

## **Research projects in epidemics, vaccines and infectious diseases epidemiology The Biosecurity Program, Kirby Institute, UNSW.**

The urgent nature of epidemic infectious diseases brings specific challenges in disease control. Epidemics can cause immediate health, social and economic impacts, and require complex cross-sectoral and global response as illustrated by the 2014 Ebola epidemic. Travel and globalisation mean that infections spread rapidly around the world, so that global solutions are required for epidemic control. Recent developments in artificially engineered pathogens (dual-use research of concern) pose an added complexity to global biosecurity. Global systems, thinking and capability in biosecurity has lagged behind quantum changes in science, leaving us more vulnerable than ever to infectious diseases epidemics.

There are many options for different types of 6, 12 or 18 credit point research projects with the Biosecurity Program at the Kirby Institute, which hosts [The NHMRC Centre for Research Excellence, Integrated Systems for Epidemic Response \(ISER\)](#). We conduct research in emerging infections and epidemic control. We have data analysis projects from clinical and observational epidemiologic studies (including an ongoing study on influenza in aged care), research projects around automated epidemic intelligence (suitable for those with some knowledge of programming and coding), and on vaccines, PPE, field epidemiology, bioterrorism and many other areas.

Field experience: students will be part of the BSP research team for the duration of the project. They will gain experience by:

- (i) reviewing the literature in their chosen topic
- (ii) analysing and interpreting the data for their study
- (iii) preparing a written report suitable for publication
- (iv) presenting results in a group setting.
- (v) Attending weekly research meetings

**Outcomes:** A report in a format suitable for peer-reviewed publication.

### **Timeline and proposed workload**

A 14 hour per week (2 days) workload is expected to synthesis all the relevant material, complete the analysis, and write the report and manuscript during the term.

The research environment includes a weekly research meeting with students and staff, the opportunity to publish your research and a dynamic, engaged team to work with. Contact Prof Raina MacIntyre [r.macintyre@unsw.edu.au](mailto:r.macintyre@unsw.edu.au) for inquiries.