Risk Assessment Group

CONSULTATIVE SIGNAL ASSESSMENT
PRIMARY RISK ASSESSMENT
EVIDENCE BASED RISK ASSESSMENT
PUBLIC HEALTH EVENT ASSESSMENT

OUTBREAK OF EBOLA VIRUS DISEASE IN UGANDA

Date of the signal	Date of the PRA	Signal provider	Experts consultation	Method
20 September 2022	3 October 2022	ECDC	**Permanent experts:** Karin Cormann (DGOV), Achille Djiena (AViQ), Bart Hoorelbeke (FOD), Tinne Lernout (Sciensano), Romain Mahieu (COCOM), Dirk Wildemeersch (AZG) **Specific experts :** Nathalie Bossuyt (Sciensano), Natalia Bustos Sierra (Sciensano), Anja De Weggheleire (MSF), Erika Vlieghe (UZA)	Email consultation
Date of update	**Closing date**			
25/10/2022				

RAG persons of contact:
Tinne Lernout (tinne.lernout@sciensano.be)
Javiera Rebolledo (javiera.rebolledogonzalez@sciensano.be)
Valeska Laisnez (valeska.laisnez@sciensano.be)
rag@sciensano.be

Signal	On 20 September 2022, the Ministry of Health in Uganda, together with WHO AFRO, confirmed an outbreak of Ebola virus disease (EVD) due to *Sudan ebolavirus* in Mubende District, Uganda, after one fatal case was confirmed. On 3 October, three new locations reported cases (Kyegegwa, Kassandra and Kagadi). The outbreak location poses a risk of further spread, because it is on a busy road that leads to the Democratic Republic of the Congo and the area contains gold mines that attract people from within and outside of Uganda. On 3 October, 62 cases were reported (43 confirmed and 19 probable) with 27 deaths (9 confirmed and 18 probable). 6 Health care workers were infected, 2 died and 65 are in quarantine. 882 contacts are being followed-up.

Description	
Cause known?	Ebola virus disease (EVD) first appeared in 1976 in 2 simultaneous outbreaks, one in South Sudan, and the other in the Democratic Republic of Congo. Five species of Ebolavirus have been identified: Zaire, Bundibugyo, Sudan, Reston and Taï Forest. The first three, have been associated with large outbreaks in Africa. The current outbreak is caused by Sudan ebolavirus, with laboratory confirmation by the Uganda Virus Research Institute, on samples collected on 18 Sept 2022.
Unexpected/unusual	Unusual but in an endemic area. Previously, EVD in Uganda was reported in 2019 due to Zaire ebolavirus, which was imported from the Democratic Republic of the Congo. EVD outbreaks caused by Sudan ebolavirus have previously occurred in Uganda (four outbreaks) and in Sudan (three outbreaks). The last outbreak of EVD due to Sudan ebolavirus in Uganda was reported in 2012.
Severity	The case fatality ratio of EVD is usually between 41% and 100%. As there is no approved vaccine against disease caused by Sudan ebolavirus, the control of the outbreak should focus on the early detection and isolation of cases. It is unclear if and how much cross-protection the vaccine against EVD due to Zaire ebolavirus would provide against EVD due to Sudan ebolavirus.
Dissemination (Low/Medium/High)	The risk of dissemination within Uganda is high, since there is no vaccine, and the outbreak may have started 3 weeks before the 1st case was detected, raising the possibility of several undetected transmission chains. The patients who died earlier were buried with traditional practices and ceremonies involving large gatherings. On 3 October, four districts are concerned : Mubende (the epicentre), Kyegegwa (3 confirmed cases), Kassanda (1 confirmed case) and Kagadi (4 confirmed cases) (see Annex). The area is not far from Kampala, connected with a fairly good road, and from the DRC border. As of 1 October, no cases have been reported in the capital city of Kampala. However, The Ugandan government has activated a national task force and dispatched a Rapid Response Team to Mubende, Kiboga and Mityana districts and is exercising vigilance in border areas to curb the spread of the disease. An MSF team traveled to Mubende on 21 Sep 2022 to assess the situation and a treatment center was set up in the Mubende hospital on 25/09.
Risk of (inter)national spread	The risk of introduction of the virus into the EU/Belgium would most probably be related to an infected traveller coming from the affected area. Despite uncertainties about the extent of the outbreak, the risk of infection for EU/EEA citizens in relation to this event is considered to be very low at this stage. No travel-associated EVD cases have been reported among travellers returning to Europe during recent outbreaks in Africa (2018-2021).
Preparedness and response	
Preparedness	ECDC monitors this situation through its epidemic intelligence activities and will report when relevant updates are available.

	In Belgium: • Laboratory capacity for diagnostic of Ebola virus exists (at ITM). • Isolation and case management of suspected cases is possible at UZA Antwerp. However, there is nothing really set for the evacuation and repatriation of an infected/sick national from the affected country to Belgium. • Procedures and guidelines have been developed during/after the Ebola outbreak in west Africa, and are available here: https://www.info-ebola.be/en/. However they need to be revised and possibly updated.
Specific control measures (surveillance, control, communication)	Surveillance through mandatory notification of suspected cases to federated entities.
Public health impact	
Public health impact in Belgium Very low	The risk of importation of a case into Belgium is currently very low, but should be reconsidered in the light of a confirmed case in the capital city of Kampala and/or spread to DRC. With appropriate measures taken for a suspected/confirmed case in Belgium, further spread within Belgium, leading to a cluster or epidemic, is estimated to be almost nihil.
Recommendations (surveillance, control, communication)	Follow-up of humanitarian staff returning from affected areas (contact MSF-Belgium). Check if procedures on Ebola-website are still relevant/up to date. Knowledge of procedures by key players (PHE, regional health authorities, defence, first line health care services,..) should be tested. No additional measures at the points of entry needed at this stage. However, the sanitary service of Brussels Airport and of Brussels Airlines should be contacted to evaluate the current state of knowledge of the flying staff. If cases in Kampala or spread to DRC, information/training of airport staff (for incoming flights) would be useful.
Actions	Follow-up of the epidemiological situation and update of the risk assessment if needed → Sciensano/RAG. Info to health care professionals through the monthly Flash → Sciensano. Info to hygiene teams in hospitals and emergency wards about the outbreak. Contact MSF to have an update on staff working in Uganda/the affected areas → FOD/SPF. Contact Brussels airport and Brussels Airlines (and other airports/companies if direct flights from Uganda, such as Liège) → FOD/SPF. Update (if relevant) of Ebola procedures and evaluate the need for a new exercise → FOD/SPF.

Update 25/10/2022

As of 25 October 2022, the Ugandan Ministry of Health reports 109 EVB confirmed cases, 31 deaths, 20 deaths of probable cases reported prior to 28 September and 34 recoveries. Among the confirmed cases, 15 HCW were reported, including 6 deaths and 6 recoveries. The epidemic spread from the epicenter, Mubende, to several districts (Kassanda, Kyegegwa, Bunyangabu, Kagadi, Wakiso), including the capital Kampala. The first confirmed case in Kampala was reported on 12 October in a man who travelled from Mubende to the capital city to seek help. His wife tested positive after delivery of a premature baby. The baby died, and mother recovered. There was also a third adult imported case (wet case – late arrival), but not much details shared. In an attempt to contain further spread in Kampala, (some of) contacts of these cases were put in isolation in Mulago hospital for observation. As of 25 October, 17 cases were confirmed in Kampala (with 3 new cases in the past 24h), including 2 HCW. Some of these cases were identified in the isolation ward in Mulago hospital and others came directly from the community. Based on the available information (WHO and media), all 17 cases reported in Kampala are associated with previously reported cases. Confirmed cases are systematically being transferred from Kampala to the Ebola treatment center (ETC) in Entebbe (former capital of Uganda, located 44 km from Kampala). Contacts (n=1 555 on 25/10) are actively being followed up in nine districts. Construction (by MSF) of an ETC is planned in Kampala (near Mulago).

On 15 October, the president of Uganda imposed a 21-day lockdown on Mubende and Kassanda districts (overnight curfew, closing places of worship and entertainment, and restricting movement in and out of the two districts). Resistance to prevention measures is observed in some communities in the epicentre, which complicates the management of the outbreak.

WHO facilitated the availability of some doses of Remdesivir and the experimental monoclonal Ebola antibody drug MBP134. Clinical trials for vaccines against the EBV-Sudan strain could start in Uganda in the coming weeks, pending regulatory approvals from the Ugandan government.

Since 21 October, ECDC published a webpage and epi updates of the outbreak.

Risk Assessment

The EBV is spreading further in Uganda, with cases also reported in Kampala, from where direct flights leave to Belgium (Zaventem and Liège airports). So far, the number of cases in the capital city remains limited, a link was reported to confirmed cases and there is no evidence yet of sustained chains of transmission.

Overall, although the outbreak is far from being under control, with further increase of cases (see Epi-curve in Annex), there is no exponential increase and the total number of cases remains relatively limited.

Despite that there is concern about possible gaps in surveillance and possible delay in reporting, the estimated risk for infection of Belgian citizens living or travelling in Uganda remains very low, since transmission requires direct contact with dead or living infected people or animals. The main risk would be linked to seeking health care in an affected area.

The risk is higher for staff members of humanitarian organisations, particularly healthcare workers who are in direct contact with patients and/or local communities in the affected areas. But appropriate measures are taken to protect the staff (including intensive training).

The risk of introduction of a case and further spread in Belgium remains very low. Cases fulfilling the case definition of a possible case arriving at an emergency ward (see flowchart for risk evaluation) are however not excluded, and staff should be aware of the procedure to follow.

Follow-up on actions

- The topic was included in the Flash of October.
- Info to hygiene teams in hospitals and emergency wards about the outbreak will be done shortly via the Comité Hospital and Transport Surge Capacity.
- There are regular contacts between FOD/SPF and with MSF to have an update on staff working in Uganda
- Brussels airport and Brussels Airlines (and other airports/companies if direct flights from Uganda, such as Liège airport (Magma aviation)) have been contacted, informed of the risks and the need to update their

procedures. A meeting is planned on the 27th of October with Brussels Airlines to discuss the need to revise procedures and ensure that the procedures are consistent with those of Saniport.

- The process to update (if relevant) of Ebola procedures and evaluate the need for a new exercise is initiated.

New action

Discourage non essential travel to Uganda and publish clear information on potential risk for travelers on the website Diplomatie Belgium. Now the information is presented under “Last update COVID-19” instead of “Health”, https://diplomatie.belgium.be/nl/landen/oeganda/reizen-naar-oeganda-reisadvies/laatste-update-en-covid-19-oeganda

REFERENCES

WHO Africa. Outbreaks and Emergencies bulletin. https://www.afro.who.int/health-topics/disease-outbreaks/outbreaks-and-other-emergencies-updates

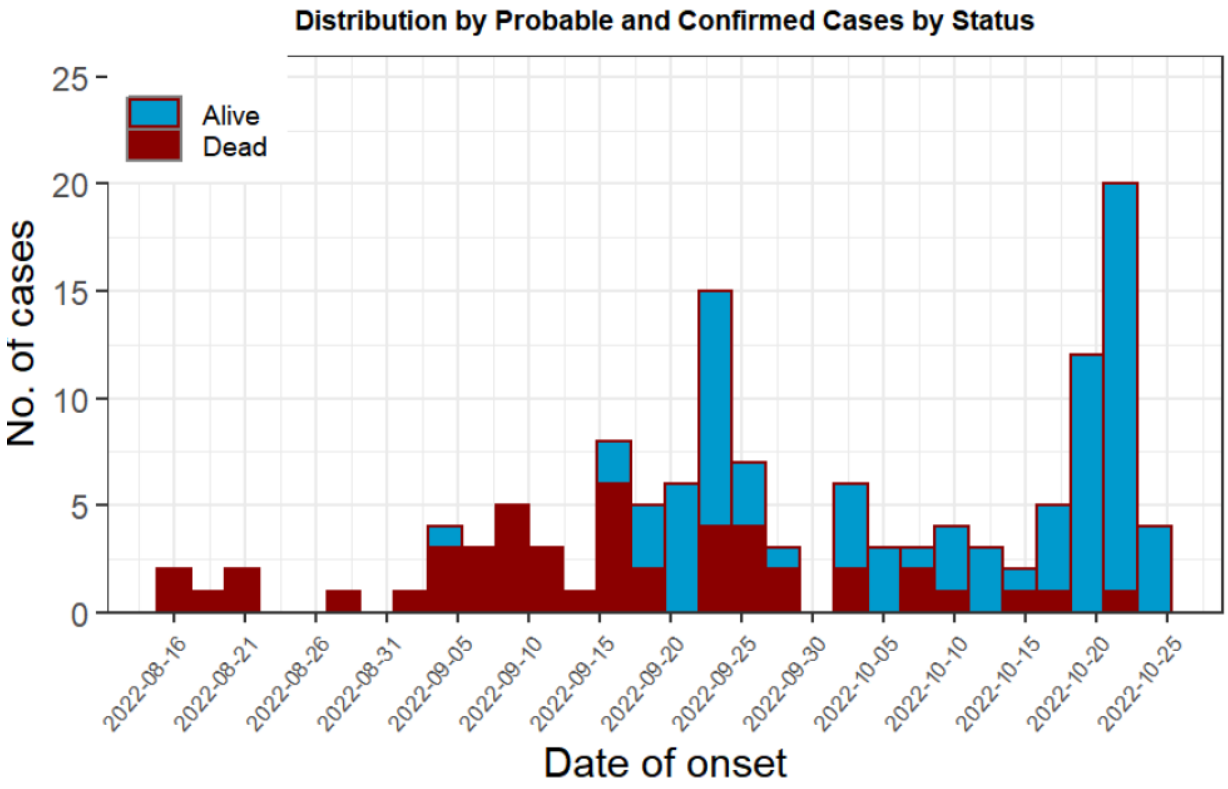
ProMED. International society for infectious diseases. https://promedmail.org/

ECDC. https://www.ecdc.europa.eu/en/news-events/ebola-outbreak-uganda

ECHO. https://erccportal.jrc.ec.europa.eu/ECHO-Products/Maps#/maps/4262

ANNEXES

Epidemic curve of EVD cases in Uganda, 25/10/2022 (Source WHO)



Geographical distribution of EVD cases in Uganda, 24/10/2022 (source ECHO)