Epidemiology

Since ebolaviruses were first identified in 1976 (appendix), over 20 known outbreaks of Ebola disease have been identified in sub-Saharan Africa, mostly in Sudan, Uganda, Democratic Republic of Congo, and Gabon, and mainly due to the Ebola and Sudan viruses (figure 1). Most of these outbreaks have occurred in isolated rural areas, but the outbreak in Gulu in 2000 was in a semi-urban area of Uganda. However, it is possible that small outbreaks, might not have been identified as such. The largest outbreak to date, due to the Ebola virus, occurred in 2013–16 in west Africa, predominantly affecting Guinea, Sierra Leone, and Liberia.

It included multiple countries, both rural and urban areas, and had very high incidence and mortality (>28 000 cases with >11 000 deaths).

However, because of under-reporting, the true burden might have been considerably higher.

In this outbreak, the overall mean case fatality in confirmed cases with recorded clinical outcomes was 62·9% (95% CI 61·9%–64·0%).

The latest outbreaks were declared in May, 2018, in a remote area in the Equateur province and in August, 2018, in the North Kivu province in the Democratic Republic of Congo.

The situation became of concern in May, 2018, when the outbreak reached Mbandaka, a large city and a transit hub located at the Congo River. Fortunately, the outbreak was controlled relatively quickly, with a total of 54 cases, of whom 33 died. Control of the outbreak in North-Kivu is hampered by sustained violent conflict in the region.

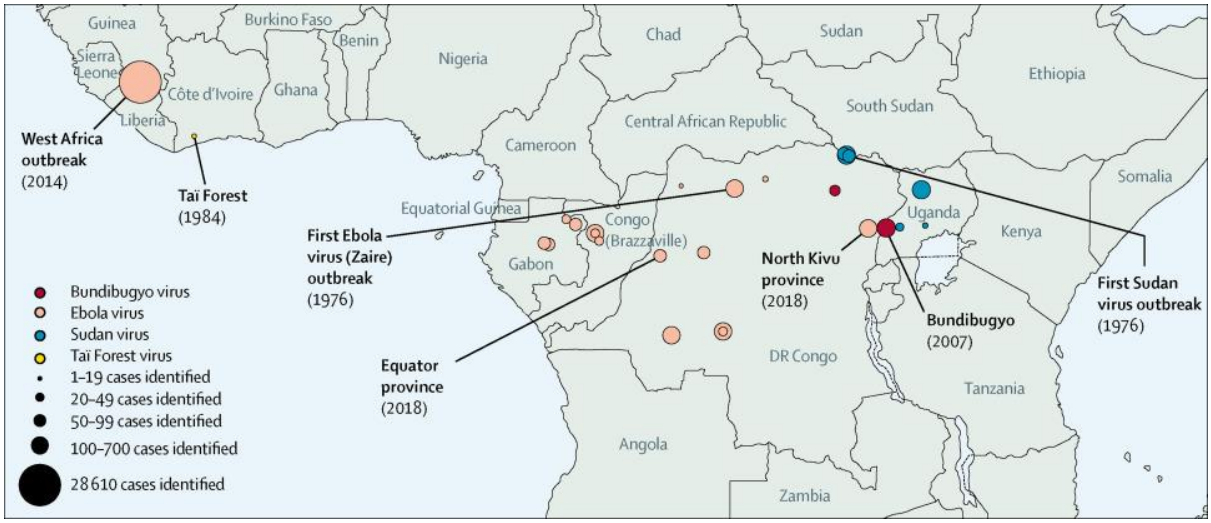

Figure 1Outbreaks of Ebola disease in sub-Saharan Africa

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To our knowledge, Ebola virus disease outbreaks have been restricted to African countries, with some dissemination between neighbouring countries.

Nonetheless, the disease can spread due to the ease of international travel,

and indeed secondary infection from patients that travelled from African countries has been reported in Spain and in USA.

In addition, unfamiliarity with Ebola virus disease outside of the endemic area has led to delayed diagnosis of imported cases.

Ebola virus disease is considered to be zoonotic, with occasional spillovers to humans, apes, and possibly other animals. Fruit bats belonging to the Pteropodidae family are thought to be the natural hosts of the Ebola virus, although the virus has not been isolated yet from bats in natural conditions. Humans are likely infected either by handling sick or dead infected forest animals, or by direct or indirect contact with infected bats.

Secondary human-to-human transmission can occur via direct contact with blood, secretions, or other body fluids from infected humans. Caring for the sick or handling dead bodies (eg, during traditional funerals) is associated with a particularly high risk, which also explains why nosocomial transmission occurs frequently before the outbreak is identified. Sexual transmission by survivors of Ebola virus disease has also been reported.

Seroprevalence surveys suggest that asymptomatic infections can occur.

Beyond the direct morbidity and mortality attributable to Ebola virus disease, the disease has indirect effects on population health because resources are diverted from programmes aimed at controlling other diseases of major importance—such as HIV infections, malaria, tuberculosis,and human African trypanosomiasis—from programmes improving maternal and infant health and from primary care.