Master of Applied Epidemiology

Emma Field
National Centre for Epidemiology and Population Health, Research School of Population Health, Australian National University, Canberra
MAE Program

- Australia’s field epidemiology training program
- Established at National Centre for Epidemiology & Population Health (ANU) in 1991

- Academic team:
  - Ross Andrews
  - Ben Polkinghorne
  - Tambri Housen
  - Emma Field
MAE Program

• Eligibility
  – Bachelor degree with at least upper second class honours, OR
  – Graduate diploma or Master degree with research component

• Core competencies
  – Establish/evaluate a surveillance system
  – Outbreak investigation
  – Data analysis
  – Epidemiological study

• Bound volume (thesis)
• Oral exam
Structure

Master of Philosophy in Applied Epidemiology (MPhil Research Degree)

Field Placement

Outbreak Investigation
6 Units

Public health surveillance
6 Units

Data analysis
6 Units

Research design and methods
6 Units

Thesis

Issues in Applied Epidemiology
6 Units

Graduate Certificate in Applied Epidemiology
Field placements

- Local or international
- Single or joint placement

Provide:
- Supervision
- Scholarship

Health department:
- Federal
- State/territory
- Public health unit
- Public health laboratory

Research Institutions:
- NGOs
- International organisations

Other:

Field placement
ASEAN Health Security Fellowship Program 2019-2022

• DFAT funded program
  – ASEAN Fellows
  – Australian Fellows

• Options for placements:
  – 22 month placement in an ASEAN country
  – Combined placement – 11 months in Australia and 11 months in ASEAN country
Outputs

• >300 outbreak investigations including contribution to major infectious disease events
  – SARS, 2009 H1N1 influenza pandemic, Ebola in West Africa
• Established or evaluated many surveillance systems
  – e.g. National Notifiable Diseases Surveillance System
Box: List of selected Master of Philosophy in Applied Epidemiology projects completed by scholars since 2012 and published in peer review journals or presented at national or international conferences

- Human rabies immunoglobulin usage in Australia, 2010 to 2013
- Associations between antimicrobial susceptibility patterns of *Shigella* isolates and suspected country of acquisition – Victoria, Australia, 2008–2012
- Very high incidence of invasive group A streptococcal disease across Northern Territory populations
- High levels of lead solder in drinking water tanks, Tasmania, 2013
- An outbreak of norovirus genotype II associated with New South Wales oysters
- Outbreak of influenza A(H1N1) virus in a remote Aboriginal community post-pandemic: implications for pandemic planning and health service policy
- Exploring a proposed World Health Organization method to determine thresholds for seasonal influenza surveillance
- Estimating the measles effective reproduction number in Australia from routine notification data
- Re-thinking traditional adverse event following immunisation surveillance: lessons from Australia’s successful experience with intussusception surveillance following the 2007 introduction of rotavirus vaccines
- Evaluating the effectiveness of the human papillomavirus vaccine among Indigenous women in Australia
- Trends in testing for chlamydial infection in the ACT, 2003 to 2012
- *Salmonella* Typhimurium phage type 44: A Victorian outbreak and review of MLVA patterns
- Is the National Notifiable Surveillance System an effective surveillance system for flu
Options for collaborations with the MAE Program

1. Placements at research institutions
2. Joint placements at research institutions and health departments
3. Collaborate with placements for specific projects