Interactions between Age and Ethnicity as a determinant of Test Uptake between Sites

The attached results table with its accompanied forest plots provides insights into the interaction between age group and ethnicity as it relates to test uptake across different sites. Here is a detailed interpretation of the most significant interactions.

General Observations

Odds Ratio (OR): Indicates the multiplicative effect on the odds of the outcome (e.g., test uptake) compared to the reference group.

Confidence Interval (CI): Provides a range within which the true OR is likely to fall. If the CI does not include 1, the interaction effect is statistically significant.

p-value: Indicates whether the interaction effect is statistically significant. A p-value less than 0.05 typically indicates statistical significance.

Significant Interactions by Site

Site RYJ02 (Charing Cross Hospital)

1. **Age Group 50 to 64 and Ethnic Group Asian Other**

OR: 1.371

CI: [1.056, 1.78]

p-value: 0.018

Interpretation: For individuals aged 50 to 64 who are Asian Other at site RYJ02, the odds of the outcome are 1.371 times higher compared to the reference group, holding other variables constant. This interaction is statistically significant.

2. **Age Group 65 to 79 and Ethnic Group Asian Other**

OR: 1.611

CI: [1.219, 2.131]

p-value: 0.001

Interpretation: For individuals aged 65 to 79 who are Asian Other at site RYJ02, the odds of the outcome are 1.611 times higher compared to the reference group. This interaction is statistically significant.

3. **Age Group 50 to 64 and Ethnic Group Black African**

OR: 1.568

CI: [1.211, 2.03]

p-value: 0.001

Interpretation: For individuals aged 50 to 64 who are Black African at site RYJ02, the odds of the outcome are 1.568 times higher compared to the reference group. This interaction is statistically significant.

4. **Age Group 65 to 79 and Ethnic Group Black Caribbean**

OR: 1.423

CI: [1.012, 2.002]

p-value: 0.042

Interpretation: For individuals aged 65 to 79 who are Black Caribbean at site RYJ02, the odds of the outcome are 1.423 times higher compared to the reference group. This interaction is statistically significant.

5. **Age Group 80 and Over and Ethnic Group Black Caribbean**

OR: 1.436

CI: [1.031, 2.0]

p-value: 0.032

Interpretation: For individuals aged 80 and over who are Black Caribbean at site RYJ02, the odds of the outcome are 1.436 times higher compared to the reference group. This interaction is statistically significant.

Site RQM91 (West Middlesex University Hospital)

1. **Age Group 50 to 64 and Ethnic Group Asian Other**

OR: 1.36

CI: [1.124, 1.645]

p-value: 0.002

Interpretation: For individuals aged 50 to 64 who are Asian Other at site RQM91, the odds of the outcome are 1.36 times higher compared to the reference group. This interaction is statistically significant.

2. **Age Group 80 and Over and Ethnic Group Asian Other**

OR: 1.525

CI: [1.153, 2.017]

p-value: 0.003

Interpretation: For individuals aged 80 and over who are Asian Other at site RQM91, the odds of the outcome are 1.525 times higher compared to the reference group. This interaction is statistically significant.

3. **Age Group 50 to 64 and Ethnic Group Black Caribbean**

OR: 1.739

CI: [1.025, 2.949]

p-value: 0.04

Interpretation: For individuals aged 50 to 64 who are Black Caribbean at site RQM91, the odds of the outcome are 1.739 times higher compared to the reference group. This interaction is statistically significant.

Site R1H12 (The Royal London Hospital)

1. **Age Group 50 to 64 and Ethnic Group Black Caribbean**

OR: 1.967

CI: [1.313, 2.945]

p-value: 0.001

Interpretation: For individuals aged 50 to 64 who are Black Caribbean at site R1H12, the odds of the outcome are 1.967 times higher compared to the reference group. This interaction is statistically significant.

2. **Age Group 50 to 64 and Ethnic Group Other**

OR: 1.475

CI: [1.008, 2.16]

p-value: 0.045

Interpretation: For individuals aged 50 to 64 who are of Other ethnicity at site R1H12, the odds of the outcome are 1.475 times higher compared to the reference group. This interaction is statistically significant.

3. **Age Group 65 to 79 and Ethnic Group White Other**

OR: 1.423

CI: [1.004, 2.017]

p-value: 0.047

Interpretation: For individuals aged 65 to 79 who are White Other at site R1H12, the odds of the outcome are 1.423 times higher compared to the reference group. This interaction is statistically significant.

Site R0A07 (Wythenshawe Hospital)

1. **Age Group 50 to 64 and Ethnic Group Asian Other**

OR: 1.5

CI: [1.077, 2.09]

p-value: 0.017

Interpretation: For individuals aged 50 to 64 who are Asian Other at site R0A07, the odds of the outcome are 1.5 times higher compared to the reference group. This interaction is statistically significant.

2. **Age Group 25 to 34 and Ethnic Group Black African**

OR: 0.561

CI: [0.363, 0.869]

p-value: 0.01

Interpretation: For individuals aged 25 to 34 who are Black African at site R0A07, the odds of the outcome are 0.561 times lower compared to the reference group. This interaction is statistically significant.

3. **Age Group 65 to 79 and Ethnic Group Indian, Pakistani or Bangladeshi**

OR: 1.287

CI: [1.012, 1.638]

p-value: 0.04

Interpretation: For individuals aged 65 to 79 who are Indian, Pakistani or Bangladeshi at site R0A07, the odds of the outcome are 1.287 times higher compared to the reference group. This interaction is statistically significant.

4. **Age Group 80 and Over and Ethnic Group Mixed/Multiple**

OR: 3.14

CI: [1.23, 8.017]

p-value: 0.017

Interpretation: For individuals aged 80 and over who are of Mixed/Multiple ethnicity at site R0A07, the odds of the outcome are 3.14 times higher compared to the reference group. This interaction is statistically significant.

5. **Age Group 65 to 79 and Ethnic Group Other**

OR: 1.405

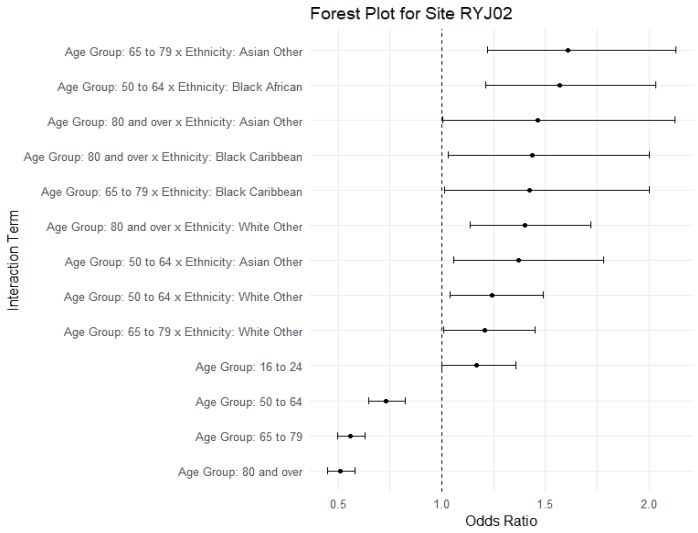
CI: [1.001, 1.971]

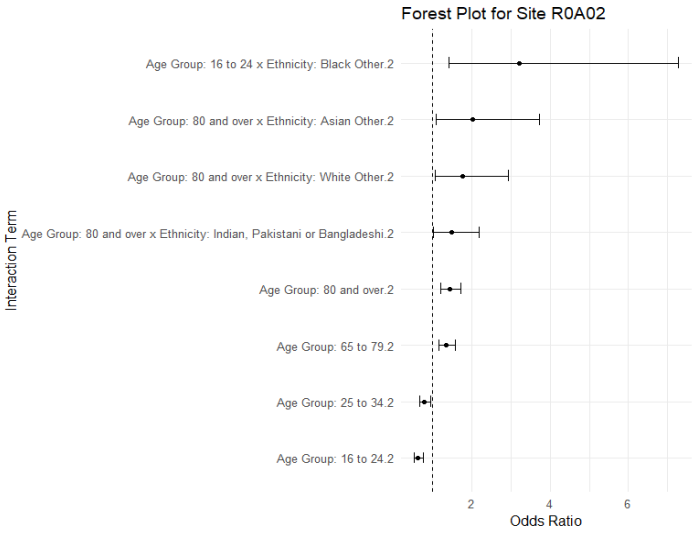
p-value: 0.049

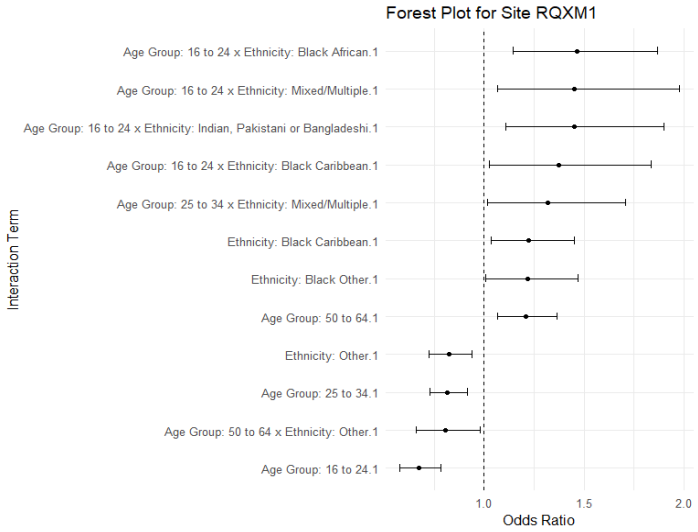
Interpretation: For individuals aged 65 to 79 who are of Other ethnicity at site R0A07, the odds of the outcome are 1.405 times higher compared to the reference group. This interaction is statistically significant.

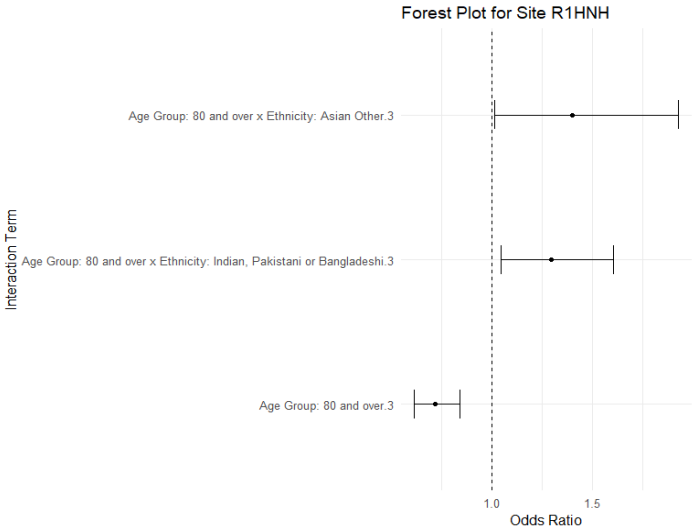
Conclusion

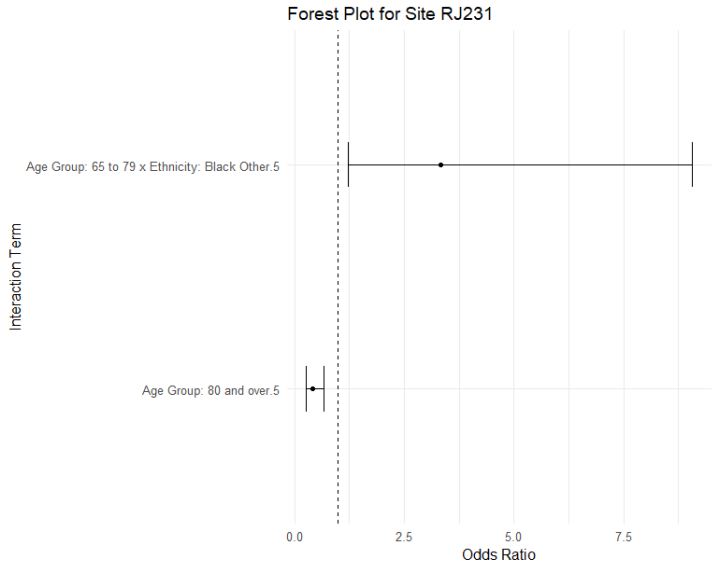
The significant interactions indicate that the effect of age on test uptake varies by ethnic group and site. These findings highlight the importance of considering both age and ethnicity when analysing test uptake across different sites. By focusing on specific interactions, targeted interventions can be designed to improve test uptake among particular age and ethnic groups at different sites.

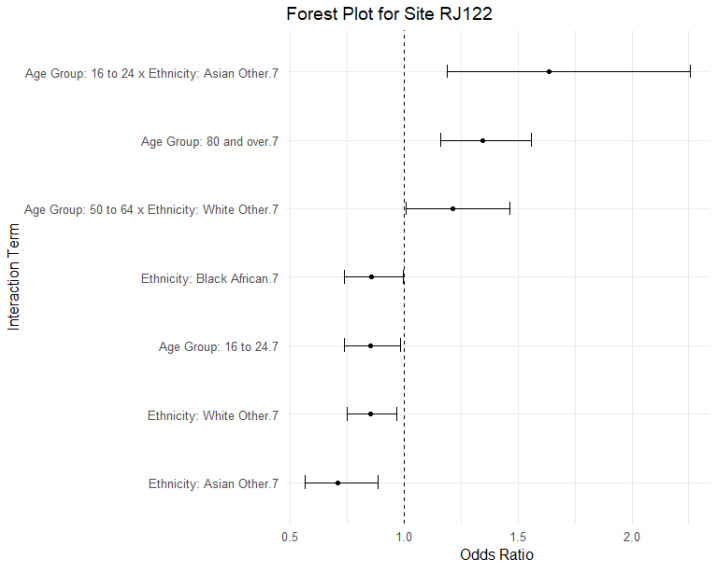

Forest Plot for Site RYJ02
Age Group: 65 to 79 x Ethnicity: Asian Other
Age Group: 50 to 64 x Ethnicity: Black African
Age Group: 80 and over x Ethnicity: Asian Other
Age Group: 80 and over x Ethnicity: Black Caribbean
Age Group: 65 to 79 x Ethnicity: Black Caribbean
Age Group: 80 and over x Ethnicity: White Other
Age Group: 50 to 64 x Ethnicity: Asian Other
Age Group: 50 to 64 x Ethnicity: White Other
Age Group: 65 to 79 x Ethnicity: White Other
Age Group: 16 to 24
Age Group: 50 to 64
Age Group: 65 to 79
Age Group: 80 and over
Interaction Term
0.5
1.0
1.5
2.0
Odds Ratio

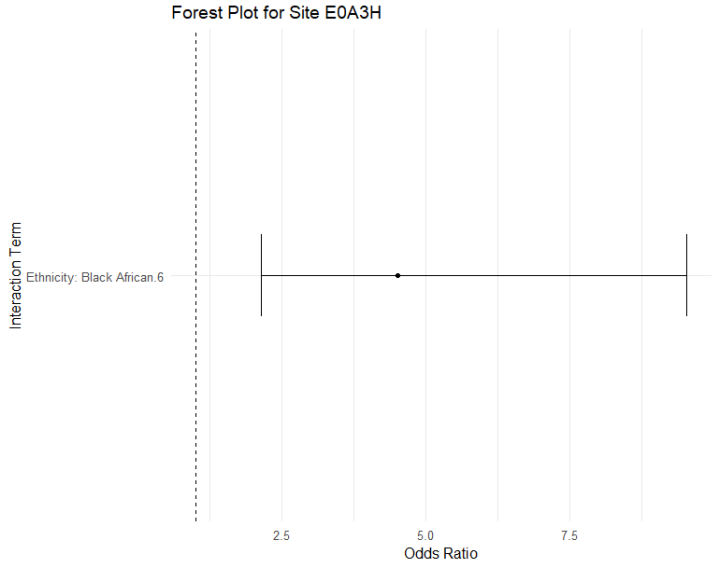

Forest Plot for Site R0A02
Age Group: 16 to 24 x Ethnicity: Black Other.2
Age Group: 80 and over x Ethnicity: Asian Other.2
Age Group: 80 and over x Ethnicity: White Other.2
Age Group: 80 and over x Ethnicity: Indian, Pakistani or Bangladeshi.2
Age Group: 80 and over.2
Age Group: 65 to 79.2
Age Group: 25 to 34.2
Age Group: 16 to 24.2
Interaction Term
2
4
6
Odds Ratio

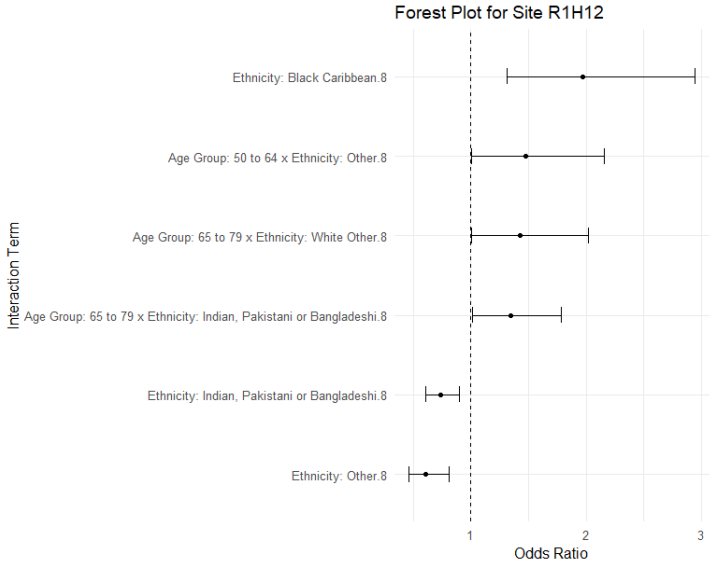

Forest Plot for Site RQXM1
Age Group: 16 to 24 x Ethnicity: Black African.1
Age Group: 16 to 24 x Ethnicity: Mixed/Multiple.1
Age Group: 16 to 24 x Ethnicity: Indian, Pakistani or Bangladeshi.1
Age Group: 16 to 24 x Ethnicity: Black Caribbean.1
Age Group: 25 to 34 x Ethnicity: Mixed/Multiple.1
Ethnicity: Black Caribbean.1
Ethnicity: Black Other.1
Age Group: 50 to 64.1
Ethnicity: Other.1
Age Group: 25 to 34.1
Age Group: 50 to 64 x Ethnicity: Other.1
Age Group: 16 to 24.1
Interaction Term
1.0
1.5
2.0
Odds Ratio

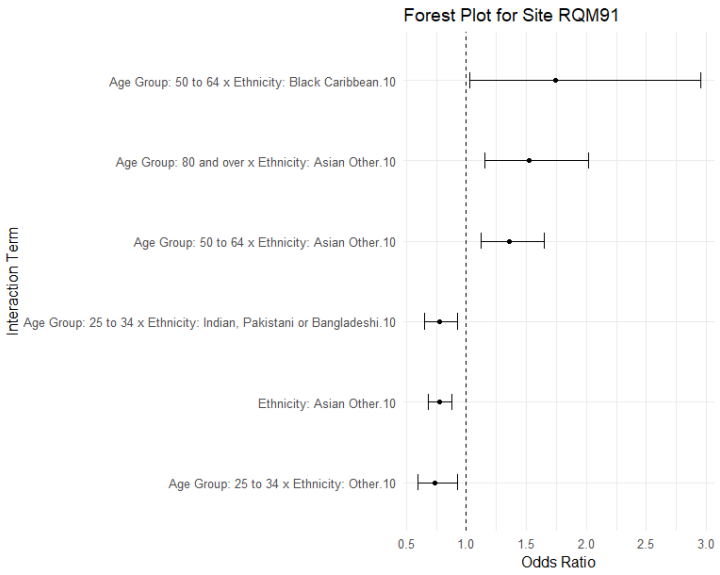

Forest Plot for Site R1HNH
Age Group: 80 and over x Ethnicity: Asian Other.3
Age Group: 80 and over x Ethnicity: Indian, Pakistani or Bangladeshi.3
Age Group: 80 and over.3
Interaction Term
1.0
1.5
Odds Ratio

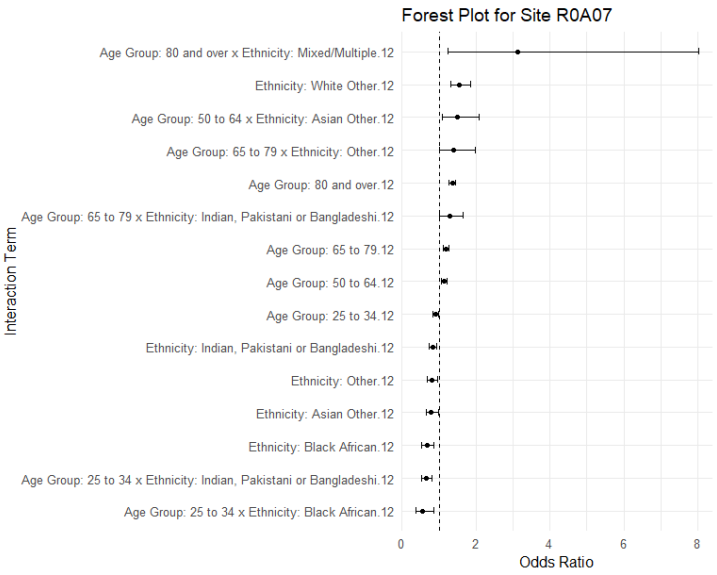

Forest Plot for Site RJ231
Age Group: 65 to 79 x Ethnicity: Black Other.5
Age Group: 80 and over.5
Interaction Term
0.0
2.5
5.0
7.5
Odds Ratio

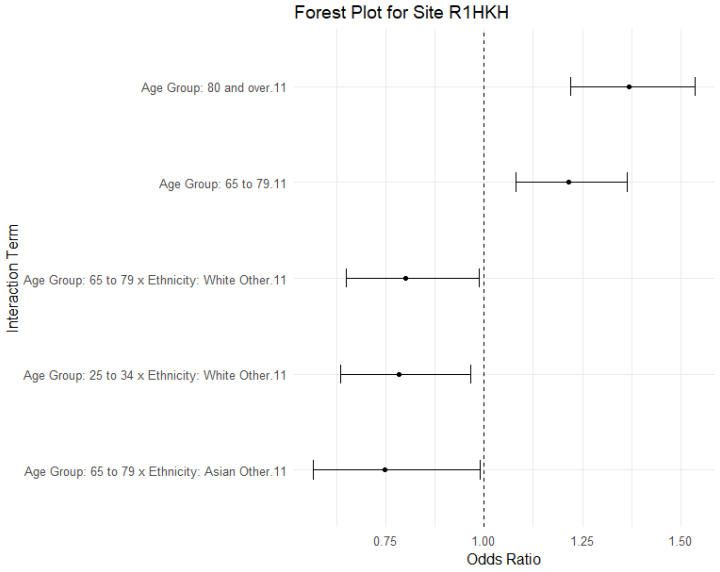

Forest Plot for Site RJ122
Age Group: 16 to 24 x Ethnicity: Asian Other.7
Age Group: 80 and over.7
Age Group: 50 to 64 x Ethnicity: White Other.7
Ethnicity: Black African.7
Age Group: 16 to 24.7
Ethnicity: White Other.7
Ethnicity: Asian Other.7
Interaction Term
0.5
1.0
1.5
2.0
Odds Ratio

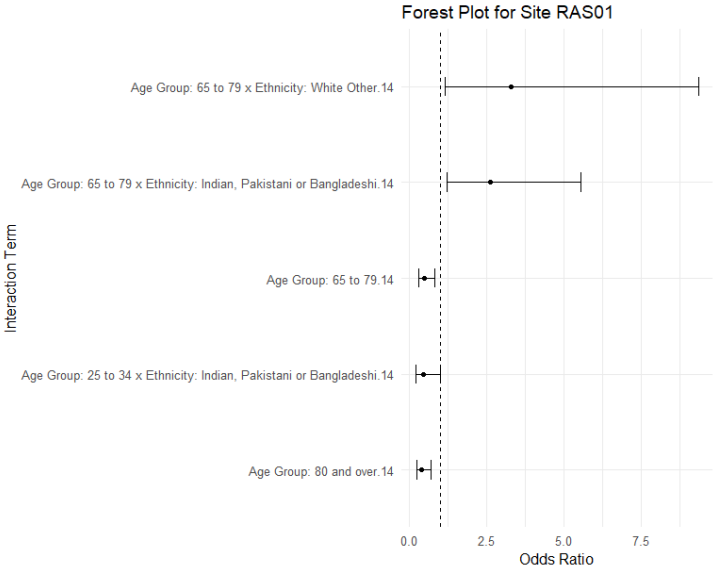

Forest Plot for Site E0A3H
Ethnicity: Black African.6
Interaction Term
2.5
5.0
7.5
Odds Ratio


Forest Plot for Site R1H12
Ethnicity: Black Caribbean.8
Age Group: 50 to 64 x Ethnicity: Other.8
Age Group: 65 to 79 x Ethnicity: White Other.8
Age Group: 65 to 79 x Ethnicity: Indian, Pakistani or Bangladeshi.8
Ethnicity: Indian, Pakistani or Bangladeshi.8
Ethnicity: Other.8
Interaction Term
1
2
3
Odds Ratio


Forest Plot for Site RQM91
Age Group: 50 to 64 x Ethnicity: Black Caribbean.10
Age Group: 80 and over x Ethnicity: Asian Other.10
Age Group: 50 to 64 x Ethnicity: Asian Other.10
Age Group: 25 to 34 x Ethnicity: Indian, Pakistani or Bangladeshi.10
Ethnicity: Asian Other.10
Age Group: 25 to 34 x Ethnicity: Other.10
Interaction Term
0.5
1.0
1.5
2.0
2.5
3.0
Odds Ratio


Forest Plot for Site R0A07
Age Group: 80 and over x Ethnicity: Mixed/Multiple.12
Ethnicity: White Other.12
Age Group: 50 to 64 x Ethnicity: Asian Other.12
Age Group: 65 to 79 x Ethnicity: Other.12
Age Group: 80 and over.12
Age Group: 65 to 79 x Ethnicity: Indian, Pakistani or Bangladeshi.12
Age Group: 65 to 79.12
Age Group: 50 to 64.12
Age Group: 25 to 34.12
Ethnicity: Indian, Pakistani or Bangladeshi.12
Ethnicity: Other.12
Ethnicity: Asian Other.12
Ethnicity: Black African.12
Age Group: 25 to 34 x Ethnicity: Indian, Pakistani or Bangladeshi.12
Age Group: 25 to 34 x Ethnicity: Black African.12
Interaction Term
0
2
4
6
8
Odds Ratio


Forest Plot for Site R1HKH
Age Group: 80 and over.11
Age Group: 65 to 79.11
Age Group: 65 to 79 x Ethnicity: White Other.11
Age Group: 25 to 34 x Ethnicity: White Other.11
Age Group: 65 to 79 x Ethnicity: Asian Other.11
Interaction Term
0.75
1.00
1.25
1.50
Odds Ratio


Forest Plot for Site RAS01
Age Group: 65 to 79 x Ethnicity: White Other.14
Age Group: 65 to 79 x Ethnicity: Indian, Pakistani or Bangladeshi.14
Age Group: 65 to 79.14
Age Group: 25 to 34 x Ethnicity: Indian, Pakistani or Bangladeshi.14
Age Group: 80 and over.14
Interaction Term
0.0
2.5
5.0
7.5
Odds Ratio