Update on the RTS,S/AS01 Malaria Vaccine Implementation Programme

October 2019

Background

The Malaria Vaccine Implementation Programme (MVIP) was developed to act on the 2016 WHO recommendation to pilot implementation of the RTS,S/AS01 malaria vaccine (1). The MVIP supports the introduction of the malaria vaccine in selected areas of Ghana, Kenya and Malawi and the evaluation of the programmatic feasibility of delivering a four-dose schedule, the vaccine’s impact on mortality, and its safety in the context of routine use. The primary aim of the Programme is to address outstanding questions related to the public health use of the vaccine in order to enable a WHO policy decision on the broader use of RTS,S/AS01 in sub-Saharan Africa.

The Programme is jointly coordinated by the Global Malaria Programme (GMP), the Immunization, Vaccines & Biologicals (IVB) Department and the WHO Regional Office for Africa, in close collaboration with other WHO departments and country offices, ministries of health in pilot countries, PATH and other partners. Introduction of the malaria vaccine is country-led.

Update since April 2019

WHO welcomed the launch of the world’s first malaria vaccine by the Government of Malawi on 23 April 2019, the Government of Ghana on 30 April 2019 and the Government of Kenya on 13 September 2019. This historic milestone generated extensive news interest and coverage in nearly every geographical area. Vaccine uptake and coverage are closely monitored through countries’ routine health information systems. Data and feedback received so far suggest good acceptance of the programme by health care workers, caregivers and communities, and generally high demand in areas where communication and sensitization efforts have been strong. Early supervisory visits have identified areas for improvement, and the national immunization programmes (EPI) are taking measures to address these issues, supported by WHO and PATH.

All country-specific pilot evaluation protocols have received ethical approval. The evaluation partners in Ghana and Malawi have completed the first cross-sectional household surveys in pilot areas; the survey in Kenya began in July 2019. Morbidity surveillance has started in sentinel hospitals, and mortality surveillance has started at community level, in Ghana, Malawi and Kenya. Efforts will continue to monitor and improve these surveillance systems. The qualitative longitudinal study led by PATH to assess issues related to vaccine uptake, community perceptions, service delivery and so on has also started in the three countries.

1 See the MVIP web page for news, stories, videos and other information materials at https://tinyurl.com/MVIP-who-int
The MVIP’s advisory bodies (i.e., the Programme Advisory Group and the Data Safety and Monitoring Board) continue to meet regularly and provide guidance to the Programme.

In April 2019, the Framework for Policy Decision on RTS,S/AS01 was endorsed by the Strategic Advisory Group of Experts (SAGE) and Malaria Policy Advisory Committee (MPAC). The two advisory bodies have agreed to consider a policy decision on the broader use of the vaccine prior to the end of the pilots, as soon as the minimum required data are available (i.e., if and when concerns regarding safety signals observed in Phase 3 trials – related to meningitis, cerebral malaria, and sex-specific mortality – are satisfactorily resolved, and either severe malaria or mortality data trends are assessed as being consistent with a beneficial impact of the vaccine). Refinements to the policy recommendation could be made once the final data from the pilot evaluations are available. This step-wise approach will ensure that a policy decision is made as soon as the risk–benefit of the vaccine is established with the necessary level of confidence and that the vaccine is not withheld unnecessarily from countries in need if it is found to be beneficial.

In a statement released on 26 August 2019, MPAC drew attention to the stalled progress in malaria control in recent years and clarified its view on the first malaria vaccine. The Committee indicated that, if the results of the MVIP are promising, the RTS,S vaccine is likely to be an important additional tool for changing the course of malaria incidence and reducing malaria deaths in African children, in combination with insecticide-treated nets (ITNs) and other control measures (see below).

Current funding commitments by the Global Fund to Fight AIDS, Tuberculosis and Malaria, Gavi the Vaccine Alliance and Unitaid cover MVIP activities to the end of 2020. Efforts are ongoing to secure additional funding for 2021–2023 to complete the MVIP. In May 2019, the Global Fund Board approved a potential allocation of US$ 8 million from Catalytic Investments to complete the pilots (2). This contribution is, however, dependent upon a successful replenishment.²

If the data generated by the MVIP lead to a WHO policy recommendation for wider use of the vaccine, malaria-affected countries in sub-Saharan Africa must be able to access sufficient quantities of the vaccine at an appropriate price if they decide to implement the vaccine. There are several funding needs if the full potential of the vaccine is to be realized. WHO and partners have intensified efforts to brief key stakeholders on the current evidence base of the vaccine and the vision for access should there be a policy recommendation. These efforts are expected to intensify in the coming months.

Priorities for the next six months

Key priorities in the coming weeks and months include successful launch of the vaccine in Kenya, continued monitoring of vaccine uptake, documentation of lessons learnt and support for programmatic improvement where needed. Support will also be given to evaluation partners to ensure that the hospital- and community-based surveillance systems are fit for purpose. In addition, the data generated by the MVIP will be coordinated and managed, and resource mobilization efforts for funding beyond 2020 will continue.

Statement by MPAC on the RTS,S/AS01 malaria vaccine Released on 26 August 2019

Globally, 219 million cases of malaria were reported in 2018, and an estimated 435 000 people, including 260 000 African children, died from malaria in 2017. Scale up of WHO-recommended preventive measures resulted in a substantial decline in malaria morbidity and mortality between 2000 and 2015. However, in 2015 and 2016, progress with malaria control stalled and started to reverse, with an upswing in malaria cases, particularly in sub-Saharan Africa. A malaria vaccine such as RTS,S has the potential to help get malaria control back on track, and may prove to be an important

² This means that the contribution will only materialize if sources of funds for the 2020–2022 period are greater than or equal to US$ 12.1 billion, representing near full replenishment.
addition to current control tools. The RTS,S vaccine, with its reported level of efficacy, has been shown to provide substantial and significant added protection on top of that provided by optimal case management and high coverage of insecticide-treated mosquito nets (ITNs), reducing clinical malaria by 55% during the 12 months following primary vaccination, and by 39% over 4 years. Recent data from long term follow-up are reassuring regarding its long term efficacy and safety. The well-established Expanded Programme on Immunization can reach even the poorest children, who are generally at highest risk of malaria, and suffer the highest mortality rates.

The opportunity to evaluate the feasibility of delivery, safety and effectiveness of the RTS,S vaccine, through pilot implementation in three countries, comes at a critical time in malaria control: no other malaria vaccine has entered phase 3 clinical trials. Additional preventive tools are in the development pipeline, and MPAC looks forward to reviewing their potential to reduce the malaria burden. However the development, evaluation and deployment of these new tools is expected to take several years. Moreover, it is likely that they will also offer only partial protection.

At a time when the downward trend in malaria cases and deaths has stalled, when our current control efforts are threatened by resistance, and when no new intervention approaching the efficacy of RTS,S is available, MPAC looks forward to reviewing the results of the pilot implementations, in accordance with the Framework for Policy Decision on RTS,S/AS01 approved at the April 2019 MPAC and SAGE meetings. If these results are promising, the RTS,S vaccine, in combination with ITNs and other control measures, is likely to be an important additional tool to change the course of malaria incidence and reduce malaria deaths in African children.

Contact

For more information, please contact:

Mary Hamel, MVIP lead, WHO HQ, Immunization, Vaccines & Biologicals, hamelm@who.int
David Schellenberg, Scientific Adviser, WHO HQ, Global Malaria Programme, schellenbergd@who.int

References
