JUNE. 2011 Vol.1

EAIDSNet BULLETIN

EAST AFRICAN INTEGRATED DISEASE SURVEILLANCE NETWORK (EAIDSNet): VOLUME 1 ISSUE 2, APRIL- JUNE 2011

EAIDSNet is a member of Connecting Organizations for Regional Disease Surveillance (CORDS)

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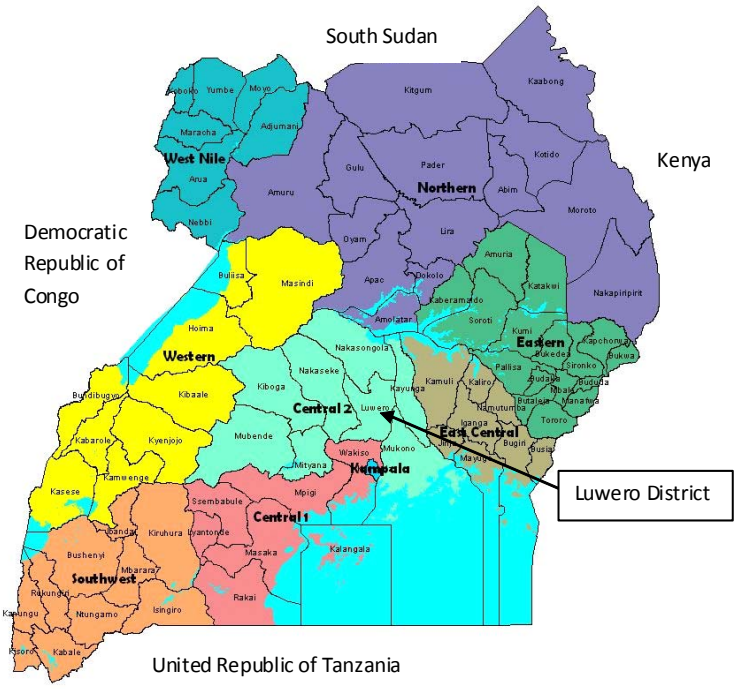
1. Outbreak News

1.1. Ebola Outbreak in Luwero District, Uganda

Byamukama Agaba, Julius Lutwama, Issa Makumbi, Maurice Ope

On 1st May, 2011 in Nakisamate village, Ngalonkalu parish, Zirobwe sub county in Luwero district, Uganda, a 12 year old school girl who was staying with a grandmother developed headache and was given analgesics bought from a local drug shop. Luwero district is located in the central region (Figure 1), with its headquarters located 65kms along Kampala-Gulu road.

Figure 1: Map of Uganda showing the Luwero District



Three days later, the condition of the patient worsened and she developed fever that was associated with chills. The grandmother went back to the clinic and collected some more medicines. On the May 6, 2011 the patient was very weak with epistaxis and this forced her grandmother to take her to a nearby private clinic, where the health worker inserted adrenaline nasal packs in the nostrils and also administered quinine and vitamin K. Upon the request of the father, the patient was referred to Bombo Military Hospital. It was noted that she had also developed bleeding from the anus, vagina and haematemesis. On arrival at Bombo Military Hospital the patient was semi conscious with a tinge of jaundice, conjuctival haemorrhages and enlarged spleen.

However, there was no history of abdominal pain, no pain on swallowing or hiccup. It was also noted that there was no history of recurrent epistaxis, bleeding tendencies or chronic illness. A diagnosis of disseminated intravascular coagulation with functional platelet disorder was made. The differential diagnosis was viral hemorrhagic disease. Investigations done included blood slide for malaria parasites and complete blood count. The patient was put on oxygen and intravenous blood transfusion. The condition of the patient deteriorated and eventually died on the same day of hospitalization.

The body was handled with extra care and wrapped in a body bag and delivered for burial on May 7, 2011 at Negulumye, Busukuma sub county Wakiso district.

Specimen for VHF screening was collected on 6th May 2011, arrived at Uganda Virus Research Institute on 9th May 2011, tested on 12th May 2011. On 13th June 2011, specimens were tested by both real time PCR and antigen detection by ELISA and confirmed the presence of Sudan Ebola virus (SEBOV). Genome sequence was 99.3% similar to the Gulu 2000 strain. A second blood sample was sent to CDC Atlanta for further testing and quality control. Subsequently an outbreak of Ebola was declared in Luwero.

A suspected case was defined as anyone who presented with high grade fever, general malaise, headache and bleeding from a body site. Primary contacts were all persons who got in touch with the index case, while secondary contacts were those who had contact with a primary.

A total of 25 persons who had close contact, 12 of whom were health care providers were followed up for 21 days. A total of 4 persons developed febrile illness and specimens taken from all these 4 persons were negative for Ebola virus by PCR. All the primary contacts were followed up for 21 days. The surveillance focal person made telephone calls three to four times a day to establish the health condition of all contacts. The contacts were distributed in villages as follows: Nakisamate village (9), Kisakye clinic first contact with the health system (12), Bombo Military Hospital (3), Busukama village (fathers' home) (1). The number of secondary contacts was not established.

Following this outbreak, the health care providers and communities were sensitized on identification of suspected cases, consequently a total of 23 suspected cases were reported from different parts of the country, out of which 6 patients died. However specimens taken from all these suspected cases tested negative for Ebola, Marburg, and yellow fever. Every suspect case was also tested for malaria and enteric fever depending on the level of the facility

Ecological studies undertaken at the same time to determine a possible reservoir for Ebola involved sampling 50 fruit bats, 14 insectivorous bats and 2 monkeys all tested negative for Ebola and Marburg.

Measures taken to control the outbreak

- Early detection and notification of suspected cases through dissemination of the case definition of suspected cases nationally
- Rapid response teams were on standby 24/7 to verify and investigate all suspected cases
- Established a triage system for patients arriving in hospitals
- Ebola isolation camp designated at Bombo hospital
- Training of health workers on infection prevention and control and case management
- Social mobilization done through mass media, print media and through interpersonal communication by trained local community volunteers

Challenges encountered

- Lack of financial resource at beginning of the outbreak
- Knowledge gaps about Ebola among the health workers and community members
- Failure to identify the source of Ebola virus
- Samples collected and sent initially from the field were poorly packaged and transported (could easily be damaged and cause accidents in the lab or during transportation)
- Laboratory personnel in the peripheral health units were not well trained
- Lack of enough trained personnel to work in the laboratories for many days (The few trained personnel had to work for months without days of rest)
- The biosafety and biosecurity standards and training for the personnel is still lacking/ poor

- Lack of reagents and supplies to carry out multiple alternative diagnosis
- Lack of necessary personal protective equipments for laboratory activities in the field

Lessons learnt

Best practices included frequent hand washing with soap and water to prevent further spread of the disease. Availability of gloves, jik, soap, water, aprons and other personal protective equipment for services providers. The use of the same during burial for persons suspected to have died of Ebola enhanced the control of the outbreak. Experienced health care providers are an important resource during such outbreaks and it is necessary to keep track of where they are so that they can be mobilized quickly to assist. In Bombo Military Hospital some of staff had gained experience following their participation the Gulu outbreak in the year 2000. A strong surveillance system is necessary including private practitioners willing to collaborate with the public health system in terms of referral.

Plans underway to prevent future VHF outbreaks

- There is need to regularly train rapid response teams both at national and district levels and be ready to be deployed 24/7
- Train national personnel in logistics of setting an isolation ward especially for VHFs
- Maintain some supplies of PPEs in all regional referral hospitals
- Develop a national epidemic contingency plan and update frequently
- Training and supervision of health unit infection control committees
- Ensure all health facilities have supplies for universal precaution

Background on Ebola acute haemorrhagic fever

- Almost 3,000 cases of Ebola with over 1,900 deaths have been documented since the Ebola virus was discovered in 1976. Major Ebola outbreaks have occurred in Sudan, DRC, Cote d'Ivoire, Gabon, Uganda and Congo.
- Transmitted by direct contact with the blood, secretions, organs or other body fluids of infected persons. The infection of humans with Ebola virus through the handling of infected chimpanzees, gorillas, and forest antelopes (alive and dead) has been documented.
- Ecological studies are in progress to identify the natural reservoirs of Ebola. There is evidence that bats are involved.
- Epidemics can be dramatically amplified in health care facilities with inadequate infection control precautions/barrier nursing procedures.
- Incubation period for Ebola is 2 to 21 days.
- Between 20% and 80% of patients have haemorrhagic manifestations depending on the Ebola virus strain.
- Patients become increasingly infectious as their illness progresses.
- High case fatality ratios have been reported during Ebola outbreaks (25% to 90
- There is no specific treatment for the disease. Severe cases require intensive supportive care, as patients are frequently dehydrated and in need of intravenous fluids or oral rehydration with solutions containing electrolytes.
- Close contact with a severely ill patient, during care at home or in hospital, and certain burial practices are common routes of infection. Transmission via contaminated injection equipment or through needle-stick injuries is associated with more severe disease. Infection may also be spread through contact with soiled clothing or bed linens from an infected patient

Surveillance goal

- Early detection of cases and outbreaks, rapid investigation, and early laboratory verification of the aetiology of all suspected cases.
- Investigation of all suspected cases with contact tracing.
- During epidemics, most infected patients do not show haemorrhagic symptoms and a specific case definition according to the suspected or confirmed disease should be used.

Standard Case definitions

- ***Suspected case***: Illness with onset of fever and no response to usual causes of fever in the area, and at least one of the following signs: bloody diarrhoea, bleeding from gums, bleeding into skin (purpura), bleeding into eyes and urine.
- ***Confirmed case***: A suspected case with laboratory confirmation (positive IgM antibody, positive PCR or viral isolation), or epidemiologic link to confirmed cases or outbreak.

***Note**: During an outbreak, these case definitions may be changed to correspond to the local event.*

Background on acute haemorrhagic fevers

- Acute haemorrhagic fever syndromes can be attributable to Ebola and Marburg viral diseases (filoviridae); Lassa fever (arenaviridae), Rift Valley fever (RVF) and Crimean-Congo haemorrhagic fever (CCHF) (bunyaviridae); dengue (dengue haemorrhagic fever (DHF)) and yellow fever (flaviviridae); and other viral, bacterial or rickettsial diseases with potential to produce epidemics.
- All cases of acute viral haemorrhagic fever syndrome whether single or in clusters, should be immediately notified without waiting for the causal agent to be identified.

Surveillance goal

- Early detection of acute viral haemorrhagic fever syndrome cases and outbreaks, rapid investigation, and early laboratory verification of the aetiology of all suspected cases.
- Investigation of all suspected cases with contact tracing.
- During epidemics, most infected patients do not show haemorrhagic symptoms and a specific case definition according to the suspected or confirmed disease should be used (e.g. case definitions for Ebola-Marburg, CCHF, RVF, Lassa, DHF, and yellow fever).

Standard Case definitions

- **Suspected case**: Acute onset of fever of less than 3 weeks duration in a severely ill patient AND any 2 of the following; haemorrhagic or purpuric rash; epistaxis (nose bleed); haematemesis (blood in vomit); haemoptysis (blood in sputum); blood in stool; other haemorrhagic symptoms and no known predisposing factors for haemorrhagic manifestations.
- **Confirmed case**: A suspected case with laboratory confirmation or epidemiologic link to confirmed cases or outbreak.

***Note**: During an outbreak, case definitions may be changed to correspond to the local event.*

2. Outbreak Updates

2.1. Update on Yellow fever outbreak in Uganda

Issa Makumbi and Ope Maurice

A total of **272 suspect Yellow Fever (YF)** cases including **58 deaths** were reported from **14 districts in Northern Uganda** (Abim, Agago, Kitgum, Kaabong, Kotido, Lamwo, Arua, Lira, Pader, Gulu, Nebbi, Napak, Dokolo and Yumbe districts). Most of the recent suspect Yellow Fever cases have originated from Kaabong where cases of Hepatitis E Virus (HEV) are being reported as well. ***Twenty four (24)*** out of the ***28 samples*** tested from Kaabong were ***positive for HEV*** and none of these however has been positive for Yellow Fever.

In total ***13*** cases from the five districts i.e. ***Agago (2 cases)***, ***Abim (4 cases)***, ***Kitgum (2 cases)***, ***Lamwo (1 case)***, and ***Pader (1 case)*** had laboratory confirmation of yellow fever. As a result reactive YF immunization campaign was conducted during the period January 22nd to 26th 2011 targeting all persons aged *6 months and above* in the *5 districts* of *Abim*, *Agago*, *Kitgum*, *Lamwo* and *Pader* where YF was confirmed. The administrative coverage attained following the vaccination was 80.1% for *all the five districts* (*Abim - 120.5%*; *Agago - 80.7%*; *Lamwo - 73.9%*; *Kitgum - 77.6%*; *Pader - 75.9%*

Planned Measures to prevent future outbreaks

- The Ministry of Health of Uganda has noted that all previous YF epidemics had occurred either in central or Western Uganda and is thus aware that endemic areas extend to northern Uganda as well. There are therefore plans for a comprehensive YF risk assessment to identify areas where human beings have been exposed to the virus as well as areas with YF vectors. Plans are underway to formulate a policy for YF vaccination to ensure locals in high risk areas are vaccinated
- UVRI was set up to conduct YF research but over the years focus has turned to HIV testing. Consequently, the capacity for YF testing at UVRI has now been re-established but testing needs to be sustained
- Due to the absence of a well structured system for YF case based surveillance it is possible that some YF cases were missed between 1972 and 2010. Consequently, Yellow Fever case based surveillance has now been strengthened with support from WHO and CDC. All suspect YF cases are subject to case-based investigation, a YF case investigation completed and samples – serum or liver autopsy submitted to UVRI
- Compliance to international measures is being pursued to prevent the risk of international spread through enforcing yellow fever vaccination requirement for all international travelers.

2.2. Update on Measles outbreak in Kenya: Accelerated Measles Control Activities in Selected Districts

Daniel Langat

Since the beginning of January 2011, laboratory confirmed cases of measles have been reported from some parts of the country especially from districts in North Eastern Province, Nairobi province and some districts in Rift Valley Province, more specifically, three Turkana districts. Measles epidemic thresholds for the country were exceeded in some of the districts by beginning of February 2011.

Most of the districts where the outbreak had been detected have low routine vaccination coverage and some of them border Somalia which has weak public health infrastructure. In view of the outbreak, and the high risk posed by low vaccination coverage, and the frequent influx of refugees in Nairobi and north eastern provinces, the Kenya Ministry of Public Health and Sanitation with the support of partners initiated plans to conduct an accelerated measles control activities in identified areas. It was planned that the campaign would cover the whole of North eastern province (11 districts), Nairobi province (9 districts) and the 3 Turkana districts in Rift valley province.

Implementation

In order to achieve better and a more comprehensive impact, the coordinating team decided to integrate the measles vaccination campaign with Malezi Bora activities from 2nd May to 13th May 2011. However, the intensive phase of the campaign took place between 2nd and 6th May 2011.The remainder of the days were used to mop up areas in the respective districts which the vaccinating teams felt were not adequately covered.

Target population and vaccination strategy

Children from ages 6 months to 59 months were targeted in Nairobi and the Turkana Districts while in North Eastern the campaign targeted those aged 6 months to 14 years. The decision to vaccinate children between ages 6 months to 14 years in North Eastern province was arrived at after descriptive analyses of the reported cases revealed that over 50% of the cases were above 5years in age. Vaccination was conducted in all the health facilities and in mobile temporary vaccination posts. The target population for the campaign was **1,414,316** children.

Achievements

The table below illustrates the target populations and coverage achieved for the respective districts

	DISTRICT	TARGET	ACHIEVEMENT	%Coverage.
North Eastern	**Ijara**	44,749	43,806	98
	Fafi	45960	15237	33
	Garissa	91745	72893	79
	Lagdera	69527	48915	70
	Mandera Central	62,937	56,940	90
	Mandera West	60322	53148	88
	Wajir South	62786	44999	72
	Wajir West	83001	31154	38
	Wajir North	65410	58076	89
	Mandera East	58370	51949	89
	Wajir East	108329	107940	100
	Provincial Total	**753,136**	**585,057**	**78**
Nairobi	**Kamukunji**	**53609**	**16728**	**31**
	Langata	**70799**	**22887**	**32**
	Njiru	**52118**	**32183**	**62**
	Kasarani	**11525**	**7043**	**61**
	Makadara	**41230**	**21235**	**52**
	Westlands	**65984**	**31237**	**47**
	Dagoretti	**45261**	**23076**	**51**
	Embakasi	**128033**	**62529**	**49**
	Starehe	**59175**	**34105**	**66**
	Provincial Total	**527734**	**251023**	**48**
Rift Valley	**Turkana North**	**73486**	**68676**	**93**
	Turkana South	**28534**	**27035**	**95**
	Turkana Central	**31426**	**34058**	**108**
	Provincial Total	**133446**	**129769**	**97**
	Kenya	**1,414,316**	**965,849**	**68**

Challenges

- The population in North Eastern province are pastoralists and nomadic in nature. The campaign took place when the province was experiencing severe drought and the population was moving towards Somalia in search of pastures. This contributed to low coverage in some districts.
- Insecurity in districts bordering Somalia
- Poor road infrastructure network in some areas hampering effective supervision of the exercise.

3. Caring in the face of death: Lessons the Nurses in Lacor Hospital Learnt, during an Ebola Outbreak, Uganda, 2000

Emmanuel Ochola, Angioletta Anyai, Lydia Tino, Mary Anna Auma, Martin Ogwang, Emintone Odong

In the year 2000, Ebola virus epidemic struck Gulu, Mbarara and Masindi Districts of Uganda, infecting a total of 425 people with a case fatality ratio of 54%. The outbreak particularly in Gulu district where Lacor hospital is situated affected up to 243 people, with about 130 deaths attributed to Ebola, of which 14 were health workers. The key themes of sacrifice, commitment, and strong leadership prevailed in the events that unfolded when nurses had to choose to care for patients with the deadly disease.

It is noteworthy that when the epidemic struck, it took sometime before the diagnosis was confirmed. The earliest presumptive case had disease onset on 30th August 2000, while the final confirmation of Ebola virus was done on 15th October, 2000. Many nurses and health workers thus contracted the disease from the general medical ward. This also affected the nursing students who were working in these wards. It was only after a confirmatory test that the stakeholders swung into action, looking for personal protective equipment (PPE) and enforcing strict infection prevention practices.

A theme of strong leadership rises here. The then medical superintendent of Lacor Hospital, Dr Mathew Lukwiya asked for those who were willing to serve. At that time there was no scheme for hospital staff motivation, or even for compensation. Choice to work implied the readiness to contract the disease, and potentially die of it. One nurse recalls "I even wrote my will".

There were daily meetings with the whole medical team. The medical superintendent was there leading people with amazing confidence. He engaged the hospital staff in discussions and tried to allay their anxieties without understating the real risks. He cited what happened when Ebola struck in Kikwit, Congo, and added that "now we know what to do, how to prevent it, we have some protection, and we can fight the disease…." Nurses were motivated to see very committed clinicians working for long hours alongside them.

Knowledge improvement is paramount in the management of deadly epidemics. It does not suffice to have courage or passion. There were avenues for knowledge improvement. Daily meetings were held, where updates about the situation and any new relevant information that needed to be transmitted were provided. Nurses learnt more about Ebola during this outbreak and most importantly its transmission (and the fact that health workers are a high risk group), its clinical features, the supportive management, their roles in managing the patients, how to prevent acquisition of the disease, and in particular, how to use the personal protective equipment (PPE). The use of these could never be overemphasized. The need for alertness and responsibility for one another were stressed. These meetings would involve the whole team, including the burial team, the health education/public health team, and even hospital management not involved in direct patient care. It involved Dr. Lukwiya and many experts including those from CDC, and Government experts.

The challenges also abounded: the worst of these was the death of colleagues. "They would die while talking…", and "it pains so much not to be able to give proper respect for fallen colleagues..." recalls one nurse who was working in the Ebola ward.

Deaths were reported among student nurses on various dates. The first student nurse died on 30th September 2000, the next two student nurses died on 4th and 5th October 2000. Similarly a clinical officer also died on 5th October 2000 (Ebola had not been confirmed then). Additional deaths of a student nurse and a nurse aid was reported on 11th and 13th October 2000 respectively. It was not until 18th and 20th November 2000 when two qualified nurses died. "Many nurses wanted to leave the work" as more nurses continued to die, the worst blow came with the death of the team leader Dr Mathew Lukwiya on 5th December 2000. But God also answered Dr. Lukwiya's prayer. He had prayed, "Lord, if I die, let me be the last" and indeed that is what happened. There are no better words than those on the epitaph at Dr. Mathew Lukwiya's grave and the monument in memory of the health workers who fell victim of Ebola: 'No one has greater love than this: to lay down his life for his friends- Jn 15:13". The very words of Dr. Mathew luminates it perfectly:

"If we look at the death of our personnel, we see the unfolding of a mystery-- A mystery of light--In front of us is martyrdom and holiness…I understand now clearly that the medical service is a call from God which can demand to offer our own life. I have made up my choice" Dr. Mathew Lukwiya.

There were very long hours of work/exhaustion, and sometimes one had to be in the PPEs for up to 8 hours (the night duty was particularly very long).

Stigma was another very big problem. "*It was difficult even to buy things in the market, once they recognized you as a nurse from Lacor hospital, people would flee from you*". This was made worse by the fact that there was stigma even within the hospital, that fellow nurses who were not in the Ebola wards considered them to be infectious materials. Nursing students were asked to stay in the hostels, and not to go home, for fear of potentially transmitting Ebola. Those who defied orders and went home were sent back. "*I went home, they rejected me there. They asked me to take back Ebola (in me) to the hospital, and not kill them…*" recalled a nurse. Stigma continued for sometimes even after the declaration that the outbreak was controlled, but it was worse for those who survived from the infection.

PPEs had to be sufficient and need to be used properly and consistently in order to fight this deadly disease. PPEs increase boldness, removes some fear. It was clear to the nurses that even when they were urgently needed at the patient's side, PPEs have to first be put on first, and properly. During the outbreak, the initial phase was difficult, with few PPEs, but this improved when stakeholders rose to the challenges.

Team work is imperative during an outbreak. Each nurse was one another's keeper. One had to remind the other if they had not put on PPEs properly, and especially at the point of removal, to assist appropriately. The nursing management ensured that a nurse did not repeat the same duty over and over, to avoid becoming familiar. Amidst the staffing challenges, the team leader ensured that a nurse would get sufficient rest before the next duty.

Routine infection prevention practice is paramount to the management of hospital acquired infections. Overall, it was noted that once the infection prevention practices were faithfully adhered to, no nurse contracted the disease. Of special note is the fact that no nurse working in the isolation unit contracted Ebola.

Ebola needs you to be alert, committed, and organized in your nursing work. It's important to take infection prevention precautions strictly. We lost many nurses because of laxity in infection prevention practices before the health system became aware about the disease. It thus becomes important to be well prepared with PPEs in case of any eventuality. Nurses must improve their knowledge continuously but most importantly implementation of standard infection prevention measures. Standard precaution is a set of procedures intended to prevent the transmission of common infectious agents. During care for any patient, one should assume that an infectious agent could be present in the patient's blood or body fluids, non-intact skin and mucous membranes, and all secretions and excretions except tears and sweat. Therefore, appropriate precautions that include the use of personal protective equipment such as gloves, hand washing, proper disposal of wastes etc, are crucial in prevention outbreaks in hospital settings and even more importantly it is necessary to be alert all the time. It is important for hospitals to have functional infection control committees, who carry out surveillance on infectious diseases and hospital acquired infections, with significant contribution from nurses.

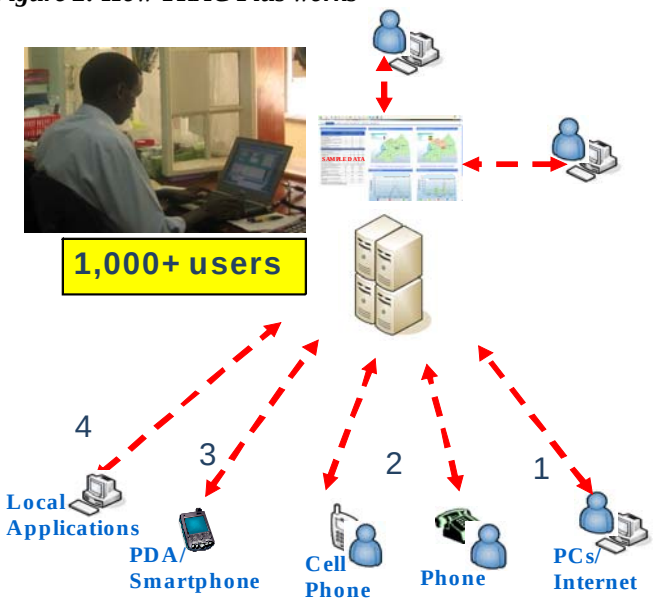
4. Innovations in reporting surveillance data: The Rwandan Experience

Nyatanyi Thierry

Taking advantage of the good and wide mobile telephone coverage to meet the need for timely detection and response to disease outbreaks, the Government of Rwanda has developed a secured phone and web based system for reporting priority diseases occurring in the country. It is build on an existing HIV &AIDS electronic reporting system called TRACnet. The system will allow users to collect real-time information from the field via web, phone, mobile application etc (Figure 2). The data entered on the system is instantly analyzed and generate dashboards for decision making. Additionally, the system provides alerts to relevant officers in a timely and systematic way.

The Division of Epidemic and Infectious Disease within the Rwanda Biomedical Center led the process of defining the system requirements while e-health technical working group. The system is being designed by Voxiva Inc. through a financial support from the US Centers for Disease Control and Prevention.

Figure 2: How TRAC Plus works

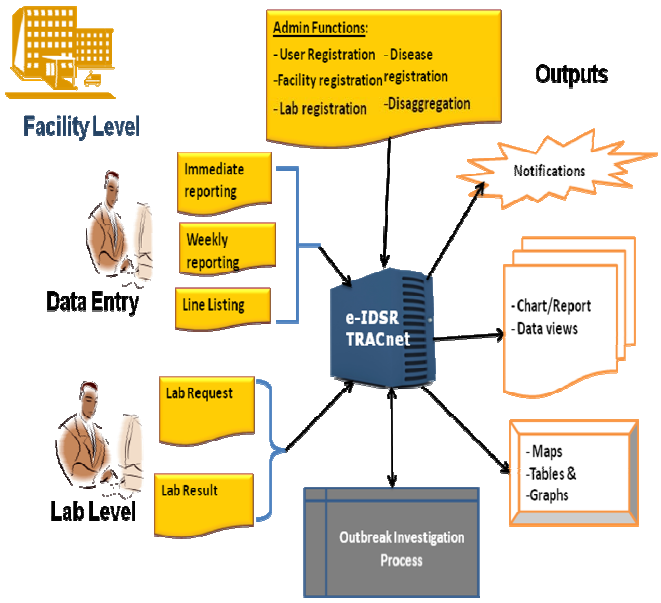


End-Users interface with the system either through the web (where internet connection is available) or phone (Interactive Voice Response). A toll-free number is used in that respect. Data capture will be done using standard reporting forms.

The data collected will include diseases of which some are reported immediately (11) while others are reported weekly (4). Whenever there is an outbreak the system allows the generation of a line listing of cases. In addition the system takes up laboratory requests and results can similarly be accessed through the system.

The data outputs include completeness and timeliness of reports, case fatality rates, outbreak algorithm dashboards (maps and charts) and data views. The notifications include weekly report reminders, late submission reminders, probable outbreak alerts, and laboratory request & results notifications. Only users with appropriate permissions can see and have access to menus and functions. The system also has an inbuilt data export capability, auto-aggregation, automated routine tasks based on business rules.

Figure 3: e-IDSR System



There is data validation through automated error checking of reports, support of data validation rules and controls at form and data field level and synchronization of mobile phones with the central data repository.

The next steps for the system include shifting from interactive voice response to short text messaging (SMS) in order to reduce costs, link the e-IDSR system to the Rwanda national data warehouse and roll out the system throughout the country.

5. Framework for cross-border integrated disease surveillance in the East African Region: Overview and recommendations from a consultative meeting of four (4) Partner States

Maurice Ope

Introduction

The East African Community is committed to widening and deepening integration. In this regard, measures have been put in place to ensure that Partner States engage each other in social and economic activities that benefit their citizens and act as regional economic bloc with ease of restricted movement of people, goods and livestock. The process of regional integration is progressing well as reflected by the encouraging progress of the East African Customs Union, the establishment of one-stop border posts, the signing in November 2009 and ratification in 2010 of the Common Market Protocol by all the Partner States. With the implementation of the common market protocol, there will be free movement of persons and goods across the region. The flow of people and goods across the borders provides opportunities for cross-border spread of disease. A disease may incubate in one country only to be detected in the next country.

Moreover, a bioterrorist event, hazardous environmental exposure, or natural disaster originating on one side of the border could readily affect the health of large numbers of people on both sides. The recognition of the shared risk of public health threats at the borders has prompted the need to discuss how to strengthen cross-border disease surveillance and response for the mutual interest of residents of the Partner States.

Consequently, the East African Community Secretariat in coordination with the Department of Disease Prevention and Control of the Ministry of Public Health and Sanitation of the Republic of Kenya convened a meeting of laboratory, disease surveillance and response experts from the Republic of Kenya, Republic of Rwanda, United Republic of Tanzania and Republic of Uganda.

Objectives of the consultative meeting

The broad objective of the meeting was to bring together stakeholders in IDSR and East African Public Health Laboratory Network Project (EAPHLNP) to discuss the framework for implementation of cross-border disease surveillance and response and joint outbreak investigation, including how to involve communities from these areas in disease surveillance.

The specific objectives of the meeting included, among others;

- To harmonize the process of collection, analysis and dissemination of surveillance, epidemiological data and other related information
- To harmonize the surveillance reporting tools in the EAC region;
- To discuss the establishment of local community-based transboundary integrated human and animal (zoonotic)

disease surveillance networks in cross-border settings in the EAC Partner States;

- To discuss cross-border integrated disease surveillance and response and joint outbreak investigation;
- To discuss the mechanisms of producing a regional East African Integrated Disease Surveillance Network (EAIDSNet) Bulletin;
- To discuss and agree on the minimum monitoring and indicators of the EAPHLN Project;
- To review the six-month EAPHLN Project Surveillance Technical Working Group work plan for the period July to December 2011;
- To discuss the Terms of Reference (TOR) for Surveillance Technical Working Group.

Consultation process

The consultative meeting was held at Crowne Plaza Hotel, Nairobi from 13th to 15th June 2011. The meeting was attended by experts from the EAC Partner States and Development Partners. These included the national focal person responsible for integrated disease surveillance, the national focal person responsible for disease outbreak preparedness and response, the national laboratory expert responsible for bacteriology laboratory (e.g. cholera, meningococcal meningitis), district disease surveillance coordinators from selected border districts, Representative from the FELTP training programs in the region and representatives of collaborating partners: US CDC, ECSA, WHO, EAC, World Bank.

EAPHLNP Surveillance and Response Technical Working Group meeting, Crowne Plaza Hotel, Nairobi-Kenya, June 13-15, 2011

Presentations were made by Partner States on the current implementation of the IDSR strategy including community based surveillance approaches already being implemented. In addition, presentations were made by the representative of WHO AFRO on cross border surveillance and what's new in the revised 2nd Edition of IDSR technical guidelines (2010). Additional presentations included innovations in reporting surveillance data in Rwanda and Kenya and the role of laboratories and laboratory technicians in surveillance.

These were followed by in-country consultations, small group discussions and plenary sessions. Deliberations on the first day focused on the development of the framework for cross-border surveillance and response; whereas the deliberations on the second day focused on harmonization of the processes and reporting tools. On the third day we focused on ensuring consensus was reached by all Partner States in attendance on the previous day deliberations.

Outcomes of consultative meeting

On the basis of the above presentations the partner States agreed on a framework for cross-border surveillance. The key highlights of the framework were as follows;

- There was need to collaborate in the surveillance, prevention and control of several diseases including zoonoses. However the focus initially should be on 13 priority diseases (table 1).
- The cross-border districts are to report on these diseases immediately, weekly or monthly as specified (table 1) to the relevant unit in the East African Community Secretariat.
- There will be scheduled cross-border meetings of adjoining districts at the borders with technical support from regional and country surveillance technical working groups.
- The cross-border districts will in the meantime share informally disease outbreak alerts across the boundaries in order to ensure preparedness, early detection and response in the region.
- There will be joint investigations of outbreaks and response to diseases or threats occurring in the cross-border districts/epidemiological zones
- The disease /events requiring joint investigations and response include cases of binational interest. A case of binational interest is one with an infectious disease that incubated in another country, or had contacts with persons in another country or a case in which there is need for joint investigations or management.
- Any partner State detecting a notifiable disease shall notify the East African Community Secretariat within 48 hours.
- The East African Secretariat will in turn report immediately upon notification to all the Partner States of the occurrence of notifiable diseases in the region.

Table 1: List of priority disease to be used when initiating the East African Cross-border Surveillance

		Frequency of Reporting		
1	Acute haemorrhagic fevers	Immediate	Weekly	
2	Cholera	Immediate	Weekly	
3	Yellow fever	Immediate	Weekly	
4	Measles	Immediate	Weekly	
5	Plague	Immediate	Weekly	
6	(AFP) Poliomyelitis[1]	Immediate	Weekly	
7	Bloody diarhoea		Weekly	
8	Cerebro-spinal meningitis		Weekly	
9	Neonatal tetanus		Weekly	
10	Rabies (animal bites)		Weekly	
11	Malaria		Weekly	
12	Typhoid fever			Monthly
13	Diarrhoea in <5 years			Monthly

From Lt to Rt: Dr Issa Makumbi-Uganda (chairing the meeting), Dr Barry Field-CDC, Dr Willis Akwhale-Kenya, Mr. Sibusiso Sibandze-ECSA HC and Dr Joyce Onsongo-Representing WHO AFRO

Recommendations of the consultative meeting

(i) The EAC Partner States' National Ministries of Health should convene in-country meetings to discuss the framework for cross-border disease surveillance and response in order to facilitate its implementation

(ii) The contents of the institutional framework for cross-border surveillance be included in the articles of the East African Regional Protocol on Co-operation in Health to be signed by the Ministers of Health in March 2012

(iii) The framework for cross-border IDSR should be presented to policy organs of the EAC for approval and adoption by Partner States

(iv) The training materials and curriculum should be reviewed and harmonized to include e-reporting, cross-border surveillance, amongst others

(v) In the meantime, disease outbreak alert/rumour information should be shared informally among the border districts while in the long term the policy makers should formalize sharing of disease surveillance information between cross-border district officials.

(vi) There should be sharing of resources which include laboratory, human resource, facilities, and logistics; among others, within the border districts.

(vii) A regional rapid response team and joint local cross-border rapid response team should conduct joint investigation of outbreaks occurring in the cross-border zones.

Conclusions

This consultative meeting forms the first step towards strengthening cross-border surveillance and response in the East African Region. This is in line with article 118 of the treaty that established the East African Community in which the Partner states undertook to take joint action towards the prevention and control of communicable and non-communicable diseases and to control pandemics and epidemics of communicable and vector-borne diseases such as HIV-AIDS, cholera, malaria, hepatitis and yellow fever that might endanger the health and welfare of the residents of the Partner States, and to co-operate in facilitating mass immunization and other public health community campaigns.

6. Announcements

6.1. International forum for quality and safety in health care, Paris, 17th to 20th April, 2012: Do you or your organization have a quality improvement, or new patient initiative to share in 2012? If so, you are invited to submit an abstract to be considered for presentation as a poster or oral presentation: See details at http://internationalforum.bmj.com/

6.2. **The 4th AFENET Scientific Conference, Dar es Salaam, Tanzania, 11th to 16th December, 2011:** The Tanzania Ministry of Health and Social Welfare (MoHSW), African Field Epidemiology Network (AFENET), and the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) are co-sponsoring the 4th AFENET Scientific Conference which will be held in Dar es Salaam, Tanzania from 11-16 December 2011: See details at http://afenet-conference.net/