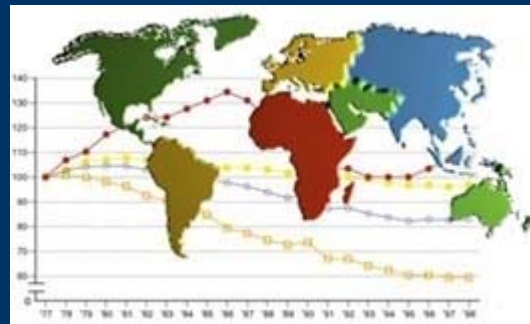




Massey University

The MVS program in Veterinary Epidemiology at Massey University



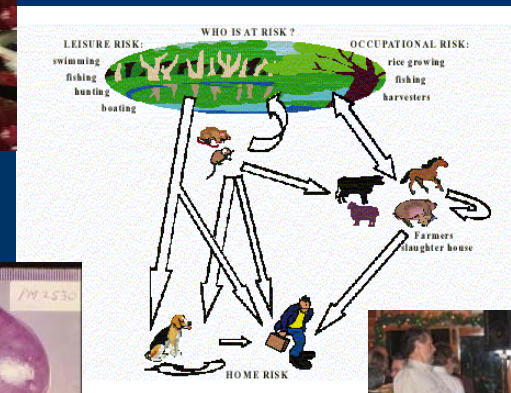
Mark Heuer and Cord Stevenson

EpiCentre, Institute of Veterinary, Animal and Biomedical Sciences



- “Provide skills in veterinary epidemiology and public health”

- study design, sampling
- AH-management
- disease modelling + control
- AH-Economics, public health
- statistical analysis
- causal inference, food safety
- risk analysis ... etc



Motivation

- Interest beyond practice
- Job opportunities
- Skill based
 - Specific: e.g. RA, clinical trials
 - PhD related
- Academic career/research




Focus

- Master of Veterinary Studies
 - MVS (Epidemiology)..... MVE
- Structure
- Contents
- Delivery
- Participants



Postgraduate Study at Massey U. PN

- Institute of Veterinary, Animal and Biomedical Sciences: 12.5, 25, 50, 100pt papers
 - Short courses: certificate
 - 50pt: Massey Certificate
 - 100pt: Massey Diploma
 - 200pt: **MVSc:** 200pt → 100pt
 - 200pt: **MVS:** 200pt (→100pt) 
 - 300pt: PhD



Design your own

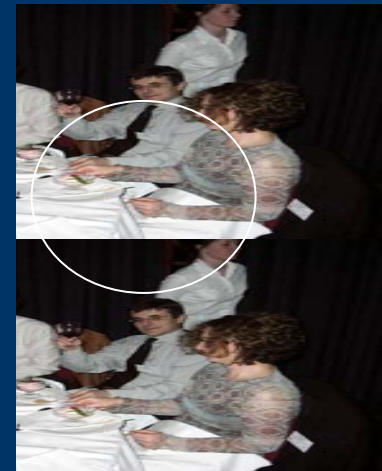
- 200pt:
 - 4 papers x 50pt
 - 3 papers x 50pt + 50pt dissertation
 - 2 papers x 50pt + 100pt thesis
 - min. 2 papers in epidemiology/public health
 - postgraduate papers in related fields
 - upgrade to PhD at any stage



MVS (Epidemiology)..... MVE

- History

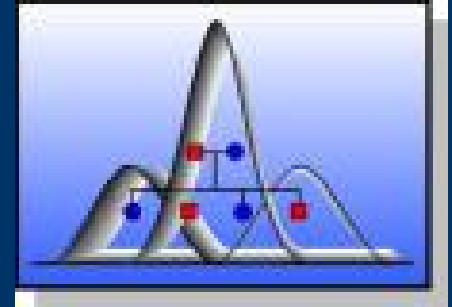
- First MVS(epi) intake in 1995
- Round 1: 95-97
- Round 2: 98-2000
- Round 3: 2001-2003
- Round 4: 2004-2005





We are here

MVS (epidemiology)



AH Investigation

1998	1999	2000	2001	2002	2003
195.720	195.721	195.821	195.720	195.721	195.821
	195.722	195.822		195.722	195.822

AH Management

2004	2005	2006	2007
195.720	195.722	195.720	195.722
195.721	195.821	195.721	195.821

Stats 1

Entry every year!

Stats 2

Timetable 2005

195.722

Mod1: Jan/Feb

Mod2: July

Mod3: Nov/Dec

Mod1: Feb/Mar

Mod2: May

Mod3: Nov

195.821

Papers

- **195.720**: Animal Health Investigation
- **195.721**: Analysis and Interpretation of Animal Health Data
- **195.722**: Animal Health Management
- **195.821**: Advanced Analysis and Interpretation of Animal Health Data
- **195.811**: Dissertation
- **195.813+195.814**: Thesis
- Other taught papers
- Special or custom papers

Contents

- **195.720: Principles**
 - disease epidemiology, study design, sampling, disease frequency and association, causal inference, using computers, data handling and interpretation, scientific communication, diagnostic tests, disease surveillance, questionnaire design, outbreak investigation
- **195.721: Stats 1**
 - principles, database skills, stats.-inference, descriptive analysis, confounding/interaction, bi- and multivariate analytical tools for continuous, discrete, event time and count responses, agreement, repeatability, bivariate matched data, threshold, non-parametric analyses, statistical process control, spatial data analysis, meta-analysis

Contents

- **195.722: AH - control**
 - principles, AH-control at herd/flock, national and international levels, group level diagnosis, AH-economics, risk analysis, herd health, animal industries, biosecurity, selected food safety, HACCP, public health, and zoonoses problems
- **195.821: Stats 2**
 - correlated data and multilevel analysis, mixed models, matrix algebra, Bayesian stats, time series, infectious disease modelling, multinomial/ordinal log-reg, path analysis, advanced survival and advanced spatial analysis, simulation modelling

Research

- **International:** BSE, FMD, AI, surveillance, trichinella, RA, software development
- **Public health/food safety:** food pathogens (pig, poultry), zoonoses (leptospirosis, S.Brandenburg, rabies), AB residues in BTM, AB resistance, campylobacter
- **National:** Johnes Disease (cattle, deer), bovine TB, BVD, Neospora, mastitis, lameness, brucellosis, ovine pneumonia, campylobacter (fv: cattle), RHD, injuries in NZ racehorses, anthelmintic resistance, PMWS, production performance (sheep, beef, poultry), disease surveillance

Delivery

- Lecturers



- Block mode: 3-week
 - Jan/Feb – Jun/Jul – Nov/Dec
- Extramural: assignments
- Assessment: participation, assignments, presentations, 1 exam (720)

IVABS lecturers
PhD students
Guest lecturers



Delivery

- Support staff



Participants

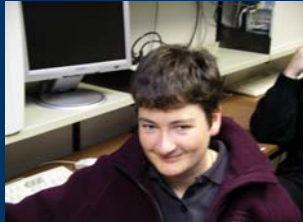
- 4 – 17 per paper, up to 25 per class
- MAF NZ and AUS
- Vet. Faculties
- Practicing veterinarians
- Overseas: UK, IRE, D, F, CH, Jordan, Botswana, Dominica, Trinidad-Tobago, Mexico, Uruguay, Argentina, Paraguay, Malaysia, Thailand, Nepal, Bhutan, Samoa

Participants: snapshot 721 - 2004

Bhutan



NZ



Uruguay



NZ



NZ



Jordan



Trinidad-Tobago



Zimbabwe



NZ



Germany



France



Ireland



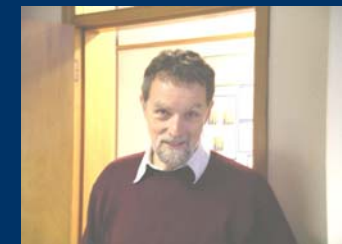
UK/Falklands



AUS



Germany



Services

- MVS candidates are Massey Students
 - Library, software etc. privileges
- Internet access & computers: seminar room & offices
- Software for enrolled students
- Photocopying, paper, disks
- MVS files – in the network folder:
 - \\Dirk3\MVS\MVS_Papers\195.722_2005
 - \\Dirk3\MVS\MVS_Papers\195.821_2005
 - <http://www.epicentre.ac.nz>
- Books: EpiCentre library

The Future

- MVE: 200pt
 - Epidemiology
 - Public health/food safety
- More flexible delivery
 - Module based
 - Web based



- Short courses
 - Massey
 - Abroad
- ... and if you like - join us, we'd like to see ye



The EpiCentre

- Prof Roger Morris/Prof Nigel French
- Assoc Prof: currently vacant
- Staff: Mark Stevenson, Cord Heuer, Naomi Cogger, Jutta Trebje-Kelly, Debbie Prattley, Helen Benard, Joanna McKenzie, Ron Jackson, Lachlan McIntyre, Ian Langstaff, Diane Richardson, 4 software programmers
- 42 graduate students – 30 staff

EpiCentre software

- DairyWIN & CowPAD
- PigWIN & PigPAD
- CamDairy
- EpiMAN & Interspread
- HandyRisk
- Kodavet