



TechnoHealth Surveillance Newsletter



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Editorial address

TechnoHealth Surveillance
Newsletter
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From Editors' desk

Dear reader,

We are pleased to welcome you to Volume 2, Number 9 of the *TechnoHealth Surveillance*. In this issue, we share with you the strategic approach in the deployment of digital disease surveillance tools.

The Southern African Centre for Infectious Disease Surveillance has been urged to collaborate with the President's Office Regional Administration and Local Government (PO-RALG) to enhance disease surveillance, data management and utilization to address community health related challenges, which is presented in this issue.

SACIDS showcased application of digital technology in disease surveillance during the Regional East African integrated digital health roadmap held in Uganda, which is also presented in this issue.

We would like to share with you upcoming events planned by SACIDS to showcase its innovative ideas to strengthen community-based participatory disease surveillance.

We are looking forward to your contribution of articles and feedback on this and other issues of *TechnoHealth Surveillance*. Kindly do not hesitate to share with us stories on health related events occurring in humans, animals and environment for the sustainability of our newsletter.

We wish you a happy reading!

Towards strategic rolling out of digital technology in disease surveillance: Field experience

With financial support from the Skoll Global Threats Fund (SGTF), the Sokoine University of Agriculture in collaboration with the National Institute for Medical Research through the Southern African Centre for Infectious Disease Surveillance (SACIDS), is implementing a project to strengthen the capacity to detect and respond to human and animal diseases at community level through a One Health approach, using digital technologies.

SACIDS has designed and developed an open-source digital disease surveillance tool packaged as “*AfyaData*” to support real-time surveillance data collection, reporting and feedback.

AfyaData-supported disease surveillance system has already been deployed in Ngorongoro (Arusha region) and Morogoro Urban (Morogoro region) districts in Tanzania to support both community-level syndromic and official disease surveillance in human and animal health sectors. In addition, the system has been deployed in Kinondoni and Temeke districts (Dar es Salaam region) and Mvomero, Kilosa and Morogoro Urban districts (Morogoro region) in Tanzania to support cholera surveillance. Within the next three months (October-December 2017), *AfyaData* system will be rolled out to support human and animal health surveillance systems in Kilosa, Malinyi, Ulanga, Gairo and Morogoro Rural districts in Morogoro region, and Chamwino and Kongwa districts in Dodoma region, Tanzania.

For an effective and strategic deployment, a team of researchers from SACIDS and officials from Kilosa District Council met on September 5, 2017 to

select potential wards and villages to be involved in *AfyaData* rolling out plan based on area-vulnerability to disease outbreaks and remoteness of the villages. Thereafter, the selected wards were visited to: (i) introduce DODRES project implementation plan to local-community, official leaders, health officials from human and animal health sectors, and other stakeholders; (ii) identify and recruit Community Health Reporters (CHRs) to take part in participatory community-based disease surveillance programme; (iii) establish availability and strength of internet connectivity; and (iv) estimate the time it would take to transact the village by foot.

AfyaData is an open source digital disease surveillance tool developed by the Southern African Centre for Infectious Disease Surveillance. It is a set of two applications; a mobile android based client and a web-based application acting as a server. The mobile client is used for collecting and submitting surveillance data, and receiving and/or tracking feedback from health officials. The server component caters for data storing/hosting and management. *AfyaData* toolset has the capability to manage entire data collection lifecycle, from managing users, loading forms, collecting data in the field, sending collected data to server, and viewing data on the server and providing feedback to data collectors and/or persons of interest.



Testing internet strength to support submission of data using mobile phone installed with *AfyaData* in Kilosa and Malinyi districts

A total of 14 wards, 50 villages and 18 primary health care facilities were visited in Kilosa district. The time for village transect walk was estimated to range from 2 to 36 hours. Of the villages visited, 43 (86.0%) had reliable internet strength that could be used to submit data using mobile phones installed with *AfyaData*. The remaining seven villages had some specific locations with reliable internet connection. Two remote locations in Ulanga and Malinyi were

visited to establish internet strength, which was found to be reliable in transmitting data using mobile phone installed with *AfyaData*.

A total of 82 (41 females) CHR's were identified and recruited in Kilosa district. All CHR's had been selected by the village members during the village general meetings and were registered in the respective village registers. All recruited CHR's possessed feature phones and majority (70%) of them had served the community for >10 years.

The project implementation plan was shared with all key stakeholders from the sites visited including community leaders, health officials, CHR's, District Executive Directors and District Veterinary Officers in Kilosa, Ulanga and Malinyi Local Government Authorities.

A meeting of the SACIDS team with officials from the Ministry of Livestock and Fisheries is planned for October 2017 to revise and digitize the livestock national disease surveillance tools.

***AfyaData* is a potential disease surveillance tool to be deployed throughout Tanzania**

On September 29, 2017 a team of Epidemiologists and Information Communication and Technology (ICT) from SACIDS met with officials from the President's Office Regional Administration and Local Government (PORALG) at its headquarters in Dodoma, Tanzania. The aim was to introduce to the PORALG the SACIDS-

Community-based Disease Outbreak Detection and Response in East and Southern Africa (DODRES) project aiming at strengthening disease surveillance systems using a participatory and One Health approaches.

SACIDS was represented by Eson Karimuribo, Eric Beda and Calvin Sindato. PORALG was represented by Mwajuma Lipinga, Juma Mabrouk, Deogratias

Maufi, Festo Tilia, Prosper Mushi, Theobard Katabaro, Richard Nzoka, Robert Dudu and Stephen Matombi.

During the meeting, an overview of DODRES project, implementation strategies and proposed areas of collaboration with PORALG were discussed. In addition the SACIDS core competences including molecular biology, analytical epidemiology and social sciences were shared with participants. Demonstration was done on the performance of *AfyaData* on general and specific disease surveillance. DODRES strategic plan was shared on the rolling out plan of *AfyaData* to support community-based and official animal disease surveillance in Kilosa, Malinyi, Ulanga, Morogoro Rural, Gairo, Kongwa and Chamwino districts in Tanzania Mainland; and Pemba and Unguja in Zanzibar. In addition, SACIDS team had opportunity to share the project objectives with the Deputy Permanent Secretary responsible for Health under PORALG, Dr. Zainab Chaula at her office in Dodoma.

Based on its functionality, strategic deployment right from the community level and compatibility with other surveillance systems, *AfyaData* was recommended as a potential tool that can complement other surveillance systems. SACIDS was urged to consider expanding the deployment of *AfyaData* to the entire country and the neighboring countries to support the community-based disease surveillance. In her remarks, Dr. Chaula highlighted on the potentiality of *AfyaData* to enhance timely capture and submission of health events in the community. She urged SACIDS to collaborate with PORALG to enhance disease surveillance, data management and its utilization to address community health related challenges.

As we go to press, planning is underway for researchers from SACIDS to meet with ICT team from PORALG to integrate *AfyaData* with other existing surveillance systems.



The East African Community to launch a Regional Digital Health Roadmap

The East African Health Research Commission-Digital Health Roadmap Conference was held in Entebbe Uganda on September 6-8, 2017. The goal of the conference was to work towards a regional roadmap for East African digital health. The event brought together stakeholders from ministries responsible for health, private sector, community and research institutions. SACIDS was represented in the event by Eng. Eric Beda.

The topics discussed included legislation, policy, and workforce to services, applications and technology. The discussion set the tone by analyzing and/or describing current digital trends to guide the process of building a fit-for-purpose digital health roadmap for the East Africa region.

During the event SACIDS had opportunity to make a presentation on *AfyaData*, using it as an exemplary mobile App that may aid disease surveillance across the region. Cost for operationalizing it and ease of its use was the main attraction, as its application to data collection and surveillance.

During the workshop, participants prioritized and grouped outcomes by categories of use. The main groups were Public health education and awareness; Diagnostic and treatment support; Health worker training; Data collection and surveillance; Supply chain management; Resource allocation and management and population health status.

Upcoming event: SACIDS-ACE Post-graduate Induction Workshop

The Southern African Centre for Infectious Disease Surveillance – An African Centre of Excellence for Infectious Diseases of Humans and Animals in Southern and Eastern Africa

(SACIDS-ACE) is a One Health Virtual Centre that links academic and research institutions involved in infectious diseases of humans and animals in the Democratic Republic of Congo (DRC), Mozambique, South Africa, Zambia and Tanzania. It operates in smart partnership with centres of research and training excellence in industrialized countries as well as international research institutions. The Headquarters

of SACIDS-ACE is located at Sokoine University of Agriculture (SUA), Morogoro, Tanzania.

One of the SACIDS ACE upcoming events is student induction workshop which will be conducted at the National Carbon Monitoring Centre, Morogoro on October 18-20, 2017. The overall aim of the workshop is to equip the upcoming PhD and MSc students with the knowledge, resources and contacts that they need to make a good start to their training programme. In addition, the workshop seeks to build the students' relationships with each other and with

faculty and to ensure they are aligned with the aims and values of SACIDS ACE.

SACIDS plans to take active participation in this event showcasing how application of *AfyaData* tools on One Health participatory community-based disease surveillance and its contribution to early detection, timely reporting and prompt response to infectious diseases in human and animal populations. It is anticipated that some students will be attracted to community-based disease surveillance programme and application of *AfyaData* to support capture, submission,

monitoring and visualization of data in their study programmes. A number of Postdoc, PhD and MPhil students will benefit from SACIDS ACE scholarships as presented on <http://www.sacids.org/news/sacids-ace-selected-candidates-scholarship-announced/>. More information on student induction workshop is also available at: <http://www.sacids.org> [@sacids](http://www.facebook.com/sacids); <http://www.youtube.com/sacids>; <https://vimeo.com/user65819661>

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