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Mapping UNSW Impact
Global Development

Primary SDG	**16: PEACE, JUSTICE AND STRONG INSTITUTIONS**
Broad theme	Disease outbreaks
Research	Enhancing outbreak early warning surveillance in resource limited Pacific Island countries and territories
Impact region	Solomon Islands, The Pacific
Faculty	Medicine
School/Institute	Kirby Institute
Academic	Adam Craig
Project partners	Ministry of Health (Solomon Islands)
Related SDGs	3: Good Health and Well-being

Elevator pitch

Adam is working with Pacific Island governments to analyse the effectiveness of the region's outbreak early warning surveillance system with the aim of strengthening it to enable faster and more accurate detection of outbreaks, thereby containing disease and preventing people from becoming ill.

The Challenge: Is the disease surveillance system effective, and what improvements are needed?

With ever increasing international travel and trade, the proliferation of new outbreak-prone diseases, and entrenched poverty in many countries, no corner of the world is immune to the risk of an outbreak and the potential devastating impacts it could have.

The Pacific region covers one-third of the globe and is home to some of the poorest and most vulnerable populations on earth. Infectious diseases in the islands account for approximately 8% of all deaths and 10% of total morbidity suffered. A number of disease outbreaks have challenged the country recently, including a rotavirus (2012/13), measles (2014), Zika virus (2015), meningococcal (2015) and dengue fever (2013 and again in 2016/17). Despite this, the Pacific Islands are under-equipped to deal with the threats. In response, a basic surveillance system was set up with the assistance of multiple donors, including DFAT, in 2010. The system has not been critically evaluated or measured.

UNSW's solution: Examine the surveillance system in the Solomon Islands as a first step

Adam has evaluated how well the Pacific's outbreak early warning disease surveillance functions using the Solomon Islands as a case study. In partnership with key Ministry of Health and Medical Services staff in the Solomon Islands, he has also augmented technical aspects of the system to improve its function. This includes modelling different approaches to outbreak detection to determine which performs best. Adam has also been speaking with doctors and nurses to identify on-the-ground bottlenecks to data collection and reporting, and with emergency responders to facilitate the best use of health intelligence during events.

The Impact: Strengthen the surveillance system to detect outbreaks faster and more efficiently

Being able to detect outbreaks earlier increases the chance that health authorities will be able to contain disease outbreaks, thereby mitigating potential harm and providing a safer environment in the region. Better systems lessen the 'shock' to over-extended clinical services that can find themselves stretched during a public health emergency. Better detection also provides the government with time to prepare for and manage outbreaks more efficiently and effectively.

Under international health regulations, all countries are required to have systems in place to detect outbreaks. The results of Adam's work can be extended to outbreak detection in developing countries, both in the Pacific and elsewhere, to create stronger and safer surveillance systems.

Researcher

Adam Craig is a public health epidemiologist at the tail end of his PhD. He undertook his public health training in Australia before taking up a position with the World Health Organization in Manilla in 2009. Adam has worked to support surveillance system design in the Philippines, Mongolia, PNG, Solomon Islands, Lao, PDR, Cambodia, Kiribati, Fiji, Vanuatu and Niue. Adam has a passion for finding solutions to challenges that inhibit the delivery of public health programs to populations of developing nations.

Ben Falkenmire 13.06.18