

Pandemic: The Deadly Flu of 1918

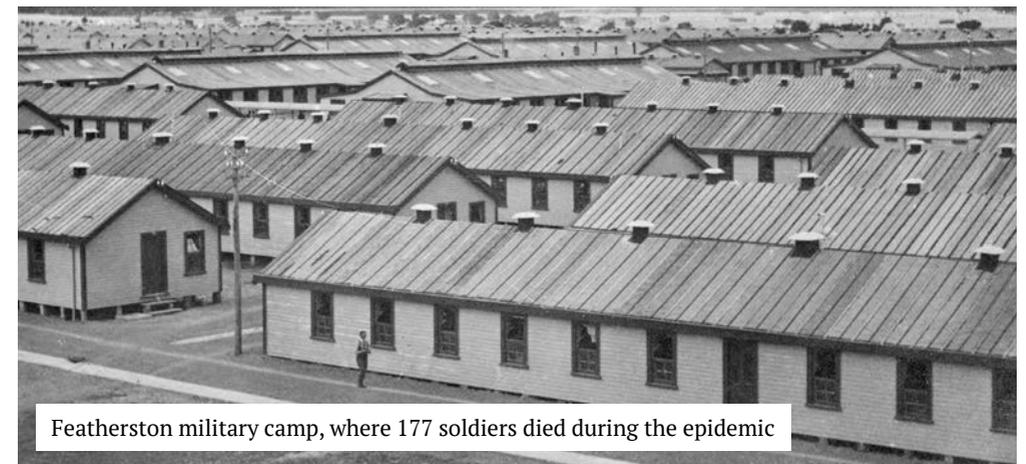
by Renata Hopkins

Most people who get the flu recover, but in 1918, a previously unknown strain of the influenza virus caused a global **pandemic**. Worldwide, at least 50 million people died. Even in relatively isolated New Zealand, the death toll was shocking. No event had ever killed so many of us in such a short time.

Deadly Speed

The 1918 flu travelled with deadly speed. This was made worse by something else that was happening at the same time: the First World War. Soldiers had been brought together from all over the world, and they often lived in crowded, unsanitary conditions. Many also had weak **immune systems**, compromised by the stress of war. These two things, along with the constant movement of troops and supplies, allowed the killer virus to thrive.

It's thought that the new strain of flu was first spread by soldiers travelling from North America to Europe in early 1918. By mid-year, the virus had reached the Southern Hemisphere. Most people affected by this first wave of the pandemic recovered. Then, in May or June, a second far deadlier form of the virus appeared, with a death rate that was much higher than was normal for influenza. Large numbers of soldiers fighting in the trenches in western Europe fell ill, and many developed serious complications that attacked their lungs. The flu reached the big cities of Europe and North America by August, and soon people were also dying in South Africa, Japan, China, Peru, Greece, and Italy.

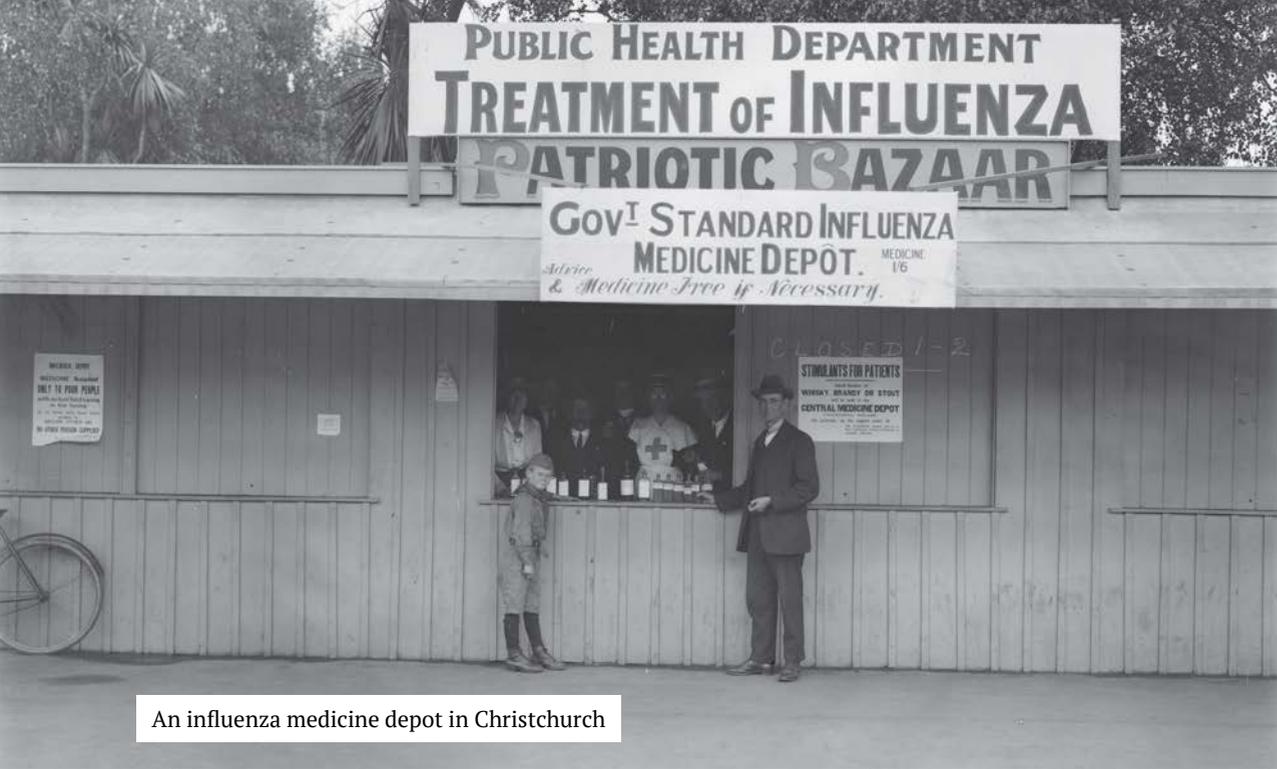


Featherston military camp, where 177 soldiers died during the epidemic

Influenza memorial at Te Kōura Marae, King Country, 1920

pandemic: an outbreak of disease across a country, a continent, or the world

immune system: the organs and processes in the human body that fight disease and infection



An influenza medicine depot in Christchurch

Everyone Was Sick

By December 1918, the influenza virus had spread throughout New Zealand. Many people blamed a ship that docked in Auckland in early October – the RMS *Niagara* – for bringing the virus into the country. A rumour spread that the ship hadn't been **quarantined** because the Prime Minister, William Massey, and his deputy, Sir Joseph Ward, were on-board. The two politicians denied this, saying they had been treated the same as other passengers – and there is some evidence the deadly flu was already in Auckland before the *Niagara* arrived.

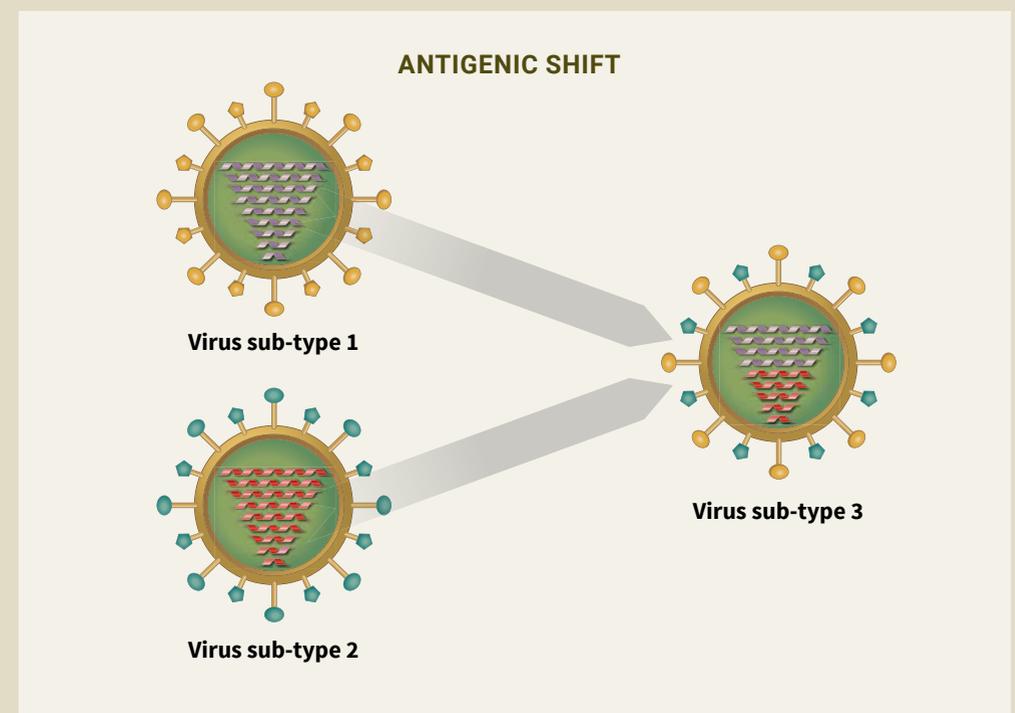
However it got here, once the disease had arrived, it left no part of the country unaffected. New Zealanders had been exposed to the flu before – the last serious outbreak was in 1907 – but the 1918 epidemic was something else. Māori suffered a particularly high death toll: five to seven times that of Pākehā. Because so many Māori died, some people blamed them for being the source of the outbreak, but this was wrong. The respected leader Whina Cooper remembers the tragedy experienced by her people at Panguru, in Hokianga: “Everyone was sick, no one to help, they were dying one after the other ...” Her father was one of the first to die and was taken straight to the urupā, with no time for a tangi. There were too many sick people needing care.

quarantine: when strict isolation is imposed to limit or contain the spread of disease

VIRAL MUTATIONS

Influenza is a virus, a very simple micro-organism that needs a **host** to survive. There are three types of influenza viruses that affect people: A, B, and C. The 1918 epidemic was caused by a type A virus. The type A virus is different from the others because it can infect species other than humans, including seals, whales, horses, pigs, and birds.

When a person is infected with an influenza virus, their immune system responds by creating **antibodies** so it can fight back. If that person catches the same (or a similar) flu at a later time, their immune system will recognise the virus and be better able to fight it. But there's a hitch: viruses are constantly changing. Usually these changes are small and happen gradually over time. The type A virus, however, is able to change suddenly and dramatically to form a new sub-type – a process known as antigenic shift. This kind of big change means a host has less chance of beating the virus. Dangerous new strains of type A viruses sometimes emerge when bird, pig, and human influenza sub-types combine. Some scientists believe this was the cause of the 1918 influenza pandemic.



host: a living organism that another organism lives in or on

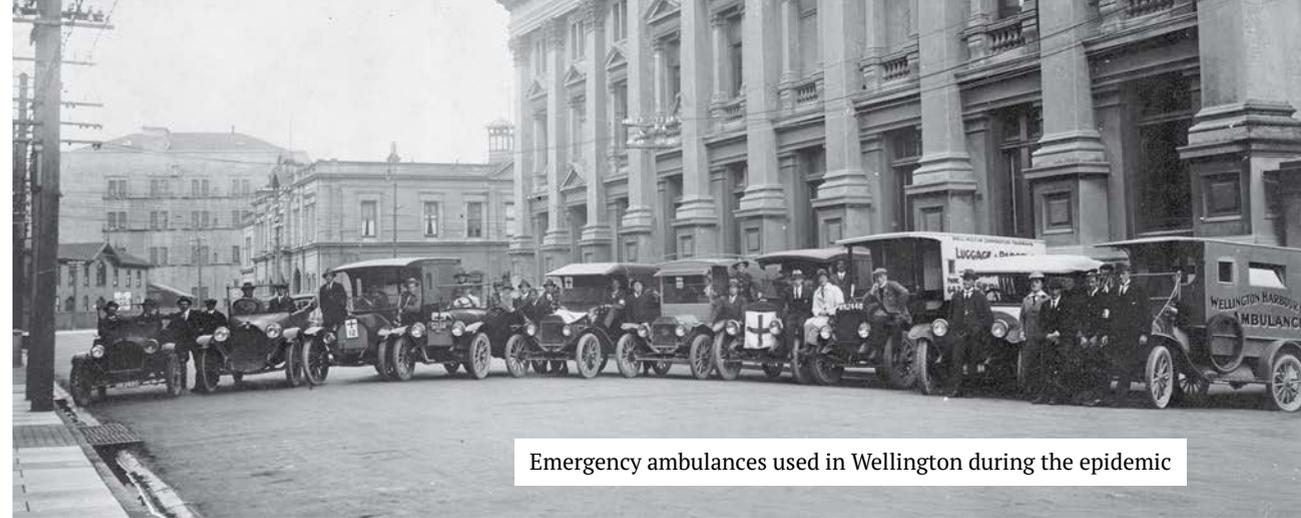
antibody: a protein the body makes to defend itself against foreign substances

Killer Strain

It became clear very quickly that the 1918 strain of the flu was not the common illness people were used to. Whereas most flu viruses hit young and older people hard, this one was claiming mostly twenty- to forty-year-olds. And some were dying within twenty-four hours, when the flu usually took a week or longer to cause death. The virus was also causing unusual – and severe – symptoms. People suffered terrible nosebleeds; others haemorrhaged (bled excessively) from their organs. In many cases, the flu quickly developed into pneumonia, a complication that caused the victim's lungs to fill with fluid, making breathing difficult.

Pneumonia also caused cyanosis, where the skin changes colour because of a lack of oxygen in the blood. Audrey Drummond, who was a child at the time, remembered helping to nurse residents in the Wellington guesthouse where she lived: "Some of our patients turned ... a smoky sort of black. Some of them stayed that way for up to three weeks ..."

To Audrey, the virus seemed more like the plague than the flu.



Emergency ambulances used in Wellington during the epidemic

Untrained Volunteers

The flu hit New Zealand at the very end of the war, when a third of the country's doctors and almost a quarter of its nurses were still serving overseas. Those medical staff who were in New Zealand were often among the first to become ill. So untrained volunteers of all ages took on the risky, exhausting work of caring for the sick. Other people drove their cars as makeshift ambulances or built coffins for the dead.

It wasn't uncommon for children to help during the outbreak. Soup kitchens were set up, and children, including boy scouts, helped prepare and deliver food. Lilla Leach was the daughter of a clergyman in Christchurch. She worked throughout the epidemic. "A soup kitchen was set up at the school, and we took it in turns to go over and peel vegetables for the soup." Lilla remembered mourners coming to their house. "One of us had to be at home almost constantly, with people wanting to arrange burial services."

New Plymouth Public Health Committee.

INFLUENZA

INSTRUCTIONS to Volunteer NURSES or Family ATTENDANTS.

Patient to be Isolated in Bright Well-ventilated Room.
Be sure Windows Open Fully.

No one except the Nurse or Attendant to Enter Room.

MILD CASES.

1. Keep chest covered with flannel, if patient has slight cough and pain in chest. **Don't over cover.**
2. Keep patient in bed for about a week, with open windows but no draughts.

Give "standard influenza medicine" if feverish, and follow directions on bottle.

SERIOUS CASES.

1. Prop patient up in bed, if breathing is bad.
2. Note color of patient's face; if any blueness, report at once.
3. Keep chest and back well covered with cotton wool or flannel, right up to the neck.
4. If pain in back or side, poultice with linseed or poppy.

EXTREME.

Haemorrhage (or bleeding from the mouth).

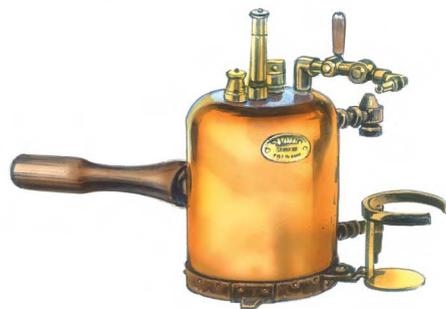
1. Send for Doctor at once.
2. Prop patient up high; then raise head of bed by means of blocks or two strong boxes.
3. Place a bolster under patient's knees, and tie each end of



Fighting Back

In 1918, there were no flu vaccines, and there was no medicine that could treat complications from the flu. Viruses weren't understood to cause disease at the time, so the cause of the flu was unknown. People were offered one formally approved treatment: breathing in zinc sulphate gas, which was thought to prevent the spread of the disease. Special "spray chambers" were set up for this purpose, often in public buildings, where people breathed in the gas through spray inhalers. We now know the treatment had no medical benefits – and it may have done more harm than good. The chambers brought people into close contact, putting them at greater risk of spreading the virus.

Aside from the spray chambers, most public places in New Zealand were closed. However, not all gatherings could be stopped. When the war ended, on 11 November 1918, officials tried to ban street parties, but after four long years of fighting, people were desperate to celebrate peace. In many places, the ban was ignored. These joyful occasions undoubtedly resulted in more deaths from the flu.



Zinc sulphate spray inhaler



People inside a spray chamber in Christchurch



People in Cathedral Square, Christchurch, celebrating the end of the war

I had a little bird. Its name was Enza.
I opened up the window and in-flu-enza.

Children's skipping song, inspired by the 1918 influenza pandemic

The Aftermath

By the end of December 1918, the pandemic was largely over. It had added heavily to the losses of a nation already devastated by war. In just a few months, our death toll was at least nine thousand – half as many as the estimated eighteen thousand New Zealanders killed during the entire war.

Since 1918, there have been three influenza pandemics: in 1957, 1968, and 2009. Another outbreak on the scale of the 1918 pandemic remains a definite possibility. Improved living standards and better hygiene will limit the spread of any virus, but other aspects of our modern lifestyle may contribute to the likelihood of a future pandemic. Industrial farming, where large numbers of animals live together in close contact, is thought to increase the risk of viral mutations transferring to humans. And international air travel spreads a disease much faster than the ships and trains of 1918. Scientists and public health researchers are unable to predict where or when another pandemic might take place, but most agree it's only a matter of time.

All first-person accounts are taken from *Black November: The 1918 Influenza Pandemic in New Zealand* by Geoffrey Rice (CUP, 2005).

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by Renata Hopkins

The Ministry of Education and Lift Education would like to thank Geoffrey Rice and Canterbury University Press for permission to quote from *Black November: The 1918 Influenza Pandemic in New Zealand* by Geoffrey Rice, Canterbury University Press, 2005. (This book is out of print but now available as an ebook. It has also been condensed and updated as *Black Flu 1918: The story of New Zealand's worst public health disaster.*)

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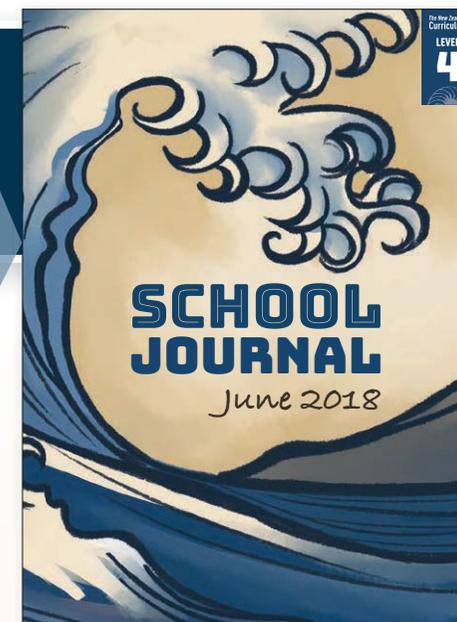
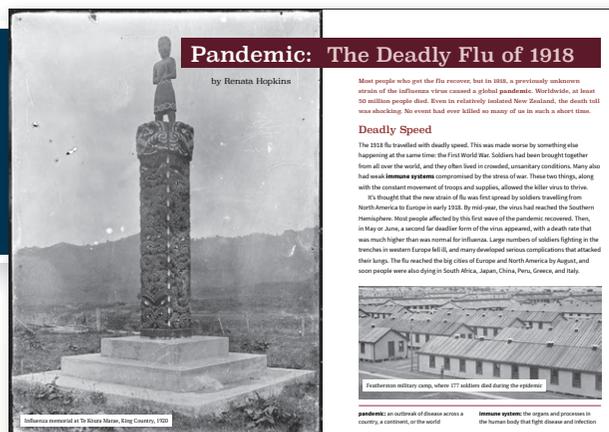
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Published 2018 by the Ministry of Education,
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www.education.govt.nz

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ISBN 978 1 77669 315 3 (online)

Publishing Services: Lift Education E Tū
Editor: Susan Paris
Designer: Jodi Wicksteed
Literacy Consultant: Melanie Winthrop
Consulting Editors: Hōne Apanui, Ross Calman, and Emeli Sione



SCHOOL JOURNAL LEVEL 4 JUNE 2018

Curriculum learning areas	English Social Sciences
Reading year level	Year 8
Keywords	1918, <i>Black November</i> , change, flu, health, influenza epidemic, New Zealand history, pandemics, public health, survival, the First World War, viral mutations, viruses