

How NHSBT prepares for Emerging Infections

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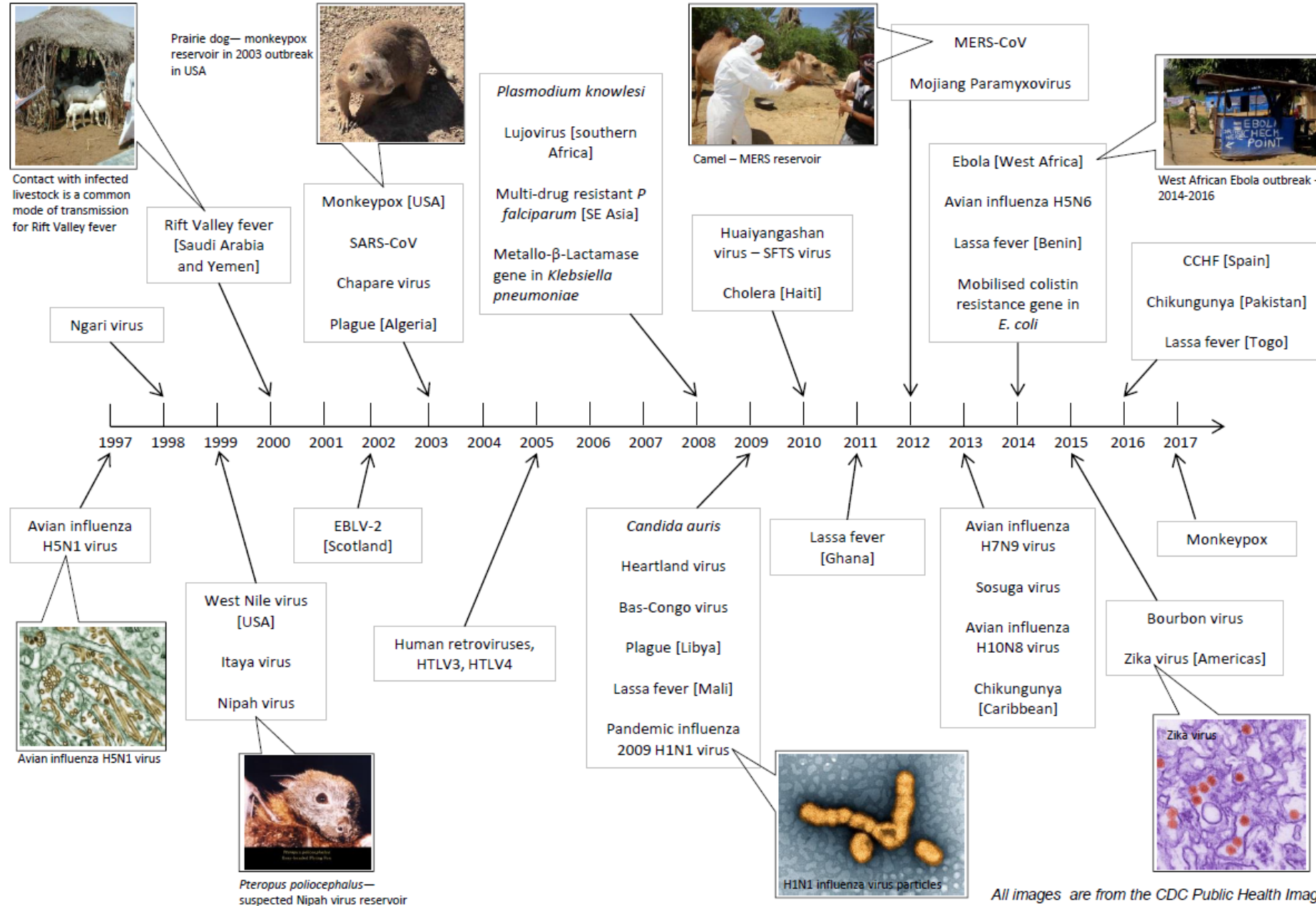
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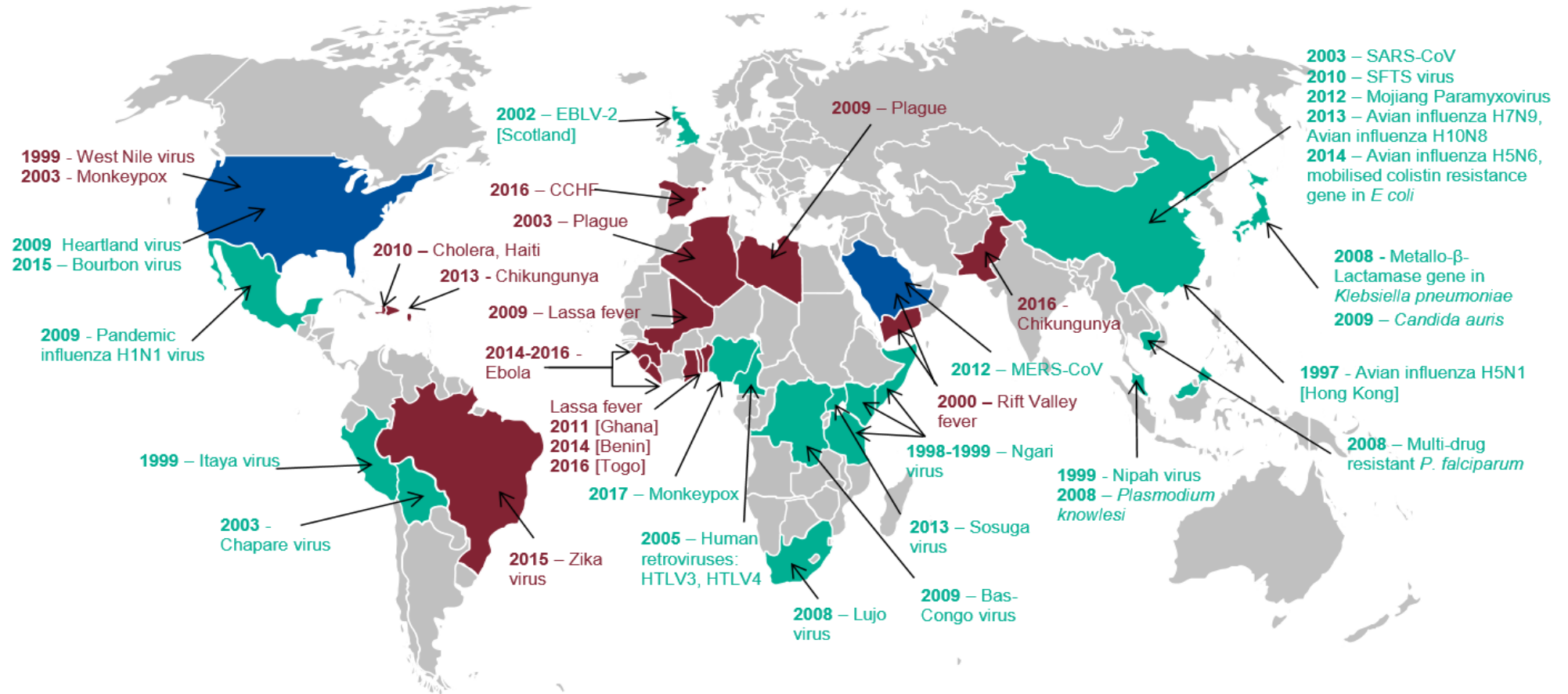
NHSBT Colindale

A decorative graphic at the bottom of the slide consisting of two overlapping blue wavy shapes that create a sense of movement and depth.

Timeline of new and emerging infections since 1997



Global map of significant and new emerging infections: spread to new areas since 1997



Newly identified emerging infection
 Disease spread to new area
 Emerging infection and disease spread

Identification

- Newly identified eg **MERS-CoV**
- Previously unrecognised eg *P. knowlesi*
- Changes in existing micro-organisms eg **swine and avian flu**
- Spread to new areas or populations eg **WNV, chikungunya, Zika**
- Re-emerging resistant to treatment, or breakdown in public health eg **malaria, syphilis, ebola**

Emerging infections

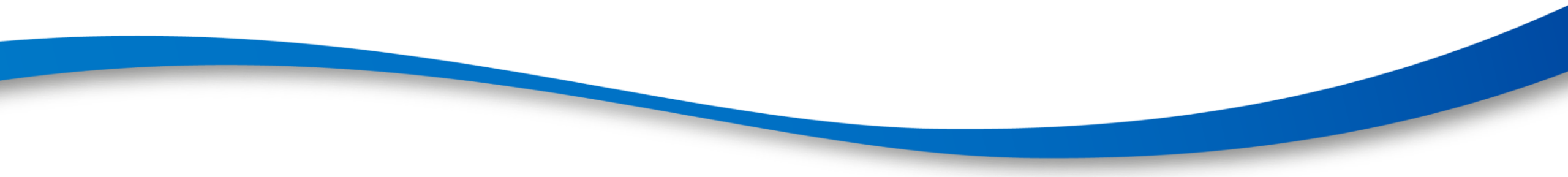


Annual infographic: Emerging 2014

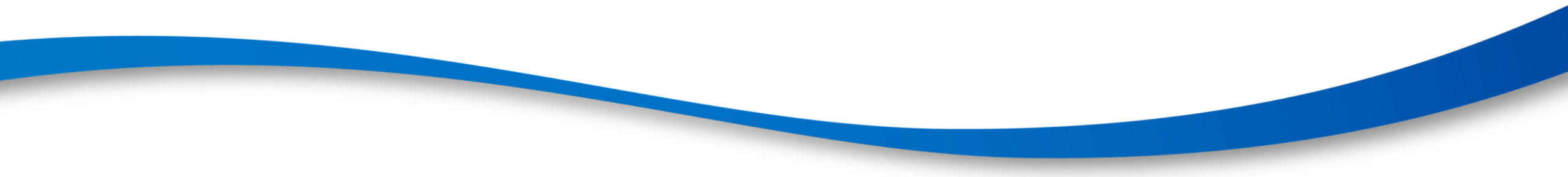


Annual infographic: Zika 2015

UKBTS Horizon Scanning

- The horizon scanning process performed in UK Blood Services is managed by the Joint UKBTS Professional Advisory Committees' Standing Advisory Committee on Transfusion Transmitted Infection (SACTTI) and involves the robust analysis of a monthly Emerging Infections Report (EIR) compiled by the NHSBT/PHE Epidemiology Unit.
 - The EIR includes information provided by a range of national and international evidence sources such as the European Centre for Disease Control (ECDC) and the European Infectious Diseases (EID) Monitor group of the European Blood Alliance (EBA).
 - Information on new potential risks may also come from other sources, e.g. EU Rapid Alert System. Such information feeds into the same process and, if urgent, will be analysed at the time of receipt.
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Risk Assessment

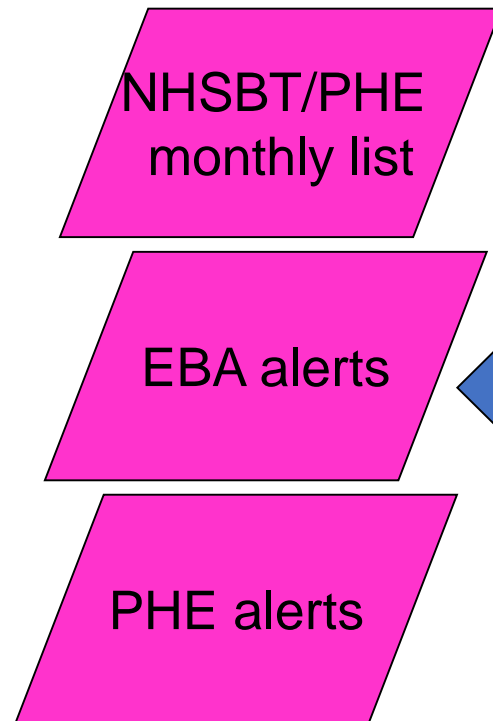
- Risk assessments are commissioned where necessary so that recommendations can be made on whether action should be taken to protect the safety of the blood supply and other donated products.
 - Risk assessments are provided to the Joint Professional Advisory Committee (JPAC) of the UK Blood Services and the National Institute for Biological Standards and Controls (NIBSC).
 - Members of JPAC review and discuss risk assessments and any recommendations made by SACTTI, together with aspects such as possible implications for other areas, such as transplantation of organs and tissues, and agree on an appropriate course of action.
 - The agreed action is then circulated to the four UK Blood Services which then consider the operational and financial implications of the recommendation and formulate an action plan.
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Risk Assessment considerations

- Is there evidence that the infection is caused by a blood-borne agent, and is the prevalence of the agent in the donor population known? Is the agent known to be transmitted by blood/tissues/organs?
- What is the outcome of infection: does it cause a recognisable illness/disease and what is the likely outcome? Could the infection exist in an asymptomatic stage?
- Does the agent survive processing/storage?
- Are there screening tests available and is testing warranted?
- Are there other risk reduction-measures which could be indicated e.g. deferral of donors after travel to a specified area?
- What action is being taken in other blood services and on what evidence? What advice is available from other bodies e.g. SaBTO, Council of Europe, European Blood Alliance? Does it need to be referred to SaBTO or other bodies?

Emerging infection: process

Identification



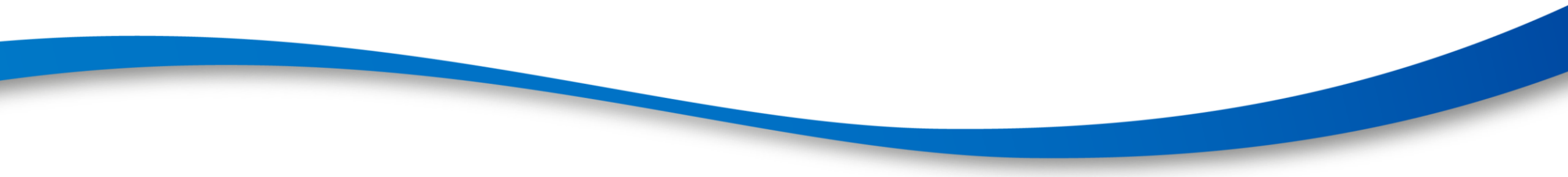
Risk Assessment



Evaluation and Decision



Geographical Disease Risk Index

- Temporary deferral, based on the answers to specific questions about recent travel history in an area endemic or epidemic for relevant microbiological agents, is the most frequent method used by UK Blood Services to minimise the risk of transmission of infection via transfusion.
 - The Geographical Disease Risk Index (GDRI), a listing of all countries/states and their known relevant infectious disease endemicity, is used to assist in the deferral of donors; this list is compiled specifically for risks to the blood and tissue supply in the United Kingdom and may vary from risks or recommendations provided for the protection of travellers.
 - These risks may vary over time and new diseases and outbreaks may occur.
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Addition of an infectious risk entry to the GDRI

- Is a competent vector present?
- Is there a good surveillance system in place?
- Does the country have a national response plan in place?
- What is the size of the outbreak?
- Are UK blood donors likely to travel to the outbreak area?
- Has/have the local Blood Service(s) or their national regulator implemented measures in response to an outbreak (e.g. use of PI for platelets, cessation of blood collection, NAT testing)?

Removal of an infectious risk entry to the GDRI

- At least two incubations periods after the last reported case have passed.
- If an outbreak has officially been declared as ended by WHO, ECDC, CDC etc.
- Good surveillance and national health response measures are in place.
- If the vector is absent (seasonal).
- Measures instigated by the local Blood Service in response to an outbreak are stopped.

This change applies to all the Donor Selection Guidelines except Cord Blood

Tropical Viruses

Please add this new topic:

Definitions *To include Dengue Virus, Dengue Fever and Chikungunya Virus, also known as CHIKV.*

Tropical Virus Endemic Areas: are shown in the 'Geographical Disease Risk Index' (GDRI) as a Tropical Virus Risk.

Obligatory

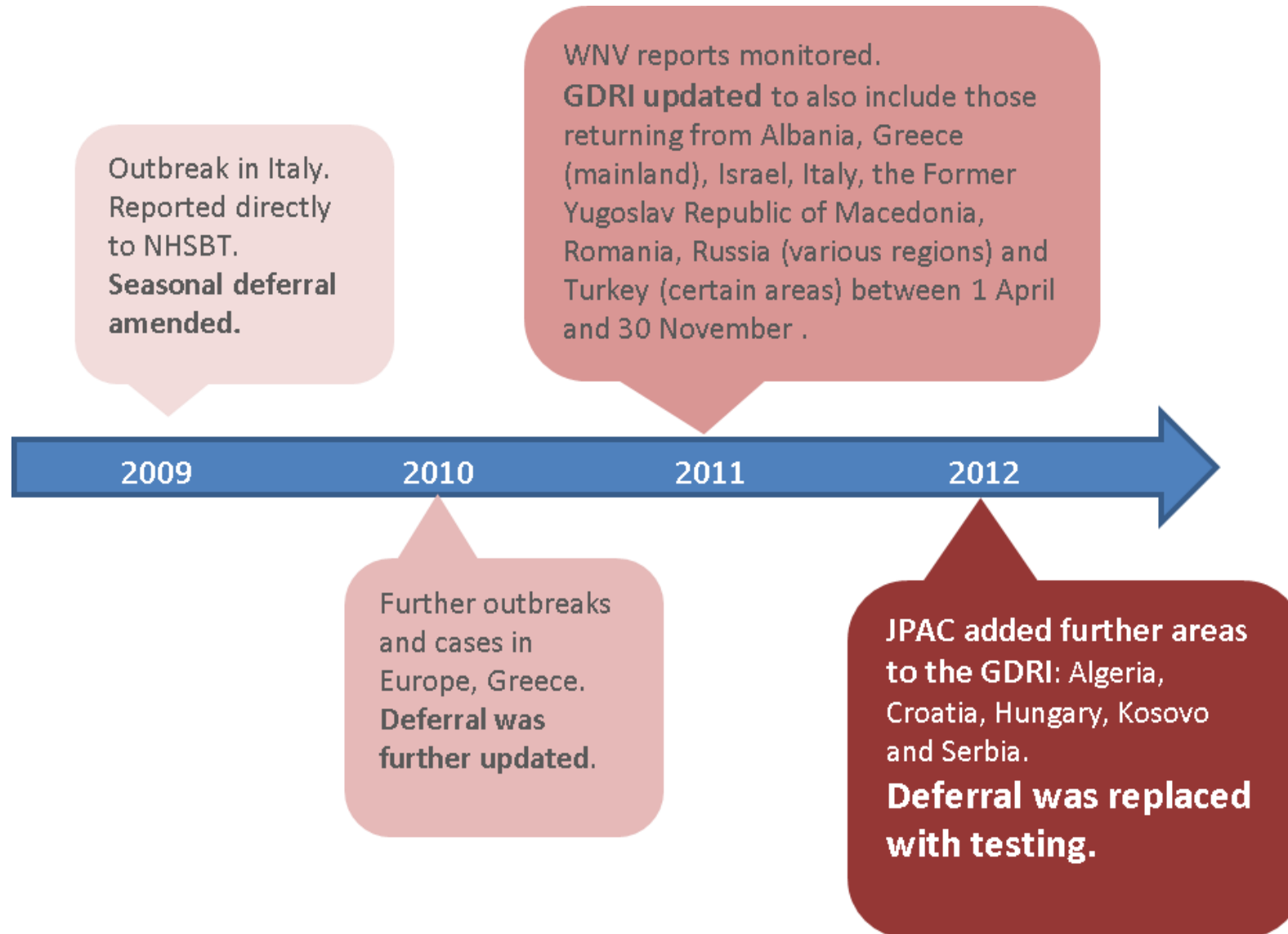
Must not donate if:

- a) It is less than six months from a donor's return from a Tropical Virus Risk endemic area and the donor has been diagnosed with chikungunya or dengue whilst there or following their return to the UK.
- b) It is less than six months from a donor's return from a Tropical Virus Risk endemic area and the donor has either had a history of symptoms suggestive of chikungunya or dengue whilst there or following their return to the UK.
- c) In other cases it is less than four weeks from a donor's return from a Tropical Virus Risk endemic area.

Discretionary

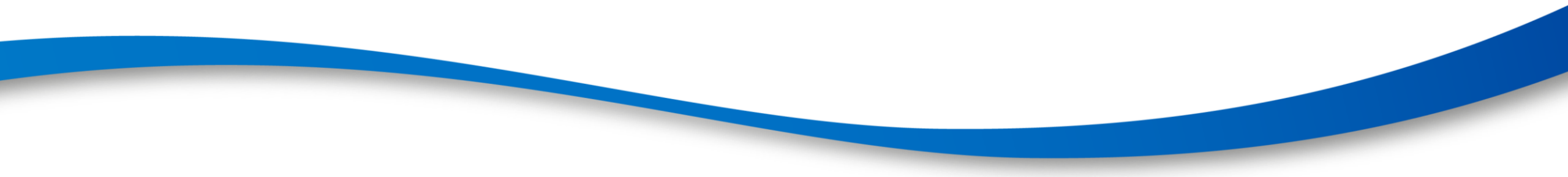
All donors may be accepted six months after their return from an affected area or resolution of symptoms. This may be reduced to four weeks, if they have had neither symptoms nor evidence of infection.

West Nile Virus



References

JPAC position statements:

- [Emerging Infections \(2019\)](#)
 - [Geographical Disease Risk Index – addition and removal of specific country risk \(2019\)](#)
 - [Change Notification No. 08 – 2016 \(tropical viruses\)](#)
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Aknowledgements

- NHSBT/PHE Joint Epidemiology Unit, in particular Claire Reynolds
 - ESCV Travel Bursary
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