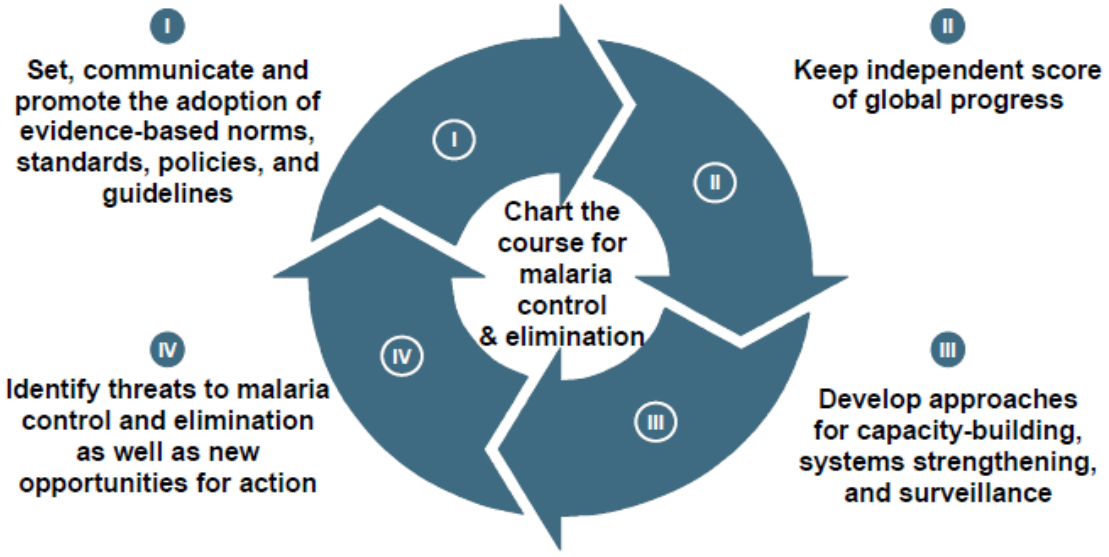
Elimination: Create a 'cross cutting' team to identify where countries stand along a continuum towards elimination, provide guidance and support to countries

Surveillance, Monitoring and evaluation: Reinforce surveillance activities to provide guidance to countries and support implementation on new surveillance systems

Vector control: Strengthen activities on current and new vector control tools & strategies, with a specific focus on insecticide resistance

GMP's "key roles" need to be adapted to comply with our new strategy

GMP's key roles (as previously defined)



Limits vs. our new vision

i. **Insufficiently driven by measurable goals**

ii. **GMP role in addressing key strategic questions not highlighted**

iii. **WHO role in technical support not sufficiently visible**

iv. **Light reference made to surveillance**

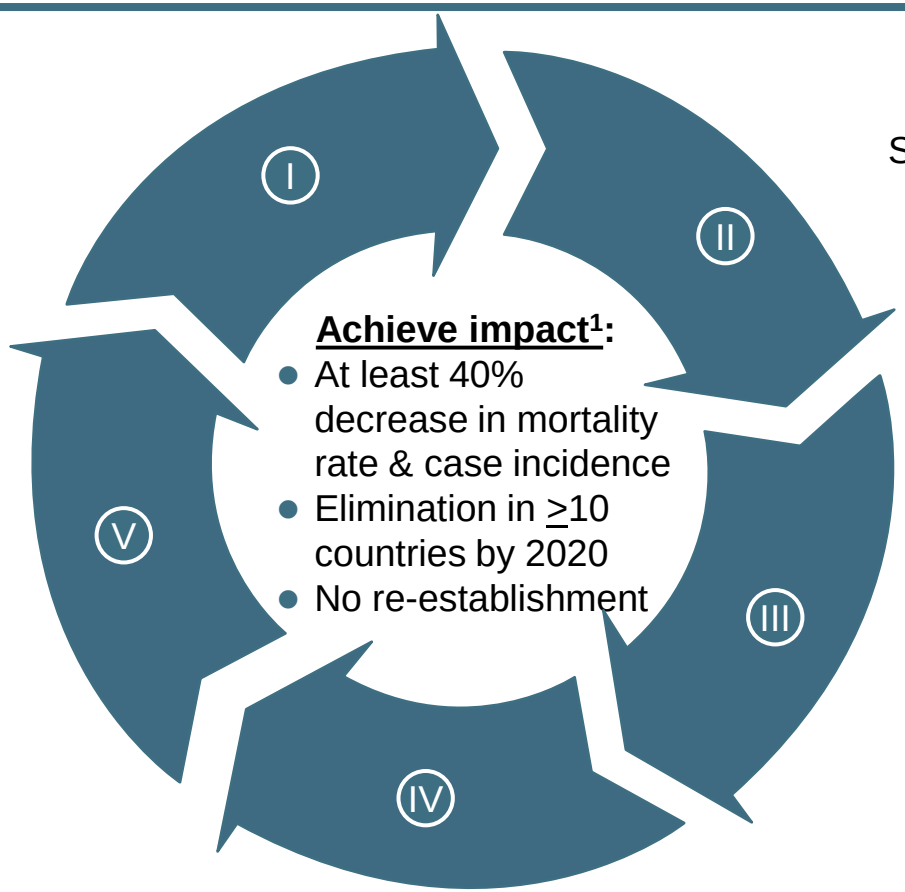
Proposed adjustments on the definition of GMP "core roles"

I

In collaboration with the malaria community, address key **strategic questions** related to malaria control and elimination

II

Set, communicate & disseminate **normative guidance**, policy advice and implementation guidance to support country action



III

Coordinate WHO **capacity building & technical support** to member states, jointly with Regions, ISTs and countries

IV

Enable countries to develop & implement robust **surveillance** systems to generate quality data and use that data to achieve greater impact

V

Keep an **independent score** of global progress in malaria control and elimination, including **drug & insecticide resistance**

1. Global Technical Strategy objectives for 2020

The new strategy, will allow GMP to well cover its mandate as outlined in the Global Technical Strategy

WHO core roles as outlined in the Global Technical Strategy	Perception of current positioning	GMP Strategy Refresh outcome
Support member states to achieve global, regional & national targets for malaria control and elimination, via the following actions:	✗ *On elimination, WHO recognized for certification & case studies, but not in providing up to date guidance*	**Fill gaps on elimination**
Set and disseminate normative guidance & policies, incl. innovative tools & strategies	~ *Credibility established with MPAC, but fine-tuning needed; some gaps especially in VC*	**Fill gaps in VC , & fine-tune policy making**
Assess and pre-qualify vector control products, diagnostics and medicines	✓ *WHO well recognized; targeted gaps in some areas*	↗ **Maintain & fill-in targeted gaps (e.g. Diagnostics, etc)**
Provide guidance and technical support to review, update & implement national strat.	✗ *Limited recognition at the global level of the extent of WHO's current role in technical support*	**Increase impact of existing resources in technical support**
Support countries in strengthening their national malaria surveillance systems	✗ *Some surveillance guidance available, but simple operational guidance and tools needed*	**Fill gaps in surveillance**
Monitor global progress, including regional and global malaria trends	✓ *World Malaria Report seen as a major piece of work*	↗ **Maintain & fine-tune**
Promote research & knowledge generation on key topics	✓ *Opportunistic activity but with good recognition*	→ **Maintain opportunistic approach**

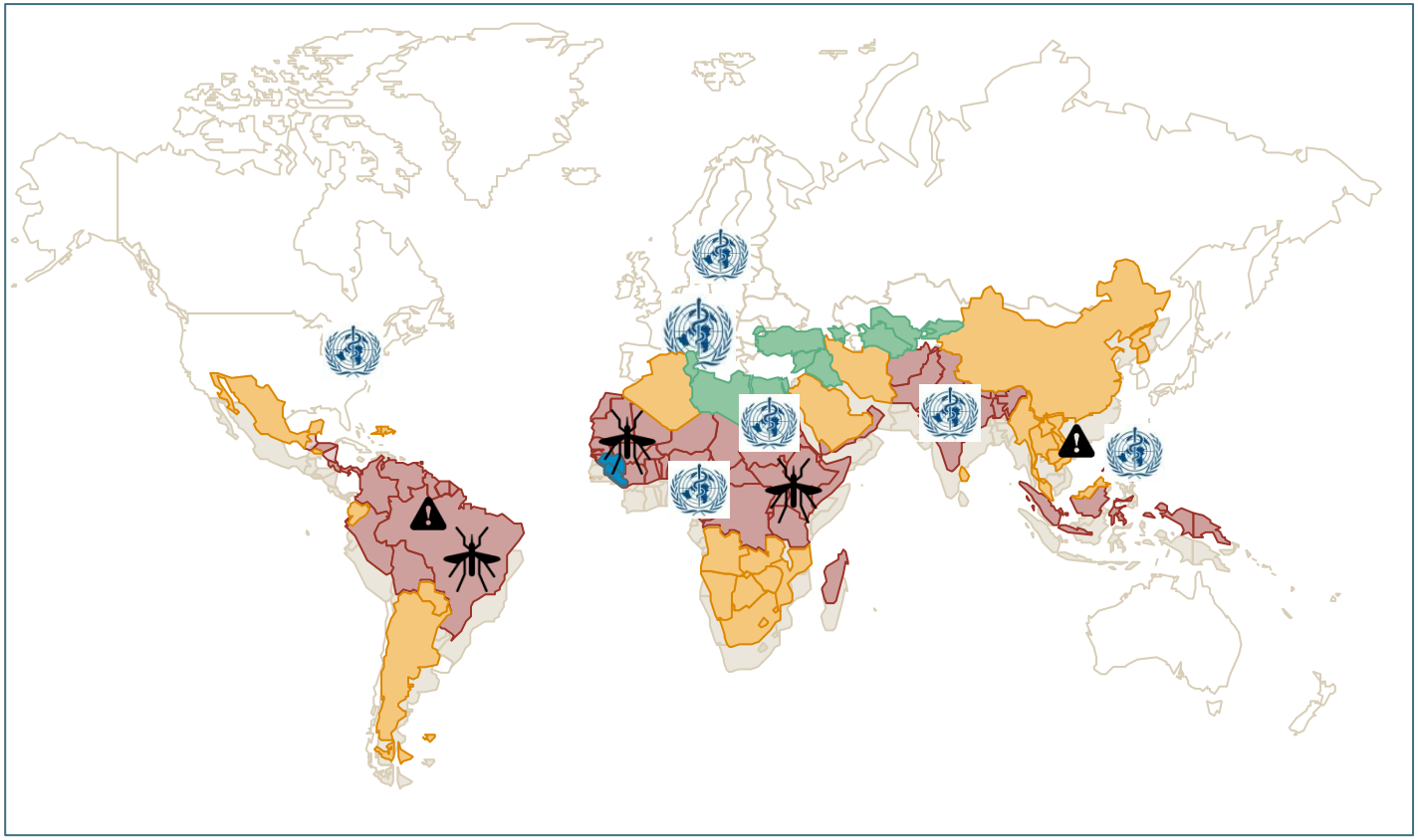
The new strategy will ensure GMP focus is truly global, covering all the malaria endemic countries

1. **Improve access to Malaria interventions to reduce mortality and cases by at least 40% by 2020, especially in high burden countries**
2. **Accelerate efforts to achieve elimination in at least 10 countries by 2020 and provide certification**
3. **Prevent re-establishment in all malaria-free countries**
4. **Provide specific support to the 3 Ebola affected countries (& other potential future emerging threats)**

⚠ **Monitor drug resistance and ensure that efficacious drugs are used for the right indications**

Monitor insecticide resistance and provide guidance on response

In close collaboration with Region & Country Offices, provide technical support and capacity-building to Member States



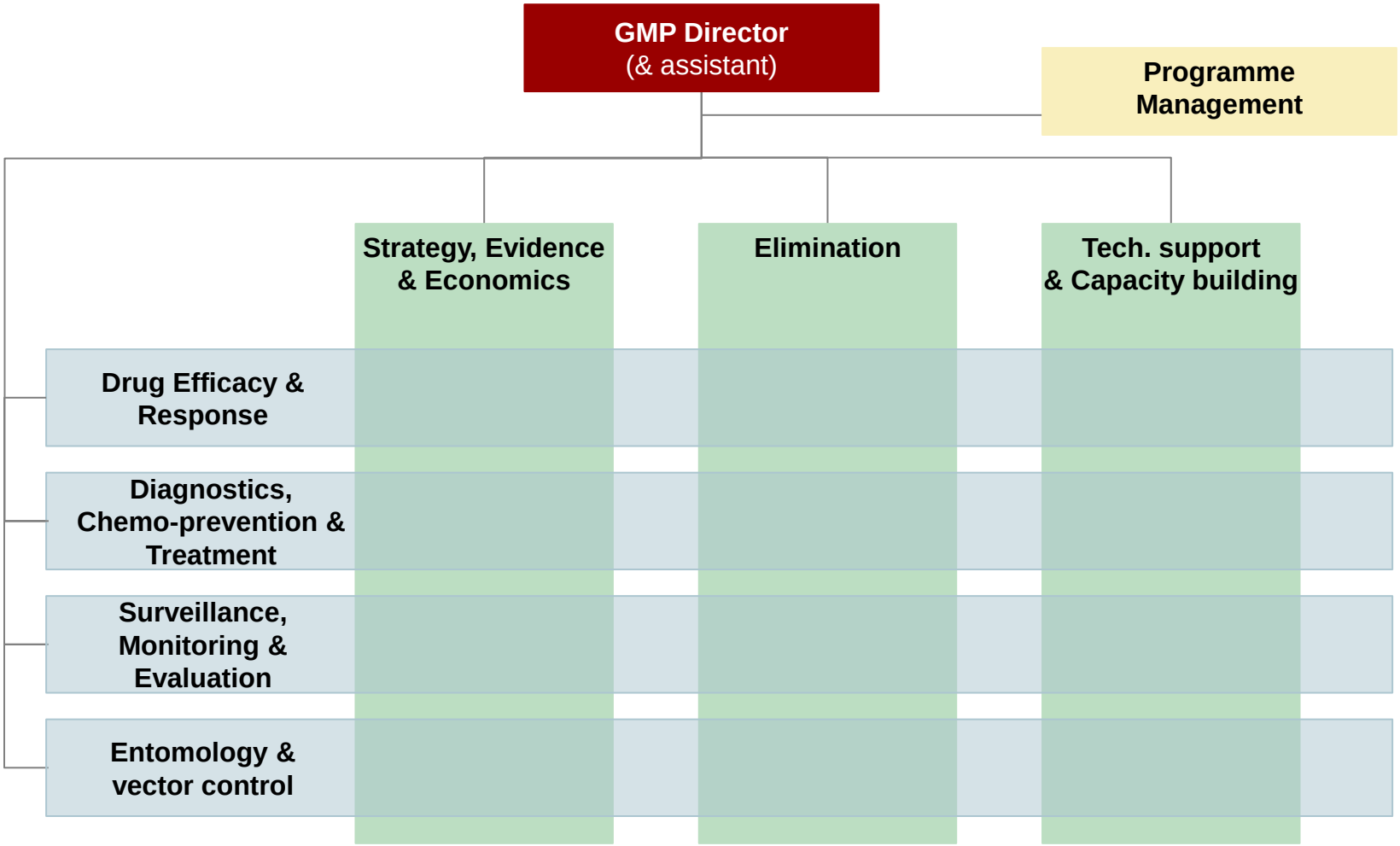
Agenda

Context

Strategic focus for WHO-GMP

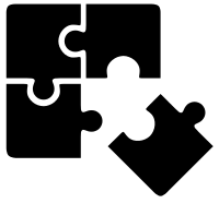
Structure

Target organizational structure



Reinforcement of SM&E and Vector control teams
Creation of 3 cross-unit teams to cover critical areas & enhance collaboration

Several key benefits expected from this new structure



Maintain current areas of expertise, but increase focus on critical fields insufficiently reflected in today's structure

Break the siloed-nature of the department and enhance collaboration & communication through cross-cutting teams

Ensure each Unit / team has clear goals, activities and deliverables for the years to come

Strategy, Evidence and Economics

Goals, activities and key deliverables

Goal

Keep an independent score of global progress in malaria control and elimination, and perform analyses to support key strategic decisions on malaria

Key activities

- **Collect data, perform & publish analyses on global progress in malaria control and elimination**
  - Incl. defining overall monitoring framework to track progress on the GTS
  - Incl. working on innovative ways to disseminate results
  - *In coordination with all technical units*
- **Perform additional analyses to address key strategic questions**
  - E.g. Eradication
  - E.g. Financing of the GTS
  - E.g. Regular review of interventions cost effectiveness
  - E.g. Sequential prioritization
  - E.g. Malaria workforce
- **Provide ad hoc support to units on data analyses / health economics needs**
  - E.g. Costing of new policies
  - E.g. Deep dive on coverage gaps
- **Provide ad hoc analyses to partners on selected topics,** e.g. resource allocation formulae, projecting impact of investments in malaria programmes
- **Provide methodological support to units on operational research**

Key deliverables

- **Overall monitoring framework to track progress of GTS implementation**
- **World Malaria Report**
- **Quarterly & monthly updates on key indicators**
- **Strategic recommendations based on analyses**
- **Ad-hoc analyses & surveys**
- **Methodological support on operational research**

Elimination

Goals, activities and key deliverables

Goal	Accelerate efforts towards elimination and attainment of malaria-free status in at least 10 countries by 2020, and prevent re-establishment in all malaria-free countries

Key activities

- **Define and clarify key stages in the continuum leading to elimination and identify where countries/districts stand**
- **Develop guidance on what strategy to apply depending on country progress towards elimination**
  - *In coordination with all technical units*
- **Document and share across Regions lessons learned, best practices and key achievements towards elimination**
- **Support selected countries close to elimination by helping them develop strategic plans to achieve elimination (e.g. GMS, Central America, E8)**
  - *In close coordination with Regional focal points*
- **Provide WHO certification to malaria-free countries**

Key deliverables

- **Clear definition of stages towards elimination**
- **Mapping of countries statuses**
- **Updated elimination manual**
- **Compendium of best practices**
- **Technical support provided to countries based on needs**
- **Certification provided to malaria free countries**

Technical Support & Capacity Building

Goals, activities and key deliverables

Goal

Ensure countries develop optimal plans based on their needs and available funds, and receive appropriate trainings to build capacities for implementation

Key activities

- **Gather intelligence on countries progress and gaps, working through WHO three layered structure (HQ, Regions, ISTs and Countries)**
- **Identify strategic priorities for country support where WHO HQ contribution is critical**
- **Identify macro-needs in resources and interact with key donors to mobilize resources**
- **Coordinate WHO support to help countries develop optimal plans based on needs and available funds**
  - *In close coordination with Regions, IST, countries and GMP technical units*
- **Provide special support to the 3 Ebola affected countries**
- **Develop training curriculae and perform regional trainings**
  - *In coordination with all technical units*
- **Progressively create a "coalition" of partners to develop and cascade good quality trainings**

Key deliverables

- **Mapping of progress and gaps by country (one-pager by country updated regularly)**
- **Annual technical support plan (co-developed with Regions & Countries)**
- **Technical support provided on selected identified priorities**
- **Up-to-date training toolkits**
- **Annual capacity-building plan (co-developed with Regions & Countries)**

Drug Efficacy & Response

Goals, activities and key deliverables

Goal

Ensure that the most efficacious drugs are used for the right indications, and that GMP is a step ahead in monitoring and responding to drug resistance

Key activities

- **Monitor efficacy of all anti-malarial drugs**
  - Incl. prevention and treatment (ACT, SP, partner drugs, IPTp, SMC, MDA, etc)
  - Therapeutic efficacy and molecular markers-based mappings
- **Review evidence and provide guidance on which drugs should be used in which situation to address drug resistance**
  - Incl. rotation, substitution, etc.
- **Monitor drug pipeline and contribute to dialogue on the best ways to bring the right drugs on the market**
  - Incl. Tafenoquine
- **Build capacities of countries on drug efficacy surveillance and provide them with support to monitor and implement best response to drug resistance**
  - *In coordination with GMP Technical support & Capacity building team, Regions, IST & Countries*
- **Support elimination effort in GMS region**
  - *In coordination with Elimination team*
- **Contribute to the WMR by monitoring drug efficacy**
  - *In coordination with Strategy, Evidence & Economics team*

Key deliverables

- **Up-to-date data bases & maps of all malaria drugs efficacy**
- **Updated guidance on response to drug resistance**
- **Technical support provided to countries to implement guidance**
- **Contribution to drug development pipeline**
- **Training performed at Regional level on drug resistance**
- **Technical support for the development of national strategic plans for elimination in GMS**

Diagnostics, Chemo-prevention & Treatment

Goals, activities and key deliverables

Goal

Improve access to good quality diagnostics and drugs for treatment and prevention, closing the gap to ensure universal coverage

Key activities

- **Review evidence and develop guidelines on all treatments & Diagnostics**
  - Incl. SMC, IPTp, IPTi, case management
- **Maintain quality control system for RDTs and prepare for new upcoming tools (e.g. NAAT & G6PD)**
- **Support countries in developing their own quality assurance systems for diagnostics and treatment and provide trainings**
  - *In coordination with Technical support & Capacity Building team*
- **Prepare response plan to drug safety concerns**
- **Coordinate WHO support to improve access to diag. & drugs for treatment & prevention in health systems (public, private sectors, communities)**
  - Including iCCM, SMC, IPTp, IPTi, Vx
  - *In coordination with GMP Technical support & Capacity building team, other WHO dpts (e.g. MCA, etc.), Regions, IST & Countries*
- **Contribute to developing elimination strategies on drugs & diag. (e.g. MDA)**
  - *In coordination with Elimination team*
- **Contribute to the WMR by tracking progresses on diagnostics & treatment**
  - *In coordination with Strategy, Evidence & Economics team*

Key deliverables

- **Updated guidance on all treatments & Diagnostics**
- **Consolidated "Malaria prevention & treatment guidelines handbook"**
- **Technical support provided to countries based to implement guidance**
- **Functional EQA scheme for RDTs, NAATs and G6PD (incl. decentralized systems)**
- **Training performed at Regional level on quality assurance**
- **Response plan to identified drug safety concerns**

Surveillance, Monitoring & Evaluation

Goals, activities and key deliverables

Goal

Ensure countries develop and use effective surveillance systems to improve impact of NMCPs

Key activities

- **Develop simple and actionable guidelines for countries to develop & use effective SM&E systems**
- **Support countries in implementing guidance to build & use SM&E systems, focusing first on countries already using DHIS2 or about to switch systems**
  - *In coordination with WHO Department working on Health Systems, GMP Technical support & Capacity building team, Regions, IST & Countries*
- **Develop and run a training course on Surveillance, Monitoring & Evaluation**
  - *In coordination with Technical Support and Capacity Building team*
- **Help countries in transitioning surveillance systems as they move towards elimination**
  - *In coordination with Elimination team*
- **Contribute to the WMR by ensuring countries generate quality data**
  - *In coordination with Strategy, Evidence & Economics team*

Key deliverables

- **Up to date field-level guidance handbook on SM&E implementation**
- **Technical support provided to targeted countries**
- **Training performed at selected country level**

Entomology & Vector Control

Goals, activities and key deliverables

Goal

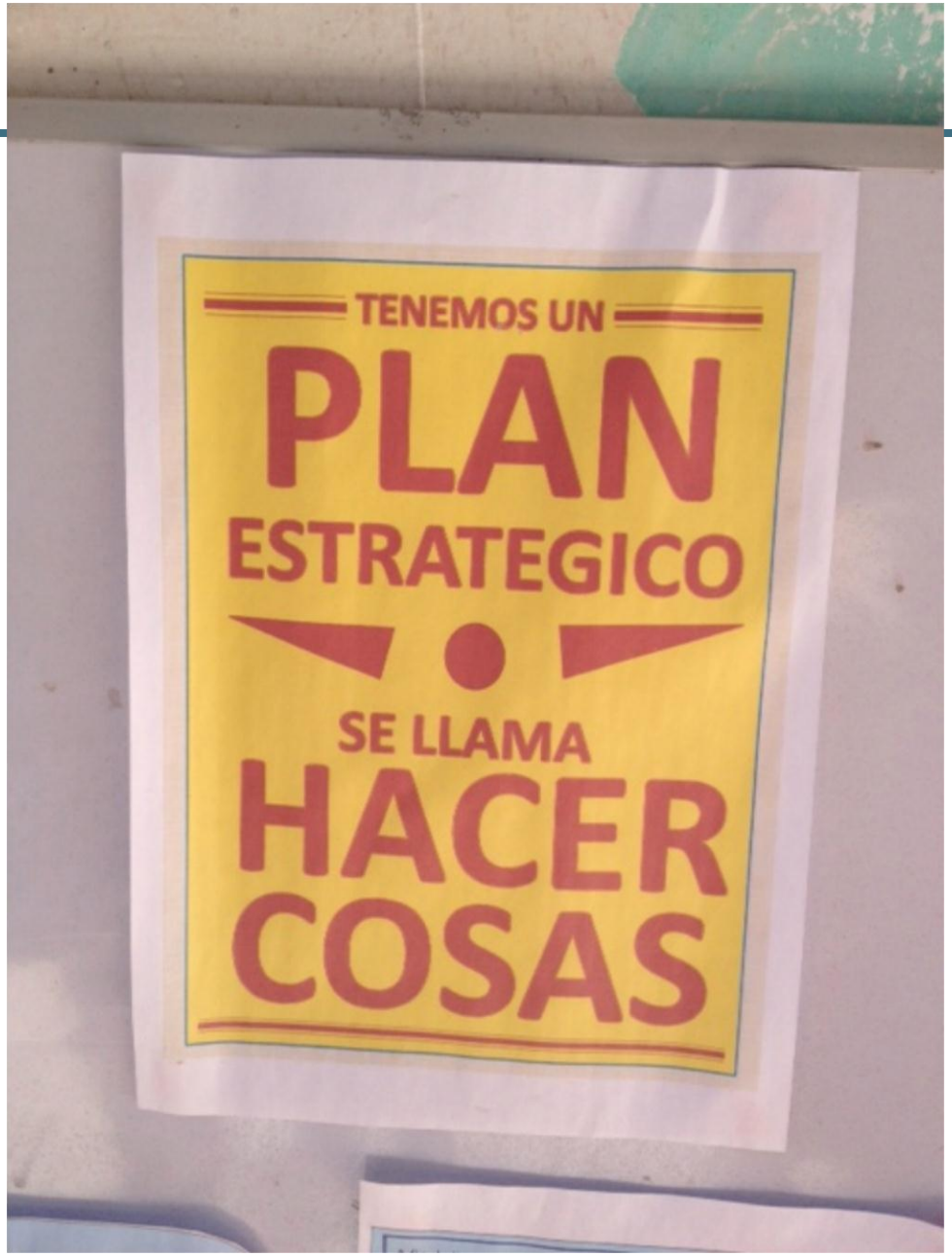
Ensure access of at risk populations to appropriate and effective vector control, and address key challenges of insecticide resistance and residual transmission

Key activities

- **Monitor development and spread of insecticide resistance & efficacy of vector control tools**
- **Establish a system for entomological surveillance including the extent and contribution of residual transmission**
- **Review evidence & develop guidance on the use VC depending on the situation**
- **Support development of new tools to address key challenges (incl. insecticide resistance and residual transmission)**
  - Assess public health value of new tools and paradigms
  - Develop specifications for safety & quality control in collab. with WHOPES
- **Identify bottlenecks in coverage and coordinate WHO response, in particular to ensure availability and affordability of tools**
  - *In coordination with GMP Technical support & Capacity building team, Regions, IST & Countries*
- **Contribute to developing elimination strategies**, (e.g. stratification for targeting core & supplementary vector control tools as transmission declines)
  - *In coordination with Elimination team*
- **Contribute to the WMR by tracking progresses on vector control**
  - *In coordination with Strategy, Evidence & Economics team*

Key deliverables

- **Global insecticide resistance database & up to date maps**
- **Residual transmission database & maps**
- **Updated guidance on vector control**
- **Contribution to overall "Malaria prevention & treatment guidelines handbook"**
- **Technical support provided to countries to implement guidance**
- **Guidance & specifications for new tools**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Malaria Policy Advisory Committee Meeting
5–7 March 2015, Geneva, Switzerland
Background document for Session 2

World Health Organization

Update on policy-setting by the WHO Global Malaria Programme

February 2015, Geneva, Switzerland

Introduction

The policy-setting process at the Global Malaria Programme (GMP) was transformed in 2011 with the creation of the Malaria Policy Advisory Committee (MPAC), the establishment of standing technical expert groups (TEGs) and the decision to regularly convene evidence review groups (ERGs) to review evidence and provide advice on specific technical topics. These changes have enabled WHO to strengthen the transparency and credibility of its evidence review and policy-setting process. The new process has been praised by both internal and external stakeholders as a key element of GMP's contribution to the malaria community.

Now that MPAC has met six times, this is a good opportunity to review how GMP might optimize this valued and important framework to:

- clarify the overall architecture of policy-setting
- better leverage TEGs, ERGs and MPAC
- improve communication and dissemination of new WHO policies and guidance.

These three topics are the focus of this pre-read, which provides elements of background on the policy-setting process, and an overview of the proposed adjustments.

Background

A review of GMP's policy-setting process was needed because the impressive global progress on malaria between 2004 and 2011, coupled with major investments in malaria research, required WHO to rapidly review increasing amounts of evidence, and update technical recommendations and guidance. The creation of MPAC, the establishment of TEGs and the decision to call specialized ERGs have been a great success. Today, MPAC meetings are perceived both by internal and external stakeholders as highly relevant to the needs of the malaria community.

However, in the spirit of continuous improvement and in the rapidly evolving context – including the expected endorsement of the Global Technical Strategy for Malaria 2016–2030 in May 2015 and agenda for acceleration towards elimination – we have identified some areas that could be better clarified or streamlined for efficiency. The key points to review are related to structural issues and the clarification of roles and responsibilities among the different parties.

One opportunity to increase efficiency relates to the overall architecture of the framework. As it is currently set up, the framework organigram suggests that the MPAC leads and manages all collaboration with TEGs and ERGs. In practice, although all TEG and ERG reports have recently been submitted to MPAC, it is actually the GMP technical staff that put together the meeting agendas, manage the documents and evidence for review, and prepare the reports.

WHO/HTM/GMP/MPAC/2015.2

Another area that could benefit from review is the management of the MPAC agenda. Often, the agendas have been quite dense, and have covered a wide range of topics on which guidance is needed, in a context where the tools and implementation strategies are evolving rapidly. The MPAC was often asked to act as a "validator" even on issues that were straightforward, and on which was there was little debate. This "overbooking" can be linked partly to a tendency to systematically elevate issues to MPAC level, even when no actual advice is needed, following advice from a TEG.

The third area for improvement is the communication of policy recommendations and guidance documents that come out of the MPAC process. GMP produces many norms and standards, and guidance dissemination could be improved through the development of clear, actionable policy briefings to guide implementation at region and country level.

Finally, GMP plans to reduce the amount of time between an MPAC meeting and the publication of the meeting report in the *Malaria Journal*, and develop a more reader-friendly, concise format for the report.

Issues for MPAC consideration: proposed adjustments to the policy-setting process

Further streamline the policy-setting process

To streamline the process and ensure that the best use is made of MPAC in its advisory capacity, GMP will strengthen its involvement in the TEG and ERG process, follow up on the technical advice put forward by these groups, and only present selected issues of strategic importance to the MPAC. GMP will continue to manage the convening of all TEGs and ERGs, will carefully articulate technical questions to drive the discussion and outputs of TEGs and ERGs, ensure continuity and follow-up between MPAC meetings, and keep the MPAC informed of developments.

Clarify principles regarding composition of MPAC, TEGs and ERGs

Appropriate member selection and carefully drafted principles of participation are key to ensuring the credibility and transparency of evidence review and policy advice process. As such, we have clarified the following points regarding the composition of MPAC, TEGs and ERGs:

- members of TEGs and MPAC should be diverse and represent different geographies, genders and expertise;
- need to ensure the right expertise is brought to the table: programmatic experience is required on all TEGs;
- a maximum of two MPAC members can participate on any TEG, and a maximum of one MPAC member on any ERG;
- the standard observer rules for TEGs and ERGs that have been developed by GMP will be observed consistently across all committees;
- observers are welcome at MPAC and will be managed by the chair to maintain inclusivity and transparency; and
- there will be a standard induction for new members of MPAC and TEGs, so that they understand their responsibilities and what is expected of them, including that they not speak to the media about evidence reviews.

GMP will conduct a review of the current TEGs membership list to identify potential adjustments or additional capacity, to ensure diversity of gender, geography and expertise.

Reposition MPAC as an advisor on key topics only

MPAC's agenda needs to be simplified so that it can focus on its role as the highest-level technical advisory body to WHO on malaria. It should not be asked to validate all guidance, but instead should focus on the key technical questions on which GMP needs strategic advice. Concretely, the agenda will be determined from a running list of priority topics kept and reviewed on a monthly basis by GMP, and all MPAC agenda items will be clearly marked as "for information", "for advice" or "for decision". In general, the reports and recommendations from TEGs and ERGs should be for information, unless they have significant impact, are controversial or are thought by GMP to require MPAC advice.

Better communicate WHO policy recommendations and guidance

GMP will undertake to standardize and improve the materials and dissemination of policy recommendations, policy briefs and other guidance to inform national programmes and other stakeholders of the malaria community. This overall effort will include reviewing the packaging of recommendations and guidance to facilitate uptake by countries, and it is envisioned that this will culminate in the consolidation of a "global handbook" on malaria programme guidance. The vision of the handbook is to propose a single compendium of malaria-related recommendations, in a user-friendly format that will enable countries and other stakeholders to have rapid access to a comprehensive overview of the WHO guidance on malaria.

As far as the outputs of MPAC are concerned, some slight improvements can also be implemented to improve dissemination of guidance or advice, such as:

- all guidance and policy recommendations should be translated into French, Spanish and Arabic;
- the length and format of the *Malaria Journal* articles, which will be submitted one month after each MPAC meeting, will be streamlined for a more concise summary of the meeting discussion and outcomes (impact to be evaluated in early 2016); and
- GMP will publish a brief post-meeting report on the Internet in the week after each meeting. This summary may be published before absolute consensus, noting areas where discussion is ongoing.

Requested action by MPAC

For advice.

GLOBAL MALARIA PROGRAMME

World Health Organization

Update on policy-setting by the WHO Global Malaria Programme

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

Why fine-tuning the policy-setting process now?

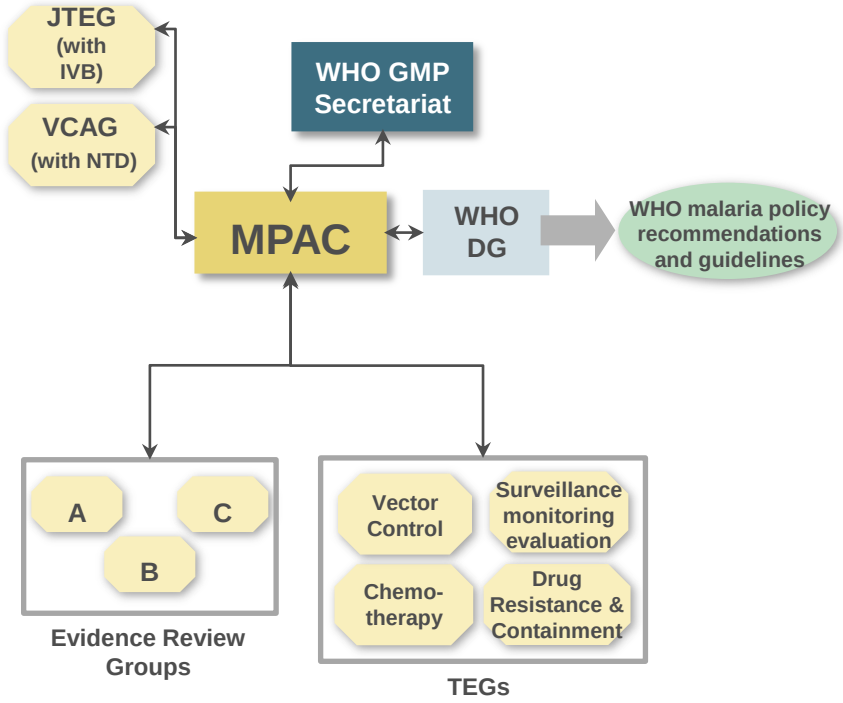
- **Policy-setting process at GMP transformed in 2011**
  - Creation of the MPAC
  - Establishment of standing TEGs
  - Decision to regularly convene ERGs

- **New process praised by both internal and external stakeholders**
  - Enabled WHO to strengthen the transparency and credibility of its policy-setting

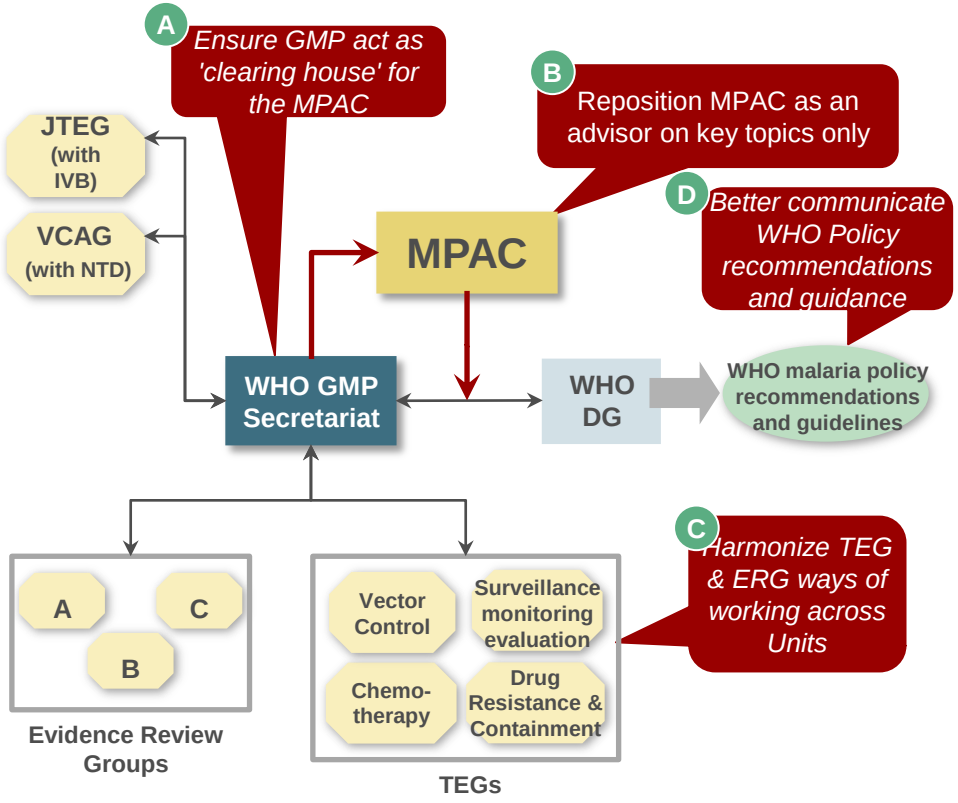
- **After six MPAC meetings, now is the good time to fine-tune the process, in order to:**
  - Further clarify roles and responsibilities among the different parties,
  - Better leverage TEGs, ERGs and MPAC, and avoid “overbooking” of their agendas,
  - Improve process efficiency in a rapidly evolving context (agenda for acceleration towards elimination, etc.),
  - Improve communication and dissemination of new WHO policies and guidance.

Proposed adjustments to further improve GMP policy-setting

From MPAC acting as a validating body for all policies...



...to MPAC repositioned as an advisor on most critical topics



A

Ensure GMP act as 'clearing house' for the MPAC

Current situation

Current organigram suggests MPAC leads all collaboration with TEGs / ERGs

In practice, GMP staff already manages the convening of all TEGs / ERGs

- Defines meeting agendas
- Manages documents
- Prepares reports

Yet, all TEG / ERG reports currently submitted to MPAC

Proposed adjustments

Strengthen GMP involvement in TEG and ERG process

- Continue to manage the convening of all TEGs and ERGs
- Follow up on the technical advice put forward
- Present only selected issues of strategic importance to MPAC
- Keep MPAC informed of developments

Objective to ensure the best use is made of MPAC in its advisory capacity

B

Reposition MPAC as an advisor on key topics only

Current situation

MPAC often asked to act as a "validator" on all policy related topics

- Even on straightforward issues with little debate
- Even when advice from a TEG could be sufficient

MPAC agendas "overbooked" by a wide range of topics, offering limited time to address most strategic questions

Proposed adjustments

Focus MPAC on its role as highest-level technical advisory body to WHO malaria

- Don't ask to validate all guidance
- Focus on key technical questions on which GMP needs strategic advice

Simplify MPAC agenda, and better clarify what is expected from MPAC

- Mark all MPAC agenda items as "for information", "for advice" or "for decision"

Harmonize TEGs and ERGs' ways of working across Units

Current situation

Roles & positioning of TEGs varying slightly across committees

- "Steering committee" vs. "sounding board" vs. "advisory body"

Composition and operating models also slightly different across TEGs & ERGs

- Profiles and diversity of members
- Presence of MPAC members in TEGs / ERGs
- Rules regarding observers, etc.

Proposed adjustments *(work in progress)*

Role & positioning of TEGs / ERGs being reviewed to define a standard model (work in progress)

Following points clarified on the composition of TEGs & ERGs:

- Diversity of members to be ensured (geographies, genders & expertise)
- Programmatic experience required on all TEGs
- Maximum of 2 MPAC members by TEG, 1 one MPAC member by ERG
- Application of standard observer rules developed by GMP for all TEGs / ERGs
- Application of standard induction for new members

Better communicate WHO Policy recommendations and guidance

Current situation

Many norms, standards and guidance produced by GMP

Some room to standardize and improve materials and dissemination of policies

Publication of reports from MPAC meetings sometimes too slow, and not sufficiently "user-friendly"

Proposed adjustments (work in progress)

Review packaging of recommendations and guidance

- Optimized policy briefs

Consolidate a "malaria prevention & treatment guidelines handbook"

- Rapid access to a comprehensive overview of WHO guidance on malaria

Improve dissemination of MPAC outputs

- Publish brief post-meeting reports on the Web the week after each meeting
- Submit malaria journal articles one month after each MPAC, and streamline length & format
- Translate recommendations in French, Spanish and Arabic

Malaria Policy Advisory Committee Meeting
5–7 March 2015, Geneva, Switzerland
Background document for Session 3

World Health Organization

Malaria elimination strategy in the Greater Mekong subregion

February 2015, Geneva, Switzerland

Introduction

A report looking at the feasibility of falciparum malaria elimination in the Greater Mekong sub-region (GMS) was presented to the Malaria Policy Advisory Committee (MPAC) in September 2014. MPAC recommended the adoption of a *Plasmodium falciparum* elimination goal in the GMS by 2030. Since then, a GMS malaria elimination strategy has been drafted under the leadership of the WHO Emergency Response to Artemisinin Resistance (ERAR) Regional Hub. The attached draft strategy has been revised based on feedback from countries and partners at regional meetings and at in-country consultations. It is shared with MPAC for the committee's technical input and advice.

Background

About 120 million people are at risk of malaria in the GMS. It is estimated that, in 2012, there were approximately 1.8 million malaria cases (range 1 522 000 – 2 484 000), of which 58% were due to *P. falciparum*. The incidence of malaria has been greatly reduced over the past decade; however, it is concerning that falciparum malaria in the GMS is becoming increasingly resistant to antimalarial medicines. At their meeting in September 2014, MPAC considered malaria elimination as technically and operationally feasible at a reasonable cost, and thus recommended the adoption of a goal of falciparum malaria elimination by 2030.

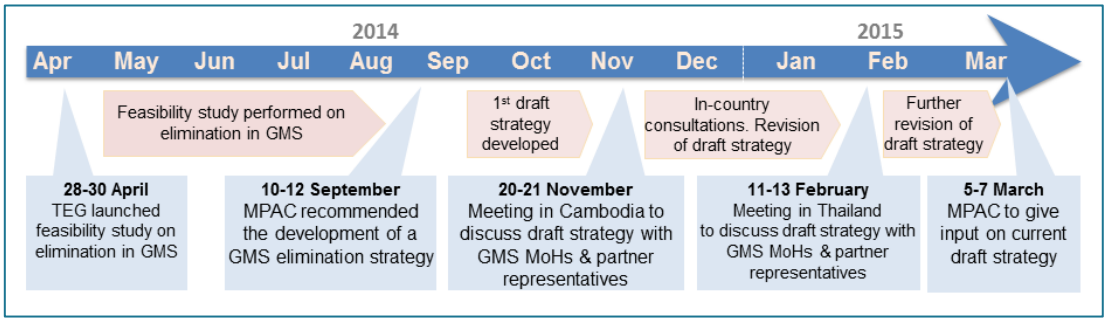
In parallel, the Heads of States at the 9th East Asian Summit in Myanmar in November 2014 agreed to the goal of an Asia Pacific free of malaria by 2030. In the declaration, the co-chairs of the Asia Pacific Leaders Malaria Alliance (APLMA) were tasked with development of a plan (a roadmap) for achieving this goal.

Strategy development process

Following the MPAC recommendation, WHO and consultants developed and presented the first draft elimination strategy to countries and partners at a workshop in Cambodia in November 2014. At the workshop there was consensus that time-bound elimination of not only *P. falciparum*, but of all malaria species, should be pursued in the GMS. Most GMS countries already have national malaria elimination goals within the 2030 time frame. A second draft was prepared based on the findings and recommendations at the workshop, and was presented and discussed at in-country consultations in Cambodia, Lao People's Democratic Republic (PDR), Myanmar, Thailand and Viet Nam. Further revision was made and presented at a GMS regional meeting in Thailand in February 2015.

WHO/HTM/GMP/MPAC/2015.3

Figure 1. Strategy development



The current draft GMS malaria elimination strategy will be updated based on inputs from MPAC, and from partners and countries. The final version is expected to be finalized and launched in May 2015. It will be used to update the national malaria strategic plans of the six GMS countries. Also, the final version will support the preparation of detailed, costed national action plans that will be agglomerated and supplemented with regional activities, to serve as a complete GMS action plan (expected to be finalized by the end of 2015).

Strategy priorities and interventions

The GMS malaria elimination strategy refers to the Global Malaria Technical Strategy 2016–2030 and operationalizes it for the GMS, taking into account GMS specificities. The draft elimination strategy describes the current malaria situation and interventions in the GMS, and defines a strategy for malaria elimination in the subregion. The rationale is the worsening multidrug resistance, including artemisinin resistance, situation in the GMS, which poses a threat to regional and global health security and thus necessitates urgent action. The strategy stresses that *P. falciparum* should be a priority; however, it also notes that planned interventions against falciparum malaria will have considerable impact on vivax malaria transmission as well, because in most endemic areas both species are found, and the same vector control strategies are applied.

Resources, in particular human resources, are limited (at least initially). Although the strategy aims for an accelerated scale-up of appropriate interventions in all endemic areas, tailored to the local epidemiology, there is a need to prioritize (at least initially).

At regional level, the draft strategy proposes the following priorities:

- interrupting transmission in areas with multidrug resistance, including artemisinin resistance, in the border areas between Cambodia and Thailand;
- reducing transmission in the high-transmission areas in Myanmar; and
- controlling malaria in areas of resurgence.

At country level, the draft strategy proposes the following priorities:

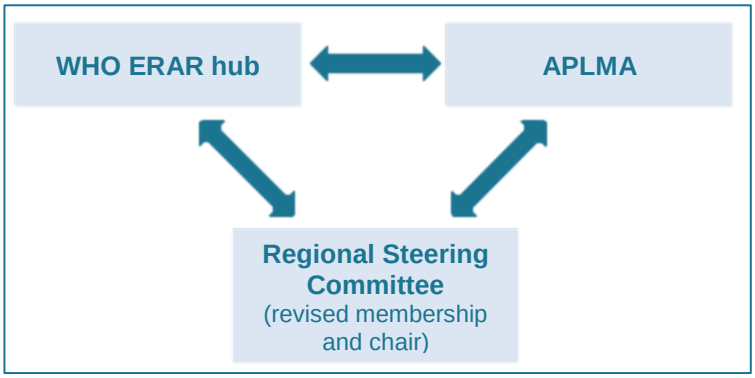
- eliminating transmission in areas of multidrug resistance;
- flattening the epidemiological landscape by reducing transmission in areas of high transmission; and
- undertaking local analysis that may identify additional priorities (e.g. measures targeting certain mobile populations).

The prioritization suggested does not mean that efforts to eliminate in low-transmission areas should be put on hold, only that such efforts must not take precedence over addressing multidrug resistance, including artemisinin resistance, and reducing the burden of malaria.

Governance

One of the conclusions of the feasibility report presented to MPAC was that national leadership of a regional elimination effort is essential, and that the effort will depend on national governments working together. The report recommended that a joint inclusive governance platform to monitor and coordinate implementation should be agreed upon by all parties involved. A governance options paper was prepared and presented to countries at the meeting in Thailand in February 2015. A possible model for regional governance and coordination of malaria elimination in the GMS discussed at the meeting is to have WHO/ERAR hub as the technical arm, APLMA as the political arm, and a revised version of the Global Fund's Regional Artemisinin Resistance Initiative (RAI) Regional Steering Committee (RSC) to oversee activities.

Figure 2. Possible model for governance and coordination of malaria elimination in the GMS



Issues for MPAC's consideration

MPAC is requested to consider the following questions:

a) Are the proposed regional priorities appropriate?

b) Are the proposed country priorities appropriate?

c) Should an additional, less technical document be produced, targeted at senior GMS government officials and donors?

Requested action by MPAC

MPAC is requested to provide technical input and advice for the further development of the strategy, with specific attention to the above questions.

Malaria Policy Advisory Committee Meeting
5–7 March 2015, Geneva, Switzerland
Background document for Session 4

World Health Organization

WHO update of malaria terminology

February 2015, Geneva, Switzerland

Introduction

Medical language must be adaptable so that it can keep pace with the constant increase of our knowledge and with the continual revision and evolution of our concepts.

WHO Terminology of malaria and of malaria eradication, 1963.

Background

Over recent years there has been a proliferation of new terms in relation to malaria in the scientific literature, media and technical reports, and an increase in the number of terms that have a new or modified use and meaning. These changes stem from renewed global interest in malaria elimination and eradication, increasing access to scientific and technical information, and faster translation of research findings into evidence-based policies. To complicate matters further:

- sometimes a new term is used to mean different things;
- sometimes, several similar terms are used to mean the same thing (this is particularly the case for interventions of high interest); and
- some of the terms used by other public health programmes have recently been used to describe malaria interventions, but have been given different meanings in different programmes.

The current situation is generating increasing confusion and misunderstanding, not only in the scientific community and funding agencies, but also among public health officials responsible for malaria programmes, and policy makers in malaria endemic countries. In the past, WHO has periodically reviewed the terminology in malaria, and the last official publication on this topic dates back to 1963.[1] Several WHO publications over the past 10 years have included a glossary of terms on malaria surveillance, control and elimination; however, no comprehensive review of the terminology of malaria has been done since the work of the Drafting Committee of the early 1960s.

Issues for MPAC's consideration

Currently, many WHO publications include a glossary of terms, relevant for the specific target audience of the document and area of expertise. There could be advantages (e.g. greater clarity

1. WHO Terminology of malaria and of malaria eradication, 1963 (http://whqlibdoc.who.int/publications/9241540141.pdf)

WHO/HTM/GMP/MPAC/2015.4

and harmonization) in developing a single glossary of terms, and keeping all terms and definition in a single publication on “malaria and malaria eradication”.

The development of a single comprehensive document may prove a demanding task, and this should be weighed against the alternative of “phased reviews”. Four “types” of terms have been suggested (R. Steketee, personal communication):

1. Terms that were and are still relevant and properly described – each definition or description can be reviewed for any need to update the language, but generally these terms could be considered “good as they stand”.
2. Terms that have been used in the past and have value in an historical perspective, but are not really in current use (e.g. the endemicity categories and some of the spraying terminology); these terms may be important to keep for historical purposes, and could simply be updated in language.
3. Terms that are relevant today but may have taken on a new and modified use and meaning – these terms need to be reviewed and possibly redefined, or at least updated so that the language of the definition reflects their current use.
4. New terms that have come into use and may need to be included and clearly defined.

This phased approach could focus on Categories 3 and 4, taking into account the specific application and potential use of these terms in the longer term, as programmes and scientists embark on malaria elimination and eradication.

To proceed with the review, we propose starting the process with a desk review, to cover the steps outlined below.

a. compile all WHO definitions of terms used in WHO malaria publications since 1995, in addition to those contained in the glossary of “WHO Terminology of malaria and of malaria eradication, 1963”;
b. compile the specific WHO definitions used by other WHO departments for the same terms (e.g. “preventive chemotherapy for neglected tropical diseases [NTDs]”);
c. identify from systematic literature research over the past 10 years recurrent terms that are the same or similar but are given different meanings, and those that are new or different terms but are given similar meanings;
d. compare sources from points (a) to (c) and identify terms with similar definitions and those with highly divergent definitions;
e. identify terms that may have sensitive meanings or discriminatory connotations; and
f. propose draft definitions for terms that have consistent interpretation across multiple sources (e.g. WHO documents or publications and scientific publications on malaria, NTDs, and general public health and epidemiology).

This preliminary work will be reviewed by the WHO “malaria terminology drafting committee”, which will perform the following tasks:

g. Identify, in close consultation with the WHO/Global Malaria Programme (GMP) focal point on terminology, the priority terms that need to be updated or given new definitions, based on the following criteria:
    i. terms relevant to malaria elimination and eradication
    ii. terms with programmatic relevance
    iii. terms with conflicting definitions.
h. Develop updated or new definitions for priority terms (each member of the writing committee will develop draft definitions for 5–10 terms).

i. Review internally and agree on common terms based on consensus among all members of the writing committee.

j. Submit the proposed new or updated definitions for all terms to the WHO/GMP focal point on terminology.

The "malaria terminology drafting committee" will start with a face-to-face meeting, and then finalize the work through further email exchanges. The drafting committee will include the following malariologists: Andrei Beljaev, Graham Brown, Kamini Mendis, José Najera, Trenton Ruebush and Rick Steketee. The committee will have a self-appointed Chair who will act as facilitator; the Chair will also support the collation of all inputs, to be ready by mid-July 2015.

The glossary of terms will be then circulated to coordinators and key resource persons in GMP, and to key technical resource persons in related WHO public health programmes (e.g. NTD, tuberculosis and HIV) to review in relation to consistency across programmes. The WHO/GMP focal point will consolidate all inputs received and share suggested changes (if any) with the Chair of the Writing Committee. The WHO/GMP focal point, after considering the feedback of the Chair of the Writing Committee, will submit the consolidated final version to all members of MPAC by mid-August 2015. MPAC members will be required to submit written comments to the WHO/GMP focal point by 10 September 2015. The final version, taking into account written inputs from MPAC members, will be presented by the Chair of the Writing Committee in plenary session at the MPAC meeting of 16–18 September 2015, and considered for final endorsement and adoption by WHO.

Requested action by MPAC

Provide advice to GMP on the following:

1. Phased approach to the review of malaria terminology.
2. Proposed selection criteria [listed above under g (i-iii)].
3. Process for reviewing and incorporating new terms.
4. Mechanisms for dissemination and promoting uptake following MPAC review in September 2015 and adoption by WHO.

GLOBAL MALARIA PROGRAMME

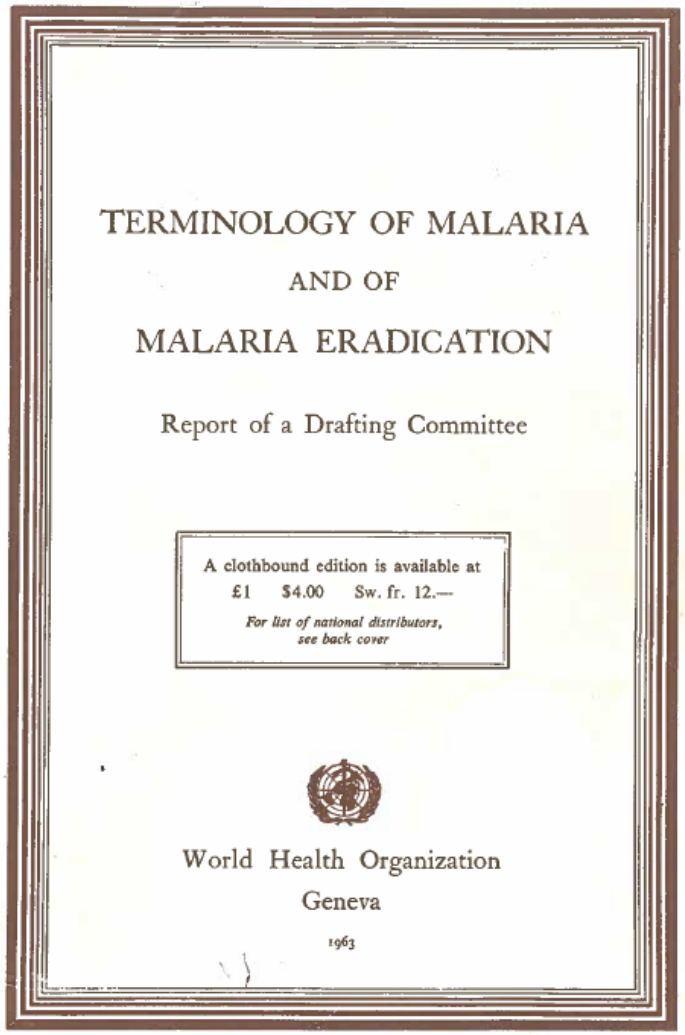
World Health Organization

WHO update of malaria terminology

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

Andrea Bosman
Coordinator, Diagnosis Treatment and Vaccines Unit
Global Malaria Programme
bosmana@who.int

TERMINOLOGY of MALARIA and of MALARIA ERADICATION
Report of a Drafting Committee (1963)



TERMINOLOGY OF MALARIA

AND OF

MALARIA ERADICATION

Report of a Drafting Committee

A clothbound edition is available at
£1 $4.00 Sw. fr. 12.—
For list of national distributors, see back cover

World Health Organization
Geneva
1963

DRAFTING COMMITTEE

Members:

Arnoldo Gabaldon, M.D., Sc.D., Honorary Consultant, Bureau of Malariology and Environmental Sanitation, Ministry of Health and Social Welfare, Venezuela

P. C. C. Garnham, M.D., D.Sc., Professor of Medical Protozoology and Director, Department of Parasitology, London School of Hygiene and Tropical Medicine, London, England

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Secretariat:

C. A. Alvarado, M.D., Director, Division of Malaria Eradication, WHO

L. J. Bruce-Chwatt, M.D., Chief, Research and Technical Intelligence, Division of Malaria Eradication, WHO

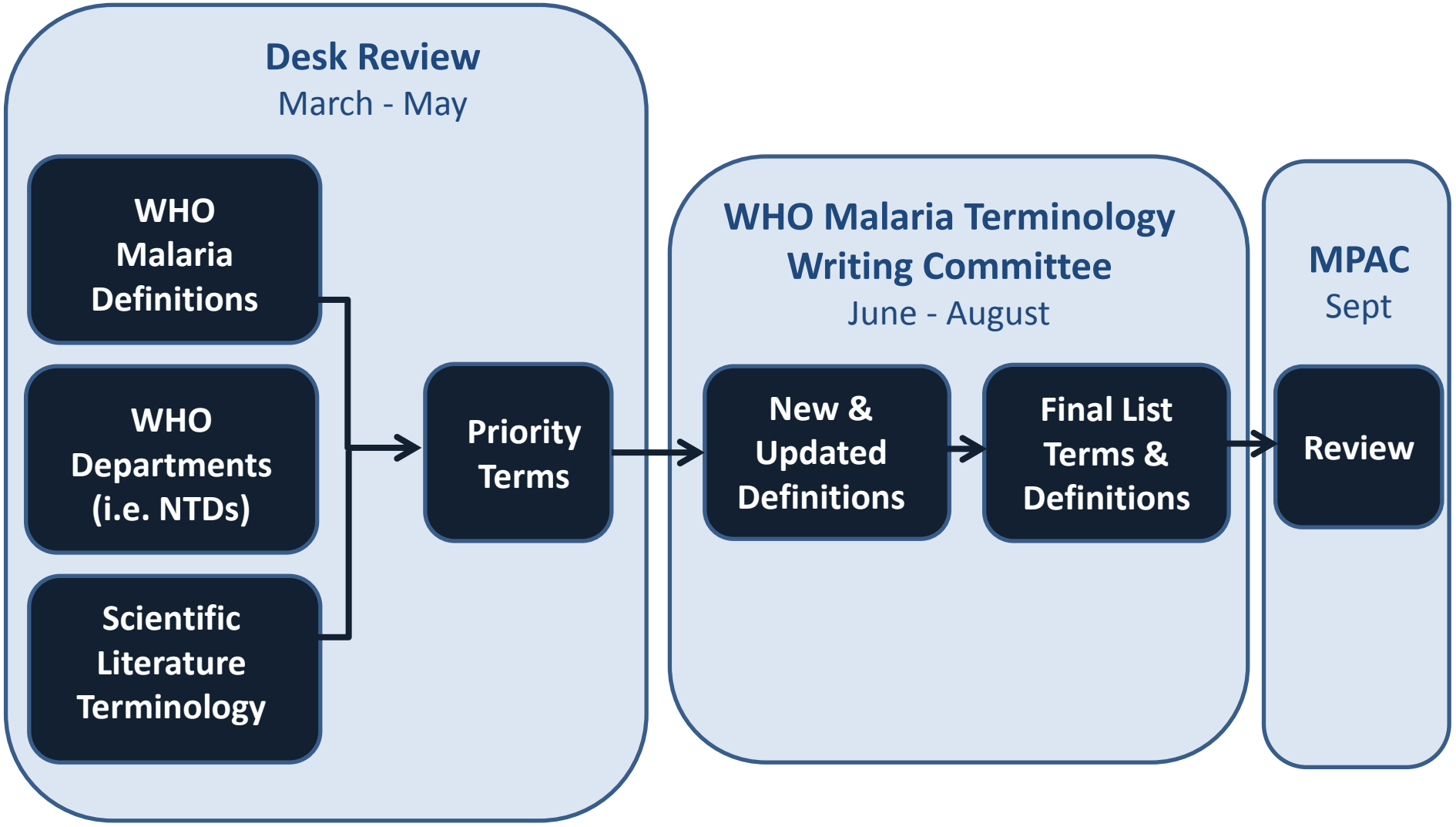
WHO Evidence Review on MDA, MSAT and FSAT
20 – 22 April 2015

- Over recent years there has been a proliferation of new terms in relation to malaria in the scientific literature, media and technical reports, and an increase in the number of terms that have a new or modified use and meaning (e.g. hotpops, hotspots, malaria sources and sinks, proactive infection detection, reactive infection detection, reactive targeted parasite elimination, network testing, time-location testing, dry season vector control HiFSAT – highly focussed screening and treatment).
- To complicate matters further:
  - sometimes terms are used to mean different things (e.g. case, screening);
  - sometimes, several similar terms are used to mean the same thing (e.g. MSAT, MTAT and MSTAT, FSAT and FTAT, MDA and Targeted Malaria Elimination or Targeted Parasite Elimination or Targeted Chemo-Elimination, mass primaquine preventive (or prophylactic) treatment);
  - some terms are used with different meanings by different public health programmes (e.g. elimination, certification, preventive chemotherapy).

Phased approach in updating terminology

- Terms that were and are still relevant and properly described – each definition or description can be reviewed for any need to update the language, but generally these terms could be considered “good as they stand”.
- Terms that have been used in the past and have value in an historical perspective, but are not really in current use (e.g. the endemicity categories and some of the spraying terminology); these terms may be important to keep for historical purposes, and could simply be updated in language.
- Terms that are relevant today but may have taken on a new and modified use and meaning – these terms need to be reviewed and possibly redefined, or at least updated so that the language of the definition reflects their current use.
- New terms that have come into use and may need to be included and clearly defined.

Process & timelines



Phase 1 – desk review

a. Compile all WHO definitions of terms used in WHO malaria publications since 1995, in addition to those contained in the glossary of “WHO Terminology of malaria and of malaria eradication, 1963”;

b. Compile the specific WHO definitions used by other WHO departments for the same terms (e.g. preventive chemotherapy for NTDs);

c. Identify from systematic literature research over the past 10 years recurrent terms that are similar but with different meanings, and multiple different with similar meanings;

d. Identify terms with similar and those with different definitions;

e. Identify terms that may have sensitive meanings or discriminatory connotations (e.g. reservoir of infection); and

f. Propose draft definitions for terms that have consistent interpretation across multiple sources (e.g. WHO publications and scientific publications on malaria, NTDs, public health and epidemiology).

Phase 2 – WHO drafting committee

g. Identify the priority terms that need to be updated or given new definitions, based on the following criteria:
   I. terms relevant to malaria elimination and eradication
   II. terms with programmatic relevance
   III. terms with conflicting definitions.

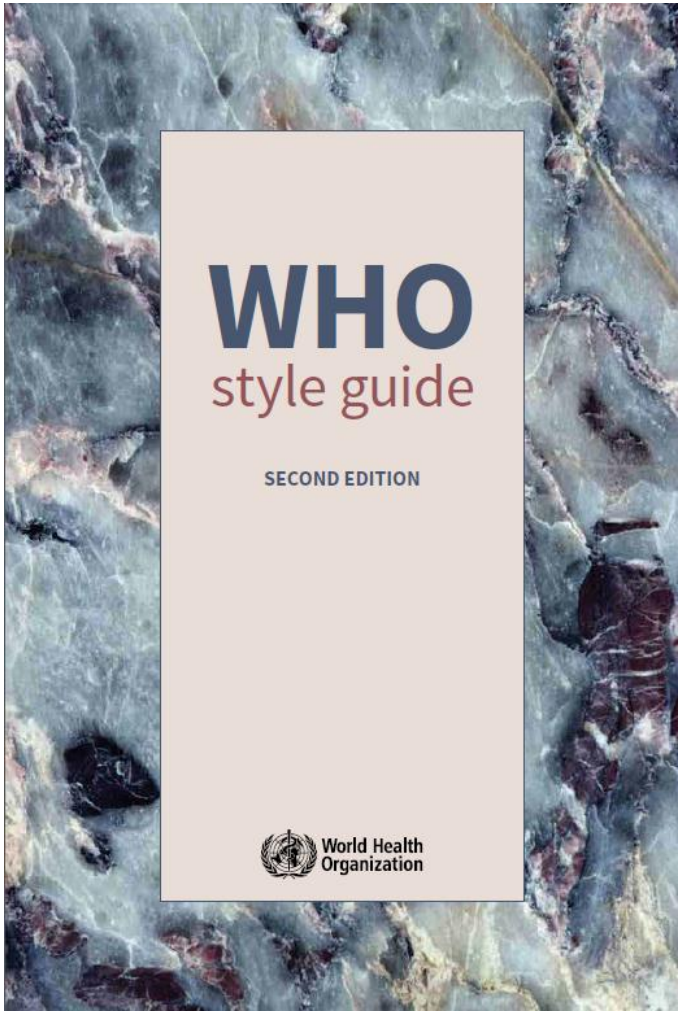
h. Develop updated or new definitions for priority terms (each member of the writing committee will develop draft definitions for 5–10 terms).

i. Review internally and agree on common terms based on consensus among all members of the writing committee.

j. Submit the proposed new or updated definitions for all terms to WHO Secretariat (WHO/GMP & RMAs) and MPAC, by mid-August 2015 for finalisation at the session in September 2015.

Members, secretariat & style

- Desk Review
  - Mar Velarde
- Drafting Committee
  - Andrei Beljaev
  - Graham Brown
  - Kamini Mendis
  - José Najera
  - Trenton Ruebush
  - Rick Steketee
- WHO Secretariat
  - Andrea Bosman
  - Aafje Rietveld



MPAC requested advice

1. Phased approach to the review of malaria terminology.
2. Proposed selection criteria
    I. terms relevant to malaria elimination and eradication
    II. terms with programmatic relevance
    III. terms with conflicting definitions.
3. Process for reviewing and incorporating new terms.
4. Mechanisms for dissemination and adoption following MPAC review in September 2015.

Malaria Policy Advisory Committee Meeting
5–7 March 2015, Geneva, Switzerland
Background document for Session 4

Proposal for an Evidence Review Group on intermittent screening and treatment and safety of artemisinin in pregnancy

February 2015, Geneva, Switzerland

Introduction

Malaria in pregnancy contributes significantly to maternal and neonatal mortality. Intermittent preventive treatment against malaria in pregnancy (IPTp) is a highly cost-effective intervention that significantly improves the health of mothers and their newborns in areas of moderate to high malaria transmission. In October 2012, on the advice of the Malaria Policy Advisory Committee (MPAC) and the work of a dedicated evidence review group (ERG), WHO updated the policy for IPTp with sulphadoxine-pyrimethamine (IPTp-SP). The new policy recommends that women who live in areas of moderate to high malaria transmission should receive IPTp-SP as early as possible in the second trimester, and at each scheduled antenatal care (ANC) visit thereafter, with SP doses given at least 1 month apart.

Since the updated IPTp policy was released, several countries throughout sub-Saharan Africa plan to update their country policies in line with the new recommendations, but IPTp implementation still remains low. In 2013, the coverage of IPTp with two doses of SP was 43% (among 31 reporting countries) – well below national and international targets, and only 17% of all pregnant women received three or more doses of IPTp (among nine reporting countries), in line with the latest WHO recommendations.[1] It is of particular concern that, according to some preliminary estimates for 2014, coverage may be declining in some countries.

Background

To respond to concerns about the effectiveness of IPTp-SP in areas with *Plasmodium falciparum* antifolate resistance or decreasing malaria transmission, and to evaluate the role of potential alternatives to IPTp-SP, WHO convened a second ERG meeting on IPTp in July 2013. MPAC considered the outcome of that ERG meeting at the committee's fourth meeting in September 2013 and recognized that, in a small number of discrete areas in eastern and southern Africa, resistance of *P. falciparum* to SP has reached levels at which IPTp-SP may no longer be effective in preventing low birth weight. These are areas where *P. falciparum* parasites carry sextuple resistance mutations in dhfr and dhps genes, including the A581G dhps mutation. MPAC also noted that, in many areas with high prevalence of parasites with quintuple antifolate mutations,

1. World Malaria Report 2014, WHO, Geneva. (http://apps.who.int/iris/bitstream/10665/144852/2/9789241564830_eng.pdf)

WHO/HTM/GMP/MPAC/2015.7

IPTp-SP still confers some benefit in terms of pregnancy outcomes. On balance, MPAC concluded that there is currently insufficient data to determine at what level of SP resistance IPTp-SP should be discontinued in the absence of an established and effective alternative. MPAC also concluded that there are currently insufficient data to define the level of *P. falciparum* transmission at which IPTp-SP may cease to be cost-effective from a public health point of view.

At the same session, the potential role of mefloquine use for IPTp (IPTp-MQ) was reviewed, based on the results of multicentre clinical trials using mefloquine for IPTp, at 15 mg/kg as a single or split dose. The trials compared mefloquine to SP in HIV-negative pregnant women, and the benefits of three monthly doses of IPTp-MQ added to daily co-trimoxazole (CTX) prophylaxis in HIV-infected pregnant women. Based on the evidence review, the MPAC agreed that MQ 15 mg/kg (single or split dose regimen) should not be recommended for IPTp given a high frequency of adverse events related to poor tolerability.

New evidence

During the past 2 years, several studies have been completed that have evaluated the efficacy, safety, feasibility, acceptability and cost-effectiveness of an alternative intervention to prevent the consequences of malaria in pregnancy, including intermittent screening and treatment of malaria in pregnancy (ISTp). This intervention uses rapid diagnostic tests (RDTs) for screening of pregnant women with treatment of RDT positive women with an effective antimalarial combination. The antimalarials studied have included SP, dihydroartemisinin + piperaquine (DP), and artemether + lumefantrine (AL). In addition, meta-analyses have been completed to evaluate 1) the impact of antifolate resistance and level of malaria transmission on the effectiveness of IPTp-SP; and 2) the comparative effectiveness of IPTp-SP with ISTp-AL and ISTp-DP in areas with different levels of SP resistance and malaria transmission intensity.

Moreover, during recent years, a growing body of evidence has been accumulated that contributes to an understanding of the clinical safety of the artemisinin derivatives in the first trimester of pregnancy, and of the efficacy of different artemisinin-based combination therapies in treatment of malaria in pregnancy. A series of safety studies have been completed to assess pregnancy outcomes of women with malaria exposed to different artemisinin derivatives or to quinine during the first trimester of pregnancy, compared to pregnant women not exposed to either malaria or antimalarial treatment.

Proposal

To review the new evidence described above, the WHO/Global Malaria Programme (GMP) is proposing to hold a meeting of an ERG for Malaria in Pregnancy (ERG-MiP), focusing on the effectiveness of ISTp compared with IPTp in areas with SP resistance and reduced malaria transmission, and the safety of antimalarials in pregnancy. The ERG will convene for 4 days in July 2015, and will be held in two parts: part 1 will focus on assessing the evidence for ISTp, while the second part 2 will focus on assessing the evidence for efficacy and safety of antimalarials in pregnancy. Each part will enlist the participation of a different group of scientists with relevant expertise.

Requested action by the MPAC

Provide advice to GMP on proposed plan for the review and selected studies.

Annex

List of manuscripts proposed for the WHO MiP-ERG, 13–16 July 2015.

Malaria Policy Advisory Committee Meeting
5–7 March 2015, Geneva, Switzerland
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Manuscripts for the WHO Evidence Review Group for malaria in pregnancy (MiP-ERG), July 2015

February 2015, Geneva, Switzerland

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WHO/HTM/GMP/MPAC/2015.7.b

Is IST a potential alternative strategy to IPT-SP in areas with low malaria transmission or high SP resistance?

Efficacy

1. ISTp-AL west Africa (low SP resistance)

- IPTp-SP (3 doses of SP) vs ISTp-AL (ISTp-wAfrica, MA5 MiPc)
- Multicentre 2-arm open-label, individually randomized, non-inferiority trial in 4 west Africa countries with low SP resistance (Burkina Faso, Ghana, The Gambia and Mali)
- Primary Efficacy Outcome: Efficacy outcomes low birth weight, maternal anaemia and placental infection
- Sample size: 5,354
- Timeline: Trial Submitted for publication:
- Publication: Tagbor H, Cairns M, Bojang K, Coulibaly SO, Kayentao K, Williams JE, Abubakar I, Akor F, Mohammed K, Bationo R, Dabira E, Soulama A, Djimde M, Guirou E, Awine T, Quaye S, Njie F, Ordi J, Doumbo O, Hodgson A, Oduro A, Meshnick S, Taylor S, Magnussen P, ter Kuile F, Woukeu A, Milligan P, Chandramohan D, Greenwood BM, Submitted. A non-inferiority, individually randomised trial of intermittent screening and treatment: an alternative approach to the control of malaria in pregnancy.[1]
- Contact Person: Brian Greenwood (LSHTM, UK) and Harry Tagbor (Ghana)

2. ISTp-DP, Malawi (high SP resistance)

- IPTp-SP vs ISTp-dihydroartemisinin-piperaquine (DP) ("ISTp-Malawi", MA6 MiPc)
- 3-centre, single country, 2-arm, open-label, individually randomised superiority trial in high SP resistance areas in Southern Malawi comparing
- Primary efficacy outcome: G1-G2: composite of LBW, pre-term or SGA; G3+ infection at delivery
- Sample size: 1,872
- Timeline: Field work completed, database to be closed in Jan 2015; report to WHO June 2015.
- Publication: Madanitsa M, et al, In preparation. Safety and Efficacy of Intermittent Screening and Treatment (IST) with dihydroartemisinin-piperaquine versus Intermittent Preventive Therapy (IPT) with sulphadoxine-syrimethamine for the control of malaria in pregnancy in Malawi: An open-label superiority trial.[2]
- Contact Person: Feiko ter Kuile (LSTM, UK) and Mwayi Madanitsa (Malawi)

3. ISTp-DP + IPTp-DP, western Kenya (high SP resistance)

- IPTp-DP, ISTp-DP, vs IPTp-SP ("STOPMIP Kenya" MA3 MiPc)
- 4-centre, single country, 3-arm, open-label, individually randomised superiority trial in high SP resistance areas in western Kenya
- Primary efficacy outcome: All gravidae: infection at delivery
- Sample size: about 1,377 total
- Timeline: Field work to be completed in Jan 2015, Database close Feb 15, Report to WHO June 2015

- Publication: Desai M, et al, In preparation. Safety and efficacy of Intermittent Screening and Treatment (IST) or Intermittent Preventive Therapy (IPT) with Dihydroartemisinin-Piperaquine versus IPT with Sulphadoxine-Pyrimethamine among pregnant women in Kenya: An open-label superiority trial.[3]
- Contact Persons: Meghna Desai, CDC-Kenya

4. ISTp-AQ/AS and ISTp-SP, Ghana

- IPTp-SP vs ISTp-SP vs ISTp with amodiaquine-artesunate (AS-AS)
- 6-centre, single country, 3-arm, open-label, individually randomised superiority trial in high SP resistance areas in western Kenya
- Primary efficacy endpoint: 3rd trimester anaemia, LBW
- Sample size: 3,333 total
- Timeline: Published
- Publication: Tagbor H, Bruce J, Agbo M, Greenwood B, Chandramohan D, 2010. Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: a randomised controlled non-inferiority trial. PLoS One 5: e14425.[4]

5. Reviews efficacy and safety ISTp-DP high SP transmission areas

- Pooled analysis of trials 2 and 3 above
- Sample size: 3249 total
- Timeline:Report to be submitted to WHO June 2105
- Publication: Gutman J, et al, in preparation. Safety and Efficacy of Intermittent Screening and Treatment with Dihydroartemisinin-Piperaquine versus Intermittent Preventive Therapy with Sulphadoxine-Pyrimethamine for the control of malaria in pregnancy in Kenya and Malawi: A prospective pooled analysis of 2 multi-centre trials. [5]
- Contact person: Julie Gutman (CDC).

Safety and tolerance

1. ISTp-AL: see efficacy trial 1 above

2. DP: Review of DP safety in pregnancy

Individual participants pooled analysis from ISTp trials in Malawi and Kenya; to be combined with meta-analysis of aggregated safety data of experience with DP in pregnancy

- Timeline: report to WHO June 2015
- Publication: Gutman J, et al, In preparation. Safety and tolerance of dihydroartemisinin-piperaquine for the treatment and prevention of malaria in pregnancy: A systematic review and meta-analysis. [6]
- Contact: Julie Gutman (CDC)

3. Efficacy and safety of DP *for the case-management* of malaria in pregnancy

Results from a multi-centre treatment trial of 4 fixed dose ACTs for the case-management of malaria in the 2nd and 3rd trimester of pregnancy (MA1 MiPc). The results are very informative for the use of DP for ISTp as its tolerance and efficacy in clearing existing infections and preventing new infections is compared with the 3 other fixed dose ACTs.

- Timeline: report to WHO June 2015
- Publication: D'Alessandro U, et al, In preparation. The safety and efficacy of four artemisinin-based combination treatments in African pregnant women with malaria. [7]
- Contact: Umberto Dalessandro, MRC The Gambia

Cost-effectiveness analyses of trial data

Cost-effectiveness analysis of trials 1 (west Africa), 2 (Malawi) and 3 (western Kenya) above.

- Timeline: Report to WHO June 2015
- Publication: Hanson K, et al, In preparation. The Cost-effectiveness of Intermittent Screening and Treatment (IST) artmether-lumfantrine or dihydroartemisinin-piperaquine versus Intermittent Preventive Therapy (IPT) with sulphadoxine-pyrimethamine for the control of malaria in pregnancy in Malawi: A meta-analysis. [8]
- Contact: Kara Hanson (as for MA3, 5 and 6 above)

Feasibility and acceptability

Acceptability under trial conditions

1. Ghana: Contact: Jayne Webster
   - Timeline: Published: Smit et al[9,10]
   - Publications:
     i. Smith LA, Jones C, Adjei RO, Antwi GD, Afrah NA, Greenwood B, Chandramohan D, Tagbor H, Webster J, 2010. Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: user acceptability. Malar J 9: 18.
     ii. Smith Paintain L, Antwi GD, Jones C, Amoako E, Adjei RO, Afrah NA, Greenwood B, Chandramohan D, Tagbor H, Webster J, 2011. Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: provider knowledge and acceptability. PLoS One 6: e24035.

2. Malawi: Contact: Mwayi Madanitsa
   - Timeline: Submit report to WHO June 2015
   - Publication: Almond D, Madanitsa M, Paintain L, Mwapasa V, Kalilani L, Webster J, ter Kuile FO, In preparation. Provider and user acceptability of intermittent screening and treatment for the control of malaria in pregnancy in Malawi; a qualitative in-depth interview and focus group study. [11]

3. Kenya: Contact: Jayne Webster (LSHTM, UK) and Jenny Hill (LSTM, UK)
   - Timeline: Submit report to WHO June 2015
   - Publication: Hill J, et al, in preparation. Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: user and provider knowledge and acceptability. [12]

Feasibility under real-life conditions

1. Implementation / feasibility study western Kenya in non-trial settings
   - Timeline: Field to be completed in March 2015, Report to WHO June 2015

- Publication: Hill J, et al, In preparation. Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: feasibility in the routine health system. [13]
- Contact person, Jayne Webster (LSHTM, UK) and Jenny Hill (LSTM, UK)

Impact, SP resistance and transmission intensity and threshold maps for potential implementation

Meta-analyses impact of resistance and transmission on IPTp-SP

1. Completion and update of meta-analyses required to obtain a better understanding of the impact of SP resistance and transmission intensity on IPTp effectiveness in terms of relative effect (e.g. % reduction in LBW) and absolute effects (numbers of LBW averted).
    - Timeline: Submit report to WHO in June 2015.
    - Publication: ter Kuile FO, et al, In preparation. Impact of sulphadoxine-pyrimethamine resistance and transmission intensity on the effectiveness of Intermittent Preventive Therapy for malaria in pregnancy (IPTp) in Africa: A systematic review and meta-analysis.[14]
    - Contact: Feiko ter Kuile

Modelling impact and threshold maps for IPTp-SP and ISTp-DP or AL

1. Modelling to combine the data on resistance and transmission maps into a single model to obtain the threshold maps.
    - Timeline: Submit report to WHO in June 2015.
    - Publication: Walker P, Cairns M, et al, In preparation. Modelling the incremental value of Intermittent Screening and Treatment in sub-Saharan Africa.[15]
    - Contacts: Patrick Walker (Imperial College London), Matt Cairns (LSHTM).

Artemisinin safety

Aim

Provide update to WHO of the evidence accumulated over the years of the clinical safety of the artemisinin derivatives in the first trimester of pregnancy.

Reviews

Comparison of artemisinin vs. quinine vs. nothing (no malaria) exposure in the first trimester.

2. Rose McGready et al: The efficacy and safety of antimalarials for the treatment of P. falciparum and P. vivax malaria in the first trimester of pregnancy on the Thai-Myanmar border; a population-based study[16]
    - Description: Update of existing individual participant analysis of 25 years experience at the Thai-Burmese border with different antimalarials used advertantly or inadvertently in the first trimester.[17]
    - Timeline: Report to be submitted to WHO by June 2015
    - Contact person: Francois Nosten
3. Stephanie Dellicour et al, Use of artemisinin derivatives and quinine for the treatment of P. falciparum and vivax malaria in early pregnancy and the association with

spontaneous miscarriages: a pooled analysis of prospective, multi-country observational studies across Africa and Thai-Myanmar border.[18]

- Description: Pooled individual participant analysis of data from:
    i. the ASAP study (a 3-country prospective study in Africa from MIP Consortium)
    ii. the Thai-Burmese border (as above).
    iii. only studies that were able to identify women early in pregnancy and follow prospectively will be included.
- Timeline: Subject to further support from WHO for pooled analysis; Report to WHO by Jun 2015
- Contact: Stephanie Dellicour (LSTM, UK) and Francois Nosten (Thailand)

4. Esperanca Sevene et al, The safety of artemisinin derivatives and quinine for the treatment of P. falciparum in early pregnancy and the association with *stillbirth and congenital malformation*: a pooled analysis of prospective, multi-country observational studies across Africa.[19]
    - Description: Pooled individual participant analysis of data from:
        i. ASAP study (a 3-country prospective study in Africa from MIP Consortium)
        ii. Possibly the WHO register?
    - Timeline: Subject to further support from WHO for pooled analysis; Report to WHO by Jun 2015
    - Contact: Esperanca Sevene (Mozambique) and Andy Stergachis (University of Washington)

5. Stephanie Kovacs: The safety of artemisinin derivatives for the treatment of malaria in early pregnancy: A systematic review and meta-analysis.[20]
    - Description: Meta-analysis of
        i. any available aggregated data on all endpoints (miscarriages, stillbirths, congenital malformations), including from the above reviews
        ii. a listing of number of exposures, i.e., Estimate on how many pregnant women have been exposed to artemisinin in studies and how many had documented outcome
    - Timeline: Report to WHO by Jun 2015
    - Contact: Andy Stergachis (University of Washington)

References

1. Tagbor H, Cairns M, Bojang K, Coulibaly SO, Kayentao K, et al. (Submitted) A non-inferiority, individually randomised trial of intermittent screening and treatment: an alternative approach to the control of malaria in pregnancy.
2. Madanitsa M, et al (In preparation) Safety and Efficacy of Intermittent Screening and Treatment (IST) with dihydroartemisinin-piperaquine versus Intermittent Preventive Therapy (IPT) with sulphadoxine-pyrimethamine for the control of malaria in pregnancy in Malawi: An open-label superiority trial.
3. Desai M, et al (In preparation) Safety and efficacy of Intermittent Screening and Treatment (IST) or Intermittent Preventive Therapy (IPT) with Dihydroartemisinin-Piperaquine versus IPT with Sulphadoxine-Pyrimethamine among pregnant women in Kenya: An open-label superiority trial.
4. Tagbor H, Bruce J, Agbo M, Greenwood B, Chandramohan D (2010) Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: a randomised controlled non-inferiority trial. PLoS One 5: e14425.
5. Gutman J, et al (In preparation) Safety and Efficacy of Intermittent Screening and Treatment (IST) with dihydroartemisinin-piperaquine versus Intermittent Preventive Therapy (IPT) with sulphadoxine-pyrimethamine for the control of malaria in pregnancy in Kenya and Malawi: A prospective pooled analysis of 2 multi-centre trials.
6. Gutman J, et al (In preparation) Safety and tolerance of dihydroartemisinin-piperaquine for the treatment and prevention of malaria in pregnancy: A systematic review and meta-analysis.
7. D'Alessandro U, et al (In preparation) The safety and efficacy of four artemisinin-based combination treatments in African pregnant women with malaria.
8. Hanson K, et al (In preparation) The Cost-effectiveness of Intermittent Screening and Treatment (IST) artmether-lumfantrine or dihydroartemisinin-piperaquine versus Intermittent Preventive Therapy (IPT) with sulphadoxine-pyrimethamine for the control of malaria in pregnancy in Malawi: A meta-analysis.
9. Smith LA, Jones C, Adjei RO, Antwi GD, Afrah NA, et al. (2010) Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: user acceptability. Malar J 9: 18.
10. Smith Paintain L, Antwi GD, Jones C, Amoako E, Adjei RO, et al. (2011) Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: provider knowledge and acceptability. PLoS One 6: e24035.
11. Almond D, Madanitsa M, Paintain L, Mwapasa V, Kalilani L, et al. (In preparation) Provider and user acceptability of intermittent screening and treatment for the control of malaria in pregnancy in Malawi; a qualitative in-depth interview and focus group study
12. Hill J, et al (In preparation) Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: provider knowledge, acceptability and feasibility.
13. Hill J, et al (In preparation) Intermittent screening and treatment versus intermittent preventive treatment of malaria in pregnancy: feasibility in the routine health system.
14. ter Kuile FO, et al (In preparation) Impact of sulphadoxine-pyrimethamine resistance and transmission intensity on the effectiveness of Intermittent Preventive Therapy for malaria in pregnancy (IPTp) in Africa: A systematic review and meta-analysis.
15. Walker P, Cairns M, et al (In preparation) Modelling the incremental value of Intermittent Screening and Treatment in sub-Saharan Africa.
16. McGready R, et al (In preparation) The efficacy and safety of antimalarials for the

treatment of P. falciparum and P.vivax malaria in the first trimester of pregnancy on the Thai-Myanmar border; a population-based study.

17. McGready R, Lee SJ, Wiladphaingern J, Ashley EA, Rijken MJ, et al. (2012) Adverse effects of falciparum and vivax malaria and the safety of antimalarial treatment in early pregnancy: a population-based study. Lancet Infect Dis 12: 388-396.
18. Dellicour S, et al Use of artemisinin derivatives and quinine for the treatment of P. falciparum and vivax malaria in early pregnancy and the association with spontaneous miscarriages: a pooled analysis of prospective, multi-country observational studies across Africa and Thai-Myanmar border.
19. Sevene E, et al (In preparation) The safety of artemisinin derivatives and quinine for the treatment of P. falciparum in early pregnancy and the association with stillbirth and congenital malformation: a pooled analysis of prospective, multi-country observational studies across Africa.
20. Kovacs S, et al (In preparation) The safety of artemisinin derivatives for the treatment of malaria in early pregnancy: A systematic review and meta-analysis.

GLOBAL MALARIA PROGRAMME

World Health Organization

Proposal for an ERG on malaria in pregnancy

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

Andrea Bosman
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Global Malaria Programme
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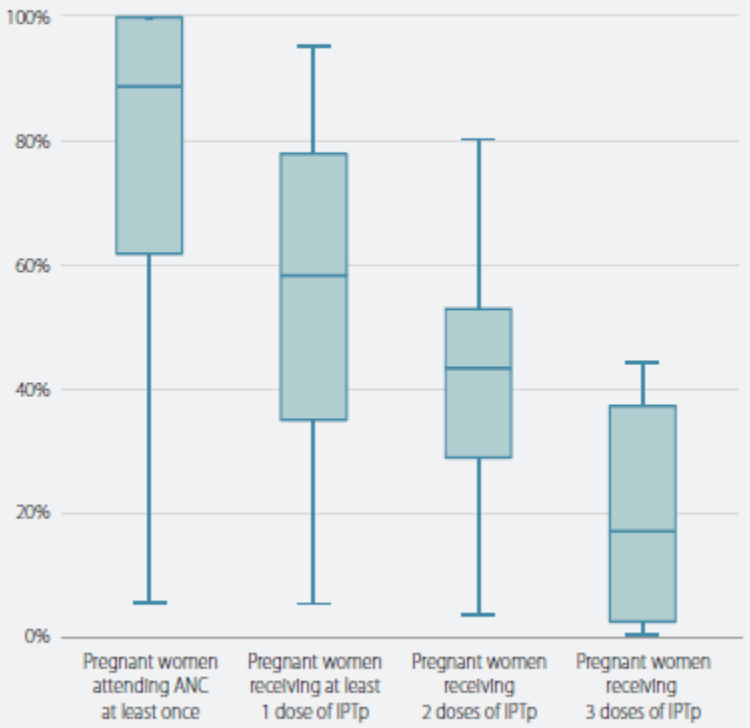
New WHO IPTp policy in October 2012: status of implementation in 2013

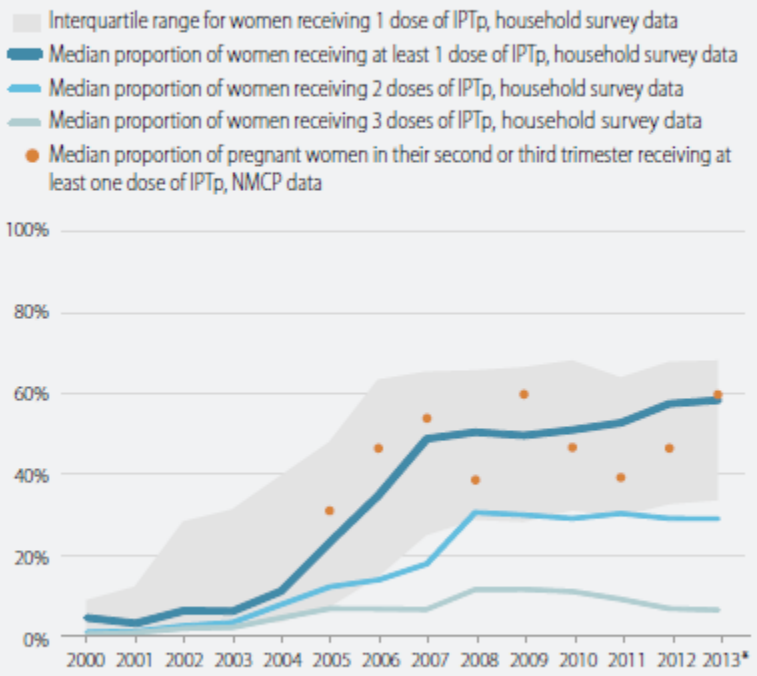
Figure 4.1 Proportion of pregnant women attending ANC and proportion receiving IPTp, by dose, among sub-Saharan countries reporting, 2013



ANC, antenatal care; IPTp, Intermittent preventive treatment in pregnancy

Source: *National malaria control programme reports, UN population estimates*

Figure 4.2 Proportion of pregnant women receiving IPTp, by dose, by year of pregnancy in survey and by reporting year for NMCP, Africa, 2000–2013



IPTp, Intermittent preventive treatment in pregnancy; NMCP, national malaria control programme

* Median proportions using household data are based on six-year trend analyses

Source: *Demographic health surveys, malaria indicator surveys, multiple indicator cluster surveys and other household survey data, NMCP reports, UN population estimates*

2nd Evidence Review Group in July 2013

- To respond to concerns on the effectiveness of IPTp-SP in areas with *Plasmodium falciparum* antifolate resistance or decreasing malaria transmission, and to evaluate the role of potential alternatives to IPTp-SP.
- In September 2013 MPAC recognized that in few areas of eastern and southern Africa, where P. falciparum parasites carry sextuple resistance mutations in *dhfr* and *dhps* genes (including the A581G *dhps* mutation), IPTp-SP may no longer be effective in preventing low birth weight. However, in many areas with high prevalence of parasites with quintuple antifolate mutations IPTp with SP still confers some benefit in terms of pregnancy outcomes.
- On balance, MPAC concluded that there is currently insufficient data to determine at what level of SP resistance, IPTp-SP should be discontinued in the absence of an established and effective alternative. MPAC also concluded that there are currently insufficient data to define the level of P.falciparum transmission at which IPTp-SP may cease to be cost-effective from a public health point of view.

New emerging evidence

- During the past two years, several studies have evaluated the efficacy, safety, feasibility, acceptability, and cost-effectiveness of **intermittent screening and treatment** of malaria in pregnancy (ISTp) to prevent the consequences of malaria in pregnancy. This intervention uses RDTs for screening of pregnant women and treatment with an effective antimalarial, i.e. SP, AS+AQ, DP (dihydroartemisinin + piperaquine) or AL (artemether + lumefantrine).
- Meta-analyses have been completed to evaluate the comparative effectiveness of IPTp-SP with ISTp-AL and ISTp-DP in areas with different levels of SP resistance and malaria transmission.
- More evidence has been accumulated on the **safety of the artemisinin derivatives in the first trimester of pregnancy**, compared with quinine, and to non exposure to malaria and antimalarial treatment, as well as on the efficacy of different ACTs for the treatment of malaria in pregnancy.

Manuscripts for WHO MIP-ERG July 2015

- Is IST a potential alternative strategy to IPT-SP in areas with low malaria transmission or high SP resistance?
  - Efficacy (ISTp-AL; ISTp-DP; ISTp-DP vs IPTp-DP, ISTp-ASAQ vs ISTp-SP)
  - Safety & Tolerance (DP in pregnancy, DP for malaria treatment in pregnancy)
  - Cost-effectiveness analyses of trial data
  - Feasibility and acceptability
    - Acceptability under trial conditions
    - Feasibility under real-life conditions
- Impact, SP Resistance and Transmission intensity and threshold maps for potential implementation
  - Meta-analyses impact of resistance and transmission on IPTp-SP
  - Modelling impact and threshold maps for IPTp-SP and ISTp-DP or AL
- Artemisinin safety

Pooled analysis for assessment of safety of exposure to artemisinin derivatives in the 1st trimester of pregnancy

Author	Country	Publication Year	Number of 1st trimester ACT exposures	Number exposed to other antimalarial in 1st trimester *	Number unexposed to antimalarials in 1st trimester	Number of miscarriage	Number of Live-birth
Manyando	Zambia	2010	156	127 SP+4Qn	712	15 (1.5%)	917 (91.6%)
Rulisa	Rwanda	2012	96	None	973	18 (0.9%)	1918 (93.6%)
Mosha	Tanzania	2014	172	147 (70 Qn+66 SP+11 Aq)	1464	44 (2.5%)	1677 (94.1%)
Dellicour	Kenya	Not yet published	75	18 (12 Qn+ 5SP+ 1 Aq)	813	89 (7.9%)	947 (84.1%)
Sevene	Mozambique	Not yet published	21	5	733	13 (1.7%)	688 (90.2%)
Tinto	Burkina Faso	Not yet published	41	32	647	6 (0.8%)	683 (95.7%)
Total			561	333	5342	185	

*SP: sulphadoxine-pyrimethamine; Qn: quinine; Aq: amodiaquine

- The 561 documented first trimester exposures for IPD pooled analysis would confer statistical power to detect RR of ≥ 2.5 for major malformations and a RR of 1.4 for miscarriages (assuming 0.9% for major malformations detectable by surface examination at birth and 10% for miscarriage with ratio of exposed to unexposed of 1:5 at 80% power). With additional 300 first trimester exposures from SMRU (McGready personal communication), RRs of 1.3 for miscarriage and 2.2 for major malformations could be detected.

MPAC discussion

- Proposed plan for review and selected studies