

BVDV eradication in Scotland



Bovine Viral Diarrhoea (BVD) is an economically important disease of cattle that causes abortion, infertility, and may increase rates of respiratory and gastro-intestinal disorders.

The Scottish BVD eradication programme, led by the Scottish cattle industry and supported by Scottish Government, has had significant impact since 2010 - 90% of breeding holdings now have negative BVD status.



The programme comprises 5 phases so far:

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| Phase 1) subsidised screening (2010-2011) | Phase 4a) enhanced testing and further movement restrictions (2015) |
| Phase 2) mandatory annual screening (2013) | Phase 4b) positive BVD status for herds with a living PI (April 2017) |
| Phase 3) control measures - reducing the spread of infection (2014) | Phase 5) Scottish Government public consultation (Summer 2017) |

The Importance of Diagnostic Testing

There are several commercially available diagnostic tests available for BVDV which may be used for the purposes of the eradication scheme:

- 1) testing of blood for anti-BVDV antibodies; to show whether the virus is circulating in the herd;
- 2) detection of virus in blood or a tissue tag by a BVDV-specific antibody
- 3) detection of virus in blood or a tissue tag sample by RT-PCR .

Tests 2 & 3 can be used to identify PI animals

Utilizing antibody testing

EPIC scientists at BioSS and SRUC have developed a novel method to analyse data from BVDV antibody testing within herds (in collaboration with the RESAS Strategic Research Programme). They showed that farms can be categorised by their pattern of infection, which may inform control strategies.

Utilizing RT-PCR virus detection

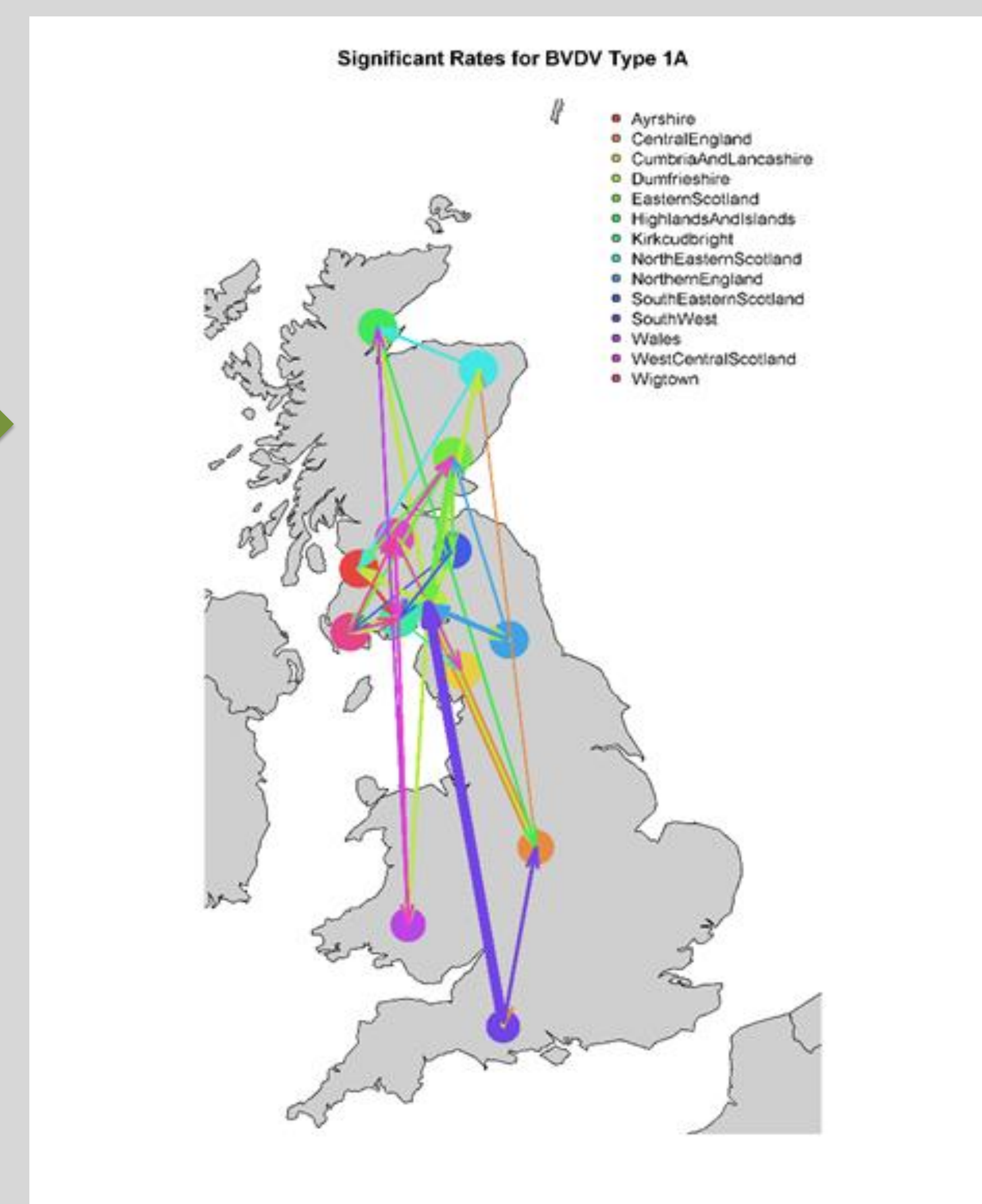
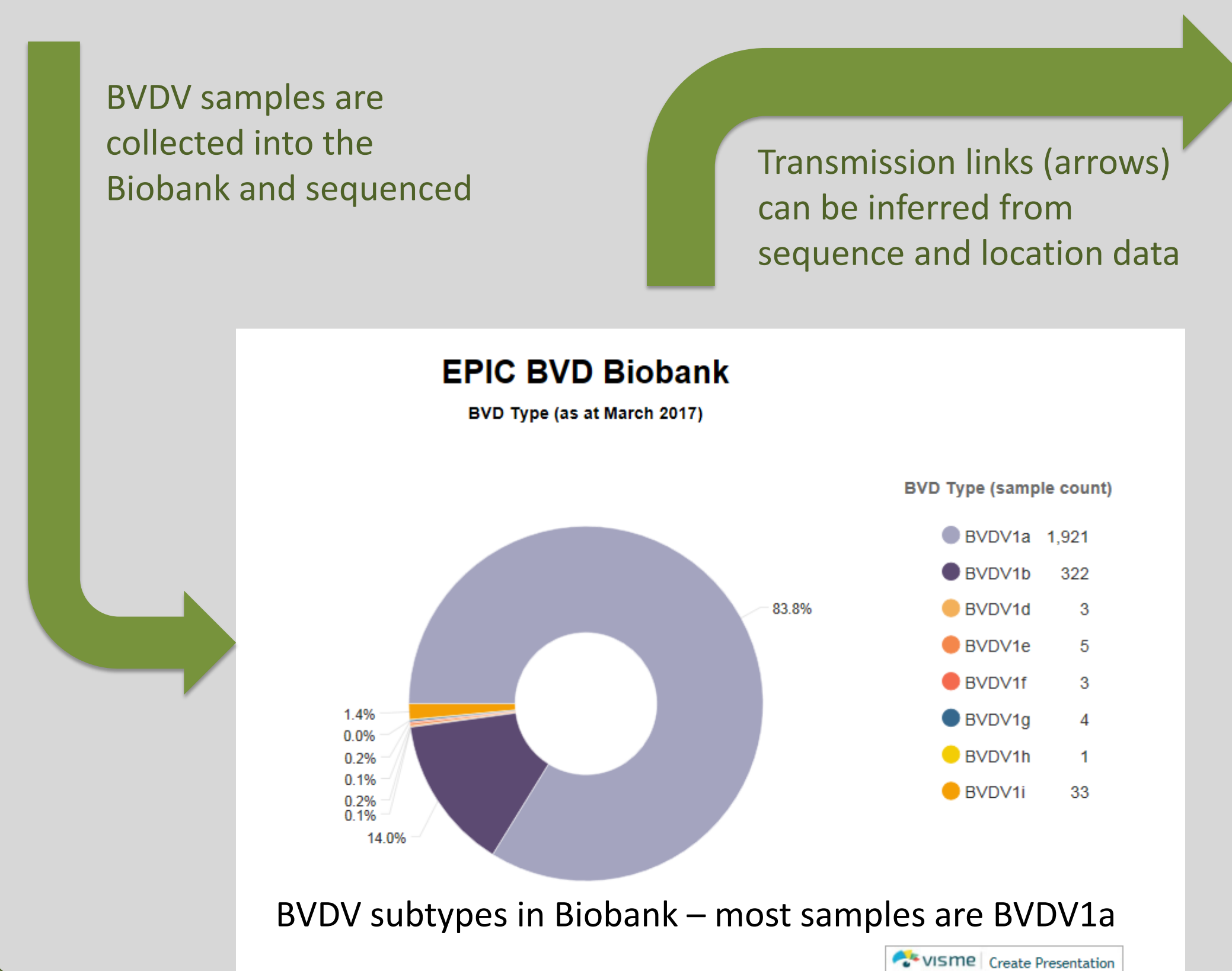
EPIC scientists at Moredun and Roslin have further developed the RT-PCR virus detection test to analyse the genetic sequence of BVD in individual cattle. Similar sequences at different locations may suggest transmission.

Further reading:

Russell et al. 2017. Analysis of bovine viral diarrhoea virus: Biobank and sequence database to support eradication in Scotland. *Veterinary Record*, May 2017
Gunn and Stott 2014. Control of bovine viral diarrhoea virus in livestock through evidence-driven behaviour changes on farms and through veterinarians.

<http://impact.ref.ac.uk/CaseStudies/CaseStudy.aspx?id=23919>

Voas 2017. Scotland's BVD eradication scheme: an update. *Veterinary Record*. May 2017



What is EPIC?

Funded by Scottish Government, EPIC (Epidemiology Population health and Infectious disease Control) is the Centre of Expertise on Animal Disease Outbreaks. It brings together Scottish-based expertise under one umbrella to deliver independent, evidence-based advice to help prepare Scotland's livestock industry and other stakeholders for animal disease outbreaks. **For EPIC's BVD case report, scan this QR code.**

