

Update on malaria vector surveillance, control and prioritization work



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Roll Back Malaria Vector Control Working Group Meeting

3 March 2022

Global **Malaria** Programme



**World Health
Organization**



Mission

Support optimal resource use for malaria vector control by WHO Member States and by their implementing partners

Key activities

Support generation and reporting of data related to malaria vectors and interventions

- Track status of insecticide resistance and vector control coverage (and effectiveness), including contribution to WMR and global status updates
- Strengthen WHO, Member State and partner reporting and use of vector surveillance/control data, including development of DHIS-2 entomology module
- Manage Vector Control Advisory Group (VCAG)
- Support generation of economic data to improve resource allocation decision making

Develop or revise evidence-based WHO recommendations and programmatic guidance on vector surveillance and control, including for new tools

- Develop vector control implementation guidance, and guidance for evaluation of new vector control tools
- Support evaluation of vector surveillance or control tools, including evaluation of new tools, and associated management of VCAG
- Integrate economic evidence in WHO vector control guidelines
- Develop guidance on prioritization of vector control interventions applying principles of health technology assessment

Support timely dissemination of vector surveillance and control guidance and contribute to its implementation through technical support and capacity building activities based on identified priorities

Support generation and reporting of data



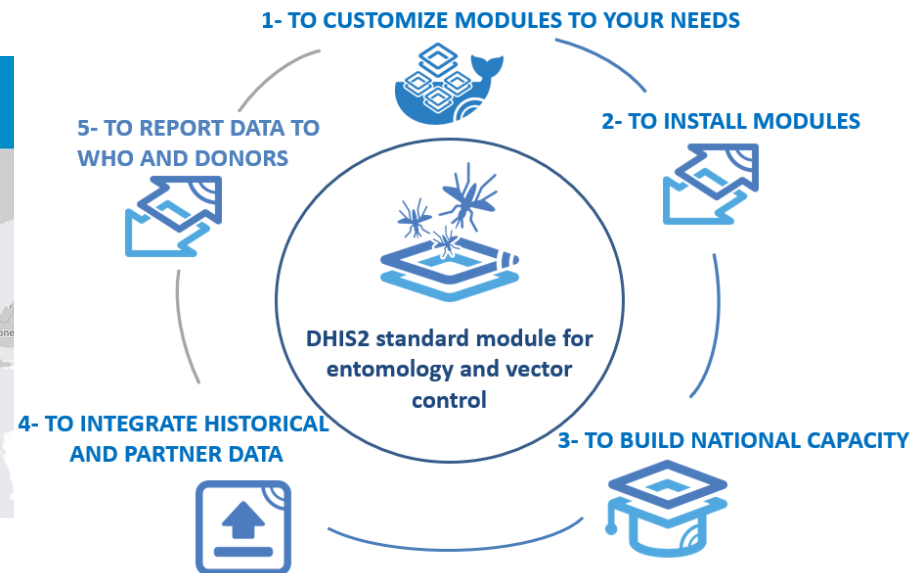
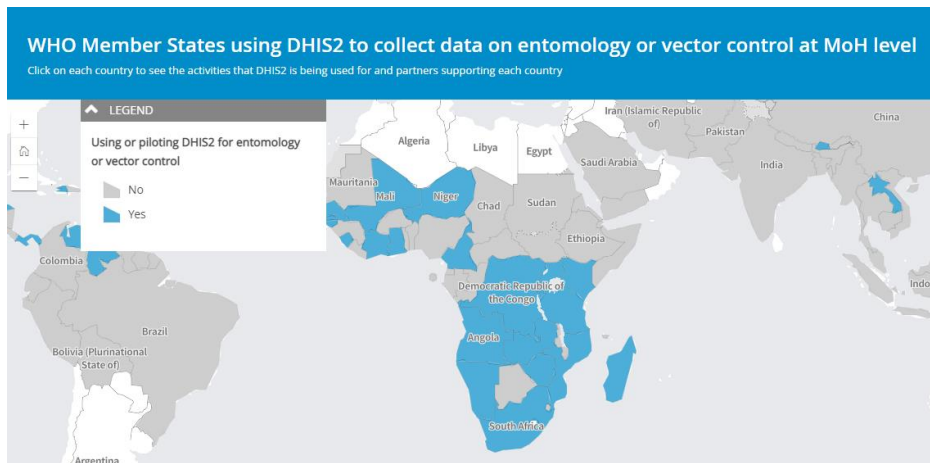
DHIS2 standard entomology & vector control modules



- Supports collection, collation, analysis and interpretation of entomology and vector control data and integration of entomological and epidemiological
- New mosquito laboratory module developed
- Adults surveillance module adapted to different data workflows in countries
- Incorporation of new IR testing procedure and DCs to the resistance monitoring modules (WHO bottle bioassay).
- Improved implementation toolkit and documentation: Bulk Load and Training App (winner of the DHIS2 annual app competition)
- Interoperability with PMI's VectorLink Collect
- Supported/ing: Ghana, Kenya, Tanzania, Burkina Faso, Botswana, Venezuela, Honduras, Nicaragua

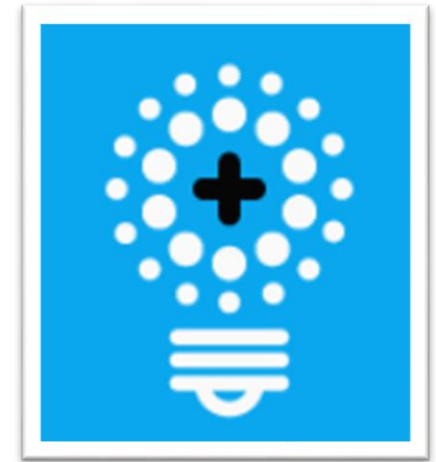


[Intro video](#)
[Information](#)
[page](#)





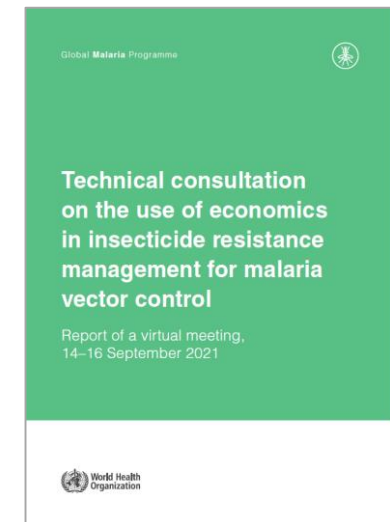
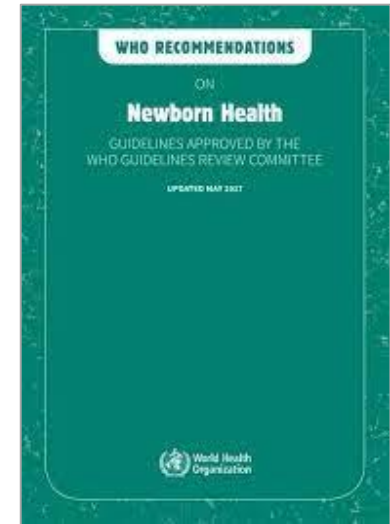
- Advice on generation of high-quality data to inform development of WHO recommendations
 - 2 intervention classes completed VCAG evaluation
 - 9 intervention classes with trials planned/active
 - Additional classes at earlier stages of evaluation
- 15th VCAG meeting 4-6 October 2021
 - Meeting report available:
<https://www.who.int/publications/i/item/9789240040854>
- 16th VCAG meeting 28-30 March 2022



<https://www.who.int/groups/vector-control-advisory-group>



- Review of WHO guidelines in other disease areas
 - How economic data is obtained and utilized in recommendations
 - Implications for malaria vector control guidelines
 - Latest: CEA review draft completed
- Develop guidance to help countries improve resource allocation
 - Review existing approaches to collect / use economic data
 - Develop WHO guidance for key economic data collection and utilization in malaria
- Technical consultation held: to promote discussions and workplan to apply economic principles to insecticide resistance management
 - Meeting report available:
<https://www.who.int/publications/i/item/9789240042049>



WHO recommendations & programmatic guidance





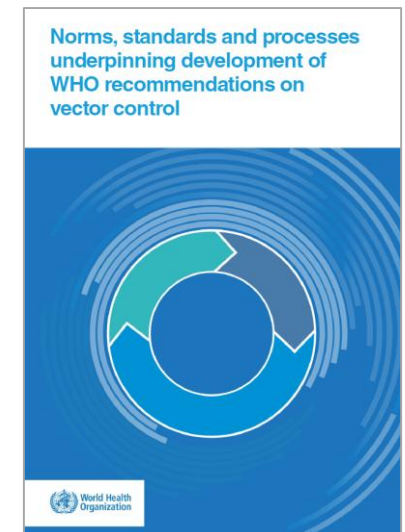
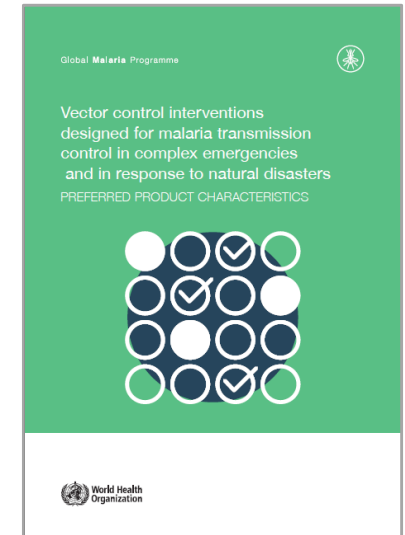
Preferred Product Characteristics

Development of two new PPCs is ongoing and one new PPC is planned for 2022:

- Indoor residual spraying/ indoor wall treatments (under development)
- Revision of PPC on endectocides (under development)
- Interventions to combat outdoor biting of mosquitoes

Vector control evaluation processes

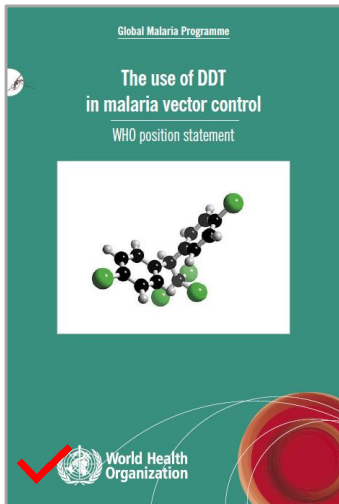
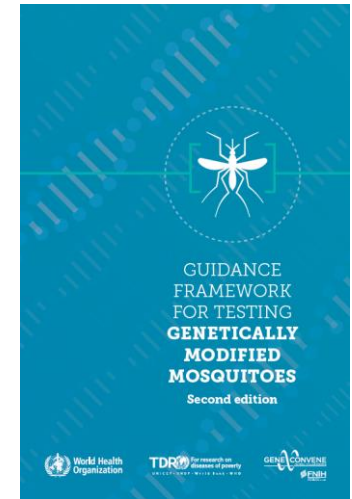
- High-level video developed, outlining the content of: *Norms, standards and processes underpinning development of WHO recommendations on vector control* (2020)
<https://www.youtube.com/watch?v=k94kiQcfv8s>
- Translations forthcoming: Arabic, Chinese, French, and Spanish
- Two additional videos planned for 2022 to provide more detail on the PQT and New Interventions pathways





Genetically modified mosquitoes (GMMs)

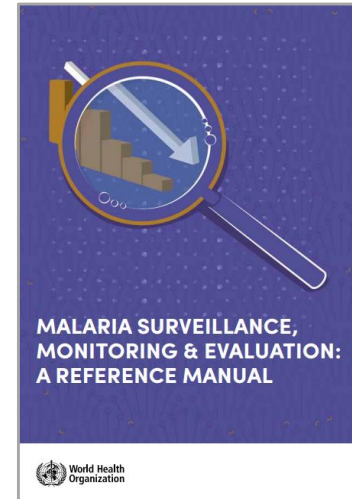
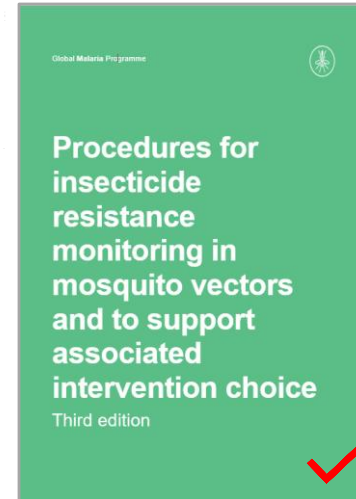
- Revised and published framework for evaluation of GMMs jointly with TDR and FNIH: <https://www.who.int/publications/i/item/9789240025233>
- Revision of WHO procedures for insecticide resistance monitoring completed. Document undergoing layout.
- DDT position statement integrated into malaria guidelines. To be published as part of next update.



MANUAL ON PRACTICAL ENTOMOLOGY IN MALARIA

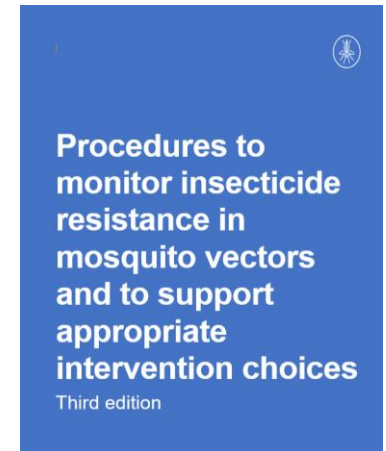
prepared by the
WHO Division of Malaria and Other Parasitic Diseases

PART I
Vector Bionomics and Organization of Anti-Malaria Activities





- Updated test procedures for monitoring insecticide resistance in disease mosquito vectors
- Integrates *Aedes* and *Culex* into existing *Anopheles* guidance
- WHO bottle bioassay: a new procedure developed to monitor resistance in insecticide that cannot be impregnated on filter papers and to test for pyriproxyfen resistance
- New DCs developed for *Aedes/Anopheles* and some former DCs validated for *Anopheles*
- SOPs developed for:
 - WHO bottle bioassays
 - WHO bottle bioassay with pyriproxyfen
 - Impregnation of filter papers
 - WHO tube test
 - WHO tube test for synergist-insecticide bioassays



Standard operating procedure
for testing insecticide
susceptibility of adult mosquitoes
in WHO bottle bioassays

Version: WHO Bottle-bioassay/01/14 January 2022



Prioritization & prioritization guidance



High Burden to High Impact (HBHI) Approach



Objectives

HBHI aims to reaffirm commitment and refocus activities in the highest burden countries¹ to accelerate progress towards GTS goals through 4 response elements



I Political will to reduce malaria deaths



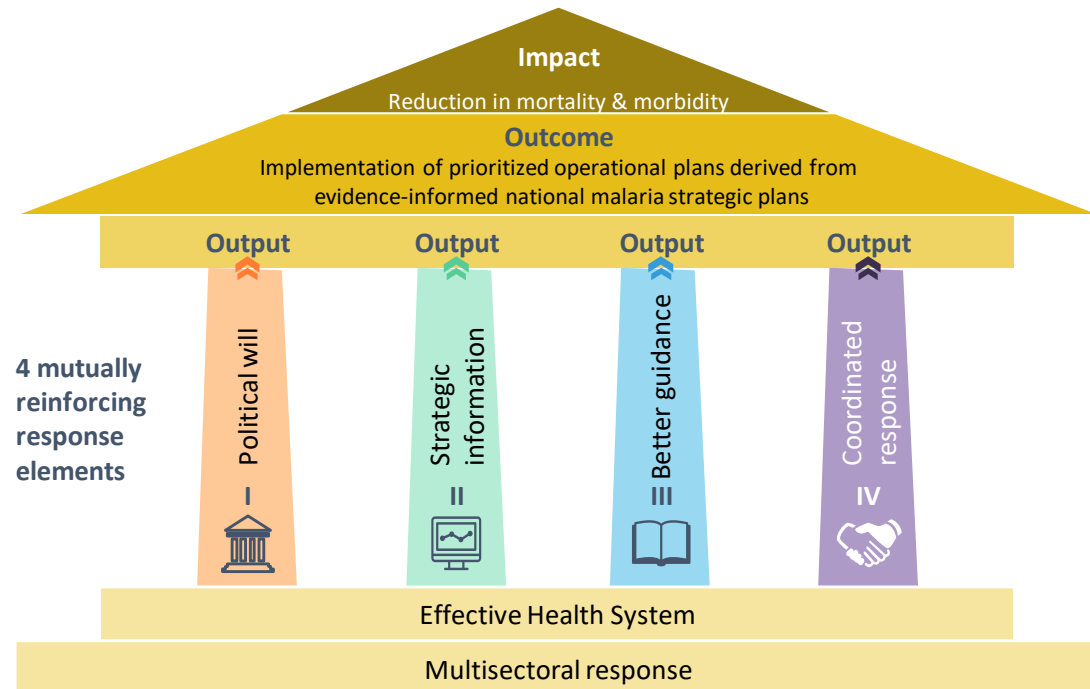
II Strategic information to drive impact



III Better guidance, policies and strategies

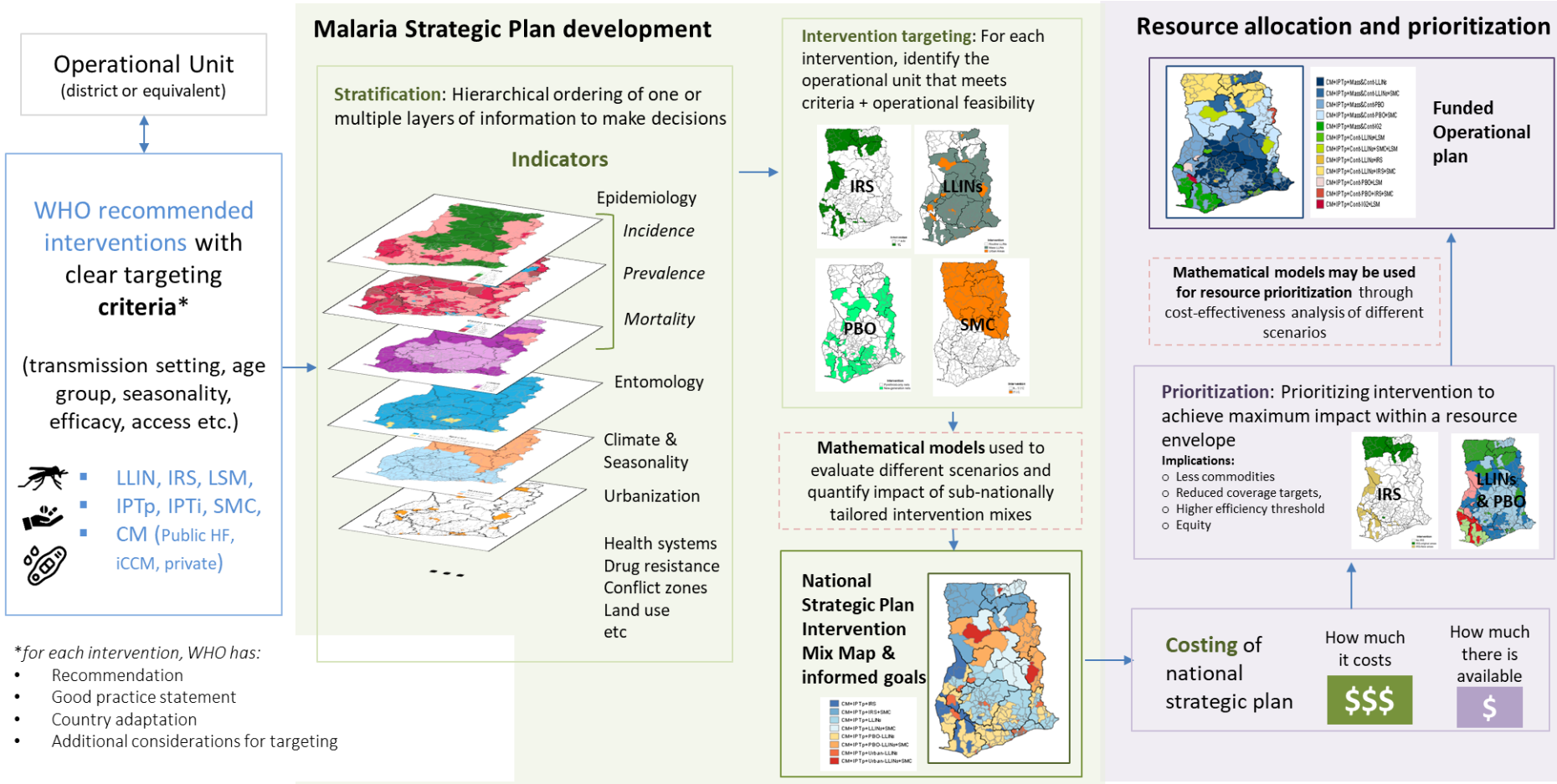


IV A coordinated national malaria response



¹ Burkina Faso, Cameroon, DRC, Ghana, India, Mali, Mozambique, Niger, Nigeria, Tanzania, Uganda

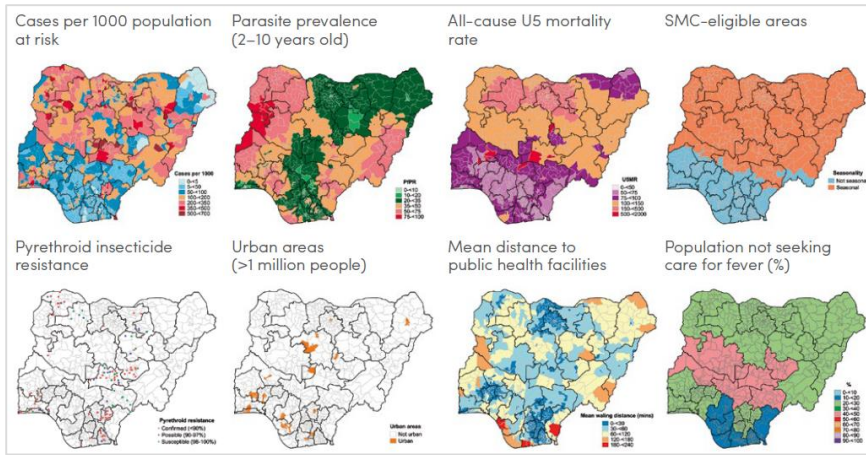
HBHI Response element II: Subnational Tailoring of Interventions



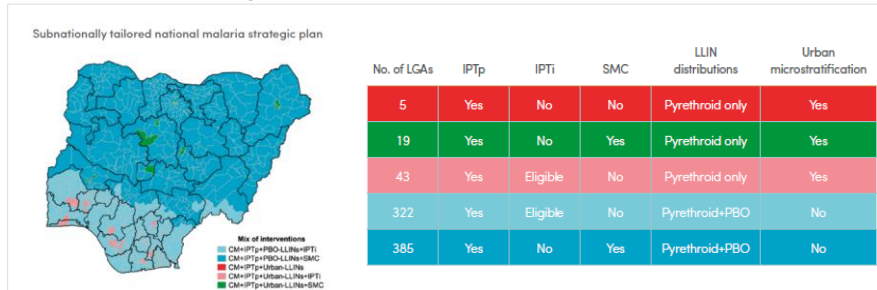
Subnational tailoring of interventions in Nigeria



Stratification



Subnational tailoring of malaria interventions

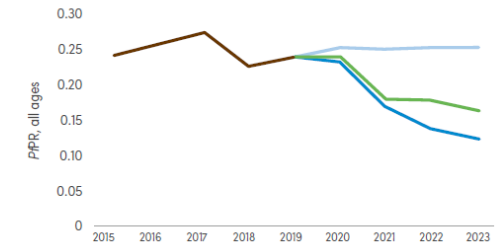


Prioritization

Analysis to compare the expected impact of 4 interventions scenarios:

- Business As Usual (BAU) plan
- National Strategic Plan (NSMP)
- Funding request including (with PAAR) or excluding (without PAAR) some SMC areas

Impact of new subnational targeting of interventions



Relative change in PPR (all ages): 2023 compared to 2020 BAU



Scenarios:

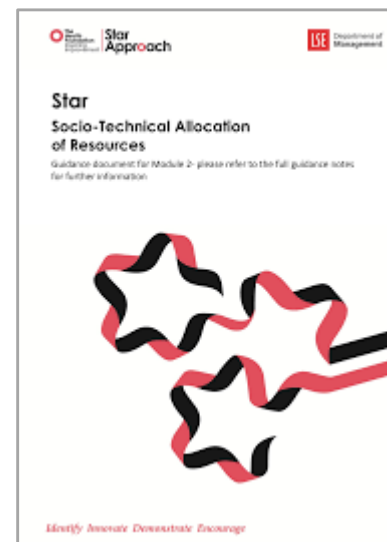
- Business as usual
- NSMP with 80% effective coverage
- Funded scenario with PAAR SMC LGAs
- Funded scenario without PAAR SMC LGAs



Scenario	Cases and deaths averted compared to a business as usual scenario, 2020–2023			
	Cases: all ages	Cases: U5	Deaths: all ages	Deaths: U5
Full implementation of NSMP	103 000 000	32 000 000	90 000	75 000
Funded scenario with prioritized above allocation request (PAAR) SMC LGAs	73 000 000	24 000 000	66 000	54 000
Funded scenario without PAAR SMC LGAs	71 000 000	23 000 000	64 000	53 000



- Work commenced to support WHO Member States to generate context-specific evidence to support resource prioritization processes within the area of vector control
- The process will be conducted in several steps:
 - Landscape review of existing decision-making prioritization frameworks was completed in 2021;
 - Pilot resource prioritization exercise to be conducted in one malaria high burden country in 2022, based on the application of Socio-Technical Allocation of Resources (STAR), combined with the MINT tool to predict epidemiological impact;
 - Lessons will be drawn to reflect on the country experience with the use of the piloted prioritization framework



Dissemination & implementation



DHIS 2 modules & Malaria Threats Map



DHIS 2

- Development of module detailed documentation (ongoing)
- Incorporation of DHIS2 modules into the broader WHO module production scheme coordinated by the University of Oslo on behalf of WHO
- [Official information page](#)
- [Promotional video](#) in YouTube and translated into [Spanish](#) and [French](#)
- [Map](#) tracking use of DHIS2 for entomology and vector control

Malaria Threats Map

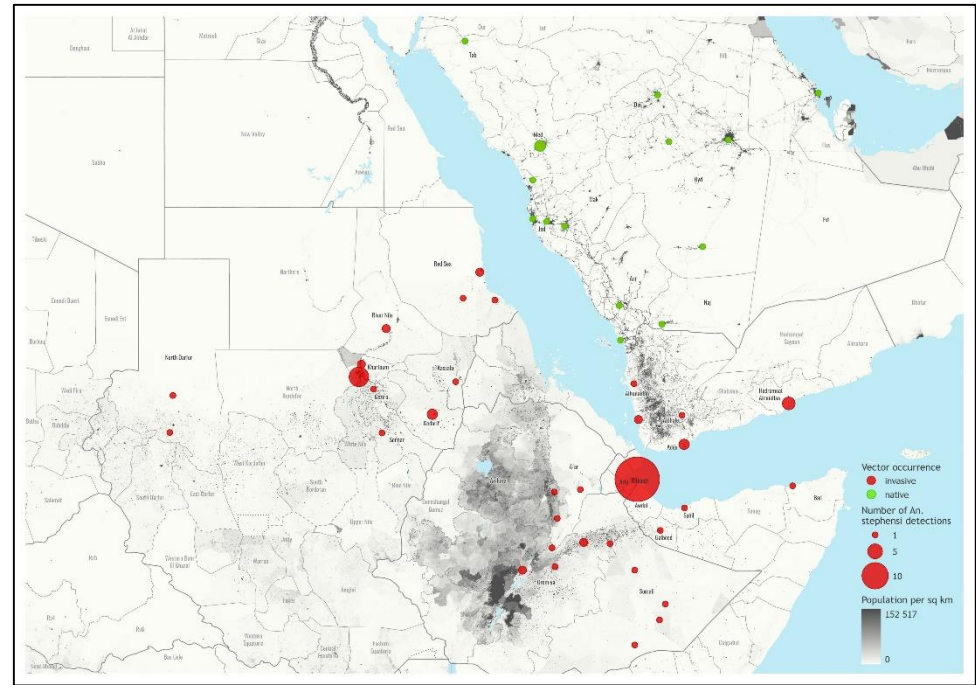
- User consultation finalized, new prototypes developed & validated
- Improvements under implementation
 - New country and regional summary dashboards for insecticide and drug resistance
 - Improved maps, explanation on map content, tooltips and map download
 - Improved information on data source and simplified data download
- Videos translated into Spanish and French

- Malaria Threats Map: tracking biological challenges to malaria control and elimination: https://www.youtube.com/watch?v=dU_xrzpupU (EN), <https://www.youtube.com/watch?v=SAvCA7Hv4wo> (FR) and https://www.youtube.com/watch?v=b_dXrW5Xz44 (ES)
- Malaria Threats Map: helping countries address critical threats for malaria control and elimination: <https://www.youtube.com/watch?v=x5P45TynlgM> (EN) <https://www.youtube.com/watch?v=jwf6gaHwqqM> (FR) and <https://www.youtube.com/watch?v=nSWWX201NYo> (ES)
- Malaria Threats Map: supporting research efforts: https://www.youtube.com/watch?v=diMb_gBUUBM (EN) <https://www.youtube.com/watch?v=PkJh4EBibbl> (FR) and <https://www.youtube.com/watch?v=oOUxm-wblQI> (ES)

Response to *An. stephensi* invasion

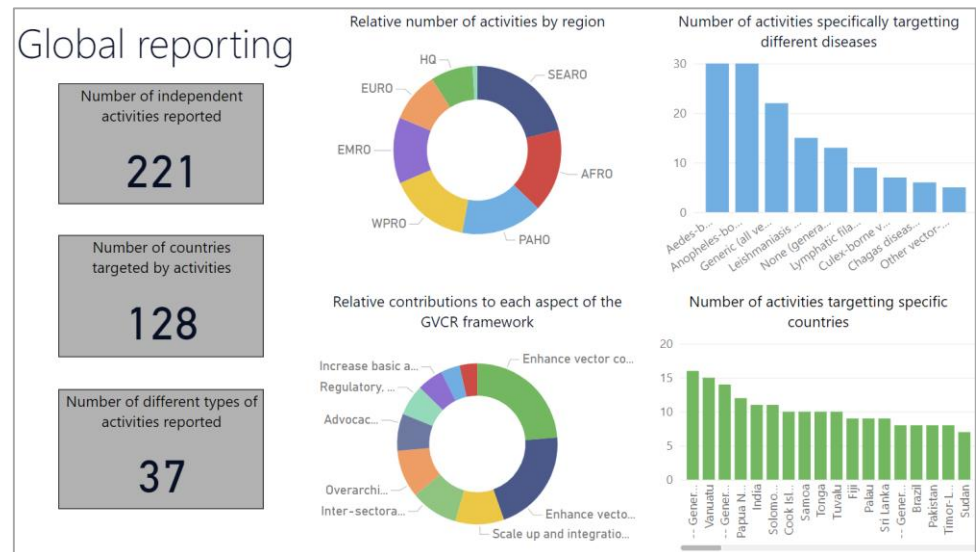


- Launch of regional initiative for Africa planned for April/May 2022
- Support visit to Djibouti conducted in November 2021
- Face-to-face convening in the Horn of Africa provisionally planned for 2022
- Malaria Threats Map maintained up-to-date





- Joint Action Group (JAG) meets quarterly
- GVCR Progress Report 2017-2020 published late 2020
- Online SharePoint hub for GVCR focal points
 - Launched 2020
 - Monitor implementation
 - Reports of outputs/deliverables
 - Interactive PowerBI report (global and regional pages)
 - Tracking of VCNA completion
 - WHA interim reporting: 5 year progress report submitted early 2022





To receive regular updates on GMP's vector control work:

<https://confirmsubscription.com/h/d/5DDA021E5819E645>

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