Two safe and effective vaccines are recommended by WHO to prevent malaria in children, RTS,S/AS01 and R21/Matrix-M. If implemented widely, malaria vaccines could save tens of thousands of lives each year. Sufficient supply will be available to meet the high demand for vaccines in Africa.

Malaria vaccines are a breakthrough for child health and malaria control

Malaria vaccines prevent more than half of malaria cases in children in the first year following vaccination, when children are at high risk of illness and death. Between 2019–2023, the RTS,S vaccine was introduced in Ghana, Kenya and Malawi as part of the Malaria Vaccine Implementation Programme (MVIP). More than 2 million children received the RTS,S malaria vaccine as part of their routine childhood immunization. Independent evaluations demonstrated high public health impact:

Early childhood deaths
SUBSTANTIAL DROP in hospitalizations for severe malaria
Access to at least 1 malaria prevention measure up to MORE THAN 90%

Highest impact of malaria vaccines will be achieved when introduced as part of a mix of WHO-recommended malaria interventions.

What we know about malaria vaccines

IMPACT AND EVIDENCE

- Phase 3 clinical trials of age-based delivery of RTS,S and R21 vaccines showed more than 50% reduction in malaria cases over first year of follow up, and prolonged protection with 4th dose.
- Phase 3 trials of seasonal-based delivery of the vaccines (when malaria vaccines are provided just prior to the peak malaria transmission season), showed about 75% reduction of malaria over the first year of follow up, and prolonged protection with annual seasonal doses.
- Modelling estimates both vaccines to have high public health impact.

GOOD SAFETY PROFILE

- Both vaccines have a good safety profile and are prequalified by WHO, ensuring their safety and quality.
- The safety profile of the RTS,S vaccine has been well demonstrated. More than 2 million children have benefited from the vaccine, and more than 6 million vaccine doses have been given through the MVIP. R21 vaccine was shown to be safe in clinical trials.

FEASIBILITY

- High, equitable vaccine coverage achieved during the RTS,S pilot introductions showed high community demand and health worker acceptability.
- No unintended consequences – the RTS,S vaccine introduction resulted in no reduction in insecticide-treated net (ITN) use, uptake of other childhood vaccines, or care-seeking behaviour for fever.

EQUITY

- In pilot introductions, the RTS,S vaccine reached more than two-thirds of children who were not sleeping under an ITN.

COST-EFFECTIVE

- Modelling studies predict that the vaccines are cost-effective by general standards and thresholds.

Next steps

Demand for malaria vaccines is unprecedented and scale-up is well underway. At least 30 countries in Africa plan to introduce malaria vaccines. 20+ countries are already approved for Gavi support for rollout. WHO provides technical assistance to countries as they review their national strategic plans and tailor malaria control interventions, including malaria vaccines, for highest impact. WHO thanks Gavi, UNICEF and other partners for their collective efforts to increase access to life-saving malaria vaccines.

1 https://www.who.int/teams/immunization-vaccines-and-biologicals/policies/position-papers/malaria

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