Overview of global malaria situation and WHO perspective on vector control issues

RBM Vector Control Working Group
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Global Malaria Programme
Global disease burden (2012)

3.4 billion people at risk, 1.2 billion at high risk of disease

Est. 207 million cases in 2012, est. 627 000 deaths

90% of all malaria deaths occur in sub-Saharan Africa

Between 2000 and 2012, intervention scale-up led to 29% decline in global malaria incidence rate

3.3 million lives were saved, mainly in the under-5 age group

52 countries are on track to reduce burden by 75%, in line with WHA and RBM goals for 2015
World Malaria Report 2013

Key trends on global financing for malaria:

• Total est. international funding: 1.97 billion USD (2013), with further increases forecast for 2014-2016 but no major expansion
• Domestic funding was 522 million USD in 2012, growing consistently, by 4% per year between 2005 and 2012

Figure 3.1 Past and projected international funding for malaria control, 2000-2016
Key trends on LLIN deliveries in sub-Saharan Africa:

- LLIN deliveries picked up in 2013: 136 million delivered to region
- Even stronger pipeline for 2014: 200 million LLINs funded for delivery
- 42% of at-risk population has access to bed net
- A total of 36% of at-risk population sleeping under bed net

**Figure 4.1 Number of LLINs delivered by manufacturers to countries in sub-Saharan Africa, 2004–2013**

- LLINs delivered by year
- 3 year total delivered LLINs
- 3 year total needed for universal access

LLIN, long-lasting insecticidal net

* The total number delivered for the first three quarters of 2013 has been multiplied by 4/3 to provide an annual estimate.

Source: Data from 7 WHOES-approved manufacturers, collated by Milliner Global Associates.
Key trends on indoor residual spraying for malaria control

- 135 million people (4% of global at-risk population) protected by IRS in 2012, with 58 million in Africa
- Between 2010 and 2012, IRS coverage fell from 11% to 8% of at-risk groups in Africa, possibly due to increased use of more costly non-pyrethoids

**Insecticide resistance**

- Mosquito resistance to at least one class of insecticides has been identified in 64 countries, on all continents where transmission occurs
Global technical strategy for malaria 2016-2025

What is its purpose?

• Envisioned as a 10-year global strategy to support countries in their efforts to reduce disease burden and accelerate towards elimination

• Articulates global vision, strategic directions, and comprehensive set of policy recommendations. Sets targets for 2025

• Will provide technical foundation for Roll Back Malaria Global Malaria Action Plan 2

How is it being developed?

• Developed by WHO/ GMP, with guidance by Steering Committee, and oversight by Malaria Policy Advisory Committee (MPAC)

• Series of regional consultations scheduled for March – May 2014, with final MPAC endorsement in September 2014

• WHO Executive Board to consider strategy in January 2015, WHA to discuss it in May 2015
Strong alignment between GTS and GMAP 2

- GMP and RBM working together to develop GTS and GMAP 2
- Joint launch planned in 2015 after WHA endorsement (GTS) and RBM Board adoption (GMAP 2)
- Overlapping Steering Committee and GMAP 2 Taskforce membership: 3 members + Ex officio membership overlap
Regional consultations 2014

Scheduled technical consultations on the GTS
(to be held back-to-back with RBM GMAP 2 consultations)

- 17–21 March: AFRO – Brazzaville, Congo
- 31 March – 4 April: PAHO – Panama City, Panama
- 7–11 April: AFRO – Harare, Zimbabwe
- 14–18 April: EMRO – Dubai, United Arab Emirates
- 28 April – 2 May: SEARO – New Delhi, India
- 26–30 May: WPRO – Manila, Philippines
- 11–12 June: EURO – Copenhagen, Denmark (no GMAP 2)
GTS website up and running

www.who.int/malaria/areas/global_technical_strategy
The Malaria Policy Advisory Committee provides independent strategic advice and technical input to WHO for the development of policies related to malaria control and elimination.

- Established in 2011, inaugural meeting in February 2012
- Four meetings to date, next meeting: 12-14 March, 2014, Geneva
- All meeting reports published in the Malaria Journal
MPAC membership

• 15 members with a broad range of expertise and professional affiliation

• Appointed by WHO Director General for three-year terms, renewable once

• Current chair: Prof. Kevin Marsh, Director of KEMRI Wellcome Trust Research Programme, Kilifi, Kenya
MPAC feedback to and from RBM partners

- MPAC meets twice a year, every March and September
  - RBM Executive Director is a standing observer at every meeting
  - All meetings are conducted primarily in open session; other observers, including all RBM partners, welcome to attend
  - All pre-reads and presentations are available at: http://www.who.int/malaria/mpac/mpacmeetings/
  - Registration details and draft agenda for March 2014 on website

- WHO/GMP (as RBM Board member) provides feedback on MPAC conclusions and recommendations at Board meetings, every May and November, and gathers suggestions for future meetings

- Feedback welcome at any time via mpacgmp@who.int
Expert groups supporting the MPAC

- Evidence Review Groups (ERGs) are time-limited, convened to answer a specific question raised by MPAC
  - ERG on primaquine as a gametocytocide for *Pf* malaria (completed)
  - ERG on IPTp (completed initial mandate)
  - ERG on malaria burden estimation (completed initial mandate)

- Technical Expert Groups (TEGs) are standing committees, reporting to MPAC on a regular basis
  - Chemotherapy TEG
  - Drug Resistance and Containment TEG
  - Vector Control TEG
  - Surveillance, Monitoring, and Evaluation TEG (being constituted)
  - Joint TEG on malaria vaccines (jointly reporting to SAGE)
Vector Control Unit: mission statement

- maintain and promote up-to-date evidence and consensus-based recommendations, norms and standards for malaria vector control; and
- stimulate the development and testing of new vector control technologies, tools and guidelines
Vector Control Advisory Group (VCAG) – to assess New Tools

Terms of reference

- Establish a comprehensive process to assess new tools, technologies and approaches for vector control
- VCAG was jointly established by GMP and NTD and reports to both the GMP/MPAC (malaria) and NTD/STAG (other VBDs)
- Provides a pathway for new forms of vector control to gain an initial recommendation
  - Shortens the process to bring a product to the market
  - Not be confused with WHOPES which is for product specifications

Accomplishments

- Members of VCAG were constituted in Jan 2013
  - Gender and geographical balance
  - Diverse expertise – including product development
- First meeting July 2013
  - Finalized working procedures
- Second meeting Feb 2014
  - Reviewed 9 dossiers from potential innovators
  - Proposing initial recommendations to WHO
## Distinct roles for VCAG and WHOPES

### VCAG
1. Provides WHO with evidence-based advice on epidemiological mode of action and public health value of a new paradigm
2. Evaluates tools as new paradigms – including chemical and non-chemical
3. Recommendations may lead to creation of new policy on the use of the paradigm
4. VCAG reviews the proof of principle of a new paradigm
   a. Novel classes of technology – not an individual product
   b. Evaluated on evidence derived from practical tests – entomological/epidemiological

### WHOPES
1. Provides recommendations on efficacy and safety of new pesticide products
2. Currently deals with chemical/pesticide products; may consider tools recommended by VCAG as follows:
   a. Develop standard definitions/testing/assessment methods
   b. Develop quality control criteria (WHO specifications)
   c. Develop guidelines for efficacy and risk assessment
3. Recommendations lead to national registration and use as new paradigm
4. Undertakes lab/field evaluation of products produced on commercial scale
Established by MPAC in Sept 2012, and has already reviewed evidence and proposed recommendations for MPAC consideration on:

- Maintaining universal coverage of LLINs
- Estimating LLIN longevity
- Capacity building for public health entomologists/ vector control

Topics for discussion at March 2014 MPAC meeting:

- Guidance note to prioritize vector control interventions when resources are constrained
- Guidance note on combining IRS with LLINs
- Guidance note on controlling early and outdoor transmission (update)
- Guidelines/ manual on entomological surveillance (update)
MPAC Recommendations on sustaining LLIN coverage

- Mass free LLIN distributions to at-risk populations continue to be necessary
  - Generally every 3 years - assuming routine systems are also functional

- In the absence of functional routine systems, campaigns should occur more frequently than every 3 years
  - Top-up campaigns when population coverage of LLINs of less than 2 years old is greater than 40%

- ANC and EPI - highest priority channels for continuous distribution (before, during and after mass campaigns) - where contact rates are high – for now cannot replace campaigns

- Other distribution mechanisms are country-specific and should only be recommended in that context after cost-effectiveness established

- Enhanced monitoring and evaluation is required to better inform programming decisions
  - Repeated longitudinal estimates of % population with access to an ITN/LLIN within the household
  - Operational coverage through ANC and EPI services
  - Relative contributions of different delivery channels

Recommendations on estimating LLIN survival

- Countries to include in their work plans routine collection of data on LLIN durability – prospective and retrospective
- WHOPES should consider “proportion of LLINs that survive to three years of field use in ‘serviceable’ condition” as a minimum specification requirement for LLINs
- WHO to facilitate the collection, analysis and sharing of results of comparable LLIN survival data by providing resources for training and technical support
- WHO to disseminate and promote this guidance document for use by countries and partners
- WHO to use its existing policy setting mechanisms to regularly review this guidance as new information emerges – including the possibility of establishing categories of LLIN performance for net procurement and replacement

Recommendations on capacity building on entomology/vector control by countries

- Ensure basic capacity of human and infrastructure to support vector control and entomological monitoring – including insecticide resistance
- Establish/strengthen an intersectoral coordination mechanism, for developing a long-range strategic plan for building human resources and systems
- Conduct training needs assessments and curricula review for pre-service and in-service training (including epidemiology and management)
- Review, revise or establish posts and career development structures at all levels
- Establish agreements with national universities, training and research institutions to provide ongoing training and technical support
- Ensure there are sufficient resources for human and infrastructure capacity-building factored into bi-lateral and multi-lateral projects and programmes, based on the established national strategic plan.

Recommendations on managing old LLINs and plastic packaging (1)

VCTEG has reviewed all available evidence that for most malaria endemic countries:

- LLINs and their plastic packaging contribute between 1-5% of total plastic consumption
- Lack adequate environmental regulations to deal with collection and management of old nets
- Methods of collection and who should collect old nets are unclear
- There is no evidence that recycling of old nets is cost-effective i.e. whether environmental benefits outweigh the costs of recycling
- Disposal of old nets was the least desirable option – especially burning them in the open air
- Leaving nets in the community, results in re-using them in a variety of ways – biggest concern is on the amount of insecticide available on the nets – this we do not know
Recommendations on managing old LLINs and plastic packaging (2)

The following are proposed for MPAC consideration and recommendation:

- Old nets should not be collected unless same number are replaced and that safe and sustainable plans are in place to manage them.
- If collected – they should not be burned in the air and that communities must be made aware of the potential environmental and health hazards.
- Collection should not divert efforts and resources of NMCPs from their task of ensuring universal coverage is maintained.
- Leadership and guidance from environmental authorities is necessary and regulations must include management of old nets and their packaging.
- Communities must be encouraged to use old nets (even with holes) until replaced with new nets.
- Additional data needs to be collected urgently on the rationale for collecting old nets and potential methods to manage them – including issues of incentives and logistics.
- WHO will continue to monitor the evidence of net collection and management and review these recommendations if and when appropriate.
Previous policy recommendations

**Larval source management**

- Interim position statement on larviciding in Sub-Saharan Africa, published in April 2012
  

- Additional tools: Larval source management – a supplementary malaria vector control measure: An operational manual
  

- Key challenge: continued promotion of larviciding in potentially inappropriate settings

*All documentation on the WHO malaria website*

www.who.int/malaria/publications
Way forward

WHO/GMP grateful to all partners who have contributed to our vector control work, especially: endemic countries, BMGF, USAID, DFID, SDC, GF etc.

The contribution of the VCWG to the work of WHO (as a group broadly and as individuals) has been immense

As we continue our collaboration in 2014 and beyond, it is important to ensure that:

- financial and human resources are available to implement WHO recommendations
- support to endemic countries is harmonized, streamlined and focused on issues that matter the most on country level
Thank you for your attention