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PRIVATE SECTOR BRIEF
RWANDA HEALTH SYSTEM STRENGTHENING (RHSS) PROJECT

PRIVATE-ENGAGEMENT FOR THE CUSTOMIZATION, DEPLOYMENT, AND SUPPORT OF ELECTRONIC MEDICAL RECORDS



This private-sector brief examines the rationale for private-sector involvement in developing electronic medical records in Rwanda, identifies and proposes strategies to address prevailing challenges, and concludes with recommendations.

I. THE RWANDAN CONTEXT: ELECTONIC MEDICAL RECORDS

Rwanda’s e-Health policy envisions the use of information communication technologies (ICT) to strengthen the health sector. The Ministry of Health (MOH) has been following an aggressive program to introduce electronic medical records (EMR) in all of its health facilities with the support of the Rwanda Biomedical Centre (RBC).

Most district hospitals have wired or wireless local area networks and local servers for hosting EMR. The full package of EMR (including patient registration; clinical forms; and lab, pharmacy and billing modules), however, has only been deployed in 11 of 42 district hospitals. And in some facilities where the system is installed, it is not fully utilized.

A number of factors have delayed the rollout of EMR, including:

- insufficient staff and resources to support the initial rollout¹, training at the hospital level, and help desk support to end users following the initial installation of the system;
- uncertainty about build from scratch versus adapt (to a fully functional application from the open medical records system (OpenMRS) community) to upgrade and implement vital enhancements to the EMR system;
- slow or lack of internet connectivity and unreliable power at health facilities; and,
- low levels of computer and information technology (IT) skills among end users (for example, clinicians expected to use the system at their point of service) and IT staff assigned to public hospitals.

To ensure the successful implementation of EMR throughout Rwanda, IT solutions should be identified that include the private sector to address challenges and contribute to efficiencies and sustainability throughout the health sector.

II. SUMMARY OF INTERNATIONAL LITERATURE REVIEW

The literature review on the development of EMR found numerous examples of public-private collaboration around the world to develop and implement EMR in health facilities. This type of collaboration is often developed between academic institutions, international donors, and public institutions.

For instance, Partners in Health initially supported the OpenMRS implemented in Peru, the HIV EMR in Haiti², and the HIV EMR in Rwanda. The Flotte de Mobile program in Mali is a public-private collaboration program between the Ministry of Health, the mHealth Alliance, the Orange Foundation, and the Rockefeller Foundation. African countries (such as Kenya, South Africa³, and Rwanda) also have developed public-private collaboration programs to increase information efficiencies and coverage (see the text box below)⁴.



Photo Credit: USAID/Rwanda

Public-private collaboration appears to be productive not only in reducing the administrative costs and expenditure of ICT projects, but also in helping monitor service quality and delivery. For example, take the case of the Community Health Information Tracking System (CHITS) in the Philippines.

CHITS is a free, open-source software, electronic health-record system for local government health centers. CHITS was created through a grant from the International Development Research Centre of Canada.

Since implementation in 2004, it has reached 48 health centers in seven years⁵. The University of the Philippines (UP) Manila-National Telehealth Center (the leading research unit in the University of the Philippines) manages CHITS and it is implemented through an innovative five-step process where the responsibility for implementation lies on the health facility.

IREMBO

The Government of Rwanda partnered with Rwanda-Online (a private technology provider) to build and operate Irembo, a one-stop portal for e-government services. Through Irembo, a wide range of Rwanda's government agency financial transactions and public services can be performed using mobile or web technology. This privately run service is more efficient than if each ministry contracted out for its own e-payment services.

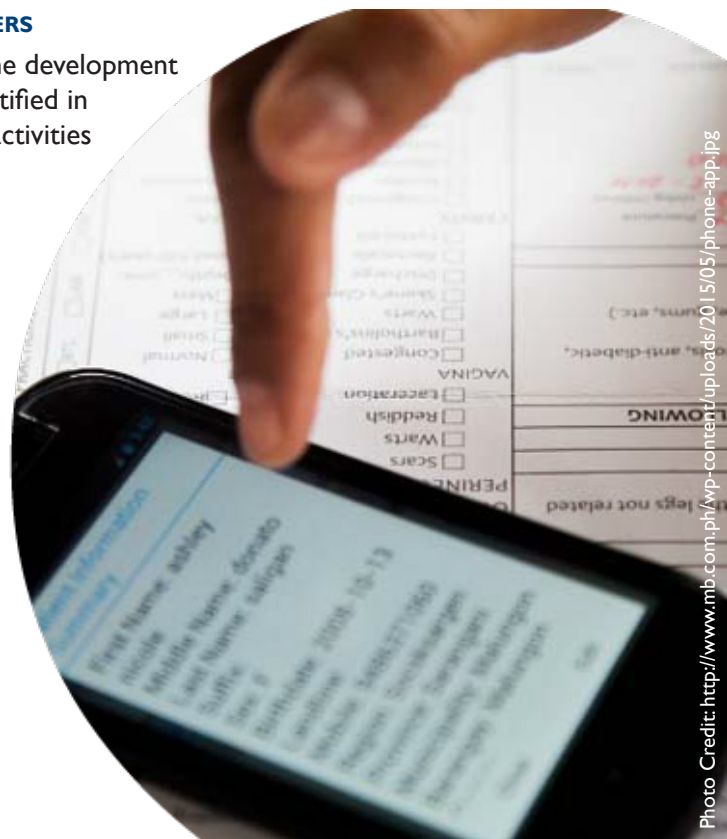
- STEP 1 :** Organize the local CHITS team, which includes the district hospital director and staff, district mayor, and others)
- STEP 2 :** Develop partnerships, such as with the Department of Health, the Provincial Health Office (PHO), the Center of Health Development (CHD), and the chamber of commerce for donation of computers, and internet cafes
- STEP 3 :** Engage institutions for training approval, for example the PHO and CHD
- STEP 4 :** Contact UP Manila National Telehealth Center to request training and certification
- STEP 5 :** Prepare for training provided by the UP Manila National Telehealth Center

The first step creates ownership on the implementation and use of the system. The second step guarantees the resources to implement the system (such as local authority resources allocation), and the remaining steps support the system's capacity building and sustainability.

III. SUMMARY OF RECOMMENDATIONS FOR DECISION-MAKERS

Promoting public-private collaboration agreements to improve the development and implementation of EMR can be a sustainable strategy. As identified in the literature review, through public-private collaboration some activities can be replicated and implemented on a larger scale. Key recommendations are included herein.

I. ICT PROVIDER. The Ministry of Health should consider structuring a public-private partnership (PPP) agreement whereby a qualified local ICT provider can provide staff to ensure reliable services, like software development, installation, deployment and system upgrade/maintenance, help-desk support, and capacity building for users. Such an arrangement can enable much more rapid scale up - as the private sector has more-efficient recruitment and retention strategies - and can be more cost effective. Similarly, the ICT provider easily can contract with short-term consultants to support rapid software-development efforts without worrying about keeping them on the payroll after the initial development is complete.



2. PUBLIC OVERSIGHT. The ministry of health's role is important to ensure the management and monitoring of the EMR program and ICT provider, which can be engaged throughout a clear service-level PPP agreement with penalties for non-compliance.

3. EMR DEVELOPMENT FUNDS. EMR development funds can stem from a variety of sources, including district administrations, health facilities, nongovernmental organizations, development partners, and the central government. Under the PPP agreement, the services the ICT provider is supplying also can be expanded to support other information systems in use across the sector, including the routing health management information system (DHIS-2), the mobile reporting system designed using RapidSMS, and the Health Resource Tracking Tool (HRTT). The resources dedicated to such systems can cover the cost.

4. BOTTOM-UP APPROACH. As the decentralization moves forward, the MoH should promote a bottom-up approach in which a similar step-by-step process to the Philippine example is followed. In this method, district hospitals and health centers lead the implementation of the EMR system, the ICT providers supply the technological support, and the University of Rwanda's Center of Excellence for eHealth and Biomedical Engineering manages the program, including capacity building.

¹ 90 percent of the RBC's qualified ICT personnel have left the institution in the last two years.

² Informatics in Primary Care 2005

³ Marek et al (2005). Trends and Opportunities in Public-Private Partnerships to Improve Health Service Delivery in Africa. The World Bank

⁴ IREMBO. <https://irembo.gov.rw/rolportal/aboutus>

⁵ The Community Health Information Tracking System or CHITS. https://chits.ph/?page_id=7

Implementing Partner:

