

Oubreak of Ebola Virus Disease (EVD) in the DRC

Note: There have been previous posts on Ebola to the Health Intelligence Page. Please see those articles for background, as well as more detailed information on EVD. You can find these articles by clicking on the button marked 'View all Posts & Resources,' found at the bottom of the *In the News* and *Outbreaks/Emerging Diseases* categories, and then looking for Ebola. The current outbreak began in August 2018 but there was another DRC outbreak earlier in 2019 on the Western coast. There was also a multi-country outbreak in 2014-15 that included a few cases in the USA; some were imported but two were HCWs with exposure to an imported case.

All Ebola experts and stakeholders and workers involved agree that the current outbreak in the Northeastern part of the DRC is a crisis/emergency. What is not agreed upon by some of those experts and leaders is whether this is only a public health emergency for the local area, where the infection is currently spreading and to the provinces and the bordering countries around it OR, if it poses a more global public health threat, similar to what occurred in the 2014/15 Ebola Outbreak. This Ebola Virus Disease (EVD) outbreak is in its tenth (10th) month for the Northeastern part of the Democratic Republic of the Congo (DRC) and its case number, death toll, and geographic spread continues to increase at even faster rates than in its first six (6) months (it began in August 2018).

The World Health Organization (WHO) has identified the area (both nationally and regionally) as “high risk“ due to the river, travel, and proximity of the surrounding areas and bordering countries. These at-risk areas include the whole of the DRC, as well as the bordering countries Uganda, Rwanda, and South Sudan. However, the WHO considers global risk to be low. Therefore, the WHO has advised against any restriction of travel or trade based on the current situation. In part, that decision is based on the concern that it might only compound the ability to move goods, money, personnel, etc. in and out of the country. All of these are needed, in greater numbers, to control the epidemic.

A special panel of Ebola experts has met twice (the last time in April), under the auspices of the CDC, to decide if there is a Public Health Emergency of International Concern (PHEIC). And, so far, the response from that panel is that no global threat announcement is warranted at this time. However, many Ebola experts and outbreak-involved groups (NGOs), along with some concerned governments, are uncomfortable with this decision. Some of them have expressed their concerns and/or officially raised awareness (alert) levels, particularly for travelers.

There are several reasons for that concern, with the focus on:

1. the significantly increasing number of cases and number of deaths;
2. the percentage of both that are occurring in the community and not in Ebola Treatment Centers or Transit Centers;
3. the ongoing violence in the area and against those individuals and centers involved in the outbreak.

The experts outline these and other concerns, with their rationale, in articles (with hyperlinks) that are included in the pdf found attached to this article, named ***DRC Ebola Links and Resources (5/25/19)***. A common refrain is, how much worse would the infected case numbers and fatality rate be if there wasn't an effective vaccine in use? They didn't have that in the 2014/15 Outbreak.

The WHO and its partners are working hard to assure that the proper procedures are in place at the border, in adjacent health care centers, and have also staged knowledgeable personnel in surveillance and preparedness, throughout these areas, to prevent further geographic spread. As always, travelers should seek advice from professionals before and during travel, as indicated, and it is also prudent to understand the dynamic situation in the affected area and remain aware of significant changes in the status or recommendations. The WHO and its partners will continue to assess the situation and are ready to change the recommendations should the situation worsen and global spread become more likely. Also, more organized research is ongoing to determine which of several treatment modalities are the most effective.

Per the DRC Ministry of Health, as of 5/21/19, the latest numbers include **a total of 1,866 cases**, with 1,778 of them confirmed and 88 which are considered probable. The **official death toll is 1,241** since this outbreak began in August, with 1,153 confirmed as being from Ebola, and 88 listed as probable for EVD (some bodies are buried before, or are otherwise unavailable for, testing). The case fatality rate currently stands at 67% (an increase of 1% in the last month). The official number that **have survived is 490**. Currently, there are **307 suspected cases under investigation**. Looking at the totality of cases and deaths from the beginning of the outbreak, 56% have been female and 30% were children less than 18 years old. This rate for children is higher than in previous outbreaks. To date, there have been 105 healthcare worker cases (6% of all the cases) with 34 deaths (32%).

For May 21, there were 19 new cases confirmed as EVD from six (6) different areas. Specifically, Butembo had 8, Katwa, 5, Mabalako and Beni each had 2, and 1 each in Mandima and Kalunguta. **These areas, plus Musienene, are currently considered the seven hot spots of the outbreak and are responsible for 93% of the 350 cases that have been identified in the last 24 days.**

Eighteen people died on the 21th, with 8 in the community (either in homes or at non-Ebola hospitals or clinics) and 10 deaths at Ebola Treatment Centers (CTEs/ETCs). The WHO indicated in its 5/16/19 Update that on average, about 40% of all the deaths that occur each week are from the community; with a range of 28%-43%, and an all-time high of 71% in February. About 68% of the total deaths were not in CTEs or Transit Centres (TCs). A community death is defined as one that occurs outside of an CTE/TC, such as at a home, a public or private hospital, or other health facility, not equipped to manage Ebola. Deaths that occur in the community are much more likely to cause increased disease exposures with the development of more cases. This is due to a lack of knowledge about the disease in caregivers and family members, deficient or no infection control practices including isolation, no/incomplete appropriate PPE, contamination of the area and items around the patient, and improper post-mortem care. This is particularly true since once the patient becomes "wet" (meaning body fluids are being discharged or leaked from the patient), the infectiousness of Ebola is at its greatest point and continues through death and beyond. Even if the patient is eventually brought to an CTE, it is usually too late in the disease process, the patient has a low chance of survival, and likely caused many exposures to family, caregivers and health care workers (particularly in health centers not set up for appropriate Ebola Care (i.e. Ebola Treatment Centers).

There have been 121,868 persons vaccinated, using a Ring-Vaccination model. Ring vaccination vaccinates those most likely to be exposed such as health care workers, non-medical workers who are part of the Ebola response, those who are contacts to the exposed (considered high risk), and contacts of the contacts. A request has been made that this model must be adapted to consider the household as the 'infected one' and vaccinate the surrounding households and common areas of the community as the 'contacts'. If adopted, this would theoretically protect an individual before there was contact or potential contact with the virus. The Minister of Health for the DRC has also requested that only the currently used vaccine be utilized since everyone involved in outreach, treatment and surveillance are very familiar with the Merck vaccine, all of its required paperwork, dosing, etc. He stated that adding a different vaccine may compound distrust and make record keeping more difficult with the data potentially less helpful.

There have been several barriers to controlling this outbreak (now the 2nd largest outbreak ever), including:

1. Community resistance to health care workers and sanitary practices, vandalism (often destruction of sanitary supplies and the digging up of the dead which increase the risk of spread).
2. Patients and contacts disappearing from health care and treatment sites, often with the help of family and friends, which is a huge risk for exposure and more spread of the disease.
3. Poor infection control practices in and around some of the private and public health centers, which risks continued spread, and puts health care and investigative personnel at risk.

Another major cause for this escalation in numbers of cases and an overall 2-3% increase in the case fatality rate are the security issues in the area. This includes ongoing violence that has resulted in the deaths and injuries of Ebola medical and non-medical responders and prevented control and treatment activities from

occurring. The violence has been directed at teams moving through the community providing education, contact investigation, identification of those at risk or sick with Ebola, as well as those providing safe and dignified body handling and burial. Ebola Treatment and Transit Centers have also been attacked and forced to temporarily shut down or move. This violence is also a concern because it causes those that may have been infected or exposed to move into areas where Ebola has not yet occurred or has been stopped, and is now introduced/re-introduced. This movement and the large refugee population in the affected areas is listed as the greatest risk for the extension of Ebola into unaffected areas of the DRC, into surrounding countries such as Uganda, Rwanda, and South Sudan, or beyond. In fact, a young male, who was an EVD contact under surveillance (@ Day 7), traveled from Beni (his place of exposure) via Kasindi to Kampala. He was located in Uganda and convinced to return to Beni for the remainder of his surveillance. He was asymptomatic during this time but it proves the concern is real. Points of Entry (POEs) have been set up on the borders of neighboring countries and surveillance is very active there, with teams of workers trained and at work.

There is ongoing outreach to educate those that are resistant, by those that have standing in their own communities helping with the outreach, including those that have been successfully treated or vaccinated for Ebola. More resources including trained and knowledgeable personnel, untrained but willing-to-learn community leaders, vaccine, supplies, financial support from the world at large, are needed. It's one of the reasons that some Ebola experts and groups wanted a Global Public Health alert to be announced – to increase awareness and support from those not currently affected.

The answer as to whether this outbreak becomes more global may soon be answered. No one considers Ebola contained at the moment and spread outside of its current area is a very real concern. Governments, transportation carriers (airlines, shipping, etc.), and medical personnel should be staying abreast of the situation and those that should have Pandemic Plans in place must make sure they are current, appropriate, and include information for a virus like EVD.

What First Responders Can Do:

1. Monitor the WHO and CDC (or other governmental public health websites for updates and changes in areas of concern, travel restrictions, or other recommendations. Also, be aware of other NGOs such as Drs Without Borders (MSF) and International Federation of Red Cross and Red Crescent (IFRC) for information on the situation.
2. Always follow Standard Precautions (used to be called Universal Precautions) and add N95 masks if there is cough or respiratory droplet production, and a gown and higher protection respirator devices if there is bleeding from an orifice or other bodily discharge (*see below*).
3. Know your agency's plan for specific illnesses such as Ebola. There are plenty of sample plans available for review and adaptation if your agency does not have one.
4. Review these documents for CDC Guidelines:

Resources for Public Health Planners (probably the best CDC resource for First Responders):
<https://www.cdc.gov/vhf/ebola/public-health-planners/index.html>

Ebola Confirmed Case or Unstable or Bleeding (Wet) PUI Case PPE Recommendations:
<https://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html>