

Electronic Disease Surveillance and Response System (eIDSR) Tool (DHIS2 Build) Akros in collaboration with the Ministry of Health Zambia

Submitted by Laurie Markle (Akros, Inc.) on January 19, 2018 - 7:12am

Last revised by Web Producer on June 21, 2018 - 3:09pm.

Proposal Status: Out of Scope

1. Executive summary

Notifiable diseases such as Cholera, Ebola, Malaria and many more need to be treated and contained in a timely manner. To be able to report, respond to and provide surveillance when a notifiable disease has been detected, many countries are tied to no, or slow paper-based systems. Akros in collaboration with the Zambian Ministry of Health has developed a comprehensive electronic Integrated Disease Surveillance and Response system (eIDSR) based on the Digital Health Information System tool (DHIS2). MoH and members of World Health Organization (WHO) inputted into this tool and relevant Zambian Ministry of Health officers have been trained as trainers to use the tool.

Since it is built on DHIS2 its roll-out and scalability will not be a large hurdle, as 47 countries are already using DHIS2 for data entry in Africa, Asia, and Latin America. DHIS2 also has a large user community due to its use by so many governments. As DHIS2 is an open source tool the eIDSR tool will also be open and free and questions regarding the tool can be answered by a large active, online DHIS2 community.

The eIDSR includes electronic surveillance forms as well as associated lab forms in accordance with WHO standards. This proposal seeks to find funding to roll out the eIDSR (the paper based system is already in use in Zambia) to two of the most populated Provinces in Zambia to pinpoint bugs and needs for further development of the tool so that it can be made available to all countries in need of an eIDSR. Once the tool has been fully ground tested (DHIS2 has, but not this eIDSR, DHIS2 build), the tool itself will be made available under an open source license (BSD). In addition, training manuals on how to modify the eIDSR tool to a specific country (countries have different notifiable diseases/thresholds) and how to use the Zambia tool, will be made available in manual and video formats.

2. Consortium team

Akros is a cutting edge, mission-driven organization that establishes data-driven systems to improve the health and well-being of disadvantaged communities. It prides itself on its ground-level knowledge of the health systems where it works, and its ability to provide novel, lasting solutions implemented in developing regions. Akros has approximately 65 Zambia-based staff members, with varied backgrounds in public health, computer science, finance and public administration. The breadth of Akros' projects have enabled our teams to establish strong working relationships at the sub-national and community levels across all 10 provinces in Zambia and across multiple sectors—health, education, agriculture, and water and sanitation.

Akros will partner with the Zambian Ministry of Health (M&E Unit, Zambia National Public Health Institute, Public Health Unit) who have knowledge of DHIS2, the eIDSR and the national context of notifiable disease surveillance and response. Akros has already trained relevant staff from each of the units in eIDSR and these are officers that also helped develop the system. Utilizing MoH officers as the main trainers of the eIDSR system (which was developed based on an existing paper based structure, which was drafted by WHO) will ensure the system is actually used by districts in the selected pilot projects and the expertise from each unit is utilized to establish the e-IDSR.

From the Akros side the following persons will be involved in the project:

Silvia Renn (Lead) Renn is a systems expert with over ten years of experience in supporting health and strategic planning and decision-making initiatives through data use. Throughout her career, she has worked closely with government counterparts to establish sustainable systems for planning and budgeting. She currently manages two large HMIS contracts for Akros, serves as a geospatial advisor, and provides expertise for vector control strategies in Zambia.

Selemani Ally (Informatics Specialist) has over 15 years of experience specializing in health information management and technologies. For most of his professional career, he has worked in health informatics as an ICT technical officer, ICT Manager, and, as manager of the Zanzibar

National Health Management Information Systems (HMIS). He has broad experience in HMIS and District Health Information Systems (DHIS). He has consulted with multiple international organizations including DANIDA, USAID, JSI, WHO, etc. across a number of countries including Rwanda, Ethiopia, Tanzania, Burundi, Sudan, Zimbabwe, and Eritrea. He also worked in the Eastern Mediterranean Region (EMRO) where he strengthened HIS and adapted the DHIS2 to local conditions.

Helena Archer (Technical Support Officer) Helena Archer is a dedicated public health professional with interests in applied epidemiology, health system strengthening, and data use to promote health and well-being across the globe. She has experience in various technologies for database management and configuration, most notably with DHIS2, Salesforce, and SAS. Ms. Archer has worked in government, nonprofit, healthcare, and academic settings, and emphasizes research, data-driven decisions, and servant leadership in all of her projects and positions.

3. Project description

Through a European Union funded project, and in partnership with the Ministry of Health, Akros has built Zambia's electronic Integrated Disease Surveillance and Response System (eIDSR) based on the already established IDSR paper-based system developed by WHO. The eIDSR runs on the open-source DHIS2 software platform. It utilizes the patient tracker, has a mobile app for community follow ups (patient tracing, maternal death reviews etc.), sends automated messages to relevant MoH officers and partners (such as WHO) and is built utilizing the Technical Guidelines for Disease Surveillance and Response for Zambia (MoH/WHO 2011). It lists all notifiable diseases in Zambia and includes the respective forms as per MoH/WHO guidance. It also includes the e-Lab form which laboratories can use. Once a case is positive according to the lab, automated messages are sent to relevant stakeholders.

Since the system is built on DHIS2, which is currently being deployed in 47 countries and has a large user community, the MoH and Akros feel that an eIDSR built on DHIS2 makes it easier for all countries already using DHIS2 to adopt the eIDSR system, since most staff are already familiar with the core tool. The eIDSR will be launched under the same BSD license making it open for all countries to use and configure. At this stage the eIDSR tool has been fully built by Akros in collaboration with the MoH Zambia and the WHO Zambia. However, money is lacking for an initial roll out to further fine tune the tool and then to create the necessary training material for it to be adopted by other (DHIS2 using) countries.

In Zambia, all districts have been trained and are using DHIS2 and together with the facilities, have an established, routine (monthly), electronic data collection system. This means the districts already have basic knowledge of DHIS2 and facility level reporting and this provides a sound foundation for the follow-up training on how to use the DHIS2-based eIDSR tool. The following activities would be implemented under the Digital Square Grant:

a. District roll out into seventeen districts in Lusaka and Copperbelt Provinces:

Relevant district and provincial level staff will be trained to use the eIDSR system in both Provinces and they will be expected to enter data into the system. This will include a training by MoH (as the main trainers) and Akros personnel. After the trainings, officers will be mandated to update the MoH/Akros team on changes to the eIDSR tool that they deem necessary and are in line with WHO guidelines.

b. Mentorship visits in Lusaka and Copperbelt Provinces: In addition, Akros together with MoH will conduct mentorship visits to the Provinces after the trainings have been conducted. The actual mentorship will be a three day refresher and trouble-shooting course which is attended by all officers trained. Again, officers will be asked how the tool could be improved.

c. Tool revision, bug fixes

During the roll-out and after 6 months of implementation, the tool will be revised according to specifications by the MoH officers. The data will also be harmonized with Zambia's other routine data collection system (which is also DHIS2 based).

d. Dashboards and webpage

Based on the Technical Guidelines for Disease Surveillance and Response (MoH and WHO, 2011) and the Zambia National Health Strategic Plan (2017-2021) indicators and dashboards will be built for national, provincial, and district levels. The eIDSR tool will be available online under a BSD license. In addition, materials on how to (1) modify the eIDSR to other countries and 2. use the eIDSR (Zambia version) through videos and manuals, will be made available online.