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# Malaria product pipelines

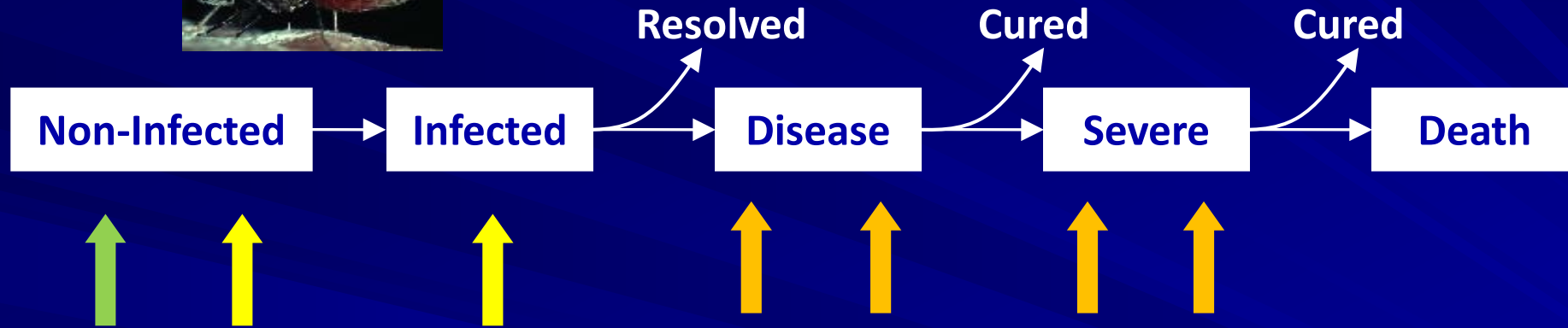
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PROMOTING EQUITABLE ACCESS TO HEALTH PRODUCTS THROUGH INNOVATION AND COLLABORATION “A NEXUS FOR SUSTAINABLE UNIVERSAL HEALTH COVERAGE”

27 November 2023

# Effective interventions are available

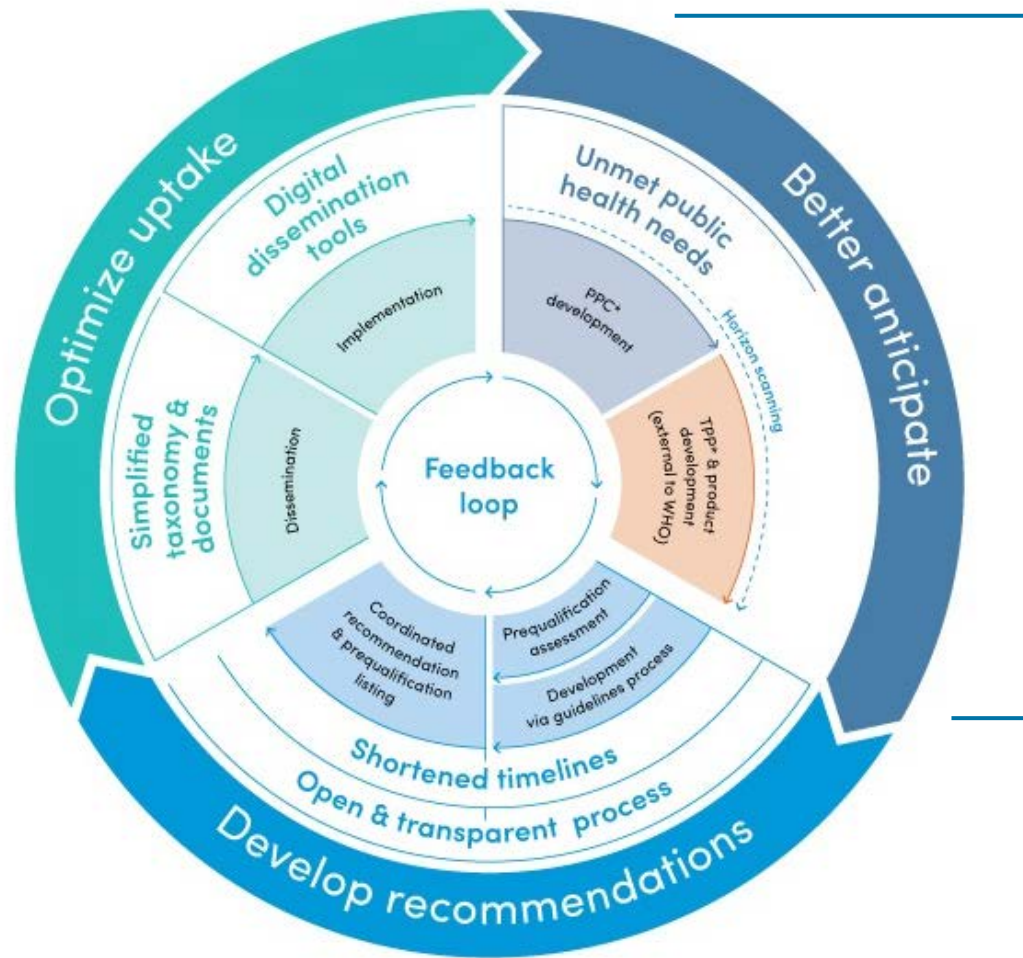


- Vector control
- Chemoprophylaxis
- Vaccines

- Intermittent preventive therapy in pregnant women, infants, school-children
- Seasonal malaria chemoprevention
- Post-discharge malaria chemoprevention
- Mass drug administration

- Early Diagnosis
- Treatment of uncomplicated malaria
- Referral
- Hospital-based management of severe malaria

# WHO malaria recommendation development process



## BETTER ANTICIPATE

- Define unmet public health needs for malaria
- Develop WHO preferred product characteristics (PPCs) and target product profiles (TPPs):
  - stimulate innovation
  - guide product development
- Review pipeline of new products
  - anticipate when new evidence is available to develop new or update recommendations
- Coordinated Scientific Advice (CSA) Procedure
  - provide advice to developers jointly with WHO Prequalification (PQ) and other relevant departments

\*PPC: Preferred product characteristic  
\*TPP: Target product profile

# Preferred Product Characteristics



**WHO PPCs: Malaria vaccines**  
<https://www.who.int/publications/i/item/9789240057463>



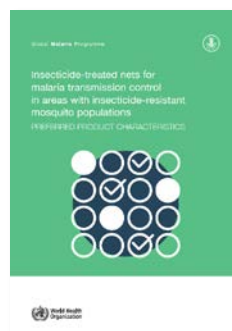
**WHO TPPs: Tests for G6PD activity**  
<https://www.who.int/publications/i/item/9789240062962>



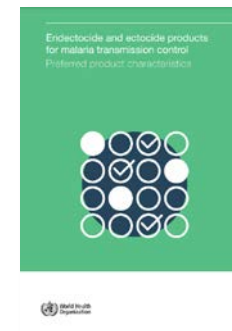
**WHO PPCs: Indoor residual surface treatments (IRST) in areas with insecticide-resistant mosquito populations**  
<https://www.who.int/publications/i/item/9789240050723>



**WHO PPCs: Drugs for malaria chemoprevention**  
<https://www.who.int/publications/i/item/9789240070967>



**WHO PPCs: Insecticide-treated nets (ITNs) in areas with insecticide-resistant mosquito populations**  
<https://www.who.int/publications/i/item/9789240018730>



**WHO PPCs: Endectocide and ectocide products**  
<https://www.who.int/publications/i/item/9789240052512>



**WHO PPCs: Malaria monoclonal antibodies**  
<https://www.who.int/publications/i/item/9789240070981>



**WHO PPCs: Vector control products targeting outdoor malaria transmission**  
<https://www.who.int/publications/i/item/9789240072251>

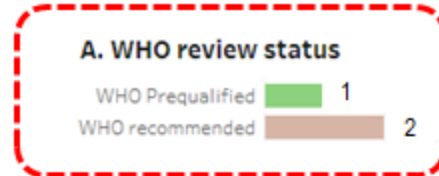


**WHO PPCs: Vector control products in complex humanitarian emergencies**  
<https://www.who.int/publications/i/item/9789240018754>

# Malaria vaccine R&D pipeline

## WHO review of malaria vaccine clinical development

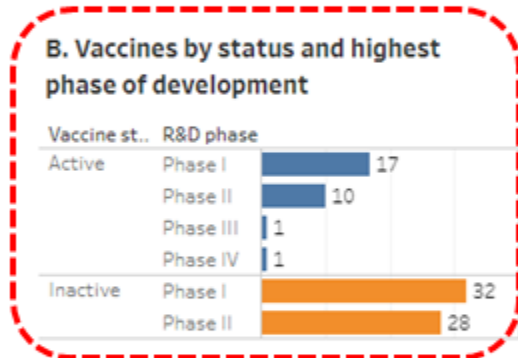
- Vaccine status
- (All)
  - Active
  - Inactive



89  
vaccines

153  
clinical trials

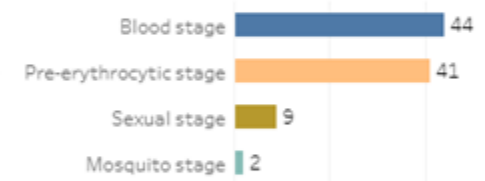
### Vaccines characteristics



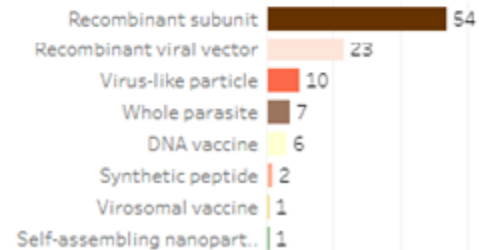
### C. Vaccines by target species



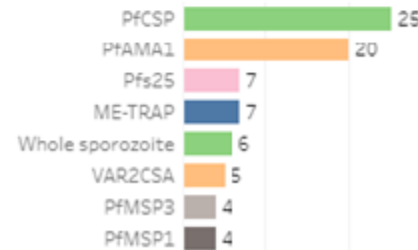
### D. Vaccines by life cycle stage



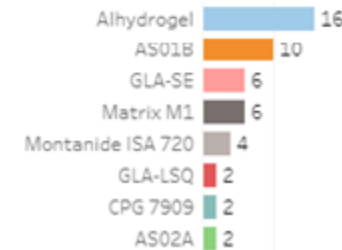
### E. Vaccine platform



### F. Vaccines by target antigen

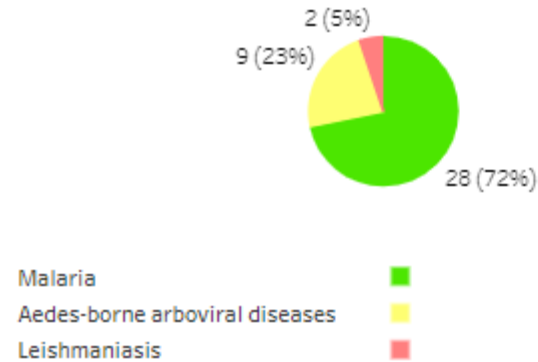


### G. Vaccine adjuvant

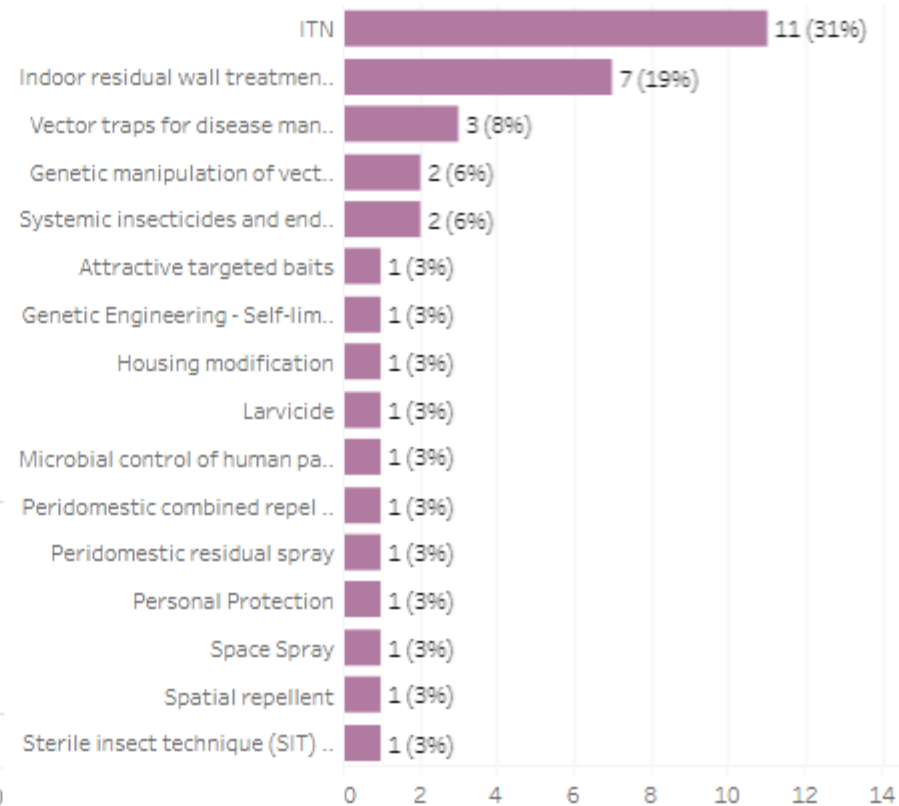


# Vector control interventions in the pipeline

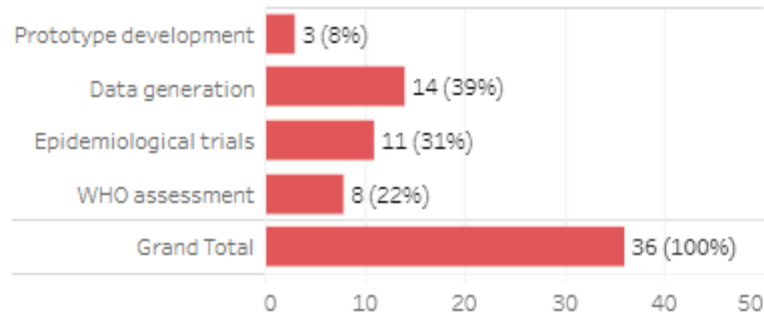
A. No. of interventions by disease



B. No. of interventions by type



C. No. of interventions by stage



<https://www.who.int/observatories/global-observatory-on-health-research-and-development/monitoring/vector-control-interventions-in-the-pipeline>

# Overview of recently recommended and anticipated new vector control products

## 2023

- New ITN recommendations released based on data from RCTs on pyrethroid-chlorfenapyr and pyrethroid-pyriproxyfen nets (March)
- New IRS product from a new insecticide class (broflanilides) prequalified (March) and WHO IRS recommendation extended (October)
- Second ITN containing pyrethroid + chlorfenapyr prequalified (March) and existing WHO recommendation validated using comparative efficacy data (June)
- Comparative efficacy assessments mainstreamed into vector control evaluation to inform validation of recommendations, extension or development of new ones

## 2024

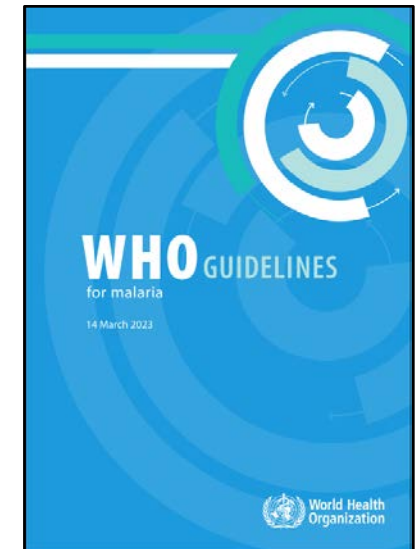
ATSB and spatial repellent impact datasets to be submitted to WHO. If public health value demonstrated, WHO recommendation(s) will be issued within 12 month of data submission

## 2025

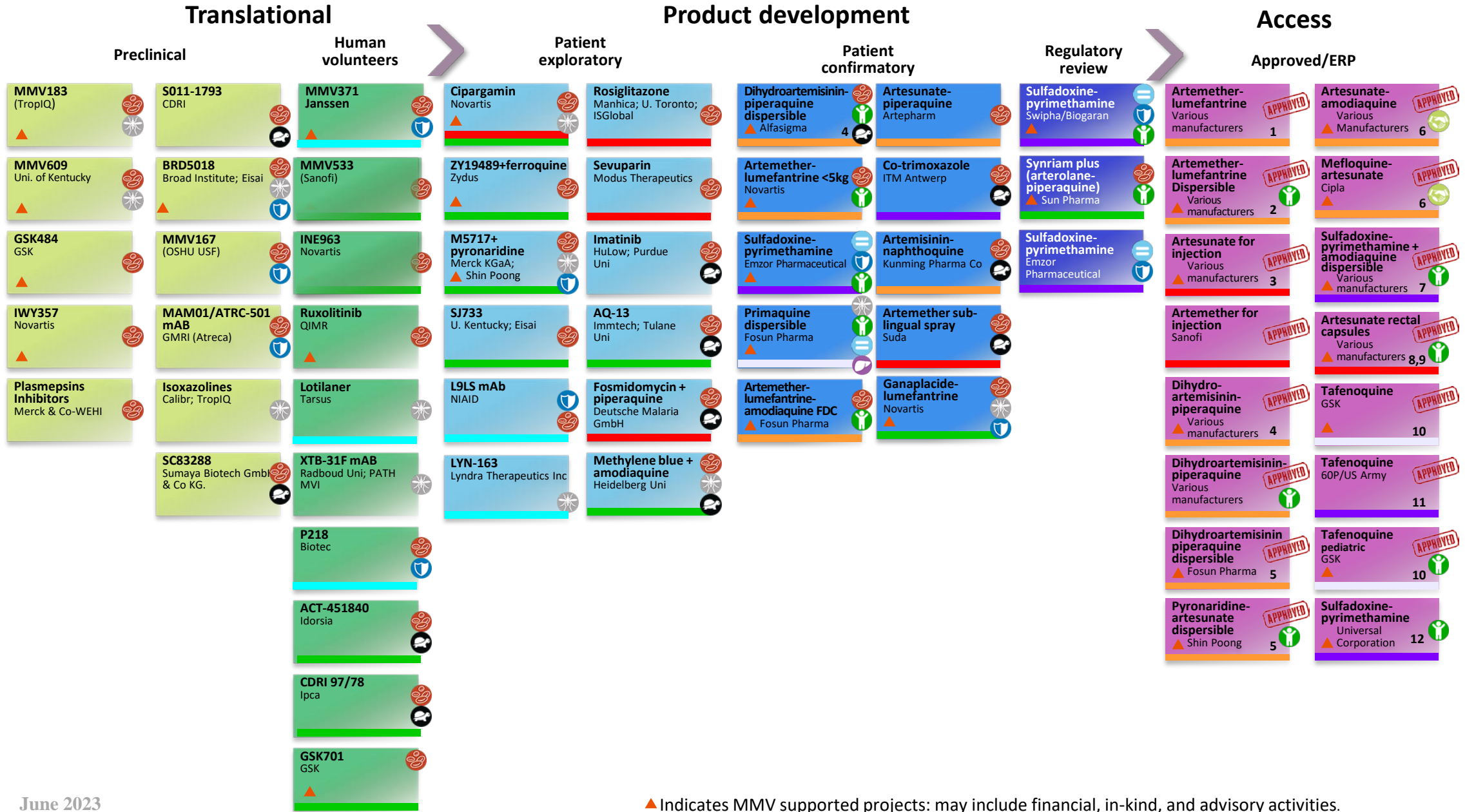
Endectocide (ivermectin) and eaves tubes dataset submissions anticipated



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

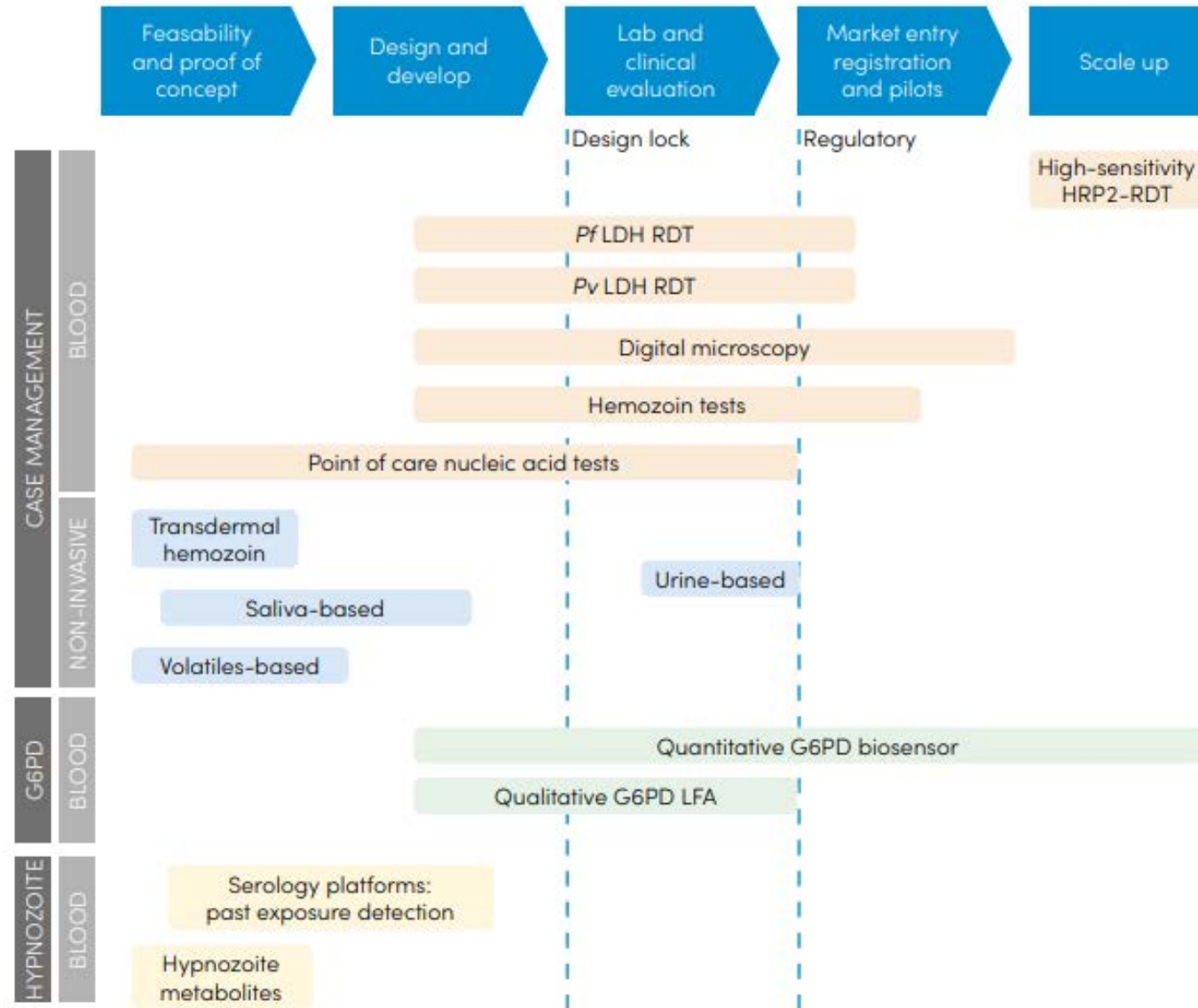


# Global Portfolio of Antimalarial Medicines



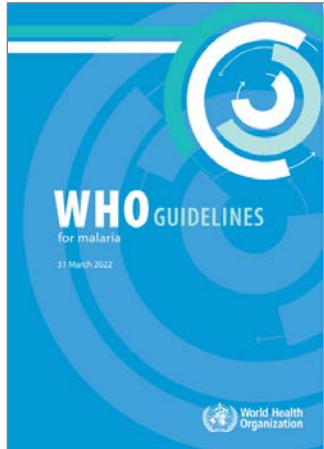


# Malaria diagnostics pipeline



G6PD: glucose-6-phosphate dehydrogenase; HRP2: histidine-rich protein 2; LDH: lactate dehydrogenase; LFA: lateral-flow assay; Pf: *Plasmodium falciparum*; Pv: *Plasmodium vivax*; RDT: rapid diagnostic test; WHO: World Health Organization.

# For more information



**WHO Guidelines for malaria**  
<https://www.who.int/publications/i/item/guidelines-for-malaria>  
MAGIcapp Online platform:  
<https://app.magicapp.org/#/guideline/5701>

Product Development for Vaccines Advisory Committee



**Product Development for Vaccines Advisory Committee**  
<https://www.who.int/groups/product-development-for-vaccines-advisory-committee>

**WHO Vector Control Advisory Group (VCAG)**  
<https://www.who.int/groups/vector-control-advisory-group>

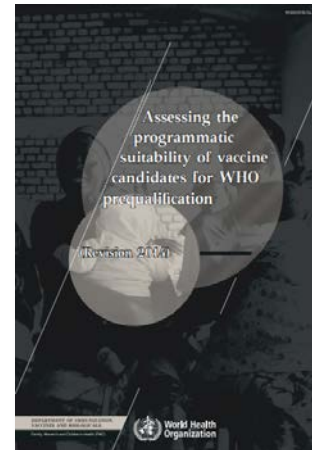
## Next meeting

25 – 28 March 2024

**20th meeting of the Vector Control Advisory Group (VCAG)**



**WHO Coordinated Scientific Advice (CSA) Procedure**  
<https://www.who.int/activities/optimizing-research-and-development-processes-for-accelerated-access-to-health-products/who-coordinated-scientific-advice-for-health-product-r-d>



**Programmatic suitability of vaccine candidates for WHO prequalification**  
<https://www.who.int/publications/i/item/WHO-IVB-14.10>

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Thank you  
for your attention



*Efficacy, Safety, Quality, Feasibility, Acceptability, Affordability, Accessibility*



World Health  
Organization