

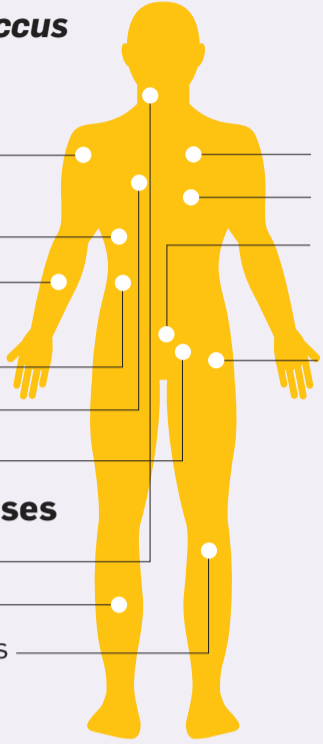
Invasive Group A Streptococcal Infection in New Zealand, 2016

Group A Streptococcus can cause: Invasive diseases

- necrotising fasciitis
- streptococcal toxic shock syndrome
- cellulitis
- bacteraemia (bacterial infection in blood)
- pneumonia
- puerperal sepsis

Non-invasive diseases

- pharyngitis
- impetigo
- superficial skin infections

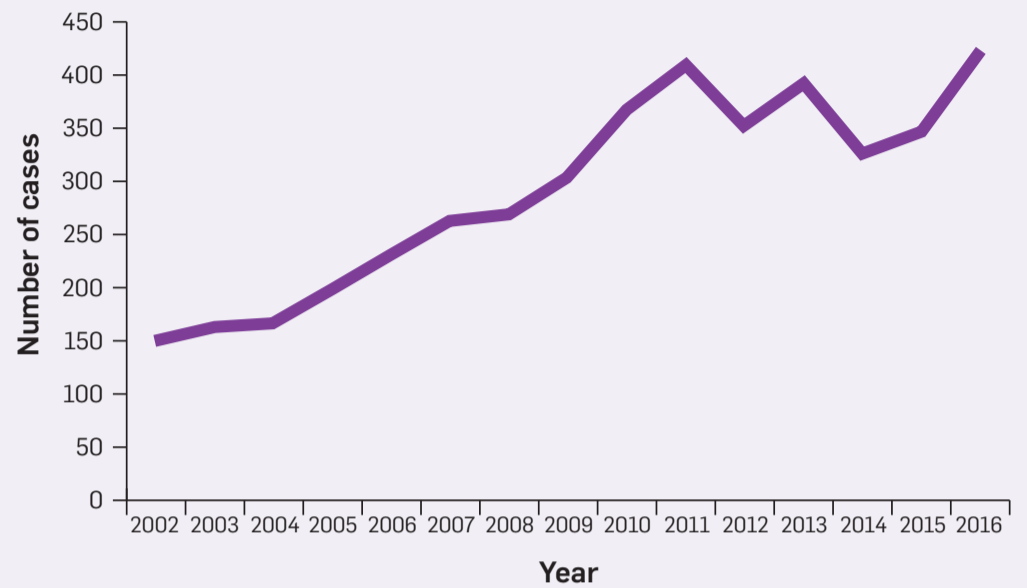


Group A Streptococcus can also cause:

- acute rheumatic fever
- rheumatic heart disease
- post streptococcal glomerulonephritis (kidney disease)
- scarlet fever

Invasive group A streptococcal infection is **not a notifiable condition** in New Zealand therefore **surveillance is laboratory based** where individual laboratories send isolates from invasive disease to ESR for further typing

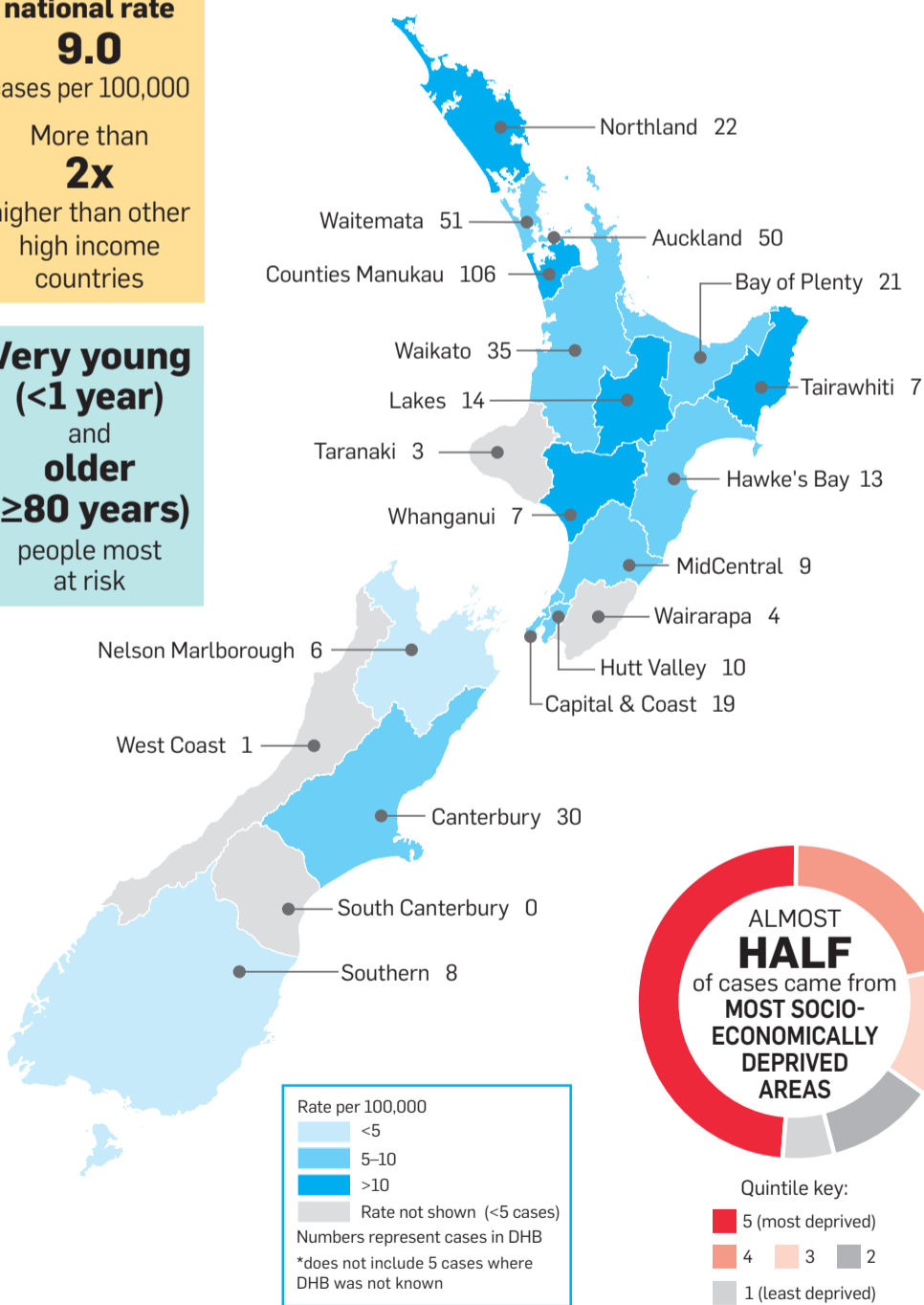
Invasive group A streptococcal infections by year, 2002–2016



Cases and rates by district health board 2016 (421 cases*)

national rate 9.0
cases per 100,000
More than **2x** higher than other high income countries

Very young (<1 year) and older (≥80 years) people most at risk



PERCENTAGE OF invasive group A streptococcal cases BY ETHNICITY



PERCENTAGE OF New Zealand population BY ETHNICITY



PACIFIC PEOPLES have 17x higher risk

than European/Other compared to 8x in 2014

10% (42 deaths) 30-day case mortality rate

Rate increased with age

1 in 4 ≥80 years
1 in 2 ≥90 years

64 years median age at death

emm types circulating each year vary:

most common in 2016 **emm89, 26 and 101**

emm26 emerged with only 1 case (in 2015) detected in New Zealand

Cases* by emm type, 2014–2016

*emm types with <5 cases in 2016 not shown

emm type	2014	2015	2016
89	1	1	1
26	1	1	1
101	1	1	1
82	1	1	1
12	1	1	1
1	1	1	1
41	1	1	1
59	1	1	1
75	1	1	1
4	1	1	1
91	1	1	1
92	1	1	1
81	1	1	1
28	1	1	1
49	1	1	1
58	1	1	1
44	1	1	1
103	1	1	1
104	1	1	1
11	1	1	1
53	1	1	1
71	1	1	1
15	1	1	1
42	1	1	1
65	1	1	1
70	1	1	1
76	1	1	1
111	1	1	1

Group A Streptococcus strains are categorised by M protein gene (emm) typing.

Key messages:

NZ HAS HIGH RATES COMPARED to other countries and a **DIFFERENT SEASONAL PATTERN**

GROUPS MOST AT RISK
Pacific peoples, Māori, very young, elderly and more socio-economically deprived

The **group A streptococcal vaccine** under development could have prevented up to **48% of cases and 52% of deaths in 2016**

Surveillance is important to inform the development of a vaccine

