Invasive Group A Streptococcal Infection in New Zealand, 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

<table>
<thead>
<tr>
<th>Region</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northland</td>
<td>22</td>
</tr>
<tr>
<td>Waitemata</td>
<td>51</td>
</tr>
<tr>
<td>Counties Manukau</td>
<td>106</td>
</tr>
<tr>
<td>Auckland</td>
<td>50</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>21</td>
</tr>
<tr>
<td>Hawke’s Bay</td>
<td>13</td>
</tr>
<tr>
<td>MidCentral</td>
<td>9</td>
</tr>
<tr>
<td>Wairarapa</td>
<td>4</td>
</tr>
<tr>
<td>Hutt Valley</td>
<td>10</td>
</tr>
<tr>
<td>Capital &amp; Coast</td>
<td>19</td>
</tr>
<tr>
<td>Nelson Marlborough</td>
<td>6</td>
</tr>
<tr>
<td>West Coast</td>
<td>1</td>
</tr>
<tr>
<td>Canterbury</td>
<td>30</td>
</tr>
<tr>
<td>South Canterbury</td>
<td>0</td>
</tr>
<tr>
<td>Southern</td>
<td>8</td>
</tr>
</tbody>
</table>

**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

Invasive group A streptococcal infections by year, 2002–2016

- **Invasive Group A Streptococcus can cause:**
  - Invasive diseases
    - Necrotising fasciitis
    - Streptococcal toxic shock syndrome
    - Cellulitis
    - Bacteremia (bacterial infection in blood)
    - Pneumonia
    - Puerperal sepsis
    - Scarlet fever
  - Non-invasive diseases
    - Pharyngitis
    - Impetigo
    - Superficial skin infections
- **Invasive Group A Streptococcus can also cause:**
  - Acute rheumatic fever
  - Rheumatic heart disease
  - Post streptococcal glomerulonephritis (kidney disease)
  - Glomerulonephritis

**Percentages of invasive group A streptococcal cases by ethnicity**

- Māori
- Pacific peoples
- Asian
- European or other

**PACIFIC PEOPLES have 17x higher risk than European/Other compared to 8x in 2014**

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

- Rate increased with age
  - 1 in 4 ≥80 years
  - 1 in 2 ≥80 years
  - 64 years median age at death

**emm types circulating each year vary:**

- Most common in 2016: emm89, 28 and 101
- emm26 emerged with only 1 case (in 2013) detected in New Zealand

**Number of cases**

- Rate per 100,000:
  - ≤5
  - 6–10
  - 11–19
  - ≥20

**Qualitative:**

- Quintile key:
  - 5 (most deprived)
  - 4
  - 3
  - 2
  - 1 (least deprived)

**Almost half of cases came from most socio-economically deprived areas**

**Other surveillance reports are available at www.surv.esr.cri.nz**