



# TANZANIA



Ms. Maria Kelly, laboratory scientist, conducting a demonstration on the donning of PPE.

## OVERVIEW

The Ministry of Health and Social Welfare (MoHSW), Preventive Services Department through its Epidemiology and Diseases Control section collaborates with the U.S. Centers for Disease Control and Prevention (CDC) to sustain influenza surveillance networks and respond to seasonal and pandemic influenza in Tanzania. Influenza epidemiologic surveillance is done in six sentinel surveillance sites [five sites for severe acute respiratory infection (SARI) and influenza-like illness (ILI) and one for ILI-only].

## SURVEILLANCE

The influenza sentinel surveillance system is based on the laboratory confirmation of samples collected from patients meeting the influenza-like illness (ILI) standard case definition and all SARI cases from the sentinel sites at the National Influenza Center (NIC). In this reporting period, four sentinel sites were financially supported to conduct influenza surveillance. Weekly SARI reports are sent to the MOHSW through the Integrated Disease and Surveillance Response (IDSR) system from the sentinel sites, and reports on aggregated data are shared with all stakeholders, including top management of MoHSW, the World Health Organization (WHO) Country Office, CDC Tanzania, sentinel sites and other partners. Through this surveillance, MoHSW has been able to identify the circulating influenza viruses in the country, share samples with the WHO Collaborating Center (CC) in Atlanta, and build capacity on preparedness, early detection and rapid response to influenza and other emerging and re-emerging viral diseases.

## HIGHLIGHTS

- Identified the epidemiology of circulating influenza viruses.
- Strengthened laboratory capacity to attain NIC status.
- Established country capacity to control outbreaks and pandemics as evidenced during the influenza A (H1N1)pdm09 virus outbreak in 2009 where only one death occurred in the country.
- Shared viruses with the international community for quality control and development of vaccine.

## SURVEILLANCE ACTIVITIES

- Collected influenza epidemiological data from four sentinel sites where 5,056 patients were enrolled into surveillance.
- Supported sentinel surveillance sites with mentorship and training of new/additional staff.
- Shared SARI weekly data through IDSR with the national level, WHO, and CDC Atlanta.
- Conducted supervisory visits to the existing four sentinel sites to provide mentorship, on-the-job training, inventory of project equipment/assets, feedback to site authorities, and discuss sustainability issues.
- Shared influenza surveillance information at national and international meetings.

## LABORATORY

The National Influenza Laboratory (NIL) has built significant capacity in terms of human resource and equipment and attained NIC status in November 2014. In addition, the National Health Laboratory Quality Assurance and Training Center, of which the NIC is part, was accredited by the Southern African Development Community Accreditation Services with ISO15189 standard in April 2014 and awarded a certificate of honor for the accredited laboratories during the ASLM 2014 Meeting in Cape Town, South Africa.

The epidemiological picture of influenza viruses circulating in the country is now well known. From October 2013 to May 11, 2015 a total of 2,000 specimens were tested for influenza viruses using real-time RT-PCR; out of those, 270 (13.5%) were positive,

of which 191 (71%) were influenza A viruses and the rest 79 (29%) were influenza B. Among the influenza A viruses, 185 were influenza A (H3N2) and six were A (H1N1)pdm09. Out of the positive samples, 111 were subjected to cell culture. Laboratory capacity has been strengthened not only for influenza viruses, but also for other emerging and reemerging infections. The experiences and resources gained through influenza surveillance were used to respond to other emerging and reemerging diseases (e.g., Rift Valley fever, dengue, and chikungunya) and for Ebola.

### LABORATORY ACTIVITIES

- Performed RT-PCR testing on 2,000 samples; out of those, 111 samples were subjected to virus cell culture.
- Shared 73 virus isolates with the WHO CC in Atlanta.
- Participated in WHO's External Quality Assessment Project (EQAP) with excellent scores.
- Procured reagents and supplies for laboratory specimens collection and testing.
- Provided feedback on influenza laboratory results sent weekly from sentinel sites.

### PREPAREDNESS

The MOHSW continues to work with CDC, the United Nations, and other stakeholders on the implementation of the preparedness and response plan for avian and pandemic influenza and other emerging and reemerging infectious diseases. The plan is multi-sectoral, involving the key ministries and other stakeholders. However, preparedness activities were carried out at a very minimal pace due to a lack of funding available to implement the plan. The MOHSW-CDC cooperative agreement is concentrated on surveillance activities. The National Task Force to deal with emerging and reemerging diseases is in place to deal with preparedness activities and will respond to any outbreak that may occur. The committee is divided into five subcommittees including coordination, surveillance, case management, logistics, and social mobilization and public awareness.

### PREPAREDNESS ACTIVITIES

- Strengthened surveillance at points of entry in collaboration with other stakeholders including immigration officers.
- Distributed personal protective equipment (PPE) to all districts in an effort to prepare for the threat of Ebola and other emerging infectious diseases.

- Developed a national team and divided into five subcommittees; coordination, surveillance, case management, logistics and public awareness.
- Developed public communication materials in collaboration with UNICEF.

### TRAINING

- Designated a team member to attend a short course on Computer Aided Qualitative Data Analysis in New Delhi, India.
- Trained 24 Regional and Council Health Management team members on disease surveillance and outbreak response.
- Conducted refresher training on influenza surveillance and other emerging infectious diseases, including Ebola, for newly employed health care workers at sentinel surveillance sites.
- Conducted training on improving laboratory capacity and surveillance for pandemic influenza preparedness for health care providers from 13 provinces in the country.
- Attended training on molecular diagnosis of respiratory diseases at the National Institute for Communicable Diseases (NICD) in Johannesburg, South Africa.

### INFLUENZA VACCINE ACTIVITIES

Although currently there is no influenza vaccine program in Tanzania, the country recognizes that vaccination is the most effective way to prevent influenza and therefore is important particularly among high-risk groups such as young children, pregnant women, the elderly and persons with underlying medical conditions. With the currently available data, we are able to estimate only the relative burden of influenza for influenza-like illness (ILI) and severe acute respiratory illness (SARI); however, incomplete data, mainly on patient outcome, make accurate estimates a challenge.

- We have started collection of additional data including denominator data from a well-defined catchment area in order for us to be able to estimate the incidence of influenza-associated morbidity (hospitalizations and outpatient visits) as well as influenza-associated mortality. Accurate data and calculation of burden of disease can inform the government and assist them in developing a national action plan for influenza vaccine introduction in the country.