

POLICY UPDATES ON MALARIA VECTOR CONTROL



11th Meeting of the Vector Control Working Group

03 - 05 February 2016 – Movenpick Hotel, Geneva, Switzerland



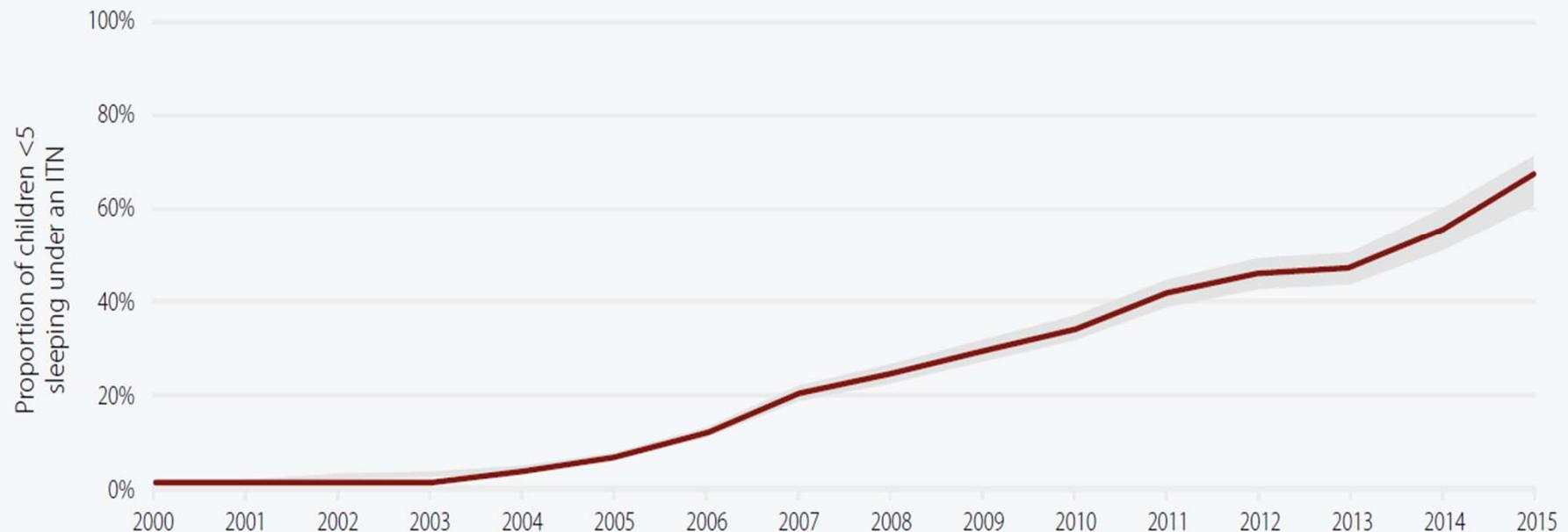
- Endorsement of the Global Technical Strategy for Malaria Control and Elimination through Resolution WHA68.2
<http://www.who.int/malaria/publications/atoz/9789241564991/en/>
- Recommendations on the potential risks associated with the scale-back of malaria vector control when transmission has been reduced
<http://www.who.int/malaria/publications/atoz/scale-back-vector-control/en/>
- Recommendations on conditions for use of PBO LLINs <http://www.who.int/malaria/publications/atoz/use-of-pbo-treated-llins/en/>

Proportion of Children Under 5 Sleeping under ITNs



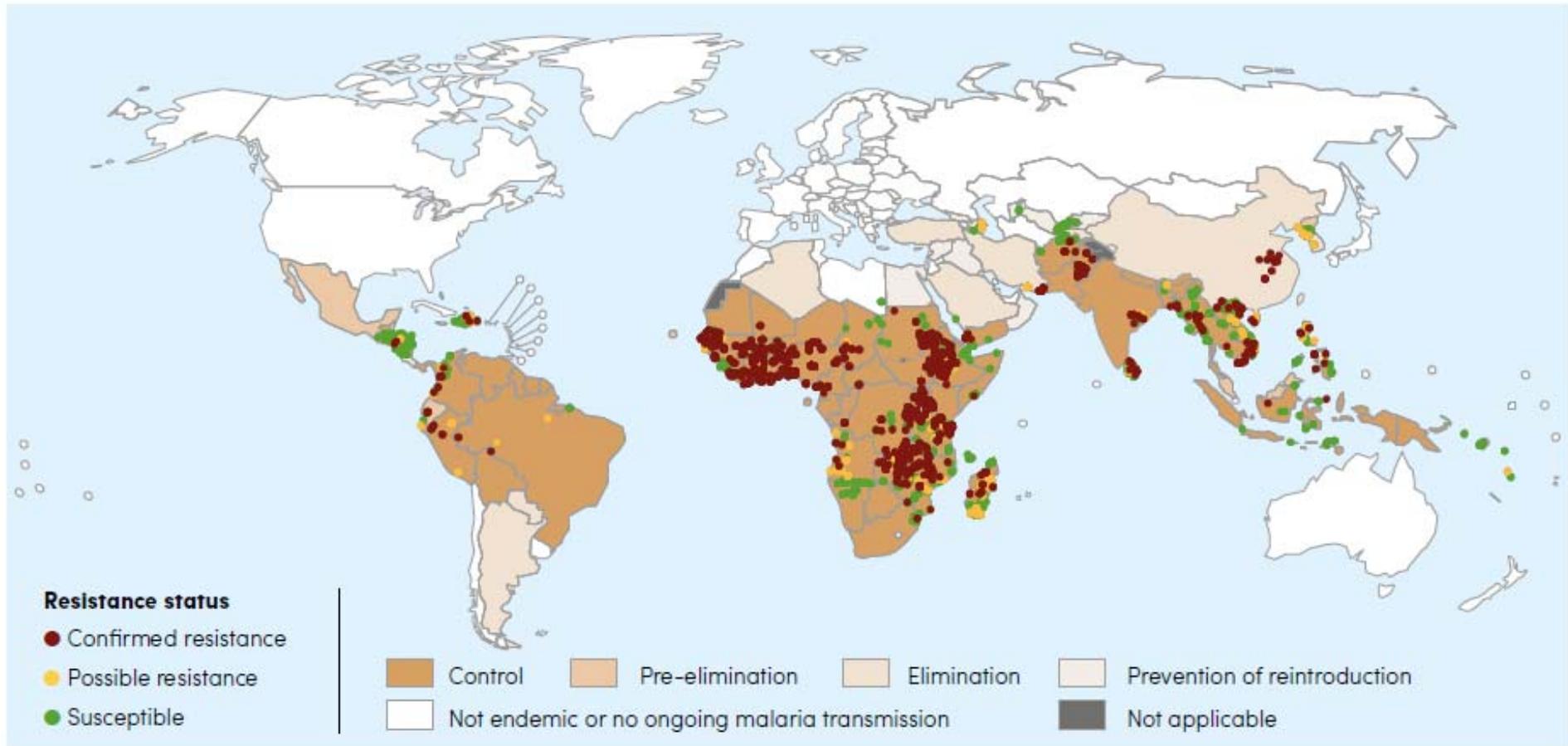
The proportion of children under 5 sleeping under an ITN has **increased markedly** in sub-Saharan Africa, from less than 2% in 2000 to an estimated 68% in 2015

Figure 6. Estimated proportion of children under 5 sleeping under insecticide-treated mosquito nets, sub-Saharan Africa, 2000–2015



Source: Insecticide-treated mosquito net coverage model provided by the Malaria Atlas Project (MAP)

Pyrethroid resistance increases in distribution and intensity



Data shown are for standard bioassays. Where multiple insecticide classes or types, mosquito species or time points were tested, the highest resistance status is shown.

Source: National malaria control programme reports, African Network for Vector Resistance, Malaria Atlas Project, President's Malaria Initiative (United States), scientific publications.

Main vector control priorities in line with GTS



- Maximize the impact of current vector control interventions (LLINs and IRS – plus other supplementary measures)
- Maintain adequate entomological surveillance and monitoring
- Prevent and manage insecticide resistance and outdoor malaria transmission
- Strengthen capacity for evidence-driven vector control
- Implement targeted vector control where transmission has declined
- Support the development and uptake of new tools (harnessing innovation) – including quality control of vector control products



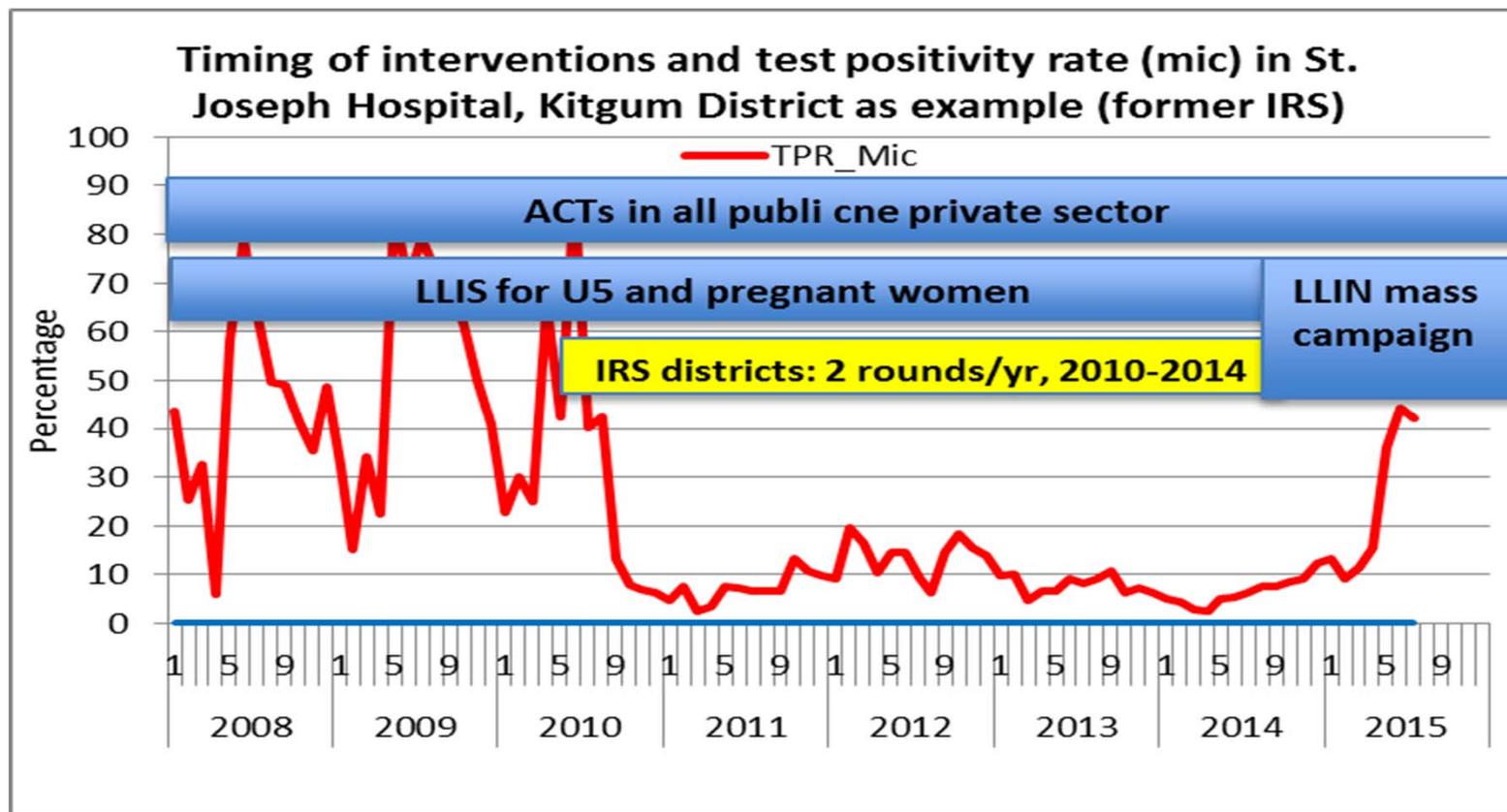
Are there situations in which reduction in coverage of vector control activities will not result in resurgent transmission?

Areas with ongoing local malaria transmission



- Irrespective of both the pre-intervention and the current level of transmission, **the scale-back of vector control is not recommended**. Universal coverage with effective malaria vector control of all persons in such should be pursued and maintained
- An **area** is determined by availability of reliable disaggregated active disease surveillance data and feasibility for decisions on vector-control implementation. Areas are not necessarily based on administrative boundaries.

The risk of untimely removal of effective vector control





The scale-back of vector control should be based on a detailed analysis that includes assessment of **receptivity, vulnerability, active disease surveillance, capacity for case management and vector-control response**

Receptivity - ability of an ecosystem to allow transmission of malaria

Vulnerability - frequency of influx of infected individuals or groups and/or infective anophelines

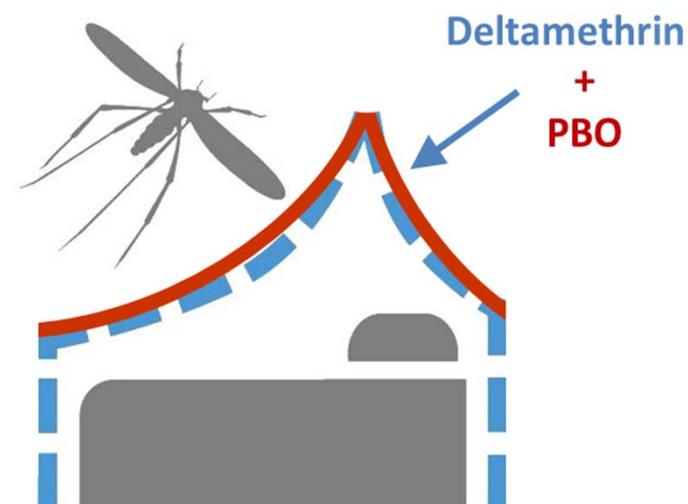


- Countries and partners should invest in health systems particularly strengthening of disease and entomological surveillance, as identification of areas for geographical scale-back as well as timely detection and appropriate response to resurgence depends on this capacity.

Use of PBO LLINs in pyrethroid resistant areas

- Two PBO LLINs are available and both have WHOPES recommendation as standard LLINs
- Manufacturer's claim that they are better than standard LLINs in areas of substantial pyrethroid resistance – due to presence of certain resistance mechanisms (e.g. mixed function-oxidase)

Over the past few months, WHO has been reviewing the evidence with the goal of identifying the areas and conditions under which PBO nets could be deployed



PBO is a synergist that enhances effects of pyrethroids by inhibiting metabolic detoxification enzymes

The process of reviewing the evidence



- **Acknowledged by VCAG as a novel approach – Nov'14**
- **Presented to MPAC for a possible recommendation – March'15 following electronic input from VCTEG**
- **MPAC was not convinced that the evidence presented was strong enough to issue a recommendation on their deployment**
- **MPAC requested GMP to consolidate all available data and if possible commission the generation of new evidence to identify areas where PBO nets could be deployed**
- **GMP requested the consolidation of such evidence and constituted an independent Evidence Review Group (ERG) – Sept'15**
- **Report electronically reviewed by VCTEG and MPAC – October'15**
- **WHO issued recommendations – December 2015**



- The evidence on the efficacy of PBO LLINs is still limited and does not justify at this point, a complete switch from pyrethroid-only LLINs to PBO LLINs across all settings.
- PBO LLINs with a WHOPEs interim or full recommendation can be considered to be at least an equivalent option to other LLINs in all settings, and probably superior in some settings. However, there is neither evidence to assume higher efficacy nor greater utility as a resistance management strategy across all settings.
- PBO LLINs should be used only where universal coverage with effective vector control (LLINs and / or IRS) of populations at risk of malaria will not be reduced. They should also not be used in areas programmed for IRS with pirimiphos methyl (actellic-cs)



- Pilot implementation accompanied by robust monitoring and evaluation undertaken where prevalence of malaria in children aged 2–10 years is $> 20\%$ and mosquito bioassay mortality with pyrethroids is $< 80\%$
- **Guiding potential deployment, countries should be supported to:**
 - collect data on the presence, level, intensity and mechanisms of pyrethroid resistance at representative sentinel sites;
 - design an evaluation with appropriate indicators based on detailed guidance
- To manage insecticide resistance, development and evaluation of non-pyrethroid LLINs and other innovative vector control tools for use across all settings is a priority

Potential areas for policy guidance and refinement



- Vector control and entomological surveillance continue to be key in the continuum of accelerating to elimination and prevention of malaria re-establishment
 - But what are the minimum entomological indicators that control programmes should collect?
- IRS and LLINs remain our key vector control interventions. They can only be combined if managing insecticide resistance
 - How do we address the perception that IRS is more effective than LLINs?
- Made huge progress in our policy setting process for malaria and malaria vector control
 - How can we streamline our process further to respond to the needs to get products to market faster?
 - How do we work with our partners to support countries generate data needed for policy guidance and for registration?

Thank you!