**Supplementary Table 1**. Number of children per demographic characteristic in each fiscal year of measurement.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 |
| Sex | Female | 150 | 141 | 168 | 228 | 165 | 156 |
|  | Male | 135 | 162 | 168 | 192 | 189 | 180 |
| Ethnicity**†** | Māori | 267 | 282 | 318 | 393 | 336 | 318 |
|  | NZ European | 165 | 177 | 189 | 246 | 204 | 210 |
|  | Pacific | 48 | 63 | 66 | 78 | 81 | 78 |
| Area | Urban | 234 | 258 | 279 | 345 | 297 | 285 |
|  | Rural | 48 | 45 | 54 | 72 | 60 | 54 |
| Socioeconomic status | Q1-2 (least deprived) | 51 | 63 | 57 | 81 | 75 | 66 |
|  | Q3 | 42 | 60 | 57 | 60 | 60 | 54 |
|  | Q4 | 75 | 78 | 78 | 99 | 75 | 69 |
|  | Q5 (most deprived) | 120 | 108 | 138 | 177 | 147 | 147 |
| Territorial authority | Auckland | 123 | 144 | 162 | 216 | 186 | 165 |
|  | Whangarei | 39 | 24 | 30 | 39 | 39 | 36 |
|  | Kaipara | 27 | 18 | 21 | 27 | 9 | 18 |
|  | Rest of North Island | 69 | 87 | 99 | 111 | 99 | 99 |
|  | South Island | 24 | 27 | 24 | 21 | 24 | 18 |

Q1-Q5, quintiles 1 to 5.

**†**Ngāti Whātua children also identified as Asian are not listed due to insufficient numbers by fiscal year. As children could identify with more than one ethnicity, the sum is greater than 100%.

**Supplementary Table 2**. Prevalence of obesity (body mass index *z*-scores ≥95th percentile for age and sex) recorded at the B4 School Check among children who identified with Ngāti Whātua in the Census data.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **2010-2011** | **2011-2012** | **2012-2013** | **2013-2014** | **2014-2015** | **2015-2016** | **Overall** | **Trend †** |
|  |  |  |  |  |  |  |  |  |  |  |
| **New Zealand \*** | **Overall** |  | 16.9 (16.7, 17.0) | 16.1 (15.9, 16.2) | 15.6 (15.4, 15.7) | 15.3 (15.2, 15.4) | 15.5 (15.4, 15.6) | 14.9 (14.8, 14.9) | 15.6 (15.5, 15.7) | 0.979 (0.977,0.980) |
|  | **Māori** |  | 22.2 (21.8, 22.6) | 20.9 (20.6, 21.2) | 21.0 (20.6, 21.3) | 20.4 (20.3, 20.6) | 20.9 (20.7, 21.1) | 20.0 (19.8, 20.2) | 20.9 (20.7, 21.0) | 0.985 (0.982,0.988) |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Ngāti Whātua** | **n** |  | 282 | 300 | 336 | 417 | 354 | 339 | 2,031 |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  | **Overall** |  | 23.2 (18.7, 28.5) | 17.5 (13.6, 22.3) | 20.6 (16.6, 25.3) | 21.8 (18.1, 26) | 22.2 (18.2, 26.8) | 21.7 (17.6, 26.4) | 21.2 (19.5, 23.0) | 1.01 (0.95, 1.08) |
|  |  |  |  |  |  |  |  |  |  |  |
|  | **Sex** | **Female** | 21.5 (15.6, 28.9) | 12.9 (8.2, 19.6) | 13.1 (8.7, 19.2) | 21.7 (16.8, 27.6) | 20.4 (14.9, 27.2) | 16.7 (11.6, 23.4) | 17.9 (15.5, 20.3) | 1.02 (0.92, 1.12) |
|  |  | **Male** | 25.2 (18.5, 33.3) | 21.6 (15.9, 28.7) | 28.1 (21.8, 35.5) | 21.9 (16.5, 28.4) | 23.8 (18.2, 30.5) | 26.0 (20.1, 32.9) | 24.5 (21.9, 27.1) | 1.01 (0.92, 1.10) |
|  |  |  |  |  |  |  |  |  |  |  |
|  | **Ethnicity †** | **Māori** | 22.2 (17.3, 27.2) | 18.1 (13.6, 22.6) | 21.5 (17.0, 26.0) | 22.1 (18.0, 26.2) | 23.2 (18.7, 27.8) | 21.7 (17.2, 26.2) | 21.6 (19.8, 23.4) | 1.02 (0.96, 1.09) |
|  |  | **European** | 23.2 (16.8, 29.6) | 13.6 (8.5, 18.6) | 22.2 (16.3, 28.1) | 18.3 (13.5, 23.1) | 19.1 (13.7, 24.5) | 22.5 (16.9, 28.1) | 19.6 (17.3, 21.8) | 1.02 (0.94, 1.11) |
|  |  | **Pacific** | 31.3 (18.1, 44.4) | 28.6 (17.4, 39.7) | 27.3 (16.5, 38.0) | 26.9 (17.1, 36.8) | 22.2 (13.2, 31.3) | 33.3 (23.1, 43.6) | 29.0 (24.6, 33.4) | 0.99 (0.87, 1.13) |
|  |  |  |  |  |  |  |  |  |  |  |
|  | **Area** | **Urban** | 24.7 (19.1, 30.2) | 17.4 (12.8, 22.1) | 20.2 (15.5, 24.9) | 23.5 (19.0, 28.0) | 20.2 (15.6, 24.8) | 21.3 (16.5, 26.1) | 21.4 (19.4, 23.3) | 0.99 (0.93, 1.07) |
|  |  | **Rural** | 12.5 (3.1, 21.9) | 13.3 (3.4, 23.3) | 23.5 (11.9, 35.2) | 12.5 (4.9, 20.1) | 30.0 (18.4, 41.6) | 23.5 (11.9, 35.2) | 18.9 (14.7, 23.1) | 1.15 (0.97, 1.37) |
|  |  |  |  |  |  |  |  |  |  |  |
|  | **Territorial authority** | **Auckland** | 23.8 (16.4, 31.2) | 20.8 (14.2, 27.5) | 13.2 (7.9, 18.5) | 20.8 (15.4, 26.2) | 22.2 (16.3, 28.1) | 17.9 (12.1, 23.6) | 19.9 (17.4, 22.4) | 0.96 (0.88, 1.06) |
|  |  | **Elsewhere** | 22.6 (16.1, 29.1) | 13.2 (7.9, 18.5) | 25.9 (19.4, 32.4) | 23.5 (17.7, 29.4) | 22.8 (16.5, 29.1) | 24.6 (18.1, 31.0) | 22.5 (20.0, 25.1) | 1.06 (0.97, 1.16) |
|  |  |  |  |  |  |  |  |  |  |  |
|  | **SES** | **Q1-2 (least deprived)** | 17.6 (7.2, 28.1) | 14.3 (5.6, 22.9) | 25.0 (14.0, 36.0) | 11.1 (4.3, 18.0) | 16.7 (8.1, 25.3) | 13.6 (5.4, 21.9) | 16.2 (12.5, 19.8) | 0.95 (0.80, 1.12) |
|  |  | **Q3** | 28.6 (14.9, 42.2) | 10.5 (2.6, 18.5) | 15.0 (6.0, 24.0) | 22.7 (12.6, 32.8) | 28.6 (17.4, 39.7) | 22.2 (11.1, 33.3) | 19.8 (15.5, 24.1) | 1.07 (0.90, 1.26) |
|  |  | **Q4** | 16.7 (8.1, 25.3) | 15.4 (7.3, 23.4) | 15.4 (7.4, 23.4) | 20.6 (12.7, 28.5) | 16.7 (8.1, 25.3) | 26.1 (15.7, 36.4) | 19.0 (15.5, 22.5) | 1.10 (0.96, 1.27) |
|  |  | **Q5 (most deprived)** | 28.2 (20.1, 36.4) | 25.7 (17.4, 34.1) | 23.9 (16.8, 31.0) | 27.6 (20.9, 34.2) | 26.0 (19.0, 33.0) | 25.0 (17.9, 32.1) | 25.5 (22.6, 28.5) | 0.98 (0.89, 1.08) |
|  |  |  |  |  |  |  |  |  |  |  |

Trend data are the odds ratios for annual change and respective 95% confidence intervals; all other data are the recorded prevalence in percentage and the respective 95% confidence intervals

\* Data from Shackleton et al. (Pediatr Obes 2018;13:766-777).

**†**Ngāti Whātua children also identified as Asian are not listed due to insufficient numbers by fiscal year.

**Supplementary Table 3**. Body mass index *z*-scores recorded at the B4 School Check among children who identified with Ngāti Whātua in the Census data.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2010-2011** | **2011-2012** | **2012-2013** | **2013-2014** | **2014-2015** | **2015-2016** | **Overall** | **Trend** |
|  |  |  |  |  |  |  |  |  |  |
| **n** |  | 282 | 300 | 336 | 417 | 354 | 339 | 2,031 |  |
|  |  |  |  |  |  |  |  |  |  |
| **Overall** |  | 0.91 (0.78, 1.04) | 0.84 (0.72, 0.95) | 0.87 (0.75, 0.99) | 0.92 (0.82, 1.01) | 0.89 (0.78, 1.00) | 0.86 (0.75, 0.96) | 0.88 (0.84, 0.93) | -0.002 (-0.029, 0.026) |
|  |  |  |  |  |  |  |  |  |  |
| **Sex** | **Female** | 0.81 (0.63, 0.99) | 0.73 (0.57, 0.89) | 0.68 (0.53, 0.84) | 0.91 (0.78, 1.03) | 0.80 (0.64, 0.95) | 0.68 (0.52, 0.84) | 0.78 (0.71, 0.84) | -0.005 (-0.043, 0.034) |
|  | **Male** | 1.02 (0.85, 1.19) | 0.93 (0.78, 1.09) | 1.06 (0.89, 1.23) | 0.93 (0.79, 1.06) | 0.98 (0.82, 1.13) | 1.01 (0.86, 1.15) | 0.99 (0.92, 1.05) | -0.002 (-0.040, 0.036) |
|  |  |  |  |  |  |  |  |  |  |
| **Ethnicity †** | **Māori** | 0.91 (0.78, 1.04) | 0.84 (0.72, 0.96) | 0.90 (0.78, 1.02) | 0.93 (0.84, 1.03) | 0.91 (0.80, 1.03) | 0.86 (0.75, 0.97) | 0.89 (0.85, 0.94) | 0.000 (-0.028, 0.029) |
|  | **European** | 0.90 (0.75, 1.05) | 0.75 (0.62, 0.89) | 0.84 (0.68, 1.01) | 0.85 (0.73, 0.97) | 0.84 (0.70, 0.98) | 0.85 (0.71, 0.98) | 0.84 (0.78, 0.90) | 0.001 (-0.034, 0.036) |
|  | **Pacific** | 1.15 (0.82, 1.48) | 1.06 (0.77, 1.35) | 1.04 (0.75, 1.32) | 1.12 (0.90, 1.33) | 0.93 (0.70, 1.15) | 1.27 (1.04, 1.49) | 1.09 (0.98, 1.19) | 0.011 (-0.053, 0.076) |
|  |  |  |  |  |  |  |  |  |  |
| **Area** | **Urban** | 0.94 (0.82, 1.06) | 0.84 (0.74, 0.95) | 0.86 (0.76, 0.95) | 0.99 (0.88, 1.09) | 0.86 (0.76, 0.96) | 0.84 (0.75, 0.94) | 0.89 (0.84, 0.94) | -0.008 (-0.038, 0.022) |
|  | **Rural** | 0.73 (0.53, 0.94) | 0.90 (0.58, 1.06) | 0.96 (0.69, 1.22) | 0.57 (0.43, 0.70) | 1.04 (0.77, 1.30) | 0.92 (0.66, 1.17) | 0.83 (0.72, 0.94) | 0.033 (-0.033, 0.099) |
|  |  |  |  |  |  |  |  |  |  |
| **Territorial authority** | **Auckland** | 0.88 (0.73, 1.03) | 0.81 (0.68, 0.94) | 0.73 (0.62, 0.85) | 0.89 (0.77, 1.01) | 0.85 (0.73, 0.97) | 0.75 (0.64, 0.87) | 0.82 (0.75, 0.89) | -0.008 (-0.050, 0.035) |
| **Elsewhere** | 0.93 (0.79, 1.08) | 0.87 (0.73, 1.00) | 1.00 (0.85, 1.15) | 0.94 (0.81, 1.07) | 0.94 (0.80, 1.08) | 0.95 (0.81, 1.10) | 0.94 (0.88, 1.00) | 0.007 (-0.028, 0.042) |
|  |  |  |  |  |  |  |  |  |  |
| **SES** | **Q1-2 (least deprived)** | 0.78 (0.57, 1.00) | 0.87 (0.65, 1.08) | 0.88 (0.66, 1.10) | 0.64 (0.50, 0.78) | 0.81 (0.62, 0.99) | 0.58 (0.44, 0.72) | 0.76 (0.67, 0.85) | -0.038 (-0.092, 0.016) |
|  | **Q3** | 0.92 (0.64, 1.20) | 0.73 (0.54, 0.92) | 0.72 (0.54, 0.90) | 0.83 (0.63, 1.02) | 1.01 (0.76, 1.26) | 0.96 (0.70, 1.21) | 0.86 (0.74, 0.97) | 0.039 (-0.031, 0.108) |
|  | **Q4** | 0.67 (0.52, 0.83) | 0.75 (0.58, 0.92) | 0.75 (0.58, 0.91) | 0.86 (0.70, 1.03) | 0.87 (0.67, 1.07) | 0.96 (0.73, 1.19) | 0.81 (0.72, 0.91) | 0.055 (-0.003, 0.113) |
|  | **Q5 (most deprived)** | 1.09 (0.89, 1.28) | 0.95 (0.77, 1.13) | 1.01 (0.84, 1.18) | 1.10 (0.93, 1.26) | 0.90 (0.75, 1.04) | 0.88 (0.74, 1.03) | 0.90 (0.92, 1.06) | -0.033 (-0.076, 0.011) |
|  |  |  |  |  |  |  |  |  |  |

Trend data are β coefficients for the annual change and respective 95% confidence intervals; all other data are means and respective 95% confidence intervals.

\* Data from Shackleton et al. (Pediatr Obes 2018;13:766-777).

**†**Ngāti Whātua children also identified as Asian are not listed due to insufficient numbers by fiscal year.