**Supplementary Tables:**

S1: Weighted prevalence of caregiver experiences of racial discrimination in the 2006/07 and 2011/12 New Zealand Health Survey, by caregiver ethnicitya

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Māori caregivers** | **Pacific caregivers** | **Asian caregivers** | **European/Other caregivers** |
| **Caregiver experiences of racism** | 2006/07% (95% CI) | 2011/12% (95% CI) | 2006/07% (95% CI) | 2011/12% (95% CI) | 2006/07% (95% CI) | 2011/12% (95% CI) | 2006/07% (95% CI) | 2011/12% (95% CI) |
| Any experience of racism (‘ever’) |  | 28.7(26.0 - 31.5 | 28.2(24.6 - 31.7) | 23.2(19.0 - 27.4) | 20.0(15.6 - 24.4) | 28.7(24.8 - 32.5) | 30.2(24.9 - 35.50) | 14.7(12.9 - 16.5) | 11.2(9.6 - 12.8) |
| Level of racism (‘ever’) | 1 report | 18.6(16.3 - 20.9) | 15.8(13.0 - 18.6) | 17.1(13.3 - 20.9) | 11.5(8.4 - 14.6) | 19.3(15.9 - 22.6) | 19.5(15.0 - 24.1) | 11.1(12.4 - 14.9) | 8.0(6.7 - 9.4) |
|  | 2 or more reports | 10.1(8.4 - 11.8) | 11.8(9.2 - 14.4) | 6.04.1 – 8.0) | 7.7(4.9 - 10.5) | 9.3(6.8 - 11.8) | 9.5(6.3 - 12.7) | 3.5(2.6 - 4.5) | 3.0(2.1 - 3.9) |

*Note:* aSelf-identified ethnicity data was classified as total Māori, total Pacific, total Asian and prioritised European/Other. The ‘total’ ethnic categories allow for individuals to be counted once in each ethnic grouping they identify with. These categories, therefore, may overlap.

S2: Association between any caregiver reported experiences of racism (ever) and child health care utilisation in the 2006/07 and 2011/12 New Zealand Health Survey

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Dissatisfaction with child’s medical centre** | **Unmet need for health care** | **No usual medical centre** |
|  |  | 2011/12 | 2006/07 | 2011/12 | Pooled | 2006/07 | 2011/12 | Pooled |
| ***Exposure variable (caregiver)*** | ***Level of variable*** | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) |
|  |  |  |  |  |  |  |  |  |
| Reported experience of racism (‘ever’) | None | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| Any | 2.00 (1.26 - 3.16) | 2.70 (1.82 - 4.01) | 1.93 (1.27 - 2.92) | 2.30 (1.65 - 3.2) | 1.20 (0.70 - 2.05) | 0.94 (0.43 - 2.02) | 1.11 (0.71 - 1.72) |
|  |  |  |  |  |  |  |  |  |
| Ethnicity | Māori | 1.24 (0.69 - 2.22) | 1.72 (1.10 - 2.68) | 1.24 (0.79 - 1.96) | 1.47 (1.07 - 2.02) | 0.80 (0.39 - 1.65) | 1.27 (0.45 - 3.53) | 0.93 (0.52 - 1.68) |
| Pacific | 0.97 (0.48 - 1.98) | 0.97 (0.55 - 1.70) | 1.31 (0.70 - 2.47) | 1.11 (0.73 1.69) | 1.06 (0.42 - 2.67) | 0.61 (0.21 - 1.77) | 0.83 (0.41 - 1.68) |
| Asian | 1.27 (0.62 - 2.56) | 0.90 (0.46 - 1.78) | 0.69 (0.33 - 1.48) | 0.80 (0.48 - 1.33) | 4.56 (2.56 - 8.12) | 1.08 (0.41 - 2.80) | 2.33 (0.57 - 9.58) |
| European/Other | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
|  |  |  |  |  |  |  |  |  |
| Gender | Male | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
|  | Female | 1.20 (0.75 - 1.92) | 0.85 (0.566 1.28) | 1.52 (0.92 - 2.53) | 1.11 (0.63 - 1.97) | 1.04 (0.60 - 1.79) | 1.01 (0.50 - 2.03) | 1.03 (0.67 - 1.58) |
|  |  |  |  |  |  |  |  |  |
| Age-group (years) | 15-24 | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
|  | 25-34 | 0.67 (0.37 - 1.20) | 1.15 (0.67 - 1.99) | 0.89 (0.52 - 1.51) | 1.01 (0.69 - 1.48) | 1.08 (0.46 - 2.54) | 2.30 (0.82 - 6.44) | 1.49 (0.72 - 3.08) |
|  | 35-44 | 0.50 (0.25 - 1.00) | 1.33 (0.78 - 2.28) | 0.88 (0.50 - 1.53) | 1.09 (0.72 - 1.64) | 1.22 (0.59 - 2.53) | 1.87 (0.69 - 5.05 | 1.41 (0.79 - 2.55) |
|  | 45-54 | 0.62 (0.28 - 1.40) | 0.59 (0.26 - 1.35) | 0.66 (0.30 - 1.45) | 0.63 (0.35 - 1.10) | 0.58 (0.23 - 1.46) | 1.96 (0.61 - 6.35) | 1.01 (0.31 - 3.30) |
|  | 55-64 | 0.36 (0.12 - 1.11) | 0.23 (0.07 - 0.82) | 0.43 (0.16 - 1.15 | 0.34 (0.16 - 0.74) | 0.14 (0.02 -1.15) | 9.73 (2.78 - 34.07 | 1.27 (0.02 - 81.09) |
|  | 65-74 | 0.14 (0.02 -1.22) | - | 0.56 (0.12 - 2.57) | - | 1.40 (0.30 - 6.57) | 2.97 (0.52 - 17.02) | 1.95 (0.61 - 6.20) |
|  | ≥75 | 1.86 (0.27 - 12.64 | - | 0.77 (0.09 - 6.43) | - | - | - | - |
|  |  |  |  |  |  |  |  |  |
| Neighbourhood deprivation (NZDep2006 quintiles) | 1 (least deprived) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| 2 | 0.44 (0.21 - 0.93) | 1.31 (0.58 - 2.93) | 1.33 (0.53 - 3.34) | 1.32 (0.72 - 2.42) | 1.44 (0.58 - 3.61) | 1.96 (0.62 - 6.22) | 1.62 (0.79 - 3.33) |
| 3 | 0.48 (0.22 - 1.05) | 1.66 (0.78 - 3.53) | 1.11 (0.52 - 2.40) | 1.37 (0.80 - 2.34) | 1.61 (0.68 - 3.82) | 1.62 (0.54 - 4.82) | 1.61 (0.82 - 3.18) |
| 4 | 0.54 (0.23 - 1.26) | 1.85 (0.88 - 3.90) | 1.72 (0.81 - 3.64) | 1.78 (1.10 - 3.03) | 1.70 (0.64 - 4.56) | 1.15 (0.30 - 4.47) | 1.49 (0.67 - 3.30) |
| 5 (most deprived) | 0.51 (0.23 - 1.14) | 1.73 (0.86 - 3.49) | 1.83 (0.85 - 3.96) | 1.77 (1.05 - 2.98) | 1.04 (0.43 - 2.48) | 1.32 (0.44 - 3.99) | 1.14 (0.57 - 2.25) |
|  |  |  |  |  |  |  |  |  |
| Highest qualification | No secondary level qualification | 1.73 (0.98 - 3.08) | 0.88 (0.59 - 1.30) | 0.95 (0.63 - 1.43) | 0.91 (0.69 - 1.21) | 1.03 (0.50 - 2.16) | 1.05 (0.48 - 2.30) | 1.04 (0.61 - 1.78) |
|  | Secondary or higher | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
|  |  |  |  |  |  |  |  |  |
| Satisfaction with own medical centre | Not satisfied | 16.44 (10.99 - 24.60) |  |  |  |  |  |  |
| Satisfied | 1.00 (ref) | N/A | N/A | N/A | N/A | N/A | N/A |
| *Note:*a Data for this model was only available from the 2011/12 New Zealand Health Survey. The model was additionally adjusted for the caregivers satisfaction with their own health service. bResponse options were categorised as “very dissatisfied/dissatisfied/neither satisfied or dissatisfied” vs. “very satisfied/satisfied”. |

S3: Association between the level of caregiver reported racism and child health service utilisation in the 2006/07 and 2011/12 New Zealand Health Surveys

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Dissatisfied with usual medical centrea** | **Unmet need for health care** | **No usual medical centre** |
|  |  | 2011/12 | 2006/07 | 2011/12 | Pooled  | 2006/07 | 2011/12 | Pooled  |
| ***Exposure variable* (Caregiver)** | ***Level of variable*** | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) |
|  |  |  |  |  |  |  |  |  |
| Level of racism | None | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| 1 report | 2.02 (1.18 3.46) | 1.94 (1.21 - 3.10) | 1.83 (1.10 - 3.06) | 1.89 (1.34 - 2.67) | 1.09 (0.59 - 2.01) | 1.04 (0.39 - 2.74) | 1.07 (0.64-1.80) |
| 2 + reports | 1.90 (1.00 - 3.60) | 4.77 (2.76 - 8.26) | 1.94 (1.09 - 3.45) | 3.06 (1.27 - 7.37) | 1.48 (0.65 - 3.34) | 0.81 (0.30 - 2.15) | 1.15 (0.62 - 2.16) |
|  |  |  |  |  |  |  |  |  |
| Ethnicity | Māori | 1.24 (0.70 - 2.20) | 1.63 (1.04 - 2.54) | 1.23 (0.78 - 1.96) | 1.42 (1.03 -1.96) | 0.79 (0.38 - 1.64) | 1.27 (0.46 - 3.56) | 0.93 (0.51- 1.68) |
| Pacific | 1.08 (0.54 - 2.14) | 0.96 (0.54 - 1.71) | 1.37 (0.74 - 2.55) | 1.14 (0.75 - 1.73) | 1.05 (0.42 - 2.66) | 0.61 (0.21 - 1.76) | 0.83 (0.41 -1.67) |
| Asian | 1.26 (0.63 - 2.50) | 0.85 (0.43 - 1.70) | 0.75 (0.36 - 1.58) | 0.80 [0.48 - 1.33) | 4.50 (2.52 - 8.05) | 1.06 (0.41 - 2.75) | 2.30 (0.56 - 9.45) |
| European/Other | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
|  |  |  |  |  |  |  |  |  |
| Gender | Male | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| Female | 1.19 (0.75 - 1.88) | 0.86 (0.58 - 1.29) | 1.55 (0.94 - 2.57) | 1.13 [0.64 - 2.01 | 1.04 (0.60 - 1.80) | 1.00 (0.50 - 2.02 | 1.02 (0.66 -1.58) |
|  |  |  |  |  |  |  |  |  |
| Age-group (years)b | 15-24 | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| 25-34 | 0.71 (0.40 - 1.25) | 1.07 (0.62 - 1.86) | 0.91 (0.54 - 1.55) | 0.99 [0.67 -1.45 | 1.07 (0.46 - 2.52) | 2.38 (0.85 - 6.67 | 1.52 (0.70 - 3.29) |
| 35-44 | 0.54 (0.27 - 1.07) | 1.29 (0.75 - 2.21) | 0.96 (0.55 - 1.66) | 1.12 [0.76 - 1.64 | 1.22 (0.58 - 2.53) | 1.93 (0.72 5.22 | 1.43 (0.79 - 2.58) |
| 45-54 | 0.65 (0.29 - 1.44) | 0.57 (0.25 - 1.29) | 0.69 (0.32 - 1.51) | 0.63 (0.36 - 1.11) | 0.58 (0.23 - 1.46) | 2.04 (0.63 - 6.59) | 1.03 (0.30 - 3.50) |
| 55-64 | 0.36 (0.12 - 1.11) | 0.23 (0.06 - 0.79) | 0.44 (0.16 - 1.17) | 0.34 [0.16 -0.74) | 0.14 (0.02 - 1.14) | 10.09 (2.90 35.06) | 1.29 (0.02 - 85.54) |
| 65-74 | 0.15 (0.02 - 1.24) | - | 0.57 (0.12 - 2.61) | - | 1.41 (0.30 - 6.62) | 3.11 (0.55 - 17.71) | 2.00 (0.63 - 6.35) |
| ≥75 | 1.77 (0.27 - 11.50) | - | 0.71 (0.09 - 5.91) | - | - | - | - |
|  |  |  |  |  |  |  |  |  |
| Area deprivation (NZDep2006 quintiles) | 1 (least deprived) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| 2 | 0.46 (0.21 - 0.98) | 1.30 (0.58 - 2.92) | 1.34 (0.54 - 3.37) | 1.32 [0.72 - 2.42) | 1.44 (0.58 - 3.61) | 1.98 (0.62 - 6.29) | 1.63 (0.79 - 3.34) |
| 3 | 0.51 (0.23 - 1.12) | 1.68 (0.79 - 3.57) | 1.13 (0.53 - 2.42) | 1.38 [0.81 - 2.36) | 1.62 (0.68 - 3.83) | 1.62 (0.55 - 4.82) | 1.62 (0.82 - 3.18) |
| 4 | 0.56 (0.24 - 1.30) | 1.85 (0.87 - 3.91) | 1.74 (0.83 - 3.68) | 1.80 [1.06 - 3.05) | 1.71 (0.64 - 4.57) | 1.14 (0.29 - 4.52) | 1.49 (0.67 - 3.32) |
| 5 (most deprived) | 0.56 (0.25 - 1.23) | 1.66 (0.81 - 3.39) | 1.98 (0.92 - 4.24) | 1.80 [1.07 - 3.03) | 1.03 (0.43 - 2.48) | 1.32 (0.44 - 4.01) | 1.14 (0.57 - 2.25) |
|  |  |  |  |  |  |  |  |  |
| Highest qualification | <Secondary | 1.67 (0.94 - 2.96) | 0.87 (0.59 - 1.30) | 0.95 (0.63 - 1.44) | 0.91 [0.68 - 1.21) | 1.03 (0.49 - 2.16) | 1.05 (0.48 - 2.29) | 1.04 (0.61 - 1.78) |
| Secondary + | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
|  |  |  |  |  |  |  |  |  |
| Satisfaction with own health service | Not satisfied | 15.78 (10.68 - 23.44) | N/A | N/A | N/A | N/A | N/A | N/A |
| Satisfied | 1.00 (ref) | N/A | N/A | N/A | N/A | N/A | N/A |

*Note:* aModel additionally adjusted for caregiver satisfaction with their own health service

S4: Association between caregiver experiences of racism and child health service utilisation in the 2006/07 and the 2011/12 New Zealand Health Survey, with findings presented for unadjusted models (M0) to models that are adjusted for potential confounders (M1 and M2a) and pathway variables (M2b and M3)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  | **Dissatisfied with child’s medical centre**a | **Unmet need for health care** | **No usual medical centre** |
| ***Model for any racial discrimination (‘ever’)*** | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) |
| M0: unadjusted |  | 2.48 (1.62 - 3.81) | 3.09 (2.11 - 4.53) | 2.04 (1.35 - 3.07) | 1.39 (0.83 - 2.34) | 0.94 (0.43 - 2.05) |
| M1: ethnicity, gender and age |  | 2.39 (1.56 - 3.65) | 2.78 (1.88 - 4.09) | 1.94 (1.29 - 2.94) | 1.21 (0.70 - 2.08) | 0.92 (0.42 - 1.99) |
| M2a: caregiver satisfaction with own health service |  | 1.98 (1.25 - 3.14) | N/A | N/A | N/A | N/A |
| M2b: neighbourhood deprivation, highest educational qualification |  | 2.00 (1.26 - 3.16) | 2.70 (1.82 - 4.01) | 1.93 (1.27 - 2.92) | 1.20 (0.70 - 2.05) | 0.94 (0.43 - 2.02) |
| M3: psychological distress |  | 1.76 (1.11 - 2.79) | 2.41 (1.61 - 3.61) | 1.44 (0.91 - 2.29) | 1.21 (0.70 - 2.12) | 0.80 (0.34 - 1.86) |
|  |  |  |  |  |  |
| ***Model for level of racial discrimination*** | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) |
| M0: unadjusted | 1 report:2+ reports: | 2.40 (1.53 - 3.76)2.60 (1.23 - 5.51) | 2.12 (1.36 - 3.33)5.67 (3.33 - 9.64) | 2.01 (1.20 - 3.35)2.00 (1.16 - 3.46) | 1.24 (0.68 - 2.29)1.76 (0.81 - 3.81) | 1.04 (0.39 - 2.75)0.82 (0.31 - 2.19) |
| M1: ethnicity, gender and age | 1 report:2+ reports: | 2.29 (1.42 - 3.68)2.55 (1.26 - 5.17) | 1.99 (1.26 - 3.14)4.90 (2.85 - 8.42) | 1.87 (1.13 - 3.10)1.92 (1.08 - 3.43) | 1.11 (0.59 - 2.06)1.47 (0.65 - 3.30) | 1.00 (0.38 - 2.62)0.80 (0.30 - 2.14) |
| M2a: caregiver satisfaction with own health service | 1 report:2+ reports: | 1.94 (1.14 - 3.30)2.00 (1.03 - 3.89) | N/A | N/A | N/A | N/A |
| M2b: neighbourhood deprivation, highest educational qualification | 1 report:2+ reports: | 2.02 (1.18 3.46)1.90 (1.00 - 3.60) | 1.94 (1.21 - 3.10)4.77 (2.76 - 8.26) | 1.83 (1.10 - 3.06)1.94 (1.09 - 3.45) | 1.09 (0.59 2.01)1.48 (0.65 - 3.34) | 1.04 (0.39 - 2.74)0.81 (0.30 2.15) |
| M3: psychological distress | 1 report:2+ reports: | 1.81 (1.08 - 3.04)1.67 (0.84 - 3.35) | 1.77 (1.11 - 2.84)4.15 (2.33 - 7.38) | 1.39 (0.80 - 2.41)1.41 (0.77 - 2.58) | 1.10 (0.59 - 2.05)1.51 (0.64 - 3.56) | 0.90 (0.32 - 2.54)0.66 (0.24 - 1.84) |

*Note:* aModel additionally adjusted for caregiver satisfaction with their own health service.