1. EPI tracker background/introduction

In 2019, the Ministry of Health of Rwanda, MCCH/EPI Programme expressed the needs to improve the vaccination services in all Health Centres, integration of birth notification into the child immunization program, and compliance to immunization calendar. This has been thought of as a mitigation strategy to not only improve statistical and public health data, but also to ensure immunization services coverage increases and monitoring of the dropout for timely response.

Before this eRegistry, the management of all children who accessed the vaccination services relied on use of vaccination cards to track vaccines received and set the new appointments of next visits for the parents to keep up with vaccination dates, manually record all children in harmonized registry for report purposes and data for programme monitoring. Reminders were through phone calls to CWHs to inform parents with children who missed out the appointment. 98% of all children in Rwanda are born in health facilities but birth notification/registration are still very low in 14 required days in Rwanda.

In collaboration with HISP Rwanda, UNICEF/CO, UiO, WHO/CO, the EPI Programme adopted the EPI tracker module of DHIS2. The module was designed to capture all children immunized and help in the follow up children to comply with the immunization calendar.

Currently, the EPI Tracker is being used in all health facilities and completeness is 98% across the country. All the EPI supervisors and data managers from all health centers (Public and Private) offering vaccination services are trained to perform the data entry and children follow up through the EPI tracker system.

2. EPI tracker Vs expectations

While deploying the EPI tracker system the expectations were primarily:

- To fast track newborns/infants for scheduled immunization sessions with reminder messages (SMS, emails) to caregivers and frontline health workers;
- To monitor of vaccination activities at all levels (from facility to National level);
- To improve information sharing between the immunization and Civil Registry and Vital Statics (CRVS) systems to ensure that every child is registered, here the facility delivery in Rwanda was approx 96% while birth registrations in CRVS was still very low.
- To be able to manage and monitor individual cases for continuation of vaccination services and still produce aggregated data to feed immunization dashboards program management.
- To detect early and follow up of AEFI (Adverse Event Following Immunization) cases once occurred,
- To help EPI program in The vaccines management (stockout, shortage, overstock and cold chain management)

So far, according to the use, data entered in EPI and the analysis done, we are on a good track with the expectations but still we have a lot to be done to make the system more and more helpful.

EPI Tracker is improving the management and records keeping of vaccination services (Photo Gikondo HC 2020)

3. EPI tracking process and use

The EPI Tracker in Rwanda has been rolled out in all 505 facilities (public/private/agree Health centers and some Private hospitals offering vaccination services. The incharge of data management and vaccination officers were trained to use the tool for every facility. EPI tracker has actively improved the management and reporting of vaccination services and cases management.
These images show the recent vaccination session at Muhoza HC in North Province of Rwanda. The staffs in charge of vaccination (in white uniform) are providing vaccines and while (in blue uniform) is updating the EPI tracker system.

The EPI tracker program captures the maximum newborns and infants (now 96%) receiving vaccination services. The EPI tracker is providing all the information needed at facility level to plan for vaccination sessions and track the compliance of the vaccination calendar of the newborns/infants. Using EPI tracker, Vaccination officers from health facilities can easily prepare (in staff and Vaccines stock) for the next vaccination sessions and report accurately to the high level; again, at each session the data are updated by the facility staff trained. The AEFI are being reported directly through the EPI tracker and the high level decides accordingly.

The appointment dates of the next vaccination visit are scheduled in EPI tracker for each newborn/infant and the EPI tracker sends the reminders to parents/caregivers and community health workers but now only the email channel is configured.

The EPI tracker gives us the opportunity to transfer children to the other facility, if a family moves to the other places for some reasons. The facility receiving the child will be able to track all vaccination history and update her/his events.

4. Usefulness/ benefits of EPI TRACKER program at different levels

Since the implementation of EPI tracker, different MOH organisation units (facilities/ MCCH/ EPI program) are benefiting from it. The use of the tool has significantly brought a huge improvement in vaccination activities management at all levels.
- **MOH/ MMCH/ EPI program**: The EPI tracker helps the EPI program decision makers to plan and monitor the vaccination activities across the country. Early detection of MAPI. using EPI tracker data populated, the EPI program can generate aggregate or individual analysis for advocacy or data dissemination.

- **Health facilities**: the EPI tracker helps health facility managers in birth notification and help individual tracking in compliance of vaccination calendar and improve vaccination coverage. improve individual case management, monitoring of dropouts rates. vaccines management can also be adjusted through EPI tracker.

- **Community health workers**: Receiving reminders of the next vaccination sessions for all newborns/infants having appointments for the session in her/his village.

- **Parents / Caregiver**: EPI tracker helps parents to comply with the vaccination calendar.

5. **EPI tracker outputs/ analytics**

EPI tracker has analytical features that help the users to carry out all possible statistical analysis such as dashboards, tables, graphs, maps and other further analysis. The program indicators have been defined in EPI tracker to help analyze and customize the dashboard and data use.

**As an achievement** for the last 6 months (January - June 2020), 234,579 children are newly enrolled in EPI tracker for different vaccines. The table below compares the total reported in the aggregate report and in EPI tracker program. the EPI tracker allows the users to visualise at each level and to customize the dashboards according to the focused key indicators.
6. **Challenges and way forward**

Despite some challenges at users level and connectivity constraints in some remote health facilities that affect completeness and regular child records update, more efforts are needed to continue to build users capacity in data analysis and use. HISP in collaboration with MCCH/EPI program organize field visits for onsite mentorship and supervision. Some of the activities planned in this year have been delayed by the outbreak of COVID19. These are

- Continuous system improvements adding reminders, alerts, SMS reminders
- Field visits to private facilities to assess constraints and challenges
- Interoperability with the national systems like CRVS system and RapidPro
- Integration of Vaccine stock management
- Operationalization of EPI Dashboards and Immunization app to low level of the health system hierarchy (District Health management team, District Hospitals, and Health centres)
- AEFI
- Android implementation of the EPI tracker at community level to support outreach services.
- And Operational research