



GUIDELINES FOR **ENHANCED SURVEILLANCE OF SUDAN VIRUS DISEASE**

This document is developed by the Africa Centres for Disease Control and Prevention in collaboration with partners and validated by African Union Member States

The aim of this document is to provide Africa Union Member States with guidance on enhanced surveillance in responding to the current Sudan virus disease (SVD) outbreak. *Sudan ebolavirus* (SUDV) is one of six species of *Ebolavirus*.

This document focuses on three strategies:

- 1) Community-based surveillance to detect cases early for prompt isolation and treatment to avert viral transmission;
- 2) Health facility surveillance to detect cases within healthcare facilities for isolation and treatment; and
- 3) Point of entry (POE) surveillance to detect cases and contacts prior to departure, during transit, and on arrival.

Abbreviations

AU: African Union

Africa CDC: Africa Centres for Disease Control and Prevention

CBS: community-based surveillance

CEBS: community event-based surveillance

HCW: healthcare worker

HMIS: health management information system

IHR: International Health Regulations

IPC: infection prevention and control

PoE: point of entry

PPE: personal protective equipment

SOP: standard operating procedure

SVD: Sudan virus disease

SUDV: *Sudan ebolavirus*

WOAH: World Organisation for Animal Health

WHO: World Health Organization

Glossary

Community event-based surveillance (CEBS): Africa CDC defines community event-based surveillance as the detection and reporting of unusual health events or health risks occurring within a community, by community members including community volunteers, community health or animal health workers, the public, religious leaders, civil society members, teachers, and other similar groups.

Community animal health worker (CAHW): Defined by WOAHA as a person selected by their own community and provided with short, initial, or recurring vocational training to perform basic animal health and animal husbandry-related tasks, who is accountable to a veterinary para-professional and/or veterinarian, and who is currently active in their community. The CAHW can also play an important role in a range of sanitary tasks such as disease reporting.¹

Community health worker (CHW): CHWs provide health education and referrals for a wide range of services, and provide support and assistance to communities, families and individuals with preventive health measures and gaining access to appropriate curative health and social services. They create a bridge between providers of health, social and community services and communities that may have difficulty in accessing these services. CHWs may also be known as community health volunteers, among other names. According to a World Health Organization (WHO) study group, community health workers may be members of the communities where they work, should be selected by the communities, are answerable to the communities for their activities, and should be supported by the surveillance and/or health system but not necessarily a part of its organization.

Event: The International Health Regulations (IHR) define an event as “a manifestation of disease or an occurrence that creates a potential for disease”, which can include events that are infectious, zoonotic, chemical, radiological, or nuclear in origin and transmitted by persons, vectors, animals, goods/food, or through the environment.

Health management information system (HMIS): An HMIS collects, stores, analyses, and evaluates health-related data from health facility to district, regional and national administrative levels. It provides analytical reports and visualizations that facilitate decision making at all these levels. HMIS are also referred to as routine health information systems.

Signal: Data and/or information considered by the Early Warning and Response system as representing potential acute health risk, such as an outbreak. Signals may consist of reports of cases or deaths (individual or aggregated), potential exposure of human beings to biological, chemical, or radiological and nuclear hazards, or occurrence of natural or man-made disasters. Signals can be detected through any potential source (health or non-health, informal or official) including the media. Raw data and information (i.e., untreated and unverified) are first detected and triaged to retain only the one pertinent to early detection purposes i.e., the signals. Once identified signals must be verified. When it has been verified, a signal becomes an “event”.

Surveillance: Is the ongoing systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of health-related practice, closely integrated with the timely dissemination of these data to those who need to know.

Holding area: It is a designated area at the PoE or health facility for the temporal quarantining of suspected cases²

1 The World Organisation for Animal Health (WOAH) does not have an official definition for CAHW. However, in the context of activities of the Capacity Building Department at WOAHA regarding veterinary workforce development, this informal, unofficial definition is being used to communicate the meaning of CAHW to distinguish CAHWs from veterinary paraprofessionals.

2 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8853692/pdf/GMJ550S-0038.pdf>

Rationale

The aim of this document is to provide African Union (AU) Member States (MS) with guidance on enhanced surveillance in responding to the current SVD through focusing on three strategies:

- 1) community-based surveillance to detect cases early for prompt isolation and treatment;
- 2) health facility surveillance to timely detect, isolate and manage cases; and
- 3) point of entry surveillance to detect cases and contacts prior to departure, during transit and on arrival.

This strategy was created to specifically address the 2022 SVD outbreak in Uganda; however, the recommendations can be adapted to address other Ebola virus diseases.

Introduction

Sudan ebolavirus (SUDV) is one of the six species of the genus *Ebolavirus*. Sudan virus disease (SVD) outbreaks in Africa are highly lethal with case fatality rates ranging from 53% to 100%³. Prior to the 2014-16 West Africa Ebola virus disease outbreak, the largest ebolavirus outbreak was caused by SUDV, in the Gulu district of Uganda in 2000, where 425 confirmed cases and 224 deaths were reported. In total, SUDV has resulted in eight outbreaks among humans - the most recent was declared on 20 September 2022 in Uganda.⁴ Symptoms of SVD include fever, fatigue, muscle pain, headache, sore throat, vomiting, diarrhoea, and unexplained haemorrhage, bleeding or bruising. The incubation period, which is the time interval from infection with the virus to onset of symptoms, can last from 2 to 21 days.

Transmission

SUDV spreads through direct contact with blood, tissues, and body fluids (e.g., saliva, sweat, tears, mucus, vomit, faeces, breast milk, urine, and semen) of infected humans or animals.⁵ The virus can persist in certain areas of the body (e.g., eyes and placenta) and within fluids (e.g., semen and cerebrospinal fluid) after recovery from the illness for a prolonged period of time (e.g., up to five years⁶). A person cannot transmit the virus during the incubation period.⁷

Case definitions

The World Health Organization (WHO) developed standard case definitions to facilitate the detection and reporting of suspected, probable, confirmed cases, deaths, and contacts of Ebola virus disease (EVD), which includes SVD⁸. Countries are recommended to adopt these definitions to their local contexts. In addition, in countries where there is an active ongoing outbreak like Uganda, community case definitions should be developed in addition to those used by mobile health teams and health facilities.

Suspected case⁹: Illness with onset of fever and no response to treatment for 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.

Probable case¹⁰: Any suspected case evaluated by a clinician OR: Any deceased suspected case (where it has not been possible to collect specimens for laboratory confirmation) having an epidemiological link with a confirmed case

Confirmed case: A suspected case with laboratory confirmation (positive IgM antibody, positive PCR or viral isolation)

Ebola case contact¹¹: Any person having been exposed to a suspect, probable or confirmed case of Ebola (less than 21 days before the contact listing) in at least one of the following ways:

- has slept in the same household with a case
- has had direct physical contact with the case (alive or dead) during the illness
- has had direct physical contact with the (dead) case at the funeral
- has touched his/her blood or body fluids during the illness
- has touched his/her clothes or linens

3 <https://www.who.int/en/news-room/fact-sheets/detail/ebola-virus-disease>

4 <https://www.sciencedirect.com/science/article/pii/S0042682213002237?via%3Dihub>

5 <https://www.cdc.gov/vhf/ebola/transmission/>

6 <https://www.nature.com/articles/s41586-021-03901-9>

7 <https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease>

8 https://www.euro.who.int/__data/assets/pdf_file/0007/268747/Case-definition-recommendations-for-Ebola-or-Marburg-Virus-Diseases-Eng.pdf

9 Standard case definition for routine surveillance.

10 For use by hospitals and surveillance teams

11 It is recommended for MS to adapt this contact definition based on the local transmission drivers and local risk factors.

- has been breastfed by the patient (e.g., baby)
- has participated in the intake and care of the case without appropriate PPE (e.g., healthcare workers [HCWs])

Contacts of dead or sick animals¹²: Any person having been exposure to a sick or dead animal (less than 21 days before the contact listing) in at least one of the following ways:

- has had direct physical contact with the animal
- has had direct contact with the animal's blood or body fluids
- has slaughtered, handled, or butchered meat from an infected animal
- has eaten raw or under-cooked bush-meat

Laboratory contact: Any person having been exposed to biological material taken from a suspected or confirmed with SUDV or other ebolaviruses in a laboratory setting (less than 21 days before the contact listing) in at least one of the following ways:

- has had direct contact with specimens collected from suspected Ebola
- human and animal cases
- has had contact with contaminated surfaces or materials
- has had contact without appropriate PPE with the infectious laboratory wastes generated from specimen collection, handling and disposal.

Enhanced surveillance at the community level

Community-based surveillance (CBS) is the systematic detection and reporting of events of public health significance within communities by community members. It is essential for the early detection and reporting of public health events because public health events or emerging outbreaks that occur in communities may be missed by indicator-based surveillance but can be captured through CBS and it also links communities to public health system, especially where access to healthcare is low and/or where there is underutilization of formal health services.

Africa CDC recommends that all AU Member States enhance the sensitivity of their existing event- and indicator-based surveillance systems through the rollout of CBS in communities including border zones. This would improve early detection of individual cases and clusters of SVD in communities including border communities. Key to achieving this is the development of sensitive signals¹³ (should be transcribed to photos and visuals for easy comprehension by community

12 https://www.euro.who.int/__data/assets/pdf_file/0007/268747/Case-definition-recommendations-for-Ebola-or-Marburg-Virus-Diseases-Eng.pdf

13 Data and/or information representing potential acute risk to human health, such as an outbreak. Signals recognize patterns, such as clusters of illness, animal deaths, and ill persons with symptoms not usually seen in communities.

Public Health Community Signal List

- Cluster of deaths in a village/community construction site, mine, school, prisons, orphanage (within 2 weeks)
- Cluster of disease of unknown aetiology in a village/community, construction site, mine, school, prison, orphanage, or other institution over a defined period (e.g., two weeks)
- Any unusual event or occurrence in the community which may affect human health
- Any public health event that raises concern, fear, and alarm in the community
- Any event/occurrence which may have a known, suspected, or possible impact on human health

Animal signals

- A cluster of animal deaths (within 2 weeks)
- A cluster of animals presenting with unusual signs or behaviors (e.g., bleeding, anorexia, isolation from other animals, diarrhea, weakness, coughing)

members and workers) and the training of community health workers, opinion leaders, traditional leaders and other stakeholders in the detection and reporting of public health threats at community level.

As signals are more sensitive and easier to deploy than standard case definitions at the community level, it is recommended that Member States adopt the use of signal definitions at the community level. All signals detected in the community should be immediately reported to the next level (i.e., the CHW supervisor). The CHW supervisor should triage all signals received to remove duplicates and to ensure that they meet the predefined signals. The supervisor should then proceed to conduct verification of the triaged signals to establish validity. Once a signal is verified and validated as an event, the alert desk or rapid response team should be activated for further investigations¹⁴. A reporting mechanism including feedback at the community level is very crucial and should be established. All cases detected could be reported to the alert desk for prompt action by public health authorities.

CBS should be integrated as much as possible with the national and regional health management information system (HMIS) and should be implemented in partnership with local authorities and sub-national governance coordination structures, directly engaging local groups (e.g., youth clubs, women clubs, older people associations, etc.) to facilitate penetration into the target communities.

In Member States experiencing an ongoing outbreak of SVD, community case definitions should be developed and active case search conducted within the communities to detect cases of SVD.

Sources of signals

Community signals can be obtained from community members, livestock keepers, traditional healers, schools, faith-based congregations, local markets, drug shops, social media, mass media and the internet.

Enhanced surveillance within health facilities

The aim of conducting SVD enhanced surveillance at the facility is to promptly detect new, suspected SVD cases and deaths to trigger prompt action, such as diagnosis, case isolation and management, contact tracing and safe burial while preventing HCW infection in the facilities.

AU MS are recommended to establish health facility surveillance by developing facility signals to facilitate timely detection of cases and clusters at onset. MS should also train HCWs on the detection and isolation of suspected cases to prevent hospital transmission.

Suspected cases tend to seek health care at the nearest health facilities which could be within their country or in the neighbouring country for border communities. HCWs should therefore be equipped with appropriate information, skills and PPEs for screening and detecting cases without

¹⁴ Refer to Africa CDC framework for details: <https://africacdc.org/download/africa-cdc-event-based-surveillance-framework>

Public Health Facility Signals List

- Occurrence of one or more cases or deaths of a severe, unusual, or unexplained disease, based on clinician's judgement
- Failure to respond to standard treatment
- One or more healthcare worker(s) with severe illness after attending to patients with similar symptoms
- Large, unexpected, sudden increases in admissions for any illness of the same type, including patients in intensive care units
- Two or more people presenting with similar symptoms with a history of recent travel
- Cluster of deaths in a healthcare facility
- Cluster of disease of unknown etiology in a healthcare facility

being infected. In addition, HCWs could detect a signal corresponding to one or more signals on the priority signal list which could become a suspected case upon further investigations. Signals and events detected at the facilities should be reported to the next administrative level for prompt investigation and possible referrals. It is thus crucial to ride on the emergency reporting structures established during the COVID-19 pandemic such as hotlines and alert desks for prompt reporting and investigation of events.

Enhanced surveillance at points of entry (air, land, or sea)

This is especially crucial for high risk AU MS that have not reported any case of SVD. Given the high population movements across borders, surveillance at points of entry (POE) needs to be strengthened to facilitate the prompt detection and isolation of suspected cases and active contacts of confirmed cases. The targeted actors for the operationalization of surveillance at PoE include cross-border public transport operators, crew members and all stakeholders¹⁵ and partners implementing public health surveillance and response such as regional agencies in the development of contingency plans and improving capacities for PoE.

Considerations for establishing screening at POE

Given POEs may not be equipped with the same capacity within and across countries, it is important for public health authorities to consider the following minimum requirements prior to commencing screening at POE

- Develop a standard operating procedure (SOP) for screening, referrals, etc.
- Data capture, data management and reporting/notification of events onboard and handling of human remains onboard [refer to IATA (International Air Transport Association) Manual¹⁶]
- Designate referral medical centres and establish strong coordination mechanisms between the POE, medical personnel, and surveillance authorities.
- Develop a national contingency plan, PoE specific contingency plan inclusive of POE and align to the travel operation policies e.g., for aviation align to International Civil Aviation Organization Health policies.
- Identify and designate a well-equipped screening room, and a well- equipped holding area at PoE for health assessments, in the event a suspected case is detected.
- Establish trained workforce and make provisions for appropriate and sufficient personal protective equipment (PPE) and disinfectant.
- Raise awareness among conveyance operators of the need to immediately notify PoE health authorities prior to arrival of any suspected cases.
- Raise awareness among other PoE stakeholders like small scale traders.
- Ensure that passenger locator forms are onboard for all transport vehicles including Buses, trains, flights, and crew members are trained on infection prevention and control (IPC).

Primary screening

At all POE, an initial assessment should be conducted by a POE staff. This assessment should focus on:

- Visual observation of passengers to see those presenting with signs of SVD
- Completion of a Public Health Declaration Form by travellers asking for presence of symptoms and/or exposure to SVD including the travel history to Ebola affected region in the last 21 days
- Body temperature measurement using thermometer guns or/and thermal scanners

¹⁵ Money handlers, owners of facilities offering accommodation, small scale traders, luggage handlers and road transport workers

¹⁶ <https://www.iata.org/en/programs/safety/health/>

to identify anyone who may be having fever (1040F or 380C and above). Page 10 (IPC considerations) has more information on this.

Travelers, who have signs or symptoms of SVD or have been potentially exposed, should be referred to secondary screening.

Secondary screening

Unlike primary screening, secondary screening should be conducted by a trained health care professional¹⁷. It is very important to note that, symptomatic persons should be managed with appropriate PPE¹⁸ (Refer to ANNEX II for an example of a secondary screening tool). Secondary screening should consider:

- Body temperature measurement to confirm primary screening reports
- Medical examination to ascertain that signs and symptoms conform with suspected case definition of SVD
- Linking suspected cases of appropriate case holding/management structures such as isolation, quarantine, or other referrals, that are commensurate with the presented risk
- Provision of information to the travellers about potential public health risk
- Collect or facilitate sample collection for laboratory confirmation of cases (see sample collection, packaging, and transportation considerations below)

Event Management

Laboratory testing and genome sequencing

All cases in the communities, health facilities and PoE that are investigated and meet the suspected case definition of SVD should be tested using approved Ebola virus polymerase chain reaction (PCR) assays. The approved and recommended confirmatory testing technique is quantitative reverse transcription polymerase chain reaction (RT-qPCR). Criteria for testing include anyone meeting the official suspect case definition

Sampling considerations

To test for SUDV, at least 4 mL of whole blood should be collected in a plastic tube preserved with EDTA for adults and a minimum of 1ml whole blood in a pediatric-sized plastic collection tube with EDTA for pediatric patients. Note that neither glass nor heparinized tubes should be used. There should also not be any attempt to separate serum or plasma from the primary collection container at sample collection site.

Specimens should be sent to the testing laboratory on dry ice using a triple packing system¹⁹. For all suspected deaths, a post-mortem sample for confirmation (oral swab protocol) should be performed. Note that all samples should be collected using all universal precautions and sample processing should be handled in specially equipped, high biosafety level laboratories (BSL 3 plus or 4).

Genome sequencing

It provides a high-resolution view of pathogen evolution and is increasingly sought after for outbreak investigation and surveillance. RT-qPCR Ebola-positive samples should be selected for sequencing (blood samples or buccal swabs) using genome sequencing platforms.

In situations where there are tens to a few hundred samples collected during the outbreak, it is advisable to sequence all of them. For larger outbreaks, about 10% of cases lead to 80% of the spread. Therefore sequencing at least 10% of confirmed cases would be sufficient. Countries with

17 <https://cdn.who.int/media/docs/default-source/health-workforce/dek/classifying-health-workers.pdf>

18 <https://www.who.int/teams/health-product-policy-and-standards/assistive-and-medical-technology/medical-devices/ppe/ppe-ebola>

19 <https://www.cdc.gov/vhf/ebola/healthcare-us/laboratories/shipping-specimens.html>

insufficient sequencing platforms are encouraged to join laboratory networks within their regions for sequencing of positive SVD samples (An example is the Africa CDC institutes of pathogen genomics)²⁰. Following sequencing, the laboratories are encouraged to share the sequence data with the rest of the scientific community.

Medical referral, case management, and transport

All cases including travelers that have been screened at the facility or PoE and who present with signs and symptoms consistent with SVD should be referred for further investigation (including lab testing) and care at a medical facility designated by the national public health agency. A SOP for referral should be established in collaboration with the designated referral centres to facilitate coordination across actors.

Suspected cases should be isolated during transportation to the reference centre to limit exposure to other persons. Travelers requiring evacuation, should be counselled appropriately on why they are being isolated or referred to the centre.

Infection prevention and control (IPC)

IPC considerations for Screening at Port of Entry (PoE)

The doors at the major entrances to the travelers should be left opened or open automatically to avoid transmission through the door handles.

The screening area should be equipped with non-contact thermometer guns or/and thermal scanners and batteries, easily accessible hand hygiene facility either alcohol-based hand rub dispensers (automated or pedal operated if possible) or a sink or a bucket with faucet containing water, liquid soap (automated or pedal operated if possible) and single-use paper towels, hand hygiene technique and Ebola case definition posters displayed, waste bin (pedal operated if possible) with lid, access to the isolation area with dedicated toilet and Ambulance services for easy transportation of a suspected case when identified.

Safety box (if a rapid diagnostic test for malaria or any other similar practice is meant to be performed there) should be provided.

An SOP with clear instruction on what to do whenever a suspected case is identified, record book/forms to collect data of the suspects should be available. Antiseptics and cleaning equipment required for the environmental cleaning and hygiene should be provided for regular surface cleaning and decontamination. For the temperature check, face-shield or google, gown, and surgical glove (optional) are required. In addition, closed and fluid resistant shoes are recommended. Face masks could be added (optional) depending on the exposure risk assessment. A cabin may be provided to create a barrier between the screening staff and the travelers to reduce the staff exposure. Hand sanitizer should be placed by the fingerprint capturing machines for both the immigration staff and the travellers. Regular hand-hygiene (handwash or hand rub) is recommended for the immigration officers handling passports from the travelers.

Lifts conveying the travelers at the airport should be regularly cleaned and disinfected. Normal cleaning with soap and water, and surface decontamination with 0.1% chlorine solution applies when there is no suspected case of SVD. Decontamination with 0.5% chlorine solution applies

20 <https://africacdc.org/institutes/ipg/>

Whole-genome sequencing (WGS) can:

- Provide far-higher discriminatory power, which ultimately allows an improved understanding of Ebola virus evolution
- Used to describe transmission patterns (i.e., epidemiological links between reservoirs or sources and infections)
- Provide key information to guide the development of rapid diagnostic tools for better and more rapid characterization of Ebola strains

when there is a suspected case at the PoE in line with the IPC guideline.²¹

Screening/Triage at Healthcare facilities (HCFs)

The best precaution during screening/triaging especially at the HCF is to consider every patient as potentially infectious whether there is an infectious disease outbreak or not. Some patients may be having symptoms while some may not. The risk is very high to HCWs and the other patients if an SVD case escapes triage into the facility as this may expose many people. To ensure compliance, conduct effective screening and other core components of IPC at the HCF, there must be a designated trained officer whose responsibility will be to ensure minimum standard²². The screening area should be ventilated and large enough to allow waiting. It should be equipped as highlighted under the PoE and staffed with IPC trained HCWs who have knowledge on the IPC principles, specific precautions for SVD and on the use of a standard algorithm to identify cases based on different case definitions. Isolation areas should be identified in order to effectively manage any identified case based on the WHO [guideline](#). For the screening area, the PPE required includes those highlighted for the PoE, water-proof aprons, gumboots (optional), and head cover (optional).

Screening in the Community

Community comprises the households, schools, marketplaces, worship centres, train and bus stations, inter-city checkpoints etc. This is recommended when there is evidence for community transmission and preferably should be led by the community members. Screening in the community especially in the public places to identify people who may be having symptoms related to infectious diseases such as SVD required setting up of alert desks equipped with toll free lines (optional) or call centre or an effective channel for reporting. Also requires sensitization of community members, engagement of community and religious leaders. Screening areas could be set up at strategic places at the entry points to the Markets, shopping malls/centres, worship/faith centres, train and bus stations, motor-cycle stations, inter-city checkpoints as described earlier with hand hygiene facilities. For the community level screening, PPE (Water-proof apron, masks, face shield or goggles and closed shoes) is optional but risk assessment must be conducted by the public health authority in the area and the people should be educated and guided appropriately.

Some risky behaviors that may trigger transmission of infectious diseases such as SVD in the community

- Unauthorized dead body wash without the use of appropriate PPE
- Exhumation of dead body of a known Ebola case
- Bathing of a suspected case waiting for evacuation
- Supporting Ambulance service in evacuation of a suspected case without the use of PPE

Regular engagement and sensitization of traditional healers, community birth attendants, pharmacy vendors, and other related service providers are useful in ensuring IPC and early control when there is an outbreak.²³

21 https://apps.who.int/iris/bitstream/handle/10665/130596/WHO_HIS_SDS_2014.4_eng.pdf;sequence=1

22 <https://apps.who.int/iris/bitstream/handle/10665/330080/9789241516945-eng.pdf>

23 To conclude on the area where a suspected case is temporarily kept at POE-is it a holding place, holding bay or holding area?

Refer to IATA manual for handling of Human remains on board.

Risky behaviors associated with traditional healers:

- Using the same cup to provide herbs to many patients
- Spitting of saliva on money as a form of passing of blessings
- Cutting patients' skin with blades (incision practice) to administer traditional medicines
- Covering many patients with the same cloth during traditional process of healing
- Spitting into animals' mouth and kissing animals
- Using animal skin to cover humans during treatment
- Drinking of raw blood

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Annexes

Annex 1: Example Community Health Worker Signal Notebook

General Information

Name: _____ Telephone: _____

Name of CEBS Supervisor: _____ Telephone: _____

Instructions: When you detect one or more signals in your community, please report immediately to your local-level supervisor. Use this notebook to record the following information and communicate it to the local-level supervisor:

Date/time the signal began	
Date/time the signal detected	
Description of the signal, including the number of people/animals affected	
Location of the signal	
Contact information of those affected, if applicable:	

List code/description for signals to be reported (examples)	Image
Other	

Please refer to the country's pre-defined and coded signal list to populate the signals being reported. Pictures or images of the signals can be included to assist in detection at the community-level.

Annex 2: Example Signal Register for Community and Facility Event-based Surveillance

This Signal Register may be completed by CEBS supervisors upon receiving reports of signals detected at the community-level. Note: all dates should be recorded in the DD-MM-YYYY format.

TABLE INFORMATION KEY

1. 'Date identified' is the date that the person reporting became aware that a person (or persons) showed signs/symptoms of one or more of the signals.
2. 'Date reported' is the date that the reporter informed a local-level supervisor about the signal.
3. 'Source of report' is the individual reporting to the local-level supervisor. A source may be a community health or animal health worker (CHW/CAHW), a veterinarian, schoolteacher, traditional healer, community resident, healthcare professional, etc. Include both the name of the individual and source type.
4. 'Contact of source' asks for the contact information of the reporting party, which may be needed later for any follow-up information regarding verification of the signal.
5. Please state the location of the patient's home, hospital, farm, or place where the incident is occurring, as precisely and exactly as possible. If an address is available, please record it. If an address is not available, please describe the relationship between the patient's location and a landmark. If necessary, please describe the appearance of the setting. For example, a patient's home might be the brown house with a red door that is four buildings away from a specific church.
6. Please refer to the country's pre-defined and coded signal list to populate this field.
7. 'Number affected' is the number of individuals who show signs of the signal being reported. Any deaths should be included in this value, but a case that dies should not be counted twice.
8. 'Reported by multiple sources?' asks the local-level supervisor to state whether the signal has been reported by other individuals at any level of the surveillance or health system.
9. 'Signal verification' asks the local-level supervisor to authenticate the report and record the date of report authentication in the next field (see below). If the information is from a credible/official source and meets one or more predefined signals, it is an event; otherwise, it is false. All events should be reported immediately (within 24 hours) to the sub-national jurisdiction.
10. 'Date verified' is the date that the local-level supervisor verified the signal.
11. 'Date event reported' is the date that the local-level supervisor communicated events (i.e., signals verified as true) to the local or intermediate-level health authority responsible for risk assessment.

Annex 3: POE Screening Tool

Arrivals			
Port of arrival		Country of residence	
Name of traveller		Nationality	
Date of birth		Age in years	
Sex		Email	
Passport number/National ID		Passport expiry date	
Arrival date		Country of embarkment	
Mode of transport		Airport of disembarkment	
Flight or vehicle number		Purpose of your trip	
Duration of stay		Physical address while in country	
Your contact/phone number while in country		Contact/next of kin telephone	
Have you had any of the following symptoms in the past 2 days?			
Symptom	Y/N	Symptom	Y/N
Fever		Diarrhoea	
Headache		Vomiting	
Cough		Blood in cough/stool/vomitus	
Sore throat		Abdominal pain	
General body weakness		Skin rash	
Difficulty in breathing		Bleeding from any body parts (nose, mouth, red eyes)	
Departures			
Port of departure		Country of residence	
Name of traveller		Nationality	
Date of birth		Age in years	
Sex		Email	
Passport number/National ID		Passport expiry date	
Departure date		Country of departure	
Country of destination		Mode of transport	
Airport of departure		Flight/Vehicle number	
Purpose of your trip		Physical address while in country	
Your contact/phone number while at destination		Contact/next of kin telephone	
Have you had any of the following symptoms in the past 2 days?			
Symptom	Y/N	Symptom	Y/N
Fever		Diarrhoea	
Headache		Vomiting	
Cough		Blood in cough, stool, or vomitus	
Sore throat		Abdominal pain	
General body weakness		Skin rash	
Difficulty in breathing		Bleeding from any body parts (nose, mouth, red eyes)	
In the last 21 days			
List all the regions/provinces you have visited while in country			
			Y/N
Were you ever exposed to blood or other body fluids of a sick person?			
Did you provide direct care to anyone who was sick or had died of an unknown illness?			

Have you worked in a human or animal laboratory?	
Did you directly handle a dead body or participate in funeral or burial rites?	
Did you live in the same household as a person who was sick?	
Did you spend time in the same room with a person who was sick?	
Have you ever been struck by a needle or any other sharp object or splashed in the eye, mouth, or nose with bodily fluids of someone who was sick?	
Have you been identified or interviewed as part of contact identification of a sick person?	



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