

Six weeks in APHA



Ann Snaith – Microbiology STP

Overview

- Planning my elective
- APHA - Healthcare science in a completely different environment
- First an outline of APHA
- Then my experience

Elective Requirements

MODULE TITLE	Elective (EL)	COMPONENT	Specialist
AIM	The aim of the elective period is to facilitate wider experience of healthcare and/or the practice of Healthcare Science in a cultural and/or clinical setting that is different from the usual training environment. This may involve healthcare or Healthcare Science in a different area of the health service, or in pursuit of a particular clinical or research interest.		

KEY LEARNING OUTCOMES	COMPETENCES	KNOWLEDGE AND UNDERSTANDING
1	Produce learning outcomes for the elective training period and link these to Good Scientific Practice.	<ul style="list-style-type: none"> • Good Scientific Practice.
2	Write a report of your elective training that includes your learning outcomes (mapped to Good Scientific Practice), a critical reflection on your experience and an action plan.	<ul style="list-style-type: none"> • Report writing. • Critical reflection. • Action planning.
3	Plan, prepare and deliver an oral presentation that describes and reflects on the learning from your elective and shows how your experience will shape your future practice.	<ul style="list-style-type: none"> • How to prepare an oral communication. • How to give an effective and timely oral presentation. • Use of visual aids. • How to respond to questioning.



Planning

What did I want?

- UK based placement
- Microbiology experience in a different area
- 6 weeks
- Build on my research skills
- Small project

Timeline

	Actions
First Year December	Attended ACB Elective Day
Second Year November	Email Contacts found through supervisor, lab staff and the internet.
Second year January	Spoke with lab head at APHA and emailed further regional links
Second Year April	Confirmed placement at APHA
Second Year May	Completed Security Clearance and Background checks
Second Year June-July	Placement in APHA
Third Year October	Presentations to Local Laboratory



APHA

- APHA → Animal and Plant Health Agency
- Strategic Aims :
 1. Rapid control of pests and disease outbreaks in animals and plants
 2. Reduced threat from new and emerging animal and plant diseases
 3. Enhanced food security
 4. Improved agricultural economy
 5. Healthier people, plants, animals and environments
 6. Improved policy making in UK and EU

Mission Statement: To safeguard animal and plant health for the benefit of people, the environment and the economy.



APHA Services

Biological
Reagents



Vaccine
Development



Bacterial ID and
Characterisation



Intellectual
Property



Proficiency
Testing



Virus
Discovery



Culture
Collection



Pathology and
Bio-imaging



Wildlife
Management



Laboratory
Testing



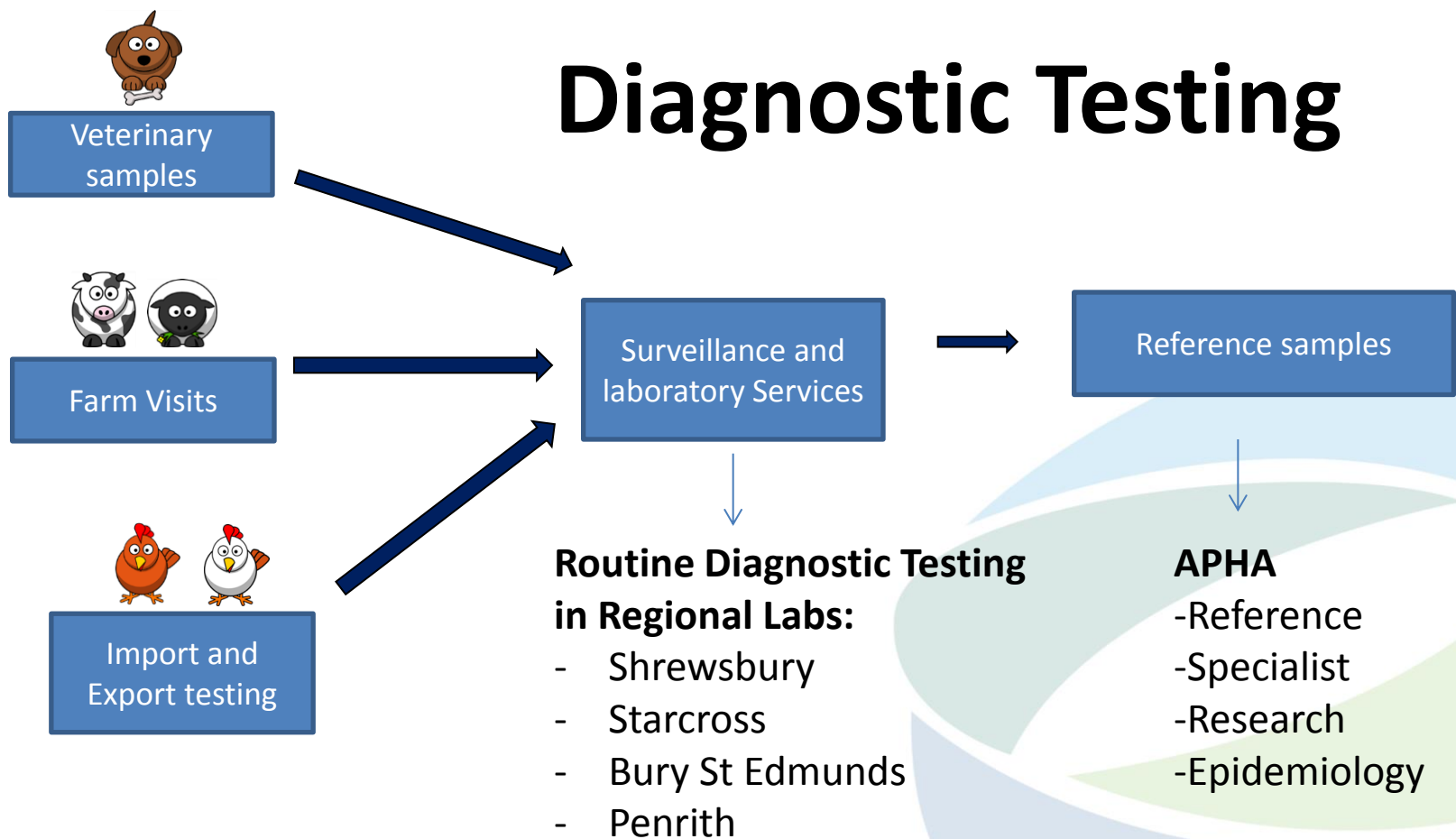
Research and
Development



Additional
Services



Diagnostic Testing



Notifiable Diseases

- African horse sickness
- African swine fever
- **Anthrax**
- Aujeszky's disease
- **Avian influenza (bird flu)**
- **BSE**
- Bluetongue
- Bovine TB
- **Brucellosis**
- Chronic wasting disease
- Classical swine fever
- Contagious agalactia
- Contagious bovine pleuro-pneumonia
- Contagious epididymitis
- Contagious equine metritis
- Dourine
- Enzootic bovine leukosis
- Epizootic haemorrhagic disease
- Epizootic lymphangitis
- Equine infectious anaemia (swamp fever)
- Equine viral arteritis
- Foot and mouth disease
- Glanders and farcy
- Goat plague
- Lumpy skin disease
- Newcastle disease
- Paramyxovirus infection
- Porcine epidemic diarrhoea
- **Rabies**
- Rabies in bats
- **Rift Valley fever**
- Rinderpest
- Scrapie
- Sheep and goat pox
- Sheep scab
- Swine vesicular disease
- Teschen disease
- Vesicular stomatitis
- Warble fly
- **West Nile fever**



Quality



- Similar quality management systems to Heartlands
- Training/Audits/Competencies/Maintenance
- IQA and EQA for reference/routine testing
- VETQAS and UKAS schemes.

My Learning Objectives

1. Explore microbiology of animal disease that poses a risk to humans
2. Learn about current concerns in AMR transfer between animals and humans and increase awareness of important health issues arising from zoonotic diseases
3. Explore unfamiliar scientific areas learning about APHA and the work they do
4. Gain hands on experience of working with and researching animal disease diagnosis
5. Undertake and complete a research project in a different setting
6. Learn about rules and regulations and codes of practice in APHA
7. Relate my experience to my own area of practice

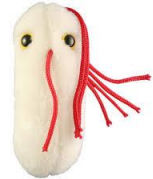
My Experience



- 6 week placement
- Working in Antimicrobial Resistance and Enteric Pathogens, Department of Bacteriology, APHA
- Research project developing new diagnostic tests

What do the Bacteriology Department do?

- Specialist reference testing
- Work on farm studies
- Develop new diagnostic tests
- Improve current diagnostic tests
- Investigate AMR patterns



VTEC

- Diarrhoea → Haemorrhagic colitis/Haemolytic Uraemic Syndrome
- VT1/VT2
- Key O types:

➤ O157

➤ O55

➤ O103

➤ O111

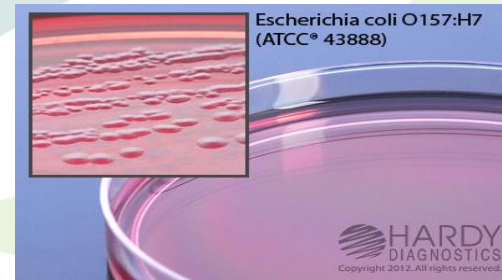
➤ O26

➤ O145

VTEC PCR Development

Why this project?

- Part of a larger farm study
- Reduce number of cultured plates
- Rapid results



O55



New test to find source of Dorset E. coli O55

By David Fenton
Health correspondent, BBC South Today

2 November 2015 | Dorset

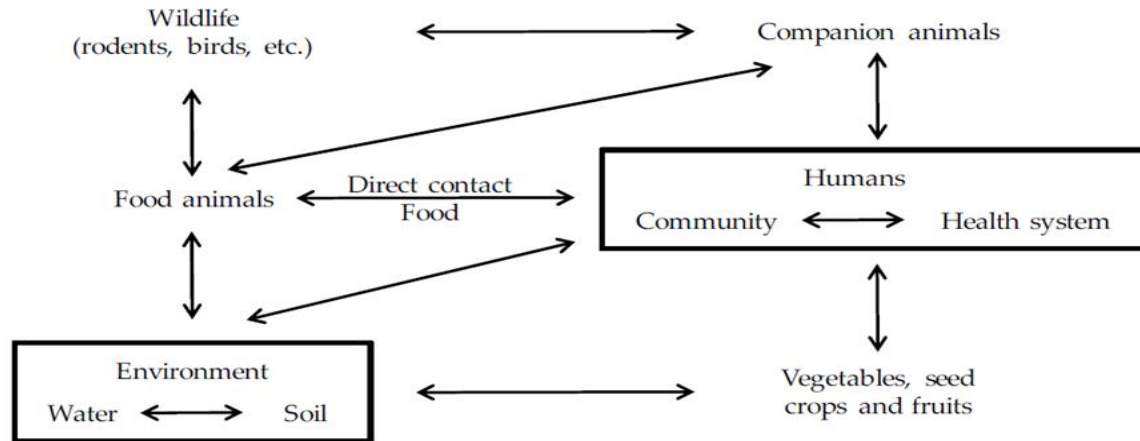


- Dorset Outbreak
- Unknown Reservoir
- New testing techniques
- Important strain of interest – no previous outbreak in the UK.



Farm Studies

- AMR → *Enterobacteriaceae* in Pigs, Cows, Sheep and environmental samples
- WGS → Clinical and Epidemiological cut offs



Key learning points



- Assay development
- What APHA does
- Veterinary Microbiology
- Parallels with PHE

Good Scientific Practice

Many GSP topics covered:

- ✓ Working with Colleagues
- ✓ Scientific Practice
- ✓ Technical Practice
- ✓ Quality
- ✓ Research, Innovation and Development
- ✓ Professional Practice
- ✓ Probity
- ✓ Leadership



Acknowledgments

APHA

- Muna Anjum
- Miranda Kirchner
- Roderick Card
- Emma Stubbersfield
- Meenaxi Sharma
- Nick Duggett

Training Officer

- Katie Hardy

Thank you for listening



Any Questions?