EPIC Centre of Expertise on Animal Disease Outbreaks

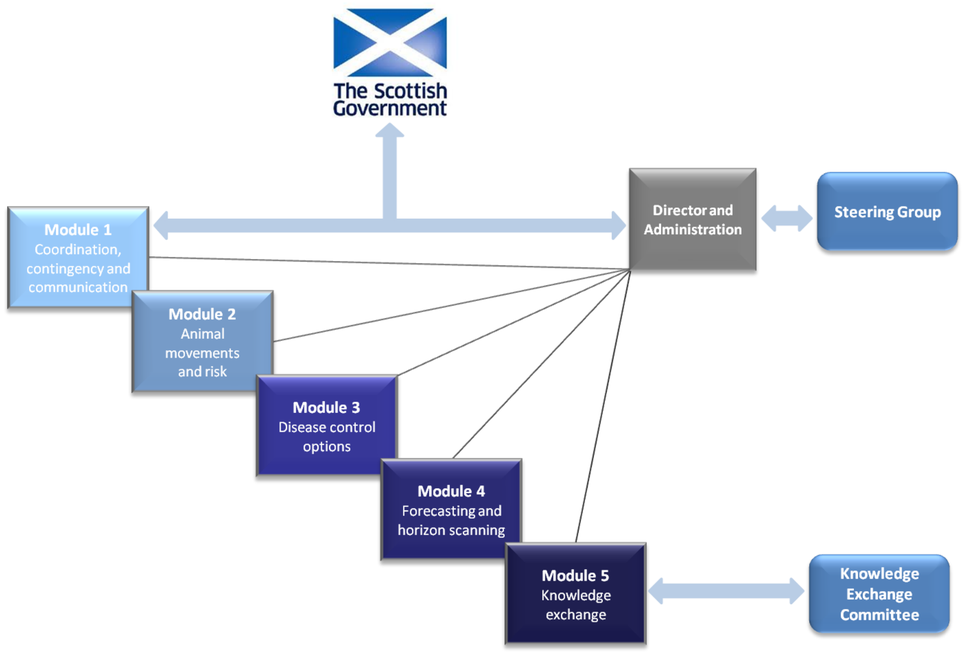
Poster presented by: Harriet Auty (SAC), Lisa Boden (University of Glasgow), Andrew Grant (SAC) and George Gunn (SAC) on behalf of the EPIC consortium.

Introduction

EPIC (epidemiology, population health and infectious disease control) is a consortium project involving SAC, University of Glasgow (UoG), University of Edinburgh (UoE), Moredun Research Institute (MRI), BioSS and James Hutton Institute (JHI) and is the new Scottish Government Centre of Expertise on Animal Disease Outbreaks.

The Centre is designed to provide access to high quality advice and analyses on the epidemiology of animal diseases that are important to Scotland and to best prepare Scotland for the next major disease incursion, through: (i) delivering timely and accurate advice to the Scottish Government; (ii) developing the coordination of research, analysis and interpretation across disciplines, leading to high quality, world leading research; (iii) stimulating innovative thinking in support of policy development and implementation; and (iv) developing a programme of knowledge exchange in order to ensure the effective underpinning of policy as well as the wider dissemination of knowledge.

This project builds on a previous award to an EPIC consortium project focused on surveillance, and aims to build a sustainable model for the control of animal disease outbreaks for Scotland.



EPIC's aims will be achieved through five linked modules. The project is guided by a steering group which includes experts from across the livestock sector. In addition, a knowledge exchange committee ensures effective engagement with stakeholders.

Modules and work packages within EPIC

Module 1
Coordination, contingency and communication

Dominic Mellor (UoG)
Julie Fitzpatrick (MRI)

- Foresighting exercise
- Risk assessment based on international and national surveillance data.
- Annual review of prevalence limits for selected endemic diseases
- Emergency communication infrastructure
- Real time disease mapping
- Standard procedures for analysing outbreaks
- Emergency predictive modelling capacity

Module 2
Animal movements and risk

Rowland Kao (UoG)
Ruth Zadoks (MRI)

- Development of denominator databases
- Implementation and analyses of comprehensive simulation frameworks
- Development of generic approaches to relating disease risk and disease data
- Integrated analysis of BVDV using notification and molecular data
- bTB monitoring and development

Module 3
Disease control options

George Gunn (SAC)
Mark Woolhouse (UoE)

- Livestock industry interface
- Simulation modelling
- Delivery of inputs for socio economic analysis and development of cost-benefit analyses tools and models for economic analyses of disease control options
- Social consequences including assessment of social factors which influence responses to outbreaks and risk perception

Module 4
Forecasting and horizon scanning

Mark Bronsvoort (UoE)
Iain McKendrick (BioSS)

- Scenario planning for infections of Scottish livestock
- Economic modelling of a livestock industry subject to change
- Defining a quantitative evidence base
- Scottish disease control in an international context

Module 5
Knowledge exchange

Alistair Stott (SAC)
Pete Goddard (JHI)

- Establishment and liaison with steering group
- Establish a format to maximise the delivery of advice on policy development
- Programme of knowledge exchange activities
- Management of emergent data and infrastructure

Examples of work currently underway in EPIC

- Development of veterinary risk assessments for use during an outbreak of foot and mouth disease (FMD) (i) to support movement licenses; (ii) regarding access to the countryside; and (iii) for risks associated with camelid species (Module 1)
- Development of statistical methodologies for joint estimation of phylogenetic and modelling processes (Module 2)
- Formation of integrated denominator databases relevant to infectious diseases of Scottish livestock (Module 2)
- Development of phylodynamic approaches to tackling BVD infection in Scotland (Module 2)
- Adaptation of existing FMD models to answer Scotland-specific questions on control strategies, particularly regarding timing of decisions on vaccination (Module 2/3)
- Development of equilibrium models for cost benefit analysis of FMD (Module 3)
- Assessment of the impact of behavioural aspects of responses to disease outbreaks (Module 3)
- Development of tools for monitoring and prioritising disease threats to Scotland (Module 4)
- Evaluation of the impact of common agricultural policy reform and other external drivers on Scottish livestock demographics (Module 4)
- Assessment of the risks of introduction and spread of Schmallenberg virus in Scotland (Module 4)
- Development of EPIC website and knowledge exchange facilities (Module 5)

Who works on EPIC?

Over 40 people at 6 institutions play a role in EPIC, including around 20 positions and 4 PhD studentships funded specifically through EPIC.

Contact information

For more information on EPIC please contact Andrew Grant (project administrator) at Andrew.Grant@sac.ac.uk