# Supplementary Online Content

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**This supplementary material has been provided by the authors to give readers additional information about their work.**

## eTable 1: Characteristics and outcomes of children, by race.

| | Total (n= 2,576,353) | White (n= 1,311,041) | Asian (n= 243,545) | Black (n=93,620) | Mixed/Other (n=147,529) |
|---|---|---|---|---|---|
| **Age Categories, n(%)** | | | | | |
| 0-3 months | 61,116 (2.4) | 17,610 (1.3) | 3,185 (1.3) | 978 (1.0) | 2,469 (1.7) |
| 3-12 months | 130,110 (5.1) | 46,371 (3.54) | 7,789 (3.2) | 2,492 (2.7) | 6,020 (4.1) |
| 2-5 years | 557,318 (21.6) | 235, 825 (18.0) | 42,132 (17.3) | 14,756 (15.8) | 29,725 (20.2) |
| 6-10 years | 725,819 (28.2) | 408,287 (31.1) | 74,710 (30.7) | 27,329 (29.2) | 44,984 (30.5) |
| 11- 15 years | 707,095 (27.5) | 431,266 (32.9) | 78,460 (32.2) | 31,868 (34.0) | 33,024 (29.8) |
| 16- 18 years | 394,895 (15.3) | 171,682 (13.1) | 37,269 (15.3) | 16,197 (17.3) | 20,307 (13.8) |
| **Female, n (%)** | 1,257,260 (48.8) | 639,720 (48.8) | 118,676 (48.7) | 46,064 (49.2) | 72,029 (48.8) |
| **Townsend deprivation quintile, n(%)** | | | | | |
| 1 (least deprived) | 527,452 (20.5) | 323,136 (24.9) | 21,676 (9.0) | 2,677 (2,9) | 13,415 (9.2) |
| 2 | 547,532 (21.3) | 315,037 (24.2) | 32,429 (13.4) | 5,521 (6.0) | 19,051 (13.0) |
| 3 | 542,116 (21.0) | 282,253 (21.7) | 52,332 (21.6) | 12,679 (13.7) | 28,923 (19.1) |
| 4 | 509,671 (19.8) | 232,034 (17.8) | 67,645 (28.0) | 24,033 (25.9) | 36,641 (25.1) |
| 5 (most deprived) | 429,060 (16.7) | 148,049 (11.4) | 67,942 (28.1) | 47,858 (51.6) | 49,223 (33.7) |
| **Comorbidities, n (%)** | | | | | |
| None of relevant comorbidities | 2,348,326 (91.1) | 1,187,099 (90.5) | 218,118 (89.6) | 84,4947 (89.7) | 134,374 (91.1) |
| Asthma | 183,089 (7.1) | 106,217 (8.1) | 21,647 (8.9) | 7,016 (7.5) | 10,649 (7.2) |
| Diabetes (type 1) | 4916 (0.2) | 2937 (0.2) | 288 (0.1) | 203 (0.2) | 256 (0.2) |
| Cerebral Palsy | 3927 (0.2) | 2245 (0.2) | 344 (0.1) | 151 (0.2) | 203 (0.1) |
| Epilepsy | 12,972 (0.5) | 722 (0.56) | 1228 (0.5) | 587 (0.6) | 735 (0.5) |
| Congenital heart disease | 21,523 (0.8) | 11,645 (0.9) | 1883 (0.8) | 651 (0.7) | 1001 (0.7) |
| Sickle cell disease | 1600 (0.1) | 176 (0.01) | 37 (0.02) | 705 (0.8) | 311 (0.2) |
| **Test Outcome** | | | | | |
| Ever tested, n (% population) | 410,726 (15.9) | 223,701 (17.0) | 33,213 (13.6) | 7727 (8.3) | 18,971 (12.9) |
| Tested positive, if tested n(% tested) | 26,322 (6.4) | 13,043 (5.8) | 3576 (11.2) | 601 (7.8) | 1197 (5.9) |
| **Hospital Outcome** | | | | | |
| Any hospital contact, n(% population) | 1,853 (0.07) | 839 (0.06) | 236 (0.10) | 67 (0.07) | 108 (0.07) |
| Hospital admission, n(% population) | 343 (0.01) | 125 (0.01) | 47 (0.02) | 20  0.02) | 30(0.02) |
| <36hrs | 184 (0.01) | 62 (0.005) | 24 (0.01) | 10 (0.01) | 11 (0.01) |
| ≥36hrs | 159 (0.01) | 63 (0.005) | 23 (0.01) | 10 (0.01) | 19 (0.01) |

| Hospitalization Duration (median, IQR) | 1 (0,4) | 2 (0,4) | 1 (0,6) | 1.5 (1,4) | 2 (1,5) |
|---|---|---|---|---|---|
| ICU admission, n (% population) | 73 (0.003) | 24(0.002) | 15(0.006) | 5 (0.005) | 6 (0.004) |

# eTable 2: Baseline characteristics of study population, population with Race recorded and population without race recorded.

| | Total Population (col%) | Race Recorded (col %) | % total population (row %) | Race not Recorded (col%) | % total population (row %) |
|---|---|---|---|---|---|
| **Total number** | 2,576,353 | 1,795,735 | 69.7 | 780,618 | 30.3 |
| **Sex, n(%)** | | | | | |
| Male | 1,318,747 (51.2) | 919,246 (51.2) | 69.8 | 399,501 (51.2) | 30.2 |
| Female | 1,257,606 (48.8) | 876,498 (48.8) | 69.7 | 381,117 (48.2) | 30.3 |
| **Age in years, median (IQR)** | 9 (5, 14) | 10 (6,14) | | 7 (3,15) | N/A |
| **Age categories, n (%)** | | | | | |
| 0-3 months | 61,116 (2.4) | 24,242 (1.35) | 39.7 | 36,874 (4.7) | 60.3 |
| 3-12 months | 130,110 (5.1) | 62,672 (3.5) | 48.2 | 67,438 (8.6) | 51.8 |
| 2-5 years | 557,318 (21.6) | 322,438 (18.0) | 57.9 | 234,880 (30.1) | 42.1 |
| 6-10 years | 725,819 (28.2) | 555,310 (30.9) | 76.6 | 170,509 (21.8) | 23.4 |
| 11- 15 years | 707,095 (27.5) | 585,618 (32.6) | 82.8 | 121,477 (15.6) | 17.2 |
| 16- 18 years | 394,895 (15.3) | 245,455 (13.7) | 62.2 | 149,440 (19.1) | 37.8 |
| **Race, n (%)** | | | | | |
| White | 1,311,041 (50.9) | 1,311,041 (73) | | | |
| Asian | 243,545 (9.5) | 243,545 (13.5) | | | |
| Black | 93,620 (3.6) | 93,620 (5.2) | | | |
| Mixed/Other | 147,529 (5.7) | 147,529 (5.7) | | | |
| **Townsend deprivation quintile, n(%)** | | | | | |
| 1 (least deprived) | 527,452 (20.5) | 360,905 (20.3) | 68.4 | 166,547 (21.5) | 31.6 |
| 2 | 547,532 (21.3) | 372,038 (20.9) | 67.9 | 175, 494 (22.7) | 32.1 |
| 3 | 542,116 (21.0) | 375,187 (21.1) | 69.3 | 166,929 (21.6) | 30.7 |
| 4 | 509,671 (19.8) | 360,353 (20.2) | 70.8 | 149, 318 (19.3) | 29.2 |
| 5 (most deprived) | 429,060 (16.7) | 313,072 (17.6) | 73 | 115,988 (15.0) | 27.0 |
| Not recorded | 20,522 (0.8) | 14,180 (0.08) | 69.1 | 6,342 (0.8) | 30.9 |
| **Geographical region of England, n (%)** | | | | | |
| East Midlands | 48,887 (1.9) | 38,103 (2.1) | 77.9 | 10,784 (1.4) | 22.1 |
| East of England | 98,280 (3.8) | 74,815 (4.2) | 76.1 | 23,465 (3.0) | 23.9 |
| London | 669,444 (26.0) | 495,064 (27.6) | 74 | 174,380 (22.4) | 26.0 |
| North East | 51,775 (2.0) | 40,251 (2.2) | 77.7 | 11,524 (1.5) | 22.3 |
| North West | 473,994 (18.4) | 306,970 (17.1) | 64.8 | 167,024 (21.4) | 35.2 |
| South Central | 341,774 (13.3) | 247,650 (13.8) | 72.5 | 94,124 (12.1) | 27.5 |
| South East | 283,721 (11.0) | 184,437 (10.3) | 65 | 99,284 (12.7) | 35.0 |
| South West | 242,585 (9.4) | 153,324 (8.5) | 63.2 | 89,261 (11.4) | 36.8 |
| West Midlands | 284,207 (11.0) | 196,028 (10.9) | 69 | 88,179 (11.3) | 31.0 |
| Yorkshire & Humber | 81,686 (3.2) | 59,093 (3.29) | 72.3 | 22,593 (2.3) | 27.7 |
| **Household Size, n(%)** | | | | | |
| 2 people | 383,616 (14.9) | 258,920 (16.4) | 67.5 | 124,696 (19.5) | 32.5 |
| 3-5 people | 1,549,068 (60.1) | 1,113,716 (70.6) | 71.9 | 435,352 (68.2) | 28.1 |
| 6-9 people | 246,764 (9.6) | 180,587 (11.5) | 73.2 | 66,177 (10.4) | 26.8 |
| 10 or more people | 35,396 (1.4) | 23,380 (1.5) | 66.1 | 12,016 (1.88) | 33.9 |
| Not recorded * | 361,509 (14.0) | 219,132 (12.2) | 60.7 | 142,377 (18.2) | 39.3 |
| **Comorbidities, n (% total)** | | | | | |
| No relevant comorbidities | 2,348,326 (91.1) | 1,621,177 (90.3) | 68.8 | 731,963 (93.7) | 31.2 |
| Asthma | 183,089 (7.1) | 145,629 (8.1) | 79.5 | 37,460 (4.8) | 20.5 |
| Diabetes (type 1) | 4916 (0.2) | 3,684 (0.21) | 74.9 | 1,232 (0.16) | 25.1 |
| Cerebral Palsy | 3927 (0.2) | 2,943 (0.16) | 74.9 | 984 (0.13) | 25.1 |
| Epilepsy | 12,972 (0.5) | 9,771 (0.54) | 75.3 | 3,201 (0.41) | 24.7 |
| Congenital heart disease | 21,523 (0.8) | 15,180 (0.85) | 70.5 | 6,343 (0.81) | 29.5 |
| Sickle cell disease | 1600 (0.1) | 1129 (0.07) | 76.8 | 371 (0.05) | 23.2 |
| **Outcomes** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| SARS-CoV-2 positive | 26322 | 18,417 (1.0) | 70 | 7,905 (1.0) | 30.0 |
| Hospital Contact | 1853 | 1250 (0.07) | 67.5 | 603 (0.08) | 32.5 |
| Hospital admission | 343 | 222 (0.012) | 64.8 | 121 (0.015) | 35.2 |
| ICU | 73 | 50 (0.003) | 68.5 | 23 (0.003) | 31.5 |

**eTable 3: Comparison of regression estimates for complete case analysis (CCA) and multiple imputation (MI) models for maximally adjusted regression analysis exploring the association between race and testing positive for SARS-CoV-2.**
*OR= Odds Ratio, 95%CI= 95% confidence interval.*

| | Complete Case Analysis (n=1,795,735) | Multiple Imputation (n=2,576,353, m=10) |
|---|---|---|
| | OR (95% CI) | OR (95%CI) e-value |
| **Race** | | |
| White | 1 | 1 |
| Asian | 1.88 (1.75-2.02) | 1.80 (1.70-1.91) |
| Black | 1.36 (1.20-1.56) | 1.12 (1.01-1.25) |
| Mixed/Other | 1.22 (1.12-1.33) | 1.14 (1.05-1.23) |
| **Age Category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.61 (0.49-0.75) | 0.62 (0.54-0.71) |
| 2-5 years | 0.62 (0.52-0.75) | 0.63 (0.56-0.7) |
| 6-10 years | 1.11 (0.93-1.33) | 1.11 (0.99-1.25) |
| 11- 15 years | 2.08 (1.74-2.49) | 2.12 (1.90-2.38) |
| 16- 18 years | 3.49 (2.92-4.18) | 3.62 (3.23-4.05) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 0.97 (0.94-1.00) | 0.96 (0.93-0.98) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 0.96 (0.91-1.01) | 0.94 (0.90-0.99) |
| 3 | 1.02 (0.96-1.08) | 0.98 (0.93-1.03) |
| 4 | 0.99 (0.94-1.06) | 0.97 (0.92-1.02) |
| 5 (most deprived) | 1.08 (1.01-1.16) | 1.05 (0.98-1.13) |
| **Region** | | |
| East Midlands | 1 | 1 |
| East of England | 0.49 (0.38-0.62) | 0.53 (0.43-0.65) |
| London | 0.67 (0.56-0.79) | 0.72(0.62-0.85) |
| North East | 1.09 (0.90-1.31) | 1.16 (0.98-1.38) |
| North West | 1.05 (0.88-1.24) | 1.09 (0.93-1.27) |
| South Central | 0.55 (0.46-0.66) | 0.58 (0.49-0.68) |
| South East | 0.74 (0.61-0.90) | 0.76 (0.64-0.91) |
| South West | 0.65 (0.53-0.80) | 0.67 (0.56-0.81) |
| West Midlands | 0.91 (0.76-1.08) | 0.92 (0.79-1.09) |
| Yorkshire & Humber | 1.18 (0.96-1.44) | 1.19 (0.99-1.43) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 1.13 (1.07-1.19) | 1.09 (1.05-1.14) |
| 6-9 people | 1.31 (1.21-1.42) | 1.25 (1.17-1.33) |
| 10 or more people | 2.01 (1.55-2.61) | 1.75 (1.40-2.19) |
| **Comorbidities** | | |
| Diabetes (type 1) | 1.06 (0.83-1.35) | 0.93 (0.76-1.13) |
| Asthma | 0.92 (0.87-0.97) | 0.90 (0.86-0.94) |
| Congenital heart disease | 0.86 (0.73-1.02) | 0.87 (0.76-0.99) |
| Cerebral Palsy | 0.62 (0.42-0.89) | 0.71 (0.54-0.93) |
| Epilepsy | 0.87 (0.73-1.05) | 0.85 (0.73-0.98) |
| Sickle cell disease | 0.30 (0.12-0.73) | 0.38(0.19-0.76) |

**eTable 4: Comparison of regression estimates for complete case analysis (CCA) and multiple imputation (MI) models for maximally adjusted regression analysis exploring the association between race and any hospital contact. *OR= Odds Ratio, 95%CI= 95% confidence interval.***

| | Complete Case Analysis (n=1,795,735) | Multiple Imputation (n=2,576,353, m=10) |
|---|---|---|
| | OR (95% CI) | OR (95%CI) |
| **Race** | | |
| White | 1 | 1 |
| Asian | 1.81 (1.41-2.30) | 1.69 (1.40-2.05) |
| Black | 1.42 (1.07-1.88) | 1.20 (0.95-1.53) |
| Mixed/Other | 1.35 (1.05-1.74) | 1.25 (1.03-1.53) |
| **Age Category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.59 (0.37-0.94) | 0.55 (0.42-0.72) |
| 2-5 years | 0.21 (0.14-0.32) | 0.23 (0.18-0.29) |
| 6-10 years | 0.23 (0.16-0.35) | 0.26 (0.21-0.33) |
| 11- 15 years | 0.44 (0.30-0.65) | 0.44 (0.35-0.56) |
| 16- 18 years | 0.79 (0.53-1.18) | 0.85 (0.68-1.06) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 1.00 (0.89-1.13) | 0.96 (0.88-1.05) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 0.81 (0.67-0.97) | 0.9 (0.78-1.04) |
| 3 | 0.90 (0.75-1.09) | 0.94 (0.80-1.10 |
| 4 | 0.76 (0.63-0.91) | 0.79 (0.67-0.92) |
| 5 (most deprived) | 0.78 (0.63-0.97) | 0.81 (0.68-0.97) |
| **Region** | | |
| East Midlands | 1 | 1 |
| East of England | 1.01 (0.55-1.87) | 0.99 (0.62-1.59) |
| London | 0.90 (0.52-1.54) | 0.93 (0.61-1.42) |
| North East | 1.60 (0.85-3.02) | 1.53 (0.93-2.53) |
| North West | 1.85 (1.08-3.16) | 1.65 (1.08-2.51) |
| South Central | 1.30 (0.75-2.25) | 1.00 (0.65-1.54) |
| South East | 1.62 (0.88-2.96) | 1.42 (0.85-2.35) |
| South West | 1.25 (0.71-2.20) | 1.11 (0.71-1.74) |
| West Midlands | 1.43 (0.82-2.50) | 1.32 (0.85-2.04) |
| Yorkshire & Humber | 1.36 (0.72-2.56) | 1.29 (0.79-2.09) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 1.10 (0.91-1.32) | 1.06 (0.91-1.22) |
| 6-9 people | 0.85 (0.65-1.12) | 0.90 (0.73-1.13) |
| 10 or more people | 1.57 (0.96-2.58) | 1.25 (0.83 |
| **Comorbidities** | | |
| Diabetes (type 1) | 4.21 (2.38-7.45) | 3.55 (2.16-5.81) |
| Asthma | 1.12 (0.93-1.34) | 1.18 (1.02-1.37) |
| Congenital heart disease | 1.94 (1.23-3.09) | 1.83 (1.28-2.64) |
| Cerebral Palsy | 2.57 (1.17-5.65) | 2.87 (1.58-5.23) |
| Epilepsy | 2.42 (1.51-3.90) | 2.88 (1.99-4.17) |
| Sickle cell disease | 4.32 (1.43-13.11) | 3.79 (1.42-10.11) |

**eTable 5: Comparison of regression estimates for complete case analysis (CCA) and multiple imputation (MI) models for maximally adjusted regression analysis exploring the association between race and hospital admission.**
*OR= Odds Ratio, 95%CI= 95% confidence interval.*

| | Complete Case Analysis (n=1,795,735) | Multiple Imputation (n=2,576,353, m=10) |
|---|---|---|
| | OR (95% CI) | OR (95%CI) |
| **Race** | | |
| White | 1 | 1 |
| Asian | 1.60(1.07-2.40) | 1.62 (1.12-2.36) |
| Black | 1.91 (1.15-3.17) | 1.44 (0.9-2.31) |
| Mixed/Other | 1.40 (0.82-2.40) | 1.40 (0.93-2.10) |
| **Age Category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.37 (0.21-0.67) | 0.38 (0.26-0.56) |
| 2-5 years | 0.080 (0.043-0.14) | 0.10 (0.07-0.14) |
| 6-10 years | 0.050 (0.03-0.08) | 0.06 (0.04-0.08) |
| 11- 15 years | 0.070 (0.040-0.11) | 0.07 (0.05-0.10) |
| 16- 18 years | 0.090(0.050-0.16) | 0.11 (0.08-0.16) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 1.13 (0.85-1.50) | 1.19 (0.97-1.47) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 0.76 (0.45-1.28) | 1.01 (0.68-1.50) |
| 3 | 1.16 (0.70-1.90) | 1.24 (0.84-1.83) |
| 4 | 1.14 (0.70-1.84) | 1.21 (0.83-1.77) |
| 5 (most deprived) | 1.48 (0.88-2.48) | 1.48 (1.00-2.20) |
| **Region** | | |
| East Midlands | 1 | 1 |
| East of England | 2.50 (0.55-11.30) | 1.31 (0.51-3.33) |
| London | 1.92 (0.47-7.87) | 1.37 (0.60-3.09) |
| North East | 1.36 (0.24-7.64) | 0.72 (0.22-2.38) |
| North West | 1.64 (0.39-6.90) | 1.21 (0.54-2.08) |
| South Central | 1.76 (0.41-7.60) | 0.86 (0.36-2.08) |
| South East | 1.55 (0.35-6.75) | 1.10 (0.46-2.60) |
| South West | 1.44 (0.33-6.34) | 0.79 (0.32-1.95) |
| West Midlands | 2.21 (0.53-9.25) | 1.18 (0.51-2.75) |
| Yorkshire & Humber | 1.01 (0.18-5.79) | 0.61 (0.20-1.88) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 1.29 (0.84-1.96) | 0.94 (0.7-1.26) |
| 6-9 people | 1.37 (0.79-2.36) | 1.12 (0.76-1.67) |
| 10 or more people | 0.80 (0.19-3.34) | 0.87 (0.31-2.45) |
| **Comorbidities** | | |
| Diabetes (type 1) | 8.75 (2.78-27.56) | 10.11 (4.12-24.80) |
| Asthma | 1.52 (0.93-2.46) | 1.43 (0.95 -2.16) |
| Congenital heart disease | 1.31 (0.32-5.33) | 2.69 (1.27-5.71) |
| Cerebral Palsy | 9.87 (2.56-38.07) | 7.96 (2.70-22.76) |
| Epilepsy | 3.54 (1.08-11.67) | 6.17 (2.77-13.73) |
| Sickle cell disease | 11.73 (2.87-48.07) | 8.24 (2.02-33.51) |

**eTable 6: Comparison of regression estimates for complete case analysis (CCA) and multiple imputation (MI) models for maximally adjusted regression analysis exploring the association between race and i) hospitalization <36 hours and ii) hospitalization duration ≥36 hours.** *OR= Odds Ratio, 95%CI= 95% confidence interval.*

*i)*

| | Complete Case Analysis (n=1,795,735) | Multiple Imputation (n=2,576,353, m=10) |
|---|---|---|
| | OR (95% CI) | OR (95%CI) |
| **Race** | | |
| White | 1 | 1 |
| Asian | 1.24 (0.72-2.14) | 1.28 (0.78-2.09) |
| Black | 3.28 (1.56-6.89) | 2.95 (1.52-5.69) |
| Mixed/Other | 1.49 (0.66-3.36) | 1.48 (0.81-2.71) |
| **Age Category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.85 (0.34-2.11) | 0.52 (0.31-0.86) |
| 2-5 years | 0.13 (0.05-0.32) | 0.13 (0.08-0.21) |
| 6-10 years | 0.03 (0.01-0.08) | 0.04 (0.02-0.06) |
| 11- 15 years | 0.03 (0.01-0.07) | 0.02 (0.01-0.04) |
| 16- 18 years | 0.02(0.008-0.05) | 0.02 (0.01-0.04) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 1.64 (1.09-2.50) | 1.42 (1.06-1.89) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 0.66 (0.31-1.42) | 0.96 (0.56-1.65) |
| 3 | 1.26 (0.65-2.47) | 1.21 (0.73-2.0) |
| 4 | 0.91 (0.43-1.92) | 1.10 (0.66-1.85) |
| 5 (most deprived) | 1.33 (0.62-2.85) | 1.43 (0.85-2.41) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 1.64 (0.85-3.17) | 0.95 (0.63-1.43) |
| 6-9 people | 1.22 (0.49-3.07) | 0.81 (0.44-1.51) |
| 10 or more people | 1.35 (0.28-6.45) | 0.99 (0.28-3.53) |

*ii)*

| | Complete Case Analysis (n=1,795,735) | Multiple Imputation (n=2,576,353, m=10) |
|---|---|---|
| | OR (95% CI) | OR (95%CI) |
| **Race** | | |
| White | 1 | 1 |
| Asian | 0.87 (0.50 -1.51) | 1.09 (0.66-1.81) |
| Black | 2.48 (1.15 – 5.34) | 2.31 (1.08-4.94) |
| Mixed/Other | 1.51 (0.74-3.08) | 2.14 (1.25-3.65) |
| **Age Category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.20 (0.07-0.56) | 0.29 (0.16-0.53) |
| 2-5 years | 0.05 (0.02-0.13) | 0.08 (0.04-0.13) |
| 6-10 years | 0.04 (0.01-0.07) | 0.05 (0.03-0.08) |
| 11- 15 years | 0.02 (0.01-0.05) | 0.03 (0.02-0.05) |
| 16- 18 years | 0.02 (0.01-0.05) | 0.03 (0.02-0.06) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 0.88 (0.59-1.30) | 1.08 (0.79-1.46) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 0.97 (0.43-2.19) | 1.28 (0.66-2.48) |

| | | |
|---|---|---|
| 3 | 1.13 (0.53-2.40) | 1.46 (0.77-2.77) |
| 4 | 1.42 (0.69-2.93) | 1.95 (1.04-3.63) |
| 5 (most deprived) | 2.13 (0.99-4.54) | 3.28 (1.76-6.09) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 0.88 (0.50-1.58) | 0.89 (0.57-1.39) |
| 6-9 people | 1.29 (0.64-2.60) | 1.38 (0.78-2.44) |
| 10 or more people | <0.001 | 0.40 (0.05-3.00) |

**eTable 7: Comparison of regression estimates for complete case analysis (CCA) and multiple imputation (MI) models for maximally adjusted regression analysis exploring the association between race and intensive care admission.**
*OR= Odds Ratio, 95%CI= 95% confidence interval.*

| | Complete Case Analysis (n=1,795,735) | Multiple Imputation (n=2,576,353, m=10) |
|---|---|---|
| | OR (95% CI) | OR (95%CI) |
| **Race** | | |
| White | 1 | 1 |
| Asian | 1.92 (0.79 -4.73) | 2.11 (1.07-4.14) |
| Black | 1.75 (0.56 – 5.30) | 1.35 (0.47-3.87) |
| Mixed/Other | 1.09 (0.33-3.60) | 1.20 (0.48-3.01) |
| **Age category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.14 (0.036-0.52) | 0.12 (0.05-0.28) |
| 2-5 years | 0.03 (0.009-0.09) | 0.05 (0.02-0.11) |
| 6-10 years | 0.04 (0.01-0.09) | 0.04 (0.02-0.07) |
| 11- 15 years | 0.04 (0.02-0.10) | 0.04 (0.02-0.09) |
| 16- 18 years | 0.02 (0.005-0.08) | 0.03 (0.01-0.08) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 1.36 (0.72-2.57) | 1.49 (0.92-2.41) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 0.71 (0.22-2.35) | 1.37 (0.44-3.10) |
| 3 | 0.99 (0.35-2.82) | 1.80 (0.74-4.40) |
| 4 | 0.97 (0.35-2.67) | 1.25 (0.49-3.19) |
| 5 (most deprived) | 1.73 (0.61-4.89) | 2.46 (1.00-6.05) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 1.89 (0.73-4.87) | 1.31 (0.6-2.84) |
| 6-9 people | 1.48 (0.42-5.22) | 1.05 (0.36-3.09) |
| 10 or more people | 2.34 (0.25-21.7) | 1.99 (0.40-9.79) |
| **Comorbidities** | | |
| Diabetes (type 1) | 13.57 (1.58-116.23) | 10.35 (1.23-87.30) |
| Asthma | 1.50 (0.50-4.51) | 1.17 (0.40-3.41) |
| Congenital heart disease | 5.66 (1.20-36.65) | 9.4 (3.79-26.54) |
| Cerebral Palsy | 36.03 (5.46-237.88) | 25.16 (4.53-139.83) |
| Epilepsy | 2.78 (0.31-25.19) | 6.81 (1.27-36.46) |
| Sickle cell disease | 25.00 (3.07-203.40) | 18.31 (2.22-150.95) |

**eTable 8: Comparison of maximally adjusted regression estimates for logistic regression and relative risk regression in the analysis exploring the association between race and testing positive for SARS-CoV-2. Adjusted for age, sex, deprivation level, household size, geographical region and comorbidities.**
*OR= Odds Ratio, RR= Risk Ratio 95%CI= 95% confidence interval.*

| | Maximally adjusted relative risk regression | Maximally adjusted Logistic Regression |
|---|---|---|
| | RR (95% CI) | OR (95%CI) |
| **Race** | | |
| White | 1 | 1 |
| Asian | 1.80 (1.70-1.91) | 1.80 (1.70-1.91) |
| Black | 1.14 (1.02-1.27) | 1.12 (1.01-1.25) |
| Mixed/Other | 1.15 (1.06-1.24) | 1.14 (1.05-1.23) |
| **Age Category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.62 (0.54-0.72) | 0.62 (0.54-0.71) |
| 2-5 years | 0.63 (0.56-0.70) | 0.63 (0.56-0.70) |
| 6-10 years | 1.11 (0.99-1.25) | 1.11 (0.99-1.25) |
| 11- 15 years | 2.12 (1.90-2.38) | 2.12 (1.90-2.38) |
| 16- 18 years | 3.62 (3.23-4.05) | 3.62 (3.23-4.05) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 0.96 (0.93-0.98) | 0.96 (0.93-0.98) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 0.94 (0.90-0.99) | 0.94 (0.90-0.99) |
| 3 | 0.97 (0.93-1.03) | 0.98 (0.93-1.03) |
| 4 | 0.97 (0.92-1.02) | 0.97 (0.92-1.02) |
| 5 (most deprived) | 1.05 (0.98-1.12) | 1.05 (0.98-1.13) |
| **Region** | | |
| East Midlands | 1 | 1 |
| East of England | 0.53 (0.43-0.65) | 0.53 (0.43-0.65) |
| London | 0.72(0.62-0.85) | 0.72(0.62-0.85) |
| North East | 1.16 (0.98-1.38) | 1.16 (0.98-1.38) |
| North West | 1.09 (0.93-1.27) | 1.09 (0.93-1.27) |
| South Central | 0.58 (0.49-0.68) | 0.58 (0.49-0.68) |
| South East | 0.76 (0.64-0.91) | 0.76 (0.64-0.91) |
| South West | 0.67 (0.56-0.81) | 0.67 (0.56-0.81) |
| West Midlands | 0.93 (0.79-1.09) | 0.92 (0.79-1.09) |
| Yorkshire & Humber | 1.19 (0.99-1.43) | 1.19 (0.99-1.43) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 1.09 (1.05-1.14) | 1.09 (1.05-1.14) |
| 6-9 people | 1.24 (1.17-1.33) | 1.25 (1.17-1.33) |
| 10 or more people | 1.77 (1.42-2.20) | 1.75 (1.40-2.19) |
| **Comorbidities** | | |
| Diabetes (type 1) | 0.93 (0.76-1.13) | 0.93 (0.76-1.13) |
| Asthma | 0.90 (0.86-0.94) | 0.90 (0.86-0.94) |
| Congenital heart disease | 0.87 (0.76-1.00) | 0.87 (0.76-0.99) |
| Cerebral Palsy | 00.71 (0.54-0.93) | 0.71 (0.54-0.93) |
| Epilepsy | 0.85 (0.73-0.98) | 0.85 (0.73-0.98) |
| Sickle cell disease | 0.38(0.19-0.76) | 0.38(0.19-0.76) |

**eTable 9: Comparison of maximally adjusted regression estimates for logistic regression and relative risk regression in the analysis exploring the association between race and any COVID-19 hospital contact. Adjusted for age, sex, deprivation level, household size, geographical region and comorbidities.**

*OR= Odds Ratio, RR= Risk Ratio 95%CI= 95% confidence interval.*

| | Maximally adjusted relative risk regression | Maximally adjusted Logistic Regression |
|---|---|---|
| | RR (95% CI) | OR (95%CI) |
| **Race** | | |
| White | 1 | 1 |
| Asian | 1.73 (1.44-2.08) | 1.69 (1.40-2.05) |
| Black | 1.19 (0.91-1.57) | 1.20 (0.95-1.53) |
| Mixed/Other | 1.29 (1.04-1.59) | 1.25 (1.03-1.53) |
| **Age Category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.55 (0.42-0.72) | 0.55 (0.42-0.72) |
| 2-5 years | 0.23 (0.18-0.29) | 0.23 (0.18-0.29) |
| 6-10 years | 0.26 (0.21-0.33) | 0.26 (0.21-0.33) |
| 11- 15 years | 0.44 (0.35-0.56) | 0.44 (0.35-0.56) |
| 16- 18 years | 0.85 (0.68-1.06) | 0.85 (0.68-1.06) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 0.96 (0.88-1.05) | 0.96 (0.88-1.05) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 0.9 (0.78-1.04) | 0.9 (0.78-1.04) |
| 3 | 0.93 (0.80-1.09) | 0.94 (0.80-1.10 |
| 4 | 0.78 (0.67-0.92) | 0.79 (0.67-0.92) |
| 5 (most deprived) | 0.80 (0.67-0.96) | 0.81 (0.68-0.97) |
| **Region** | | |
| East Midlands | 1 | 1 |
| East of England | 0.99 (0.62-1.59) | 0.99 (0.62-1.59) |
| London | 0.93 (0.61-1.42) | 0.93 (0.61-1.42) |
| North East | 1.54 (0.94-2.53) | 1.53 (0.93-2.53) |
| North West | 1.65 (1.08-2.51) | 1.65 (1.08-2.51) |
| South Central | 1.00 (0.65-1.54) | 1.00 (0.65-1.54) |
| South East | 1.42 (0.85-2.35) | 1.42 (0.85-2.35) |
| South West | 1.11 (0.71-1.74) | 1.11 (0.71-1.74) |
| West Midlands | 1.31 (0.85-2.03) | 1.32 (0.85-2.04) |
| Yorkshire & Humber | 1.29 (0.79-2.09) | 1.29 (0.79-2.09) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 1.03 (0.89-1.19) | 1.06 (0.91-1.22) |
| 6-9 people | 0.88 (0.71-1.09) | 0.90 (0.73-1.13) |
| 10 or more people | 1.26 (0.79-1.89) | 1.25 (0.83-1.90) |
| **Comorbidities** | | |
| Diabetes (type 1) | 3.55 (2.16-5.81) | 3.55 (2.16-5.81) |
| Asthma | 1.18 (1.02-1.37) | 1.18 (1.02-1.37) |
| Congenital heart disease | 1.84 (1.28-2.64) | 1.83 (1.28-2.64) |
| Cerebral Palsy | 2.87 (1.58-5.23) | 2.87 (1.58-5.23) |
| Epilepsy | 2.88 (1.99-4.17) | 2.88 (1.99-4.17) |
| Sickle cell disease | 3.81(1.43-10.16) | 3.79 (1.42-10.11) |

**eTable 10: Comparison of maximally adjusted regression estimates for logistic regression and relative risk regression regression in the analysis exploring the association between race and hospital admission. Adjusted for age, sex, deprivation level, household size, geographical region and comorbidities.**

*OR= Odds Ratio, RR= Risk Ratio 95%CI= 95% confidence interval.*

| | Maximally adjusted relative risk regression RR (95% CI) | Maximally adjusted Logistic Regression OR (95%CI) |
|---|---|---|
| **Race** | | |
| White | 1 | 1 |
| Asian | 1.68(1.20-2.36) | 1.62 (1.12-2.36) |
| Black | 1.45 (0.86-2.44) | 1.44 (0.9-2.31) |
| Mixed/Other | 1.49 (1.00-2.2) | 1.40 (0.93-2.10) |
| **Age Category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.38 (0.27-0.55) | 0.38 (0.26-0.56) |
| 2-5 years | 0.10 (0.069-0.14) | 0.10 (0.07-0.14) |
| 6-10 years | 0.057 (0.04-0.08) | 0.06 (0.04-0.08) |
| 11- 15 years | 0.072 (0.05-0.10) | 0.07 (0.05-0.10) |
| 16- 18 years | 0.11(0.08-0.16) | 0.11 (0.08-0.16) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 1.19 (0.96-1.48) | 1.19 (0.97-1.47) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 1.01 (0.69-1.50) | 1.01 (0.68-1.50) |
| 3 | 1.24 (0.85-1.80) | 1.24 (0.84-1.83) |
| 4 | 1.20 (0.82-1.76) | 1.21 (0.83-1.77) |
| 5 (most deprived) | 1.48 (1.00-2.20) | 1.48 (1.00-2.20) |
| **Region** | | |
| East Midlands | 1 | 1 |
| East of England | 1.31 (0.47-3.67) | 1.31 (0.51-3.33) |
| London | 1.35 (0.55-3.33) | 1.37 (0.60-3.09) |
| North East | 0.72 (0.2-2.70) | 0.72 (0.22-2.38) |
| North West | 1.21 (0.48-3.02) | 1.21 (0.54-2.08) |
| South Central | 0.86 (0.33-2.21) | 0.86 (0.36-2.08) |
| South East | 1.10(0.43-2.83) | 1.10 (0.46-2.60) |
| South West | 0.79 (0.33-2.21) | 0.79 (0.32-1.95) |
| West Midlands | 1.17 (0.46-2.99) | 1.18 (0.51-2.75) |
| Yorkshire & Humber | 0.61 (0.18-2.11) | 0.61 (0.20-1.88) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 0.94 (0.70-1.24) | 0.94 (0.7-1.26) |
| 6-9 people | 1.1 (0.72-1.66) | 1.12 (0.76-1.67) |
| 10 or more people | 0.90 (0.33-2.47) | 0.87 (0.31-2.45) |
| **Comorbidities** | | |
| Diabetes (type 1) | 10.13 (4.14-24.86) | 10.11 (4.12-24.80) |
| Asthma | 1.43 (0.94-2.19) | 1.43 (0.95 -2.16) |
| Congenital heart disease | 2.69 (1.26-5.72) | 2.69 (1.27-5.71) |
| Cerebral Palsy | 7.97 (3.3-19.07) | 7.96 (2.70-22.76) |
| Epilepsy | 6.17 (3.14-12.12) | 6.17 (2.77-13.73) |
| Sickle cell disease | 8.18 (1.98-33.78) | 8.24 (2.02-33.51) |

**eTable 11: Comparison of maximally adjusted regression estimates for logistic regression and relative risk regression in the analysis exploring the association between race and intensive care admission. Adjusted for age, sex, deprivation level, household size and comorbidities.** *OR= Odds Ratio, RR= Risk Ratio 95%CI= 95% confidence interval.*

| | Maximally adjusted relative risk regression RR (95% CI) | Maximally adjusted Logistic Regression OR (95%CI) |
|---|---|---|
| **Race** | | |
| White | 1 | 1 |
| Asian | 2.30 (1.13 -4.70) | 2.11 (1.07-4.14) |
| Black | 1.56 (0.51 – 4.80) | 1.35 (0.47-3.87) |
| Mixed/Other | 1.47 (0.62-3.51) | 1.20 (0.48-3.01) |
| **Age category** | | |
| 0-3 months | 1 | 1 |
| 3-12 months | 0.12 (0.05-0.29) | 0.12 (0.05-0.28) |
| 2-5 years | 0.05 (0.03-0.10) | 0.05 (0.02-0.11) |
| 6-10 years | 0.04 (0.02-0.07) | 0.04 (0.02-0.07) |
| 11- 15 years | 0.04 (0.02-0.09) | 0.04 (0.02-0.09) |
| 16- 18 years | 0.03 (0.01-0.08) | 0.03 (0.01-0.08) |
| **Sex** | | |
| Female | 1 | 1 |
| Male | 1.49 (0.93-2.39) | 1.49 (0.92-2.41) |
| **Townsend Quintile** | | |
| 1 (least deprived) | 1 | 1 |
| 2 | 1.21 (0.46-3.19) | 1.37 (0.44-3.10) |
| 3 | 1.78 (0.72-4.36) | 1.80 (0.74-4.40) |
| 4 | 1.22 (0.46-3.24) | 1.25 (0.49-3.19) |
| 5 (most deprived) | 2.44 (0.95-6.26) | 2.46 (1.00-6.05) |
| **Household Size** | | |
| 2 people | 1 | 1 |
| 3-5 people | 1.26 (0.63-2.53) | 1.31 (0.6-2.84) |
| 6-9 people | 0.98 (0.34-2.84) | 1.05 (0.36-3.09) |
| 10 or more people | 1.84 (0.40-8.42) | 1.99 (0.40-9.79) |
| **Comorbidities** | | |
| Diabetes (type 1) | 10.45 (1.37-79.4) | 10.35 (1.23-87.30) |
| Asthma | 1.17 (0.41-3.33) | 1.17 (0.40-3.41) |
| Congenital heart disease | 9.52 (3.66-24.78) | 9.4 (3.79-26.54) |
| Cerebral Palsy | 25.21 (7.19-88.36) | 25.16 (4.53-139.83) |
| Epilepsy | 6.82 (1.95-23.74) | 6.81 (1.27-36.46) |
| Sickle cell disease | 17.00 (2.07-139.70) | 18.31 (2.22-150.95) |

**eTable 12: Study population according to race before and after imputation**

| Race | Before imputation (col %) | 1 (col %) | 2 (col %) | 3 (col %) | 4 (col %) | 5 (col %) | 6 (col %) | 7 (col %) | 8 (col %) | 9 (col %) | 10 (col %) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| White | 1,311,041 (73.0) | 1,903,718 (73.9) | 1,901,699 (73.8) | 1,902,907 (73.8) | 1,902,176 (73.8) | 1,902,674 (73.8) | 1,901,776 (73.8) | 1,902,769 (73.8) | 1,902,605 (73.8) | 1,902,266 (73.8) | 1,901,713 (73.8) |
| Asian | 243,545 (13.5) | 338,275 (13.1) | 339,579 (13.1) | 339,016 (13.1) | 338,829 (13.1) | 339,026 (13.1) | 339,581 (13.1) | 339,156 (13.1) | 339,201 (13.1) | 339,166 (13.1) | 338,694 (13.1) |
| Black | 93,620 (5.2) | 126,261 (4.9) | 126,605 (4.9) | 126,645 (4.9) | 126,961 (4.9) | 126,482 (4.9) | 126,839 (4.9) | 126,540 (4.9) | 126,658 (4.9) | 126,903 (4.9) | 127,173 (4.9) |
| Mixed/ Other | 147,529 (8.2) | 207,999 (8.1) | 208,470 (8.1) | 207,785 (8.1) | 208,387 (8.1) | 208,171 (8.1) | 208,157 (8.1) | 207,888 (8.1) | 207,889 (8.1) | 208,018 (8.1) | 208,773 (8.1) |
| Total | 1,795,735 | 2,576,353 | 2,576,353 | 2,576,353 | 2,576,353 | 2,576,353 | 2,576,353 | 2,576,353 | 2,576,353 | 2,576,353 | 2,576,353 |

**eFigure 1a. Univariate regression analysis exploring the association between race and having a positive SARS-CoV-2 test (if tested).**
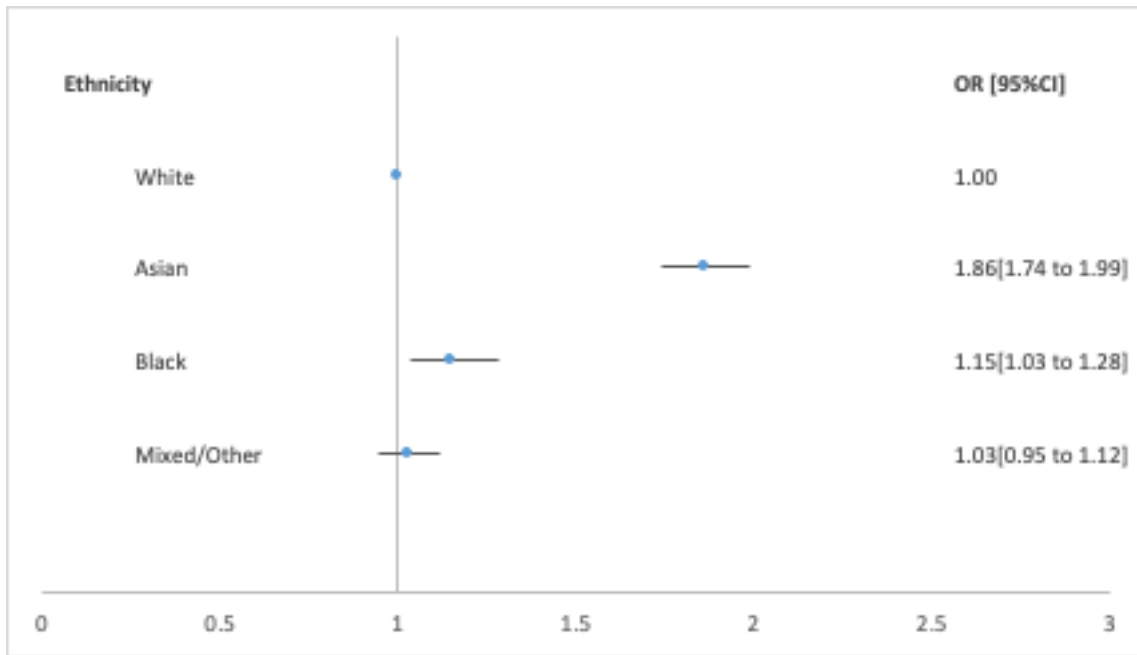


Univariate logistic regression analysis exploring the association between Race and having a positive SARS-CoV-2 test (if tested). OR= Odds Ratio, 95%CI= 95% confidence interval.

**eFigure 1b. Adjusted regression analysis exploring the association between race and having a positive SARS-CoV-2 test (if tested).**
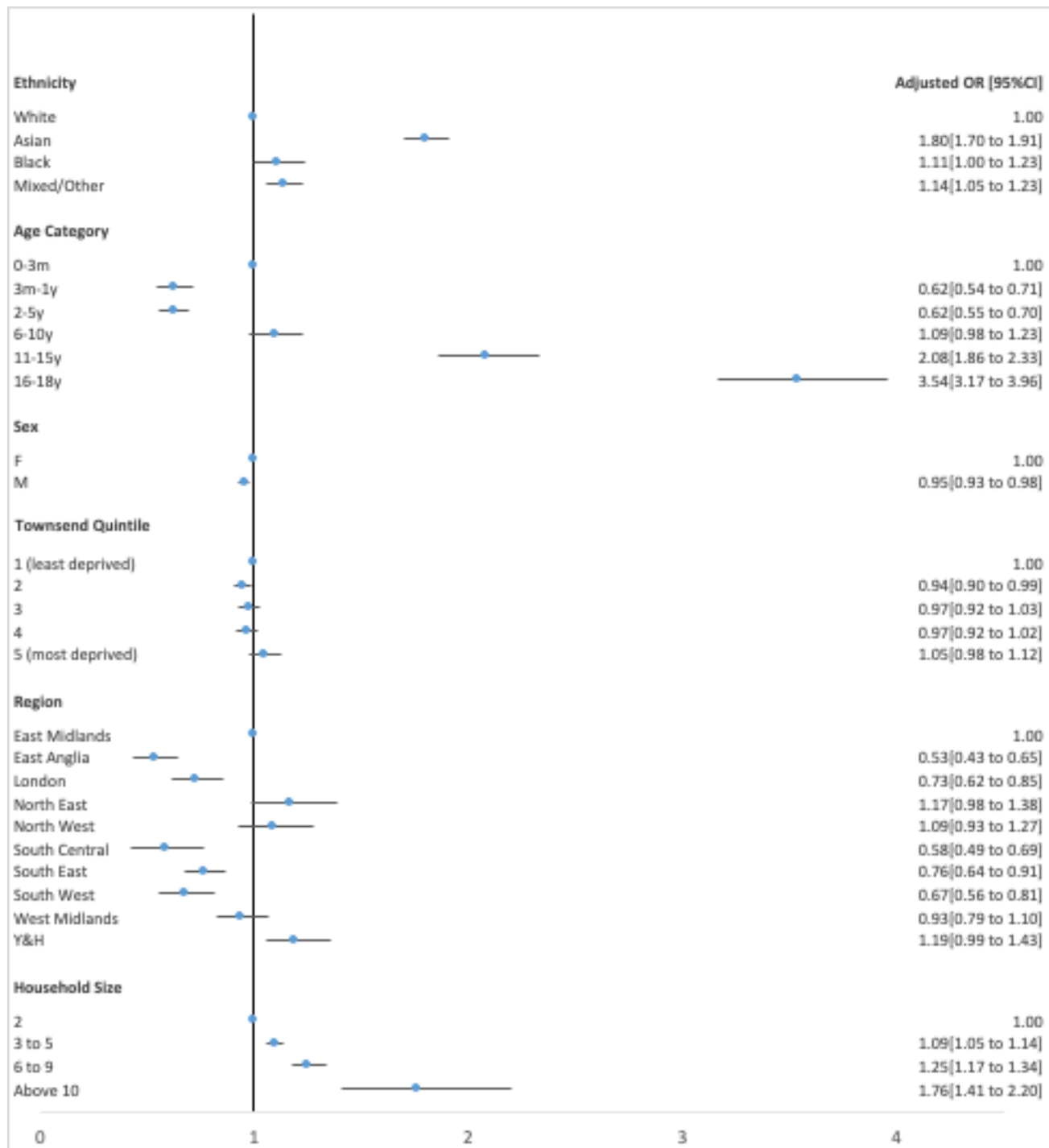


Adjusted logistic regression analysis exploring the association between Race and having a positive SARS-CoV-2 test (if tested). Adjustment for demographics only (age, sex, deprivation level, region and household size). Y&H = Yorkshire & Humber OR= Odds Ratio, 95%CI= 95% confidence interval.

**eFigure 2a. Univariate regression analysis exploring the association between race and hospital contact (any admission or attendance to hospital).**
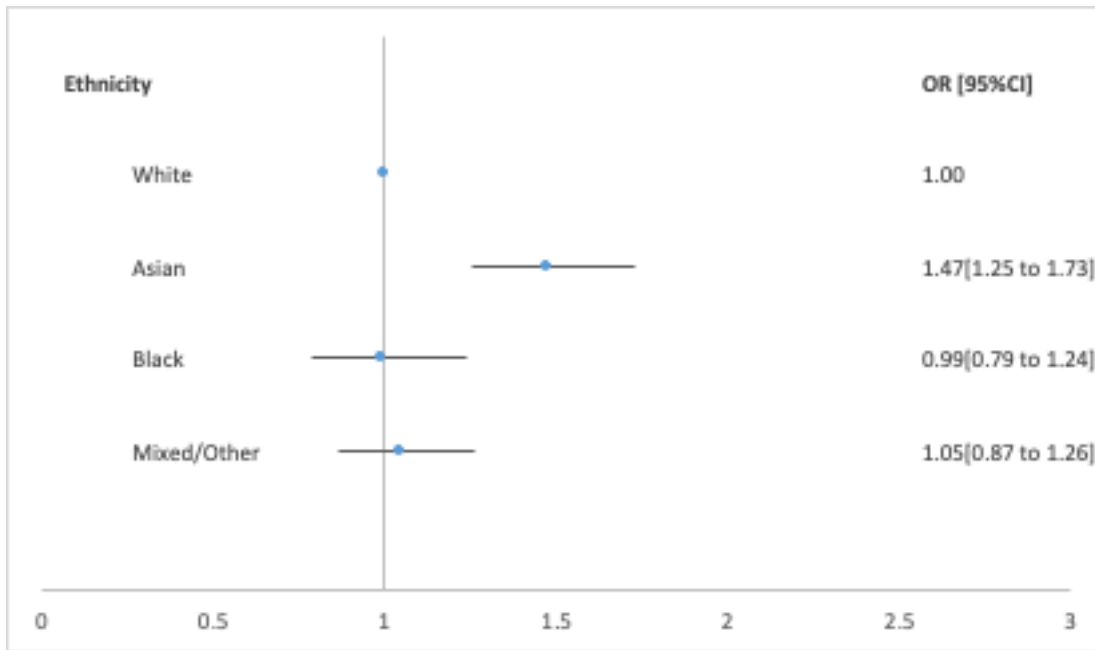


Univariate logistic regression analysis exploring the association between Race and any hospital contact (any admission or attendance to hospital). OR= Odds Ratio, 95%CI= 95% confidence interval.

# eFigure 2b. Adjusted regression analysis exploring the association between race and hospital contact (any admission or attendance to hospital).



| | Adjusted OR [95%CI] |
|---|---|
| **Ethnicity** | |
| White | 1.00 |
| Asian | 1.69[1.39 to 2.04] |
| Black | 1.22[0.96 to 1.56] |
| Mixed/Other | 1.25[1.02 to 1.53] |
| **Age Category** | |
| 0-3m | 1.00 |
| 3m-1y | 0.56[0.42 to 0.73] |
| 2-5y | 0.23[0.18 to 0.30] |
| 6-10y | 0.27[0.22 to 0.35] |
| 11-15y | 0.47[0.37 to 0.59] |
| 16-18y | 0.91[0.73 to 1.14] |
| **Sex** | |
| F | 1.00 |
| M | 0.97[0.88 to 1.06] |
| **Townsend Quintile** | |
| 1 (least deprived) | 1.00 |
| 2 | 0.91[0.78 to 1.05] |
| 3 | 0.94[0.81 to 1.10] |
| 4 | 0.79[0.68 to 0.92] |
| 5 (most deprived) | 0.81[0.68 to 0.97] |
| **Region** | |
| East Midlands | 1.00 |
| East Anglia | 1.00[0.62 to 1.59] |
| London | 0.92[0.60 to 1.41] |
| North East | 1.54[0.93 to 2.53] |
| North West | 1.65[1.08 to 2.51] |
| South Central | 1.00[0.65 to 1.53] |
| South East | 1.41[0.85 to 2.34] |
| South West | 1.11[0.71 to 1.74] |
| West Midlands | 1.31[0.85 to 2.03] |
| Y&H | 1.28[0.79 to 2.08] |
| **Household Size** | |
| 2 | 1.00 |
| 3 to 5 | 1.05[0.00 to 0.00] |
| 6 to 9 | 0.90[0.91 to 1.22] |
| Above 10 | 1.22[0.72 to 1.12] |
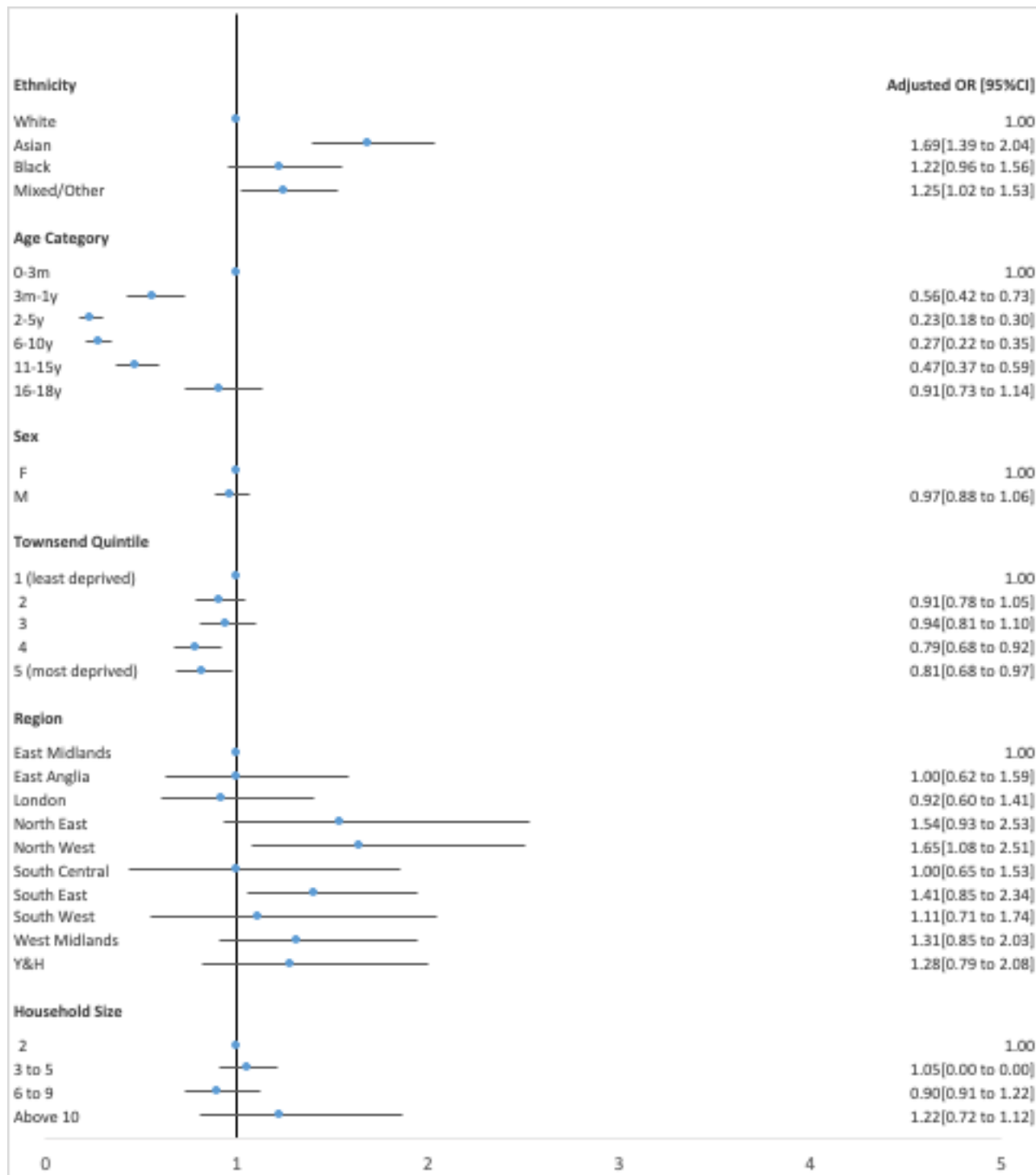
Adjusted logistic regression analysis exploring the association between Race and any hospital contact (any admission or attendance to hospital). Adjustment for demographics only (age, sex, deprivation level, region and household size). Y&H = Yorkshire & Humber OR= Odds Ratio, 95%CI= 95% confidence interval.

**eFigure 2c. Adjusted regression analysis exploring the association between race and hospital contact (admission or attendance).**



| | Adjusted OR [95%CI] |
|---|---|
| **Ethnicity** | |
| White | 1.00 |
| Asian | 1.69[1.40 to 2.05] |
| Black | 1.20[0.95 to 1.53] |
| Mixed/Other | 1.25[1.03 to 1.53] |
| **Age Category** | |
| 0-3m | 1.00 |
| 3m-1y | 0.55[0.42 to 0.72] |
| 2-5y | 0.23[0.18 to 0.29] |
| 6-10y | 0.26[0.21 to 0.33] |
| 11-15y | 0.44[0.35 to 0.56] |
| 16-18y | 0.85[0.68 to 1.06] |
| **Sex** | |
| F | 1.00 |
| M | 0.96[0.88 to 1.05] |
| **Townsend Quintile** | |
| 1 | 1.00 |
| 2 | 0.90[0.78 to 1.04] |
| 3 | 0.94[0.80 to 1.10] |
| 4 | 0.79[0.67 to 0.92] |
| 5 | 0.81[0.68 to 0.97] |
| **Region** | |
| East Midlands | 1.00 |
| East Anglia | 0.99[0.62 to 1.59] |
| London | 0.93[0.61 to 1.42] |
| North East | 1.53[0.93 to 2.53] |
| North West | 1.65[1.08 to 2.51] |
| South Central | 1.00[0.65 to 1.54] |
| South East | 1.42[0.85 to 2.35] |
| South West | 1.11[0.71 to 1.74] |
| West Midlands | 1.32[0.85 to 2.04] |
| Y&H | 1.29[0.79 to 2.09] |
| **Household Size** | |
| 2 | 1.00 |
| 3 to 5 | 1.06[0.91 to 1.22] |
| 6 to 9 | 0.90[0.73 to 1.13] |
| Above 10 | 1.25[0.83 to 1.90] |
| **Comorbidities** | |
| T1DM | 3.55[2.16 to 5.81] |
| Asthma | 1.18[1.02 to 1.37] |
| CHD | 1.83[1.28 to 2.64] |
| CP | 2.87[1.58 to 5.23] |
| Epilepsy | 2.88[1.99 to 4.17] |
| SCD | 3.79[1.42 to 10.11] |

Maximally adjusted logistic regression analysis exploring the association between Race and any hospital contact (any admission or attendance to hospital). Adjustment for demographics (age, sex, deprivation level, region and household size) and all relevant comorbidities (asthma, type 1 diabetes, congenital heart disease, cerebral palsy, epilepsy, sickle cell disease). *Y&H = Yorkshire & Humber, CHD= congenital heart disease, T1DM = Type 1 Diabetes, CP= Cerebral Palsy, SCD= Sickle Cell Disease, OR= Odds Ratio, 95%CI= 95% confidence interval.*

**eFigure 3a. Univariate regression analysis exploring the association between race and hospital admission.**



| Ethnicity | | OR [95%CI] |
|---|---|---|
| White | | 1.00 |
| Asian | | 1.95[1.39 to 2.73] |
| Black | | 1.90[1.23 to 2.93] |
| Mixed/Other | | 1.81[1.24 to 2.63] |
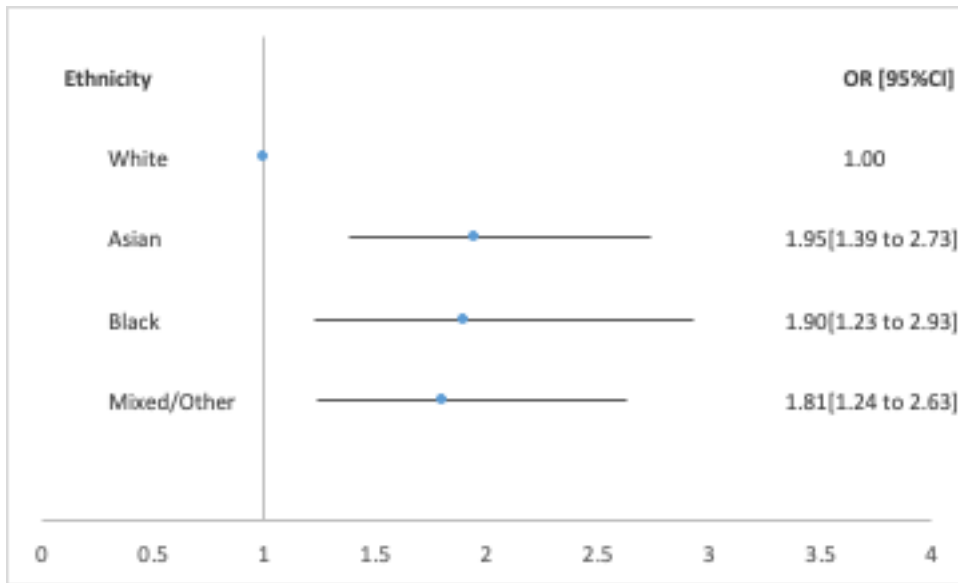
Univariate logistic regression analysis exploring the association between Race and hospital admission. OR= Odds Ratio, 95%CI= 95% confidence interval.

**eFigure 3b. Adjusted regression analysis exploring the association between race and hospital admission.**



| | OR [95%CI] |
|---|---|
| **Ethnicity** | |
| White | 1.00 |
| Asian | 1.61[1.11 to 2.34] |
| Black | 1.49[0.93 to 2.40] |
| Mixed/Other | 1.40[0.93 to 2.10] |
| **Age Category** | |
| 0-3m | 1.00 |
| 3m-1y | 0.39[0.27 to 0.57] |
| 2-5y | 0.10[0.07 to 0.15] |
| 6-10y | 0.06[0.04 to 0.09] |
| 11-15y | 0.08[0.06 to 0.12] |
| 16-18y | 0.14[0.09 to 0.20] |
| **Sex** | |
| F | 1.00 |
| M | 1.21[0.98 to 1.50] |
| **Townsend Quintile** | |
| 1 (least deprived) | 1.00 |
| 2 | 1.01[0.68 to 1.51] |
| 3 | 1.25[0.84 to 1.84] |
| 4 | 1.21[0.83 to 1.77] |
| 5 (most deprived) | 1.50[1.01 to 2.23] |
| **Region** | |
| East Midlands | 1.00 |
| East Anglia | 1.31[0.52 to 3.35] |
| London | 1.35[0.60 to 3.06] |
| North East | 0.72[0.22 to 2.39] |
| North West | 1.21[0.53 to 2.76] |
| South Central | 0.85[0.35 to 2.06] |
| South East | 1.09[0.46 to 2.57] |
| South West | 0.79[0.32 to 1.95] |
| West Midlands | 1.17[0.50 to 2.74] |
| Y&H | 0.61[0.20 to 1.88] |
| **Household Size** | |
| 2 | 1.00 |
| 3 to 5 | 0.93[0.70 to 1.25] |
| 6 to 9 | 1.12[0.75 to 1.66] |
| Above 10 | 0.84[0.30 to 2.36] |

Adjusted logistic regression analysis exploring the association between Race and hospital admission. Adjustment for demographics only (age, sex, deprivation level, region and household size). Y&H = Yorkshire & Humber OR= Odds Ratio, 95%CI= 95% confidence interval.

**eFigure 4a. Univariate regression analysis exploring the association between race and i) hospitalization duration <36 hours and, ii) hospitalization duration ≥36 hours.**



Univariate logistic regression analysis exploring the association between Race and i) hospitalization duration <36 hours and, ii) hospitalization duration ≥36 hours. OR= Odds Ratio, 95%CI= 95% confidence interval.

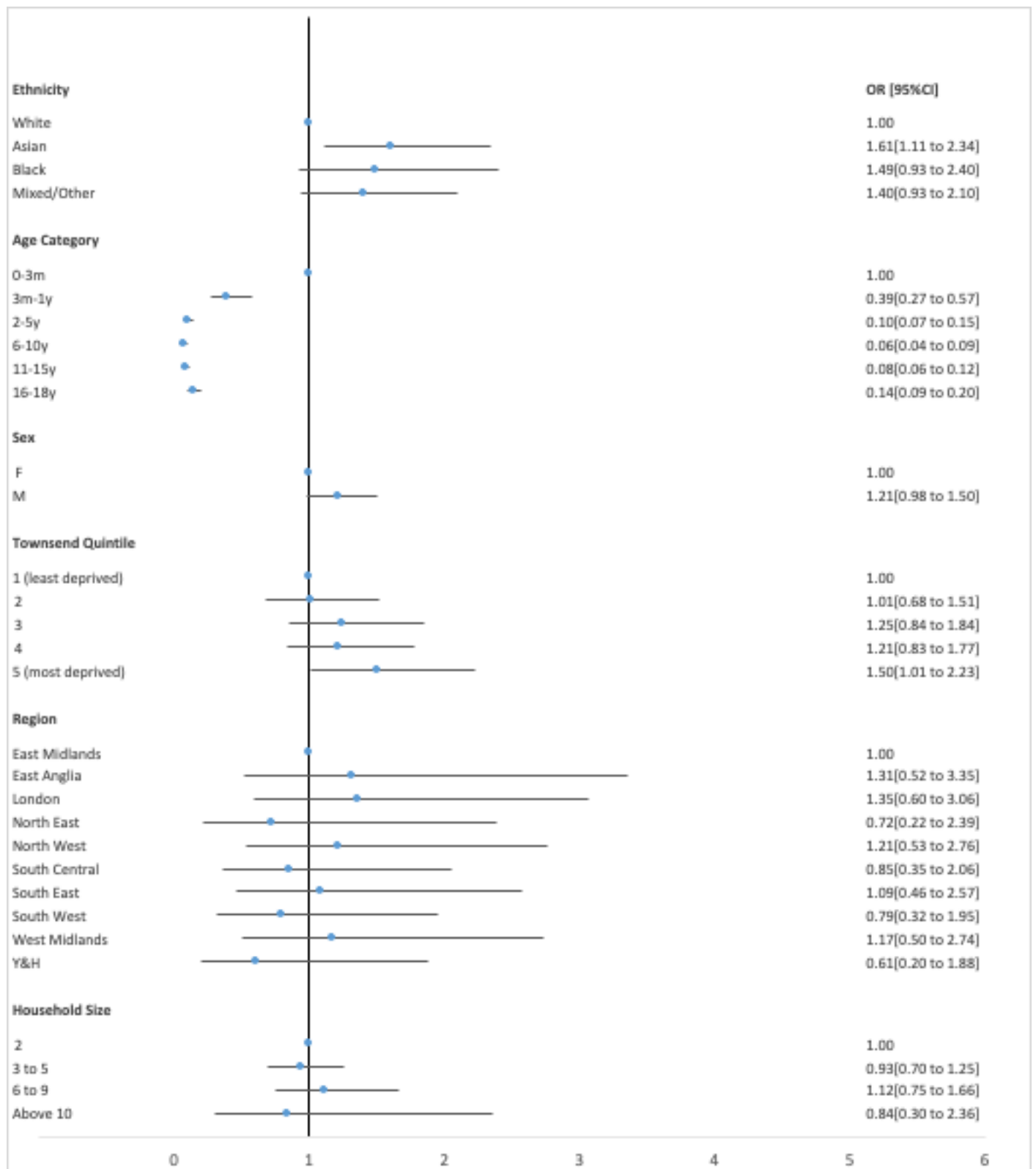**eFigure 4b. Adjusted regression analysis exploring the association between race and i) hospitalisation duration <36 hours and, ii) hospitalisation duration ≥36 hours.**



*Admission <36hrs*

| | Adjusted OR [95%CI] |
|---|---|
| **Ethnicity** | |
| White | 1.00 |
| Asian | 1.28[0.78 to 2.09] |
| Black | 2.95[1.53 to 5.69] |
| Mixed/Other | 1.48[0.81 to 2.71] |
| **Age Category** | |
| 0-3m | 1.00 |
| 3m-1y | 0.52[0.31 to 0.86] |
| 2-5y | 0.13[0.08 to 0.21] |
| 6-10y | 0.04[0.02 to 0.06] |
| 11-15y | 0.02[0.01 to 0.04] |
| 16-18y | 0.02[0.01 to 0.04] |
| **Sex** | |
| F | 1.00 |
| M | 1.42[1.06 to 1.89] |
| **Townsend Quintile** | |
| 1 (least deprived) | 1.00 |
| 2 | 0.96[0.56 to 1.65] |
| 3 | 1.21[0.73 to 2.00] |
| 4 | 1.10[0.66 to 1.85] |
| 5 (most deprived) | 1.43[0.85 to 2.41] |
| **Household Size** | |
| 2 | 1.00 |
| 3 to 5 | 0.95[0.63 to 1.43] |
| 6 to 9 | 0.81[0.44 to 1.51] |
| Above 10 | 0.99[0.28 to 3.53] |

i)

**ii)**

Adjusted logistic regression analysis exploring the association between Race and i) hospitalization duration <36 hours and, ii) hospitalization duration ≥36 hours. Adjustment for demographics (age, sex, deprivation level and household size) with outcome. OR= Odds Ratio, 95%CI= 95% confidence interval.

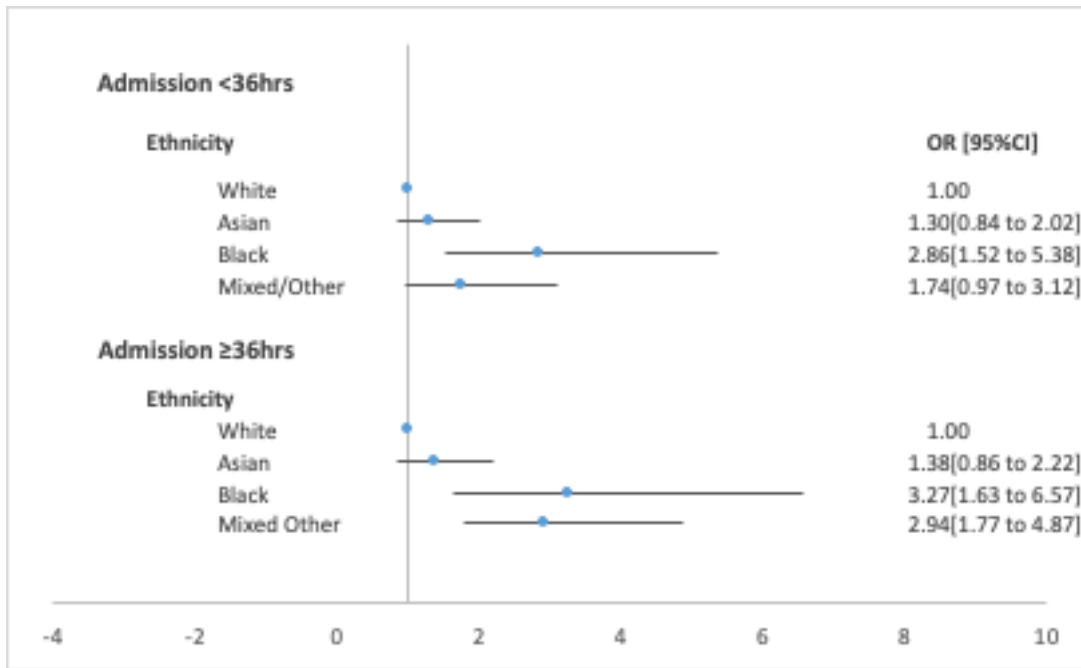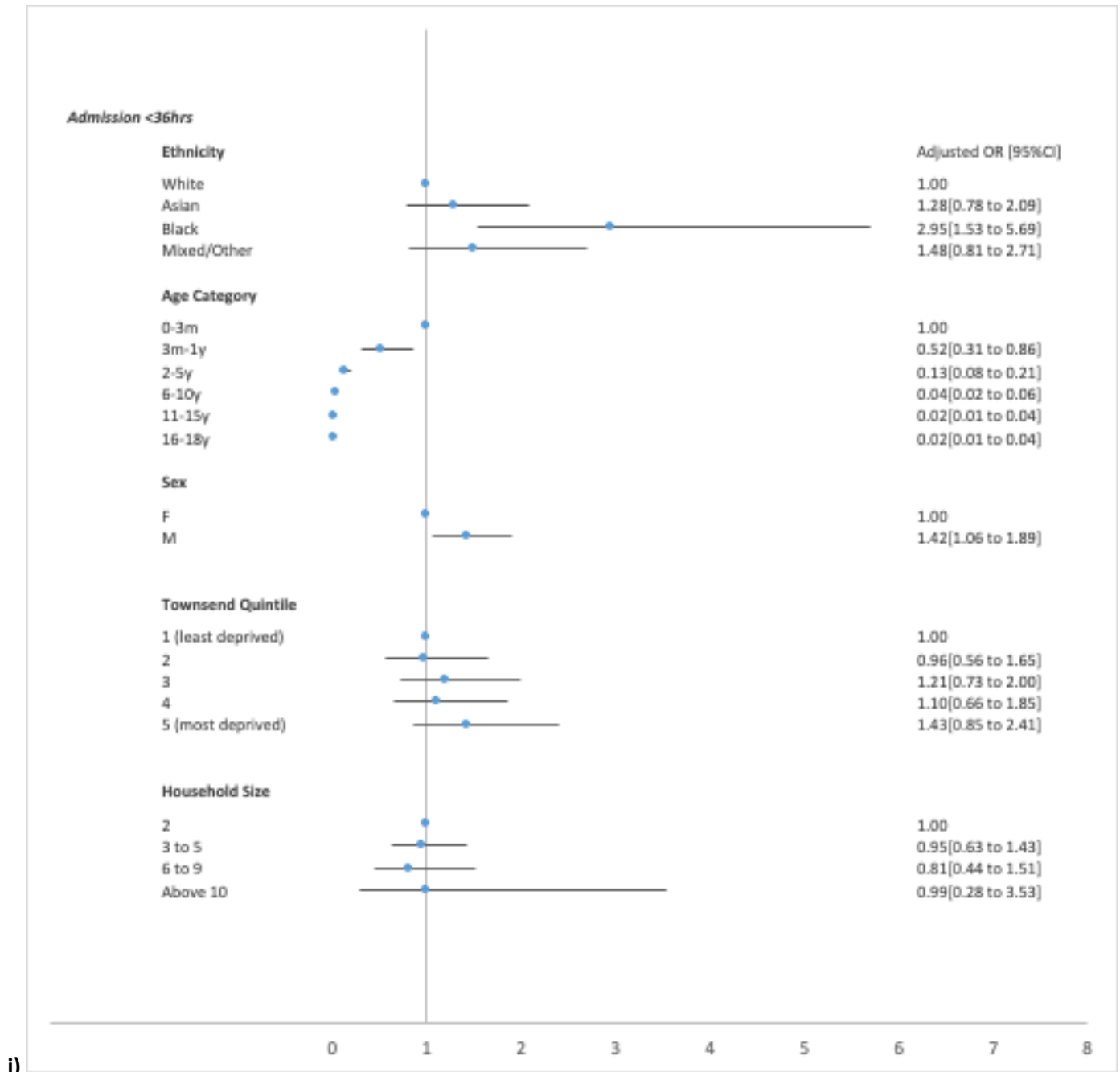**eFigure 5a. Univariate regression analysis exploring the association between race and intensive care admission.**
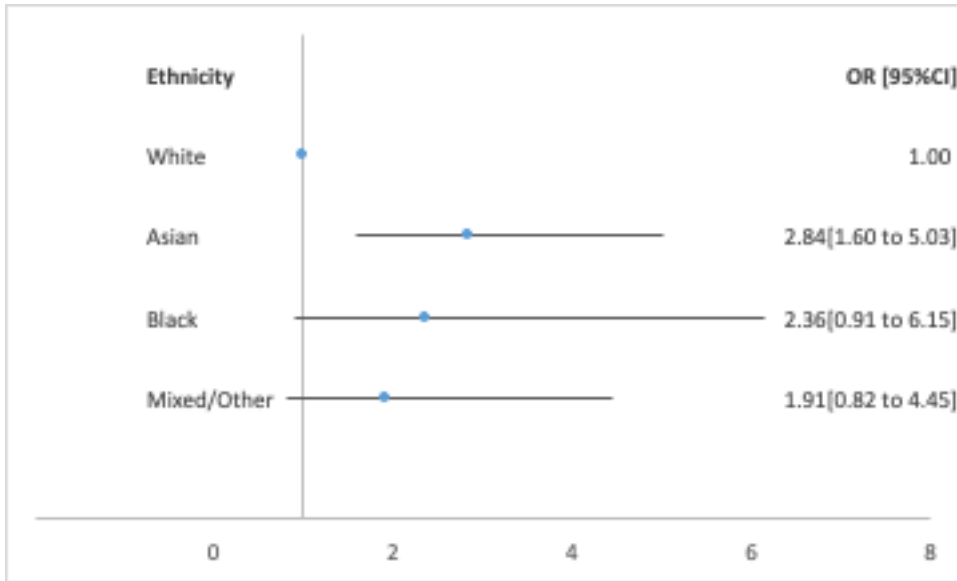


Univariate logistic regression analysis exploring the association between Race and intensive care admission. OR= Odds Ratio, 95%CI= 95% confidence interval.

**eFigure 5b. Adjusted regression analysis exploring the association between race and intensive care admission.**



| | OR [95%CI] |
|---|---|
| **Ethnicity** | |
| White | 1.00 |
| Asian | 2.04[1.04 to 3.97] |
| Black | 1.48[0.52 to 4.25] |
| Mixed/Other | 1.20[0.48 to 2.98] |
| **Age Category** | |
| 0-3m | 1.00 |
| 3m-1y | 0.13[0.05 to 0.31] |
| 2-5y | 0.06[0.03 to 0.13] |
| 6-10y | 0.05[0.02 to 0.09] |
| 11-15y | 0.06[0.03 to 0.12] |
| 16-18y | 0.04[0.02 to 0.11] |
| **Sex** | |
| F | 1.00 |
| M | 1.53[0.96 to 2.45] |
| **Townsend Quintile** | |
| 1 (least deprived) | 1.00 |
| 2 | 1.16[0.44 to 3.05] |
| 3 | 1.83[0.76 to 4.45] |
| 4 | 1.25[0.49 to 3.20] |
| 5 (most deprived) | 2.58[1.05 to 6.32] |
| **Region** | |
| East Midlands | 1.00 |
| East Anglia | 0.76[0.14 to 4.10] |
| London | 0.75[0.19 to 2.88] |
| North East | 0.43[0.04 to 4.19] |
| North West | 0.14[0.03 to 0.75] |
| South Central | 0.56[0.14 to 2.31] |
| South East | 0.87[0.22 to 3.52] |
| South West | 0.21[0.03 to 1.31] |
| West Midlands | 0.56[0.13 to 2.44] |
| **Household Size** | |
| 2 | 1.00 |
| 3 to 5 | 1.29[0.60 to 2.79] |
| 6 to 9 | 1.05[0.36 to 3.09] |
| Above 10 | 1.92[0.39 to 9.56] |

Adjusted logistic regression analysis exploring the association between Race and intensive care admission. OR= Odds Ratio, 95%CI= 95% confidence interval.  Adjustment for demographics only (age, sex, deprivation level, region and household size).
Y&H = Yorkshire & Humber OR= Odds Ratio, 95%CI= 95% confidence interval.

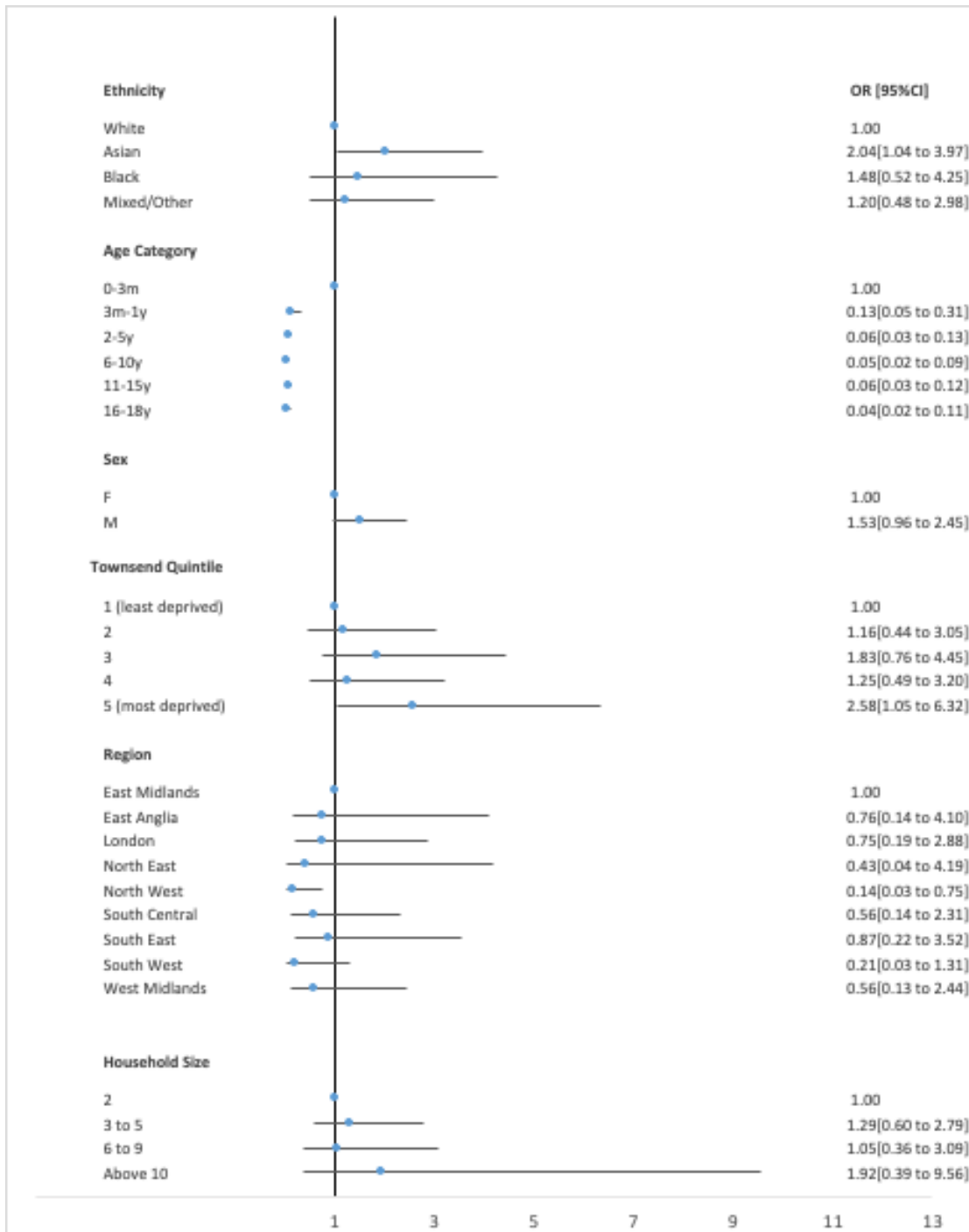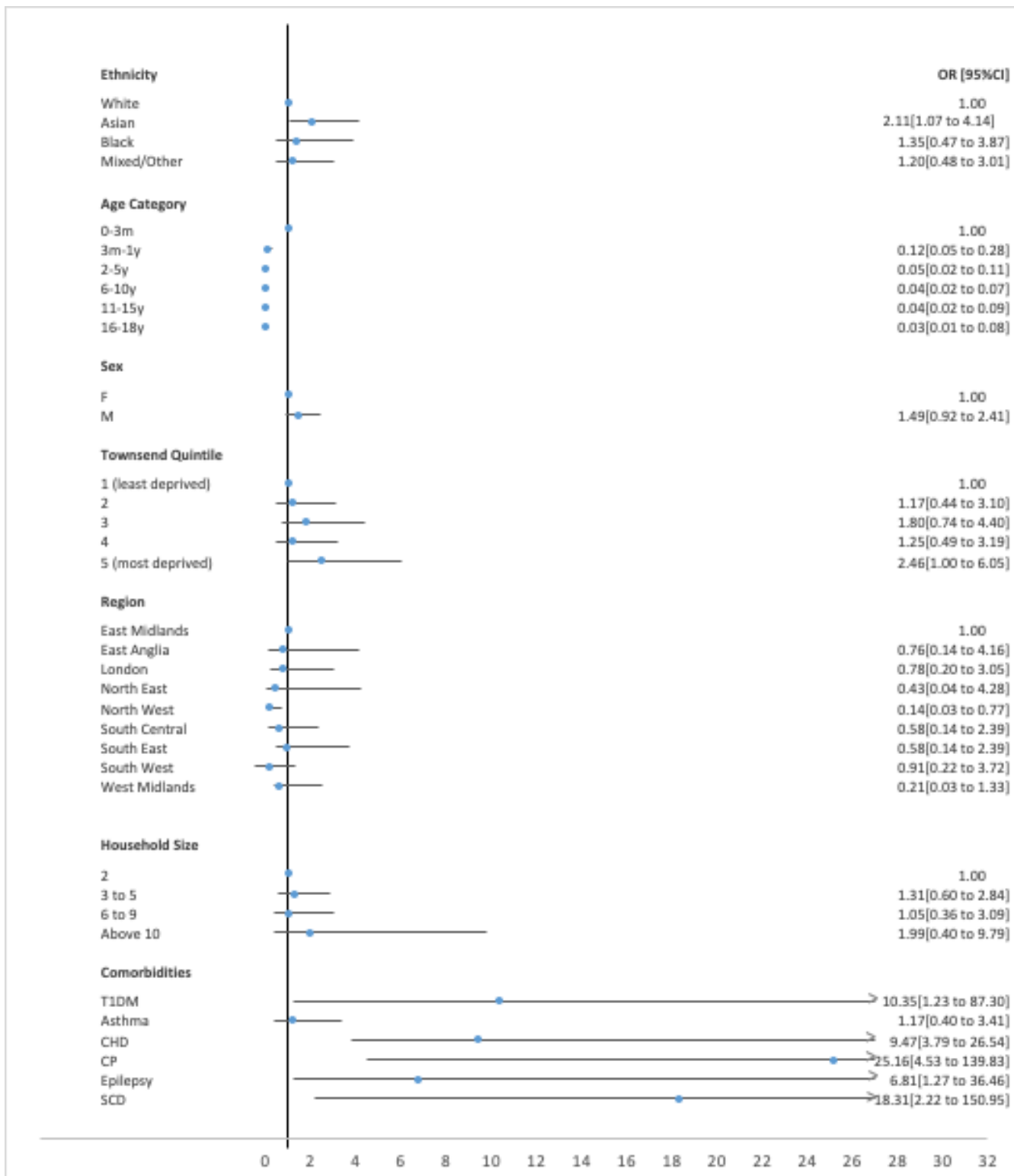# eFigure 5c. Adjusted regression analysis exploring the association between race and intensive care admission.



| | OR [95%CI] |
|---|---|
| **Ethnicity** | |
| White | 1.00 |
| Asian | 2.11[1.07 to 4.14] |
| Black | 1.35[0.47 to 3.87] |
| Mixed/Other | 1.20[0.48 to 3.01] |
| **Age Category** | |
| 0-3m | 1.00 |
| 3m-1y | 0.12[0.05 to 0.28] |
| 2-5y | 0.05[0.02 to 0.11] |
| 6-10y | 0.04[0.02 to 0.07] |
| 11-15y | 0.04[0.02 to 0.09] |
| 16-18y | 0.03[0.01 to 0.08] |
| **Sex** | |
| F | 1.00 |
| M | 1.49[0.92 to 2.41] |
| **Townsend Quintile** | |
| 1 (least deprived) | 1.00 |
| 2 | 1.17[0.44 to 3.10] |
| 3 | 1.80[0.74 to 4.40] |
| 4 | 1.25[0.49 to 3.19] |
| 5 (most deprived) | 2.46[1.00 to 6.05] |
| **Region** | |
| East Midlands | 1.00 |
| East Anglia | 0.76[0.14 to 4.16] |
| London | 0.78[0.20 to 3.05] |
| North East | 0.43[0.04 to 4.28] |
| North West | 0.14[0.03 to 0.77] |
| South Central | 0.58[0.14 to 2.39] |
| South East | 0.58[0.14 to 2.39] |
| South West | 0.91[0.22 to 3.72] |
| West Midlands | 0.21[0.03 to 1.33] |
| **Household Size** | |
| 2 | 1.00 |
| 3 to 5 | 1.31[0.60 to 2.84] |
| 6 to 9 | 1.05[0.36 to 3.09] |
| Above 10 | 1.99[0.40 to 9.79] |
| **Comorbidities** | |
| T1DM | 10.35[1.23 to 87.30] |
| Asthma | 1.17[0.40 to 3.41] |
| CHD | 9.47[3.79 to 26.54] |
| CP | 25.16[4.53 to 139.83] |
| Epilepsy | 6.81[1.27 to 36.46] |
| SCD | 18.31[2.22 to 150.95] |

Maximally adjusted logistic regression analysis exploring the association between Race and intensive care admission. OR= Odds Ratio, 95%CI= 95% confidence interval. Adjustment for demographics (age, sex, deprivation level, region and household size) and all relevant comorbidities (asthma, type 1 diabetes, congenital heart disease, cerebral palsy, epilepsy, sickle cell disease). T1DM = Type 1 Diabetes, CP= Cerebral Palsy, SCD= Sickle Cell Disease. OR= Odds Ratio, 95%CI= 95% confidence interval