



Public Health
England

Ebola

Wessex CPD Event – 14/11/14

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Outline

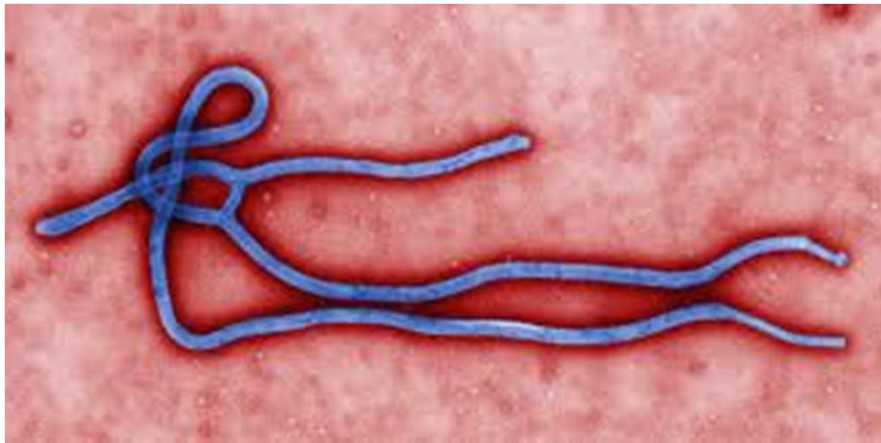
- Background
- About the current outbreak
- Situation in the UK
- Clinical management
- Public Health management
- Guidance
- Questions



1976 – Outbreak near the Ebola river in Zaire (now DRC). New virus isolated



Origins



By CDC/Cynthia Goldsmith [Public domain], via Wikimedia Commons.
Available at
http://commons.wikimedia.org/wiki/File%3AEbola_virus_virion.jpg

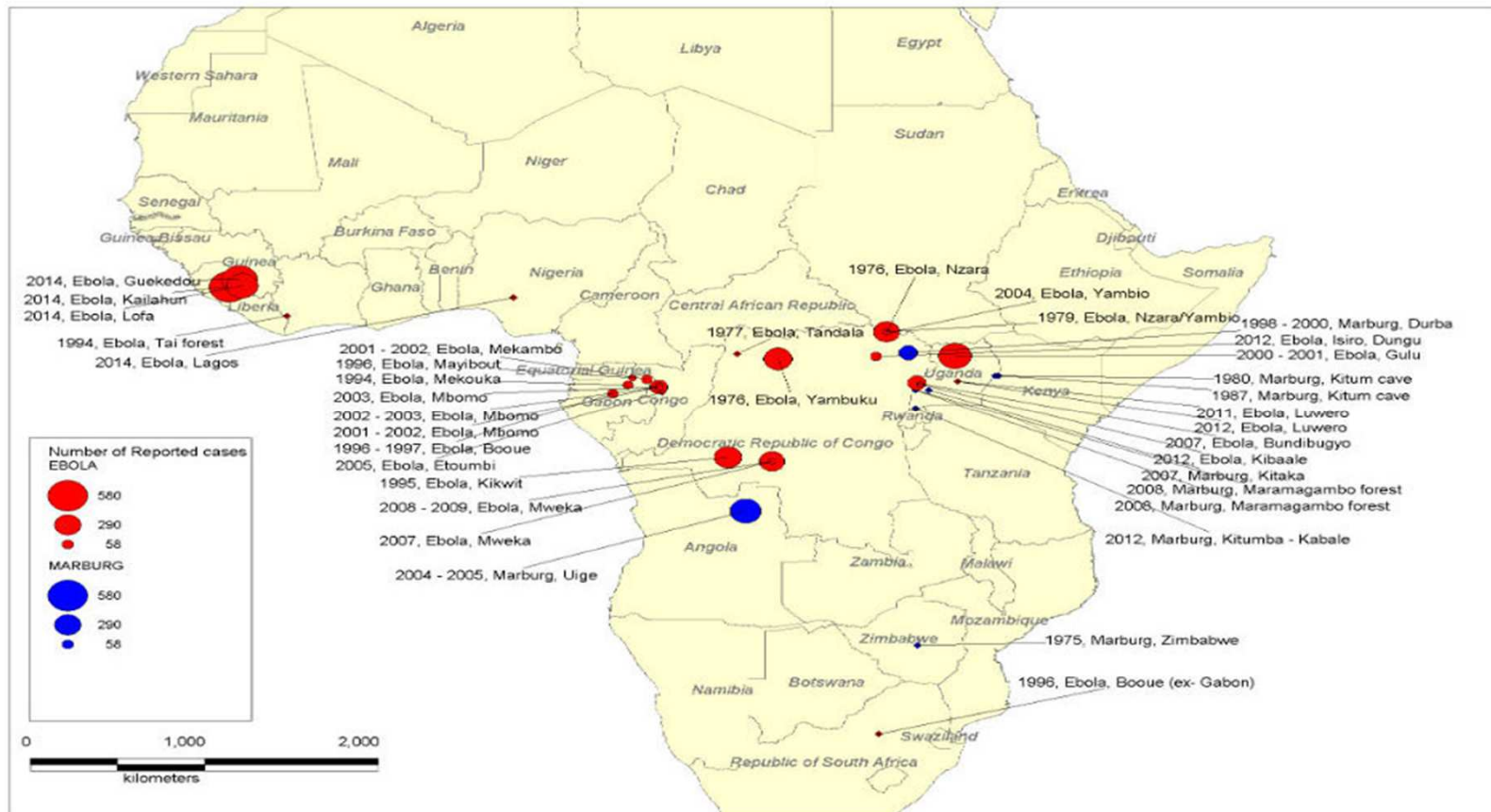
- Filoviridae virus species – 5 different serotypes

Zaire (75-95% fatality), **Sudan** (53-65% fatality), **Bundibugyo** (25% fatality), **Tai Forest and Reston**

- Zoonosis (persistence in reservoir species)
- Bats likely candidates as reservoirs
- Transmission from animal to human is an infrequent event
- When outbreaks occur in humans they generally have high mortality rates but burn out quickly
- The outbreak in West Africa this year is unusual – in scale and it's nature



Ebola in Africa



Source: <https://www.gov.uk/ebola-and-marburg-haemorrhagic-fevers-outbreaks-and-case-locations>



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The current outbreak

The largest and most complex outbreak in west Africa

First cases were notified in March 2014

More cases and deaths in this outbreak than all others combined

Spread between countries:

- starting in Guinea

- across land borders to Sierra Leone and Liberia



Current Outbreak

Declared, on August 8 2014, by the WHO Director-General as **a Public Health Emergency of International Concern**

The most severely affected countries: Guinea, Sierra Leone and Liberia

- weak health systems
- lacking human and infrastructural resources
- recently emerged from long periods of conflict and instability
- porous land borders
- urban areas affected: increased population density; increased movement

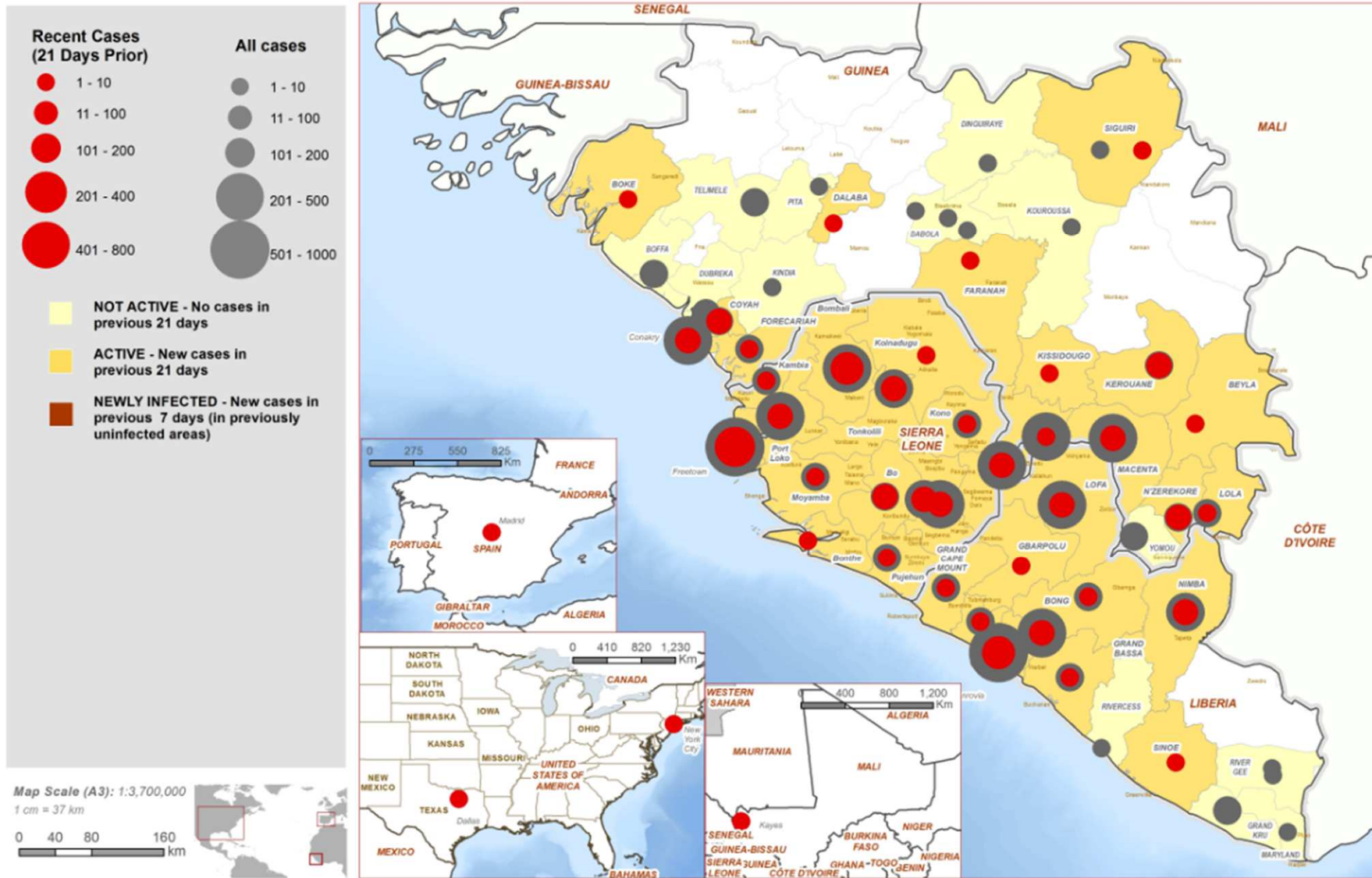
EBOLA OUTBREAK RESPONSE: REGIONAL CONFIRMED AND PROBABLE CASES

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.



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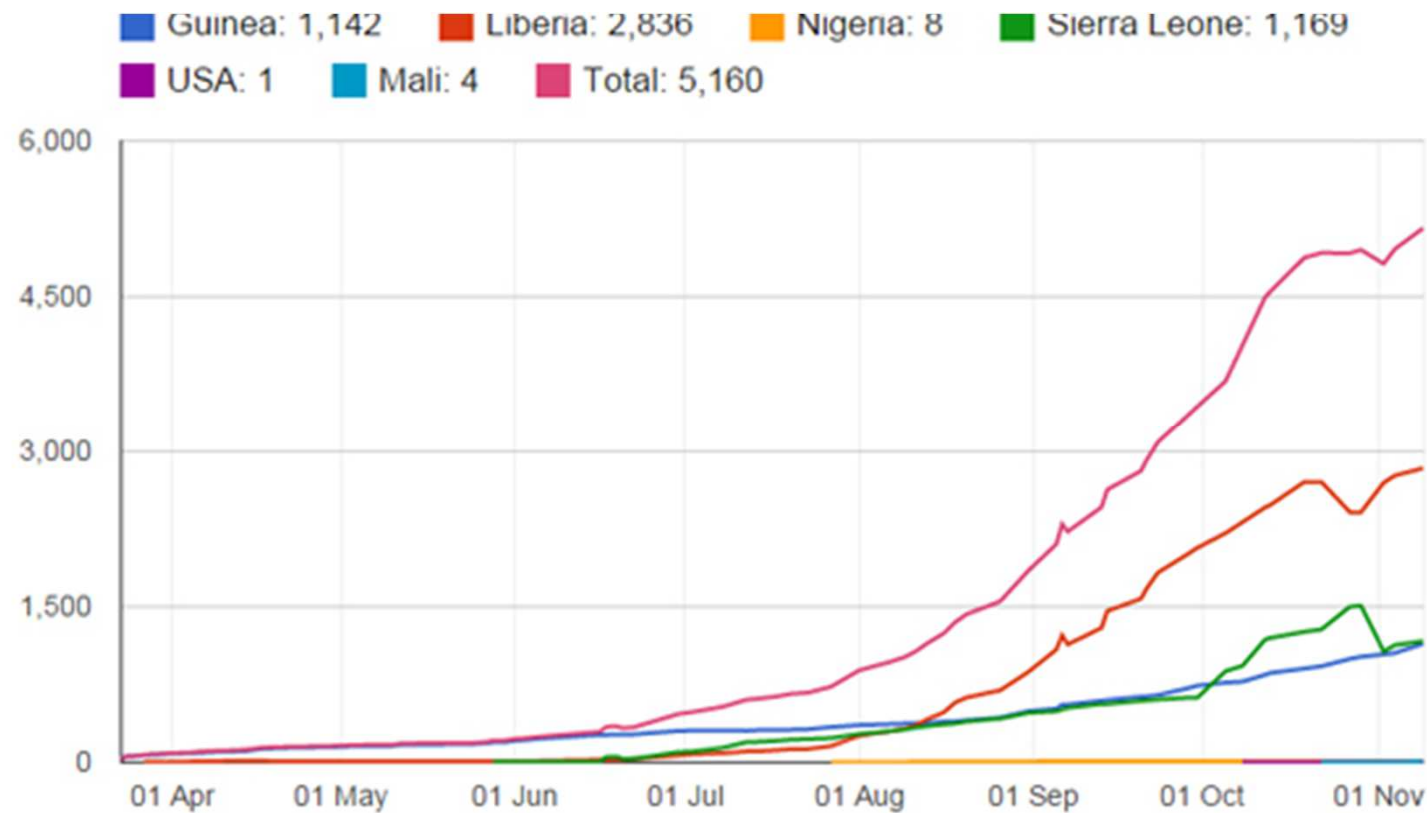
MAP DATE: 29 October 2014



Source: <http://www.who.int/csr/disease/ebola/photos/geographic-map-29-oct-2014.png?ua=1>



Cumulative deaths up to 9 November



Source: <http://www.bbc.co.uk/news/world-africa-28755033>



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Interventions in 3 worst affected countries

Prompt & accurate diagnosis

Isolating and treating patients

Contact identification

Conducting burials in a safe and dignified manner

Hygiene measures: hand washing, cleaning

Social mobilisation and community engagement



Ebola – Worldwide and in the UK

Europe – Repatriated cases and transmission in Spain

USA – Imported case with transmission in Dallas

Mali – two probable, two confirmed cases

Senegal, Nigeria - clear

UK: One repatriated case



Clinical presentation

Fever

Severe headache

Muscle pain

Weakness

Fatigue

Diarrhea

Vomiting

Abdominal (stomach) pain

Unexplained hemorrhage (bleeding or bruising)



Transmission

Direct physical contact with a patient's bodily fluids such as blood, vomit, diarrhoea.

Infection can occur if broken skin or mucous membranes of a healthy person come into contact with environments that have become contaminated with an Ebola patient's infectious fluids such as soiled clothing, bed linen, or used needles.

Ebola is not spread through ordinary social contact.



Diagnosing cases in the UK

For early diagnosis of viral haemorrhagic fevers taking a travel history is key.

Place – Guinea, Sierra Leone and Liberia in the last 21 days

Contact – with a case or with the fluids of a case/animal

Symptoms –

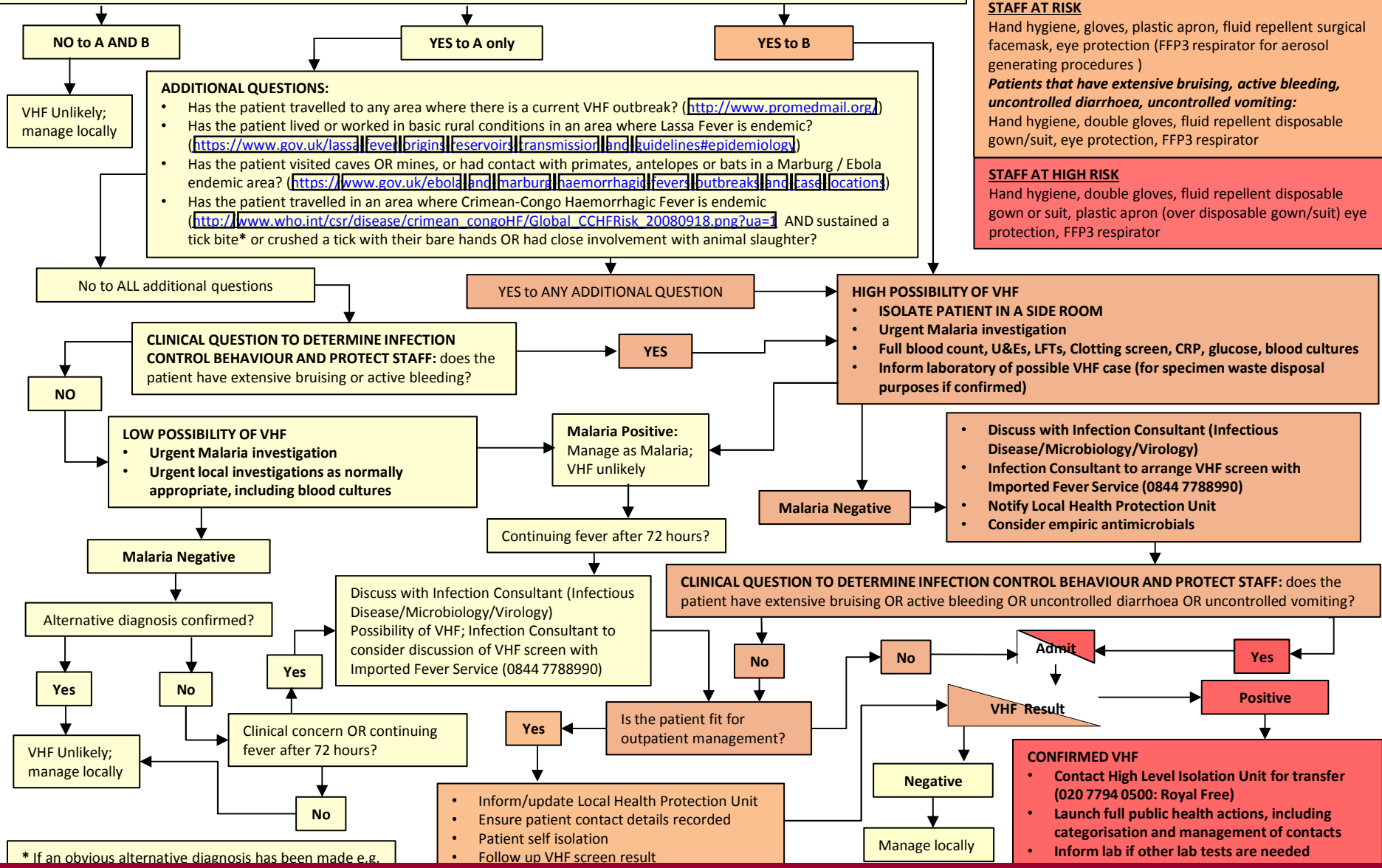
Fever; extreme weakness; sore throat; diarrhoea; vomiting;
bleeding.

A) Does the patient have a fever [$>38^{\circ}\text{C}$] or history of fever in past 24 hours **AND** has returned from (or is currently residing in) a VHF endemic country (<https://www.gov.uk/viral-haemorrhagic-fever-origins-reservoirs-transmission-and-guidelines> or see VHF in Africa map at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/354636/VHF_Africa_2014_update.jpg) within 21 days?
OR
B) Does the patient have a fever [$>38^{\circ}\text{C}$] or history of fever in past 24 hours **AND** has cared for/come into contact with body fluids of /handled clinical specimens (blood, urine, faeces, tissues, laboratory cultures) from an individual or laboratory animal known or strongly suspected to have VHF?

MINIMAL RISK
 Standard precautions apply:
 Hand hygiene, gloves, plastic apron
 (Eye protection and fluid repellent surgical facemask and for splash inducing procedures)

STAFF AT RISK
 Hand hygiene, gloves, plastic apron, fluid repellent surgical facemask, eye protection (FFP3 respirator for aerosol generating procedures)
Patients that have extensive bruising, active bleeding, uncontrolled diarrhoea, uncontrolled vomiting:
 Hand hygiene, double gloves, fluid repellent disposable gown/suit, eye protection, FFP3 respirator

STAFF AT HIGH RISK
 Hand hygiene, double gloves, fluid repellent disposable gown or suit, plastic apron (over disposable gown/suit) eye protection, FFP3 respirator



* If an obvious alternative diagnosis has been made e.g.



Public Health management

- Stopping transmission
 - Prompt Isolation & Treatment
 - PPE
 - Waste disposal & decontamination
- Contact management
 - Identification & monitoring



Assessing contacts at risk

Based on level of exposure

Category 1 (No risk)

No direct contact with the patient or body.

Casual contact, e.g. sharing a room with the patient, without direct contact with body fluids or other potentially infectious material.

Category 2 (Low risk)

Direct contact with the patient, e.g. routine medical/nursing care, handling of clinical/laboratory specimens, but did not handle body fluids, and wore personal protective equipment appropriately.

Category 3 (High risk)

Unprotected exposure of skin or mucous membranes to potentially infectious blood or body fluids, including on clothing and bedding.



Managing Contacts

Category 1 (No risk)

Reassure; provide factsheet.

Category 2 (Low risk)

Passive monitoring (fever & other disease compatible symptoms for 21 days)

Category 3 (High risk)

Active monitoring



Additional actions

- Additional actions during this outbreak:
 - Screening at the ports – LHR, LGW, MCR, BHAM, St Pancras Intl.
 - Returning HCWs scheme – either pre-flagged or picked up at the ports and will be followed up by PHE Centres
 - Planning & Preparation with local government, health partners and other emergency services
 - Development of guidance
 - Training and education



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Guidance

For healthcare settings

- Acute Trusts
- Primary Care

For non healthcare locations

- Environmental cleaning
- Educational settings
- Prisons

Public Health Q&As

<https://www.gov.uk/government/collections/ebola-virus-disease-clinical-management-and-guidance>



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References

<https://www.gov.uk/government/collections/ebola-virus-disease-clinical-management-and-guidance>

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/354640/VHF_guidance_document_updated_links.pdf

<http://www.who.int/csr/disease/ebola/situation-reports/en/>



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The discovery of ebola

<http://online.wsj.com/articles/footage-from-1976-documents-discovery-of-ebola-virus-1413470954>

<http://www.youtube.com/watch?v=xc4gZEV8flo>



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Questions?