Te Niwha

# Research Project Impact Case Study

Project title:

**Infectious disease surveillance in Aotearoa**

Short title

**Reviewing infectious disease surveillance in Aotearoa so that it better protects us from current and emerging threats**

Key researchers

**Prof Michael Baker, Assoc Prof Amanda Kvalsvig, Dr Celia Hume, Dr Nelly Renta, Dr Sarah Pirikahu**

**Department of Public Health, University of Otago, Wellington**

**Introduction**

Infectious disease (ID) surveillance provides essential information for public health action to prevent IDs and control outbreaks and pandemics. These systems tell us if a new ID has arrived, how common IDs are, and if they are increasing and need attention. Importantly, high performing surveillance systems describe the distribution of disease, risk factors, and determinants in ways that highlight opportunities to improve health and equity outcomes. They also tell us about the state of key prevention measures like vaccination rates and the safety of our drinking water.

This project will review Aotearoa New Zealand's current ID surveillance systems and assess their ability to support the prevention and control of important IDs in a timely and equitable manner. There will be a strong focus on diseases which can cause outbreaks and pandemics, and diseases that particularly affect Māori, Pacific Peoples, and those on low-income. The project will then carry out a 'gap analysis' by comparing our current surveillance capacity with what is needed to meet the needs of national agencies, local disease control practitioners and services, Māori decision makers, and communities.

The goal of this project is "To ensure New Zealand (NZ) has a world-class surveillance system to support a highly effective response to important infectious disease threats." This goal is well aligned to the Te Niwha Mission.

This project aims to advance infectious disease surveillance in NZ by documenting:

1. The ID surveillance activities currently active in NZ
2. The stakeholders of ID surveillance activities and their information needs
3. Recommendations for improving and evaluating performance of such activities that would ensure world-class capability and capacity to support improved prevention, control, and preparedness for current and future ID challenges

**Results**

We developed a novel framework for systematising the review of surveillance systems, including assessing their performance and whether the systems are meeting end user needs.

The research team ran a well-attended interactive workshop at the Te Niwha Summit on 12-14 November 2025 to improve understanding of surveillance principles by sector worker. This workshop also helped to validate the assessment framework. Initial findings will also be presented at the Australian Communicable Diseases and Immunisation Conference 2025 in June.

Our preliminary findings show close to 150 ID surveillance systems are currently operating in NZ. Over the last 15 years since a previous review in 2010 documented 91 systems, there has been a 40% rise in the overall number of ID surveillance systems, with increases seen across most categories.

In NZ, ID surveillance is carried out mostly by a range of government agencies with academic/other groups covering around 10% of ID surveillance systems. Some of these systems operate in silos with duplication in some areas and no clear central leadership.

The two intended papers from this study will present recommendations for achieving a more cohesive approach to ID surveillance that better meets the need of end users in NZ.

**Impact**

Outputs from this study will be a well-informed agenda for systems change to give NZ the surveillance systems it needs to protect its people and economy from current and emerging ID threats.

Ultimately, high performing ID surveillance systems will contribute to multiple health, social, equity, and economic benefits. Such systems improve the speed, effectiveness and efficiency of managing ID outbreaks and wider epidemics and pandemics. They also support the improved safety of drinking water, food production systems, indoor environments and health care settings with consequent health and economic benefits.