

**PUBLIC HEALTH SUMMER SCHOOL & IMAC  
INFLUENZA SYMPOSIUM 7-8 Feb 2018**

**New Zealand History:  
Impact and Lessons from the  
1918 Influenza Pandemic**

**Professor Geoffrey W. Rice  
University of Canterbury**

# **BLACK NOVEMBER**

**The 1918 influenza pandemic  
in New Zealand**



**Geoffrey W. Rice**

**First published 1988 as a textbook**

**First country-level study based on  
individual death certificates**

**Second edition 2005 : with 3 new  
chapters, photos and interviews**

**now available as an e-book  
through Canterbury University  
Press**



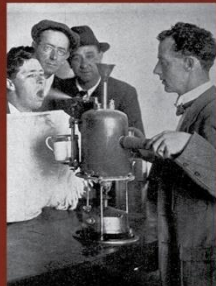


MANY NEW ZEALAND FAMILIES WERE AFFECTED by the 1918 influenza pandemic. In the space of about six weeks, over 6400 Pakeha died and an estimated 2500 Maori. That equals nearly half the total number of New Zealand soldiers killed in the First World War. Yet these were civilians, dying in the first month of peace.

This was New Zealand's worst-ever public health disaster. The whole country seemed to shut down for several weeks in November 1918. Because the victims' bodies turned black when they died, many believed it was the plague.

Could it happen again? The risk of another major influenza pandemic is even greater now, thanks to international jet travel. Global flu surveillance should give us better warning, and we now have anti-viral drugs and antibiotics to deal with the secondary pneumonia that was the real killer in 1918. But do we have the systems in place to deal with another massive health crisis?

This book shows how we coped back in 1918 – the response of public health officials, how the sick were nursed, how thousands of convalescents were fed and the lessons learned that may still be useful today. It is an inspiring and fascinating story that all New Zealanders need to know about.



DR GEOFFREY RICE was Professor of History at the University of Canterbury until his retirement in 2012. This book is a condensed and updated version of his 2005 book *Black November: The 1918 influenza pandemic in New Zealand*, which was shortlisted for the History category of the Montana NZ Book Awards in 2006. New illustrations have been added, many in colour, and there are new sections on memorials and recent influenza research.



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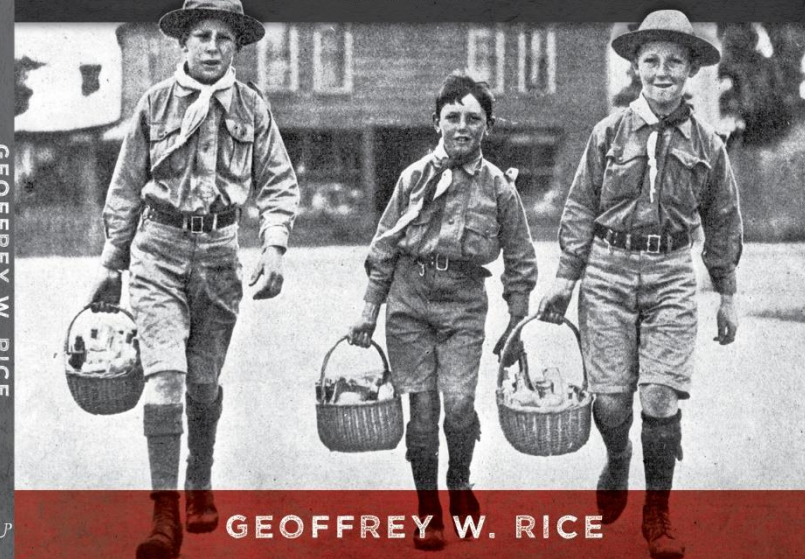
BLACK FLU 1918

GEOFFREY W. RICE

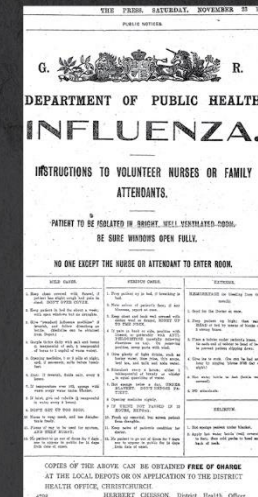
# BLACK FLU

## 1918

THE STORY OF NEW ZEALAND'S  
WORST PUBLIC HEALTH  
DISASTER



GEOFFREY W. RICE



Front cover: Boy Scouts distributing medicines in Christchurch during the 1918 influenza pandemic. At left, John Neville Westgarth; centre, William Patrick (Bill) Sweeney; the third scout's name is unknown. (*Weekly Press*)

Back cover: top, Auckland inhalation sprayer, November 1918. (Author's collection, gifted by Grace Heavey, Bethell's Beach, Auckland); lower, St John ambulances at right, with commercial vans pressed into service as emergency ambulances in Christchurch, November 1918. (*Weekly Press* photograph, Bishop collection, Canterbury Museum 1923.53.620)

Author photo: The author in Temuka Cemetery. (Dr Edwina Palmer)

Above: Official influenza notice from the Department of Public Health in the Christchurch *Press*, 23 November 1918.

2017 condensed and updated for popular readership

**IMPACT: new round figure for NZ deaths: 9,000**

**1919 official death toll : 6,601 (Makgill, p. 30) limited to cause of death as influenza and/or pneumonia.**

**Pakeha 5,471 Māori 1,130**

**Rice 1988: counted 6,413 Pakeha deaths on broader social definition of causes: incl. suicides, heart failure, death in childbirth, etc.**

**Military deaths overseas: Summers (2013) added another 258 ; Pakeha grand total thus 6,671**

**Maori deaths: more problematic**

**1919 official figure: 1,130 registered Māori deaths**

**(in fact 1,160 registered in 1918, with 30 deducted as 'normal' from Oct-Dec 1917)**

**Over 400 late registrations in 1919 Register, and some on Pakeha Register by mistake**

**Rice (1988) revised Māori registered total 1,679**





**Dr Maui Pomare**



**Unknown Maori burial**

**Incomplete Māori registration: suspiciously low figures for some regions**

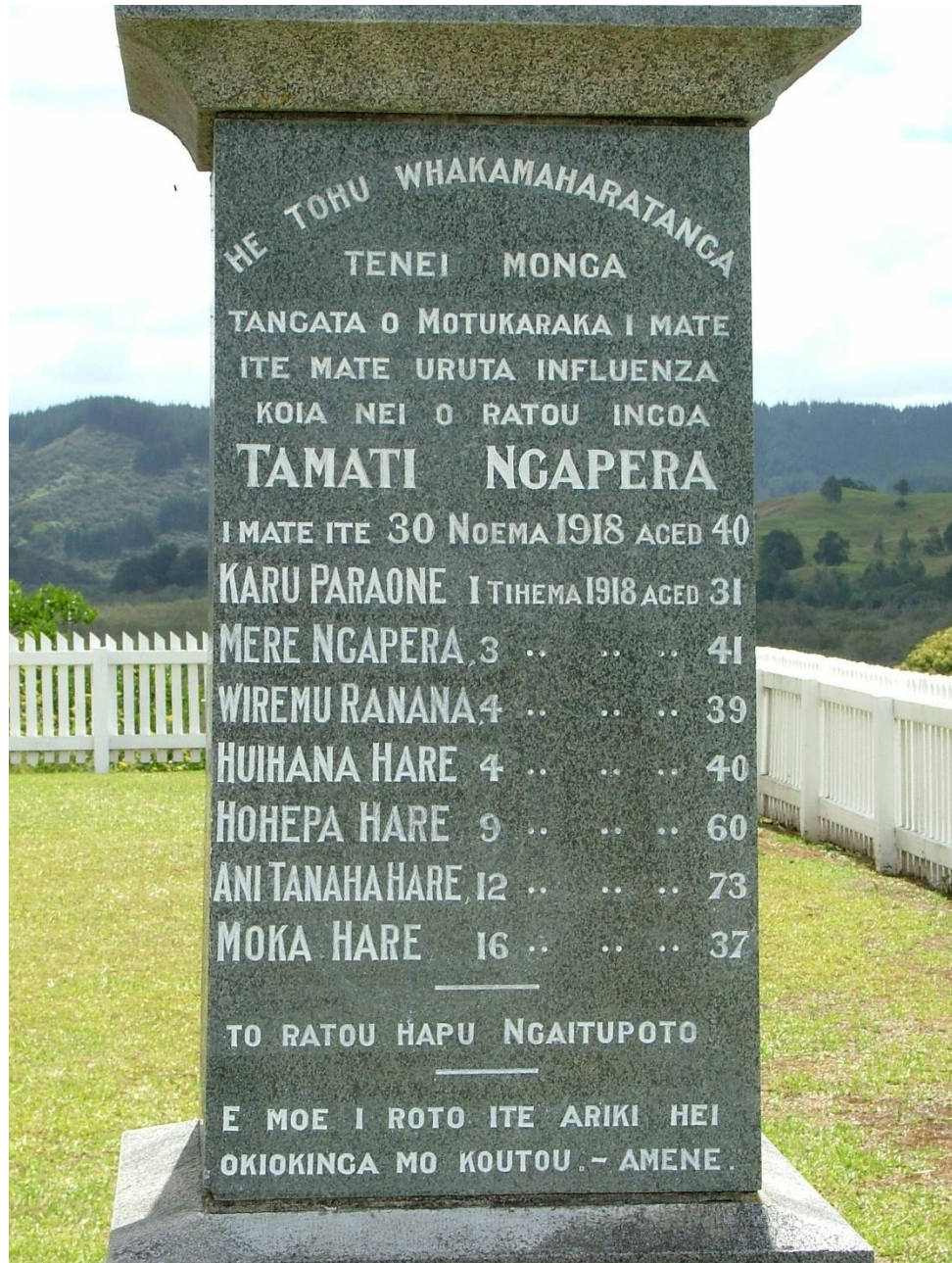
**Newspaper reports from relief parties add another 481 deaths: new total 2,160**

**Add to revised Pakeha total 6,671**

**= grand total NZ: 8,831      Rice (2017)**

**Still incomplete: Waikato Māori boycott of 1916 Census**





Nick Wilson et.al.,  
'Remembering the 1918  
influenza pandemic: national  
survey of memorials...',  
*NZ Medical Journal* (2017)

Motukaraka, Northland

8 names, only 4 deaths  
registered





Otiria marae,  
Northland

28 flu deaths, only 11  
registered

**Waikato has only 73 registered Māori flu deaths from 4,000; Ngaruawahia, home of the King Movement, registered zero flu deaths, yet Te Puea helped bury victims here.**

**Over 50 flu burials on a river island: zero registrations.**

**Waikato and Waitomo probably had 150 to 200 flu deaths.**

**Hence new estimate of c. 9,000 total NZ flu deaths**

**9,000 NZ deaths = 7.8 per 1000: similar to France or Germany: but this masks ethnic differential**

**Māori death rate probably about 50 per 1000**

**Fiji: 52 to 55 per 1000**

**Tonga: estimates range between 60 to 80 per 1000**

**Tahiti: 160 per 1000**

**Western Samoa: 190 to 220 per 1000 followed by famine in 1919: John Ryan McLane PhD (2012) estimates loss of a quarter to a third of population.**



# NEW ZEALAND DISASTERS

Passchendaele 12 October 1917: 843 killed in one day

First World War total NZ dead: c. 18,000

1918 Influenza Pandemic: c. 9,000

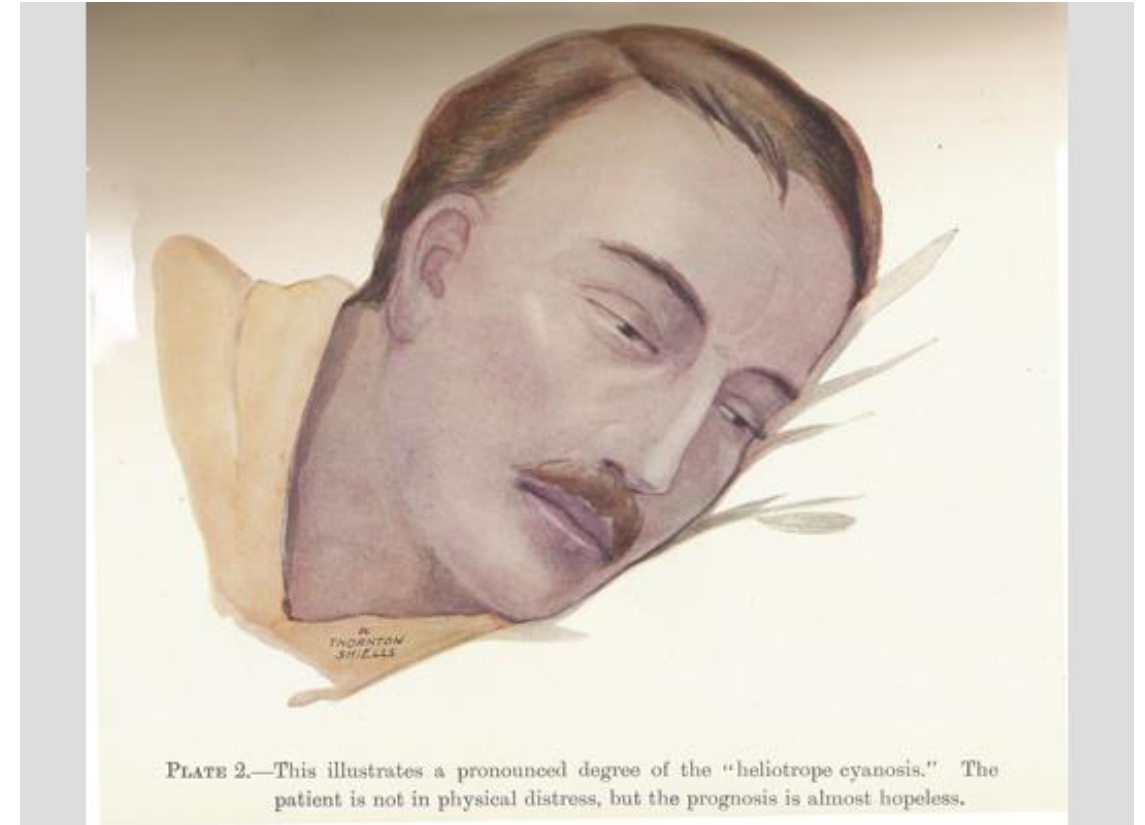
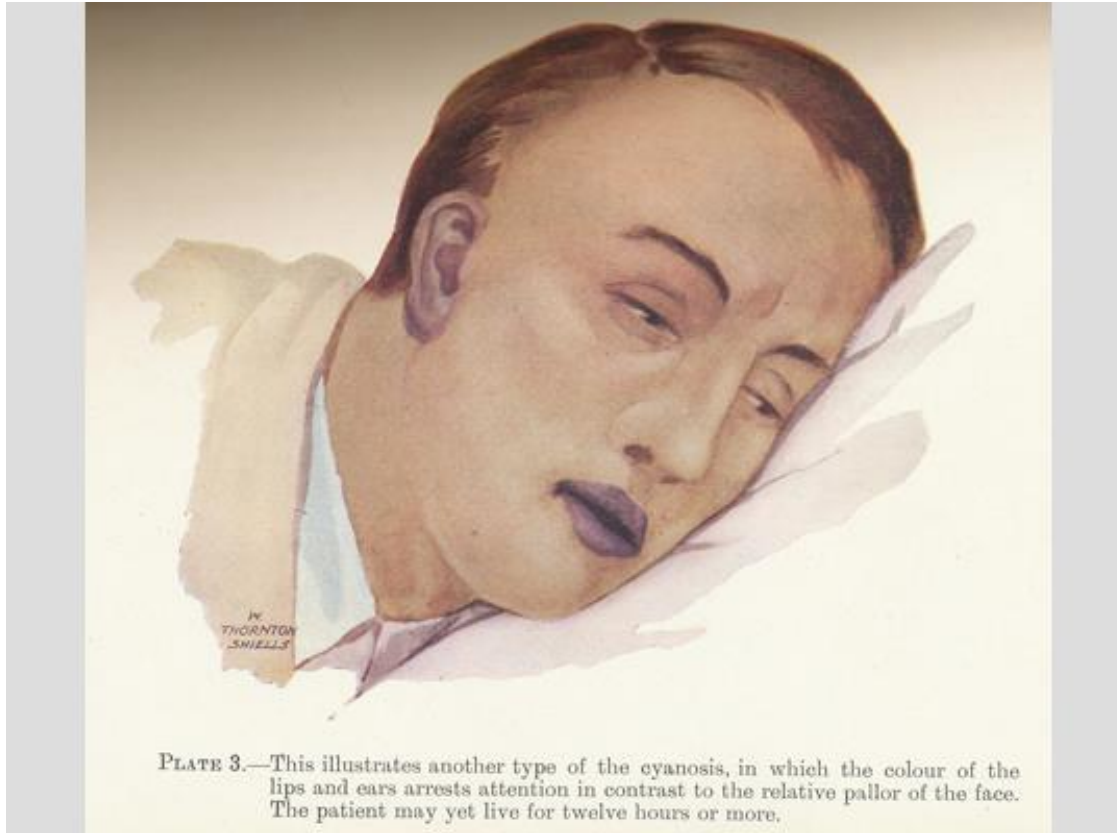
1874 *Cospatrick* disaster: 470 died, 4 survived

1931 Hawkes Bay earthquake: 256

1979 Air NZ crash on Mt Erebus: 257

2011 Christchurch earthquake: 185

Why does a pandemic not count as a natural disaster?



**Bodies turned black in 1918: extreme cyanosis**

**Why did Wellington suffer nearly double Christchurch's death rate?**

**Wellington: 773 flu dead from 95,000: rate 8 per 1000**

**Christchurch: 458 from 93,000: death rate 4.9 per 1000**

**Carnival Week and A&P Show enhanced spread of infection in Canterbury**

**Armistice celebrations in both cities helped spread**

**Rail and ferry services maintained: no quarantine of South Island**





Inhalation sprayer



St Patrick's College, Wellington, Nov 1918



**Health Department's complacency, slow to react**

**Minister of Health George Russell's circular telegram on 12 November a week too late**

**Wellington's lack of key officials and doctors: many got flu**

**Temporary flu hospitals in schools and church halls:  
chronic shortage of nurses and volunteers**

**City remained 'open': shops and businesses struggled to  
keep going with depleted staff and few customers**

**Christchurch organised early and well: Dr Chesson DOH**

**Dr Fox decided to centralise serious cases at Hospital:  
Royal Hotel used as overflow ward**

**No suburban temporary hospitals, as in Auckland and  
Wellington**

**St John Ambulance est.1885: hundreds of trained volunteers  
Extra home nursing classes attended by 600  
No shortage of volunteers, cars, vans, motorcycles**





**Influenza volunteers in  
Riccarton, Christchurch**



**Cathedral Square, Christchurch,  
Nurse Maude's central influenza depot**

## Pneumonia treatments

Older method: cotton-wool padded pneumonia jackets

Christchurch Hospital: sponging, fluid replacement, aspirin

238 vaccinations for pneumonia: 62 per cent success rate

722 flu admissions, 232 died (32 per cent)

Half of Christchurch flu victims died at home: only a quarter in Wellington

Three quarters of Wellington victims died in temporary hospitals: understaffed and overwhelmed?

‘Doctors did not seem to know what to do for influenza or pneumonia’. Took temperatures, prescribed cough mixtures and alcoholic stimulants

Nurse Ruth Gard: grew up in outback Australia; wore a thick muslin mask, used brandy and water, castor oil and Epsom salts, & anti-phlogistine poultices to reduce fever. Lost only two of her patients. Several saved by copious nose-bleeds. Highly critical of doctors and volunteers.



**Slum housing in Auckland and Wellington: relief workers appalled by dirt and poverty in central city rentals**

**Cold, damp, rotting wooden houses**

**Wartime overcrowding: two or three families to a cottage:  
high proportion of young single men in Auck & Wgtn deaths**

**Christchurch had no slums as such: flat site, more spacious suburbs, larger sections: lower population densities**

**cf. Sven-Erik Mamelund's socio-economic studies in Norway**



**Auckland housing 1910**



**Newtown, Wellington, 1910**

**South Auckland in 2018: overcrowding, poor housing, child poverty**

**Risk factors for elderly, Māori, Polynesians, new migrants**

**Pre-existing conditions increase risk: asthma, emphysema, chronic pulmonary obstruction, bronchiectasis, obesity**

**NZ society was different in 1918: stronger social bonds, wartime organisations**

**Christian values, wartime propaganda: ‘Do your duty!’**

**Volunteers willing to risk their own lives**







cf. Tokugawa Japan: rigid feudal society: neighbours held accountable for each other's crimes, tax defaults

We can't know everyone in our street: but either side and opposite should look out for each other, like overlapping roof tiles

Revive Neighbourhood Watch Groups?

Earthquakes showed value of advance preparedness

Hospitals & doctors likely to be overwhelmed, as in 1918

Electronic communications: easier to give advice about home nursing, where to get help, etc.

Demonstrate nursing of pneumonia patients on TV?

Also risk of misinformation and 'fake news' via Facebook and Twitter

Antibiotics and anti-viral drugs: but how distributed, and who to administer them?

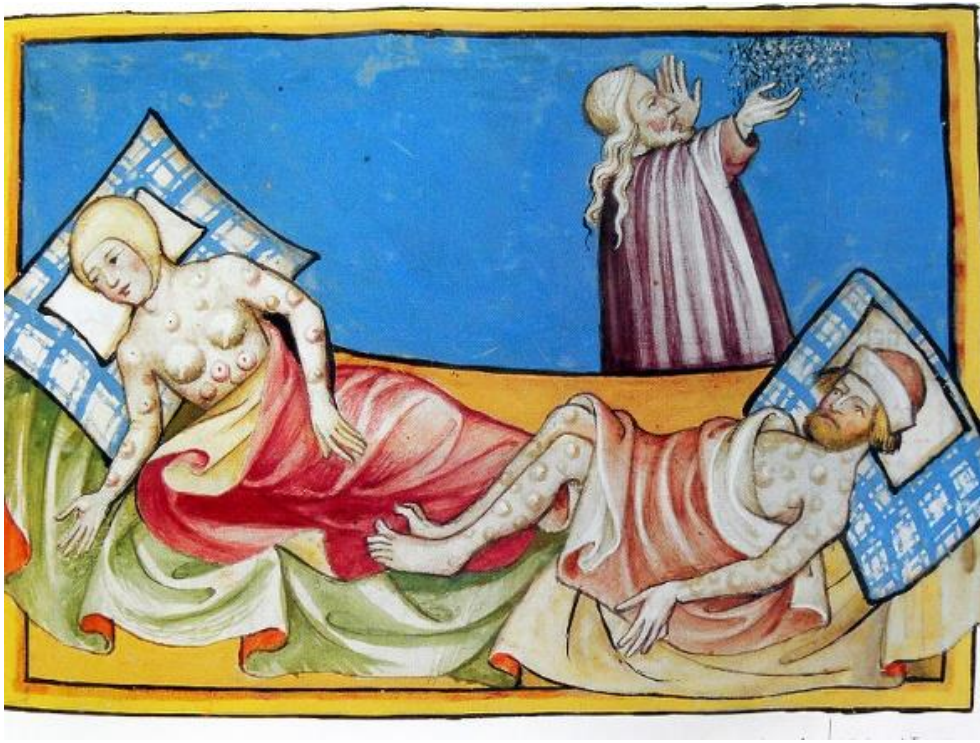
In 1918 half of all doctors and nurses came down with flu

Unexpected problem: feeding the feeble convalescents

Dennis Shanks (2015) doubts that the unusual circumstances of 1918 will ever be repeated: ‘perfect storm’ of a major pandemic during a major world war.

Mass jet travel makes spread of new virus easier, but has also given millions ‘more diversified immune repertoires against influenza and bacterial respiratory pathogens’.

Low mortality in 2009 flu pandemic: most victims had pre-existing medical conditions



But remember the Black Death: killed **HALF** the population of England in 1348-52, and a **THIRD** of Europe.

Bubonic plague? Pneumonic plague? Haemorrhagic fever?

We still don't know for sure.      Expect the unexpected.