



TechnoHealth Surveillance Newsletter



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Editorial address

TechnoHealth Surveillance
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From Editors' desk

Dear reader,

We are delighted to have kept up with you all through the year 2018 on our TechnoHealth Surveillance. Thank you for the opportunities you gave us to share with you our research and training activities to enhance community-based participatory One Health surveillance using digital technology. Your continuous opinions and feedback were very much useful to paving our improved performance. We are looking forward to more opportunities to continue sharing ideas and experiences to improve event-based surveillance in the New Year 2019.

The Editorial Committee welcomes you to Volume 3, Number 11 & 12 of the *TechnoHealth Surveillance*. In this issue, we share the following:

- Pathway to impact policies and practices in disease prevention and management
- The second annual meeting on leading transformative change
- Scaling up of community-based disease surveillance
- Connecting Organization for Regional Disease Surveillance network members visitation to Tanzania to learn experiences on the use of digital technology in event-based surveillance
- Strengthening capacity for surveillance and response to Viral Haemorrhagic fevers in Tanzania

We look forward to your feedback and comments on this and other issues of *TechnoHealth Surveillance*. You are kindly requested to share with us stories on health-related events occurring in humans, animals and environment for the sustainability of our newsletter.

Happy New Year 2019 and enjoy your reading!

Pathway to impact policies and practices in disease prevention and management

On November 7, 2018 the Southern African Centre for Infectious Disease Surveillance (currently called SACIDS Foundation for One Health) was visited by the Chancellor of the Sokoine University of Agriculture (SUA), Former Tanzania Prime Minister, Lawyer and Retired Judge Hon. Joseph Sindi Warioba and the University's Council Chairperson Chief Justice (retired), Hon. Mohamed Chande Othman. The delegation was accompanied by the Vice Chancellor of SUA Prof. Raphael T. Chibunda and the Principal of the college of Veterinary Medicine and Biomedical Sciences Prof. Donald G. Mpanduji.



During the event, the SACIDS Africa-Centre of Excellence of Infectious Diseases of Humans and Animals in East and Southern Africa leader, Prof. Gerald Misinzo shared the training and research programmes being implemented through SACIDS in different African institutions using Ecohealth and participatory approaches. The programmes include those targeting to developing core individual competencies in molecular biology, analytical epidemiology and social sciences. He illustrated on the collaboration between human and animal health sectors and environment to improve understanding of the complex epidemiology, dynamics and impact of infectious diseases. The training and research programmes are being implemented by enrolment of MSc and PhD apprentices, postdoctoral fellows, and through specific research projects. The areas of focus include viral diseases of food security, bacterial zoonoses and antimicrobial resistance, eco-health, emerging vector-borne diseases, and use of digital technologies in disease surveillance. Prof. Misinzo expanded on the later by highlighting on *AfyaData*, a mobile digital technology for participatory One Health disease surveillance that is being deployed at community level to enhance early detection, timely reporting and prompt feedback/response. He illustrated on how the event-based surveillance at community level is linked to laboratory analysis and networking to guide the

development of the most efficient and cost-effective policies for disease

prevention and management.



AfyaData
app



Oxford
NANOPORE
Technologies



Laboratory
Analysis

Leading transformative change takes place in Tanzania

The SACIDS Africa Centre of Excellence for Infectious Diseases of Humans and Animals (SACIDS-ACE) organized the second annual meeting on Leading Transformative Change in Higher Education. This workshop was convened by the Ministry of Education, Science and Technology together with the Sokoine University of Agriculture (SUA). The workshop took place at the Muhimbili University of Health and Allied Sciences (MUHAS) in Dar es Salaam, Tanzania from November 8-9, 2018. The theme for this year was: ***Achieving Research Excellence, Impact and Innovation at Team, Research Centre, Institutional and National Levels.***

The objective of the meeting was to share experiences and insights on leading transformative academic change in higher education, especially in the context of the opportunities and challenges arising from Tanzania based ACEs in the context of national and

regional development goals. In addition to the SACIDS-ACE specialists, the meeting was facilitated by leading international experts from external partner institutions of SACIDS, namely, Dr Tom Kennie, the Director of Ranmore Consulting and Professor Jonathan Grant, Vice-President King's College, London.

Participants were the Heads of Tanzanian universities, national research institutions and Africa Centres of Excellence (ACEs).

The event was attended by the Director of Higher Education at the Ministry of Education, Science and Technology, who is also the National Coordinator for the Tanzania based World Bank designated ACEs; the Vice Chancellors of MUHAS, SUA, Nelson Mandela African Institution of Science and Technology (NM-AIST), University of Dar es Salaam, Mzumbe University, Open University of Tanzania,

University of Dodoma, Mbeya University of Science and Technology, Mwalimu Nyerere University of Agriculture and Technology and Moshi Cooperative University.

Others were the Chief Executive Officers of the Commission for Science and Technology (COSTECH), National Institute for Medical Research, Tanzania Veterinary Laboratory Agency, Ifakara Health Institute, and the Leaders of the

Tanzania based ACEs at SUA and NM-AIST.

The Ministry, Universities and Research Institutions agreed to nurture the Tanzanian ACEs, which are already being considered as high performing research units, as catalysts for transforming higher education in Tanzania in order to achieve the wellbeing and prosperity of Tanzania and its communities.



Professor Jonathan Grant illustrating the role of transformative leadership in higher education to achieve high impact.

Scaling up of community-based disease surveillance

AfyaData (<http://afyadata.sacids.org/>) has been deployed using One Health approach to enhance community-based disease surveillance in human and animal populations in Ngorongoro, Morogoro Urban, Kilosa, Ulanga and Malinyi districts of Tanzania. The plan is underway to scale-up its deployment in in Gairo, Malinyi and Mvomero districts.

A project inception workshop held at Sokoine University of Agriculture on December 13, 2018 convened stakeholders from the sectors responsible for human and animal disease surveillance in Tanzania to discuss and agree on the rolling out strategies in the additional sites.

The workshop attendees were Mr. Seleman Yondu (President's Office Regional Administration and Local Government), Dr. Gasper Msimbe (Morogoro Regional Veterinary Office), Dr. Samson Tarimo (Morogoro Region Medical Office), Dr. Dastan Elinihaki (Gairo District Medical Office), Dr. Godbless Luhunga (Gairo District Veterinary Office), Dr. Amina Ramadhan Issae (Mvomero District Veterinary Office), Dr. Benny Mwela (Mvomero District Medical Office), Dr. Julius Masalu (Malinyi District Medical Office), Dr. Ernest Okama (Malinyi District Veterinary Office) and Ms. Stella Kilima (National Institute for Medical Research).

Others were Prof. Eron Karimuribo (SUA), Dr. Leonard Mboera (SACIDS Foundation for One Health), Dr. Filomena Namuba (SACIDS Foundation for One Health), Dr. Calvin Sindato (National Institute for Medical Research), Eng. Eric Beda (SACIDS Foundation for One Health), Mr. Mpoki Mwabukusi (SACIDS Foundation for One Health), Mr. Renfrid Ngolongolo (National Institute for Medical Research), Mr Robert Maduka (National Institute for Medical Research) and Mr. Yunus Karsan (SACIDS Foundation for One Health).

The workshop was set to effect by Prof. Amandus Muhairwa, who represented the Principal of the College of Veterinary Medicine and Biomedical Sciences of the Sokoine University of Agriculture. In his opening remarks, he highlighted on the need to strengthen disease surveillance using One Health approach powered by digital technology for early detection. He also emphasized the need for all stakeholders to adhere to ethics principles and good practices in reporting and responding to public

health events occurring in animals and humans.

An overview on the use of digital technology (*AfyaData*) in disease surveillance, challenges faced and scaling up strategies were shared with participants. The following were recommended in the scaling up of *AfyaData* in the additional sites:

- Community Health Reporters should take an active role and assume front-line position in detecting and reporting health events occurring at community level
- The need to link data collected at community level to the existing national surveillance systems
- The need for field deployable diagnostic test for prompt confirmation of disease events.
- The need to establish additional information/data other than those associated directly with diseases that district officials may need from community level
- The need to provide incentives to Community Health Reporters
- Awareness should be increased at all levels on the use of digital technology in improving disease surveillance
- Advocacy should be made to stakeholders at different levels of health systems to provide feedback/response to events reported from community level
- The need to engage other stakeholders including religious leaders, Non-Governmental Organizations, traditional healers, influential people/innovators, politicians and private health care facilities, to use *AfyaData* to enhance EBS.

The workshop was closed by Mr. Seleman Yondu. In his closing remarks, he argued the stakeholders to strengthen EBS at community level using digital technology to enhance timely

containment of disease outbreaks at the source. He highlighted on the need to deploy *AfyaData* to support EBS at community level in many areas of Tanzania.



CORDS networks learn experiences on EBS in Tanzania

From December 17-21, 2018, the Connecting Organization for Regional Disease Surveillance (CORDS) network members visited Tanzania to learn experiences, good practices and challenges on the use of digital technology in event-based surveillance (EBS).



The event brought together sixteen (16) individuals from CORDS' six member networks. They visited Ngorongoro, which is one of the districts in Tanzania where *AfyaData* has been deployed to enhance EBS. They toured the Ngorongoro Conservation Area, where

humans, wild and domestic animals live harmoniously.



They also visited Ngorongoro District Headquarters, Ololosokwan ward and Njoroi village in Ngorongoro district, which forms part of the cross-border ecosystem shared between Tanzania and Kenya.



During the event, AfyaData designing, development, functionalities and deployment strategies were shared and demonstrated to members.

The members had opportunity to learn the set-up of community radio to enhance public health information exchange between community members and specialists at different levels. To learn the use of AfyaData in EBS in the district, they interacted with officials responsible for human and animal disease surveillance at different levels including Community Health Reporters and community leaders.



As we go to press, the experiences, good practices and challenges learnt on EBS are being considered in the near-future strategies to strengthen EBS in the communities of the cross-border

ecosystems in the network member countries.



CORDS is a Non-Government Organization comprised of six international member networks (<https://www.cordsnetwork.org/cords-networks>) in 28 countries working to reduce and prevent the spread of diseases by exchanging information and best practices among regional disease surveillance networks across the world in order to improve their capacity to prevent, detect, and control the spread of epidemics. Its network members include: the Asia Partnership on Emerging Infectious Diseases Research (APEIR), the East African Integrated Disease Surveillance Network (EAIDSNet), the Mekong Basin Disease Surveillance (MBDS), the Middle East Consortium on Infectious Disease Surveillance (MECIDS), the SACIDS Foundation for One Health (formally known as Southern African Centre for Infectious Disease Surveillance), and the Southeast European Center for Surveillance and Control of Infectious Diseases (SECID).

Strengthening capacity for surveillance and response to Viral Hemorrhagic fevers in Tanzania

The SACIDS Foundation for One Health is implementing a project titled “Strengthening scientific capacity for surveillance and response to Viral hemorrhagic fevers (VHF) in Tanzania” through the support of the Korean National Institute of Health (KNIH). SACIDS and KNIH organized a training workshop on the application of molecular and serological technologies held at the Sokoine University of Agriculture, College of Veterinary

Medicine and Biomedical Sciences, in Morogoro, Tanzania.

The objective of the training workshop was to build capacity in the wide application of molecular and serological technologies, and their derivatives, as tools for the primary analysis of diagnostic samples, with focus on viral hemorrhagic fevers. This was a 3-day training workshop conducted from December 18-20, 2018.



Miriam Makange (left) setting a VERI-QPCR



Sima Rugarabamu (middle) preparing a master mix



Dr Hee-Young Lim (right) explaining a concept



VERI-QPCR chip loading into its cassette



The VERI-QPCR equipment



Dr Jeong-Sun Yang (1st left) conducting a demo

The training was attended by 13 participants from Tanzania and Liberia. From Tanzania, the following institutions were represented: Sokoine University of Agriculture; National Institute for Medical Research; Ifakara Health Institute; Ministry of Health, Community Development, Gender, Elderly, and Children. From Liberia, participants came from University of Liberia - Pacific Institute for Research and Evaluation (PIRE) Africa Centre, JFK Medical Centre, Monrovia. The training was facilitated by experts from Korea National Institute of Health, South Korea (Drs. Joo-Yeon Lee, Jeong-Sun Yang, and Hee-Young Lim) and Sokoine University of Agriculture (Prof. Gerald Misinzo).

The topics covered and knowledge impacted focused on the theoretical

aspect of application of molecular and serological technologies as well as hands-on practices and running of experiments clinical samples. Knowledge and skill impacted included analysis of real time PCR data using Korean developed VERI-QPCR model. The use of VERI-QPCR chip assays to detect multiple VHF viruses in serum samples was introduced to participants. The participants had hands-on practice experience to master the use of molecular technology in the diagnosis of VHFs. The outcome was an improved capacity to diagnose VHFs using genomic-based assay.

Key Partners:

