



TechnoHealth Surveillance Newsletter



Volume 4, Number 5 & 6

June 2019

Editorial address

TechnoHealth Surveillance
Newsletter,
SACIDS Foundation for One
Health,
Sokoine University of
Agriculture, P.O. Box 3297,
Chuo Kikuu, Morogoro, Tanzania
E-mail: onehealthnews@sacids.org

Editorial Committee

Dr. Calvin Sindato
Prof. Eson Karimuribo
Dr. Leonard Mboera
Mr. Yunus Karsan

From Editors' desk

Dear reader,

The Editorial Committee welcomes you to Volume 4, Number 5 & 6 of the *TechnoHealth Surveillance*. In this issue, we share the following:

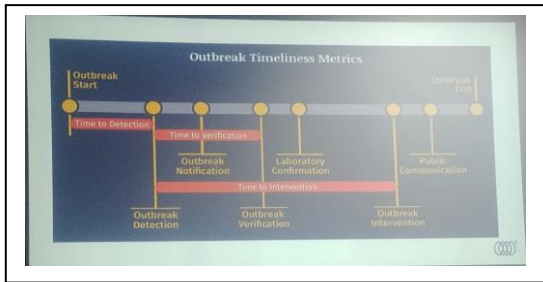
- Ending Pandemics visitation to Tanzania
- Strategies towards removal of reliance on paper-based events reporting practices
- Reflections from community event-based surveillance

We look forward to your feedback and comments on this and other issues of *TechnoHealth Surveillance*.

Kindly share with us stories on health-related events occurring in humans, animals and environment for the sustainability of our newsletter.

Enjoy your reading!

Ending Pandemics Visits Tanzania



Sokoine University of Agriculture (SUA) through SACIDS Foundation for One Health in collaboration with National Institute for Medical Research (NIMR) hosted delegation of the Ending Pandemics composed of its President, Dr. Mark Simolinski and Director, Nomita Divi from May 20-23, 2019. The delegates met and discussed issues pertaining to disease surveillance with officials of the Tanzania Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC); Ministry of Livestock and Fisheries (MoLF); and President's Office Regional Administration and Local Government (PORALG). They also met with the country office representatives from the Center for Disease Control and Prevention; Food and Agriculture Organization (FAO) of the United Nations; and Amref Health Africa.



Meeting at MoHCDGEC, Dodoma Tanzania

Ending Pandemics (formerly Skoll Global Threats Fund) is a philanthropic organization based in the United States of America. It provides scientific, technical and financial support on application of technology to find outbreaks faster; enables network of health professionals to verify rumors or the earliest signs of a potential outbreak; and works across borders to connect multi-sectoral practitioners and build trust-based networks for learning, sharing best practices, and systemic change across geographic borders.



Meeting at the MoLF, Dodoma Tanzania

Ending Pandemics has been supporting SACIDS in designing, developing, piloting and deploying digital disease surveillance tool branded *AfyaData*, to enhance early detection and reporting of public health events in human and animal populations and their environment in Tanzania and neighboring countries.



Meeting at PORALG, Dodoma Tanzania

During the visitation, opportunities were explored to strengthen disease surveillance in human and animal populations in Tanzania.



Meeting with Prof. Raphael Chibunda (Centre), the Vice Chancellor, Sokoine University of Agriculture in Morogoro Tanzania

Reflections from the meetings held at different points included need for interoperability between *AfyaData* (<http://afyadata.sacids.org/>) and *Ema-i* (<http://www.fao.org/3/a-i4853e.pdf>), and laboratory networks; collaborative activities under One Health disease surveillance; strengthening of Emergency Operation Centre; and Event-based surveillance (EBS). Others included interoperability between *AfyaData*; District Health Information System-2 (www.dhis.moh.go.tz); Government of Tanzania-Hospital Management Information System (GoT-HoMIS) and disease surveillance platform for zoonotic diseases. Highlights were also made on the need to engage mobile phone companies to support communication of EBS data between community and higher levels. In addition, underscore was made on stakeholders and policy makers engagement strategy for uptake of technologies to enhance disease surveillance.



Meeting with Prof. Yunus Mgaya, the NIMR Director General (4th from left) in Dar es Salaam, Tanzania

Discussions on interoperability between disease surveillance tools (mobile/web apps) operating at different levels aligns with the Tanzania Health Data Collaborative (THDC) that calls for coordinated and collaborative efforts of all stakeholders to address the prevailing challenges in health information system (<https://www.healthdatacollaborative.org/>). One of the prevailing challenges is lack of complete health data to make good decisions for targeting resources to improve health and health outcomes. The currently available health data is incomplete, fragmented and not properly disaggregated. The THDC has realized that the challenges of health data and information can only be solved through collaboration of all stakeholders including international agencies, governments, philanthropies, donors and academics. Collaborative and data integration strategy will increase efficiency and improve health outcomes that will contribute to achieving the goals of Health Sector Strategic Plan IV (2015-2020) and Sustainable Development Goals.

Strategies towards digital disease surveillance system in Tanzania

Having recognized an increasing expansion of mobile network and internet coverage in rural settings of Tanzania, SACIDS Foundation for One Health has been enhancing use of digital technology to promote community level One Health security since 2015. The strategy aims to empower human and animal community health reporters (CHRs) with training and information and communication technology (ICT)-based solutions. The aim is to assume active role in event-based surveillance (EBS) and response, thereby complementing strategies to improve efficiency of infectious disease surveillance at national, regional, and global levels.

Our focus has been mainly empowering community based on the fact that disease outbreaks typically erupt at community level. Moreover, most communities reside in remote locations that are hard to reach, suggesting the need for fit-for-purpose innovative solutions to strengthen community level EBS. Because about 75% of human infectious diseases we are witnessing today have animal origin, disease surveillance strategies that are grounded on One Health principles have potential to holistically control disease outbreaks effectively.

Having recently empowered 80 CHRs in Mvomero district of Morogoro region, SACIDS has expanded the workforce by training additional 80 CHRs in Malinyi district of Morogoro region using One Health approach.



The training was conducted from June 8-17, 2019. The training team comprised Epidemiologist and ICT specialists from SACIDS, District Medical Officer, District Veterinary Officer and CHRs coordinator from Malinyi. Trainees were drawn from 10 wards of Malinyi and were trained on how to recognize, record and report clinical manifestations of endemic and epidemic prone priority human and animal diseases, their prevention and control measures as well as on ethics and best practices during collection and submission of EBS data. They were also trained on how to refer patients to health care facilities and were provided with referral forms for this purpose.

Trainees were provided with android phones installed with *AfyaData*, which is a mobile phone digital disease surveillance tool. The trainees-specialist *WhatsApp* group network was established to facilitate sharing of best practices, challenges and solutions. The trained individuals were provided with certificates of participation and letters of introduction to primary health care facilities, veterinary offices, community leaders and other stakeholders at community level where they work.

Reflections from community event-based surveillance in Tanzania

SACIDS Foundation for One Health has been complementing the national human and animal disease surveillance strategies by empowering communities with digital technology on event-based surveillance. Kilosa, Malinyi, Mvomero and Ulanga are some of the districts where the *AfyaData* has been deployed to enhance early detection and timely submission of health-related events in human and animal populations and their environment. In this issue, we report clinical manifestations that have been reported by Community Health Reporters (CHRs) from May to June 2019.

Overall, a total of 826 livestock cases were reported from a total of 2,018 animals translating to overall morbidity rate of 41%. Two-third (65%) of the cases were from Mvomero and lowest proportion was from Ulanga and Kilosa (4%-each) Figure 1.

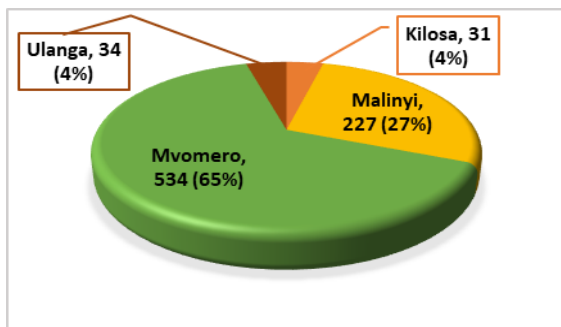


Figure 1: Distribution of number of animal cases by districts

Of the 826 cases, 270 animals died translating to a case fatality rate (CFR) of 33%. The number of cases reported in young animals (aged <1 year old) and adult animals were 453 and 373, respectively. Morbidity rate and CFR in young animals were 46% and 43%, respectively. Morbidity rate and CFR in adult animals were 36% and 20%, respectively.

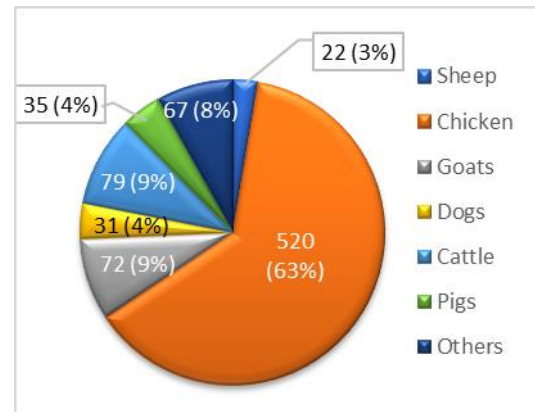
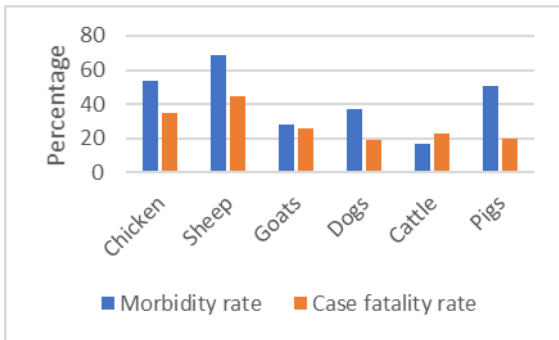


Figure 2: Distribution of number of cases by animal category

During the period, almost two-third (63%) of animal cases were reported in chicken. Domestic ruminants accounted for 21% of all cases, which were of cattle (79), goats (72) and sheep (22) (Figure 2). Overall, the highest morbidity rate (69%) and CFR (45%) were recorded in sheep and the respective lowest values were recorded cattle (17) and dogs (19%) (Figure 3).



The frequently reported clinical manifestations in animals included body weakness, loss of appetite, diarrhea, reduced egg production and sneezing (Figure 4).

Figure 3: Distribution of morbidity rate and CFR

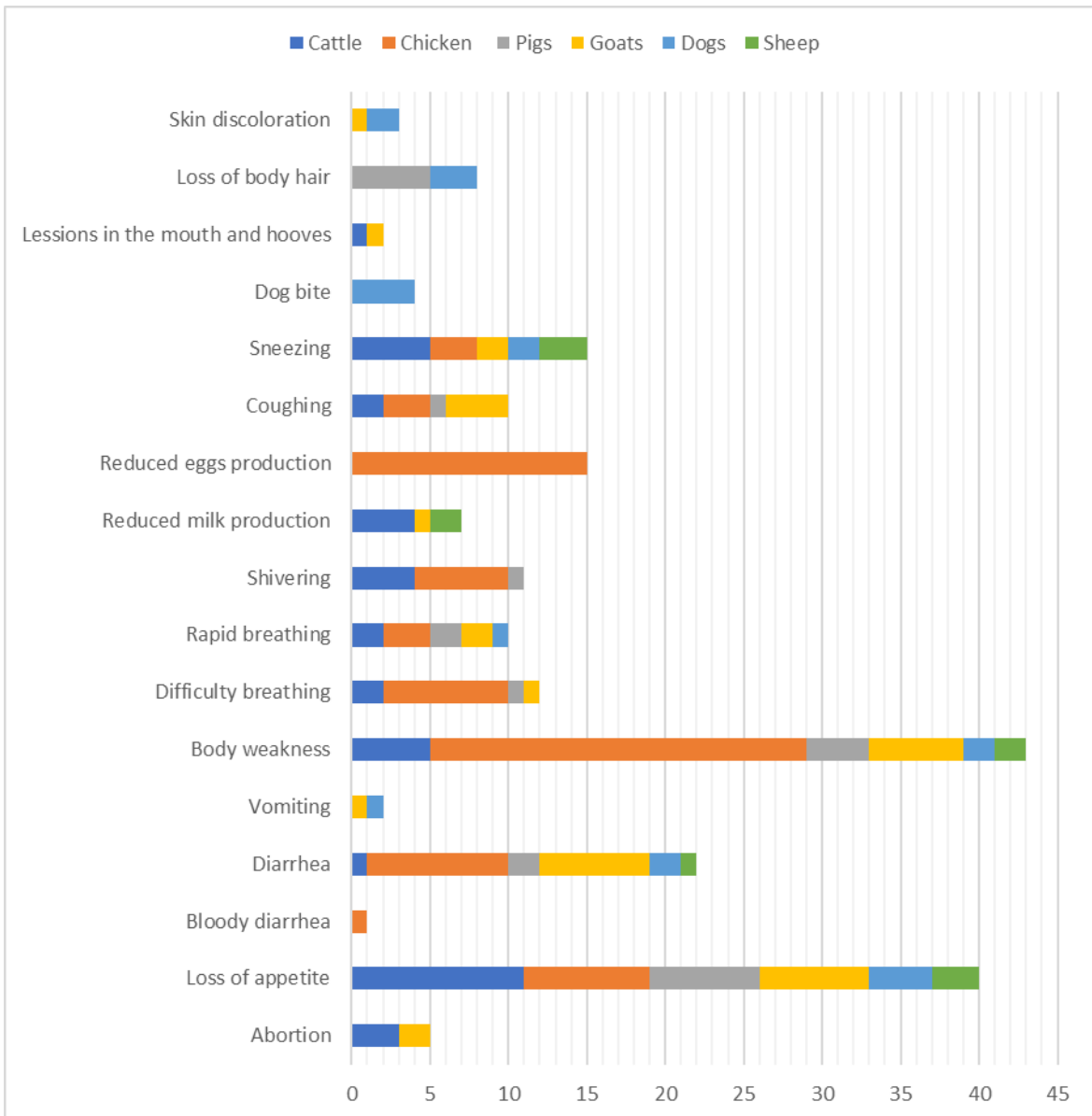


Figure 4: Clinical manifestations reported in animals

From May to June 2019, a total of 591 cases (males=274; females=317) were reported among humans, with over half (53%) from Mvomero (Figure 5).

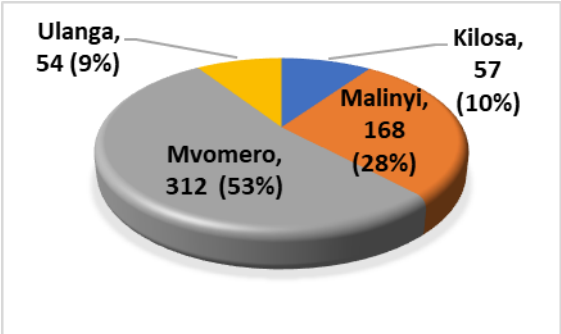


Figure 5: Distribution of number of human cases by district

Majority of cases were reported in females and males aged ≥ 5 years old (Figure 6).

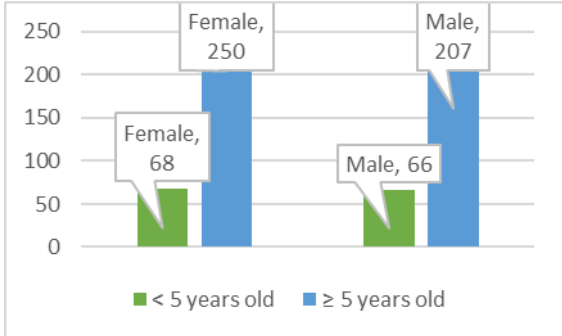


Figure 6: Distribution of number of human cases by sex and age

Clinical manifestations were frequently reported among humans aged ≥ 5 years than those aged < 5 years old. Clinical manifestations reported frequently in humans aged ≥ 5 years old included body weakness, headache, loss of appetite, coughing, stomach ache and shivering. Those reported frequently in humans aged < 5 years old included loss of appetite, coughing and skin rashes (Figure 7).

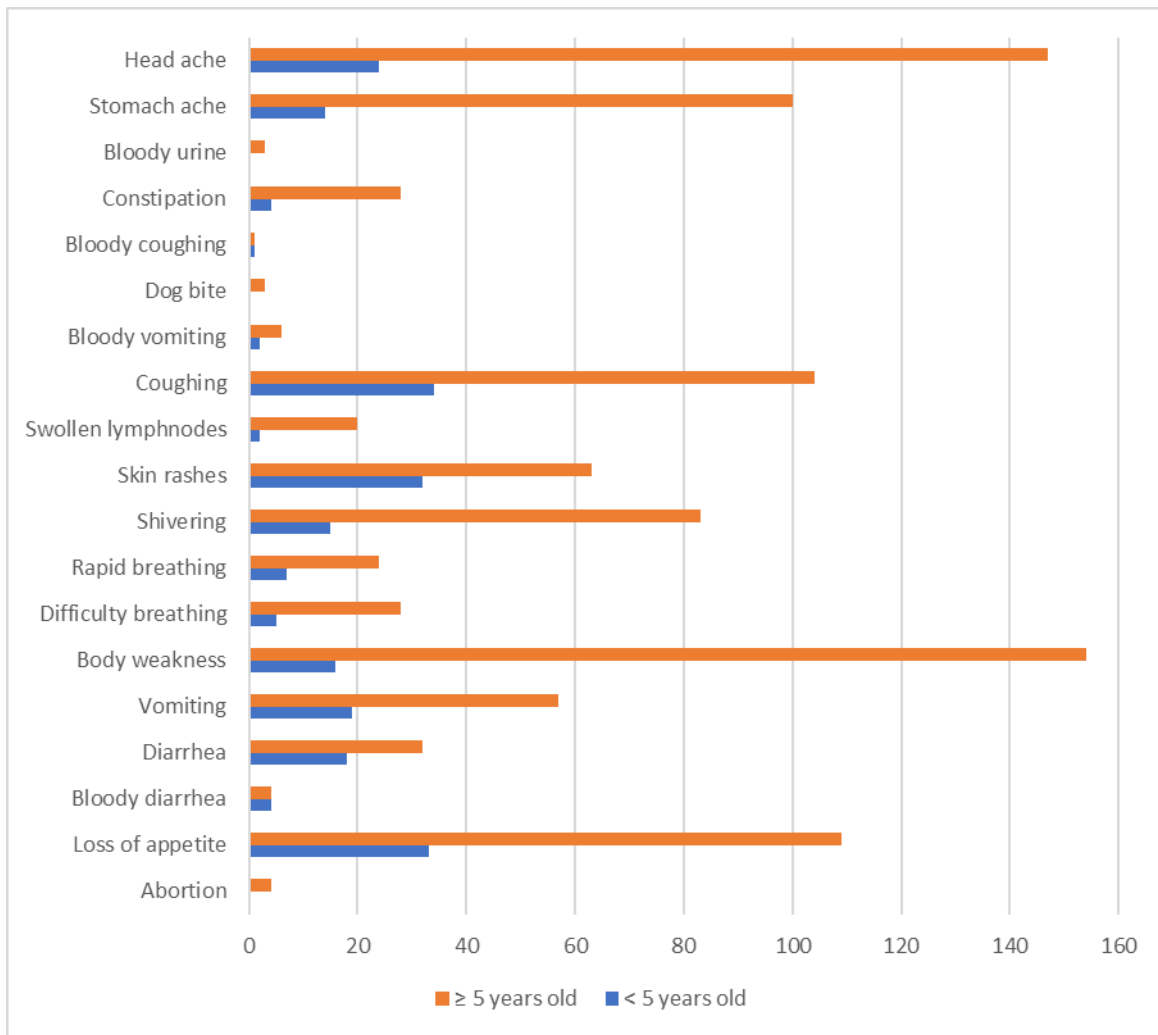


Figure 7: Clinical manifestations reported among humans

Key Partners:

