FDA/VVC/SMD/RMU/23/0165 25th August 2023

UPDATE NO. 10 ON THE SAFETY MONITORING OF THE MALARIA VACCINE

Background

This update summarizes adverse events following immunization reports received between May 2019 and July 2023 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 MVIP has been scaled-up from initial 42 to 93 districts across the 7 regions, in accordance with the recommendation made by the World Health Organization on 6th October 2022. This recommendation aimed to extend the use of the vaccine to areas with perennial malaria transmission. Ghana adopted a phased sub-national approach to scale-up the RTS,S after review of the evidence by NITAG following WHO's recommendation.

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 were reviewed by a seven-member safety committee of independent experts, known as the Joint Malaria Vaccine Committee (JMVC).

During the reporting period, May 2019 to July 2023, a total of 2,052,236 doses of Mosquirix have been given with 2,279 AEFI reports received. This gives a reporting rate of about 11 AEFI reports per 10,000 children vaccinated. Out of the 2,279 AEFI reports, 2,189 (96.1%) 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 to record adverse events after vaccination.

Below is the number of AEFI reports received by source:

- GSK Phase IV study sites (EPI-MAL-003) 2,189 (96.1%)
- Spontaneous reporting (GHS/ FDA) 42 (1.8%)
- Malaria Vaccine Pilot Evaluation (MVPE) 48 (2.1 %)

Monthly distribution of AEFI reports received from May 2019 to July 2023 is presented in Figure 1.

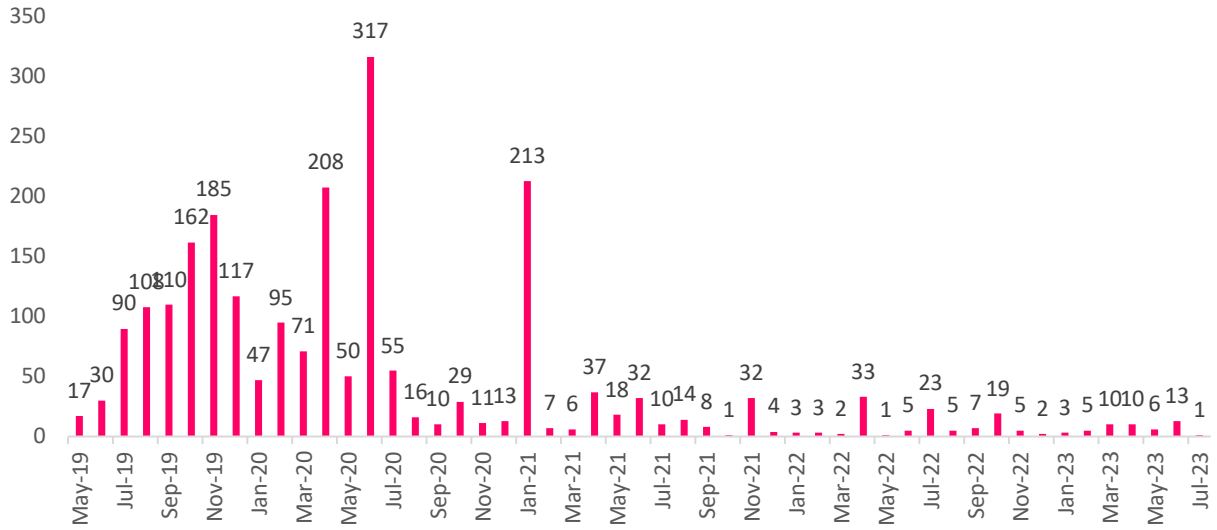

Fig. 1: Number of AEFI reports received by month from May 2019 to July 2023

Out of the 2,279 AEFI reports received, 458 (20%) were serious[1] and the remaining 1,821 (80%) were non-serious. Causality assessment by the Joint Malaria Vaccine Committee for the serious AEFI reports showed that there was no direct relationship between the vaccine and AEFIs reported apart from 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	1,187 (52.1%)
○ Females	1,041 (45.6%)
○ Not indicated	51 (2.2%)

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 seven-member Programme-specific 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.

So far, safety data reviewed by the DSMB from the 3 countries, namely, Malawi, Kenya and Ghana, showed that there were no significant safety concerns which negatively affect the benefit-risk profile of the vaccine.