High consequence infectious diseases

what to do, how to assess, ~~when~~ not to panic

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RCP Update in medicine

15 May 2025

Declaration for Izak Heys

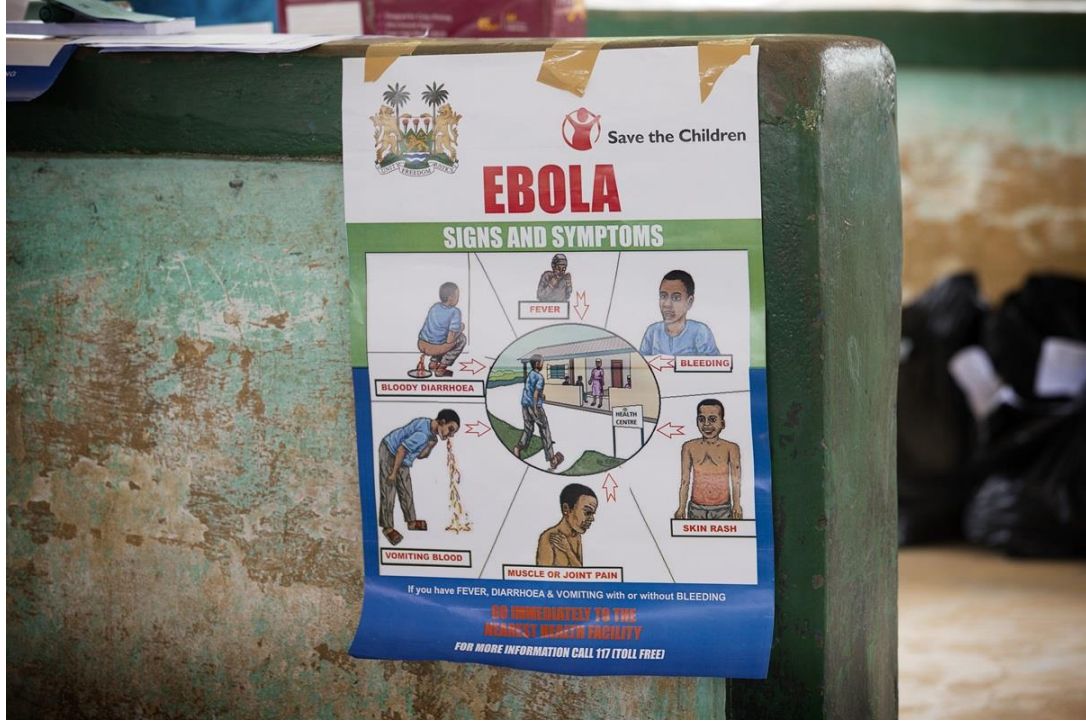
I have no financial interests or relationships to disclose with regard to the subject matter of this presentation.

High Consequence Infectious Diseases (HCID)

- Definition and classification
- Different diseases
- Management
- Training and Resources

What is a high consequence infectious disease?

Definition



Acute infectious disease…

- high case-fatality rate
- no effective prophylaxis or treatment
- difficult to recognise rapidly
- ability to spread in community/healthcare
- requires enhanced individual, population and system response to ensure it is managed effectively, efficiently and safely

www.gov.uk/guidance/high-consequence-infectious-diseases-hcid

Classification

HCID

Contact

- direct contact with infected patient, fluids, tissues
- indirect contact with contaminated materials/ fomites

Airborne

- respiratory droplets, aerosol transmission
- in addition to contact

HCID

Contact

- Argentine haemorrhagic fever (Junin virus)
- Bolivian haemorrhagic fever (Machupo virus)
- Crimean Congo haemorrhagic fever (CCHF)
- Ebola virus disease (EBOD)
- Lassa fever
- Lujo virus disease
- Marburg virus disease (MVD)
- Severe fever with thrombocytopaenia syndrome (SFTS)

Airborne

- Andes virus infection (hantavirus)
- Avian influenza A (H5N1, H5N6, H7N7 and H7N9)
- Middle East respiratory syndrome (MERS-CoV)
- Nipah virus infection
- Pneumonic plague (*Yersinia pestis*)
- Severe acute respiratory syndrome (SARS-CoV-1)

Where do they occur and what cases have we had in the UK?

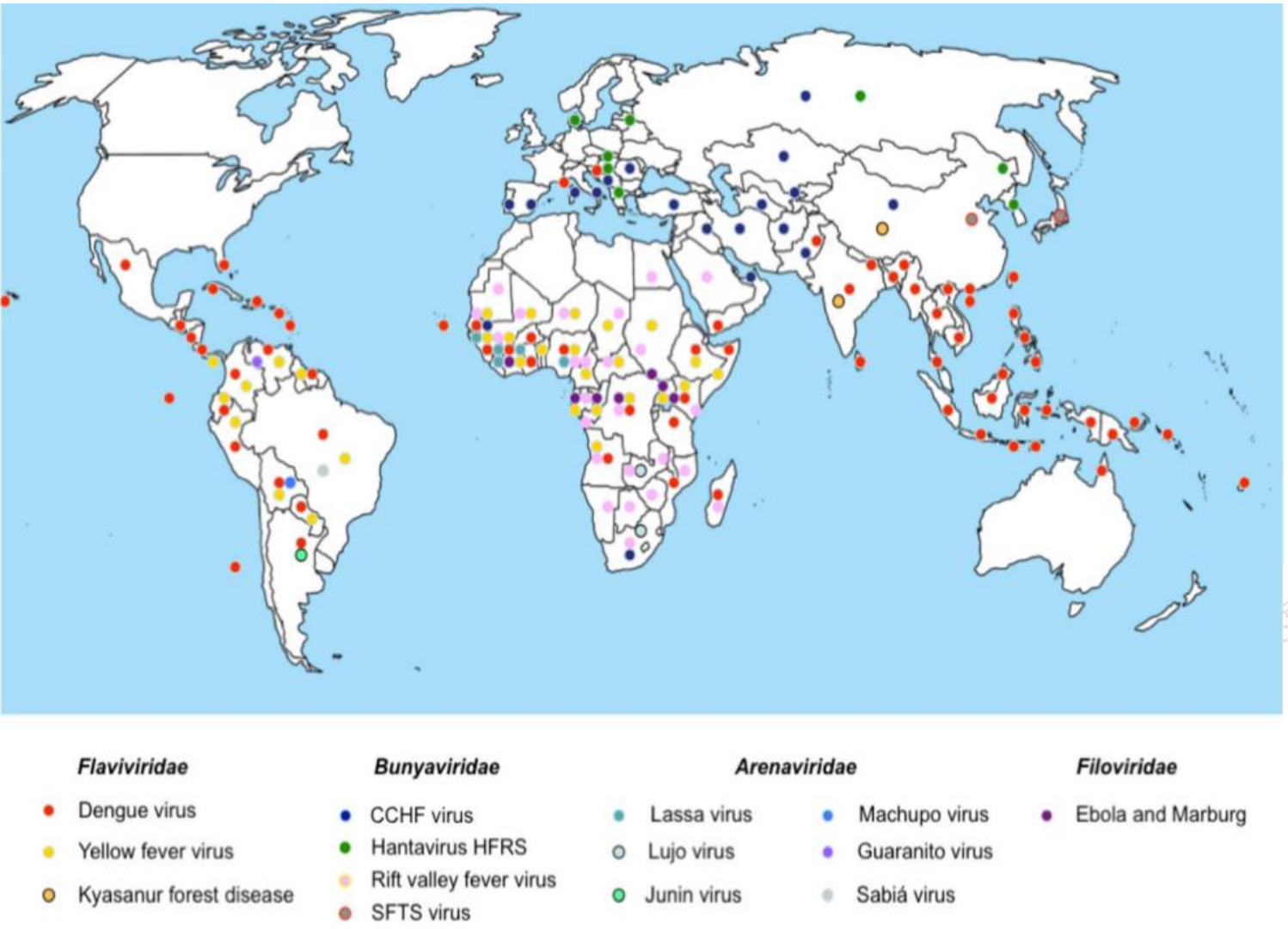
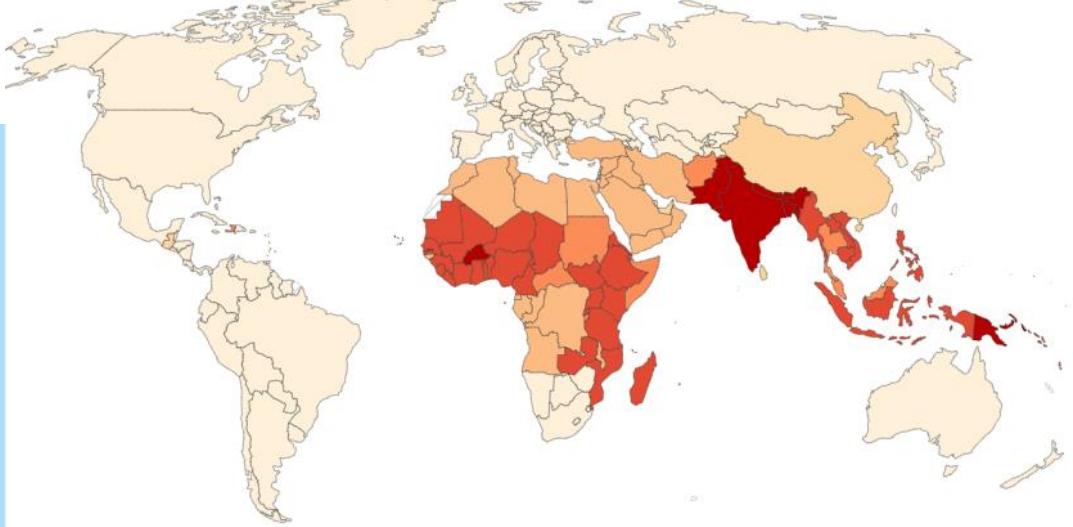


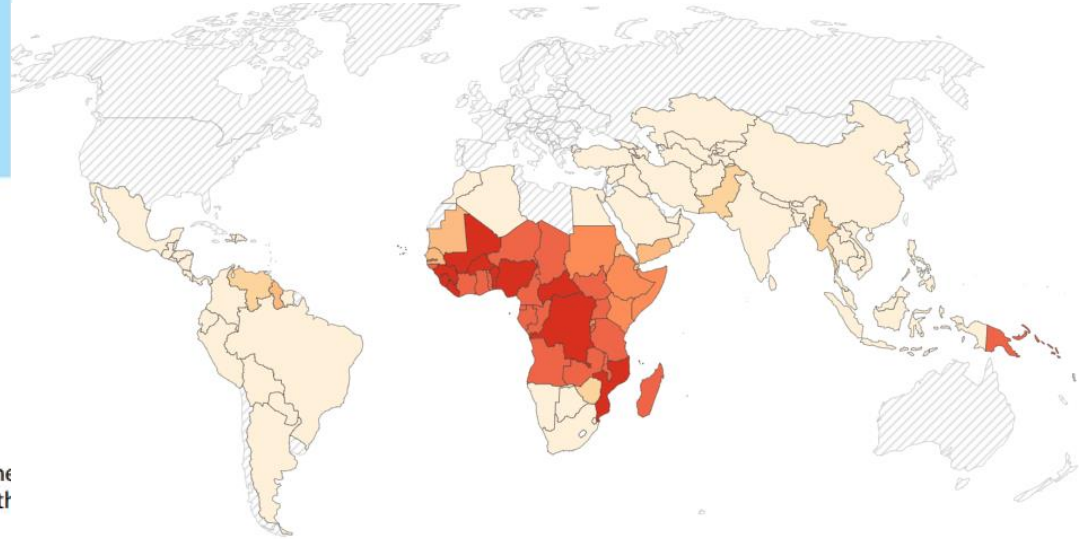
Figure 1. Geographical distribution of Viral Hemorrhagic Fevers (VHF). This map shows the global distribution of some members of the viral families related to hemorrhagic fever disease. CCHF stands for Crimean Congo Hemorrhagic Fever and SFTS for severe fever with thrombocytopenia syndrome.

PLoS Negl Trop Dis. 2014 Jun 12;8(6):e2858



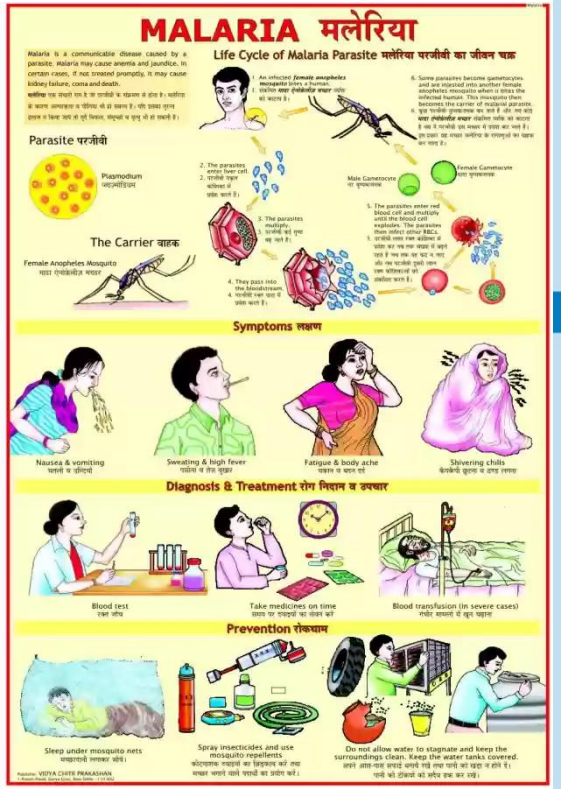
Typhoid and paratyphoid fever death rate in children under five, 2021

ourworldindata.org/grapher/death-rate-typhoid-paratyphoid-fever-children-under-5

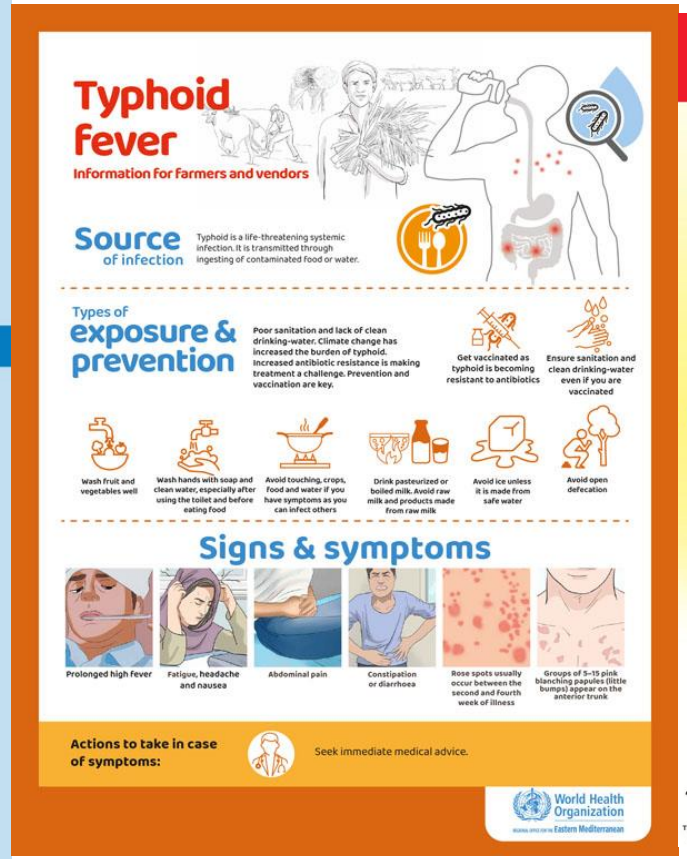


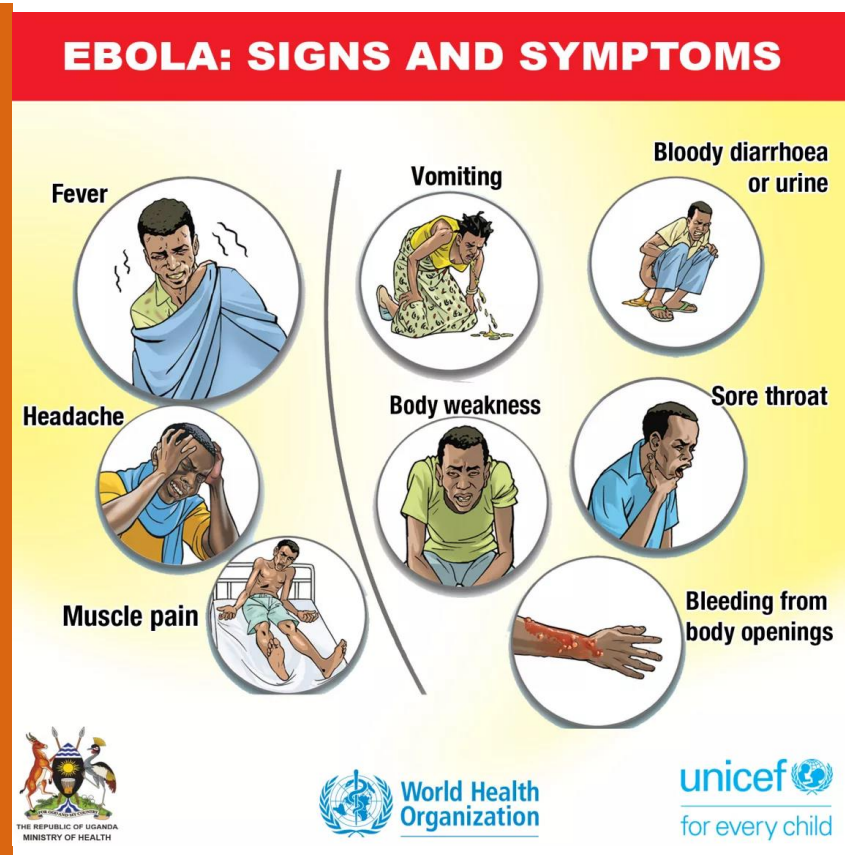
Malaria Incidence, 2022

ourworldindata.org/malaria


MALARIA मलेरिया
Life Cycle of Malaria Parasite मलेरिया परजीवी का जीवन चक्र
Parasite परजीवी
Plasmodium प्लाज्मोडियम
The Carrier वाहक
Female Anopheles Mosquito मादा एनोफेलीज मच्छर
Symptoms लक्षण
Nausea & vomiting मतली व उल्टियां
Sweating & high fever पसीना व तेज बुखार
Fatigue & body ache थकान व बदन दर्द
Shivering chills कंपकंपी बुखार व ठण्ड लगना
Diagnosis & Treatment रोग निदान व उपचार
Blood test रक्त जांच
Take medicines on time समय पर दवाइयों का सेवन करें
Blood transfusion (in severe cases) गंभीर अवस्था में खून चढ़ाना
Prevention रोकथाम
Sleep under mosquito nets मच्छरदानी लगाकर सोयें।
Spray insecticides and use mosquito-repellents कीटनाशक स्प्रेयरों का छिड़काव करें तथा मच्छर भगाने वाली चटाई का प्रयोग करें।
Do not allow water to stagnate and keep the surroundings clean. Keep the water tanks covered. आसपास जल जमाव न होने दें तथा पानी की टंकियों को ढककर रखें।


Symptoms of Dengue Fever
Rash.
Intense pain behind your eyes.
Nausea or vomiting.
Muscle, bone and joint pain.
Warning Signs of Severe Dengue Fever
Abdominal pain.
Frequent vomiting.
Throwing up blood or blood in your poop.
Nose bleeds or bleeding gums.
Extreme tiredness, restlessness or irritability.
Cleveland Clinic


Typhoid fever
Information for farmers and vendors
Source of infection
Typhoid is a life-threatening systemic infection. It is transmitted through ingesting of contaminated food or water.
Types of exposure & prevention
Poor sanitation and lack of clean drinking-water. Climate change has increased the burden of typhoid. Increased antibiotic resistance is making treatment a challenge. Prevention and vaccination are key.
Get vaccinated as typhoid is becoming resistant to antibiotics
Ensure sanitation and clean drinking-water even if you are vaccinated
Wash fruit and vegetables well
Wash hands with soap and clean water, especially after using the toilet and before eating food
Avoid touching crops, food and water if you have symptoms as you can infect others
Drink pasteurized or boiled milk. Avoid raw milk and products made from raw milk
Avoid ice unless it is made from safe water
Avoid open defecation
Signs & symptoms
Prolonged high fever
Fatigue, headache and nausea
Abdominal pain
Constipation or diarrhoea
Rose spots usually occur between the second and Fourth week of illness
Groups of 5–15 pink blanching papules (little bumps) appear on the anterior trunk
Actions to take in case of symptoms:
Seek immediate medical advice.
World Health Organization
Eastern Mediterranean


EBOLA: SIGNS AND SYMPTOMS
Fever
Vomiting
Bloody diarrhoea or urine
Headache
Body weakness
Sore throat
Muscle pain
Bleeding from body openings
THE REPUBLIC OF UGANDA MINISTRY OF HEALTH
World Health Organization
unicef
for every child

HCID in the UK

- Rare
- Cases are sporadic
- Most associated with travel to an endemic area

JOURNAL OF MEDICAL MICROBIOLOGY

REVIEW

Atkinson *et al.*, *Journal of Medical Microbiology* 2025;74:001982

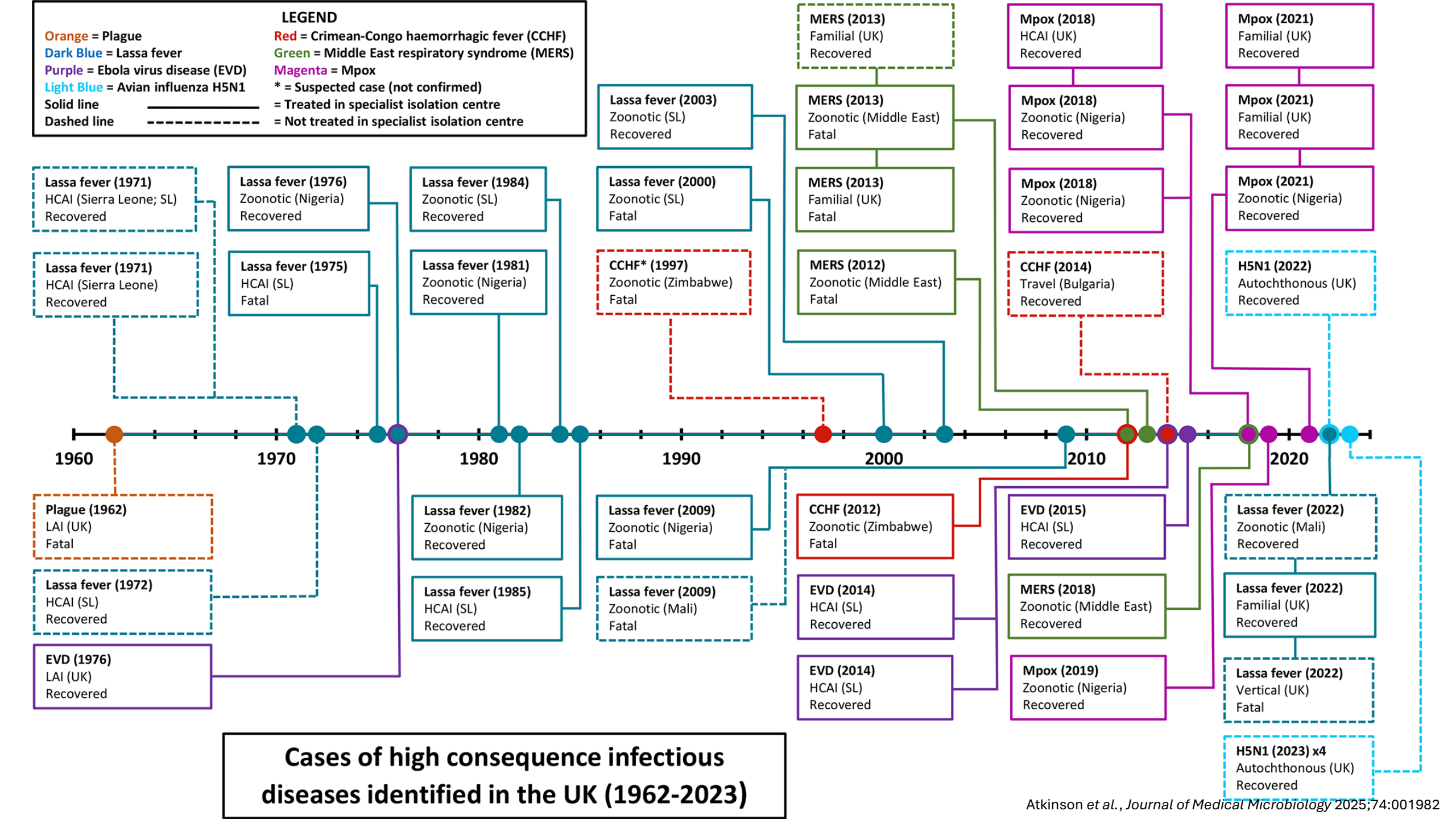
DOI 10.1099/jmm.0.001982

MICROBIOLOGY SOCIETY

OPEN ACCESS

Cases of high consequence infectious diseases identified in the UK, 1962–2023

Barry Atkinson[1,2,*], Mike Beadsworth[3,4] and Jake Dunning[2,5,6]



Atkinson *et al.*, *Journal of Medical Microbiology* 2025;74:001982

HCID	Total Cases; died (CFR %)
Plague	1; 1 (100%)
Lassa	16; 5 (31%)
Ebola	4; 0 (0%)
CCHF	3; 2 (67%)
MERS	5; 3 (60%)
Mpox	7; 0 (0%)
H5N1	5; 0 (0%)
Total	**41; 11 (27%)**

26/41 (63%) were treated at HCID centres

Excluded

- 4 cases of SARS-CoV
- SARS-CoV-2
- MPXV clade IIb

Mpox derogated March 2025

Atkinson *et al.*, *Journal of Medical Microbiology* 2025;74:001982

What are some of the different diseases?

Lassa fever

What

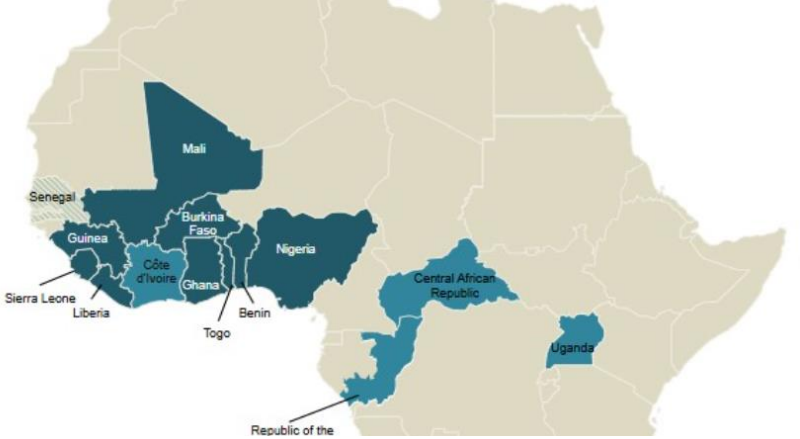
- Lassa Virus

Reservoir

- Multimammate rat (*Mastomys natalensis*)

Where

- West Africa



Recent

- Nigeria

Lassa Fever Situation Report

Epi Week 17: 21st – 27th April 2025

Reporting Period	Suspected cases	Confirmed cases	Probable cases	Deaths (Confirmed cases)	Case Fatality Ratio (CFR)
Current week (week 17)	160	11	0	3	27.3%
2025 Cumulative (week 17)	4672	707	7	135	19.1%

Clinical

- Transmission: inhalation/ ingestion of infected material, infected body fluid
- Incubation: 2-21 days
- FLI → renal/circulatory failure
- CFR 1-3% (15-20% in hospitalised)

Treatment

- Supportive
- (Ribavirin)

Vaccine

- No

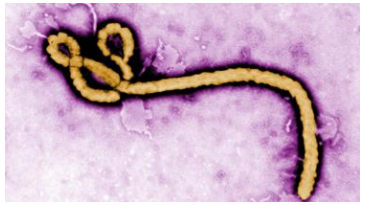
ncdc.gov.ng/diseases/sitreps

www.gov.uk/guidance/lassa-fever-origins-reservoirs-transmission-and-guidelines

Ebola Virus Disease

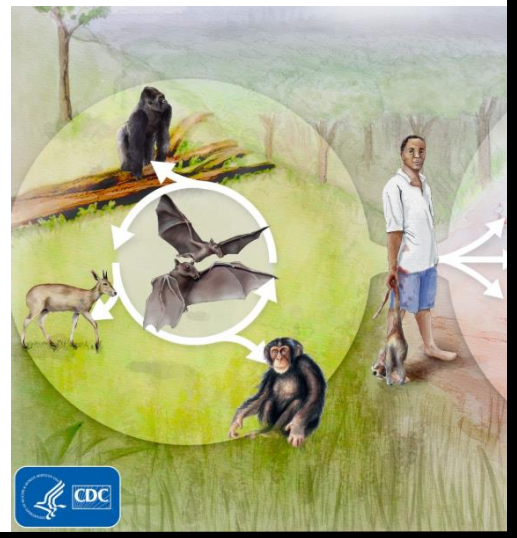
What

- Orthoebolaviruses



Reservoir

- Fruit bat
- Non-human primates



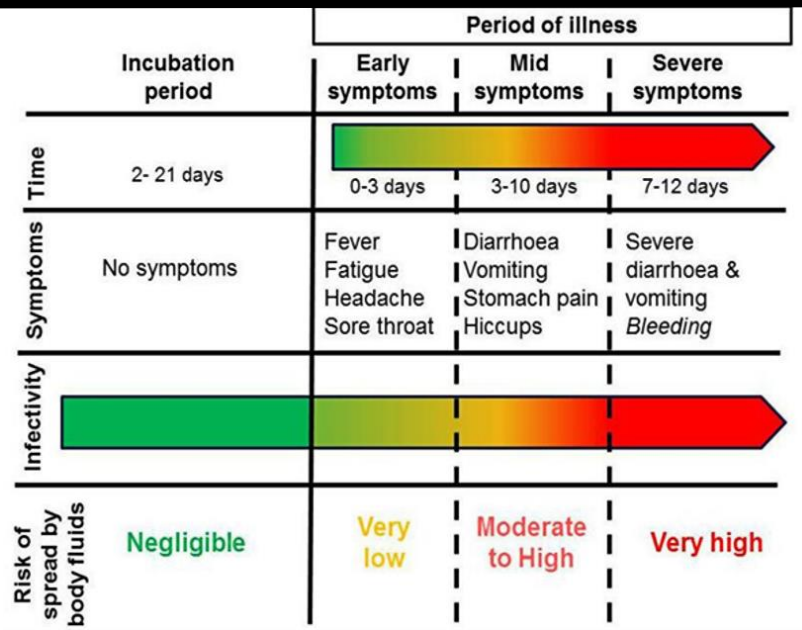
Where

Recent

- Uganda – 14 cases; end 26 April 2025

Clinical

- CFR 50%



Treatment (for EVD)

- mAb114 (ansuvimab™) or REGN-EB3 (Inmazeb™)

Vaccine (for EVD)

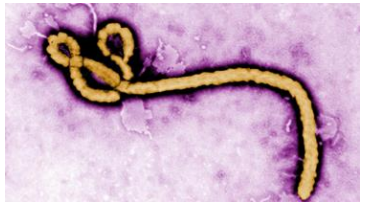
- Ervebo; Zabdeno and Mvabea

www.who.int/news-room/fact-sheets/detail/ebola-disease
www.gov.uk/government/publications/ebola-origins-reservoirs-transmission-and-guidelines

Marburg virus disease

What

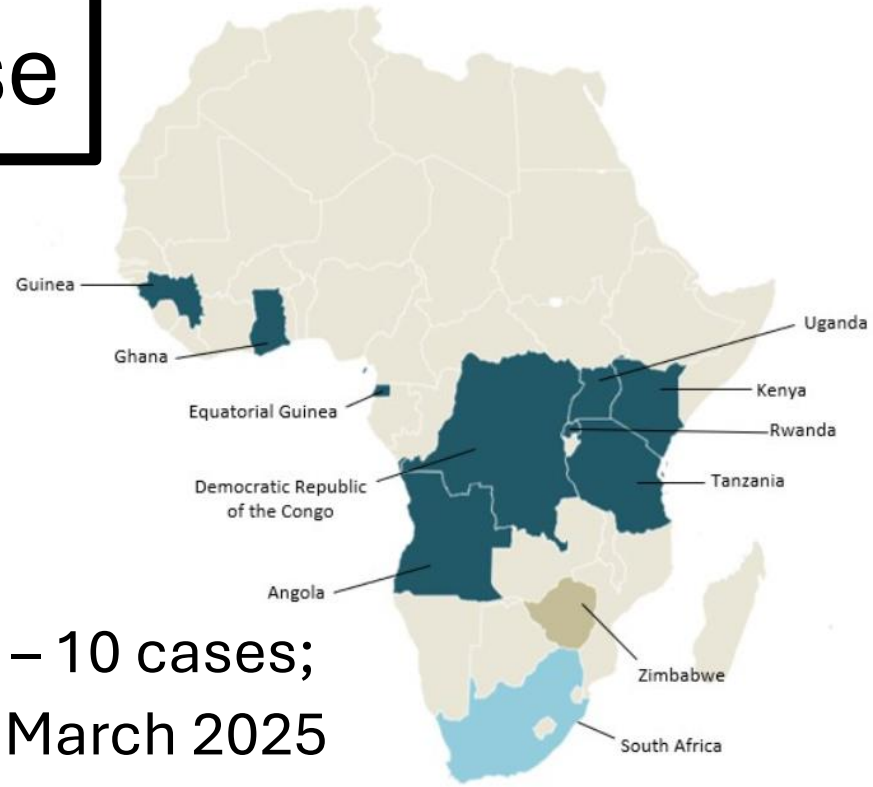
- Orthomarburgvirus



Reservoir

- Fruit bats (*Rousettus aegyptii*)
- African green monkeys

Where



Recent

- Tanzania – 10 cases; end 13 March 2025

Clinical

- Incubation 3-10 days
- Headache, fever, malaise → D+V → rash, bleeding
- CFR 50%

Treatment

- Supportive

Vaccine

- No

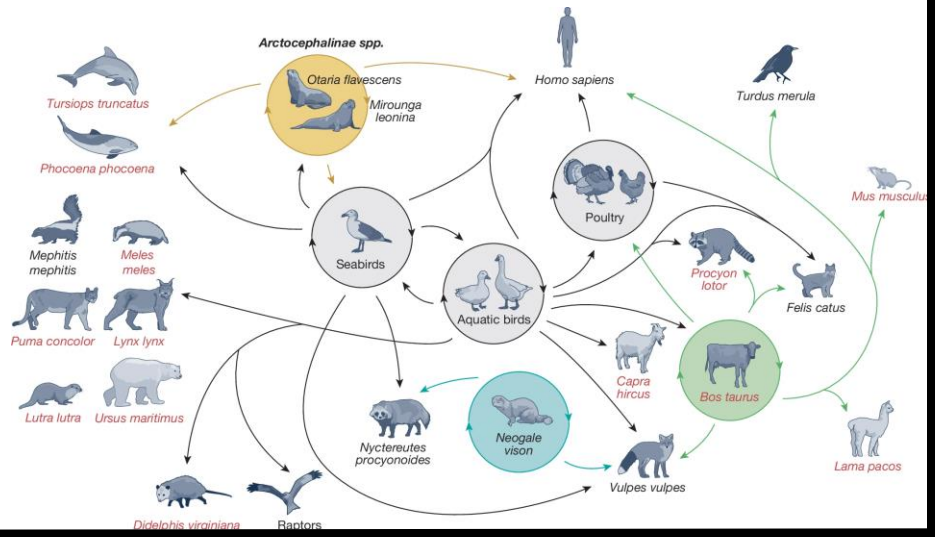
www.gov.uk/guidance/marburg-virus-disease-origins-reservoirs-transmission-and-guidelines

Avian influenza

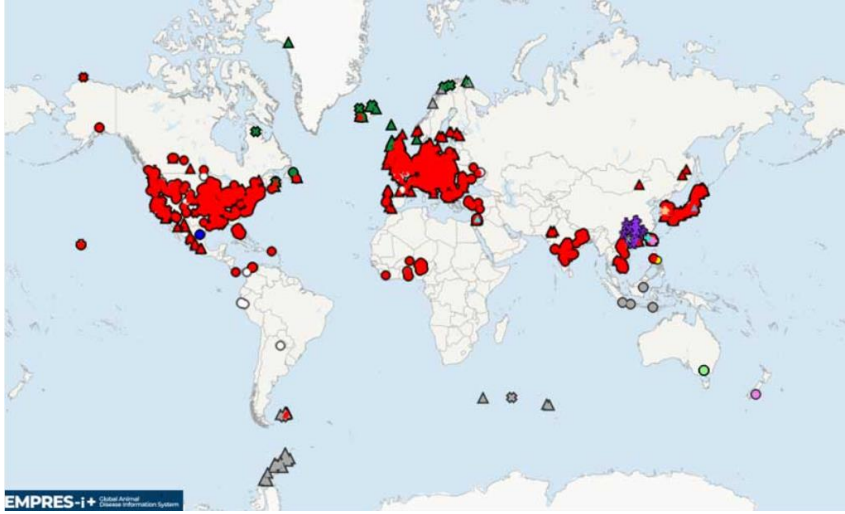
What

- Influenza A(H5N1), A(H7N9), A(H5N6) and A(H7N7)

Reservoir



Where



Recent

- West Midlands – 27 Jan 2025
- Vietnam – 18 Apr 2025
- USA – 70 cases (CDC 9 May 2025)

Clinical

- Flu like illness
- Incubation period of 10 days
- CFR 49% A(H5N1) – 954 cases
- CFR 39% A(H7N9) – 1568 cases

Treatment

- Oseltamivir

Vaccine

- H5 vaccines

www.gov.uk/government/collections/avian-influenza-guidance-data-and-analysis
cdn.who.int/media/docs/default-source/wpro---documents/emergency/surveillance/avian-influenza/

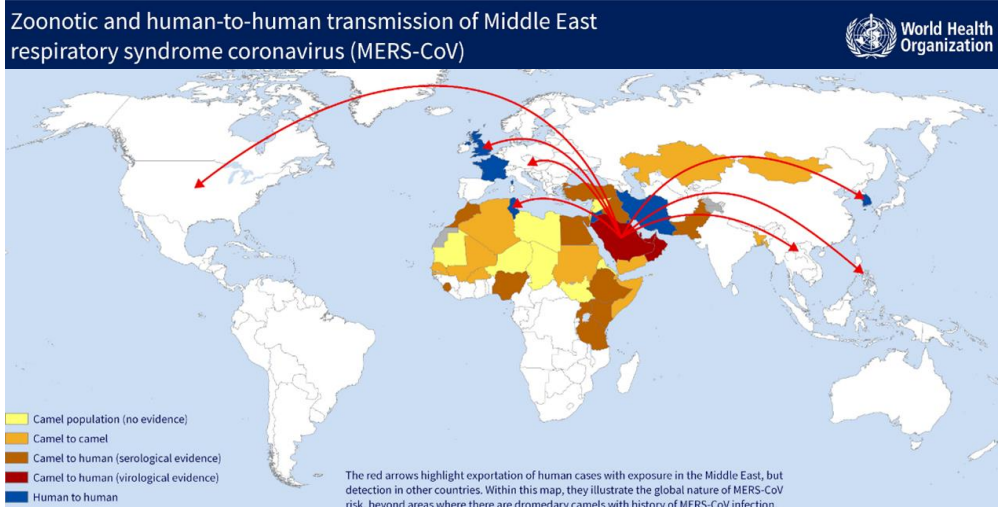
MERS

What

- Middle East respiratory syndrome coronavirus (MERS-CoV)

Reservoir

Where



Recent

- 4 Cases Saudi Arabia (13 March 2025)

Clinical

- Fever and lung changes and link to case/area
- Incubation period of 14 days
- CFR 35% – 2613 cases

Treatment

- No

Vaccine

- No

Algorithm for the investigation and management of possible cases of MERS-CoV - GOV.UK
www.emro.who.int/health-topics/mers-cov/mers-outbreaks.html

Pneumonic plague

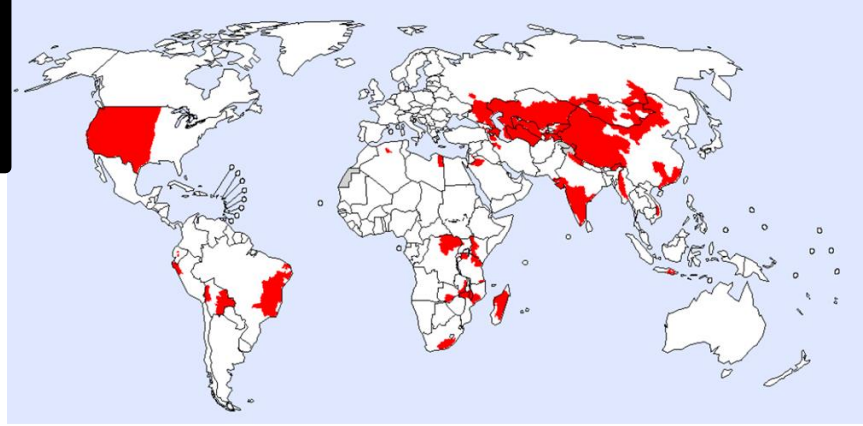
What

- *Yersinia pestis*

Reservoir

- Rodents
- Vectors

Where



Recent

- DRC 11 cases (19 March 2024)

Clinical

- Pneumonic (bubonic, septic)
- CFR 50% (up to 100% untreated)

Treatment

- Aminoglycoside, quinolone, doxycycline

Vaccine

- No

www.who.int/news-room/fact-sheets/detail/plague
www.gov.uk/guidance/plague-epidemiology-outbreaks-and-guidance

When do I suspect a case and what should I do?

NHS
Sheffield Teaching Hospitals
NHS Foundation Trust

Do you have a fever or are worried about infection?

Please inform the receptionist if:

You have travelled outside Europe in the past 21 days

OR

You have had contact with unwell or dead birds in the past 14 days

WHAT TO EXPECT

If you meet the above criteria, we need to ask you some additional questions to ask about specific infections which are important to recognise and treat in a special way.

PROUD TO MAKE A DIFFERENCE

NHS
Sheffield Teaching Hospitals
NHS Foundation Trust

Screening for high risk infections

Receptionists: Please ask all patients the following:

Do you had a new fever, cough, diarrhoea or rash? AND

1. **Have you travelled outside of Europe in the past 21 days and if so where did you visit?**
2. **Have you have had contact with unwell or dead birds in the past 14 days**

If yes to either question, immediately inform a senior member of nursing staff about potential High Consequence Infectious Disease risk

High Consequence Infectious Disease (HCID) Risk assessment

All patients screened by reception staff as potential HCID risk should be isolated pending HCID risk assessment by a trained triage nurse or medic

Airborne PPE is recommended initial risk assessment in the triage room (FFP3 Mask, Gown, Gloves, Visor)

Perform risk assessment using STH HCID Algorithm (quick examples below)

Key VHF questions	Key Airborne questions
Travelled to an area with a current VHF outbreak? Been to an endemic Lassa fever region? Contact with caves/bats/mines/ticks/rats?	Visited a MERS region/Middle east? Contact with a MERS case? Contact with camels/close contact with live, dying or dead domestic poultry or wild birds

UKHSA VHF Resource centre
Algorithm for risk assessment of viral haemorrhagic fevers

UKHSA MERS-CoV Resource centre
Algorithm for risk assessment of Middle east respiratory virus

Guidance

High consequence infectious diseases (HCID)

Guidance and information about high consequence infectious diseases and their management in England.

From: UK Health Security Agency

Published 22 October 2018

Last updated 19 March 2025 — See all updates

Related content

Nipah virus: epidemiology, outbreaks and guidance

High consequence infectious disease: country specific risk

Plague: epidemiology, outbreaks and guidance

Severe fever with thrombocytopaenia syndrome (SFTS): epidemiology, outbreaks and guidance

Andes hantavirus: epidemiology, outbreaks and guidance

Show fewer

Avian influenza: guidance, data and analysis and MERS-CoV: clinical management and guidance

Detailed guidance

Crimean-Congo haemorrhagic fever: origins, reservoirs, transmission and guidelines

Ebola and Marburg haemorrhagic fevers: outbreaks and case locations

Lassa fever: origins, reservoirs, transmission and guidelines

Marburg virus disease: origins, reservoirs, transmission and guidelines

Viral haemorrhagic fevers: origins, reservoirs, transmission and guidelines

Show fewer

Nipah virus: epidemiology, outbreaks and guidance and **Plague: epidemiology, outbreaks and guidance**

www.gov.uk/guidance/high-consequence-infectious-diseases-hcid

HCID risks by country

For health professionals wishing to determine the HCID risk in any particular country, an A to Z list of countries and their respective HCID risk is available.

See HCID country risks.

Kenya	CCHF	(a) Community transmission	2020
	Ebola	(d) Human serology	1983
	Marburg	(a) Community transmission	1987
	MERS	(a) Community transmission	2019
	Plague	(a) Community transmission (bubonic)	1990
Kiribati	No known HCIDs		
Kosovo	CCHF	(a) Community transmission	2016
Kuwait	CCHF	(d) Human serology	1982
	MERS	(a) Community transmission	2015
	SARS	(c) Imported cases only	2003

Risk assessment – time and space

- Move patient to a single occupancy room (with en-suite)
- Senior member of team (limit staff visits)
- Appropriate PPE
- Meticulous history
- Communicate process with patient and restrict visitors

Risk assessment – Avian influenza

10 day incubation period

Personal Protective Equipment (PPE)

- FFP3 respirator
- Gown
- Gloves
- Eye protection

Discuss with local infection team to test

Start oseltamivir immediately if meets case definition

Waste management

www.gov.uk/government/publications/avian-influenza-guidance-and-algorithms-for-managing-human-cases/investigation-and-initial-clinical-management-of-possible-human-cases-of-avian-influenza-with-potential-to-cause-severe-human-disease

Risk assessment – MERS

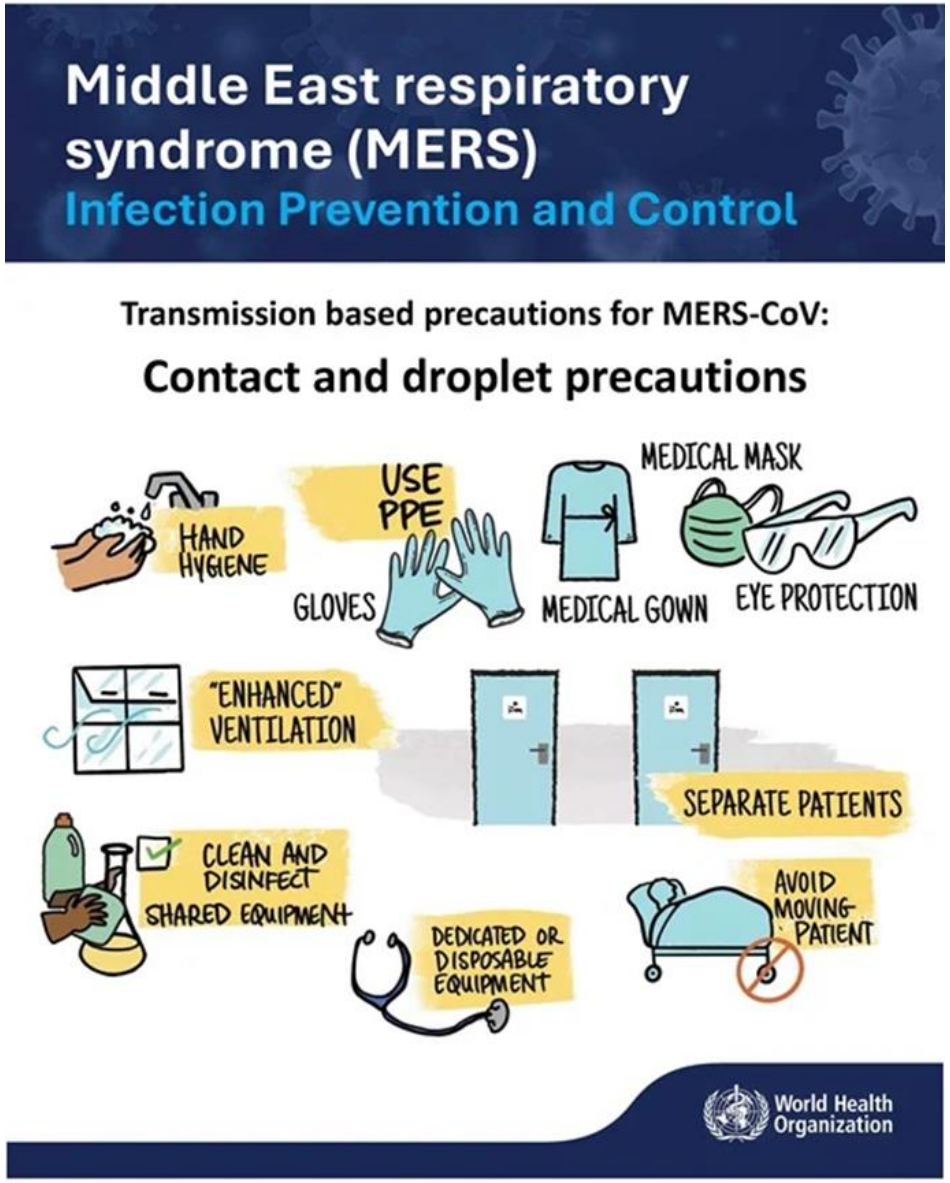
14 day incubation period

Personal Protective Equipment (PPE)

- FFP3 respirator
- Gown
- Gloves
- Eye protection

Discuss with local infection team to test

Waste management



www.gov.uk/government/publications/mers-cov-public-health-investigation-and-management-of-possible-cases/algorithm-for-the-investigation-and-management-of-possible-cases-of-mers-cov-accessible-text-version

Risk assessment – Viral haemorrhagic fever

21 day incubation period

Route of transmission – direct/indirect contact, but risk of aerosolization, extra precaution for airborne transmission

Risk factors

- Travel to a VHF area
- Exposed to blood, body fluid or tissues of a person or animal infected with VHF
- Worked in a lab with infectious agents

Senior member of team

Involve local infection clinician

Assessment PPE

www.gov.uk/government/publications/viral-haemorrhagic-fever-algorithm-and-guidance-on-management-of-patients/risk-assessment-and-immediate-management-of-viral-haemorrhagic-fevers-contact-high-consequence-infectious-diseases-in-acute-hospitals

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Journal of Infection

journal homepage: www.elsevier.com/locate/jinf

A unified personal protective equipment ensemble for clinical response to possible high consequence infectious diseases: A consensus document on behalf of the HCID programme

Bozena Poller[a,*], Anne Tunbridge[b], Samantha Hall[c], Mike Beadsworth[d], Mike Jacobs[e], Erica Peters[f], Matthias L Schmid[g], Allison Sykes[h], Vin Poran[i], Nick Gent[j], Cariad Evans[a], Brian Crook[c], on behalf of the High Consequence Infectious Diseases Project Working Group

Table 1
Summary of agreed HCID assessment PPE.

Component	Required piece of PPE
Respiratory protection	Disposable filtering face piece respirators (FFP3)
Head protection	Anti-Infection Transfer (AIT) hood
Eye protection	Disposable longer-length full face visor with wide band
Gown	Rear fastening reinforced surgical gown of fluid-resistant material, long enough to overlap boots • e.g. 365 Healthcare; Ref 36520405v
Apron	Wide, extra-long medium thickness plastic apron (such as worn for endoscopy)
Gloves	Three layers of gloves: • Inner personal protection glove (standard short non-sterile glove) • Middle glove (long cuffed glove), taped to gown • Outer glove comprising either standard short non-sterile gloves for basic care, or heavier duty gloves for cleaning up of extreme bodily fluid episodes
Boots	Surgical wellington boots • Must be long enough to be overlapped by the gown (see above).

Personal Protective Equipment (PPE) for suspected high consequence infectious diseases

How to put on PPE (donning).

This PPE must only be used by staff trained and assessed as competent.
The products shown are for illustrative purposes only.

- before putting on PPE, ensure you are hydrated, have been to the toilet if needed and feel well to enter the patient room
- if necessary, change into scrubs. Tie long hair back. Remove any jewellery/ ID badges/ lanyards
- collect all the PPE components and take to the area where PPE is put on
- perform hand hygiene and cover any cuts, abrasions or breaks in skin with a waterproof dressing
- PPE should be put on with a buddy present.

Step 1

- Put on wellington boots, half to one size bigger than your normal shoe size. Use a new pair of boots for each entry.
- Used boots should remain in bins until HCID results are known. Boots can be reused prior to results, if decontaminated as described in the doffing process.

Step 2

- Put on your disposable FFP3 respirator and check for fit. This MUST be the mask that you are fit tested to. If you have not been fit tested, you MUST NOT enter the patient's room.

Step 3

- Put on the hood. Check the fit around the face and jaw (no gaps) and ensure a good overlap is achieved with the mask.

Step 4

- Put on inner pair of gloves — standard non-sterile, nitrile, short-length gloves.

Step 5

- Put on the long, reinforced gown. **Do not u**se the inside tie.
- Lightly secure the Velcro fastening at the back of the neck— light enough to allow easy removal, but ensuring the gown will remain closed.
- Tie the gown at the side and ensure the gown cuffs fully overlap the inner pair of gloves.

Step 6

- Check for sufficient overlap between the top of the boot and the bottom of the gown: 10-15 cm.
- If too long, trim the gown so it is not a trip hazard. If less than 10cm overlap achieved, check if a longer gown is available.
- If unable to achieve 10 cm overlap, do not continue—inform your senior nurse/ doctor.

Step 7

- Put on middle pair of gloves—these are long cuffed (mid-length) non-sterile gloves and should fully overlap the cuff of the gown.

Step 8

- Tape the middle pair of gloves to the gown using 4 strips of microporous tape placed lengthways.

Step 9

- Take the long length, thick plastic apron. Break the head loop where it usually sits at the back of the neck.

Step 10

- Put on the apron, tying at the top behind the neck, and bottom around the waist.
- A 'high fit' should be achieved, with the apron high up over the chest area.

Step 11

- Put on visor and ensure the band of the visor overlaps with the hood, with no skin showing.
- Check the visor shield overlaps with the sides of the hood, and there is no skin exposed round the jaw line.

Step 12

- Put on outer pair of gloves—standard short gloves for clinical staff.
- If a sterile procedure is to be performed, replace the nitrile gloves with sterile gloves in the patient's room at the time of the task.
- For cleaning tasks, heavy duty style gloves may be donned instead of nitrile gloves.

Step 13

- The buddy should run through each step to check all items are in place.
- The time should be written on the shoulder once all checks have been completed.
- If any gaps are noticed, these must be addressed. If unable to be corrected, inform your senior and do not enter the patient room until advised it is safe to do so.
- After entering the patient room, remain vigilant of PPE integrity for yourself and any other staff members.
- In the event of a high exposure episode e.g. projectile vomiting, or if there is any concern about PPE integrity, leave the room at the earliest opportunity and inform your buddy prior to doffing.

www.england.nhs.uk/wp-content/uploads/2024/10/PRN01180-app-2-how-to-put-on-ppe-donning-a1-v2.pdf

Personal Protective Equipment (PPE) for suspected high consequence infectious diseases

How to remove PPE (doffing).

Removal of PPE must be done with a buddy - follow their instructions.
The products shown are for illustrative purposes only.

- open the door out of the patient room. Ensure a buddy is available to observe PPE removal. If buddy is not present, shout for attention of a staff member to assist you, **DO NOT attempt to remove PPE without a buddy**
- ensure demarcated PPE removal areas are clearly marked before starting the process. **Do not exit into clean / Green zone wearing PPE**
- if aware of any PPE breach or high-exposure contamination to PPE, inform the buddy before removing PPE

Step 1 - in patient (red) area

- Remove your apron by pulling forward from the front of the apron to break the neck and waist strings.
- Roll the dirty outer side of the apron into itself, keeping hold of the inner 'clean' side.
- Continue to roll it up, and then place in the bin.

Step 2 - in patient (red) area

- Remove your top gloves without touching the pair below. Glove removal should follow one of two 'pinch and pull' methods (HSE or Health Education England's e-Learning for Healthcare), according to whichever the wearer is already trained in.

Step 3 - In doffing (amber) area

- Untie the gown at the waist.
- Remove by grabbing shoulder areas and pulling to release the Velcro at the back of the neck.
- Pull the gown away from the body, folding inside out, and gathering up the material. The taped long gloves should come off with your gown.
- Carefully place into the bin but **do not push down**.

Step 4 - In doffing (amber) area

- To remove your visor, stand straight, do not bend forwards, as this brings the bottom of the visor into contact with your (clean) upper body.
- Reach for the elastic strap at the back of the head, close your eyes and lift the strap upwards then over the head.
- Place the visor into the bin.

Step 5a (front opening hood) - in doffing (amber) area

- Remove the hood touching **only** its outer surface.
- Bring your hand towards the chin area and locate the upper Velcro fastening on the hood.
- Slowly release the Velcro fastening and pull out to the side, keeping it in your vision.
- Repeat for the Velcro fastening at the base of the hood.

Step 5b (closed neck hood) - in doffing (amber) area

- Remove the hood touching **only** its outer surface.
- If the elasticated rim of the face opening is under the rim of the lower edge of the mask, carefully pull the hood forward slightly at chin level to free it.

Step 6 - in doffing (amber) area

- To lift off the hood, **close your eyes** and bend forwards from the waist/hips, making sure you keep your chin well away from your chest.
- Lift the hood up and over the head, then away from you.
- Stand straight again and place the hood into the bin.

Step 7 - in doffing (amber) area

- Remove your bottom gloves using the same technique as before and dispose into bin.

Step 8 - in doffing (amber) area

- The buddy will dispense alcohol gel into your hands for hand hygiene.
- Perform hand hygiene using the 6-step technique.
- Ensure alcohol gel is completely dry before proceeding to next step.

Step 9 - in doffing (amber) area

- Remove FFP3 respirator by standing up straight and reaching to the back of the head to find the bottom strap and bring it up to the top strap.
- Lift straps over the top of the head. Avoid bending your neck as this allows the respirator to touch your upper body.
- Let the respirator fall away from your face and place in the bin.

Step 10 - stepping out of doffing (amber) area into clean (green) zone

- To remove your boots, move towards the clean zone so that you can easily step into it. The clean zone should be clearly marked.
- If needed, step onto each heel to loosen before either boot is removed.
- Step out of boot into the clean zone. Do not step back into the dirty area. A buddy in the green zone may support boot removal.

Step 11

- Turn round, pinch the inner surfaces of boots together and place into the bin.
- Do not touch the outer surfaces.
- If unable to safely reach from the clean zone, leave boots where they are and the next person to enter doffing zone can move them.

Step 12

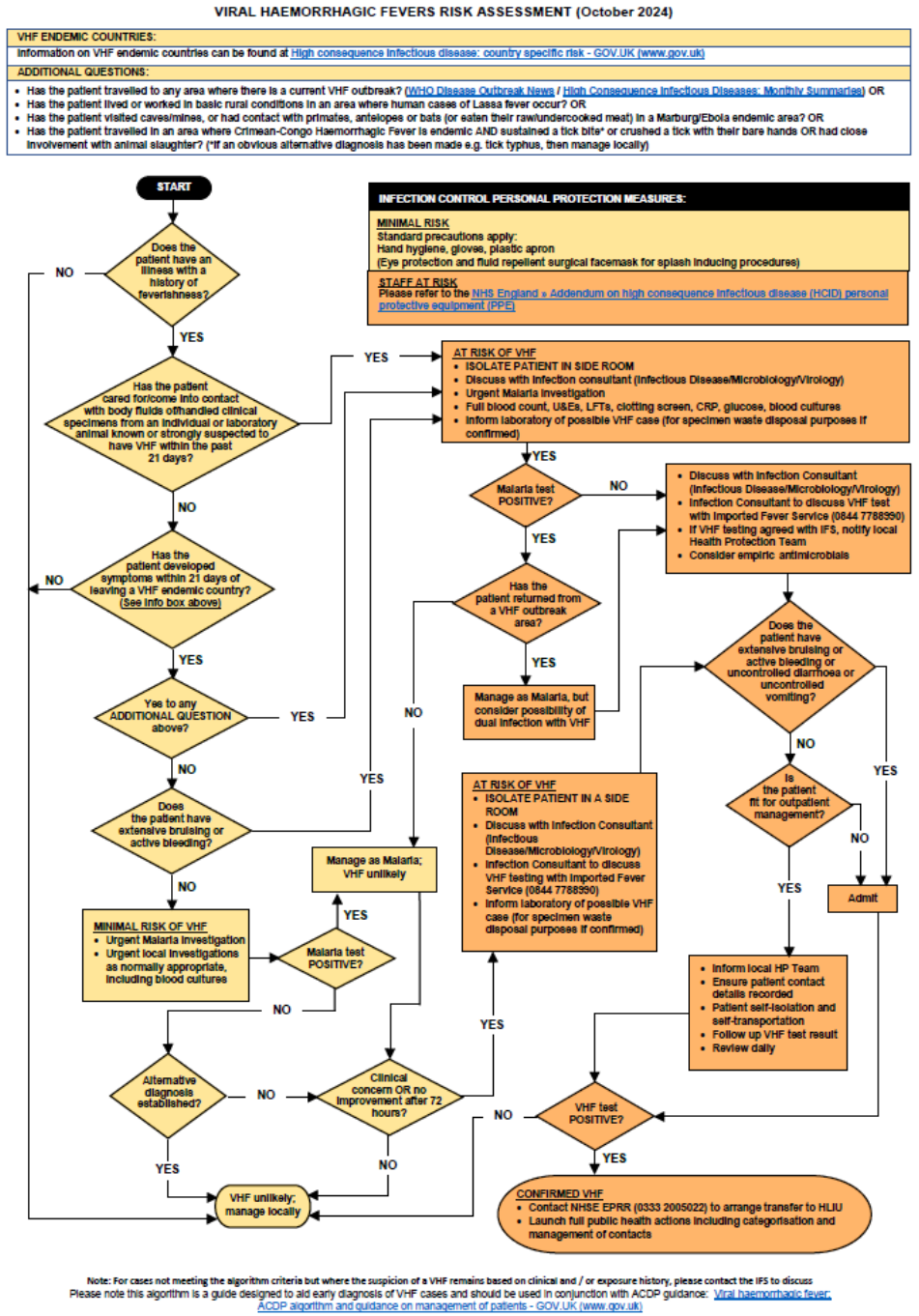
- Used boots should not be re-worn. Boots may be decontaminated by autoclave or other suitable methods identified for HCID pathogens. If these are not available, isolate boots until HCID results known.

Step 13

- Without touching anything on yourself or in the environment, immediately wash your hands with water and liquid soap using the 6-step technique.

www.england.nhs.uk/wp-content/uploads/2024/10/PRN01180-app-3-how-to-remove-ppe-doffing-a1-v2.pdf

VHF Risk assessment



assets.publishing.service.gov.uk/media/681c8640155568d3da1d2a44/vhf-risk-assessment-algorithm-october-2024-updated-may-2025.pdf

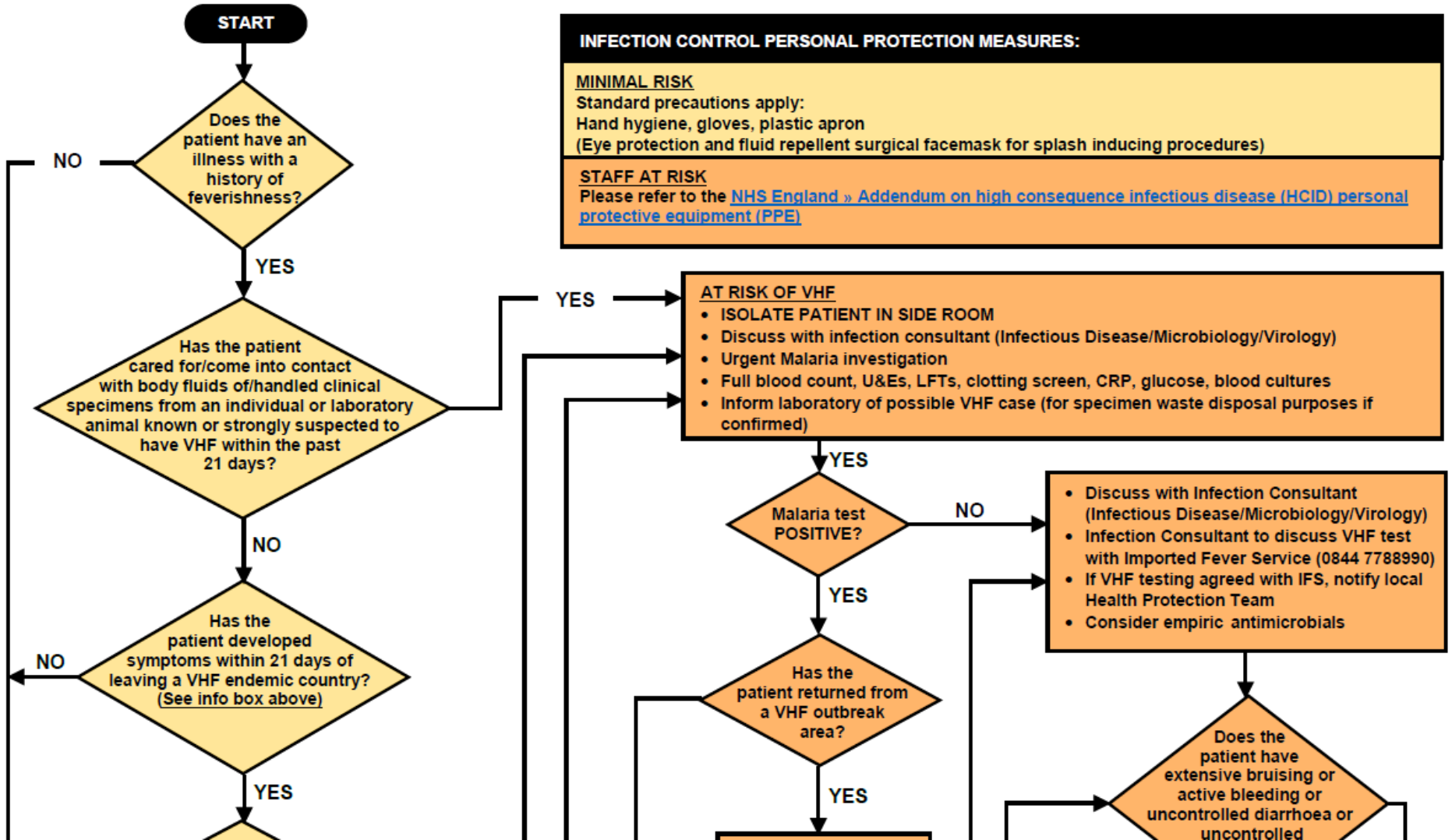
VIRAL HAEMORRHAGIC FEVERS RISK ASSESSMENT (October 2024)

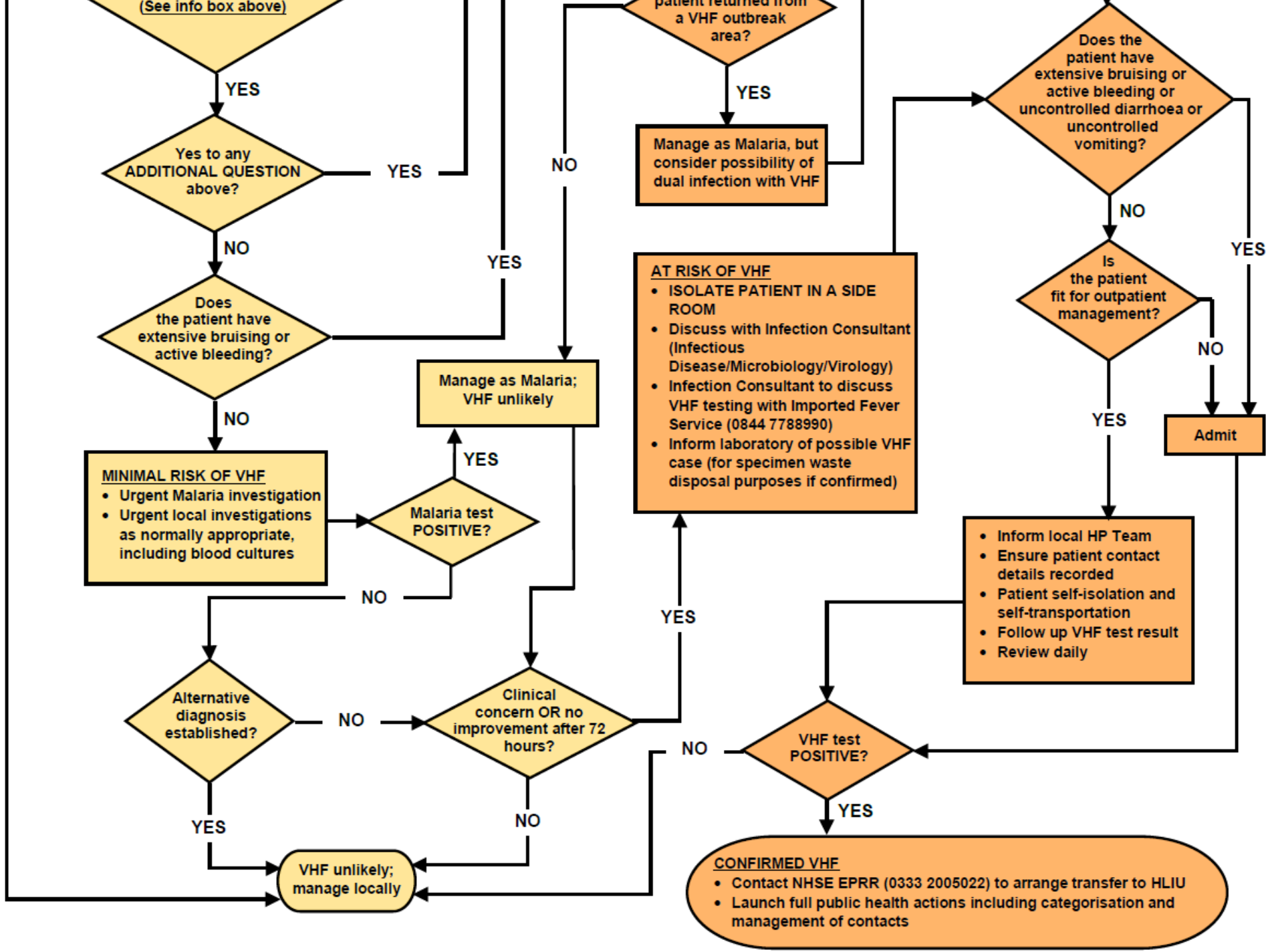
VHF ENDEMIC COUNTRIES:

Information on VHF endemic countries can be found at High consequence infectious disease: country specific risk - GOV.UK (www.gov.uk)

ADDITIONAL QUESTIONS:

- Has the patient travelled to any area where there is a current VHF outbreak? (WHO Disease Outbreak News / High Consequence Infectious Diseases: Monthly Summaries) OR
- Has the patient lived or worked in basic rural conditions in an area where human cases of Lassa fever occur? OR
- Has the patient visited caves/mines, or had contact with primates, antelopes or bats (or eaten their raw/undercooked meat) in a Marburg/Ebola endemic area? OR
- Has the patient travelled in an area where Crimean-Congo Haemorrhagic Fever is endemic AND sustained a tick bite* or crushed a tick with their bare hands OR had close involvement with animal slaughter? (*If an obvious alternative diagnosis has been made e.g. tick typhus, then manage locally)




(See info box above)
YES
Yes to any ADDITIONAL QUESTION above?
YES
NO
Does the patient have extensive bruising or active bleeding?
YES
NO
MINIMAL RISK OF VHF
• Urgent Malaria investigation
• Urgent local investigations as normally appropriate, including blood cultures
Malaria test POSITIVE?
YES
Manage as Malaria; VHF unlikely
NO
Alternative diagnosis established?
NO
YES
Clinical concern OR no improvement after 72 hours?
NO
YES
VHF unlikely; manage locally
patient returned from a VHF outbreak area?
YES
Manage as Malaria, but consider possibility of dual infection with VHF
NO
AT RISK OF VHF
• ISOLATE PATIENT IN A SIDE ROOM
• Discuss with Infection Consultant (Infectious Disease/Microbiology/Virology)
• Infection Consultant to discuss VHF testing with Imported Fever Service (0844 7788990)
• Inform laboratory of possible VHF case (for specimen waste disposal purposes if confirmed)
Does the patient have extensive bruising or active bleeding or uncontrolled diarrhoea or uncontrolled vomiting?
YES
NO
Is the patient fit for outpatient management?
NO
YES
Admit
YES
• Inform local HP Team
• Ensure patient contact details recorded
• Patient self-isolation and self-transportation
• Follow up VHF test result
• Review daily
VHF test POSITIVE?
NO
YES
CONFIRMED VHF
• Contact NHSE EPRR (0333 2005022) to arrange transfer to HLIU
• Launch full public health actions including categorisation and management of contacts

Severn Pathology and IFS

Public Health England

Imported Fever Service

- clinical and microbiological advice for acute imported infections
- 24-hour on-call diagnostic service for viral haemorrhagic fevers
- next working-day diagnostic service for a range of imported infections

For **fever/acute illness** combined with **recent history of foreign travel**

First discuss with local microbiology, virology or infectious diseases consultant

For further advice and testing call Imported Fever Service

0844 7788990
Available 24/7

Please ensure you have:
- patient identifiers
- full travel history including
  - dates and locations of travel
  - activities/exposures
  - vaccination/prophylaxis
- clinical details and past history

Further information and referral forms available from our website:
www.gov.uk/imported-fever-service-ifs
or put '**Imported Fever Service**' in your web browser

The Imported Fever Service is operated by PHE in partnership with:

The Royal Liverpool and Broadgreen University Hospitals NHS Trust

LSTM

University College London Hospitals NHS Foundation Trust

PHE publications gateway number: 2014342

Sampling – Category A and B

HIGH-CONSEQUENCE INFECTIOUS DISEASE ASSESMENT
Sampling and packaging: Category A Samples

- Samples from the following HCID are classified as category A infectious substances: **Ebola, Marburg, CCHF, Lassa, Nipah, Hendra**
- Samples should be transported via specialist courier in triple packaging with a rigid outer container
- **This procedure requires a buddy to receive samples in green zone**

EQUIPMENT LIST

1. Primary specimen bag(s)
2. Secondary specimen bag(s)
3. Rigid plastic container with secure lid
4. Outer transportation bag/box
5. Absorbent wadding
6. Parafilm
7. 2 cardboard bowls
8. Alcohol wipes (70% isopropyl)
9. Sampling equipment
10. Permanent marker pen
11. Local sample request form
12. UKHSA sample request form

AMBER 'SEMI-CLEAN' ZONE

1. Change top pair of gloves
2. Place samples into secondary biohazard bags
3. (use one secondary biohazard bag to group samples going to the same lab)
4. Ask buddy to open the door to the clean area and hold out the rigid plastic container
5. Drop secondary specimen bags into the container without touching this
6. Dispose of cardboard bowl
7. Return to patient care zone or proceed to PPE doffing

PREPARATION

1. Discuss with local (Virology) /national specialists (Imported

HIGH-CONSEQUENCE INFECTIOUS DISEASE ASSESMENT
Sample taking and packaging: Category B Samples

- Samples from the following HCID are classified as category B infectious substances: **MERS-CoV, SARS-CoV, Avian Influenza, Monkeypox (non-B1 lineages), Andes Hantavirus**
- Samples should be transported in triple packaging with suitable absorbent material
- **This procedure requires a buddy to receive samples in green zone**

EQUIPMENT LIST

1. Primary specimen bag(s)
2. Secondary specimen bag(s)
3. Outer specimen bag(s)
4. Absorbent wadding
5. 2 cardboard bowls
6. Alcohol wipes (70% isopropyl)
7. Sampling equipment
8. Permanent marker pen
9. Local sample request form
10. RIPL sample request form

AMBER 'SEMI-CLEAN' ZONE

1. Change top pair of gloves
2. Place samples into secondary biohazard bags
3. (use one secondary biohazard bag to group samples going to the same lab)
4. Ask buddy to open the door to the clean area and hold open the outer sample bag
5. Drop secondary specimen bags into the outer sample bag without touching this
6. Dispose of cardboard bowl
7. Return to patient care zone or proceed to PPE doffing

PREPARATION

1. Discuss with local (Virology) /national specialists (Imported

www.hcid-training.co.uk/wp-content/uploads/2023/08/Sampling-poster.pdf

North Bristol NHS Trust

NHS North Bristol NHS Trust

19. Blood Sampling Procedure

HIGH-CONSEQUENCE INFECTIOUS DISEASE ASSESMENT
Sample taking procedure

- Before patient sampling liaise with ID Consultant to clarify which samples are required
- Many biochemistry tests can be performed on the i-STAT point of care test
- Before taking patient sample ensure virology consultant aware so lab can be pre-warned
- All HCID samples should be hand delivered to specimens reception by a member of the HCID team. Do not use the pod system or porters to transfer samples.

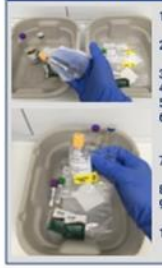
EQUIPMENT LIST

1. Primary specimen bag(s)
2. Secondary specimen bag(s)
3. Outer specimen bag(s)
4. Absorbent wadding
5. 2 cardboard bowls
6. Alcohol wipes (70% isopropyl)
7. Sampling equipment
8. Permanent marker pen
9. RIPL sample request form
10. Pre-printed request labels
11. Yellow Duraporter specimen box

PREPARATION

1. Discuss with ID consultant
2. Complete testing form(s) and place in duraporter box and leave in green zone.
3. Pre-label specimen tubes
4. Stack cardboard bowls and place sampling equipment, pen, bags and alcohol wipes
5. Pre-cut micropore tape strips and attach to bowl
6. Plan for failure and take spare equipment

RED ZONE SAMPLING



1. Enter patient area wearing HCID assessment PPE
2. Take samples and place in stacked bowl
3. Move away from patient
4. Change top pair of gloves
5. Unstack bowls
6. Clean the outside of samples using alcohol wipes and place into 'inner bowl'
7. Place each sample into a primary specimen bag
8. Dispose of the dirty bowl
9. Alert green zone buddy you are leaving the room
10. Remove outer set of gloves and apron

AMBER 'SEMI-CLEAN' ZONE

1. Place samples into secondary biohazard bags
2. (use one secondary biohazard bag to group samples going to the same lab)
3. Wipe down outside of secondary biohazard bags with 70% alcohol wipe(s)
4. Ask buddy to open the door to the clean area and hold open yellow transport box.
5. Drop secondary specimen bags into yellow Duraporter box. Be careful not to contaminate outside of the box.
6. Proceed to PPE doffing

SAMPLE TRANSPORT

1. Place yellow Duraporter into transport bag
2. Member of HCID team to hand deliver sample to specimens reception
3. If no specimen boxes/ transport bag are available contact pathology reception to collect more.
4. Ensure appropriate paperwork is in outer bag prior to transportation

VIDEO

For a free learning module on HCID sampling visit:
www.hcid-training.co.uk/

(NB. this poster has been modified to meet centre specific requirements and may differ from video resources)

The test is positive. What now?

HCID Process

St Elsewhere

- HCID suspected

IFS @ UKHSA

- Case discussed
- On call rota

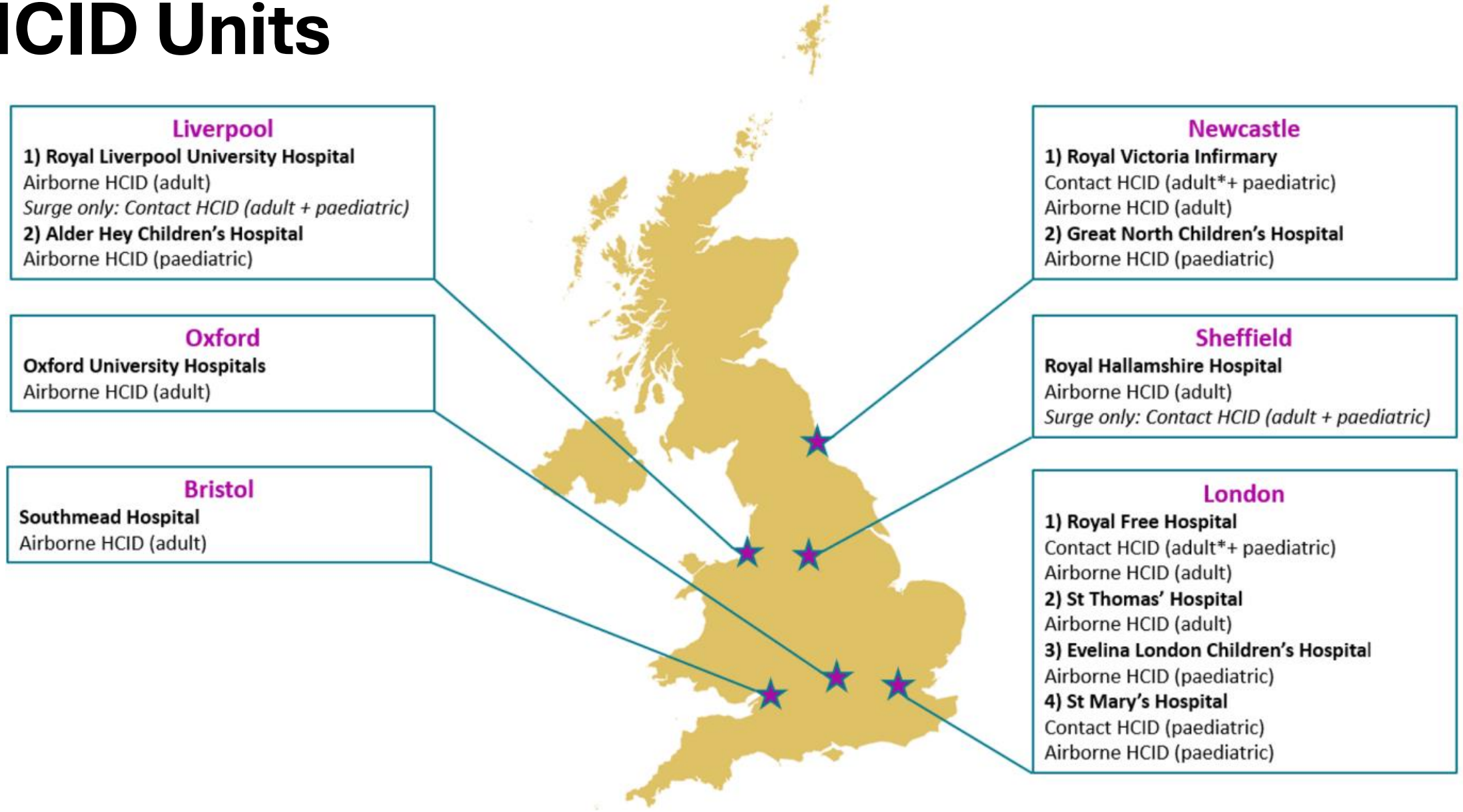
EPRR @ UKHSA

HCID network activated

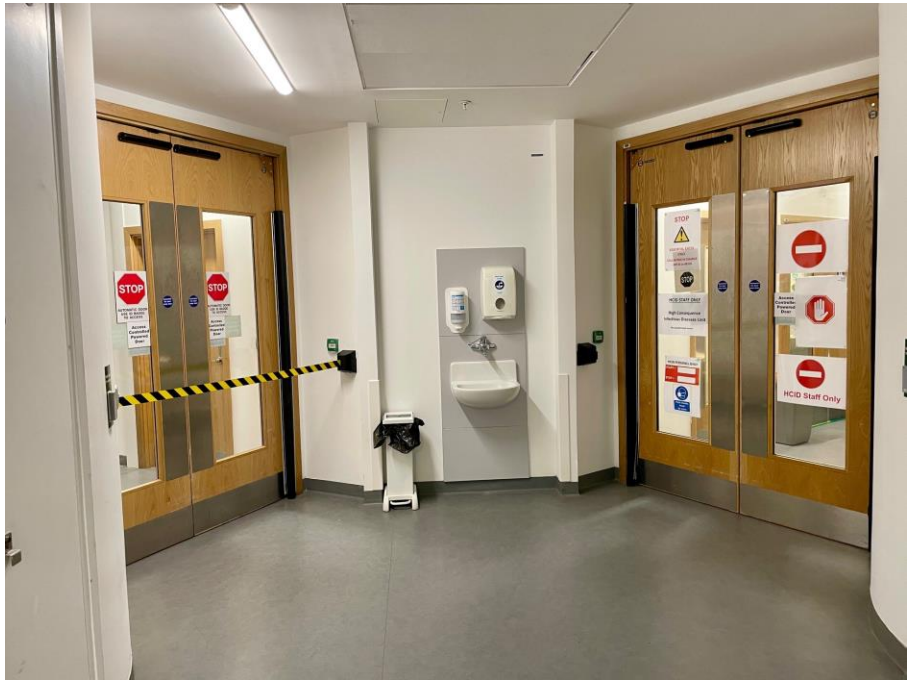
Patient transferred to unit

Slide courtesy Mike Beadsworth

HCID Units



Atkinson *et al.*, *Journal of Medical Microbiology* 2025;74:001982


STOP
STOP
HCID Staff Only


Post Room

What preparation is important and where can I find more information?

Training and Resources

1. PPE (Fit testing, donning and doffing)
2. Training and Simulation
3. HCID Policies
4. Further resources
   - https://www.gov.uk/guidance/high-consequence-infectious-diseases-hcid
   - https://www.hcid-training.co.uk
   - https://travelhealthpro.org.uk/

Conclusion

High consequence infectious diseases

- “Improbable but not impossible”
- High index of suspicion
- Preparation and policies
- Training