

**Title:** Piloting National ID Integration in Health Information Systems for Patient Identification in Malawi

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**Background:**

Malawi's Health Information System struggles to identify patients, limiting healthcare delivery. This is mainly as a result of the existence of multiple health and non-health systems both within and outside the health system that are not linked. This makes the tracking of various patient outcomes such as disease-specific mortality difficult. Integrating unique citizen identity (UID) into healthcare systems has the potential to improve patient follow-up facilities. We describe Malawi's approach and experience to incorporate citizen's vital registration in healthcare.

**Description:**

Malawi's CRVS system issues unique national identification at birth, which is later maintained on the National ID card when the child turns 16 years. The unique identifier has been used to link individuals across a limited sectoral database including banks and social welfare programmes. NRB assessed the available systems within the health sector for potential interoperability with the National ID system. Through this exercise, it was realised that in the field EMR is at a higher maturity level for hospital Management Information System in comparison to other systems like DHIS.

The EMR primarily focuses on the digitization and management of individual patient health records, including medical history, diagnoses, treatments, and test. On the other hand, DHIS2 is more as an aggregator of information and is used for consolidated reporting. Currently, the EMR system is being implemented in selected district hospitals as a patient registration system at the individual-level, therefore making it ID integration very feasible.

Malawi identified Karonga, a district with a 100% birth registration and over 90% national ID completeness, as a pilot site for integrating UID into Electronic Medical Record Systems. The

proposed architecture recognizes the existence of an Application Programming Interface (API) in the EMR, which provides potential interoperability with the ID database (see figure 1).

### Lessons

While NRB is working developing solutions to allow for system availability on a variety of devices, the hardware requirements require meticulous planning if the system is to be effectively implemented. Figure 2 illustrates the proposed architecture to accommodate usability across different platforms. Stakeholder buy-in is also critical to ensuring the adoption of digital integration given the associated data privacy issues e.g., ART data. This pilot will provide critical information for scaling up National ID integration in the healthcare system.

### Conclusion/next steps

Utilizing UIDs in healthcare will not only improve service delivery, but also the distinct morbidity and mortality data provides an opportunity for precision-level public health planning. Furthermore, it creates improves the accuracy and demand for civil registration by linking the national ID of a mother to the newborn during birth registration. This is important for the creation of family trees. IDs of deceased patients also improved the accuracy of death flagging in the ID database by uniquely identifying deceased persons.

### Figures:

Figure 1 Schematic diagram of the EMR system architecture

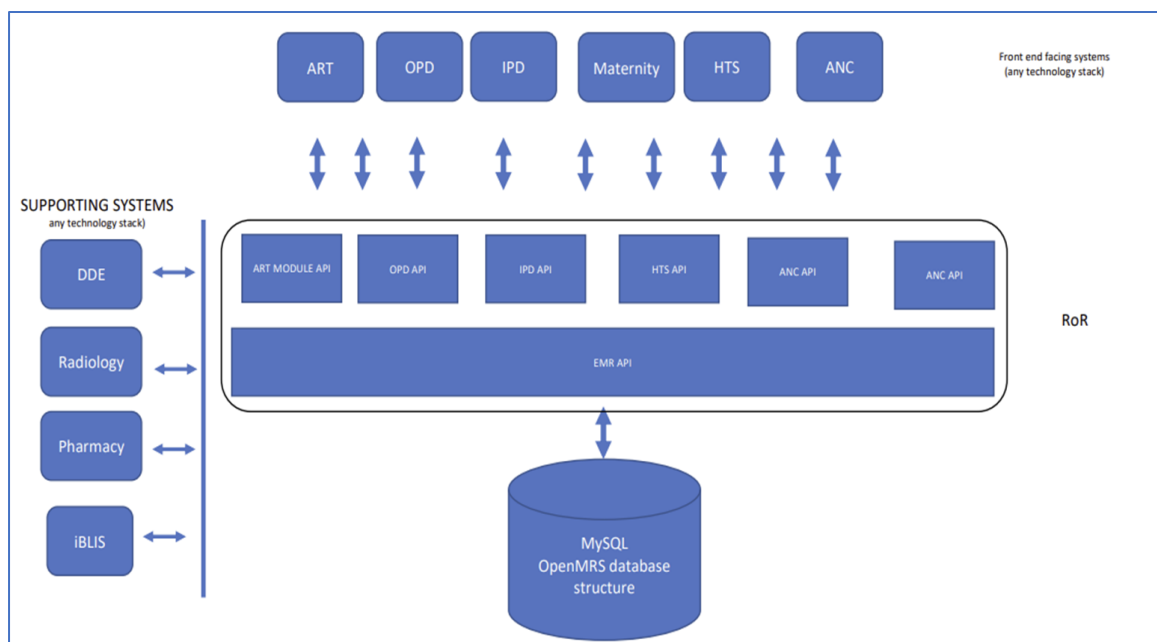


Figure 2: Proposed architecture for the use of multiple devices

