



**AUSTRALIAN AND NEW ZEALAND COLLEGE OF
VETERINARY SCIENTISTS SCIENCE WEEK -
EPIDEMIOLOGY CHAPTER**

PRE-CONFERENCE WORKSHOP

**Animal health surveillance
information systems**

**A participatory workshop on the use of bottom-up
approaches and cloud technology in system design
and implementation.**

Angus Cameron

Ben Madin

Catriona Mackenzie

Albertus Muljono

AusVet Animal Health Services

6-8 July 2015

QT Hotel, Surfers Paradise

Workshop Overview

A completely new multidisciplinary team approach coupled with advances in Cloud computing have created an important philosophical shift in the design and implementation of information systems for the collection, management and use of animal health surveillance and related information. In contrast to so many current and past systems, this approach can create powerful user-focussed systems that are comprehensive, rapid, affordable and sustainable, and which provide timely and useful information for decision makers at all levels. Users, especially data providers, are placed at the centre of the system to ensure that all stakeholders gain tangible benefit and that the system is designed to remain responsive to growth and changing user needs. The use of Cloud computing provides unprecedented and affordable data management and processing capacity, allowing agile and responsive analysis of massive volumes as well as highly tailored and targeted communication.

In addition to explaining the theoretical foundations and philosophical underpinnings of the approach, this workshop will provide participants with hands-on experience in designing and implementing a functional Cloud-based information system.

Participants will be required to bring with them a real-world health information management challenge, preferably based on their current work and needs. This could range from an industry- or disease-specific surveillance issue, such as:

*Developing a system for the comprehensive real-time tracing of **bee hive movements** to support risk assessment, emergency preparedness and disease incursion response*

or:

*Developing a system to capture, manage and report **equine vaccinations** from all sectors (including performance and pleasure horses)*

to broader, more complex challenges:

*Developing an affordable national animal **identification, certification and traceability** system that also supports animal- and farm-level capture of health and production related events*

or:

*Developing a **fully integrated** state or national animal health information system incorporating field disease reporting, field surveillance, laboratory data, abattoir surveillance, vaccination, population and production monitoring*

The workshop will allow participants to work with their own challenges or those of their peers to examine the issues of system design from a multidisciplinary perspective, and consider a range of design and implementation options. They will then use readily available Cloud computing resources and open source software to create a simple proof-of-concept system, implementing part of their design.

Requirements for participants

Participants will need to bring with them a laptop capable of connecting to WiFi internet. No particular operating system is required. As the workshop will involve the use of some open source, free software, participants will either need administrator rights on their laptop (to download and install this software) or else a Windows operating system and a USB drive (as the facilitators can provide a USB drive with operational versions of the software pre-installed, but these will only support Windows).

Who will benefit from this workshop?

The workshop will benefit those working in terrestrial or aquatic animal, human or plant health, in a developed or developing country context, with an interest in, or responsibility for, the design, evaluation, implementation or management of information systems for surveillance or health management.

The workshop will be facilitated by a multidisciplinary team with sociological, epidemiological and information management expertise. The workshop will be targeted primarily at those with an epidemiological background, who have an understanding of the need for and use of health and surveillance information.

Understanding the design philosophy will require an open mind and sensitivity to the needs and perspectives of different users. The hands-on information technology practical sessions do not require any specific IT skills beyond a familiarity with standard software packages, but a basic understanding of the principles of relational database design would be an advantage.

The workshop will be particularly valuable for those from organisations currently planning development of new systems or reviewing existing systems.

Workshop Outline

The workshop will run over three days and will cover the following topics:

- Introduction
 - Presentation of participants' surveillance challenges
- Surveillance purposes and requirements
- Philosophical foundations for bottom-up information system design
- Group work to design participants' systems
 - Identification of system scope and objectives
 - Stakeholder analysis
 - Data capture and communication opportunities
 - Stakeholder benefit/cost analysis
 - Data management, analysis and reporting strategies
- Overview of Cloud computing capabilities and opportunities
- Principles of relational database design
- Group work to implement data management systems
 - Launching and configuring a Cloud server
 - Implementing a database structure
 - Designing data capture portals and automated quality control
 - Developing automated analysis and reporting systems
- Demonstration of a model system
- Review
 - Critical examination of example existing systems
 - Presentation of participants' systems

Facilitator Biographies

The four workshop facilitators are members of a team that, over the last 3 years, researched and developed a new bottom-up approach to system design. This approach, leveraging the power of Cloud computing, has been applied and evaluated in Indonesia with the implementation of iSIKHNAS, a broadly integrated real-time animal health and production information system.

Angus Cameron

Angus is a veterinary epidemiologist with over 20 years' experience in disease surveillance and animal health information system development. He has worked in over 50 countries and designed and implemented information systems for surveillance, animal health management and identification and traceability at the industry, national, regional and global levels.

Ben Madin

Ben is a veterinary epidemiologist who has collected data from a wide range of sources, including epidemic control in Europe, participatory epidemiology in rural Africa, animal movements in the Greater Mekong and endemic disease monitoring in outback Australia. After years of complaining about the lack of data epidemiologists have to work with he realised that there is actually lots of data out there, it just has to be simple to capture and efficient to interpret. Although happy to collect data on a Raspberry Pi, Ben is also an Amazon Web Services Certified Solutions Architect.

Catriona Mackenzie

Catriona is a social scientist with extensive experience in working in developing countries to understand and respond to the needs of local and other stakeholders. She has collaborated with veterinary epidemiologists in a wide range of projects including the support of disease surveillance activities over two decades in both developed and developing countries.

Albertus Tenguh Muljono

Albert is a veterinary epidemiologist working in Indonesia with post-graduate research experience in Europe. In Indonesia, he has wide ranging experience working with field veterinarians and para-veterinarians, and has more than five years' experience doing field epidemiological research and training. He has detailed recent experience on dealing with the practical challenges of applying a bottom-up information system design and creating benefit for stakeholders.

Limited enrolment

This workshop will be interactive and involve group discussions and activities. As a result there will be limitations in the number of people who will be able to attend. Interested participants are urged to enrol early to ensure they will be able to attend.

Registration and price details

ANZCVS Member, Student, Candidate preparing for membership exams

Early Bird (up to 30.04.15)	\$795
After 30.04.15	\$895

Non ANZCVS member

Early Bird (up to 30.04.15)	\$945
After 30.04.15	\$1045

(Cost is in total Australian Dollars including GST)

The registration fee includes notes, morning and afternoon teas and lunches.

A registration form is attached on the final page.

For more information about this course, please contact:

Skye Fruean skye.fruean@agriculture.gov.au

Beth Cookson beth.cookson@agriculture.gov.au



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6 - 8 July 2015 – QT Hotel, Surfers Paradise

Surname.....First name.....

Address.....

Preferred name for tag.....

Telephone No.....Fax No.....Email address

College Member Yes No Dietary Requirements.....

REGISTRATION FORM

TAX INVOICE ABN 50 000 894 208

I will be attending the workshop and enclose (please tick box) in payment:

ANZCVS Member, Student, Candidate preparing for membership exams

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After 30.04.15 895

Non ANZCVS member

Early Bird (up to 30.04.15) \$945

After 30.04.15 \$1045

(Cost is in total Australian Dollars including GST)

Please forward registration and payment by email (preferred) or post to:

Tamsin Barnes
20 Clive Crescent
Withcott, QLD, 4352
t.barnes@uq.edu.au

Cheque¹ or

Direct deposit² or

Bankcard Mastercard Visa

(Please note that the College now charges 2% administration charge for credit card payments)

Card No.....Expiry Date.....

Name on Card.....Signature.....

¹ Please make cheques payable to: **Australian and New Zealand College of Veterinary Scientists - Epidemiology Chapter**

² Please include your surname in the payment reference: **Acct name: Australian and New Zealand College of Veterinary Scientists Epidemiology Chapter; BSB 032729; Account # 174503**