

TRACKING FLU OUTBREAKS TO IMPROVE PUBLIC HEALTH



How a University of Newcastle researcher and public health clinician created one of the largest crowd-sourced public health surveillance systems in the world – and is using it in the fight against COVID-19.

Every year in Australia, influenza leads to over 300,000 visits to our GPs, more than 13,000 hospitalisations and roughly 3,000 deaths.

Dr Craig Dalton – a public health clinician, researcher and lecturer with the University of Newcastle – developed the award-winning [FluTracking](#) program which collects data from members of the public during Australia's annual flu season (usually May to October).

This data helps health officials determine the onset of influenza and better understand the burden and severity of the disease.

FluTracking started with 400 participants in 2006 and now has more than 150,000 participants across Australia and New Zealand – making it one of the largest crowd-sourced public health surveillance systems in the world.

When coronavirus emerged in Australia, Dr Dalton's team deployed its FluTracking surveys four months early to monitor COVID-19.

The team saw a spike in participation as people rallied to help contain the virus. In fact, more than 23,000 new 'flutrackers' signed up in April 2020 alone, and that number is expected to grow as new clusters emerge.

However, since the onset of coronavirus in Australia, the FluTracking team found that just over 25 percent of people with mild illness do not present for COVID-19 testing, which highlights the challenge of controlling the virus.

How FluTracking works

FluTracking uses a weekly web-based survey to collect data about symptoms, time taken off work, vaccination status, laboratory results and more.



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The data helps health professionals detect seasonal influenza, pandemic influenza and other diseases so they can help monitor and protect the community from epidemics.

FluTracking also enables year-to-year comparisons of the timing, attack rates and severity of certain viruses in specific communities.

Data and reports are posted on the FluTracking website for participants and members of the general public.

Data is also shared with public health departments on a monthly basis, so emergency departments, public health units and other services can monitor flu in their local region.

FluTracking data is fed into the National Influenza Surveillance Scheme, which monitors the virus, its severity, transmission and virology across the country.

Involving end-users

Determined to make the web-based survey as simple and intuitive as possible, the FluTracking team made the strategic decision to collect minimal demographic information from participants.

It also designed the weekly survey to take no more than 10 seconds to complete.

The development team by-passed usernames and passwords for participants and instead designed the system to ensure each user had their own unique link which captured their weekly responses over time.

The team involves new and existing participants in design and user testing with every feature change it introduces.

It has also experimented with various recruitment strategies to grow participation, which is essential for crowd-sourced research and enables richer data.

FluTracking is a partnership between the University of Newcastle, Hunter New England Health Local Health District, the Hunter Medical Research Institute and the Federal Government.

In 2018, the FluTracking initiative won a coveted Research Australia award for Data Innovation.

Evidence of impact

- FluTracking started in the NSW Hunter region with 400 participants. Today, it collects data from more than 150,000 people across Australia and New Zealand.
- To help monitor the spread of COVID-19 in Australia, the country's Deputy Chief Health Officer used some of his media briefings to encourage Australian's to join FluTracking. ([*Canberra Times, April 2020*](#))
- In April 2020, FluTracking insights showed historically low reports of flu and cold-like symptoms in Australia, indicating the social distancing measures put in place were decreasing the transmission of different types of respiratory viruses in the community. ([*Newcastle Herald, April 2020*](#))
- In March 2020, health authorities in the United States (including the National Institute of Allergy and Infection Diseases director Anthony Fauci) issued guidelines for American homes, schools and workplaces based on a paper Dr Dalton had written with colleagues from Sydney University and Australian National University. ([*Science, March 2020*](#))
- Dr Dalton and his team are working to expand FluTracking to South East Asia. They're also working to adapt the tool to monitor and support other acute events, including thunderstorm asthma outbreaks and water contamination events.

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'The success of FluTracking in New Zealand would not have been possible without the support of the team in Australia. (Because of FluTracking, New Zealand is now part of the Global Flu View collaboration – a platform that connects data from three global community-level ILI surveillance.'

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