FDA/SMC/SMD/RMU/22/0064 30th September 2022

UPDATE NO. 8 ON THE SAFETY MONITORING OF THE MALARIA VACCINE

Background

This update summarizes adverse event following immunization reports received between May 2019 and July 2022 from the Malaria Vaccine Implementation Programme (MVIP).

The Ministry of Health launched the first malaria vaccine (Mosquirix or RTS,S/AS01) on 30th April 2019 to be given to young children in routine immunization programme as a complementary malaria control tool that could be added to (and not replace) the core package of WHO-recommended preventive, diagnostic and treatment measures.

In Ghana, the MVIP is taking place in seven regions, namely, Ahafo, Bono, Bono East, Central, Oti, Volta and Upper East Regions of Ghana. Other African countries taking part in the MVIP are Kenya and Malawi.

The WHO has recommended a wider use of RTS,S vaccine in the regions with moderate to high transmission of *Plasmodium falciparum* in children living in regions with moderate to high malaria transmission. In Ghana, following a review of evidence by the National Immunization Technical Advisory Group (NITAG), a decision has been taken to expand the current pilot to all comparator districts including all districts in Upper East region based on availability of the vaccine then a further scale-up based on epidemiology from malaria burden stratification.

What is Adverse Event Following Immunization (AEFI)?

The World Health Organization (WHO) defines an AEFI as any untoward medical occurrence which follows immunization, and which **does not necessarily** have any causal relationship with the usage of the vaccine. Before the launch of the Malaria Vaccine Implementation Programme (MVIP), healthcare workers were trained to report all AEFIs in children who receive Mosquirix to the FDA.

Update on safety monitoring

Review of AEFI reports by the Joint Malaria Vaccine Committee

AEFI reports received in Ghana are reviewed by a seven-member Safety Committee of independent experts, known as the Joint Malaria Vaccine Committee (JMVC).

During this reporting period (May 2019 to July 2022) a total of 1,249,622 doses of Mosquirix have been given with 2,193 AEFI reports received. This gives a reporting rate of about 18 AEFI reports per 10,000 vaccinated. Out of the 2193 AEFI reports, 2116 (96.4%) were received from the phase 4 study (EPI-MAL-003) in the Upper East and Bono East regions where children who received the vaccine are actively followed up and all events after vaccination are documented.

Report by source

- GSK Phase IV study sites (EPI-MAL-003) 2116 (96.4%)
- Spontaneous reporting (GHS/ FDA) 42 (1.9%)
- Malaria Vaccine Pilot Evaluation (MVPE) 35(1.6 %)

Monthly distribution of AEFI reports received from May 2019 to July 2022 is presented in Figure 1.

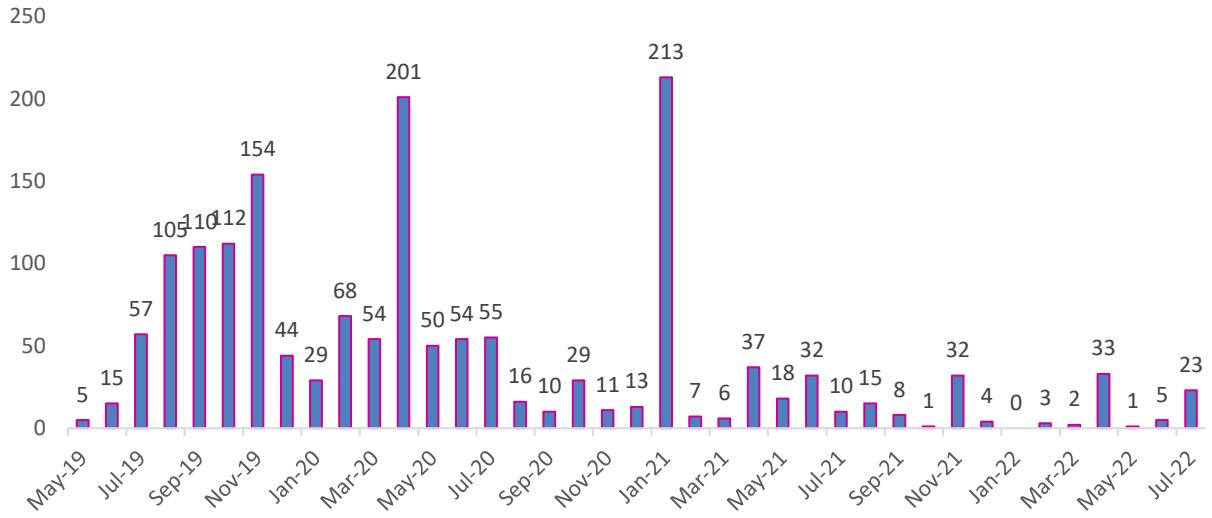

Fig. 1: Number of AEFI reports received by month from May 2019 to July 2022

Out of the 2,193 AEFI reports received, 373 (17%) were serious[1] and the remaining 1820 (83%) were non-serious. Causality assessment by the Joint Malaria Vaccine Committee of the serious AEFI reports showed that there was no direct relationship between the vaccine and AEFIs reported with the exception of febrile convulsions, fever, gastroenteritis and allergic reaction which were listed in the product information.

[1] An AEFI is serious if it results: in death, is life-threatening, requires in-patient hospitalization or prolongation of existing hospitalization, results in persistent or significant disability/incapacity, is a congenital anomaly/birth defect, or requires intervention to prevent permanent impairment or damage.

Demographic characteristics of persons who reported adverse events

- Report by gender

The details on those who reported AEFIs were:

- Males 1139 (52%)
- Females 1004 (46%)
- Not indicated 50 (2.3%)

It is unknown the total number of males and females vaccinated because this information is not routinely collected.

Review of Safety Reports by the Data Safety and Monitoring Board

In order to safeguard the well-being of children participating in the MVIP, a Data Safety and Monitoring Board (DSMB) was set up by the World Health Organization which also regularly review the safety data from the three countries in order to identify, assess causality and monitor any accumulating safety signals.

The DSMB holds quarterly meetings, and the 2nd quarter meeting was held on 16th June 2022, where the DSMB after review of the safety data from the 3 countries, concluded that there were no significant safety concerns which negatively affect the benefit-risk profile of the vaccine. The DSMB therefore, recommended the continuation of the MVIP.