

DELIVERING EPIDEMIOLOGICAL EVIDENCE TO INFORM POLICY



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Background

Changes in the structure of Defra and its agencies ('Defra family') and the increasing application of epidemiological techniques in national surveillance and disease control efforts, together with recommendations following reviews of a number of recent disease outbreaks have led to the creation of an epidemiology group within the Veterinary Science Team in Defra during 2008. The Group includes four veterinarians with post graduate qualifications in epidemiology, scientists with specialist skills in manipulating data, including the use of geographic information systems, and administrators with programme management skills; the Group is in the process of establishing relationships with a number of others to ensure access to the resources and expertise that may be required to deal with current and future policy needs. This poster describes the Group and its skills and activities.



Our Mission, Vision and Objectives

Our Mission (What are our reasons for being?)

- > To deliver up to date, quality assured epidemiological advice and analysis in an accessible format and language that contributes to Defra's strategic objectives.
- > To act within and to be proactive in influencing the legislative framework.
- > To ensure that the advice is informed by surveillance, research and investigative evidence about the burden of disease in the animal population that is fit for purpose in terms of validity, accuracy and precision, within the resources available.
- > To increase the understanding of epidemiological principles and to champion the role of epidemiology in the formulation and delivery of animal health policy.

Our Vision (Where are we going?)

- To become internationally recognised as a leading team of epidemiologists that influence Animal Health policy, by acting as a hub for epidemiological input to Animal Health policy and delivery, which will enable us to:
 - > Continue to perform the "Intelligent Customer Function" to our key customers for epidemiological information, including presentation of advice in plain English as far as possible.
 - > Ensure the maintenance and development of our expertise, including wider recognition.
 - > Enlarge our network of partners so as to increase our resource and ability to quality assure our work.
 - > Ensure integration within Defra's Food and Farming Group, to give us the overview and wider understanding of Defra business that will ensure our contribution is fit for purpose; enable us to speak the "language" of policy development; keep our fingers on the pulse of Defra developments and issues; and influence those around us to make better use of epidemiological expertise and resources.

Our Objectives

- 1. Business as usual:**
 - > Provide epidemiologically sound advice to policy colleagues to assist in the development of robust animal disease policies and improve the collection, collation and sound analysis of relevant surveillance and exotic disease outbreak information.
- 2. Continue with our development:**
 - > Design and launch work programmes with Delivery Partners (see 'Key Relationships' below) to integrate and maintain our expertise.
 - > Identify gaps in our group's current knowledge and capabilities including the tools we employ.
 - > Characterise our group's networks, stakeholders and customers.
- 3. In the event of an exotic disease outbreak:**
 - > Trigger and operate the National Emergency Epidemiology Group (Oversight, assurance and co-ordination of epidemiological investigations, epidemiology reports; design surveillance; contribute to veterinary risk assessments, etc).

MEMBERS OF DEFRA'S EPIDEMIOLOGY GROUP

Jane Gibbens
BVetMed, MSc (Trop/VetSci), MSc (Epidem), DipECVPH, MRCVS

Head of Epidemiology Group
Key work areas

- Establishment & leadership of the Epi Group
- Epidemiological response to exotic disease outbreaks
- Epi aspects of implementation of UK Vet Surveillance Strategy, including development of surveillance methodology
- Lecturer & examiner, MSc Vet Epidemiology (RVC, LSHTM&VLA)
- Design and delivery of a Prioritisation decision support tool to inform government animal health policy

Giles Paiba
BSc(Hons), VetMB, MA, MSc(Epidem), PhD, DipECVPH, MRCVS

Veterinary Epidemiologist
Key work areas

- Epi advice to population data capture and management (RADAR)
- Defra lead on improvement of Management of Outbreak Sample System
- Establishment of co-ordinated Defra modelling capability
- Lead epidemiological advisor to Bluetongue policy makers
- Lecturer & examiner, MSc Vet Epidemiology (RVC, LSHTM)
- Epi advice on poultry and cattle population data
- Epidemiological response to exotic disease outbreaks

Victor Del Rio Vilas
BVSc, MBA, MSc (Epidem), PhD, MRCVS

Veterinary Epidemiologist
Key work areas

- Lead epidemiological advisor to AI policy makers.
- Design and implementation of a decision analysis tool to deal with threats to England's animal health (ETHIR)
- Lead of scanning surveillance of small ruminants
- Lecturer & examiner, MSc Vet Epidemiology (RVC, LSHTM)
- Epi advice on small ruminant population data
- Epidemiological response to exotic disease outbreaks

Rachelle Avigad
BVSc, MSc (Epidem), MRCVS

Veterinary Epidemiologist
Key work areas

- Lead on veterinary risk assessment (VRA) work for Epi Group
- Epi support to the Prioritisation Project
- Lead epidemiological advisor to CSF and Aujeszky's Disease policy makers
- Epi advice on pig population data
- Epidemiological work on camelid population data/surveillance
- Epidemiological response to exotic disease outbreaks

Francesca Culver
BSc(Hons), PhD

Scientist
Key work areas

- Scientific support to Epi group with contribution to a variety of projects incl. design of a Prioritisation decision support tool, ETHIR, Management of Outbreak Sample System.
- Epidemiological response to exotic disease outbreaks
- Studying for a MSc in Epidemiology (Imperial College, London)

Helen Roberts
BSc(Hons), PhD

Scientist
Key work areas

- Epidemiological response to exotic disease outbreaks
- Monitoring outbreaks of notifiable disease worldwide, with particular reference to the EU and 3rd country trading partners
- Involved in the production of risk assessments to inform vets, animals keepers, policy makers etc of any impending threat to the UK livestock population
- OEP secretariat

Mark Millett & Moevi (Boston) Akakpo

Key work areas

- Admin and policy support to Epi group and Epi group projects

Fletcher Morgan

Programme Consultant
Key work areas

- Programme manager
- Design, development and documentation of processes to make the Epi Group work
- Strategy for use of animal disease modelling in Defra
- Co-ordinator and manager in outbreaks

KEY RELATIONSHIPS

RADAR team

> RADAR (Rapid Analysis and Detection of Animal-related Risks) is an analytical data warehouse which brings together information about the number and location of animals in the UK and their diseases.

> The team is made up of animal disease population specialists, data managers and GIS specialists.

Animal Health, Field Epi team

> Animal Health is the government's executive agency primarily responsible for ensuring that farmed animals in Great Britain are healthy, disease-free and well looked after

> AH Field Epidemiologists work within the NEEG to provide information, analysis and Epi advice during disease outbreaks, both at the local and national level.

VLA, Centre for Epidemiology & Risk Analysis

> VLA is an executive agency of Defra providing a wide range of research and consultancy on livestock diseases and surveillance of new and emerging diseases to Government and the animal health industry.

> The VLA's CERA group work with Defra's Epi group, both during and between outbreaks. Alex Cook and Johanne Ellis-Iversen, veterinary epidemiologists, have provided epi support for FMD & AI investigations.

Ornithological Experts Panel (OEP)

> During outbreaks of avian disease, the OEP provides expert advice to support epidemiological investigations e.g. by conducting rapid field assessments.

> The OEP's expert advice is now being sought more widely and for diseases other than Avian Influenza. For example, to help assess the risks posed to GB from wild birds abroad.

Modellers

> Defra's Epi group has a wide contact network with modellers working on a number of diseases of livestock at the following institutions:

> Universities of Warwick, Edinburgh, Glasgow, Sussex, Stirling, Liverpool, Royal Veterinary College, London, Imperial College, London, UK, and Massey University, NZ.

Institute for Animal Health (IAH)

> Scientists at IAH have particular expertise on viruses exotic to the UK.

> They have contributed to assessment of risk and provided input into epidemiological investigations, as well as providing modelling expertise (they are currently working towards seeking to understand and predict airborne spread of virus).

RECENT OUTPUTS

- **Review of proposed amendments to the OIE Terrestrial Animal Health Code chapter on CSF.** This was conducted to try and positively contribute to international policy decisions made
- **Epidemiological reports on AI outbreaks** (e.g. Highly Pathogenic Avian Influenza H7N7, Oxfordshire, June 2008. *These are available on the Defra website.*)
- **Surveillance strategies:**
 - Extending comparisons beyond time and space: looking for similarities between diseases (in Advances in Disease Surveillance. Available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2180438/>)
 - Perspectives on Veterinary Syndromic Surveillance (Available at http://www.defra.gov.uk/animalh/21_040808.htm)
- **Development of the Duty Epidemiologist Function**

The collage includes several key documents and diagrams:

- FOOD AND FARMING GROUP EPIDEMIOLOGY REPORT** (multiple copies)
- Bluetongue epidemiology and surveillance** report
- Use of laboratory data to reduce the time taken to detect new diseases: VIDA to Farmfile** (14 June 2008)
- Modelling strategy and examples of models produced to support exotic disease control** (Economic models, Resource models, Epidemiological models)
- Inter-Relationships between Policy and Strategy Groups** flowchart
- Duty Epidemiologist Function** process flowchart (RECEIVING, CAPTURING, FIELDING, RESPONDING, CLOSING)
- Management of Outbreak Sample System** flowchart
- Disease Control Databases & Data Flows** diagram
- Prioritisation decision support tool draft output** chart
- Conference details** (SVEPM, London, April 2009)
- http://www.defra.gov.uk/animalh/**