

**Table S1. Code list to create 18 categories of ethnicity, and a 6-category higher level grouping of ethnicity.**

| 6 level grouping  | 18 level grouping     | Read code | Read term  | Medcode |
|-------------------|-----------------------|-----------|--|---------|
| White British     | White British         | 9S10.00   | White British  | 12446   |
| White British     | White British         | 9S13.00   | White Scottish   | 26467   |
| White British     | White British         | 9S14.00   | Other white British ethnic group                             | 26310   |
| White British     | White British         | 9i00.00   | White British - ethnic category 2001 census                  | 98111   |
| White British     | White British         | 9i20.00   | English - ethnic category 2001 census                        | 12352   |
| White British     | White British         | 9i21.00   | Scottish - ethnic category 2001 census                       | 12436   |
| White British     | White British         | 9i22.00   | Welsh - ethnic category 2001 census                          | 12681   |
| White British     | White British         | 9i23.00   | Cornish - ethnic category 2001 census                        | 28887   |
| White Non-British | White Irish           | 9S11.00   | White Irish  | 24837   |
| White Non-British | White Irish           | 9SA9.00   | Irish (NMO)  | 24270   |
| White Non-British | White Irish           | 9S1..00   | Irish traveller  | 47601   |
| White Non-British | White Irish           | 9i1..00   | Irish - ethnic category 2001 census                          | 12532   |
| White Non-British | White Irish           | 9i10.00   | White Irish - ethnic category 2001 census                    | 98213   |
| White Non-British | White Irish           | 9i24.00   | Northern Irish - ethnic category 2001 census                 | 42294   |
| White Non-British | White Irish           | 9i2C.00   | Irish Traveller - ethnic category 2001 census                | 55223   |
| White Non-British | White Other           | 9S12.00   | Other white ethnic group                                     | 12444   |
| White Non-British | White Other           | 9SAA.00   | Greek/Greek Cypriot (NMO)                                    | 45947   |
| White Non-British | White Other           | 9SAA.11   | Greek (NMO)  | 45955   |
| White Non-British | White Other           | 9SAA.12   | Greek Cypriot (NMO)  | 47949   |
| White Non-British | White Other           | 9SAB.00   | Turkish/Turkish Cypriot (NMO)                                | 32066   |
| White Non-British | White Other           | 9SAB.11   | Turkish (NMO)  | 32126   |
| White Non-British | White Other           | 9SAB.12   | Turkish Cypriot (NMO)  | 32069   |
| White Non-British | White Other           | 9SAC.00   | Other European (NMO)   | 12633   |
| White Non-British | White Other           | 9T1..00   | New Zealand ethnic groups                                    | 45008   |
| White Non-British | White Other           | 9T1Y.00   | Other New Zealand ethnic group                               | 96789   |
| White Non-British | White Other           | 9T1Z.00   | New Zealand ethnic group NOS                                 | 71425   |
| White Non-British | White Other           | 9i2..00   | Other White background - ethnic category 2001 census         | 12421   |
| White Non-British | White Other           | 9i26.00   | Cypriot (part not stated) - ethnic category 2001 census      | 32778   |
| White Non-British | White Other           | 9i27.00   | Greek - ethnic category 2001 census                          | 12355   |
| White Non-British | White Other           | 9i28.00   | Greek Cypriot - ethnic category 2001 census                  | 12769   |
| White Non-British | White Other           | 9i29.00   | Turkish - ethnic category 2001 census                        | 12746   |
| White Non-British | White Other           | 9i2A.00   | Turkish Cypriot - ethnic category 2001 census                | 32413   |
| White Non-British | White Other           | 9i2B.00   | Italian - ethnic category 2001 census                        | 12412   |
| White Non-British | White Other           | 9i2D.00   | Traveller - ethnic category 2001 census                      | 55113   |
| White Non-British | White Other           | 9i2E.00   | Gypsy/Romany - ethnic category 2001 census                   | 42290   |
| White Non-British | White Other           | 9i2F.00   | Polish - ethnic category 2001 census                         | 12467   |
| White Non-British | White Other           | 9i2G.00   | Baltic Estonian/Latvian/Lithuanian - ethn categ 2001 census  | 12433   |
| White Non-British | White Other           | 9i2H.00   | Commonwealth (Russian) Indep States - ethn categ 2001 census | 28973   |
| White Non-British | White Other           | 9i2J.00   | Kosovan - ethnic category 2001 census                        | 26341   |
| White Non-British | White Other           | 9i2K.00   | Albanian - ethnic category 2001 census                       | 25422   |
| White Non-British | White Other           | 9i2L.00   | Bosnian - ethnic category 2001 census                        | 46956   |
| White Non-British | White Other           | 9i2M.00   | Croatian - ethnic category 2001 census                       | 28866   |
| White Non-British | White Other           | 9i2N.00   | Serbian - ethnic category 2001 census                        | 47074   |
| White Non-British | White Other           | 9i2P.00   | Other republics former Yugoslavia - ethnic categ 2001 census | 28936   |
| White Non-British | White Other           | 9i2T.00   | Other White or White unspecified ethnic category 2001 census | 12591   |
| White Non-British | White NOS             | 9S1..00   | White  | 22467   |
| White Non-British | White NOS             | 9SB3.00   | Other ethnic, mixed white orig                               | 35459   |
| White Non-British | White NOS             | 9i25.00   | Ulster Scots - ethnic category 2001 census                   | 40102   |
| White Non-British | White NOS             | 9i2Q.00   | Mixed Irish and other White - ethnic category 2001 census    | 26391   |
| White Non-British | White NOS             | 9i2R.00   | Oth White European/European unsp/Mixed European 2001 census  | 12402   |
| White Non-British | White NOS             | 9i2S.00   | Other mixed White - ethnic category 2001 census              | 28900   |
| Mixed             | Mixed White and Black | 9SB5.00   | Black Caribbean and White                                    | 32425   |
| Mixed             | Mixed White and Black | 9SB6.00   | Black African and White                                      | 32443   |
| Mixed             | Mixed White and Black | 9i3..00   | White and Black Caribbean - ethnic category 2001 census      | 12742   |
| Mixed             | Mixed White and Black | 9i4..00   | White and Black African - ethnic category 2001 census        | 12437   |
| Mixed             | Mixed White and Asian | 9SB2.00   | Other ethnic, Asian/White orig                               | 32401   |
| Mixed             | Mixed White and Asian | 9i5..00   | White and Asian - ethnic category 2001 census                | 12638   |
| Mixed             | Mixed Asian and Black | 9S45.00   | Black E Afric Asia/Indo-Caribb                               | 47965   |
| Mixed             | Mixed Asian and Black | 9S45.11   | Black East African Asian                                     | 57753   |
| Mixed             | Mixed Asian and Black | 9S45.12   | Black Indo-Caribbean   | 57763   |
| Mixed             | Mixed Asian and Black | 9S46.00   | Black Indian sub-continent                                   | 48005   |
| Mixed             | Mixed Asian and Black | 9S47.00   | Black - other Asian  | 35350   |
| Mixed             | Mixed Asian and Black | 9S52.00   | Other Black - Black/Asian orig                               | 32165   |
| Mixed             | Mixed Asian and Black | 9SA6.00   | E Afric Asian/Indo-Carib (NMO)                               | 38097   |

|                     |                       |         |  |       |
|---------------------|-----------------------|---------|--|-------|
| Mixed               | Mixed Asian and Black | 9i60.00 | Black and Asian - ethnic category 2001 census                | 12795 |
| Mixed               | Mixed Asian and Black | 9i61.00 | Black and Chinese - ethnic category 2001 census              | 49940 |
| Mixed               | Mixed Asian and Black | 9iA7.00 | Caribbean Asian - ethnic category 2001 census                | 32399 |
| Mixed               | Mixed Other           | 9SB.00  | Other ethnic, mixed origin                                   | 12696 |
| Mixed               | Mixed Other           | 9SB4.00 | Other ethnic, other mixed orig                               | 32420 |
| Mixed               | Mixed Other           | 9i6..00 | Other Mixed background - ethnic category 2001 census         | 12873 |
| Mixed               | Mixed Other           | 9i63.00 | Chinese and White - ethnic category 2001 census              | 12706 |
| Mixed               | Mixed Other           | 9i64.00 | Asian and Chinese - ethnic category 2001 census              | 47005 |
| Mixed               | Mixed Other           | 9i65.00 | Other Mixed or Mixed unspecified ethnic category 2001 census | 32408 |
| Mixed               | Mixed NOS             | 9S51.00 | Other Black - Black/White orig                               | 25623 |
| Mixed               | Mixed NOS             | 9SB1.00 | Other ethnic, Black/White orig                               | 47401 |
| Mixed               | Mixed NOS             | 9i62.00 | Black and White - ethnic category 2001 census                | 40110 |
| Asian/Asian British | Indian                | 9S6..00 | Indian   | 12482 |
| Asian/Asian British | Indian                | 9SA7.00 | Indian sub-continent (NMO)                                   | 39696 |
| Asian/Asian British | Indian                | 9i7..00 | Indian or British Indian - ethnic category 2001 census       | 12414 |
| Asian/Asian British | Indian                | 9iA1.00 | Punjabi - ethnic category 2001 census                        | 26392 |
| Asian/Asian British | Pakistani             | 9S7..00 | Pakistani  | 24690 |
| Asian/Asian British | Pakistani             | 9i8..00 | Pakistani or British Pakistani - ethnic category 2001 census | 12460 |
| Asian/Asian British | Pakistani             | 9iA2.00 | Kashmiri - ethnic category 2001 census                       | 64133 |
| Asian/Asian British | Bangladeshi           | 9S8..00 | Bangladeshi  | 24740 |
| Asian/Asian British | Bangladeshi           | 9i9..00 | Bangladeshi or British Bangladeshi - ethn categ 2001 census  | 28888 |
| Asian/Asian British | Other Asian           | 9SA6.11 | East African Asian (NMO)                                     | 46818 |
| Asian/Asian British | Other Asian           | 9SA8.00 | Other Asian (NMO)  | 26379 |
| Asian/Asian British | Other Asian           | 9SH..00 | Other Asian ethnic group                                     | 12668 |
| Asian/Asian British | Other Asian           | 9iA..00 | Other Asian background - ethnic category 2001 census         | 12513 |
| Asian/Asian British | Other Asian           | 9iA3.00 | East African Asian - ethnic category 2001 census             | 47077 |
| Asian/Asian British | Other Asian           | 9iA8.00 | British Asian - ethnic category 2001 census                  | 12653 |
| Asian/Asian British | Other Asian           | 9iA9.00 | Mixed Asian - ethnic category 2001 census                    | 46056 |
| Asian/Asian British | Other Asian           | 9iAA.00 | Other Asian or Asian unspecified ethnic category 2001 census | 28935 |
| Asian/Asian British | Other Asian           | 9SA6.12 | Indo-Caribbean (NMO)   | 99316 |
| Black/Black British | Black Caribbean       | 9S2..00 | Black Caribbean  | 12632 |
| Black/Black British | Black Caribbean       | 9S42.00 | Black Caribbean/W.I./Guyana                                  | 57435 |
| Black/Black British | Black Caribbean       | 9S42.11 | Black Caribbean  | 47950 |
| Black/Black British | Black Caribbean       | 9S42.12 | Black West Indian  | 47997 |
| Black/Black British | Black Caribbean       | 9S42.13 | Black Guyana   | 32100 |
| Black/Black British | Black Caribbean       | 9SA3.00 | Caribbean I./W.I./Guyana (NMO)                               | 54593 |
| Black/Black British | Black Caribbean       | 9SA3.11 | Caribbean Island (NMO)                                       | 57094 |
| Black/Black British | Black Caribbean       | 9SA3.12 | West Indian (NMO)  | 57075 |
| Black/Black British | Black Caribbean       | 9SA3.13 | Guyana (NMO)   | 93144 |
| Black/Black British | Black Caribbean       | 9iB..00 | Caribbean - ethnic category 2001 census                      | 12432 |
| Black/Black British | Black African         | 9S3..00 | Black African  | 12778 |
| Black/Black British | Black African         | 9S44.00 | Black - other African country                                | 35412 |
| Black/Black British | Black African         | 9SA5.00 | Other African countries (NMO)                                | 47969 |
| Black/Black British | Black African         | 9iC..00 | African - ethnic category 2001 census                        | 12350 |
| Black/Black British | Black African         | 9iD0.00 | Somali - ethnic category 2001 census                         | 12443 |
| Black/Black British | Black African         | 9iD1.00 | Nigerian - ethnic category 2001 census                       | 32886 |
| Black/Black British | Black Other           | 9S4..00 | Black, other, non-mixed origin                               | 24339 |
| Black/Black British | Black Other           | 9S41.00 | Black British  | 12452 |
| Black/Black British | Black Other           | 9S43.00 | Black N African/Arab/Iranian                                 | 41329 |
| Black/Black British | Black Other           | 9S43.11 | Black North African  | 46812 |
| Black/Black British | Black Other           | 9S43.12 | Black Arab   | 57752 |
| Black/Black British | Black Other           | 9S43.13 | Black Iranian  | 50286 |
| Black/Black British | Black Other           | 9S48.00 | Black Black - other  | 26312 |
| Black/Black British | Black Other           | 9S5..00 | Black - other, mixed   | 25676 |
| Black/Black British | Black Other           | 9SG..00 | Other black ethnic group                                     | 32136 |
| Black/Black British | Black Other           | 9iD..00 | Other Black background - ethnic category 2001 census         | 32389 |
| Black/Black British | Black Other           | 9iD2.00 | Black British - ethnic category 2001 census                  | 40097 |
| Black/Black British | Black Other           | 9iD3.00 | Mixed Black - ethnic category 2001 census                    | 40096 |
| Black/Black British | Black Other           | 9iD4.00 | Other Black or Black unspecified ethnic category 2001 census | 46047 |
| Other               | Chinese               | 9S9..00 | Chinese  | 24272 |
| Other               | Chinese               | 9iE..00 | Chinese - ethnic category 2001 census                        | 12468 |
| Other               | Other ethnic group    | 9SA..00 | Other ethnic non-mixed (NMO)                                 | 30280 |
| Other               | Other ethnic group    | 9SA1.00 | Brit. ethnic minor. spec.(NMO)                               | 32110 |
| Other               | Other ethnic group    | 9SA2.00 | Brit. ethnic minor. unsp (NMO)                               | 57764 |
| Other               | Other ethnic group    | 9SA4.00 | N African Arab/Iranian (NMO)                                 | 24962 |
| Other               | Other ethnic group    | 9SA4.11 | North African Arab (NMO)                                     | 47285 |
| Other               | Other ethnic group    | 9SA4.12 | Iranian (NMO)  | 25082 |
| Other               | Other ethnic group    | 9SAD.00 | Other ethnic NEC (NMO)                                       | 41214 |
| Other               | Other ethnic group    | 9SC..00 | Vietnamese   | 25411 |
| Other               | Other ethnic group    | 9SJ..00 | Other ethnic group   | 12757 |

|       |                            |         |   |       |
|-------|----------------------------|---------|---|-------|
| Other | Other ethnic group         | 9T1A.00 | Other Pacific ethnic group                                    | 46752 |
| Other | Other ethnic group         | 9iA4.00 | Sri Lankan - ethnic category 2001 census                      | 12608 |
| Other | Other ethnic group         | 9iA5.00 | Tamil - ethnic category 2001 census                           | 12760 |
| Other | Other ethnic group         | 9iA6.00 | Sinhalese - ethnic category 2001 census                       | 12887 |
| Other | Other ethnic group         | 9iF..00 | Other - ethnic category 2001 census                           | 12434 |
| Other | Other ethnic group         | 9iF0.00 | Vietnamese - ethnic category 2001 census                      | 12719 |
| Other | Other ethnic group         | 9iF1.00 | Japanese - ethnic category 2001 census                        | 12473 |
| Other | Other ethnic group         | 9iF2.00 | Filipino - ethnic category 2001 census                        | 12420 |
| Other | Other ethnic group         | 9iF3.00 | Malaysian - ethnic category 2001 census                       | 12730 |
| Other | Other ethnic group         | 9iF4.00 | Buddhist - ethnic category 2001 census                        | 63872 |
| Other | Other ethnic group         | 9iF5.00 | Hindu - ethnic category 2001 census                           | 56127 |
| Other | Other ethnic group         | 9iF6.00 | Jewish - ethnic category 2001 census                          | 46063 |
| Other | Other ethnic group         | 9iF7.00 | Muslim - ethnic category 2001 census                          | 47091 |
| Other | Other ethnic group         | 9iF8.00 | Sikh - ethnic category 2001 census                            | 49658 |
| Other | Other ethnic group         | 9iF9.00 | Arab - ethnic category 2001 census                            | 46059 |
| Other | Other ethnic group         | 9iFA.00 | North African - ethnic category 2001 census                   | 47028 |
| Other | Other ethnic group         | 9iFB.00 | Mid East (excl Israeli, Iranian & Arab) - eth cat 2001 cens   | 28909 |
| Other | Other ethnic group         | 9iFC.00 | Israeli - ethnic category 2001 census                         | 46964 |
| Other | Other ethnic group         | 9iFD.00 | Iranian - ethnic category 2001 census                         | 25937 |
| Other | Other ethnic group         | 9iFE.00 | Kurdish - ethnic category 2001 census                         | 45964 |
| Other | Other ethnic group         | 9iFF.00 | Moroccan - ethnic category 2001 census                        | 25451 |
| Other | Other ethnic group         | 9iFG.00 | Latin American - ethnic category 2001 census                  | 26246 |
| Other | Other ethnic group         | 9iFH.00 | South and Central American - ethnic category 2001 census      | 12756 |
| Other | Other ethnic group         | 9iFJ.00 | Mauritian/Seychellois/Maldivian/St Helena eth cat 2001 census | 32382 |
| Other | Other ethnic group         | 9iFK.00 | Any other group - ethnic category 2001 census                 | 26455 |
| N/A   | Ethnic group not specified | 9i6E.00 | Patient ethnicity unknown                                     | 93749 |
| N/A   | Ethnic group not specified | 9S...00 | Ethnic groups (1991 census)                                   | 10196 |
| N/A   | Ethnic group not specified | 9SD..00 | Ethnic group not given - patient refused                      | 12429 |
| N/A   | Ethnic group not specified | 9SE..00 | Ethnic group not recorded                                     | 24340 |
| N/A   | Ethnic group not specified | 9SZ..00 | Ethnic groups (census) NOS                                    | 45199 |
| N/A   | Ethnic group not specified | 9T...00 | Ethnicity and other related nationality data                  | 23955 |
| N/A   | Ethnic group not specified | 9i...00 | Ethnic category - 2001 census                                 | 12435 |
| N/A   | Ethnic group not specified | 9i0..00 | British or mixed British - ethnic category 2001 census        | 12351 |
| N/A   | Ethnic group not specified | 9iG..00 | Ethnic category not stated - 2001 census                      | 12459 |

**Table S2. Migration phenotype, including Read (V2) codes, Read terms, Medcodes, type of code and level of certainty of migration status.**

| Level of certainty of migration status | Type of code           | Read code | Read term                   | Medcode |
|--|------------------------|-----------|-----------------------------|---------|
| Definite                               | Born outside of the UK | 13e..00   | Country of birth (Asian)    | 11552   |
| Definite                               | Born outside of the UK | 13gf.00   | Born in South Africa        | 12458   |
| Definite                               | Born outside of the UK | 13eG.00   | Born in Iraq                | 12713   |
| Definite                               | Born outside of the UK | 13eH.00   | Born in Israel              | 25007   |
| Definite                               | Born outside of the UK | 13go.00   | Born in Zimbabwe            | 25008   |
| Definite                               | Born outside of the UK | 13eY.00   | Born in Philippines         | 25092   |
| Definite                               | Born outside of the UK | 13gi.00   | Born in Tanzania            | 25133   |
| Definite                               | Born outside of the UK | 13dl.00   | Born in Yugoslavia          | 25256   |
| Definite                               | Born outside of the UK | 13gC.00   | Born in Congo               | 25664   |
| Definite                               | Born outside of the UK | 13dM.00   | Born in Kosovo              | 25730   |
| Definite                               | Born outside of the UK | 13eW.00   | Born in Pakistan            | 25995   |
| Definite                               | Born outside of the UK | 13eo.00   | Born in Vietnam             | 26334   |
| Definite                               | Born outside of the UK | 13eF.00   | Born in Iran                | 26426   |
| Definite                               | Born outside of the UK | 13dA.00   | Born in Czech Republic      | 26463   |
| Definite                               | Born outside of the UK | 13dP.00   | Born in Lithuania           | 28301   |
| Definite                               | Born outside of the UK | 13eg.00   | Born in Syria               | 28529   |
| Definite                               | Born outside of the UK | 13gY.00   | Born in Niger               | 30224   |
| Definite                               | Born outside of the UK | 13f5.00   | Born in Canada              | 30606   |
| Definite                               | Born outside of the UK | 13f..00   | Country of birth (American) | 32053   |
| Definite                               | Born outside of the UK | 13d0.00   | Born in Albania             | 32055   |
| Definite                               | Born outside of the UK | 13e8.00   | Born in China               | 32058   |
| Definite                               | Born outside of the UK | 13e0.00   | Born in Afghanistan         | 32060   |
| Definite                               | Born outside of the UK | 13h0.00   | Born in Australia           | 32061   |
| Definite                               | Born outside of the UK | 13jC.00   | Born in Trinidad and Tobago | 32062   |
| Definite                               | Born outside of the UK | 13gJ.00   | Born in Ghana               | 32067   |
| Definite                               | Born outside of the UK | 13gl.00   | Born in Uganda              | 32068   |
| Definite                               | Born outside of the UK | 13eI.00   | Born in Japan               | 32070   |
| Definite                               | Born outside of the UK | 13fL.00   | Born in USA                 | 32072   |
| Definite                               | Born outside of the UK | 13h1.00   | Born in New Zealand         | 32074   |
| Definite                               | Born outside of the UK | 13f3.00   | Born in Brazil              | 32075   |
| Definite                               | Born outside of the UK | 13j6.00   | Born in Jamaica             | 32076   |
| Definite                               | Born outside of the UK | 13g0.00   | Born in Algeria             | 32079   |
| Definite                               | Born outside of the UK | 13dH.00   | Born in Greece              | 32080   |
| Definite                               | Born outside of the UK | 13dF.00   | Born in France              | 32081   |
| Definite                               | Born outside of the UK | 13eD.00   | Born in India               | 32082   |
| Definite                               | Born outside of the UK | 13dG.00   | Born in Germany             | 32085   |
| Definite                               | Born outside of the UK | 13j2.00   | Born in Barbados            | 32089   |
| Definite                               | Born outside of the UK | 13fN.00   | Born in Venezuela           | 32090   |
| Definite                               | Born outside of the UK | 13dW.00   | Born in Poland              | 32094   |
| Definite                               | Born outside of the UK | 13de.00   | Born in Spain               | 32097   |
| Definite                               | Born outside of the UK | 13df.00   | Born in Sweden              | 32098   |
| Definite                               | Born outside of the UK | 13gM.00   | Born in Ivory Coast         | 32099   |
| Definite                               | Born outside of the UK | 13g..00   | Country of birth (African)  | 32102   |
| Definite                               | Born outside of the UK | 13di.00   | Born in Ukraine             | 32103   |
| Definite                               | Born outside of the UK | 13gV.00   | Born in Morocco             | 32108   |
| Definite                               | Born outside of the UK | 13gZ.00   | Born in Nigeria             | 32111   |
| Definite                               | Born outside of the UK | 13gN.00   | Born in Kenya               | 32112   |
| Definite                               | Born outside of the UK | 13dK.00   | Born in Ireland             | 32113   |
| Definite                               | Born outside of the UK | 13ek.00   | Born in Turkey              | 32114   |
| Definite                               | Born outside of the UK | 13gS.00   | Born in Malawi              | 32115   |
| Definite                               | Born outside of the UK | 13dL.00   | Born in Italy               | 32116   |
| Definite                               | Born outside of the UK | 13dc.00   | Born in Slovakia            | 32119   |
| Definite                               | Born outside of the UK | 13fB.00   | Born in Grenada             | 32120   |
| Definite                               | Born outside of the UK | 13e3.00   | Born in Bangladesh          | 32125   |
| Definite                               | Born outside of the UK | 13eb.00   | Born in Russia              | 32127   |
| Definite                               | Born outside of the UK | 13eM.00   | Born in Kyrgyzstan          | 32128   |
| Definite                               | Born outside of the UK | 13j9.00   | Born in St. Lucia           | 32131   |
| Definite                               | Born outside of the UK | 13ej.00   | Born in Thailand            | 32135   |
| Definite                               | Born outside of the UK | 13dD.00   | Born in Estonia             | 32139   |
| Definite                               | Born outside of the UK | 13gU.00   | Born in Mauritius           | 32140   |
| Definite                               | Born outside of the UK | 13ec.00   | Born in Saudi Arabia        | 32144   |

|          |                        |         |                              |       |
|----------|------------------------|---------|------------------------------|-------|
| Definite | Born outside of the UK | 13dh.00 | Born in The Netherlands      | 32150 |
| Definite | Born outside of the UK | 13ed.00 | Born in Singapore            | 32157 |
| Definite | Born outside of the UK | 13gG.00 | Born in Ethiopia             | 32158 |
| Definite | Born outside of the UK | 13dX.00 | Born in Portugal             | 32160 |
| Definite | Born outside of the UK | 13gW.00 | Born in Mozambique           | 32162 |
| Definite | Born outside of the UK | 13fJ.00 | Born in Peru                 | 32166 |
| Definite | Born outside of the UK | 13g5.00 | Born in Burundi              | 32167 |
| Definite | Born outside of the UK | 13gn.00 | Born in Zambia               | 32168 |
| Definite | Born outside of the UK | 13d7.00 | Born in Bulgaria             | 32169 |
| Definite | Born outside of the UK | 13eP.00 | Born in Malaysia             | 32171 |
| Definite | Born outside of the UK | 13dE.00 | Born in Finland              | 32173 |
| Definite | Born outside of the UK | 13dB.00 | Born in Denmark              | 32186 |
| Definite | Born outside of the UK | 13ge.00 | Born in Somalia              | 32189 |
| Definite | Born outside of the UK | 13d9.00 | Born in Cyprus               | 32190 |
| Definite | Born outside of the UK | 13gd.00 | Born in Sierra Leone         | 32197 |
| Definite | Born outside of the UK | 13fF.00 | Born in Mexico               | 32201 |
| Definite | Born outside of the UK | 13e7.00 | Born in Chechnya             | 32202 |
| Definite | Born outside of the UK | 13gI.00 | Born in Gambia               | 32207 |
| Definite | Born outside of the UK | 13eT.00 | Born in Nepal                | 32217 |
| Definite | Born outside of the UK | 13eC.00 | Born in Hong Kong            | 32220 |
| Definite | Born outside of the UK | 13gX.00 | Born in Namibia              | 32233 |
| Definite | Born outside of the UK | 13gP.00 | Born in Liberia              | 32237 |
| Definite | Born outside of the UK | 13dN.00 | Born in Latvia               | 32242 |
| Definite | Born outside of the UK | 13ef.00 | Born in Sri Lanka            | 32245 |
| Definite | Born outside of the UK | 13e6.00 | Born in Burma                | 32254 |
| Definite | Born outside of the UK | 13g7.00 | Born in Cameroon             | 32255 |
| Definite | Born outside of the UK | 13g1.00 | Born in Angola               | 32260 |
| Definite | Born outside of the UK | 13e2.00 | Born in Bahrain              | 32273 |
| Definite | Born outside of the UK | 13k4.00 | Born in Seychelles           | 32293 |
| Definite | Born outside of the UK | 13j0.00 | Born in Antigua and Barbuda  | 32301 |
| Definite | Born outside of the UK | 13f7.00 | Born in Columbia             | 32303 |
| Definite | Born outside of the UK | 13jB.00 | Born in Togo                 | 32304 |
| Definite | Born outside of the UK | 13gc.00 | Born in Senegal              | 32309 |
| Definite | Born outside of the UK | 13f9.00 | Born in Ecuador              | 32311 |
| Definite | Born outside of the UK | 13d2.00 | Born in Austria              | 32313 |
| Definite | Born outside of the UK | 13f0.00 | Born in Argentina            | 32325 |
| Definite | Born outside of the UK | 13ga.00 | Born in Rwanda               | 32331 |
| Definite | Born outside of the UK | 13gE.00 | Born in Egypt                | 32333 |
| Definite | Born outside of the UK | 13f4.00 | Born in British Guyana       | 32342 |
| Definite | Born outside of the UK | 13dZ.00 | Born in Romania              | 32345 |
| Definite | Born outside of the UK | 13gL.00 | Born in Guinea Republic      | 32347 |
| Definite | Born outside of the UK | 13d4.00 | Born in Belgium              | 32352 |
| Definite | Born outside of the UK | 13e1.00 | Born in Armenia              | 32361 |
| Definite | Born outside of the UK | 13j4.00 | Born in Dominican Republic   | 32369 |
| Definite | Born outside of the UK | 13eh.00 | Born in Taiwan               | 32390 |
| Definite | Born outside of the UK | 13d6.00 | Born in Bosnia - Herzegovnia | 32397 |
| Definite | Born outside of the UK | 13k..00 | Country of birth (Pacific)   | 32417 |
| Definite | Born outside of the UK | 13dI.00 | Born in Hungary              | 32688 |
| Definite | Born outside of the UK | 13gk.00 | Born in Tunisia              | 32741 |
| Definite | Born outside of the UK | 13dg.00 | Born in Switzerland          | 32807 |
| Definite | Born outside of the UK | 13gg.00 | Born in Sudan                | 36794 |
| Definite | Born outside of the UK | 13gR.00 | Born in Madagascar           | 37197 |
| Definite | Born outside of the UK | 13fD.00 | Born in Guyana               | 38075 |
| Definite | Born outside of the UK | 13gA.00 | Born in Chad                 | 38117 |
| Definite | Born outside of the UK | 13dS.00 | Born in Moldavia             | 39974 |
| Definite | Born outside of the UK | 13gm.00 | Born in Zaire                | 41209 |
| Definite | Born outside of the UK | 13d8.00 | Born in Croatia              | 41210 |
| Definite | Born outside of the UK | 13eO.00 | Born in Lebanon              | 41211 |
| Definite | Born outside of the UK | 13dV.00 | Born in Norway               | 41213 |
| Definite | Born outside of the UK | 13eL.00 | Born in Kuwait               | 41217 |
| Definite | Born outside of the UK | 13ee.00 | Born in South Korea          | 41228 |
| Definite | Born outside of the UK | 13f2.00 | Born in Bolivia              | 41230 |
| Definite | Born outside of the UK | 13d5.00 | Born in Belorussia           | 41233 |
| Definite | Born outside of the UK | 13fE.00 | Born in Honduras             | 41280 |
| Definite | Born outside of the UK | 13eE.00 | Born in Indonesia            | 41289 |
| Definite | Born outside of the UK | 13j3.00 | Born in Cuba                 | 41290 |
| Definite | Born outside of the UK | 13f6.00 | Born in Chile                | 41291 |
| Definite | Born outside of the UK | 13eK.00 | Born in Kazakhstan           | 41292 |
| Definite | Born outside of the UK | 13eX.00 | Born in Palestine            | 41297 |
| Definite | Born outside of the UK | 13el.00 | Born in Turkmenistan         | 41302 |

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| Definite | Born outside of the UK | 13dd.00 | Born in Slovenia                              | 41304  |
| Definite | Born outside of the UK | 13eJ.00 | Born in Jordan                                | 41311  |
| Definite | Born outside of the UK | 13dJ.00 | Born in Iceland                               | 41312  |
| Definite | Born outside of the UK | 13g3.00 | Born in Botswana                              | 41316  |
| Definite | Born outside of the UK | 13g2.00 | Born in Benin                                 | 41318  |
| Definite | Born outside of the UK | 13h..00 | Country of birth (Australasian)               | 41327  |
| Definite | Born outside of the UK | 13d3.00 | Born in Azerbaijan                            | 41337  |
| Definite | Born outside of the UK | 13gQ.00 | Born in Libya                                 | 41341  |
| Definite | Born outside of the UK | 13ep.00 | Born in Yemen                                 | 41344  |
| Definite | Born outside of the UK | 13gh.00 | Born in Swaziland                             | 41350  |
| Definite | Born outside of the UK | 13eS.00 | Born in Mongolia                              | 41351  |
| Definite | Born outside of the UK | 13e9.00 | Born in Democratic People's Republic of Korea | 41354  |
| Definite | Born outside of the UK | 13ea.00 | Born in Republic of Korea                     | 41356  |
| Definite | Born outside of the UK | 13dY.00 | Born in Republic of Ireland                   | 41357  |
| Definite | Born outside of the UK | 13dR.00 | Born in Malta                                 | 41364  |
| Definite | Born outside of the UK | 13gK.00 | Born in Guinea Bissau                         | 41365  |
| Definite | Born outside of the UK | 13fM.00 | Born in Uruguay                               | 41367  |
| Definite | Born outside of the UK | 13em.00 | Born in United Arab Emirates                  | 41372  |
| Definite | Born outside of the UK | 13fI.00 | Born in Paraguay                              | 41399  |
| Definite | Born outside of the UK | 13en.00 | Born in Uzbekistan                            | 41402  |
| Definite | Born outside of the UK | 13k0.00 | Born in Fiji                                  | 42635  |
| Definite | Born outside of the UK | 13eZ.00 | Born in Qatar                                 | 42639  |
| Definite | Born outside of the UK | 13k6.00 | Born in Tonga                                 | 47559  |
| Definite | Born outside of the UK | 13k5.00 | Born in Solomon Islands                       | 48297  |
| Definite | Born outside of the UK | 13eB.00 | Born in Georgia                               | 49402  |
| Definite | Born outside of the UK | 13j..00 | Country of birth (Atlantic)                   | 49907  |
| Definite | Born outside of the UK | 13eV.00 | Born in Oman                                  | 51778  |
| Definite | Born outside of the UK | 13eA.00 | Born in East Timor                            | 57186  |
| Definite | Born outside of the UK | 13k7.00 | Born in Tuvalu                                | 57189  |
| Definite | Born outside of the UK | 13j5.00 | Born in Haiti                                 | 58192  |
| Definite | Born outside of the UK | 13g4.00 | Born in Burkina Faso                          | 58527  |
| Definite | Born outside of the UK | 13j1.00 | Born in Bahamas                               | 58533  |
| Definite | Born outside of the UK | 13gH.00 | Born in Gabon                                 | 59657  |
| Definite | Born outside of the UK | 13e5.00 | Born in Brunei                                | 62298  |
| Definite | Born outside of the UK | 13fH.00 | Born in Panama                                | 63923  |
| Definite | Born outside of the UK | 13gj.00 | Born in The Gambia                            | 63927  |
| Definite | Born outside of the UK | 13fA.00 | Born in El Salvador                           | 63943  |
| Definite | Born outside of the UK | 13k3.00 | Born in Papua New Guinea                      | 64120  |
| Definite | Born outside of the UK | 13gp.00 | Born in Eritrea                               | 64949  |
| Definite | Born outside of the UK | 13f8.00 | Born in Costa Rica                            | 64984  |
| Definite | Born outside of the UK | 13eR.00 | Born in Mali                                  | 65310  |
| Definite | Born outside of the UK | 13jA.00 | Born in St. Vincent                           | 66551  |
| Definite | Born outside of the UK | 13j8.00 | Born in St. Kitts and Nevis                   | 66553  |
| Definite | Born outside of the UK | 13eU.00 | Born in North Korea                           | 66560  |
| Definite | Born outside of the UK | 13gD.00 | Born in Djibouti                              | 68866  |
| Definite | Born outside of the UK | 13dQ.00 | Born in Luxembourg                            | 69131  |
| Definite | Born outside of the UK | 13j7.00 | Born in Puerto Rico                           | 69135  |
| Definite | Born outside of the UK | 13gT.00 | Born in Mauritania                            | 69143  |
| Definite | Born outside of the UK | 13fK.00 | Born in Suriname                              | 69426  |
| Definite | Born outside of the UK | 13eN.00 | Born in Laos                                  | 69431  |
| Definite | Born outside of the UK | 13g8.00 | Born in Cape Verde Islands                    | 69560  |
| Definite | Born outside of the UK | 13fC.00 | Born in Guatemala                             | 69806  |
| Definite | Born outside of the UK | 13dT.00 | Born in Monaco                                | 71190  |
| Definite | Born outside of the UK | 13fG.00 | Born in Nicaragua                             | 74892  |
| Definite | Born outside of the UK | 13eQ.00 | Born in Maldives                              | 91328  |
| Definite | Born outside of the UK | 13gO.00 | Born in Lesotho                               | 93697  |
| Definite | Born outside of the UK | 13gF.00 | Born in Equatorial Guinea                     | 93923  |
| Definite | Born outside of the UK | 13d1.00 | Born in Andorra                               | 93935  |
| Definite | Born outside of the UK | 13fI.00 | Born in Belize                                | 94050  |
| Definite | Born outside of the UK | 13dO.00 | Born in Liechtenstein                         | 95708  |
| Definite | Born outside of the UK | 13t..00 | Born in British overseas territory            | 96295  |
| Definite | Born outside of the UK | 13g6.00 | Born in Cambodia                              | 96636  |
| Definite | Born outside of the UK | 13dm.00 | Born in former Yugoslav Republic of Macedonia | 96824  |
| Definite | Born outside of the UK | 13e4.00 | Born in Bhutan                                | 97390  |
| Definite | Born outside of the UK | 13t1.00 | Born in Bermuda                               | 98038  |
| Definite | Born outside of the UK | 13da.00 | Born in San Marino                            | 98530  |
| Definite | Born outside of the UK | 13dj.00 | Born in Vatican City                          | 99119  |
| Definite | Born outside of the UK | 13g9.00 | Born in Central African Republic              | 99258  |
| Definite | Born outside of the UK | 13jD.00 | Born in Dominica                              | 99431  |
| Definite | Born outside of the UK | 13ei.00 | Born in Tajikistan                            | 100007 |

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| Definite | Born outside of the UK           | 13dn.00 | Born in Serbia                                       | 100517 |
| Definite | Born outside of the UK           | 13gB.00 | Born in Comoros Islands                              | 101158 |
| Definite | Born outside of the UK           | 13gb.00 | Born in Sao Tome and Principe                        | 101591 |
| Definite | Born outside of the UK           | 13Zq.00 | Country of birth unknown                             | 101846 |
| Definite | Born outside of the UK           | 13v0.00 | Born in Martinique                                   | 103364 |
| Definite | Born outside of the UK           | 13k9.00 | Born in Western Samoa                                | 103965 |
| Definite | Born outside of the UK           | 13t2.00 | Born in Anguilla                                     | 104983 |
| Definite | Born outside of the UK           | 13t0.00 | Born in Montserrat                                   | 105923 |
| Definite | Born outside of the UK           | 13jE.00 | Born in Aruba  | 108271 |
| Definite | Born outside of the UK           | 13v7.00 | Born in Guadeloupe                                   | 108936 |
| Definite | Born outside of the UK           | 13eq.00 | Born in Christmas Island                             | 109226 |
| Definite | Born outside of the UK           | 13dq.00 | Born in Republic of Moldova                          | 109260 |
| Definite | Born outside of the UK           | 13t5.00 | Born in Saint Helena, Ascension and Tristan da Cunha | 109276 |
| Definite | Born outside of the UK           | 13do.00 | Born in Montenegro                                   | 109457 |
| Definite | Born outside of the UK           | 13jG.00 | Born in Saint Vincent and the Grenadines             | 109458 |
| Definite | Born outside of the UK           | 13t3.00 | Born in British Virgin Islands                       | 109727 |
| Definite | Born outside of the UK           | 13kB.00 | Born in American Samoa                               | 109791 |
| Definite | Born outside of the UK           | 13dp.00 | Born in Belarus                                      | 109898 |
| Definite | Born outside of the UK           | 13gq.00 | Born in Democratic Republic of Congo                 | 109992 |
| Definite | Born outside of the UK           | 13v4.00 | Born in French Guiana                                | 111051 |
| Definite | Born outside of the UK           | 13k8.00 | Born in Vanuatu                                      | 111392 |
| Definite | Born outside of the UK           | 13jH.00 | Born in Sint Maarten                                 | 111700 |
| Definite | Born outside of the UK           | 13dx.00 | Born in Aland Islands                                | 111774 |
| Definite | Born outside of the UK           | 13t9.00 | Born in Cayman Islands                               | 112269 |
| Definite | Visa status indicating migration | 13ZC.00 | Immigrant  | 4114   |
| Definite | Visa status indicating migration | ZV70314 | [V]Immigration medical                               | 8929   |
| Definite | Visa status indicating migration | 133L.00 | Immigrant  | 9292   |
| Definite | Visa status indicating migration | 13ZN.00 | Asylum seeker  | 9627   |
| Definite | Visa status indicating migration | 13D3.00 | Social migrant                                       | 23398  |
| Definite | Visa status indicating migration | 13ZB.00 | Refugee  | 24403  |
| Definite | Visa status indicating migration | ZV70516 | [V]Refugee health examination                        | 25632  |
| Definite | Visa status indicating migration | 13D4.00 | Illegal migrant                                      | 44407  |
| Definite | Visa status indicating migration | 133Q.00 | Family reunion immigrant                             | 47073  |
| Definite | Visa status indicating migration | 912H.00 | Overseas visitor                                     | 47513  |
| Definite | Visa status indicating migration | 6951    | Immigration examination                              | 48029  |
| Definite | Visa status indicating migration | 69D8.00 | Exam. of refugee                                     | 65503  |
| Definite | Visa status indicating migration | 13Zd.00 | Failed asylum seeker                                 | 94906  |
| Definite | Visa status indicating migration | 13Zw.00 | Has United Kingdom student visa                      | 104123 |
| Definite | Visa status indicating migration | 918z.00 | Has United Kingdom general visitor visa              | 107572 |
| Probable | First/main language not English  | 13LZ.00 | Main spoken language Turkish                         | 22294  |
| Probable | First/main language not English  | 041E.11 | Language interpreter                                 | 22515  |
| Probable | First/main language not English  | 13Z6000 | English as a second language                         | 23523  |
| Probable | First/main language not English  | 13Z6500 | Language Punjabi                                     | 24295  |
| Probable | First/main language not English  | 13Z6300 | Language Hindi                                       | 24296  |
| Probable | First/main language not English  | 13Z6600 | Language Urdu  | 24691  |
| Probable | First/main language not English  | 13Z6200 | Language Gujurati                                    | 24712  |
| Probable | First/main language not English  | 13Z6100 | Language Bengali                                     | 24741  |
| Probable | First/main language not English  | 13IC.00 | Main spoken language Polish                          | 24881  |
| Probable | First/main language not English  | 13b0.00 | Vietnamese language                                  | 25410  |
| Probable | First/main language not English  | 13IS.00 | Main spoken language Albanian                        | 25423  |
| Probable | First/main language not English  | 13I2.00 | Main spoken language Cantonese                       | 25472  |
| Probable | First/main language not English  | 13lx.00 | Main spoken language Thai                            | 25609  |
| Probable | First/main language not English  | 13lp.00 | Main spoken language Malayalam                       | 25616  |
| Probable | First/main language not English  | 13l5.00 | Main spoken language French                          | 25665  |
| Probable | First/main language not English  | 13l1.00 | Main spoken language Bengali                         | 25802  |
| Probable | First/main language not English  | 13IE.00 | Main spoken language Punjabi                         | 25829  |
| Probable | First/main language not English  | 13IP.00 | Main spoken language Shona                           | 26078  |
| Probable | First/main language not English  | 13Z6400 | Language Pashtu                                      | 26196  |
| Probable | First/main language not English  | 13IH.00 | Main spoken language Spanish                         | 26247  |
| Probable | First/main language not English  | 13lb.00 | Main spoken language Vietnamese                      | 26335  |
| Probable | First/main language not English  | 13I0.00 | Main spoken language Arabic                          | 26337  |
| Probable | First/main language not English  | 13IL.00 | Main spoken language Urdu                            | 26361  |
| Probable | First/main language not English  | 13I3.00 | Main spoken language Czech                           | 26464  |
| Probable | First/main language not English  | 13IF.00 | Main spoken language Russian                         | 32427  |
| Probable | First/main language not English  | 13IG.00 | Main spoken language Somali                          | 32456  |
| Probable | First/main language not English  | 13IB.00 | Main spoken language Mandarin                        | 32776  |
| Probable | First/main language not English  | 13IW.00 | Main spoken language Japanese                        | 36852  |
| Probable | First/main language not English  | 13It.00 | Main spoken language Serbian                         | 36862  |
| Probable | First/main language not English  | 13IQ.00 | Main spoken language Italian                         | 36980  |
| Probable | First/main language not English  | 13IN.00 | Main spoken language Kurdish                         | 46014  |
| Probable | First/main language not English  | 13I8.00 | Main spoken language Hindi                           | 46029  |
| Probable | First/main language not English  | 13IY.00 | Main spoken language Lithuanian                      | 46325  |

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|----------|---------------------------------|---------|-------------------------------------|-------|
| Probable | First/main language not English | 13IK.00 | Main spoken language Tamil          | 46861 |
| Probable | First/main language not English | 13IV.00 | Main spoken language Greek          | 46974 |
| Probable | First/main language not English | 13li.00 | Main spoken language French Creole  | 47007 |
| Probable | First/main language not English | 13IO.00 | Main spoken language Farsi          | 47029 |
| Probable | First/main language not English | 13IJ.00 | Main spoken language Sylheti        | 47627 |
| Probable | First/main language not English | 13Id.00 | Main spoken language Amharic        | 47628 |
| Probable | First/main language not English | 13IR.00 | Main spoken language German         | 47630 |
| Probable | First/main language not English | 13Iw.00 | Main spoken language Tagalog        | 47631 |
| Probable | First/main language not English | 13II.00 | Main spoken language Swahili        | 47641 |
| Probable | First/main language not English | 13Iu.00 | Main spoken language Sinhala        | 47643 |
| Probable | First/main language not English | 13Im.00 | Main spoken language Igbo           | 47646 |
| Probable | First/main language not English | 13I6.00 | Main spoken language Gujarati       | 48002 |
| Probable | First/main language not English | 13b4.00 | Mirpuri language                    | 52200 |
| Probable | First/main language not English | 13IM.00 | Main spoken language Yoruba         | 54409 |
| Probable | First/main language not English | 13IT.00 | Main spoken language Croatian       | 54410 |
| Probable | First/main language not English | 13Ic.00 | Main spoken language Akan           | 54413 |
| Probable | First/main language not English | 13If.00 | Main spoken language Dutch          | 54414 |
| Probable | First/main language not English | 13IX.00 | Main spoken language Korean         | 54415 |
| Probable | First/main language not English | 13I9.00 | Main spoken language Iba            | 54416 |
| Probable | First/main language not English | 13Iv.00 | Main spoken language Swedish        | 54417 |
| Probable | First/main language not English | 13Ih.00 | Main spoken language Flemish        | 56879 |
| Probable | First/main language not English | 13b3.00 | Creole language                     | 57462 |
| Probable | First/main language not English | 13II.00 | Main spoken language Hebrew         | 57755 |
| Probable | First/main language not English | 13Iq.00 | Main spoken language Norwegian      | 57758 |
| Probable | First/main language not English | 13I7.00 | Main spoken language Hausa          | 58193 |
| Probable | First/main language not English | 13Ir.00 | Main spoken language Pashto         | 58643 |
| Probable | First/main language not English | 13sA.00 | English as a second language        | 63932 |
| Probable | First/main language not English | 13Is.00 | Main spoken language Patois         | 64948 |
| Probable | First/main language not English | 13Ia.00 | Main spoken language Ukrainian      | 66685 |
| Probable | First/main language not English | 13Ig.00 | Main spoken language Ethiopian      | 69139 |
| Probable | First/main language not English | 13Io.00 | Main spoken language Luganda        | 69153 |
| Probable | First/main language not English | 13IA.00 | Main spoken language Kutchi         | 72379 |
| Probable | First/main language not English | 13Ik.00 | Main spoken language Hakka          | 91422 |
| Probable | First/main language not English | ZV60012 | [V]Social migrant                   | 93643 |
| Probable | First/main language not English | 13u0.00 | Main spoken language Bulgarian      | 95897 |
| Probable | First/main language not English | 13ur.00 | Main spoken language Latvian        | 95940 |
| Probable | First/main language not English | 13IT.11 | Main spoken language Serbo-Croatian | 95968 |
| Probable | First/main language not English | 13It.11 | Main spoken language Serbo-Croatian | 95969 |
| Probable | First/main language not English | 13IO.11 | Main spoken language Persian        | 95970 |
| Probable | First/main language not English | 13Iu.11 | Main spoken language Sinhalese      | 95974 |
| Probable | First/main language not English | 13w1.00 | Main spoken language Nepali         | 95978 |
| Probable | First/main language not English | 13ua.00 | Main spoken language Hungarian      | 96041 |
| Probable | First/main language not English | 13IE.11 | Main spoken language Panjabi        | 96147 |
| Probable | First/main language not English | 13u5.00 | Main spoken language Afrikaans      | 96148 |
| Probable | First/main language not English | 13u1.00 | Main spoken language Romanian       | 96152 |
| Probable | First/main language not English | 13wL.00 | Main spoken language Telugu         | 96163 |
| Probable | First/main language not English | 13wR.00 | Main spoken language Twi            | 96223 |
| Probable | First/main language not English | 13wG.00 | Main spoken language Slovenian      | 96230 |
| Probable | First/main language not English | 13wD.00 | Main spoken language Sindhi         | 96240 |
| Probable | First/main language not English | 13ux.00 | Main spoken language Marathi        | 96267 |
| Probable | First/main language not English | 13uj.00 | Main spoken language Kannada        | 96268 |
| Probable | First/main language not English | 13uN.00 | Main spoken language Danish         | 96289 |
| Probable | First/main language not English | 13u6.00 | Main spoken language Armenian       | 96290 |
| Probable | First/main language not English | 13w5.00 | Main spoken language Quechua        | 96317 |
| Probable | First/main language not English | 13uv.00 | Main spoken language Maltese        | 96370 |
| Probable | First/main language not English | 13uu.00 | Main spoken language Malay          | 96376 |
| Probable | First/main language not English | 13Ie.00 | Main spoken language Brawa          | 96485 |
| Probable | First/main language not English | 13wM.00 | Main spoken language Tibetan        | 96558 |
| Probable | First/main language not English | 13uG.00 | Main spoken language Burmese        | 96559 |
| Probable | First/main language not English | 13uT.00 | Main spoken language Finnish        | 96560 |
| Probable | First/main language not English | 13us.00 | Main spoken language Macedonian     | 96611 |
| Probable | First/main language not English | 13wN.00 | Main spoken language Tongan         | 96634 |
| Probable | First/main language not English | 13wT.00 | Main spoken language Uzbek          | 96784 |
| Probable | First/main language not English | 13u2.00 | Main spoken language Oromo          | 96857 |
| Probable | First/main language not English | 13u4.00 | Main spoken language Afar           | 96868 |
| Probable | First/main language not English | 13wa.00 | Main spoken language Zulu           | 96873 |
| Probable | First/main language not English | 13uQ.00 | Main spoken language Estonian       | 96928 |
| Probable | First/main language not English | 13uk.00 | Main spoken language Kashmiri       | 97015 |
| Probable | First/main language not English | 13uz.00 | Main spoken language Mongolian      | 97038 |
| Probable | First/main language not English | 13wW.00 | Main spoken language Wolof          | 97039 |
| Probable | First/main language not English | 13wQ.00 | Main spoken language Turkmen        | 97041 |
| Probable | First/main language not English | 13u9.00 | Main spoken language Azerbaijani    | 97083 |
| Probable | First/main language not English | 13wH.00 | Main spoken language Sundanese      | 97131 |
| Probable | First/main language not English | 13uX.00 | Main spoken language Georgian       | 97212 |
| Probable | First/main language not English | 13wX.00 | Main spoken language Xhosa          | 97273 |



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|----------|---------------------------------|---------|---|--------|
| Probable | First/main language not English | 13uc.00 | Main spoken language Indonesian         | 97274  |
| Probable | First/main language not English | 13w3.00 | Main spoken language Oriya              | 97297  |
| Probable | First/main language not English | 9NUC.11 | Persian language interpreter needed     | 97298  |
| Probable | First/main language not English | 13wB.00 | Main spoken language Southern Sotho     | 97439  |
| Probable | First/main language not English | 13w6.00 | Main spoken language Romansh            | 97440  |
| Probable | First/main language not English | 13uB.00 | Main spoken language Basque             | 97574  |
| Probable | First/main language not English | 13uI.00 | Main spoken language Kazakh             | 97595  |
| Probable | First/main language not English | 9NUz.00 | Bulgarian language interpreter needed   | 97644  |
| Probable | First/main language not English | 13wP.00 | Main spoken language Tsonga             | 97685  |
| Probable | First/main language not English | 13uK.00 | Main spoken language Catalan            | 97997  |
| Probable | First/main language not English | 9Nmm.00 | Burmese language interpreter needed     | 98062  |
| Probable | First/main language not English | 13uZ.00 | Main spoken language Guarani            | 98070  |
| Probable | First/main language not English | 13up.00 | Main spoken language Lao                | 98132  |
| Probable | First/main language not English | 13um.00 | Main spoken language Kinyarwanda        | 98194  |
| Probable | First/main language not English | 13uy.00 | Main spoken language Moldavian          | 98215  |
| Probable | First/main language not English | 13uw.00 | Main spoken language Maori              | 98255  |
| Probable | First/main language not English | 13w4.00 | Main spoken language Filipino           | 98285  |
| Probable | First/main language not English | 13uY.00 | Main spoken language Kalaallisut        | 98510  |
| Probable | First/main language not English | 13ub.00 | Main spoken language Icelandic          | 98604  |
| Probable | First/main language not English | 13u8.00 | Main spoken language Aymara             | 98762  |
| Probable | First/main language not English | 9NmQ.00 | Hungarian language interpreter needed   | 98809  |
| Probable | First/main language not English | 9NUy.00 | Romanian language interpreter needed    | 98841  |
| Probable | First/main language not English | 13wS.00 | Main spoken language Uighur             | 99712  |
| Probable | First/main language not English | 9Nn1.00 | Tsonga language interpreter needed      | 99794  |
| Probable | First/main language not English | 13ui.00 | Main spoken language Javanese           | 100011 |
| Probable | First/main language not English | 13uL.00 | Main spoken language Slovak             | 100013 |
| Probable | First/main language not English | 9NmA.00 | Macedonian language interpreter needed  | 100438 |
| Probable | First/main language not English | 13uR.00 | Main spoken language Faeroese           | 100707 |
| Probable | First/main language not English | 13uS.00 | Main spoken language Fijian             | 100714 |
| Probable | First/main language not English | 13ug.00 | Main spoken language Inuktitut          | 100716 |
| Probable | First/main language not English | 13uW.00 | Main spoken language Galician           | 100743 |
| Probable | First/main language not English | 9Nn7.00 | Slovenian language interpreter needed   | 100759 |
| Probable | First/main language not English | 13uH.00 | Main spoken language Belarusian         | 100828 |
| Probable | First/main language not English | 13uD.00 | Main spoken language Bihari             | 100949 |
| Probable | First/main language not English | 13wb.00 | Main spoken language Konkani            | 101038 |
| Probable | First/main language not English | 13uJ.00 | Main spoken language Central Khmer      | 101189 |
| Probable | First/main language not English | 13wA.00 | Main spoken language Dari               | 101220 |
| Probable | First/main language not English | 9Nn4.00 | Telugu language interpreter needed      | 101614 |
| Probable | First/main language not English | 13ut.00 | Main spoken language Malagasy           | 101620 |
| Probable | First/main language not English | 13ud.00 | Main spoken language Interlingua        | 101659 |
| Probable | First/main language not English | 13I9.11 | Main spoken language Iban               | 101761 |
| Probable | First/main language not English | 13uM.00 | Main spoken language Corsican           | 101788 |
| Probable | First/main language not English | 9NUc.11 | Punjabi language interpreter needed     | 101814 |
| Probable | First/main language not English | 13uY.11 | Main spoken language Greenlandic        | 102007 |
| Probable | First/main language not English | 13uC.00 | Main spoken language Dzongkha           | 102127 |
| Probable | First/main language not English | 13uF.00 | Main spoken language Breton             | 102128 |
| Probable | First/main language not English | 13ue.00 | Main spoken language Interlingue        | 102129 |
| Probable | First/main language not English | 13u3.00 | Main spoken language Abkhazian          | 102184 |
| Probable | First/main language not English | 13u7.00 | Main spoken language Assamese           | 102218 |
| Probable | First/main language not English | 13uA.00 | Main spoken language Bashkir            | 102259 |
| Probable | First/main language not English | 13wC.00 | Main spoken language Tswana             | 102877 |
| Probable | First/main language not English | 13uV.00 | Main spoken language Frisian            | 103200 |
| Probable | First/main language not English | 13w7.00 | Main spoken language Samoan             | 103219 |
| Probable | First/main language not English | 13uq.00 | Main spoken language Bamun              | 104071 |
| Probable | First/main language not English | 9NmC.00 | Latvian language interpreter needed     | 104635 |
| Probable | First/main language not English | 13wE.00 | Main spoken language Ndebele            | 104886 |
| Probable | First/main language not English | 9Nm6.00 | Brawa language interpreter needed       | 104901 |
| Probable | First/main language not English | 9Nmd.00 | Catalan language interpreter needed     | 105079 |
| Probable | First/main language not English | 13wV.00 | Main spoken language Tetum              | 105523 |
| Probable | First/main language not English | 13wc.00 | Main spoken language Aragonese          | 105529 |
| Probable | First/main language not English | 13wJ.00 | Main spoken language Tajik              | 105960 |
| Probable | First/main language not English | 13Z6900 | First language not English              | 108098 |
| Probable | First/main language not English | 9Nn6.00 | Turkmen language interpreter needed     | 108184 |
| Probable | First/main language not English | 9NmE.00 | Kinyarwanda language interpreter needed | 109489 |
| Probable | First/main language not English | 13I6.11 | Main spoken language Gujarati           | 109896 |
| Probable | First/main language not English | 13wF.00 | Main spoken language Swati              | 111709 |
| Probable | First/main language not English | 13w0.00 | Main spoken language Nauru              | 111734 |
| Probable | First/main language not English | 9Nm1.00 | Moldavian language interpreter needed   | 111788 |
| Probable | First/main language not English | 13wZ.00 | Main spoken language Zhuang             | 111789 |
| Probable | First/main language not English | 13wY.00 | Main spoken language Yiddish            | 111874 |
| Probable | First/main language not English | 13w8.00 | Main spoken language Sango              | 111919 |
| Probable | First/main language not English | 9NnC.00 | Sundanese language interpreter needed   | 112222 |
| Probable | First/main language not English | 13uo.00 | Main spoken language Rundi              | 112260 |

|          |                                 |         |                                 |        |
|----------|---------------------------------|---------|---------------------------------|--------|
| Probable | First/main language not English | 13wK.00 | Main spoken language Tatar      | 112321 |
| Probable | First/main language not English | 13ID.00 | Main spoken language Portuguese | 32728  |
| Possible | Non-UK origin                   | 1343    | Asian origin                    | 25801  |
| Possible | Non-UK origin                   | 1345    | South American origin           | 32101  |
| Possible | Non-UK origin                   | 2263.11 | O/E - Asian origin              | 32132  |
| Possible | Non-UK origin                   | 1344    | North American origin           | 41150  |
| Possible | Non-UK origin                   | 1342    | African origin                  | 45125  |
| Possible | Non-UK origin                   | 134A.00 | West Indian origin              | 45131  |
| Possible | Non-UK origin                   | 1347    | Indian origin                   | 45144  |
| Possible | Non-UK origin                   | 1348    | Middle Eastern origin           | 47951  |
| Possible | Non-UK origin                   | 9SA5.00 | Other African countries (NMO)   | 47969  |
| Possible | Non-UK origin                   | 1346    | Australian origin               | 47975  |
| Possible | Non-UK origin                   | 2263    | O/E - Mongoloid origin          | 66536  |

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**Table S3. Number and percentage of recorded migrants in CPRD GOLD per year by certainty of migration status (1997-2018).**

| Year         | Migrants           |       | Definite migrants  |        | Probable migrants  |       | Possible migrants |        | Definite + Probable migrants |         |
|--------------|--------------------|-------|--------------------|--------|--------------------|-------|-------------------|--------|------------------------------|---------|
|              | n/N                | %     | n/N                | %      | n/N                | %     | n/N               | %      | n/N                          | %       |
| <b>Total</b> | 403,768/16,071,111 | 2·51  | 178,749/16,071,111 | 1·11   | 216,731/16,071,111 | 1·35  | 8,288/16,071,111  | 0·05   | 395,480/16,071,111           | 2·46    |
| <b>1997</b>  | 4,417/2,210,551    | 0·20  | 772/2,210,551      | 0·0349 | 3,392/2,210,551    | 0·153 | 253/2,210,551     | 0·0114 | 4,164/2,210,551              | 0·00188 |
| <b>1998</b>  | 6924/2,662,706     | 0·26  | 1,949/2,662,706    | 0·0732 | 4,604/2,662,706    | 0·173 | 371/2,662,706     | 0·0139 | 6,553/2,662,706              | 0·246   |
| <b>1999</b>  | 9329/3,281,113     | 0·28  | 2,955/3,281,113    | 0·0901 | 5,934/3,281,113    | 0·181 | 440/3,281,113     | 0·0134 | 8,889/3,281,113              | 0·271   |
| <b>2000</b>  | 12,291/3,787,586   | 0·33  | 4,197/3,787,586    | 0·111  | 7,555/3,787,586    | 0·199 | 539/3,787,586     | 0·0142 | 11,752/3,787,586             | 0·310   |
| <b>2001</b>  | 17,176/4,362,237   | 0·39  | 6,393/4,362,237    | 0·158  | 9,461/4,362,237    | 0·217 | 822/4,362,237     | 0·0188 | 16,354/4,362,237             | 0·375   |
| <b>2002</b>  | 23,638/4,812,744   | 0·49  | 10,911/4,812,744   | 0·227  | 11,742/4,812,744   | 0·244 | 985/4,812,744     | 0·0205 | 22,653/4,812,744             | 0·471   |
| <b>2003</b>  | 31,637/5,194,514   | 0·609 | 16,372/5,194,514   | 0·315  | 14,132/5,194,514   | 0·272 | 1,133/5,194,514   | 0·0218 | 30,504/5,194,514             | 0·587   |
| <b>2004</b>  | 42,869/5,435,276   | 0·79  | 23,824/5,435,276   | 0·438  | 17,679/5,435,276   | 0·325 | 1,366/5,435,276   | 0·0251 | 41,503/5,435,276             | 0·764   |
| <b>2005</b>  | 53,229/5,534,090   | 0·96  | 29,208/5,534,090   | 0·528  | 22,357/5,534,090   | 0·404 | 1,664/5,534,090   | 0·0301 | 51,565/5,534,090             | 0·932   |
| <b>2006</b>  | 63,387/5,653,376   | 1·12  | 22,431/5,653,376   | 0·591  | 27,654/5,653,376   | 0·489 | 2,302/5,653,376   | 0·0407 | 61,085/5,653,376             | 1·08    |
| <b>2007</b>  | 71,423/5,716,075   | 1·25  | 34,474/5,716,075   | 0·603  | 34,50/5,716,075    | 0·604 | 2,440/5,716,075   | 0·0427 | 68,983/5,716,075             | 1·21    |
| <b>2008</b>  | 83,092/5,682,548   | 1·46  | 38,150/5,682,548   | 0·671  | 42,415/5,682,548   | 0·746 | 2,527/5,682,548   | 0·0445 | 80,565/5,682,548             | 1·42    |
| <b>2009</b>  | 102,292/5,700,405  | 1·79  | 41,733/5,700,405   | 0·732  | 58,246/5,700,405   | 1·02  | 2,313/5,700,405   | 0·0406 | 99,979/5,700,405             | 1·75    |
| <b>2010</b>  | 121,683/5,694,007  | 2·14  | 45,192/5,694,007   | 0·794  | 74,034/5,694,007   | 1·30  | 2,457/5,694,007   | 0·0432 | 119,226/5,694,007            | 2·09    |
| <b>2011</b>  | 137,231/5,583,145  | 2·46  | 46,943/5,583,145   | 0·841  | 87,862/5,583,145   | 1·57  | 2,426/5,583,145   | 0·0435 | 134,805/5,583,145            | 2·41    |
| <b>2012</b>  | 155,439/5,490,938  | 2·83  | 50,303/5,490,938   | 0·916  | 102,603/5,490,938  | 1·87  | 2,533/5,490,938   | 0·0461 | 152,906/5,490,938            | 2·78    |
| <b>2013</b>  | 165,392/5,427,745  | 3·05  | 56,225/5,427,745   | 1·04   | 106,300/5,427,745  | 1·96  | 2,867/5,427,745   | 0·0528 | 162,525/5,427,745            | 2·99    |
| <b>2014</b>  | 151,699/5,094,287  | 2·98  | 58,425/5,094,287   | 1·15   | 90,520/5,094,287   | 1·78  | 2,754/5,094,287   | 0·0541 | 148,945/5,094,287            | 2·92    |
| <b>2015</b>  | 139,348/4,484,174  | 3·11  | 55,934/4,484,174   | 1·25   | 81,960/4,484,174   | 1·83  | 1,454/4,484,174   | 0·0324 | 137,894/4,484,174            | 3·08    |
| <b>2016</b>  | 106,614/3,600,079  | 2·96  | 39,106/3,600,079   | 1·09   | 66,553/3,600,079   | 1·85  | 955/3,600,079     | 0·0265 | 105,659/3,600,079            | 2·93    |
| <b>2017</b>  | 94,293/3,075,162   | 3·07  | 29,888/3,075,162   | 0·972  | 63,474/3,075,162   | 2·06  | 931/3,075,162     | 0·0303 | 93,362/3,075,162             | 3·04    |
| <b>2018</b>  | 100,626/2,761,397  | 3·64  | 38,096/2,761,397   | 1·38   | 61,688/2,761,397   | 2·23  | 842/2,761,397     | 0·0305 | 99,784/2,761,397             | 3·61    |

**Table S4. Demographic characteristics of recorded migrants in CPRD GOLD at the time of the 2011 census by certainty of migration status (England and Wales).**

| Demographic characteristic                       |                                       | Migrants (%)   | Definite migrants (%) | Probable migrants (%) | Possible migrants (%) | Definite + Probable migrants (%) |
|--|---------------------------------------|----------------|-----------------------|-----------------------|-----------------------|----------------------------------|
| <b>Total</b>                                     |                                       | 107,526 (100%) | 36,471 (33·9%)*       | 68,983 (64·2%)        | 2,072 (1·92%)         | 105,454 (98·1%)                  |
| <b>Sex</b>                                       | Male                                  | 51,252 (47·7%) | 17,894 (49·1%)        | 32,325 (46·9%)        | 1,033 (49·9%)         | 50,219 (47·6%)                   |
|  | Female                                | 56,274 (52·3%) | 18,577 (50·9%)        | 36,658 (53·1%)        | 1,039 (50·1%)         | 55,235 (52·4%)                   |
| <b>Year of birth</b>                             | 1900-1919                             | 119 (0·11%)    | 36 (0·10%)            | 77 (0·112%)           | 6 (0·290%)            | 113 (0·107%)                     |
|  | 1920-1939                             | 4,560 (4·24%)  | 1,230 (3·37%)         | 3,235 (4·69%)         | 95 (4·58%)            | 4,465 (4·23%)                    |
|  | 1940-1959                             | 13,267 (12·3%) | 4,332 (11·9%)         | 8,616 (12·5%)         | 319 (15·4%)           | 12,948 (12·3%)                   |
|  | 1960-1979                             | 39,600 (36·8%) | 15,977 (43·8%)        | 22,722 (32·9%)        | 901 (43·5%)           | 38,699 (36·7%)                   |
|  | 1980-1999                             | 35,886 (33·4%) | 12,414 (34·0%)        | 22,875 (33·2%)        | 597 (28·8%)           | 35,289 (33·5%)                   |
|  | 2000-2018                             | 14,094 (13·1%) | 2,482 (6·81%)         | 11,458 (16·6%)        | 154 (7·43%)           | 13,940 (13·2%)                   |
| <b>Ethnicity</b>                                 | White British                         | 1,667 (1·55%)  | 840 (2·30%)           | 796 (1·15%)           | 31 (1·50%)            | 1,636 (1·55%)                    |
|  | White Non-British                     | 34,821 (32·4%) | 11,568 (31·7%)        | 23,168 (33·6%)        | 85 (4·10%)            | 34,736 (32·9%)                   |
|  | Mixed                                 | 2,494 (2·32%)  | 1,057 (2·90%)         | 1,367 (1·98%)         | 70 (3·38%)            | 2,424 (2·30%)                    |
|  | Asian/Asian British                   | 39,845 (37·1%) | 8,419 (23·1%)         | 30,606 (44·4%)        | 820 (39·6%)           | 39,025 (37·0%)                   |
|  | Black/African/Caribbean/Black British | 10,859 (10·1%) | 5,782 (15·9%)         | 4,563 (6·64%)         | 514 (24·8%)           | 10,345 (9·81%)                   |
|  | Other                                 | 8,632 (8·03%)  | 3,130 (8·58%)         | 5,371 (7·82%)         | 131 (6·32%)           | 8,501 (8·06%)                    |
|  | Unknown                               | 9,208 (8·56%)  | 5,675 (15·6%)         | 3,112 (4·51%)         | 421 (20·3%)           | 8,787 (8·33%)                    |
| <b>Geographical region of birth (WHO Region)</b> | African Region                        | 5,617 (5·22%)  | 5,617 (15·4%)         | ..                    | ..                    | ..                               |
|  | European Region                       | 10,126 (9·42%) | 10,126 (27·8%)        | ..                    | ..                    | ..                               |
|  | Eastern Mediterranean Region          | 2,970 (2·76%)  | 2,970 (8·14%)         | ..                    | ..                    | ..                               |
|  | Region of the Americas                | 2,229 (2·07%)  | 2,229 (6·11%)         | ..                    | ..                    | ..                               |
|  | South East Asian Region               | 4,088 (3·80%)  | 4,088 (11·2%)         | ..                    | ..                    | ..                               |
|  | Western Pacific Region                | 3,622 (3·37%)  | 3,622 (9·93%)         | ..                    | ..                    | ..                               |
|  | Unknown                               | 78,742 (73·2%) | 7,819 (21·4%)         | ..                    | ..                    | ..                               |
| <b>Geographical region of birth (continent)</b>  | Africa                                | 5,617 (5·22%)  | 5,617 (15·4%)         | ..                    | ..                    | ..                               |
|  | Europe                                | 10,048 (9·34%) | 10,048 (27·6%)        | ..                    | ..                    | ..                               |
|  | Middle East & Asia                    | 10,022 (9·32%) | 10,022 (27·5%)        | ..                    | ..                    | ..                               |
|  | The Americas & Caribbean              | 2,229 (2·07%)  | 2,229 (6·11%)         | ..                    | ..                    | ..                               |
|  | Antarctica & Oceania                  | 845 (0·79%)    | 845 (2·3%)            | ..                    | ..                    | ..                               |
|  | Unknown                               | 78,737 (73·2%) | 7,710 (21·1%)         | ..                    | ..                    | ..                               |

|                        |                        |                |                |                |               |                |
|------------------------|------------------------|----------------|----------------|----------------|---------------|----------------|
| <b>Practice region</b> | London                 | 46,043 (42·8%) | 21,324 (58·5%) | 25,301 (34·1%) | 1,218 (58·8%) | 44,825 (42·5%) |
|                        | South Central          | 10,641 (9·90%) | 3,866 (10·6%)  | 6,566 (9·56%)  | 209 (10·1%)   | 10,432 (9·89%) |
|                        | South East Coast       | 6,615 (6·15%)  | 1,483 (4·06%)  | 5,042 (7·31%)  | 90 (4·34%)    | 6,525 (6·19%)  |
|                        | North West             | 11,538 (10·7%) | 3,197 (8·77%)  | 8,258 (12·0%)  | 83 (4·01%)    | 11,455 (10·9%) |
|                        | West Midlands          | 10,647 (9·93%) | 1,190 (3·26%)  | 9,347 (13·5%)  | 110 (5·31%)   | 10,537 (10·0%) |
|                        | East of England        | 8,584 (7·98%)  | 1,445 (3·96%)  | 7,069 (10·2%)  | 70 (3·38%)    | 8,514 (8·07%)  |
|                        | South West             | 6,039 (5·62%)  | 2,299 (6·30%)  | 3,709 (5·40%)  | 31 (1·50%)    | 6,008 (5·70%)  |
|                        | North East             | 2,370 (2·20%)  | 154 (0·422%)   | 2,209 (3·20%)  | 7 (0·338%)    | 2,363 (2·24%)  |
|                        | East Midlands          | 1,770 (1·65%)  | 150 (0·422%)   | 1,541 (2·24%)  | 79 (3·81%)    | 1,691 (1·60%)  |
|                        | Yorkshire & The Humber | 760 (0·707%)   | 101 (0·277%)   | 574 (0·83%)    | 85 (4·10%)    | 675 (0·64%)    |
|                        | Wales                  | 2,519 (2·34%)  | 1,262 (3·46%)  | 1,167 (1·70%)  | 90 (4·34%)    | 2,429 (2·30%)  |

\*Percentages are calculated across columns except for the first row which are percentages.

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**Table S5. Migrants as a percentage of all patients registered in a CPRD GOLD practice region (2009-2018).**

| <b>Practice region</b> | <b>No. recorded migrants</b> | <b>No. registered patients</b> | <b>Percentage migrants in region</b> |
|------------------------|------------------------------|--------------------------------|--------------------------------------|
| North East             | 4,980                        | 205,916                        | 2.42                                 |
| North West             | 31,964                       | 1,534,366                      | 2.08                                 |
| Yorkshire & The Humber | 1,740                        | 483,845                        | 0.36                                 |
| East Midlands          | 4,594                        | 492,978                        | 0.93                                 |
| West Midlands          | 29,629                       | 1,280,599                      | 2.31                                 |
| East of England        | 24,006                       | 1,319,786                      | 1.82                                 |
| South West             | 19,734                       | 1,322,423                      | 1.49                                 |
| South Central          | 48,740                       | 1,674,896                      | 2.91                                 |
| London                 | 171,368                      | 2,302,173                      | 7.44                                 |
| South East Coast       | 43,089                       | 1,625,941                      | 2.65                                 |
| Northern Ireland       | 921                          | 434,498                        | 0.21                                 |
| Scotland               | 12,135                       | 1,762,543                      | 0.69                                 |
| Wales                  | 10,868                       | 1,631,147                      | 0.67                                 |

**Table S6. Percentage of individuals recorded as migrants in CPRD GOLD and ONS country of birth (2004-2018).**

| <b>Year</b> | <b>Percentage of CPRD GOLD patients recorded as international migrants (95% CI)</b> | <b>Percentage of individuals living in the UK recorded by ONS as international migrants</b> | <b>Ratio of total percentages (% CPRD / % ONS )</b> |
|-------------|---|---|---|
| 2004        | 0.79 (0.781 - 0.796)  | 8.89  | 0.09  |
| 2005        | 0.96 (0.954 - 0.970)  | 9.36  | 0.10  |
| 2006        | 1.12 (1.113 - 1.130)  | 10.05   | 0.11  |
| 2007        | 1.25 (1.240 - 1.259)  | 10.59   | 0.12  |
| 2008        | 1.46 (1.452 - 1.472)  | 11.09   | 0.13  |
| 2009        | 1.79 (1.784 - 1.805)  | 11.42   | 0.16  |
| 2010        | 2.14 (2.125 - 2.149)  | 11.68   | 0.18  |
| 2011        | 2.46 (2.445 - 2.471)  | 12.26   | 0.20  |
| 2012        | 2.83 (2.817 - 2.845)  | 12.44   | 0.23  |
| 2013        | 3.05 (3.033 - 3.062)  | 12.52   | 0.24  |
| 2014        | 2.98 (2.963 - 2.993)  | 13.00   | 0.23  |
| 2015        | 3.11 (3.092 - 3.124)  | 13.33   | 0.23  |
| 2016        | 2.96 (2.944 - 2.979)  | 14.14   | 0.21  |
| 2017        | 3.07 (3.047 - 3.086)  | 14.39   | 0.21  |
| 2018        | 3.64 (3.622 - 3.666)  | 14.24   | 0.26  |

**Table S7. Percentage of CPRD patients recorded as migrants and ONS 2011 census percentage of migrants in the population by age band (2011).**

| <b>Age band in<br/>years</b> | <b>CPRD GOLD<br/>migrants / all individuals<br/>(%)</b> | <b>ONS 2011 census<br/>migrants / all individuals (%)</b> | <b>Ratio of total percentages<br/>(% CPRD / % ONS )</b> |
|------------------------------|---|---|---|
| <b>0-15</b>                  | 17,838 / 745,500 (2.4%)                                 | 594,415 / 10,579,132 (5.6%)                               | 0.43  |
| <b>16-24</b>                 | 11,129 / 446,584 (2.5%)                                 | 896,719 / 6,658,636 (13.5%)                               | 0.18  |
| <b>25-34</b>                 | 30,178 / 552,426 (5.5%)                                 | 1,892,699 / 7,520,524 (25.2%)                             | 0.22  |
| <b>35-49</b>                 | 28,135 / 941,841 (3.0%)                                 | 2,004,537 / 11,931,776 (16.8%)                            | 0.18  |
| <b>50-64</b>                 | 12,586 / 810,017 (1.6%)                                 | 1,239,056 / 10,162,771 (12.2%)                            | 0.13  |
| <b>65-74</b>                 | 4,194 / 397,473 (1.1%)                                  | 479,211 / 4,852,833 (9.9%)                                | 0.11  |
| <b>75-84</b>                 | 2,684 / 256,482 (1.1%)                                  | 300,122 / 3,115,552 (9.6%)                                | 0.11  |
| <b>85 plus</b>               | 782 / 118,357 (0.7%)                                    | 98,251 / 1,254,688 (7.8%)                                 | 0.09  |



**Table S8. Age breakdown of migrants in CPRD GOLD and in ONS at the time of the 2011 census.**

| Age band in<br>years | CPRD GOLD    |               | ONS 2011 census |               |
|----------------------|--------------|---------------|-----------------|---------------|
|                      | No. migrants | % of migrants | No. migrants    | % of migrants |
| <b>All age bands</b> | 107,526      | 100           | 7,505,010       | 100           |
| <b>0-15</b>          | 17,838       | 16·6          | 594,415         | 7·92          |
| <b>16-24</b>         | 11,129       | 10·4          | 896,719         | 12·0          |
| <b>25-34</b>         | 30,178       | 28·07         | 1,892,699       | 25·2          |
| <b>35-49</b>         | 28,135       | 26·2          | 2,004,537       | 26·7          |
| <b>50-64</b>         | 12,586       | 11·7          | 1,239,056       | 16·5          |
| <b>65-74</b>         | 4,194        | 3·90          | 479,211         | 6·39          |
| <b>75-84</b>         | 2,684        | 2·50          | 300,122         | 4·00          |
| <b>85 plus</b>       | 782          | 0·73          | 98,251          | 1·31          |

**Table S9. Breakdown of migrants recorded in CPRD GOLD at the time of the ONS 2011 census by the 18 group classification of ethnicity (2011).**

| <b>Ethnic group</b>   | <b>Number of migrants</b> | <b>% of migrants</b> |
|-----------------------|---------------------------|----------------------|
| All migrants          | 107,526                   | 100                  |
| White British         | 1,667                     | 1·55                 |
| White Irish           | 551                       | 0·51                 |
| White Other           | 28,605                    | 26·6                 |
| White NOS             | 5,665                     | 5·27                 |
| Mixed White and Black | 765                       | 0·71                 |
| Mixed White and Asian | 474                       | 0·44                 |
| Mixed Asian and Black | 141                       | 0·13                 |
| Mixed Other           | 1,056                     | 0·98                 |
| Mixed NOS             | 58                        | 0·05                 |
| Indian                | 13,283                    | 12·4                 |
| Pakistani             | 10,084                    | 9·38                 |
| Bangladeshi           | 3,935                     | 3·66                 |
| Other Asian           | 10,028                    | 9·33                 |
| Black Caribbean       | 1,158                     | 1·08                 |
| Black African         | 8,582                     | 7·98                 |
| Black Other           | 1,119                     | 1·04                 |
| Chinese               | 2,515                     | 2·34                 |
| Other ethnic group    | 8,632                     | 8·03                 |
| Unknown               | 9,208                     | 8·56                 |