

# **MY JOURNEY TO APPLIED EPIDEMIOLOGY**

Steph Main



# OVERVIEW

- What is epidemiology?
- My journey to public health & epi
- What is applied epidemiology
- Australian applied epi training program
- Reflections and advice

## The parable: the clinician and the epidemiologist

“

A clinician and an epidemiologist are standing next to a river when, suddenly, they notice several people floating downstream. They quickly wade into the river to rescue them. However, more bodies keep appearing in the river and there are simply too many people to save them all. Suddenly, the epidemiologist begins running upstream. "Where are you going?" Cries the clinician. "You have to help me save these people!"

Still running, the epidemiologist yells back,  
“i'm going to find out why they're falling in the river?”

”

“upon” “study”  
epi{demi}ology  
“people”

"the study of that which befalls people"

# MY JOURNEY



2011-2015

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@ UWA

Outreach worker  
@ WA AIDS Council



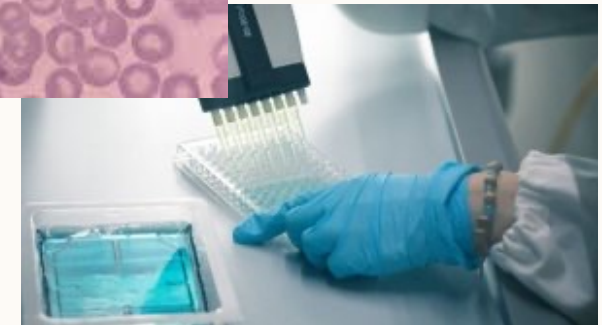
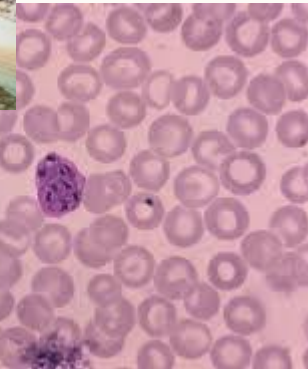
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Medical Research. Practical Action.

**2011-2015**

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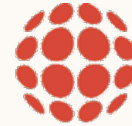
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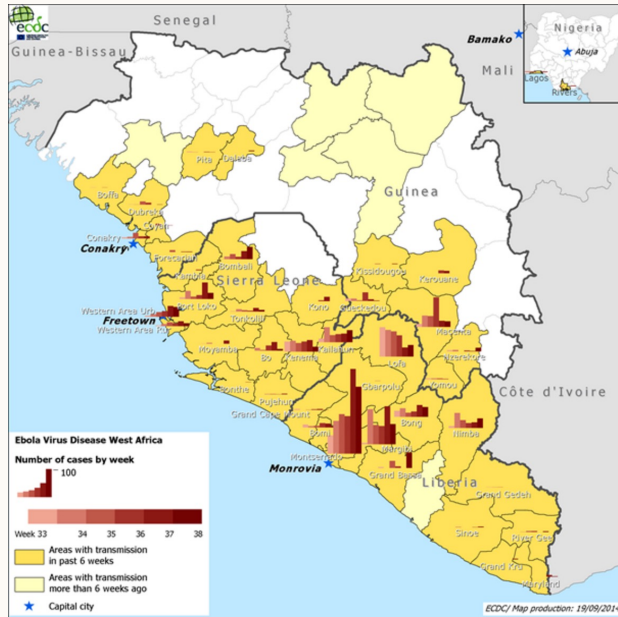
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# APPLIED EPIDEMIOLOGY

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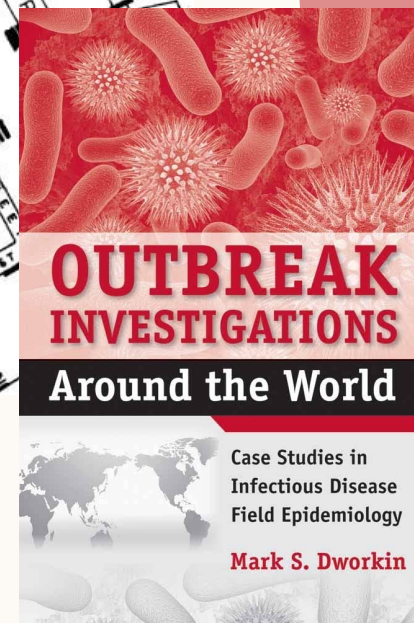
“Boots on the ground”



“Disease Detectives”



“Timely epidemiology for action”



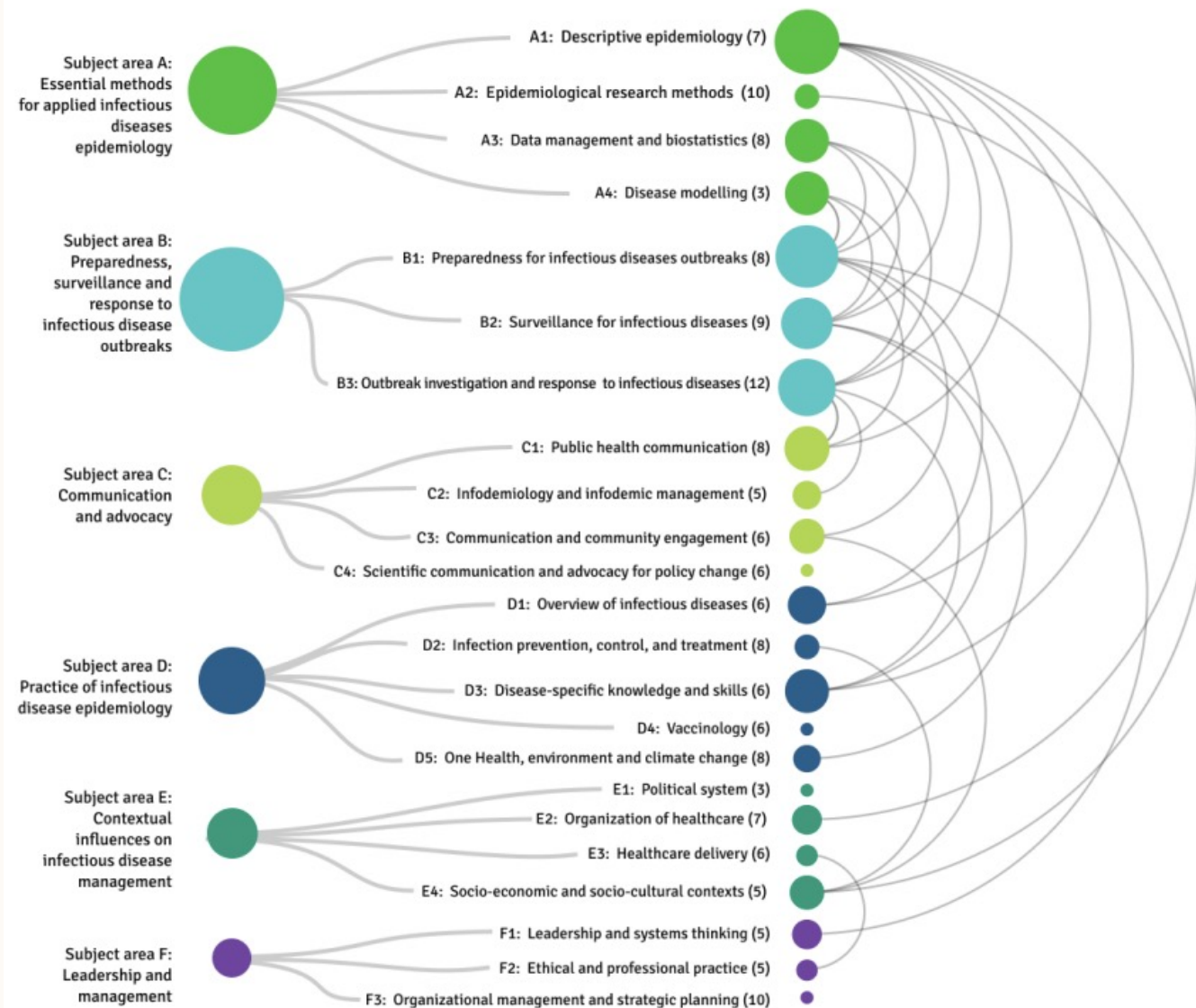
"The primary goal of the field epidemiologist is to provide information as quickly as possible for the processes of selecting and implementing interventions to lessen or prevent illness, injury, or death when such problems arise."



***“The applied epidemiologist is by definition an activist, moving rapidly from findings to policy, putting epidemiological knowledge to good use.”***



**Figure 1. Organisation of domains by subject area and cross reference**



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@ Burnet Institute +  
Victorian Dept. Of  
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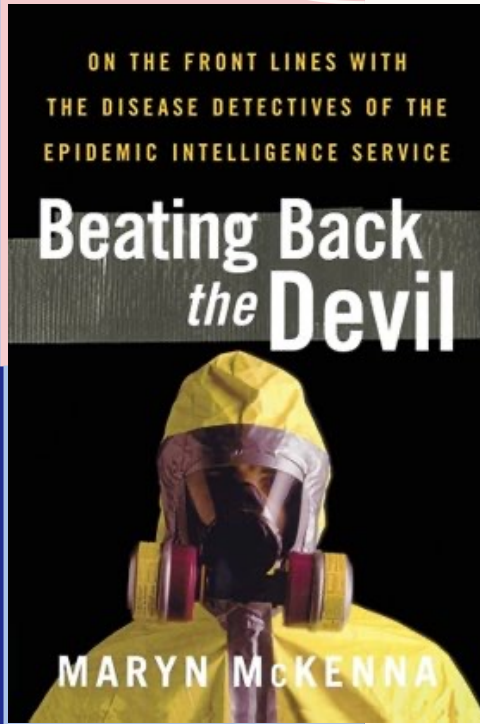
# FIELD EPIDEMIOLOGY TRAINING - MAE

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- Two-year advanced Field Epidemiology Training Program (FETP) with full-time hands-on (field placement) program aimed at developing high level expertise in applied epidemiology
- Australia's only accredited FETP (through TEPHINET) is based at ANU in the National Centre for Epidemiology & Population Health (NCEPH)
- Funded through tax-free scholarships = no HECS and paid as a scholar (~60k)
- 8-20 scholarships per year, across the country, competitive application process.
- Course Components:
  - Course blocks of intensive course work (10 weeks)
  - Demonstrate proficiency in 4 key competencies through field projects
    - Response to an acute public health threat (usually an outbreak investigation)
    - Analysis of a public health data set
    - Conduct an epidemiological research project
    - Evaluate or establish a public health surveillance system
- Additional activities such as teaching colleagues, writing a manuscript, presenting at a conference
- Submit a 'bound volume' (thesis) of the work undertaken for examination and viva
- Aims to train the public health leaders of the future



# EXAMPLES OF MAE PROJECTS



- *From CDI publication 2016: The Australian Master of Applied Epidemiology Program: Looking back, moving forward*
- A large multi-state outbreak of norovirus gastroenteritis associated with the consumption of orange juice served on domestic airlines
- Outbreak of melioidosis in Darwin
- Outbreak of respiratory illness in horses and 2 horse handlers in Queensland, subsequently identified as Hendra virus
- Outbreak of haemolytic uraemic syndrome due to consumption of mettwurst salami in South Australia
- The largest outbreak of Legionnaires' disease in Australia at the Melbourne Aquarium
- Evaluation of the National Notifiable Diseases Surveillance System (NNDSS)
- Projects in non-communicable diseases such as perinatal outcomes in Indigenous infants, investigating the link between maternal trauma and cerebral palsy
- A mortality survey in the Democratic Republic of Congo
- COVID!



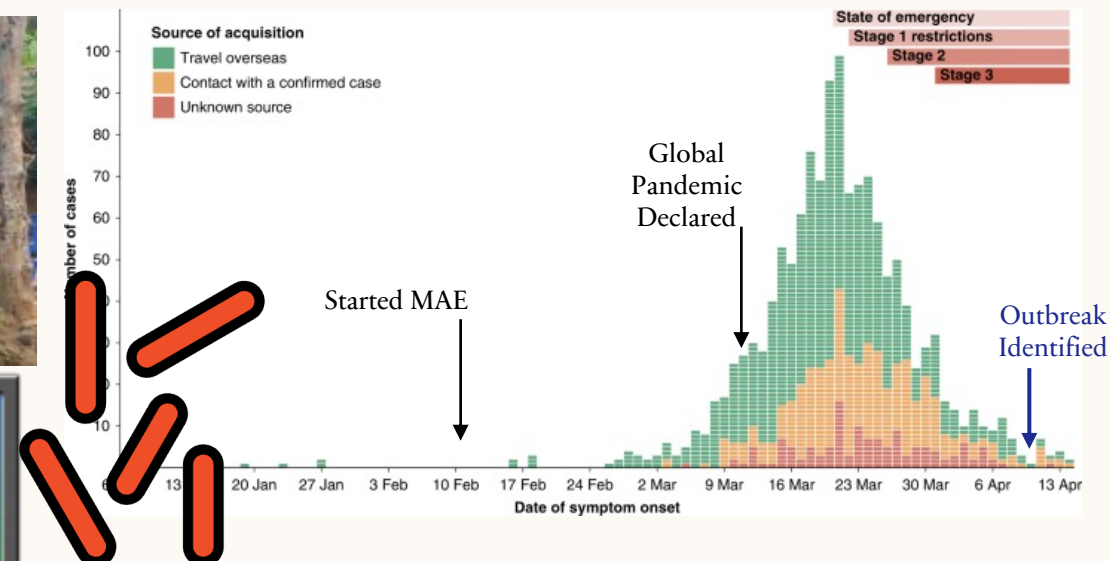
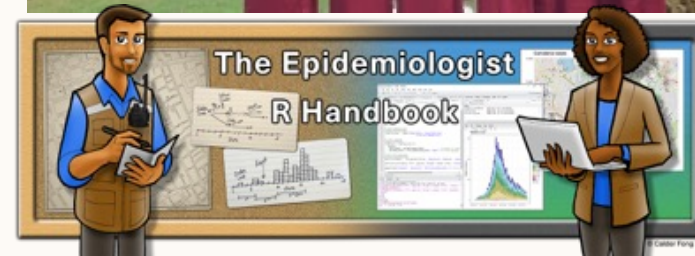
# CORE COMPETENCIES

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Department  
of Health

Outbreak Response	Investigation of a COVID-19 Outbreak in a Victorian Psychiatric Facility
Data Analyses	Investigation of a COVID-19 Outbreak in a Victorian Psychiatric Facility
Epidemiological Study	Tuberculosis Prevalence, Risks and Knowledge and Attitudes Amongst Healthcare Workers in Yogyakarta, Indonesia
Disease Surveillance	The forgotten pandemic: TB infection surveillance in LMICs



# MY JOURNEY

A Master of *Apartment* Epidemiology:  
Field Epidemiology During the  
COVID-19 Pandemic

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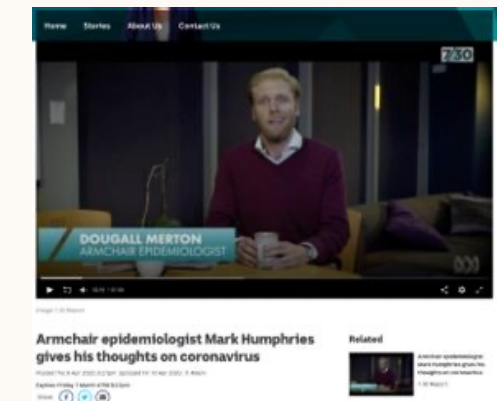
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Senior Epidemiologist  
@ North Eastern PHU

Epidemiologist  
@ Burnet

# REFLECTIONS AND ADVICE



## INTEREST

Follow your interests



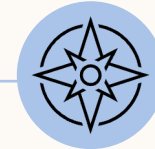
## LISTEN & CHAT

Talk to people  
& expand  
your network



## OPPORTUNITY

Try new things and  
seek  
opportunities (both  
university  
+ volunteering)



## RECALIBRATE

It is not a  
clear/straight journey



## COMMUNITY & SUPPORT

It takes a village –  
lean on your peers!  
Find mentors.





# THANK YOU

Steph Main

s.main@me.com

@StephanieEmain