

Distribution of Streptococcal Pharyngitis and Acute Rheumatic Fever, Auckland, New Zealand, 2010–2016

Appendix

Appendix Table 1. Throat swabs and GAS detection by year and source, Auckland, total population, 2010–2016

| Source | Year | Denominator population | Swabs collected | | | | Prevalence of GAS positive swabs (%) |
|----------------|------------------------|------------------------|--------------------|------------------------------------|---------------------------|---|--------------------------------------|
| | | | No. swabs per year | Swab rate (per 1,000 person-years) | No. GAS+ve swabs per year | GAS+ve swab rate (per 1,000 person-years) | |
| PHC and School | 2010 | 1314698.6 | 38145 | 29.0 | 5842 | 4.4 | 15.3 |
| | 2011 | 1329943.7 | 51614 | 38.8 | 7969 | 6.0 | 15.4 |
| | 2012 | 1345188.9 | 61256 | 45.5 | 8580 | 6.4 | 14.0 |
| | 2013 | 1360434.0 | 167776 | 123.3 | 24009 | 17.6 | 14.3 |
| | 2014 | 1375679.1 | 304147 | 221.1 | 32521 | 23.6 | 10.7 |
| | 2015 | 1390924.3 | 324863 | 233.6 | 37853 | 27.2 | 11.7 |
| | 2016 | 1406143.7 | 309257 | 219.9 | 46760 | 33.3 | 15.1 |
| | 2010–2016* | 1360434.0 | 179579.7 | 132.0 | 23362.0 | 17.2 | 13.0 |
| | 2010–2012 ¹ | 1329943.7 | 50338.3 | 37.8 | 7463.7 | 5.6 | 14.8 |
| | 2014–2016* | 1390924.3 | 312755.7 | 224.9 | 39044.7 | 28.1 | 12.5 |
| PHC | 2010 | 1314698.6 | 38145 | 29.0 | 5842 | 4.4 | 15.3 |
| | 2011 | 1329943.7 | 49993 | 37.6 | 7814 | 5.9 | 15.6 |
| | 2012 | 1345188.9 | 54220 | 40.3 | 7920 | 5.9 | 14.6 |
| | 2013 | 1360434.0 | 82266 | 60.5 | 12565 | 9.2 | 15.3 |
| | 2014 | 1375679.1 | 124248 | 90.3 | 16227 | 11.8 | 13.1 |
| | 2015 | 1390924.3 | 159242 | 114.5 | 22179 | 15.9 | 13.9 |
| | 2016 | 1406143.7 | 155903 | 110.9 | 27158 | 19.3 | 17.4 |
| | 2010–2016* | 1360434.0 | 94859.6 | 69.7 | 14243.6 | 10.5 | 15.0 |
| | 2010–2012* | 1329943.7 | 47452.7 | 35.7 | 7192.0 | 5.4 | 15.2 |
| | 2014–2016* | 1390924.3 | 146464.3 | 105.3 | 21854.7 | 15.7 | 14.9 |
| School | 2010 | 1314698.6 | 0 | 0.0 | - | - | - |
| | 2011 | 1329943.7 | 1621 | 1.2 | 155 | 0.1 | 9.6 |
| | 2012 | 1345188.9 | 7036 | 5.2 | 660 | 0.5 | 9.4 |
| | 2013 | 1360434.0 | 85510 | 62.9 | 11444 | 8.4 | 13.4 |
| | 2014 | 1375679.1 | 179899 | 130.8 | 16294 | 11.8 | 9.1 |
| | 2015 | 1390924.3 | 165621 | 119.1 | 15674 | 11.3 | 9.5 |
| | 2016 | 1406143.7 | 153354 | 109.1 | 19602 | 13.9 | 12.8 |
| | 2010–2016* | 1360434.0 | 84720.1 | 62.3 | 10638.2 | 7.8 | 12.6 |
| | 2010–2012* | 1329943.7 | 2885.7 | 2.2 | 217.6 | 0.2 | 7.5 |
| | 2014–2016* | 1390924.3 | 166291.3 | 119.6 | 17190.0 | 12.4 | 10.3 |

*Mean annual average.

Appendix Table 2. Mean annual PHC throat swabs and GAS detection by age group, Auckland, 2014-2016

| Age group | Swabs collected | | | | | Individuals swabbed (≥ 1 swabs/year) | | | | |
|-----------|-----------------|--------------------------|---------------|------------------------------|-----------------------------|--|--|--------------------------|---|--|
| | Swabs (N) | Swabs/1,000 person-years | GAS swabs (N) | GAS swabs/1,000 person-years | Proportion of GAS swabs (%) | Incident swabs (N) | Individuals swabbed/1,000 person-years | Individuals with GAS (N) | Individuals with GAS/1,000 person-years | Proportion of individuals with GAS (%) |
| <5 | 22849.3 | 229.1 | 2683.0 | 26.9 | 11.7 | 14477.3 | 145.2 | 2276.7 | 22.8 | 15.7 |
| 5-9 | 33468.7 | 356.6 | 7782.0 | 82.9 | 23.3 | 18559.0 | 197.7 | 6102.0 | 65.0 | 32.9 |
| 10-14 | 24326.4 | 266.5 | 4040.7 | 44.3 | 16.6 | 14517.0 | 159.1 | 3351.7 | 63.7 | 23.1 |
| 15-19 | 16996.4 | 173.0 | 1704.0 | 17.3 | 10.0 | 11342.0 | 115.5 | 1520.7 | 15.5 | 13.4 |
| 20-29 | 17836.7 | 82.9 | 2121.0 | 9.9 | 11.9 | 13451.0 | 62.5 | 1910.3 | 8.9 | 14.2 |
| 30-39 | 13486.7 | 74.7 | 2002.7 | 11.1 | 14.9 | 10431.3 | 57.8 | 1784.0 | 9.9 | 17.1 |
| 40-49 | 8814.7 | 43.7 | 1085.7 | 5.4 | 12.3 | 7198.7 | 35.7 | 986.3 | 4.9 | 13.7 |
| 50-59 | 4763.0 | 27.4 | 295.0 | 1.7 | 6.2 | 4085.7 | 23.5 | 281.3 | 1.6 | 6.9 |
| 60-69 | 2572.7 | 20.4 | 117.3 | 0.9 | 4.6 | 2246.3 | 17.8 | 112.7 | 0.9 | 5.0 |
| >69 | 1349.7 | 12.2 | 23.3 | 0.2 | 1.7 | 1204.7 | 10.9 | 22.3 | 0.2 | 1.9 |
| Total | 146464.3 | 105.3 | 21854.7 | 15.7 | 14.9 | 97513.0 | 70.1 | 18348.0 | 13.2 | 18.8 |

Appendix Table 3. Mean annual PHC throat swabs and GAS detection, Auckland, 5-14 year old children, 2014-2016

| Characteristic | Swabs collected | | | | | Children swabbed (≥1 swabs/year) | | | | |
|-----------------------|-----------------|------------------------|---------------|--------------------------------|-----------------------------|----------------------------------|-----------------------------------|-----------------------|------------------------------------|-------------------------------------|
| | Swabs (N) | Swabs/1,000 population | GAS swabs (N) | GAS swabs per 1,000 population | Proportion of GAS swabs (%) | Incident swabs (N) | Children swabbed/1,000 population | Children with GAS (N) | Children with GAS/1,000 population | Proportion of children with GAS (%) |
| Gender | | | | | | | | | | |
| Male | 27737.3 | 287.7 | 6101.3 | 63.3 | 22.0 | 15500.0 | 160.8 | 4816.3 | 50.0 | 31.1 |
| Female | 30056.7 | 328.2 | 5720.7 | 62.5 | 19.0 | 16048.7 | 175.2 | 4484.0 | 49.0 | 27.9 |
| Unknown | 1.3 | 0.0 | 0.7 | - | 53.8 | 1.3 | 0.0 | 0.7 | 0.0 | 53.8 |
| Prioritised ethnicity | | | | | | | | | | |
| Māori | 12170.7 | 393.1 | 2445.0 | 79.0 | 20.1 | 6181.7 | 199.6 | 1931.0 | 61.8 | 30.9 |
| Pacific | 17103.3 | 480.5 | 3546.7 | 99.6 | 20.7 | 8605.7 | 241.8 | 2783.0 | 78.2 | 32.3 |
| Asian | 7208.3 | 194.4 | 1083.3 | 29.2 | 15.0 | 4400.0 | 118.7 | 900.3 | 24.3 | 20.5 |
| Other | 21313.0 | 261.5 | 4747.7 | 58.3 | 22.3 | 12362.7 | 151.7 | 3704.7 | 45.5 | 30.0 |
| NZDep Quintile | | | | | | | | | | |
| 1 (Low deprivation) | 9089.0 | 207.6 | 1904.7 | 43.5 | 21.0 | 5425.0 | 123.9 | 1500.7 | 34.3 | 27.7 |
| 2 | 7509.0 | 195.6 | 1505.0 | 39.2 | 20.0 | 4541.3 | 118.3 | 1206.3 | 31.4 | 26.6 |
| 3 | 7171.0 | 233.5 | 1535.0 | 50.5 | 21.4 | 4631.3 | 150.8 | 1258.3 | 41.0 | 27.2 |
| 4 | 10202.0 | 377.9 | 2223.7 | 82.4 | 21.8 | 5780.7 | 214.1 | 1762.7 | 65.3 | 30.5 |
| 5 (High deprivation) | 23800.3 | 527.7 | 4648.7 | 103.1 | 19.5 | 12065.3 | 267.5 | 3663.7 | 81.2 | 30.4 |
| Missing | 23.7 | 165.6 | 5.7 | 39.8 | 24.1 | 14.3 | 100.1 | 5.7 | 39.6 | 39.9 |
| Season | | | | | | | | | | |
| Summer | 29086.7 | 154.7 | 7386.7 | 39.3 | 26.9 | 25554.7 | 135.9 | 6884.0 | 36.6 | 26.9 |
| Autumn | 47414.7 | 252.2 | 11714.7 | 62.3 | 27.6 | 38925.3 | 207.1 | 10729.3 | 57.1 | 27.6 |
| Winter | 90288.0 | 480.3 | 16517.3 | 87.9 | 21.8 | 68102.7 | 362.3 | 14836.0 | 78.9 | 21.8 |
| Spring | 64392.0 | 342.6 | 11672.0 | 62.1 | 20.6 | 51645.3 | 274.7 | 10626.7 | 56.5 | 20.6 |
| DHB | | | | | | | | | | |
| WDHB | 16481.7 | 245.7 | 3650.7 | 54.4 | 22.2 | 9441.0 | 140.8 | 2859.7 | 42.6 | 30.3 |
| ADHB | 12699.3 | 262.8 | 2653.0 | 54.9 | 20.9 | 7186.3 | 148.7 | 2099.3 | 43.5 | 29.2 |
| CMDHV | 26313.3 | 377.2 | 5030.7 | 72.1 | 19.1 | 13485.3 | 193.3 | 3937.0 | 56.4 | 29.2 |
| Other | 2301.0 | - | 488.3 | - | 21.2 | 1437.3 | - | 405.0 | - | 28.2 |
| Mean annual total | 57795.3 | 307.5 | 11822.7 | 62.8 | 20.5 | 31550.0 | 167.8 | 9301.0 | 49.5 | 29.5 |