Health Protection Scotland Briefing Note

Event	**Ebola virus disease in West Africa – Situation Update & Resources Links**
Alert reference number	2014/025
Recipients of this alert	Consultants in Public Health Medicine, Scotland Consultant Microbiologists & Virologists, Scotland Health Protection Teams, Scotland Infection Control Teams, Scotland Infectious Disease Physicians, Scotland Scottish Government
Alert status	For information
Action required of initial recipients	Read Cascade as appropriate (e.g. GP's, A&E Departments, Critical Care Units, ID Unit Staff)
Date of issue	10 October 2014
Source of event information	European Centre for Disease Control World Health Organisation Centers for Disease Control and Prevention
Contact	Syed Ahmed (syed.ahmed2@nhs.net or 0141 282 2994) Chris Redman (christopher.redman@nhs.net or 0141 300 1166) Kitty Smith (kittysmith@nhs.net or 0141 300 1131)
Authorised by	Dr Syed Ahmed Clinical Director, Health Protection Scotland

Sections highlighted in yellow indicate information updated since the previous report.

1. Actions for clinicians

- Every clinician in Scotland should ensure that:
    - They take a full travel history for all patients with a fever (or history of a fever in the past 24 hours) or other symptoms compatible with Ebola virus disease (EVD) and who have returned from countries currently experiencing an Ebola outbreak (Sierra Leone, Guinea and Liberia: see section 8)
    - They familiarise themselves with the appropriate actions to take if they suspect a patient may have EVD and that they familiarise themselves with EVD guidance produced by HPS and other organisations (see section 10)
    - If EVD (or another viral haemorrhagic fever) is considered likely, the patient should be isolated (in a side room if possible), with appropriate infection control measures while a detailed risk assessment is carried out. The Advisory Committee on Dangerous Pathogens (ACDP) risk assessment guidance document and algorithm should be used and is available here.
    - If EVD (or another viral haemorrhagic fever) is considered likely, the local Health Board health protection team must be informed as a matter of priority.

2. Airport screening in the United Kingdom

- On 10 October the UK Government announced that enhanced screening will be implemented at London's Heathrow and Gatwick airports and Eurostar terminals.
- Screening will involve assessment of passengers' recent travel history, who they have been in contact with and onward travel arrangements as well as a possible medical assessment, conducted by trained medical personnel rather than Border Force staff.
- Passengers will also be given advice on what to do should they develop symptoms later.

3. Issues of current concern regarding transmission

- The case of the Spanish nurse currently being treated for EVD in Madrid has encouraged public anxiety as it has been reported that she was infected despite wearing appropriate PPE and following all necessary protocols. The exact circumstances in which the nurse became infected are not known at this time and there is no evidence that Ebola virus is more able than any other virus to penetrate appropriately-used PPE.
- Where infection occurs despite use of PPE it is likely that a breach of the barrier to

infection, however brief or hard to discern, is responsible for infection, particularly in high-risk situations where healthcare workers are exposed to copious infectious body fluids. Rigorous application of protocol remains a mainstay of infection control.

- There is a low risk of infection from those who are asymptomatic. Ebola virus is not transmitted by the airborne route through coughing and sneezing. However, there is a theoretical risk of *droplet transmission at close quarters* if a patient coughs or vomits, or in the course of an invasive medical procedure such as respiratory intubation, resulting in contamination of unprotected broken skin or mucous membranes. While droplet transmission is a possibility, direct contact with the body fluids of an infected person, dead or alive, remains the main route of infection.
- There has been media speculation that Ebola virus is mutating and evolving into an airborne virus. It is in the nature of all viruses to mutate and evolve but there is no evidence whatsoever that Ebola virus is changing its mode of transmission.

4. Situation

- For regular WHO Situation Reports see WHO.
- ECDC has produced a series of Rapid Risk Assessments of the outbreak, with the most recent published on 8 October.
- The current outbreak of Ebola virus disease in West Africa is widespread in 3 countries: Guinea, Liberia and Sierra Leone. As of 5 October 2014 (Ministries of Health of Guinea and Sierra Leone) and as of 4 October 2014 (Ministry of Health of Liberia) these countries reported 8011 (probable, confirmed and suspected) cases and 3857 deaths:
    - Guinea: 1298 cases, 768 deaths
    - Liberia: 3924 cases, 2210 deaths
    - Sierra Leone: 2789 cases, 879 deaths
- Outside the main outbreak area, four countries have reported a smaller and more localised occurrence of EVD, linked to travellers arriving from one of the three main outbreak countries. As of 9 October, Nigeria, Senegal, the United States of America and Spain have had a total of 23 cases and 9 deaths.
    - Nigeria: 20 cases, 8 deaths
    - Senegal: 1 case, no deaths
    - Spain: 1 case, no deaths
    - United States of America: 1 case, 1 death
- In Nigeria, all 20 cases were linked directly or indirectly to a Liberian national with EVD who travelled to Lagos on 20 July. The current situation in Nigeria indicates that that there has been no evidence of wider transmission and the last case was identified on 5 September. Contact tracing in Nigeria has been completed. If no further cases are identified, Nigeria will be considered free of EVD on 17 October. A case was also identified in Dakar, Senegal: this individual is a Guinean national who travelled to Senegal at the end of August and no further cases have been identified in Senegal.

- The single locally-infected case in Spain is an auxiliary nurse who had close contact with at least one of the two repatriated EVD cases who died recently in Madrid.
- The single imported case in the USA is a Liberian man who travelled from Liberia to Texas on 20 September while asymptomatic and became ill on 24 September. He died in hospital on 8 October.
- In the three main outbreak countries, significant operational difficulties exist in containing the spread of infection. In these countries the outbreak has yet to peak and is spreading rapidly. Undercounting of cases is likely.
- There have been 401 cases among healthcare workers (with 232 deaths) in Guinea, Liberia, Nigeria and Sierra Leone.

5. Congolese outbreak

- A concurrent, localised outbreak of EVD in Equateur Province, Democratic Republic of Congo started in July and is unconnected epidemiologically to the situation described in this document. As of 5 October there have been 71 cases and 43 deaths.

6. EVD cases evacuated to Europe

- To date, no individuals with EVD have arrived unexpectedly in Europe, although a small number of individuals have been taken to Europe for treatment. In chronological order, the following have been evacuated:
- A Spanish missionary diagnosed with EVD was repatriated to Spain on 7 August and died of his illness on 12 August.
- On 24 August 2014, a UK national with EVD was repatriated to London and discharged from the Royal Free Hospital on 4 September.
- A second repatriated Spanish missionary died in Madrid on 25 September.
- On 27 August, WHO asked Germany to receive and treat a Senegalese health worker with EVD who was subsequently taken to Hamburg for treatment. He was discharged from hospital on 3 October.
- Two Dutch doctors who were exposed to Ebola virus were repatriated to the Netherlands on 12 September. Neither doctor tested positive for Ebola virus although both were treated for malaria.
- A French nurse working in Liberia for Médecins sans Frontières was diagnosed with EVD and evacuated to Paris on 19 September 2014. She was discharged from hospital on 4 October.
- A Ugandan doctor with EVD had been working with an Italian aid agency in Sierra Leone was evacuated to Germany for treatment in Frankfurt on 3 October.
- A Norwegian nurse working with Médecins sans Frontières in Sierra Leone was infected with Ebola virus and was evacuated to Norway for treatment at the Oslo University Hospital on 7 October.

7. Travel

- Steps have been taken by airlines to reduce risk of onward transmission from the main outbreak area. British Airways have suspended flights to Sierra Leone and Liberia until 31 December and Air France has suspended flights to Sierra Leone. Some other airlines have also suspended flights to Sierra Leone, Liberia and Guinea. Gambia Bird intends to resume twice-weekly flights between London Gatwick and Sierra Leone on 17 October.
- The UK Foreign and Commonwealth Office (FCO) advises against non-essential travel to the main outbreak countries, except for those involved in response to the EBV outbreak. FCO travel recommendations for all current outbreak countries are updated online at https://www.gov.uk/foreign-travel-advice.
- In a letter jointly signed with the International Civil Aviation Authority (ICAO) on 29 August, WHO made it clear that travel restrictions and measures taken to affect onward transmission must not affect the international response. Further, the director of the USA's Centers for Disease Control and Prevention highlighted the possibility that travel restrictions could cause deterioration in the situation in West Africa, by cutting off necessary aid.
- Exit screening is in place at airports in the main outbreak countries. Entry screening will begin at five American airports on 11 October, as will a tracking system for people entering the USA from the main outbreak countries.

8. Background

- Ebola virus infection enters the human population through contact with wild animals, typically in the form of bushmeat. Bats are thought to be the main wild host of the virus. Onward transmission occurs though close contact with infected people: burial practices and healthcare procedures where hygiene is insufficient are among the routes of transmission.
- On 22 March 2014, the government of Guinea advised WHO of an outbreak of EVD, which was confirmed by WHO the following day. This is the first time an outbreak of EVD has been identified in this part of Africa, the disease more commonly being found in the equatorial region. It is now known that the outbreak began in Guinea in the closing days of 2013, but the virus was not recognized.
- The current West African outbreak is the largest outbreak of EVD to date.
- WHO declared the outbreak a Public Health Event of International Concern on 8 August 2014.
- In Guinea, cases have been reported in Conakry, Coyah, Forecariah, Gueckedou, Kouroussa, Macenta, Siguiri, Pita, Nzerekore, Dubreka, Yomou, Kerouane, Kindia, Dalaba, Lola, Beyla. According to CDC on 6 October, the disease is no longer active in Boffa, Dabola, Dinguiraya, Kissidougou, Telimele and Boke.
- Exposure in Guinea led to the appearance of cases in northern Liberia on 30 March. Ongoing transmission in Liberia was intense, with cases in Grand Kru, Maryland,

Lofa, Montserrado, Margibi, Bomi, Bong, Grand Cape Mount, Nimba, Grand Bassa, River Cess, River Gee, Sinoe and Gbarpolu counties.

- The porous land borders of the main outbreak countries have allowed movement of people. Sierra Leone confirmed its first case on 26 May, with cases occurring in Kailahun, Kenema, Kono, Kambia, Bombali, Tonkolili, Port Loko, Pujehun, Bo, Moyamba, Bonthe and Western Area.
- Ebola virus was imported into Nigeria on 20 July, by an infected man travelling from Liberia who died 5 days later. There was limited local spread in Lagos, but one infected contact of the original case travelled to Port Harcourt, capital city of Rivers State. In Port Harcourt, he was treated by a doctor who subsequently died of EVD on 22 August. Before he died, the doctor had numerous high-risk contacts with patients, his family, healthcare staff and members of the wider community.
- The Nigerian outbreak was contained via surveillance, extensive contact tracing and quarantine. In Port Harcourt, a 26-bed isolation facility for EVD patients was established and WHO provided fifteen technical experts. WHO also trained 21 contact tracing teams. Two decontamination teams and a burial team were established.

9. Assessment

- Currently, the overall EVD risk to the UK is very low. However, risk cannot be discounted completely and may change over time. Onward transmission to Nigeria, Senegal and the USA, as well as breakdown in infection control in Spain give cause for concern. Furthermore, case numbers continue to increase rapidly in the main 3 outbreak countries.
- The successful Nigerian mitigation of onward transmission from the Liberian national who arrived in 20 July demonstrates the value of rapid response in the form of surveillance, contact tracing, quarantine and appropriate hygiene.
- With respect to travellers from the UK risk of exposure can be mitigated in two main areas: minimization of exposure in those travelling to outbreak areas and prevention or containment of infection arriving in this country.
- Currently, healthcare workers travelling to work in affected areas, or already resident there, are among those most likely to be exposed to Ebola virus due to their geographic location and the requirement for close contact with infected people. Long hours in high transmission potential situations using inadequate PPE contribute to the high proportion of cases among local and international HCWs.
- While risk of infection in other types of visitors is low where precautions are followed, if the outbreak continues in the longer term and affects further countries then travellers visiting friends and relatives (VFR) in the affected countries may be at greater risk. VFR travel frequently involves areas well beyond those visited by tourists and business travellers, for longer periods.
- The risk of EVD appearing in the UK derives from the possibility of infected individuals, either UK or foreign nationals, arriving in the country while symptomatic or asymptomatic, each situation presenting its own challenges. Scotland and UK have produced a range of guidance to supplement existing protocols and procedures in order to identify, respond to and care for suspect cases while

minimizing risk to those who may contact them.

- Planned medical evacuation of a symptomatic patient presents a low risk of transmission. Symptomatic EVD outside the context of planned evacuation presents a greater risk, as others may be exposed prior to diagnosis of EVD. When the disease is identified, appropriate precautions should be implemented to reduce the risk of transmission.

10. Information resources

- Given that the Scottish and UK focus is identification and response to suspect cases arriving in the UK in order to mitigate of risk of transmission of EVD in the UK, the information resources given here are mainly directed towards the situation in this country, with the exception of information for travellers. A list of information publishers is given at the end of this section.
- It is important to note that these resources should be used to aid existing protocols in ports, primary care, secondary care, laboratories and mortuaries where a risk is identified.

- **Healthcare – all clinicians**

  Appropriate assessment of febrile patients arriving from outbreak countries **must** be supported with the Viral Haemorrhagic Fever Risk Assessment Algorithm (version 4, 12 September) (HPS/PHE)

- **Management of cases**

  Management of Hazard Group 4 Viral Haemorrhagic Fevers and Similar Human Infectious Diseases of High Consequence (ACDP)

  Note: A Scottish supplement to this document is currently in production

- **Transportation of patients**

  HS003t - Viral Haemorrhagic Fever: Transportation of Patient (SAS)

- **Infection control**

  Viral Haemorrhagic Fever Precautions Summary (HPS)

  Summary Guidance for Acute Trust Staff: Frequently asked Questions (FAQs) on Ebola for Infection Control and Prevention staff (PHE)

  See also Management of Hazard Group 4 Viral Haemorrhagic Fevers and Similar Human Infectious Diseases of High Consequence (ACDP)

- **Infection control – general practitioners**

  Summary of Viral Haemorrhagic Fever (VHF) Precautions for General Practitioners in Scotland (HPS)

  PPE Purchasing Guidance for General Practitioners in Scotland Version 1.0 (HPS)

- **Handling and processing of laboratory specimens**

  Guidance for Labs handling Potential Viral Haemorrhagic Fever Infected Samples. (IBMS)

  See also: Management of Hazard Group 4 Viral Haemorrhagic Fevers and Similar Human Infectious Diseases of High Consequence (ACDP)

  Viral Haemorrhagic Fever Sample Testing Advice (PHE)

  Rare and Imported Pathogens Laboratory Request Form (PHE)

- **Pathology**

  Autopsy in Patients with Confirmed or Suspected Ebola Virus Disease (RCPath)

- **Guidance in specific settings**

  Advice for UK Border Force Staff: Ebola (HPS)

  Ebola: Advice for Immigration Removal Centres (PHE)

  Ebola: Advice and Risk Assessment for Educational, Childcare and Young Persons' Settings (HPS)

  Ebola: Advice and Risk Assessment for Universities and Further Educational Establishments (PHE)

- **NGOs / humanitarian aid workers**

  Ebola Virus Disease: Information for Humanitarian Aid Workers (PHE)

- **Travellers**

  fitfortravel (HPS)

  TRAVAX (HPS, login required: free to NHS Scotland)

- **Ebola virus disease background**

  Ebola: Origins, Reservoirs, Transmission, Guidelines (PHE)

  Ebola: Public Health Questions and Answers (PHE)

  Ebola Outbreaks 2000-2014 (CDC)

  Ebola Virus Disease Factsheet (WHO)

- **List of organisations publishing material above**

  ACDP: Advisory Committee on Dangerous Pathogens

  CDC: Centers for Disease Control and Prevention

  HPS: Health Protection Scotland

  IBMS: Institute of Biomedical Science

  NaTHnac: National Travel Health Network and Centre

  PHE: Public Health England

  SAS: Scottish Ambulance Service

RCPath: Royal College of Pathologists

WHO: World Health Organisation