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A National Electronic System for Disease Surveillance in Rwanda (eIDSR): Lessons Learned from a Successful Implementation

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Conclusions

In Rwanda, communicable diseases represent about 90% of all reported medical consultations in health centers. The country has often faced epidemics including emerging and re-emerging infectious diseases. To enhance its preparedness to identify and respond to outbreaks and prevent epidemics, the Government of Rwanda has developed and deployed a nationwide electronic Integrated Disease Surveillance and Response system (eIDSR) using mobile technology. The US Centers for Disease Control and Prevention has funded Voxiva to build, operate and support this program.

The design of eIDSR system was completed in November 2011, and then 1524 end-users were progressively trained for the national roll out of the system until April 2013. All 521 health facilities in Rwanda have been trained and are currently using the electronic system (100 % of national coverage since April 2013). There are important lessons learned from the successful implementation of this national electronic system:

Political commitment: Rwanda has committed to use ICT as a pivotal of development and social transformation. Then the Ministry of Health made the electronic disease surveillance a priority and established an Epidemics and Infectious Diseases (EID) division to follow up on disease surveillance activities implementation. The Ministry of Health also set up a district response team to conduct investigations into probable outbreaks that were reported. The appointment of a disease surveillance focal point at district level was a key point in the success of eIDSR implementation: The ministry of health sent a formal appointment letter to one of the supervisors at district level to include disease surveillance attributions into his scope of work. The eIDSR system provided a role and permissions of eIDSR supervisor to the newly appointed personnel so that they could view and review data from their districts. This made supervision and follow up of eIDSR activities at district level possible.

Securing a toll free number: the toll free number is used by eIDSR end users while reporting to eIDSR system using phone and this helps health personnel to report any disease or event of public health importance without paying.

Pilot sites before the national roll out: This phase helped to adjust the system with the needs at field. Some rectifications were made on the system based on the observations and recommendations from this phase to enhance the system performance.

Data quality assessment field visits: Our team conducted site visits to compare the data reported to eIDSR system and the data in registers at site level. During the visits the team identified and addressed challenges (e.g. the proper completion of registers and data collection forms, the adequate usage of the standard case definitions) while using the opportunity for immediate training.

Appropriate training methodology: Through the combination of a real time electronic system and intensive training of end users, Rwanda has been able to achieve national coverage and high levels of timeliness and completeness. The trainings were not only aimed at providing knowledge on how to use the technology tool to report diseases but also to know the usage of standard case definition and case detection, how to conduct outbreak investigation, epidemiology of the most prevalent diseases in the area, the basics and importance of disease surveillance and Laboratory.

Regular feedback and sharing of information among all disease surveillance actors: Feedback on the probable outbreaks detected by the system and through the distribution of epidemiological bulletins was also very important. Staff enjoyed seeing their reporting efforts translated into useful information for decision making.

Keywords

Electronic System; Disease Surveillance; Lessons Learned

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