

## Methods and data sources

This document describes the methods and data sources used in the series of three reports, titled:

1. Long-term trends in GP Practice consultation rates
2. The gap between need and supply of GP practice consultations
3. GP practice productivity and continuity of care

### Estimating GP practice consultation rates

The first report in the series includes estimates of crude GP practices consultation rates between 1995 and 2022. The second report estimates need-adjusted consultation rates between 2008 and 2019. These estimates are based on analyses of data obtained from the Clinical Practice Research Datalink, CPRD (protocol ID 22\_002493).

CPRD consists of two research databases, CPRD Gold and CPRD Aurum comprising anonymised data extracted from the Vision (Gold) and EMIS (Aurum) clinical information systems of participating GP practices. Further information about CPRD is available [here](#).

Year-stratified, exposure-weighted random samples of anonymised patient's records from English practices were drawn from CPRD Gold and CPRD Aurum for each year between 1995 and 2022. Twenty thousand patients were sampled from each system for each year. For the purposes of the sampling method, exposure was defined as the in-year duration of registration. The sampling method allowed for the same patient to be selected in multiple years, although the incidence of such repeated sampling was low.

The following variables were extracted or derived for each patient sampled each year:

- Year
- GP practice pseudonym
- Exposure
- Age
- Sex
- Deprivation (IMD2019) quintile
- Cambridge Multimorbidity Score
- Number of consultations (All)
- Number of consultations (in person at surgery or visit)
- Number of consultations (remote via telephone, video call etc)
- Number of consultations (GP)
- Number of consultations (other healthcare professional)

Age is defined as the difference between the exposure year and patient's year of birth. Ages take integer values between 0 and 89, with all aged over 90 grouped together as 90+.

Deprivation quintile is based on the English Indices of Deprivation 2019 (IMD2019) for the Lower Super Output Area (LSOA) of residence of the patients latest known address. Linkage to IMD2019 was carried out by CPRD (linkage request ID 3181).

The Cambridge Multimorbidity Score was calculated following the methods described by Payne et al 2020<sup>1</sup> for patients within the CPRD Gold sample. The 20 condition GP consultation model was used. Scores were rounded to the nearest integer, with all scores above 9.5 grouped together as 10+. Scores were calculated for each year from 2008 onwards.

The codelists used to calculate the Cambridge Multimorbidity Score were those developed by the Health Foundation and the University of Liverpool in their recent study, Health in 2040: projected patterns of illness in England.<sup>2</sup>

In-year consultation counts were derived using the rules and tables set out in the Appendix 1. Note that this process is similar to that described by Hobbs et al 2016<sup>3</sup> (CPRD Gold) and Vestesson et al 2023<sup>4</sup> (CPRD Aurum), although some staff and consultation type assignments types differ.

In-year exposure was calculated as the difference in days between the latest of two variables (current registration date, 1st January in the exposure year) and the earliest of four variables (transfer out or registration end date and date of death, 60 days before the practice last collection date and 31<sup>st</sup> December in the exposure year).

The following exclusions were applied after sampling.

| Level              | Exclusion criteria                                                                                                                                                                                   |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dataset (by year)  | Patients drawn from CPRD Aurum for 2022 were excluded. CPRD Aurum data for 2022 was incomplete at the time of analysis.                                                                              |
| Practice (by year) | Patients from practices with implausibly low in-year crude consultations rates (< 1 consultation per patient) were excluded following the method described by Hippisley-Cox et al 2008. <sup>5</sup> |
| Patient (by year)  | Patients with gender other than male or female were excluded.<br>Patients without a valid IMD quintile.<br>Patients with no exposure (as defined above)                                              |
| Consultations      | Consultations for COVID-19 vaccinations were excluded using codes provided by CPRD. <sup>6</sup>                                                                                                     |

<sup>1</sup> <https://www.cmaj.ca/content/192/5/E107>

<sup>2</sup> <https://www.health.org.uk/publications/health-in-2040>

<sup>3</sup> [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)00620-6/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)00620-6/fulltext)

<sup>4</sup> <https://publichealth.jmir.org/2023/1/e44944>

<sup>5</sup> <https://digital.nhs.uk/data-and-information/publications/statistical/trends-in-consultation-rates-in-general-practice/qresearch-report-on-trends-in-consultation-rates-in-general-practices-uk-1995-2008>

<sup>6</sup> <https://cprd.com/covid-19-feasibility-counts-vaccination-events> & <https://cprd.com/covid-19-feasibility-counts-vaccination-events>



We cap the number of consultations per member of staff, per patient, per type (in-surgery, remote, and home visit), per day, to 1.

A description of the study cohorts and their outcomes are shown in Appendix 2.

Four regression models were built for each of 5 outcomes:

- Number of consultations (All)
- Number of consultations (in person at surgery or visit)
- Number of consultations (remote via telephone, video call etc)
- Number of consultations (GP)
- Number of consultations (other healthcare professional)

These took the form of negative binomial generalised linear models, with an offset variable (log of exposure) and a practice random effect.

The four models are described in the table below:

| Ref    | Source dataset | Period coverage | Fixed Effects                                                            |
|--------|----------------|-----------------|--------------------------------------------------------------------------|
| G-AS   | CPRD Gold      | 1995-2022       | Year, age, sex                                                           |
| A-AS   | CPRD Aurum     | 1995-2021       |                                                                          |
| G-ASDM | CPRD Gold      | 2008-2019       | Year, age, sex, deprivation quintile, and Cambridge multimorbidity score |
| A-ASDM | CPRD Aurum     | 2008-2019       |                                                                          |

Coefficients and fit characteristics for the 'all consultations' models are shown in Appendix 3.

Crude consultation rates by year were calculated as follows.

- 1) Start with data on population of England by year, age, and sex.
- 2) Calculating the population exposure of each year, age, and sex in (1) as 365 times the population size.
- 3) Using models G-AS and A-AS above, predict the number of consultations for each age, and sex sub-population from (2), and summing these for each year. Note that these predictions do not apply the practice random effect.
- 4) Dividing this predicted number of constitution (3) by the sum of the population in that year (1).

The expected number of consultations in 2019 for each Integrated Care Board at 2012 service levels were calculated as follows.

- 1) Using national data on population in 2019, by age, sex and LSOA and the assignment of LSOAs to deprivation quintiles and ICBs to estimate the population of each ICB in 2019 by age, sex and deprivation quintile.
- 2) Using our patient samples, calculate the proportion of the population in 2019 for age, sex and deprivation quintile subgroups by the 11 levels of the rounded, truncated Cambridge multimorbidity score (0 - 9 and 10+).
- 3) Applying these proportions (2) to the populations (1) to estimate the population of each ICB in 2019 by age, sex, deprivation quintile and Cambridge multimorbidity score.



- 4) Calculating the population exposure of each year, age, sex and deprivation quintile sub-population in (3) as 365 times the population size.
- 5) Using models G-ASDM and A-ASDM above, predict the number of consultations for each age, sex, deprivation quintile and Cambridge multimorbidity score sub-population from (4), with year set to 2012. Note that these predictions do not apply the practice random effect.

Analysis was conducted using R version 4.3.1<sup>7</sup>.

Scripts are available in the following GitHub repository: [https://github.com/The-Strategy-Unit/1047\\_GP\\_consultation\\_rate\\_trends](https://github.com/The-Strategy-Unit/1047_GP_consultation_rate_trends)

## Estimating GP Practice Productivity

The third report in the series describes GP Practice productivity and efficiency. This information is taken from three published studies listed below.

Arabadzhyan A, Castelli A, Gaughan J, Anaya Montes M, Chalkey M. Productivity of the English National Health Service: 2020/21 update. Centre for Health Economics, University of York. March 2023.

[https://www.york.ac.uk/media/che/documents/papers/researchpapers/NHS%20prod%20update%20202021\\_20230307-combined%20\(1\).pdf](https://www.york.ac.uk/media/che/documents/papers/researchpapers/NHS%20prod%20update%20202021_20230307-combined%20(1).pdf)

Williams K, Croft S, Mohammed M, Wyatt S. Estimating productivity levels in primary medical services across clinical commissioning groups in England and the impact of the COVID-19 pandemic: a data envelopment analysis. BMC Health Serv Res 23, 1194 (2023). <https://doi.org/10.1186/s12913-023-10117-2>

Kajaria-Montag H, Freeman M, Sholtes F. Continuity of Care Increases Physician Productivity in Primary Care. INSEAD Business School Working paper 2023/23/TOM. June 2023. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3868231](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3868231)

The second of these studies was carried out by the Strategy Unit, in conjunction with colleagues from the University of Birmingham. Details of the methods used can be found in the journal article itself and in the following GitHub repository: [https://github.com/The-Strategy-Unit/933\\_relative\\_efficiency\\_primary\\_care](https://github.com/The-Strategy-Unit/933_relative_efficiency_primary_care).

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<sup>7</sup> R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>



## Supplementary data sources

The reports also draw on a range of supplementary data sources to provide context and aid interpretation. These are listed below.

### GP Practice appointments

Data on appointments in general practice was taken from the series of NHS Digital publications titled, Appointments in General Practice.

<https://digital.nhs.uk/data-and-information/publications/statistical/appointments-in-general-practice>

### GP outpatient referrals

GP outpatient referral data was sourced from NHS England's Monthly Referral Returns (MRR).

<https://www.england.nhs.uk/statistics/statistical-work-areas/outpatient-referrals/>

### Prescriptions

Data on GP prescribing were taken from NHS Digital's and the NHS Business Services Authority's Practice Level Prescribing dataset.

<https://digital.nhs.uk/data-and-information/areas-of-interest/prescribing/practice-level-prescribing-in-england-a-summary>

### GP Patient Survey

Data on the annual General Practice patient Survey was obtained from the NHSD England and Ipsos GPPS Analysis Tool.

<https://www.gp-patient.co.uk/analysistool>

### Practice - ICB allocation

Practice are allocated to Integrated care Board using the *epcmem* and *eccg* files obtained from NHS Digital's Organisation Data Service.

<https://digital.nhs.uk/services/organisation-data-service>



### **Deprivation of area of residence**

Deprivation was measured using the English Indices of Deprivation 2019 obtained from the Ministries of Housing, Communities and Local Government.

<https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

### **Avoidable ED attendances**

Avoidable ED attendances were identified in the A&E (pre-April 2019) and ECDS (April 2019 onwards) datasets in the National Commissioning Data Repository, using the method described by O'Keefe et al 2018.

<https://doi.org/10.1371/journal.pone.0192855>

### **Ambulatory care sensitive admissions**

Avoidable ED attendances were identified in the admitted patient care datasets in the National Commissioning Data Repository, using the method described by Purdy et al 2010.

<https://www.kingsfund.org.uk/sites/files/kf/Avoiding-Hospital-Admissions-Sarah-Purdy-December2010.pdf>

### **NHS and primary medical services productivity trends**

Trends in all NHS and primary medical services productivity are taken from a series of publications produced by the Centre for Health Economics at the University of York. The latest report in this series relates to the period 2020-2021.

[https://www.york.ac.uk/media/che/documents/papers/researchpapers/NHS%20prod%20update%20202021\\_20230307-combined%20\(1\).pdf](https://www.york.ac.uk/media/che/documents/papers/researchpapers/NHS%20prod%20update%20202021_20230307-combined%20(1).pdf)

### **GP practice workforce**

Workforce was obtained from NHS Digital publication series, General Practice Workforce.

<https://digital.nhs.uk/data-and-information/publications/statistical/general-and-personal-medical-services#latest-statistics>

## GP Worklife Survey

Data from the biennial GP Worklife Surveys was obtained from Health Organisation, Policy and Economics research group at the University of Manchester on behalf of the Policy Research Unit in Health and Social Care Systems and Commissioning (PRUComm).

<https://prucomm.ac.uk/eleventh-national-gp-worklife-survey-2021.html>

## Population

Data on population by single year of age, sex and Lower Super Output Area were obtained from the Office of National Statistics.

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/lowersuperoutputareamidyearpopulationestimates>

## Lower Layer Super Output Area to Integrated Care Board lookups

2011 Lower super output areas were assigned to Integrated Care Boards using lookup tables supplied by Office of national Statistics.

<https://geoportal.statistics.gov.uk/documents/1ac8547e9a8945478f0b5ea7ffe1a6b1/about>

## 2001 to 2011 and 2021 Lower Layer Super Output Area lookups

Lookups from 2001 to 2011 and 2021 Lower Layer Super Output areas were obtained from the Office of National Statistics.

<https://geoportal.statistics.gov.uk/datasets/ons::lower-layer-super-output-area-2001-to-lower-layer-super-output-area-2011-to-local-authority-district-2011-lookup-in-england-and-wales-1/about>

<https://geoportal.statistics.gov.uk/datasets/ons::lsoa-2011-to-lsoa-2021-to-local-authority-district-2022-lookup-for-england-and-wales-version-2/about>



## Appendix 1 - Identifying and classifying consultations

Consultations are identified and classified using a set of rules and codelists.

For CPRD Gold, we define a consultation as one which

is undertaken by a staff member with a staff role (*role*) that falls into one of the clinical (GP, nurse, other healthcare professional) job roles as defined in table G1,

AND,

has a consultation type (*constype*) code that falls into either the surgery, remote or visit group as defined in table G2

For CPRD Aurum, we define a consultation as one which

is undertaken by a staff member with a job category (*jobcatid*) that falls into one of the clinical (GP, nurse, other healthcare professional) job roles as defined in table A1,

AND,

[ has a EMIS consultation source identifier (*conssourceid*) description that falls into either the surgery, remote or a visit group as defined in table A2

OR

[ is an 'awaiting review' EMIS consultation source identifier (*conssourceid*) description

AND

has a consultation code source identifier (*consmedcodeid*) description that falls into either the surgery, remote or visit group as defined in table A3 ]

]



**Table G1 - CPRD Gold staff type assignment**

| role code | description                                   | role group |
|-----------|-----------------------------------------------|------------|
| 1         | Senior Partner                                | GP         |
| 2         | Partner                                       | GP         |
| 3         | Assistant                                     | GP         |
| 4         | Associate                                     | GP         |
| 5         | Non-commercial local rota of less than 10 GPs | GP         |
| 6         | Commercial Deputising service                 | GP         |
| 7         | Locum                                         | GP         |
| 8         | GP Registrar                                  | GP         |
| 10        | Sole Practitioner                             | GP         |
| 47        | Salaried Partner                              | GP         |
| 50        | GP Retainer                                   | GP         |
| 11        | Practice Nurse                                | nurse      |
| 13        | Community Nurse                               | nurse      |
| 14        | Midwife                                       | nurse      |
| 15        | Community Psychiatric Nurse                   | nurse      |
| 34        | Hospital Nurse                                | nurse      |
| 36        | School Nurse                                  | nurse      |
| 38        | Contact Tracing Nurse                         | nurse      |
| 45        | Mental Handicap Nurse                         | nurse      |
| 54        | Other Nursing & Midwifery                     | nurse      |
| 61        | Nurse Access Role                             | nurse      |
| 62        | Nurse Manager Access Role                     | nurse      |
| 9         | Consultant                                    | OHP        |
| 12        | Health Visitor                                | OHP        |
| 16        | Social Worker                                 | OHP        |
| 17        | Pharmacist                                    | OHP        |
| 18        | Dispenser                                     | OHP        |
| 19        | Non-qualified Dispenser                       | OHP        |
| 26        | Physiotherapist                               | OHP        |
| 27        | Chiropodist                                   | OHP        |
| 28        | Dentist                                       | OHP        |
| 29        | Dietician                                     | OHP        |
| 30        | Counsellor                                    | OHP        |
| 31        | Osteopath                                     | OHP        |
| 33        | Other Health Care Professional                | OHP        |
| 35        | Community Medical Officer                     | OHP        |
| 37        | Health Education Officer                      | OHP        |
| 39        | Stomatherapist                                | OHP        |
| 41        | Interpreter/Link Worker                       | OHP        |



| role code | description                               | role group   |
|-----------|-------------------------------------------|--------------|
| 42        | Chiropractor                              | OHP          |
| 43        | Acupuncturist                             | OHP          |
| 44        | Homeopath                                 | OHP          |
| 48        | Occupational Therapist                    | OHP          |
| 49        | Speech Therapist                          | OHP          |
| 51        | Phlebotomist                              | OHP          |
| 52        | Other Medical & Dental                    | OHP          |
| 53        | Other Students                            | OHP          |
| 55        | Other Allied Health Professionals         | OHP          |
| 56        | Other Professional Scientific & Technical | OHP          |
| 57        | Other Healthcare Scientists               | OHP          |
| 58        | Other Additional Clinical Services        | OHP          |
| 60        | Clinical Practitioner Access Role         | OHP          |
| 63        | Health Professional Access Role           | OHP          |
| 64        | Healthcare Student Access Role            | OHP          |
| 65        | Biomedical Scientist Access Role          | OHP          |
| 67        | Optometrist                               | OHP          |
| 68        | Radiographer                              | OHP          |
| 0         | Data Not Entered                          | non clinical |
| 20        | Practice Manager                          | non clinical |
| 21        | Fund Manager                              | non clinical |
| 22        | Business Manager                          | non clinical |
| 23        | Administrator                             | non clinical |
| 24        | Secretary                                 | non clinical |
| 25        | Receptionist                              | non clinical |
| 32        | Maintenance staff                         | non clinical |
| 40        | Computer Manager                          | non clinical |
| 46        | Carer                                     | non clinical |
| 59        | Other Admin & Clerical                    | non clinical |
| 66        | Clinical Coder Access Role                | non clinical |



**Table G2 - CPRD Gold consultation type assignment**

| constype code | description                     | consultation group |
|---------------|---------------------------------|--------------------|
| 1             | Clinic                          | surgery            |
| 7             | Out of hours, Practice          | surgery            |
| 9             | Surgery consultation            | surgery            |
| 18            | Emergency Consultation          | surgery            |
| 36            | Co-op Surgery Consultation      | surgery            |
| 38            | Minor Injury Service            | surgery            |
| 40            | Community Clinic                | surgery            |
| 61            | Extended Hours                  | surgery            |
| 10            | Telephone call from a patient   | remote             |
| 21            | Telephone call to a patient     | remote             |
| 33            | Triage                          | remote             |
| 35            | Co-op Telephone advice          | remote             |
| 55            | Telephone Consultation          | remote             |
| 2             | Night visit, Deputising service | visit              |
| 3             | Follow-up/routine visit         | visit              |
| 4             | Night visit, Local rota         | visit              |
| 6             | Night visit , practice          | visit              |
| 11            | Acute visit                     | visit              |
| 24            | Children's Home Visit           | visit              |
| 27            | Home Visit                      | visit              |
| 28            | Hotel Visit                     | visit              |
| 30            | Nursing Home Visit              | visit              |
| 31            | Residential Home Visit          | visit              |
| 32            | Twilight Visit                  | visit              |
| 37            | Co-op Home Visit                | visit              |
| 50            | Night Visit                     | visit              |
| 0             | Data Not Entered                | non consultation   |
| 5             | Mail from patient               | non consultation   |
| 8             | Out of hours, Non Practice      | non consultation   |
| 12            | Discharge details               | non consultation   |
| 13            | Letter from Outpatients         | non consultation   |
| 14            | Repeat Issue                    | non consultation   |
| 15            | Other                           | non consultation   |
| 16            | Results recording               | non consultation   |
| 17            | Mail to patient                 | non consultation   |
| 19            | Administration                  | non consultation   |
| 20            | Casualty Attendance             | non consultation   |
| 22            | Third Party Consultation        | non consultation   |
| 23            | Hospital Admission              | non consultation   |



| constype code | description                        | consultation group |
|---------------|------------------------------------|--------------------|
| 25            | Day Case Report                    | non consultation   |
| 26            | GOS18 Report                       | non consultation   |
| 29            | NHS Direct Report                  | non consultation   |
| 34            | Walk-in Centre                     | non consultation   |
| 39            | Medicine Management                | non consultation   |
| 41            | Community Nursing Note             | non consultation   |
| 42            | Community Nursing Report           | non consultation   |
| 43            | Data Transferred from other system | non consultation   |
| 44            | Health Authority Entry             | non consultation   |
| 45            | Health Visitor Note                | non consultation   |
| 46            | Health Visitor Report              | non consultation   |
| 47            | Hospital Inpatient Report          | non consultation   |
| 48            | Initial Post Discharge Review      | non consultation   |
| 49            | Laboratory Request                 | non consultation   |
| 51            | Radiology Request                  | non consultation   |
| 52            | Radiology Result                   | non consultation   |
| 53            | Referral Letter                    | non consultation   |
| 54            | Social Services Report             | non consultation   |
| 56            | Template Entry                     | non consultation   |
| 57            | GP to GP communication transaction | non consultation   |
| 58            | Non-consultation medication data   | non consultation   |
| 59            | Non-consultation data              | non consultation   |
| 60            | ePharmacy message                  | non consultation   |



**Table A1 - CPRD Aurum staff type assignment**

| jobcatid code | description                                   | role group |
|---------------|-----------------------------------------------|------------|
| 4             | General Medical Practitioner                  | GP         |
| 5             | Salaried General Practitioner                 | GP         |
| 15            | Associate Practitioner - General Practitioner | GP         |
| 24            | GP Registrar                                  | GP         |
| 31            | Sessional GP                                  | GP         |
| 181           | Locum GP                                      | GP         |
| 183           | Assistant GP                                  | GP         |
| 6             | Midwife - Sister/Charge Nurse                 | nurse      |
| 7             | Midwife                                       | nurse      |
| 8             | Community Practitioner                        | nurse      |
| 9             | Community Nurse                               | nurse      |
| 14            | Health Care Support Worker                    | nurse      |
| 27            | Specialist Nurse Practitioner                 | nurse      |
| 33            | Nurse Consultant                              | nurse      |
| 36            | Healthcare Assistant                          | nurse      |
| 47            | Staff Nurse                                   | nurse      |
| 48            | Enrolled Nurse                                | nurse      |
| 50            | Nursery Nurse                                 | nurse      |
| 51            | Helper/Assistant                              | nurse      |
| 52            | Community Mental Health Nurse                 | nurse      |
| 55            | Associate Practitioner - Nurse                | nurse      |
| 59            | Student Practice Nurse                        | nurse      |
| 60            | Nurse Manager                                 | nurse      |
| 61            | Sister/Charge Nurse                           | nurse      |
| 88            | Modern Matron                                 | nurse      |
| 96            | Community Learning Disabilities Nurse         | nurse      |
| 98            | Student Health Visitor                        | nurse      |
| 101           | Midwife - Specialist Practitioner             | nurse      |
| 111           | Student Nurse - Adult Branch                  | nurse      |
| 115           | Student District Nurse                        | nurse      |
| 137           | Healthcare Cadet                              | nurse      |
| 148           | Midwife - Consultant                          | nurse      |
| 153           | Student Midwife                               | nurse      |
| 162           | Nursing Cadet                                 | nurse      |
| 169           | Student Community Mental Health Nurse         | nurse      |
| 186           | Health Visitor                                | nurse      |
| 191           | Student Occupational Health Nurse             | nurse      |
| 204           | Intermediate Care worker                      | nurse      |
| 211           | Student School Nurse                          | nurse      |



| jobcatid code | description                                  | role group |
|---------------|----------------------------------------------|------------|
| 213           | Intermediate Care staff                      | nurse      |
| 214           | Home help                                    | nurse      |
| 221           | Director of Nursing                          | nurse      |
| 225           | Student Nurse - Mental Health Branch         | nurse      |
| 232           | Student Nurse - Learning Disabilities Branch | nurse      |
| 253           | Trainee Nursing Associates                   | nurse      |
| 256           | Nursing Associates                           | nurse      |
| 1             | Consultant                                   | OHP        |
| 2             | Hospital Practitioner                        | OHP        |
| 3             | Clinical Medical Officer                     | OHP        |
| 10            | Chiropodist/Podiatrist                       | OHP        |
| 11            | Dietitian                                    | OHP        |
| 12            | Pharmacist                                   | OHP        |
| 13            | Clinical Psychologist                        | OHP        |
| 16            | Counsellor                                   | OHP        |
| 17            | Phlebotomist                                 | OHP        |
| 25            | Medical Student                              | OHP        |
| 34            | Physiotherapist                              | OHP        |
| 35            | Specialist Practitioner                      | OHP        |
| 37            | Medical Technical Officer - Pharmacy         | OHP        |
| 42            | Social Worker                                | OHP        |
| 43            | Trainee Practitioner                         | OHP        |
| 49            | Multi Therapist                              | OHP        |
| 54            | Technician - Healthcare Scientists           | OHP        |
| 58            | Associate Specialist                         | OHP        |
| 62            | Psychotherapist                              | OHP        |
| 63            | Osteopath                                    | OHP        |
| 64            | Social Care Support Worker                   | OHP        |
| 65            | Assistant Psychologist                       | OHP        |
| 68            | Psychiatrist                                 | OHP        |
| 71            | Dispenser                                    | OHP        |
| 72            | Clinical Assistant                           | OHP        |
| 73            | Practitioner                                 | OHP        |
| 77            | Student Physiotherapist                      | OHP        |
| 78            | Paramedic Specialist Practitioner            | OHP        |
| 80            | Physiotherapist Specialist Practitioner      | OHP        |
| 82            | Radiographer                                 | OHP        |
| 83            | Other Community Health Service               | OHP        |
| 85            | Community Worker (children)                  | OHP        |
| 86            | Paramedic Consultant                         | OHP        |



| jobcatid code | description                                        | role group |
|---------------|----------------------------------------------------|------------|
| 87            | Associate Practitioner                             | OHP        |
| 89            | Asst. Clinical Medical Officer                     | OHP        |
| 91            | Specialist Registrar                               | OHP        |
| 92            | Chiropodist/Podiatrist Manager                     | OHP        |
| 93            | Radiographer - Therapeutic, Manager                | OHP        |
| 94            | Optometrist                                        | OHP        |
| 95            | Assistant Practitioner                             | OHP        |
| 97            | Technician - Additional Clinical Services          | OHP        |
| 102           | Occupational Therapist                             | OHP        |
| 105           | Paramedic                                          | OHP        |
| 106           | Physiotherapist Consultant                         | OHP        |
| 112           | Audiologist                                        | OHP        |
| 113           | Radiographer - Diagnostic                          | OHP        |
| 114           | Therapist                                          | OHP        |
| 116           | House Officer - Post Registration                  | OHP        |
| 117           | Speech & Language Therapist                        | OHP        |
| 118           | Dietitian Specialist Practitioner                  | OHP        |
| 119           | Trust Grade Doctor - SHO level                     | OHP        |
| 120           | Director of Public Health                          | OHP        |
| 121           | Staff Grade                                        | OHP        |
| 122           | Patient Welfare Officer                            | OHP        |
| 123           | Occupational Therapy Specialist Practitioner       | OHP        |
| 125           | Chiropodist/Podiatrist Consultant                  | OHP        |
| 126           | Trust Grade Doctor - Career Grade level            | OHP        |
| 127           | Student Community Practitioner                     | OHP        |
| 128           | Healthcare Scientist                               | OHP        |
| 135           | Art Therapist Specialist Practitioner              | OHP        |
| 138           | Dietitian Consultant                               | OHP        |
| 140           | Social work assistant (mental health)              | OHP        |
| 141           | Chiropodist/Podiatrist Specialist Practitioner     | OHP        |
| 142           | Student Technician                                 | OHP        |
| 144           | Trainee Scientist                                  | OHP        |
| 149           | Art Therapist Consultant                           | OHP        |
| 152           | Senior social worker (adults)                      | OHP        |
| 154           | Radiologist                                        | OHP        |
| 158           | Radiographer - Diagnostic, Specialist Practitioner | OHP        |
| 159           | Biomedical Scientist                               | OHP        |
| 165           | Student Psychotherapist                            | OHP        |
| 166           | Orthoptist                                         | OHP        |
| 168           | Approved Social Worker                             | OHP        |



| jobcatid code | description                                         | role group |
|---------------|-----------------------------------------------------|------------|
| 171           | Student Orthoptist                                  | OHP        |
| 177           | Trust Grade Doctor - Specialist Registrar level     | OHP        |
| 178           | Senior Clinical Medical Officer                     | OHP        |
| 179           | Consultant Healthcare Scientist                     | OHP        |
| 180           | Reporting Radiographer                              | OHP        |
| 185           | Advanced Practitioner                               | OHP        |
| 188           | Other Community Health Service - Social Care Worker | OHP        |
| 189           | Physician Assistant                                 | OHP        |
| 190           | Deputising Doctor                                   | OHP        |
| 192           | Senior social worker (mental health)                | OHP        |
| 193           | Regional Dental Officer                             | OHP        |
| 197           | Trust Grade Doctor - House Officer level            | OHP        |
| 198           | Art Therapist                                       | OHP        |
| 199           | Multi Therapist Specialist Practitioner             | OHP        |
| 200           | Drama Therapist                                     | OHP        |
| 201           | Healthcare Science Assistant                        | OHP        |
| 202           | Social work assistant (adults)                      | OHP        |
| 205           | Student Occupational Therapist                      | OHP        |
| 206           | Student Dietitian                                   | OHP        |
| 207           | Healthcare Science Associate                        | OHP        |
| 210           | General Dental Practitioner                         | OHP        |
| 212           | Occupational Therapist Consultant                   | OHP        |
| 215           | Art, Music & Drama Student                          | OHP        |
| 216           | Specialist Healthcare Scientist                     | OHP        |
| 224           | Specialist Healthcare Science Practitioner          | OHP        |
| 226           | Art Therapist Manager                               | OHP        |
| 227           | Healthcare Science Practitioner                     | OHP        |
| 228           | Assistant Psychotherapist                           | OHP        |
| 233           | OT assistant                                        | OHP        |
| 238           | Orthotist                                           | OHP        |
| 240           | Multi Therapist Consultant                          | OHP        |
| 241           | Dental Officer                                      | OHP        |
| 243           | Pharmacy Technicians                                | OHP        |
| 245           | Mental Health Practitioners                         | OHP        |
| 246           | Paramedic Advanced Practitioner                     | OHP        |
| 248           | First Contact Physiotherapists                      | OHP        |
| 249           | Clinical Pharmacists                                | OHP        |
| 250           | Health and Wellbeing Coaches                        | OHP        |
| 251           | Physician Associates                                | OHP        |
| 252           | Dietitian Advanced Practitioner                     | OHP        |



| jobcatid code | description                                  | role group   |
|---------------|----------------------------------------------|--------------|
| 254           | Clinical Pharmacist Advanced Practitioner    | OHP          |
| 255           | Physiotherapist Advanced Practitioner        | OHP          |
| 258           | Chiropodist/Podiatrist Advanced Practitioner | OHP          |
| 18            | Clerical Worker                              | non clinical |
| 19            | Manager                                      | non clinical |
| 20            | Analyst                                      | non clinical |
| 21            | System Administrator                         | non clinical |
| 22            | Desktop Support Administrator                | non clinical |
| 23            | System Worker                                | non clinical |
| 26            | Other Community Health Service - Admin Clerk | non clinical |
| 28            | Receptionist                                 | non clinical |
| 29            | Secretary                                    | non clinical |
| 30            | Medical Secretary                            | non clinical |
| 32            | Clinical Application Administrator           | non clinical |
| 38            | Health Records Administrator                 | non clinical |
| 39            | Helpdesk Administrator                       | non clinical |
| 40            | Appointments Clerk                           | non clinical |
| 41            | Senior House Officer                         | non clinical |
| 44            | Network Technician                           | non clinical |
| 45            | Clinical Coder                               | non clinical |
| 46            | Medical Records Clerk                        | non clinical |
| 53            | Senior Administrator                         | non clinical |
| 56            | Senior Manager                               | non clinical |
| 57            | Community Administrator                      | non clinical |
| 66            | Officer                                      | non clinical |
| 67            | Technician - Admin & Clerical                | non clinical |
| 69            | Health Records Clerk                         | non clinical |
| 70            | Desktop Support Technician                   | non clinical |
| 74            | Information Officer                          | non clinical |
| 75            | Network Administrator                        | non clinical |
| 76            | Chaplain                                     | non clinical |
| 79            | Clinical Team Manager                        | non clinical |
| 81            | Helpdesk Technician                          | non clinical |
| 84            | Call Operator                                | non clinical |
| 90            | Community Team Manager                       | non clinical |
| 99            | Interpreter                                  | non clinical |
| 100           | Medical Technical Officer                    | non clinical |
| 103           | Chief Executive                              | non clinical |
| 104           | Audit Manager                                | non clinical |
| 107           | Availability Monitor                         | non clinical |



| jobcatid code | description                                    | role group   |
|---------------|------------------------------------------------|--------------|
| 108           | Medical Laboratory Assistant                   | non clinical |
| 109           | Gateway Worker                                 | non clinical |
| 110           | Medical Records Manager                        | non clinical |
| 124           | Technician - PS&T                              | non clinical |
| 129           | Waiting List Clerk                             | non clinical |
| 130           | Clinical Director                              | non clinical |
| 131           | Pre-reg Pharmacist                             | non clinical |
| 132           | Mental Health Act Administrator                | non clinical |
| 133           | Ward Clerk                                     | non clinical |
| 134           | Support, Time, Recovery Worker                 | non clinical |
| 136           | Physiotherapist Manager                        | non clinical |
| 139           | Orthoptist Manager                             | non clinical |
| 143           | Complaints Investigator                        | non clinical |
| 145           | Radiographer - Diagnostic, Manager             | non clinical |
| 146           | Social services care manager (mental health)   | non clinical |
| 147           | Dietitian Manager                              | non clinical |
| 150           | Paramedic Manager                              | non clinical |
| 151           | Finance Director                               | non clinical |
| 155           | Ward Manager                                   | non clinical |
| 156           | Midwife - Manager                              | non clinical |
| 157           | Waiting List Manager                           | non clinical |
| 160           | Board Level Director                           | non clinical |
| 161           | Non Executive Director                         | non clinical |
| 163           | Porter                                         | non clinical |
| 164           | Social services care manager (adults)          | non clinical |
| 167           | Clinical Director - Medical                    | non clinical |
| 170           | Other Executive Director                       | non clinical |
| 172           | Childcare Co-ordinator                         | non clinical |
| 173           | House Officer - Pre Registration               | non clinical |
| 174           | SODP                                           | non clinical |
| 175           | Outpatient Manager                             | non clinical |
| 176           | Medical Director                               | non clinical |
| 182           | Researcher                                     | non clinical |
| 184           | Special salary scale in Public Health Medicine | non clinical |
| 187           | Dental Assistant Clinical Director             | non clinical |
| 194           | Trainer                                        | non clinical |
| 195           | Cytoscreener                                   | non clinical |
| 196           | Chair                                          | non clinical |
| 203           | Social work team manager (adults)              | non clinical |
| 208           | Child Protection worker                        | non clinical |



| jobcatid code | description                              | role group   |
|---------------|------------------------------------------|--------------|
| 209           | Professor                                | non clinical |
| 217           | Social Services information manager      | non clinical |
| 218           | Occupational Therapist Manager           | non clinical |
| 219           | Social services senior management        | non clinical |
| 220           | Home Care organiser                      | non clinical |
| 222           | Nursery manager                          | non clinical |
| 223           | Caldicott Guardian                       | non clinical |
| 229           | Social work team manager (mental health) | non clinical |
| 230           | Playgroup leader                         | non clinical |
| 231           | Directory of Services Coordinator        | non clinical |
| 234           | ODP                                      | non clinical |
| 235           | Speech & Language Therapist Manager      | non clinical |
| 236           | Complaints Coordinator                   | non clinical |
| 237           | Privacy Officer                          | non clinical |
| 239           | Day centre manager                       | non clinical |
| 242           | Occupational Therapy Team Manager        | non clinical |
| 244           | Social Prescribing Link Workers          | non clinical |
| 247           | Care Co-ordinators                       | non clinical |
| 257           | Registration Authority Agent             | non clinical |



**Table A2 - CPRD Aurum consultation type assignment - level1**

| conssourceid description        | consultation group |
|---------------------------------|--------------------|
| Attendance                      | surgery            |
| Baby Clinic                     | surgery            |
| Booked Appointment              | surgery            |
| Branch Surgery                  | surgery            |
| Clinic                          | surgery            |
| Clinic NHS                      | surgery            |
| Clinic Premises                 | surgery            |
| Clinic note                     | surgery            |
| Community Clinic                | surgery            |
| Community health clinic         | surgery            |
| Consultation                    | surgery            |
| Diabetic Clinic                 | surgery            |
| Duty Doctor Urgent Appointment  | surgery            |
| Emergency Appointment           | surgery            |
| Emergency Doctor                | surgery            |
| Emergency Gp Surgery            | surgery            |
| Emergency Nurse Clinic          | surgery            |
| Emergency Surgery               | surgery            |
| Emergency consultation          | surgery            |
| Extra Appointment               | surgery            |
| Face to face consultation       | surgery            |
| G P Consultation                | surgery            |
| G P Ordinary Surgery            | surgery            |
| G.P Surgery (Pm)                | surgery            |
| G.P. Evening Surgery            | surgery            |
| G.P. Morning Surgery            | surgery            |
| G.P.Surgery Urgent Consultation | surgery            |
| GP Practice                     | surgery            |
| GP Surgery                      | surgery            |
| Health Centre                   | surgery            |
| Main Surgery                    | surgery            |
| Medicine Management             | surgery            |
| Nurse Minor Illness Clinic      | surgery            |
| Nurse Practitioner              | surgery            |
| Nurse Practitioner Surgery      | surgery            |
| Nurse Surgery                   | surgery            |
| Nurse Triage Clinic             | surgery            |
| Nurse's Treatment Room Clinic   | surgery            |
| Nurses Room                     | surgery            |



| conssourceid description             | consultation group |
|--------------------------------------|--------------------|
| Nurses' Flu Clinic                   | surgery            |
| OPEN DOOR SURGERY                    | surgery            |
| Open Access Surgery                  | surgery            |
| Open Surgery                         | surgery            |
| Out of hours consultation at surgery | surgery            |
| P.Nurse Clinic                       | surgery            |
| Patient encounter data NOS           | surgery            |
| Practice Nurse                       | surgery            |
| Practice Nurse Clinic                | surgery            |
| Practice Nurse Surgery               | surgery            |
| Primary Care Centre                  | surgery            |
| Same Day Appointment                 | surgery            |
| Same Day Clinic                      | surgery            |
| Saturday Morning Surgery             | surgery            |
| Seen by Practice Nurse               | surgery            |
| Seen in GP's surgery                 | surgery            |
| Seen in GPs surgery                  | surgery            |
| Seen in Health Centre                | surgery            |
| Seen in Nurses Surgery               | surgery            |
| Seen in other clinic                 | surgery            |
| Surgery                              | surgery            |
| Surgery Attendance                   | surgery            |
| Surgery Clinic                       | surgery            |
| Surgery Emergency                    | surgery            |
| Surgery consultation                 | surgery            |
| Surgery or Clinic                    | surgery            |
| Three Minute Surgery                 | surgery            |
| Treatment Room                       | surgery            |
| Treatment Room (Nurse)               | surgery            |
| Urgent Slots                         | surgery            |
| Urgent Surgery                       | surgery            |
| Urgent consultation                  | surgery            |
| Walk-In Surgery                      | surgery            |
| Walk-in clinic                       | surgery            |
| Weekday Surgery                      | surgery            |
| Consultation via video conference    | remote             |
| Duty Doctor Telephone                | remote             |
| Duty Telephone Appt                  | remote             |
| Email Consultation                   | remote             |
| Enterprise consultation              | remote             |



| conssourceid description            | consultation group |
|-------------------------------------|--------------------|
| Nurse Triage                        | remote             |
| Nurse telephone triage              | remote             |
| Online communication                | remote             |
| Online services message             | remote             |
| Out Of Hours Telephone Consultation | remote             |
| Phone                               | remote             |
| Telephone                           | remote             |
| Telephone (Triage)                  | remote             |
| Telephone Advice                    | remote             |
| Telephone Advice By G.P             | remote             |
| Telephone Appt                      | remote             |
| Telephone Call                      | remote             |
| Telephone Consultation              | remote             |
| Telephone Surgery                   | remote             |
| Telephone Triage                    | remote             |
| Telephone Triage By Doctor          | remote             |
| Telephone call from a patient       | remote             |
| Telephone call to a patient         | remote             |
| Telephone encounter                 | remote             |
| Telephone triage encounter          | remote             |
| Telephone with patient/carers       | remote             |
| Telephone: Nurse Triage             | remote             |
| Triage                              | remote             |
| Triage By Phone                     | remote             |
| accuRx Consultation                 | remote             |
| Acute visit                         | visit              |
| Daytime Visits patients home        | visit              |
| Follow-up/routine visit             | visit              |
| Home                                | visit              |
| Home Visit                          | visit              |
| Home of Patient                     | visit              |
| Home visit note                     | visit              |
| Hospital                            | visit              |
| Hospital Visit                      | visit              |
| Night Visit                         | visit              |
| Night Visit patients home           | visit              |
| Night visit , practice              | visit              |
| Night visit, Local rota             | visit              |
| Normal Home Visit (08:00 - 11:00)   | visit              |
| Nursing Home                        | visit              |



| conssourceid description              | consultation group |
|---------------------------------------|--------------------|
| Nursing home visit note               | visit              |
| Out Of Hours Gp Visit                 | visit              |
| Out Of Hours Visit                    | visit              |
| Out of hours, Practice                | visit              |
| Residential Home                      | visit              |
| Residential home visit note           | visit              |
| School                                | visit              |
| Seen in own home                      | visit              |
| Seen out of hours                     | visit              |
| Visit-Home                            | visit              |
| visit                                 | visit              |
| Awaiting review                       | see secondary list |
| A & E Attendance                      | non consultation   |
| A & E Self Referral                   | non consultation   |
| A&E, Information (no patient contact) | non consultation   |
| A+E report                            | non consultation   |
| Accident & Emergency                  | non consultation   |
| Added By Summariser                   | non consultation   |
| Admin (Patient Not Present)           | non consultation   |
| Admin Enquiry                         | non consultation   |
| Admin Entry                           | non consultation   |
| Admin Note                            | non consultation   |
| Admin task                            | non consultation   |
| Administration                        | non consultation   |
| Administration (Pt Not Seen)          | non consultation   |
| Administration Entry                  | non consultation   |
| Administration note                   | non consultation   |
| Administrative Entry                  | non consultation   |
| Apollo attached document              | non consultation   |
| ApolloScan document                   | non consultation   |
| Bulk Operation                        | non consultation   |
| Casualty Attendance                   | non consultation   |
| Comment                               | non consultation   |
| Comment For Medical Record            | non consultation   |
| Comment Only                          | non consultation   |
| Communication Only                    | non consultation   |
| Conversion                            | non consultation   |
| Correspondence                        | non consultation   |
| D.N.A.                                | non consultation   |
| Data Entry                            | non consultation   |



| conssourceid description                                    | consultation group |
|-------------------------------------------------------------|--------------------|
| Data transferred from other system                          | non consultation   |
| Day Case Report                                             | non consultation   |
| Did Not Arrive                                              | non consultation   |
| Did Not Attend                                              | non consultation   |
| Did Not Attend - Surgery                                    | non consultation   |
| Did Not Attend For Appointment                              | non consultation   |
| Discharge details                                           | non consultation   |
| Discharged from inpatient care                              | non consultation   |
| Discussion with colleague                                   | non consultation   |
| Dna                                                         | non consultation   |
| Docman                                                      | non consultation   |
| Doctors Message Book Query                                  | non consultation   |
| E-mail received from patient                                | non consultation   |
| Elsewhere                                                   | non consultation   |
| Elsewhere Non Payment                                       | non consultation   |
| Elsewhere Non-Payment                                       | non consultation   |
| Elsewhere none payment                                      | non consultation   |
| Elsewhere other                                             | non consultation   |
| Email                                                       | non consultation   |
| Email sent to patient                                       | non consultation   |
| EnCompass document                                          | non consultation   |
| EnCompass message                                           | non consultation   |
| External                                                    | non consultation   |
| External Encounter                                          | non consultation   |
| Externally Entered                                          | non consultation   |
| Externally entered note                                     | non consultation   |
| Failed encounter                                            | non consultation   |
| For Information Only                                        | non consultation   |
| GP2GP Import                                                | non consultation   |
| GP2GP Import, Contact method: Administration                | non consultation   |
| GP2GP Import, Contact method: Docman                        | non consultation   |
| GP2GP Import, Contact method: G.P.Surgery                   | non consultation   |
| GP2GP Import, Contact method: Letter encounter from patient | non consultation   |
| GP2GP Import, Contact method: Seen in GPs surgery           | non consultation   |
| GP2GP Import, Contact method: Touchscreen                   | non consultation   |
| GP2GP Import, Healthcare related organisation               | non consultation   |
| Health Authority                                            | non consultation   |
| Health Authority (trading)                                  | non consultation   |
| Hospital Outpatient                                         | non consultation   |



| conssourceid description         | consultation group |
|----------------------------------|--------------------|
| Hospital Outpatient Consultation | non consultation   |
| Hospital inpatient               | non consultation   |
| Hospital inpatient report        | non consultation   |
| Hospital outpatient report       | non consultation   |
| Inbound Document                 | non consultation   |
| Indirect Consultation            | non consultation   |
| Indirect encounter               | non consultation   |
| Information                      | non consultation   |
| Information (no patient contact) | non consultation   |
| Information Note                 | non consultation   |
| Information Only                 | non consultation   |
| Inpatient NHS                    | non consultation   |
| Inpatient Trust                  | non consultation   |
| Investigation result             | non consultation   |
| Laboratory Encounter             | non consultation   |
| Laboratory result                | non consultation   |
| Letter                           | non consultation   |
| Letter Encounter                 | non consultation   |
| Letter From Hospital             | non consultation   |
| Letter Received                  | non consultation   |
| Letter encounter from patient    | non consultation   |
| Letter from Outpatients          | non consultation   |
| MJog                             | non consultation   |
| Mail from patient                | non consultation   |
| Mail to patient                  | non consultation   |
| Medication Course Commence       | non consultation   |
| Medication Issued                | non consultation   |
| Memo For Next Consultation       | non consultation   |
| Message                          | non consultation   |
| Message In                       | non consultation   |
| Message Out                      | non consultation   |
| Minor Injuries Unit              | non consultation   |
| NHS Direct report                | non consultation   |
| Nhs Trust                        | non consultation   |
| Night visit, Deputising service  | non consultation   |
| No Attendance Update             | non consultation   |
| No Patient Contact               | non consultation   |
| Non-consultation data            | non consultation   |
| Non-consultation medication data | non consultation   |
| Not Actually Seen                | non consultation   |



| conssourceid description               | consultation group |
|----------------------------------------|--------------------|
| Not Known                              | non consultation   |
| Note                                   | non consultation   |
| Note Bene                              | non consultation   |
| Notes                                  | non consultation   |
| Notes Entry. No Consultation           | non consultation   |
| Original Pathology Report              | non consultation   |
| Other                                  | non consultation   |
| Other note                             | non consultation   |
| Other report                           | non consultation   |
| Out Of Hours Centre                    | non consultation   |
| Out of Hours                           | non consultation   |
| Out of Hours report                    | non consultation   |
| Out of hours, Non Practice             | non consultation   |
| Outbound Referral                      | non consultation   |
| Outpatient Letter                      | non consultation   |
| Outpatient NHS                         | non consultation   |
| Outpatient Private                     | non consultation   |
| Outpatient Trust                       | non consultation   |
| Path. Lab.                             | non consultation   |
| Path. Lab\Radiology                    | non consultation   |
| Pathology Result                       | non consultation   |
| Patient Not Present                    | non consultation   |
| Patient Not Seen                       | non consultation   |
| Patient Query                          | non consultation   |
| PatientChase Insert                    | non consultation   |
| Place Not Specified                    | non consultation   |
| Place of Procedure NOS                 | non consultation   |
| Post Received                          | non consultation   |
| Prescription Request                   | non consultation   |
| Primary care organisation              | non consultation   |
| Radiology                              | non consultation   |
| Record Update                          | non consultation   |
| Referral                               | non consultation   |
| Referral letter                        | non consultation   |
| Repeat Issue                           | non consultation   |
| Report generated                       | non consultation   |
| Result                                 | non consultation   |
| Results                                | non consultation   |
| Results Of Tests (Sent Electronically) | non consultation   |
| Results recording                      | non consultation   |



| conssourceid description           | consultation group |
|------------------------------------|--------------------|
| Scanned In Letter                  | non consultation   |
| Scanned document                   | non consultation   |
| Scanner                            | non consultation   |
| Screen Message                     | non consultation   |
| Secretarial Office                 | non consultation   |
| Secretary                          | non consultation   |
| Seen by osteopath                  | non consultation   |
| Seen in hospital out-pat.          | non consultation   |
| Summary Event Entry                | non consultation   |
| Telephone Admin                    | non consultation   |
| Telephone call from relative/carer | non consultation   |
| Telephone call to relative/carer   | non consultation   |
| Third Party                        | non consultation   |
| Third party consultation           | non consultation   |
| Touchscreen                        | non consultation   |
| Unspecified encounter              | non consultation   |
| Urgent Appointment                 | non consultation   |
| Walk In Centre                     | non consultation   |
| Walk-in Centre                     | non consultation   |
| added by dispenser                 | non consultation   |
| unknown                            | non consultation   |
| NA                                 | non consultation   |



**Table A3 - CPRD Aurum consultation type assignment - level2**

| consmedcodeid description                     | consultation group |
|-----------------------------------------------|--------------------|
| Emergency appointment                         | surgery            |
| Emergency consultation                        | surgery            |
| Extended hours consultation                   | surgery            |
| Face to face consultation                     | surgery            |
| GP Surgery                                    | surgery            |
| Group consultation                            | surgery            |
| Routine consultation                          | surgery            |
| Same day appointment                          | surgery            |
| Seen in GP unit                               | surgery            |
| Seen in baby clinic                           | surgery            |
| Seen in diabetic clinic                       | surgery            |
| Seen in influenza vaccination clinic          | surgery            |
| Seen in rapid access clinic at GP surgery     | surgery            |
| Urgent consultation                           | surgery            |
| Walk-in clinic                                | surgery            |
| Consultation via SMS text message             | remote             |
| Consultation via telemedicine web camera      | remote             |
| Telephone call from a patient                 | remote             |
| Telephone consultation                        | remote             |
| Telephone encounter                           | remote             |
| Telephone triage encounter                    | remote             |
| Children's home visit note                    | visit              |
| Home visit note                               | visit              |
| Night visit note                              | visit              |
| Nursing home visit note                       | visit              |
| School visit note                             | visit              |
| Twilight visit note                           | visit              |
| Weekly care home ward round                   | visit              |
| Administration note                           | non consultation   |
| Awaiting clinical code migration to EMIS Web  | non consultation   |
| Case conference                               | non consultation   |
| Clinic note                                   | non consultation   |
| Consultation via multimedia                   | non consultation   |
| Discussion with other professional            | non consultation   |
| District nurse visit                          | non consultation   |
| Externally entered note                       | non consultation   |
| Face to face consultation with relative/carer | non consultation   |
| Hospital inpatient note                       | non consultation   |
| Hospital inpatient report                     | non consultation   |



| consmedcodeid description                           | consultation group |
|-----------------------------------------------------|--------------------|
| Hospital outpatient report                          | non consultation   |
| Inbound document                                    | non consultation   |
| Inbound referral                                    | non consultation   |
| Laboratory result                                   | non consultation   |
| Mail from patient                                   | non consultation   |
| Mail to patient                                     | non consultation   |
| Medication requested                                | non consultation   |
| Multidisciplinary team meeting without patient      | non consultation   |
| Non-consultation data                               | non consultation   |
| OOH report                                          | non consultation   |
| Other consultation medium used                      | non consultation   |
| Other note                                          | non consultation   |
| Provision of general practitioner intermediate care | non consultation   |
| Repeat prescription                                 | non consultation   |
| Scanned document                                    | non consultation   |
| Seen in urgent care centre                          | non consultation   |
| Telephone call from relative/carer                  | non consultation   |
| Third party consultation                            | non consultation   |

## Appendix 2 - Description of study population and their outcomes

**Table 1a: Study population**

| year | CPRD Gold |           |                      |                  |          |                          | CPRD Aurum |           |                      |                  |          |                          |
|------|-----------|-----------|----------------------|------------------|----------|--------------------------|------------|-----------|----------------------|------------------|----------|--------------------------|
|      | patients  | practices | mean exposure (days) | mean age (years) | % female | % most deprived quintile | patients   | practices | mean exposure (days) | mean age (years) | % female | % most deprived quintile |
| 1995 | 18388     | 372       | 356                  | 40.2             | 50.4%    | 16.0%                    | 12022      | 703       | 356                  | 39.9             | 50.0%    | 16.7%                    |
| 1996 | 18983     | 390       | 358                  | 40.2             | 49.8%    | 16.1%                    | 13042      | 781       | 357                  | 40.5             | 50.8%    | 16.6%                    |
| 1997 | 19470     | 398       | 356                  | 40.5             | 50.2%    | 16.4%                    | 13838      | 837       | 355                  | 40.2             | 50.0%    | 16.6%                    |
| 1998 | 19443     | 400       | 355                  | 40.3             | 50.3%    | 16.5%                    | 14877      | 901       | 355                  | 40.7             | 50.2%    | 16.9%                    |
| 1999 | 19741     | 408       | 355                  | 40.2             | 51.0%    | 16.2%                    | 15661      | 969       | 355                  | 40.8             | 50.0%    | 17.2%                    |
| 2000 | 19839     | 415       | 356                  | 40.3             | 50.8%    | 16.4%                    | 16510      | 1062      | 355                  | 40.6             | 49.6%    | 17.7%                    |
| 2001 | 19876     | 417       | 355                  | 40.5             | 50.5%    | 15.7%                    | 17089      | 1132      | 355                  | 40.5             | 49.3%    | 17.5%                    |
| 2002 | 19919     | 418       | 355                  | 40.3             | 51.1%    | 16.1%                    | 18037      | 1228      | 354                  | 40.8             | 49.7%    | 17.9%                    |
| 2003 | 19958     | 420       | 356                  | 40.4             | 49.9%    | 16.2%                    | 19007      | 1316      | 355                  | 40.5             | 49.7%    | 18.6%                    |
| 2004 | 19957     | 421       | 356                  | 40.3             | 50.0%    | 15.8%                    | 19479      | 1386      | 355                  | 40.3             | 49.5%    | 19.6%                    |
| 2005 | 19976     | 422       | 355                  | 40.1             | 50.2%    | 16.2%                    | 19716      | 1415      | 354                  | 40.4             | 49.8%    | 19.6%                    |
| 2006 | 19981     | 422       | 354                  | 40.3             | 50.2%    | 15.6%                    | 19760      | 1424      | 354                  | 40.1             | 49.2%    | 19.6%                    |
| 2007 | 19977     | 421       | 354                  | 40.7             | 50.5%    | 15.8%                    | 19818      | 1433      | 354                  | 40.2             | 49.9%    | 19.4%                    |
| 2008 | 19982     | 420       | 355                  | 40.5             | 50.6%    | 16.4%                    | 19867      | 1442      | 355                  | 40.1             | 48.9%    | 19.6%                    |
| 2009 | 19984     | 414       | 354                  | 40.8             | 50.0%    | 16.1%                    | 19878      | 1443      | 354                  | 40.1             | 49.6%    | 19.4%                    |
| 2010 | 19976     | 407       | 352                  | 40.3             | 50.0%    | 16.2%                    | 19869      | 1452      | 354                  | 40.2             | 50.0%    | 19.5%                    |
| 2011 | 19964     | 387       | 349                  | 40.3             | 51.0%    | 16.4%                    | 19887      | 1457      | 354                  | 40.0             | 50.0%    | 19.7%                    |
| 2012 | 19984     | 368       | 352                  | 40.4             | 49.9%    | 16.2%                    | 19882      | 1452      | 355                  | 39.9             | 50.4%    | 19.5%                    |
| 2013 | 19973     | 349       | 343                  | 40.7             | 50.3%    | 16.9%                    | 19887      | 1451      | 352                  | 39.7             | 50.0%    | 19.6%                    |
| 2014 | 19963     | 308       | 335                  | 40.8             | 50.2%    | 16.1%                    | 19869      | 1453      | 354                  | 39.3             | 49.5%    | 19.1%                    |
| 2015 | 19974     | 250       | 324                  | 40.5             | 50.8%    | 17.1%                    | 19899      | 1457      | 354                  | 39.7             | 49.9%    | 19.3%                    |
| 2016 | 19943     | 175       | 329                  | 40.5             | 50.5%    | 16.9%                    | 19880      | 1450      | 355                  | 40.0             | 49.6%    | 19.6%                    |



| year | CPRD Gold |           |                      |                  |          |                          | CPRD Aurum |           |                      |                  |          |                          |
|------|-----------|-----------|----------------------|------------------|----------|--------------------------|------------|-----------|----------------------|------------------|----------|--------------------------|
|      | patients  | practices | mean exposure (days) | mean age (years) | % female | % most deprived quintile | patients   | practices | mean exposure (days) | mean age (years) | % female | % most deprived quintile |
| 2017 | 19920     | 129       | 340                  | 40.0             | 49.8%    | 16.5%                    | 19939      | 1452      | 355                  | 39.7             | 50.5%    | 20.0%                    |
| 2018 | 19955     | 105       | 341                  | 40.2             | 50.3%    | 15.8%                    | 19919      | 1452      | 354                  | 39.5             | 50.1%    | 19.6%                    |
| 2019 | 19988     | 88        | 322                  | 40.5             | 50.6%    | 17.0%                    | 19943      | 1438      | 352                  | 40.0             | 50.2%    | 19.7%                    |
| 2020 | 19873     | 62        | 313                  | 40.6             | 50.1%    | 19.3%                    | 19966      | 1402      | 354                  | 39.4             | 50.1%    | 19.7%                    |
| 2021 | 19596     | 41        | 288                  | 41.2             | 49.6%    | 21.1%                    | 19986      | 1347      | 357                  | 40.0             | 48.8%    | 19.9%                    |
| 2022 | 19612     | 20        | 265                  | 42.6             | 49.6%    | 19.2%                    | -          | -         | -                    | -                | -        | -                        |

**Table 1b: Study outcomes**

| year | CPRD Gold |           |          |         |                                 |          |         | CPRD Aurum |           |          |         |                                 |          |         |
|------|-----------|-----------|----------|---------|---------------------------------|----------|---------|------------|-----------|----------|---------|---------------------------------|----------|---------|
|      | consults  | % GP      |          |         | % other healthcare professional |          |         | consults   | % GP      |          |         | % other healthcare professional |          |         |
|      |           | % surgery | % remote | % visit | % surgery                       | % remote | % visit |            | % surgery | % remote | % visit | % surgery                       | % remote | % visit |
| 1995 | 52920     | 89.3%     | 3.5%     | 3.7%    | 3.5%                            | 0.0%     | 0.0%    | 27511      | 47.9%     | 1.3%     | 2.3%    | 43.0%                           | 2.7%     | 2.8%    |
| 1996 | 56878     | 86.9%     | 2.9%     | 2.7%    | 7.5%                            | 0.0%     | 0.0%    | 30749      | 50.9%     | 1.1%     | 2.1%    | 41.5%                           | 2.0%     | 2.3%    |
| 1997 | 64053     | 83.3%     | 2.6%     | 2.2%    | 11.8%                           | 0.1%     | 0.1%    | 33928      | 50.9%     | 1.2%     | 1.9%    | 42.4%                           | 1.8%     | 1.7%    |
| 1998 | 70056     | 80.5%     | 3.0%     | 2.0%    | 14.2%                           | 0.2%     | 0.1%    | 37082      | 54.5%     | 1.6%     | 1.8%    | 39.1%                           | 1.5%     | 1.5%    |
| 1999 | 76126     | 77.3%     | 3.3%     | 2.0%    | 17.0%                           | 0.2%     | 0.2%    | 40794      | 54.8%     | 1.7%     | 1.9%    | 38.6%                           | 1.2%     | 1.9%    |
| 2000 | 85291     | 73.6%     | 3.0%     | 1.7%    | 21.1%                           | 0.3%     | 0.4%    | 45450      | 55.2%     | 1.9%     | 1.9%    | 38.0%                           | 1.1%     | 1.9%    |
| 2001 | 87137     | 71.5%     | 3.3%     | 1.7%    | 22.7%                           | 0.4%     | 0.4%    | 52495      | 53.3%     | 2.3%     | 2.0%    | 39.4%                           | 1.5%     | 1.5%    |
| 2002 | 87058     | 68.3%     | 3.1%     | 1.7%    | 25.9%                           | 0.7%     | 0.4%    | 58595      | 52.7%     | 2.5%     | 2.0%    | 39.2%                           | 1.6%     | 2.0%    |
| 2003 | 90977     | 66.0%     | 3.4%     | 1.8%    | 27.3%                           | 0.9%     | 0.6%    | 66422      | 52.0%     | 3.0%     | 2.0%    | 40.2%                           | 1.5%     | 1.4%    |
| 2004 | 93175     | 64.2%     | 3.8%     | 1.5%    | 28.7%                           | 0.9%     | 0.9%    | 74042      | 50.1%     | 3.2%     | 1.8%    | 41.9%                           | 1.6%     | 1.5%    |
| 2005 | 95215     | 61.8%     | 4.1%     | 1.6%    | 29.9%                           | 1.3%     | 1.2%    | 80885      | 50.3%     | 3.5%     | 1.5%    | 41.6%                           | 1.8%     | 1.4%    |
| 2006 | 93827     | 61.5%     | 4.6%     | 1.5%    | 30.1%                           | 1.4%     | 0.9%    | 82838      | 50.6%     | 3.6%     | 1.5%    | 40.6%                           | 1.8%     | 1.8%    |
| 2007 | 94591     | 59.6%     | 5.1%     | 1.6%    | 31.1%                           | 1.6%     | 1.0%    | 85619      | 50.7%     | 4.2%     | 1.4%    | 40.1%                           | 2.1%     | 1.4%    |
| 2008 | 94651     | 59.1%     | 5.7%     | 1.8%    | 30.9%                           | 1.7%     | 0.7%    | 89313      | 49.6%     | 5.1%     | 1.5%    | 39.6%                           | 2.2%     | 1.9%    |
| 2009 | 97792     | 58.5%     | 6.5%     | 1.2%    | 31.7%                           | 1.4%     | 0.6%    | 91839      | 50.0%     | 6.0%     | 1.5%    | 39.1%                           | 2.2%     | 1.1%    |
| 2010 | 96962     | 58.0%     | 6.7%     | 1.6%    | 31.4%                           | 1.5%     | 0.7%    | 93378      | 51.1%     | 6.6%     | 1.4%    | 37.5%                           | 2.1%     | 1.2%    |
| 2011 | 96431     | 57.6%     | 6.7%     | 1.5%    | 32.3%                           | 1.4%     | 0.6%    | 94166      | 51.8%     | 7.2%     | 1.5%    | 36.6%                           | 1.9%     | 0.9%    |
| 2012 | 101937    | 57.9%     | 7.5%     | 1.5%    | 30.9%                           | 1.5%     | 0.7%    | 96483      | 53.3%     | 8.1%     | 1.7%    | 34.6%                           | 1.7%     | 0.7%    |
| 2013 | 99257     | 56.9%     | 9.2%     | 1.7%    | 30.5%                           | 1.3%     | 0.4%    | 96716      | 51.8%     | 9.6%     | 1.6%    | 34.8%                           | 1.6%     | 0.5%    |
| 2014 | 96085     | 56.4%     | 10.4%    | 1.3%    | 30.0%                           | 1.5%     | 0.4%    | 95836      | 50.4%     | 11.6%    | 1.7%    | 34.3%                           | 1.5%     | 0.5%    |
| 2015 | 91633     | 56.2%     | 9.8%     | 1.3%    | 30.9%                           | 1.5%     | 0.3%    | 95188      | 49.2%     | 12.6%    | 1.7%    | 34.5%                           | 1.6%     | 0.4%    |
| 2016 | 92376     | 56.6%     | 9.8%     | 1.1%    | 30.5%                           | 1.8%     | 0.2%    | 94299      | 48.1%     | 14.0%    | 1.5%    | 33.8%                           | 2.0%     | 0.5%    |

| year | CPRD Gold |           |          |         |                                 |          |         | CPRD Aurum |           |          |         |                                 |          |         |
|------|-----------|-----------|----------|---------|---------------------------------|----------|---------|------------|-----------|----------|---------|---------------------------------|----------|---------|
|      | consults  | % GP      |          |         | % other healthcare professional |          |         | consults   | % GP      |          |         | % other healthcare professional |          |         |
|      |           | % surgery | % remote | % visit | % surgery                       | % remote | % visit |            | % surgery | % remote | % visit | % surgery                       | % remote | % visit |
| 2017 | 91810     | 58.3%     | 9.0%     | 1.0%    | 29.4%                           | 2.0%     | 0.3%    | 90126      | 46.0%     | 13.6%    | 1.5%    | 36.1%                           | 2.4%     | 0.5%    |
| 2018 | 88687     | 57.1%     | 8.3%     | 1.2%    | 30.8%                           | 2.2%     | 0.3%    | 87278      | 43.9%     | 15.0%    | 1.5%    | 36.1%                           | 2.9%     | 0.6%    |
| 2019 | 83970     | 57.0%     | 8.6%     | 1.2%    | 30.7%                           | 2.3%     | 0.2%    | 89220      | 43.2%     | 14.4%    | 1.2%    | 37.4%                           | 3.1%     | 0.6%    |
| 2020 | 71652     | 50.2%     | 17.6%    | 0.6%    | 27.5%                           | 4.0%     | 0.2%    | 85567      | 23.9%     | 34.7%    | 0.7%    | 30.1%                           | 10.0%    | 0.6%    |
| 2021 | 70555     | 47.1%     | 20.9%    | 0.4%    | 29.5%                           | 2.1%     | 0.1%    | 99577      | 20.7%     | 37.8%    | 0.5%    | 27.7%                           | 12.9%    | 0.4%    |
| 2022 | 66958     | 45.9%     | 15.9%    | 0.6%    | 36.1%                           | 1.3%     | 0.2%    | -          | -         | -        | -       | -                               | -        | -       |



## Appendix 3 - Model results and fit characteristics

**Table 2a: Coefficients for models G-AS and A-AS**

| Term group | Term      | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|-----------|-----------|-------|-------|------|------------|-------|-------|------|
|            |           | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | intercept | 0.00      | 0.00  | 0.00  | 0.00 | 0.00       | 0.00  | 0.00  | 0.00 |
| sex:age    | f-00      | 6.57      | 6.07  | 7.12  | 0.00 | 7.47       | 6.84  | 8.17  | 0.00 |
|            | f-01      | 4.20      | 3.95  | 4.47  | 0.00 | 4.31       | 4.02  | 4.62  | 0.00 |
|            | f-02      | 2.41      | 2.27  | 2.56  | 0.00 | 2.46       | 2.30  | 2.64  | 0.00 |
|            | f-03      | 2.22      | 2.09  | 2.36  | 0.00 | 2.25       | 2.10  | 2.41  | 0.00 |
|            | f-04      | 2.13      | 2.00  | 2.27  | 0.00 | 2.17       | 2.03  | 2.34  | 0.00 |
|            | f-05      | 1.63      | 1.53  | 1.74  | 0.00 | 1.67       | 1.55  | 1.80  | 0.00 |
|            | f-06      | 1.40      | 1.31  | 1.49  | 0.00 | 1.29       | 1.20  | 1.39  | 0.00 |
|            | f-07      | 1.23      | 1.15  | 1.31  | 0.00 | 1.18       | 1.09  | 1.27  | 0.00 |
|            | f-08      | 1.10      | 1.03  | 1.17  | 0.01 | 1.17       | 1.08  | 1.26  | 0.00 |
|            | f-09      | 1.10      | 1.03  | 1.17  | 0.01 | 1.18       | 1.09  | 1.27  | 0.00 |
|            | f-10      | 1.04      | 0.98  | 1.11  | 0.20 | 1.07       | 0.99  | 1.15  | 0.09 |
|            | f-11      | 1.06      | 0.99  | 1.13  | 0.08 | 1.02       | 0.95  | 1.10  | 0.60 |
|            | f-12      | 1.03      | 0.97  | 1.10  | 0.35 | 1.06       | 0.98  | 1.14  | 0.15 |
|            | f-13      | 1.16      | 1.08  | 1.23  | 0.00 | 1.11       | 1.03  | 1.20  | 0.01 |
|            | f-14      | 1.37      | 1.28  | 1.46  | 0.00 | 1.35       | 1.25  | 1.45  | 0.00 |
|            | f-15      | 1.56      | 1.46  | 1.66  | 0.00 | 1.57       | 1.46  | 1.69  | 0.00 |
|            | f-16      | 1.90      | 1.78  | 2.02  | 0.00 | 1.79       | 1.66  | 1.93  | 0.00 |
|            | f-17      | 2.24      | 2.11  | 2.39  | 0.00 | 2.07       | 1.92  | 2.24  | 0.00 |
|            | f-18      | 2.53      | 2.38  | 2.70  | 0.00 | 2.46       | 2.28  | 2.65  | 0.00 |
|            | f-19      | 2.60      | 2.44  | 2.77  | 0.00 | 2.56       | 2.38  | 2.75  | 0.00 |
|            | f-20      | 2.75      | 2.59  | 2.93  | 0.00 | 2.63       | 2.45  | 2.82  | 0.00 |
|            | f-21      | 2.84      | 2.67  | 3.02  | 0.00 | 2.72       | 2.54  | 2.91  | 0.00 |
|            | f-22      | 2.93      | 2.76  | 3.12  | 0.00 | 2.80       | 2.61  | 3.00  | 0.00 |
|            | f-23      | 2.88      | 2.71  | 3.06  | 0.00 | 2.84       | 2.65  | 3.04  | 0.00 |
|            | f-24      | 3.01      | 2.83  | 3.19  | 0.00 | 2.72       | 2.54  | 2.91  | 0.00 |
|            | f-25      | 3.07      | 2.89  | 3.25  | 0.00 | 3.05       | 2.85  | 3.26  | 0.00 |
|            | f-26      | 3.00      | 2.82  | 3.18  | 0.00 | 2.98       | 2.79  | 3.19  | 0.00 |
|            | f-27      | 3.10      | 2.92  | 3.28  | 0.00 | 3.12       | 2.92  | 3.34  | 0.00 |
|            | f-28      | 3.20      | 3.02  | 3.39  | 0.00 | 3.29       | 3.08  | 3.52  | 0.00 |
|            | f-29      | 3.27      | 3.08  | 3.47  | 0.00 | 3.26       | 3.05  | 3.49  | 0.00 |
|            | f-30      | 3.11      | 2.93  | 3.30  | 0.00 | 3.25       | 3.04  | 3.47  | 0.00 |
|            | f-31      | 3.22      | 3.04  | 3.41  | 0.00 | 3.12       | 2.92  | 3.34  | 0.00 |
|            | f-32      | 3.21      | 3.03  | 3.40  | 0.00 | 3.07       | 2.88  | 3.28  | 0.00 |
|            | f-33      | 3.17      | 2.99  | 3.36  | 0.00 | 3.21       | 3.01  | 3.43  | 0.00 |
|            | f-34      | 3.20      | 3.03  | 3.39  | 0.00 | 3.22       | 3.02  | 3.44  | 0.00 |
|            | f-35      | 3.14      | 2.96  | 3.32  | 0.00 | 3.16       | 2.96  | 3.37  | 0.00 |



| Term group | Term | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|------|-----------|-------|-------|------|------------|-------|-------|------|
|            |      | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | f-36 | 3.08      | 2.91  | 3.26  | 0.00 | 3.13       | 2.93  | 3.35  | 0.00 |
|            | f-37 | 3.01      | 2.84  | 3.19  | 0.00 | 3.11       | 2.91  | 3.32  | 0.00 |
|            | f-38 | 2.99      | 2.82  | 3.17  | 0.00 | 3.06       | 2.86  | 3.27  | 0.00 |
|            | f-39 | 2.90      | 2.74  | 3.08  | 0.00 | 2.99       | 2.79  | 3.19  | 0.00 |
|            | f-40 | 3.00      | 2.83  | 3.18  | 0.00 | 3.05       | 2.85  | 3.26  | 0.00 |
|            | f-41 | 3.03      | 2.86  | 3.21  | 0.00 | 2.86       | 2.67  | 3.05  | 0.00 |
|            | f-42 | 2.89      | 2.73  | 3.06  | 0.00 | 3.03       | 2.83  | 3.24  | 0.00 |
|            | f-43 | 2.91      | 2.75  | 3.08  | 0.00 | 3.01       | 2.81  | 3.21  | 0.00 |
|            | f-44 | 2.96      | 2.80  | 3.14  | 0.00 | 3.01       | 2.81  | 3.22  | 0.00 |
|            | f-45 | 3.00      | 2.83  | 3.18  | 0.00 | 3.07       | 2.87  | 3.28  | 0.00 |
|            | f-46 | 3.19      | 3.01  | 3.38  | 0.00 | 3.12       | 2.92  | 3.34  | 0.00 |
|            | f-47 | 3.15      | 2.97  | 3.34  | 0.00 | 3.10       | 2.90  | 3.32  | 0.00 |
|            | f-48 | 3.15      | 2.97  | 3.34  | 0.00 | 3.28       | 3.07  | 3.51  | 0.00 |
|            | f-49 | 3.24      | 3.05  | 3.43  | 0.00 | 3.35       | 3.14  | 3.59  | 0.00 |
|            | f-50 | 3.32      | 3.14  | 3.52  | 0.00 | 3.34       | 3.12  | 3.57  | 0.00 |
|            | f-51 | 3.37      | 3.18  | 3.57  | 0.00 | 3.48       | 3.25  | 3.72  | 0.00 |
|            | f-52 | 3.32      | 3.13  | 3.51  | 0.00 | 3.46       | 3.23  | 3.70  | 0.00 |
|            | f-53 | 3.32      | 3.13  | 3.52  | 0.00 | 3.38       | 3.15  | 3.61  | 0.00 |
|            | f-54 | 3.44      | 3.24  | 3.65  | 0.00 | 3.40       | 3.17  | 3.64  | 0.00 |
|            | f-55 | 3.53      | 3.33  | 3.74  | 0.00 | 3.51       | 3.27  | 3.76  | 0.00 |
|            | f-56 | 3.53      | 3.33  | 3.75  | 0.00 | 3.67       | 3.43  | 3.94  | 0.00 |
|            | f-57 | 3.52      | 3.32  | 3.73  | 0.00 | 3.59       | 3.35  | 3.85  | 0.00 |
|            | f-58 | 3.65      | 3.44  | 3.87  | 0.00 | 3.58       | 3.34  | 3.84  | 0.00 |
|            | f-59 | 3.77      | 3.56  | 4.00  | 0.00 | 3.68       | 3.43  | 3.94  | 0.00 |
|            | f-60 | 3.67      | 3.46  | 3.90  | 0.00 | 3.79       | 3.53  | 4.07  | 0.00 |
|            | f-61 | 3.96      | 3.73  | 4.20  | 0.00 | 3.97       | 3.70  | 4.26  | 0.00 |
|            | f-62 | 3.89      | 3.66  | 4.14  | 0.00 | 3.94       | 3.67  | 4.23  | 0.00 |
|            | f-63 | 4.02      | 3.78  | 4.27  | 0.00 | 4.18       | 3.89  | 4.49  | 0.00 |
|            | f-64 | 4.02      | 3.78  | 4.27  | 0.00 | 4.06       | 3.78  | 4.36  | 0.00 |
|            | f-65 | 4.19      | 3.94  | 4.46  | 0.00 | 4.36       | 4.06  | 4.69  | 0.00 |
|            | f-66 | 4.22      | 3.96  | 4.49  | 0.00 | 4.44       | 4.13  | 4.77  | 0.00 |
|            | f-67 | 4.51      | 4.24  | 4.80  | 0.00 | 4.49       | 4.18  | 4.83  | 0.00 |
|            | f-68 | 4.45      | 4.18  | 4.74  | 0.00 | 4.74       | 4.41  | 5.09  | 0.00 |
|            | f-69 | 4.68      | 4.40  | 4.98  | 0.00 | 4.71       | 4.38  | 5.06  | 0.00 |
|            | f-70 | 4.84      | 4.54  | 5.15  | 0.00 | 5.18       | 4.82  | 5.58  | 0.00 |
|            | f-71 | 4.82      | 4.53  | 5.13  | 0.00 | 5.13       | 4.77  | 5.52  | 0.00 |
|            | f-72 | 5.10      | 4.79  | 5.43  | 0.00 | 5.16       | 4.80  | 5.56  | 0.00 |
|            | f-73 | 5.35      | 5.02  | 5.70  | 0.00 | 5.26       | 4.89  | 5.67  | 0.00 |
|            | f-74 | 5.44      | 5.11  | 5.79  | 0.00 | 5.48       | 5.08  | 5.90  | 0.00 |
|            | f-75 | 5.34      | 5.01  | 5.69  | 0.00 | 5.61       | 5.20  | 6.05  | 0.00 |
|            | f-76 | 5.67      | 5.31  | 6.05  | 0.00 | 5.67       | 5.25  | 6.12  | 0.00 |
|            | f-77 | 5.72      | 5.35  | 6.10  | 0.00 | 5.92       | 5.48  | 6.39  | 0.00 |
|            | f-78 | 5.79      | 5.42  | 6.18  | 0.00 | 5.96       | 5.52  | 6.44  | 0.00 |
|            | f-79 | 6.12      | 5.72  | 6.54  | 0.00 | 6.16       | 5.70  | 6.65  | 0.00 |



| Term group | Term       | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|------------|-----------|-------|-------|------|------------|-------|-------|------|
|            |            | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | f-80       | 6.02      | 5.63  | 6.45  | 0.00 | 6.16       | 5.70  | 6.66  | 0.00 |
|            | f-81       | 5.92      | 5.53  | 6.34  | 0.00 | 6.12       | 5.65  | 6.63  | 0.00 |
|            | f-82       | 6.12      | 5.71  | 6.56  | 0.00 | 6.05       | 5.57  | 6.56  | 0.00 |
|            | f-83       | 6.27      | 5.84  | 6.73  | 0.00 | 6.46       | 5.95  | 7.02  | 0.00 |
|            | f-84       | 6.47      | 6.02  | 6.95  | 0.00 | 6.54       | 6.00  | 7.13  | 0.00 |
|            | f-85       | 6.42      | 5.96  | 6.91  | 0.00 | 6.31       | 5.78  | 6.88  | 0.00 |
|            | f-86       | 6.52      | 6.03  | 7.05  | 0.00 | 6.65       | 6.07  | 7.28  | 0.00 |
|            | f-87       | 6.78      | 6.26  | 7.35  | 0.00 | 6.38       | 5.83  | 6.99  | 0.00 |
|            | f-88       | 6.63      | 6.09  | 7.21  | 0.00 | 6.15       | 5.59  | 6.75  | 0.00 |
|            | f-89       | 6.60      | 6.05  | 7.20  | 0.00 | 5.87       | 5.31  | 6.50  | 0.00 |
|            | f-90+      | 6.40      | 6.04  | 6.79  | 0.00 | 5.91       | 5.53  | 6.31  | 0.00 |
|            | m-00       | 7.37      | 6.83  | 7.95  | 0.00 | 7.79       | 7.16  | 8.49  | 0.00 |
|            | m-01       | 4.50      | 4.24  | 4.78  | 0.00 | 4.57       | 4.27  | 4.90  | 0.00 |
|            | m-02       | 2.68      | 2.52  | 2.84  | 0.00 | 2.66       | 2.48  | 2.85  | 0.00 |
|            | m-03       | 2.17      | 2.04  | 2.31  | 0.00 | 2.31       | 2.16  | 2.48  | 0.00 |
|            | m-04       | 2.20      | 2.07  | 2.33  | 0.00 | 2.22       | 2.07  | 2.38  | 0.00 |
|            | m-05       | 1.68      | 1.58  | 1.79  | 0.00 | 1.66       | 1.54  | 1.78  | 0.00 |
|            | m-06       | 1.33      | 1.25  | 1.41  | 0.00 | 1.36       | 1.27  | 1.46  | 0.00 |
|            | m-07       | 1.20      | 1.13  | 1.28  | 0.00 | 1.16       | 1.08  | 1.25  | 0.00 |
|            | m-08       | 1.11      | 1.04  | 1.18  | 0.00 | 1.07       | 0.99  | 1.15  | 0.08 |
|            | m-09       | 1.01      | 0.95  | 1.08  | 0.75 | 1.01       | 0.93  | 1.08  | 0.88 |
|            | m-10       | 0.99      | 0.93  | 1.06  | 0.83 | 0.99       | 0.92  | 1.06  | 0.71 |
|            | m-11 (ref) | 1.00      | -     | -     | -    | 1.00       | -     | -     | -    |
|            | m-12       | 0.99      | 0.93  | 1.06  | 0.86 | 0.99       | 0.92  | 1.07  | 0.80 |
|            | m-13       | 1.02      | 0.95  | 1.08  | 0.64 | 0.95       | 0.88  | 1.03  | 0.21 |
|            | m-14       | 1.06      | 1.00  | 1.13  | 0.07 | 1.02       | 0.95  | 1.10  | 0.61 |
|            | m-15       | 1.04      | 0.98  | 1.11  | 0.19 | 1.16       | 1.08  | 1.25  | 0.00 |
|            | m-16       | 1.06      | 1.00  | 1.13  | 0.07 | 1.01       | 0.93  | 1.08  | 0.89 |
|            | m-17       | 1.02      | 0.96  | 1.09  | 0.47 | 1.00       | 0.93  | 1.08  | 0.98 |
|            | m-18       | 1.06      | 1.00  | 1.13  | 0.06 | 1.08       | 1.00  | 1.16  | 0.05 |
|            | m-19       | 1.05      | 0.99  | 1.12  | 0.12 | 1.10       | 1.02  | 1.19  | 0.01 |
|            | m-20       | 1.06      | 0.99  | 1.13  | 0.08 | 1.07       | 0.99  | 1.15  | 0.09 |
|            | m-21       | 1.10      | 1.03  | 1.18  | 0.00 | 1.07       | 1.00  | 1.15  | 0.06 |
|            | m-22       | 1.10      | 1.03  | 1.18  | 0.00 | 1.05       | 0.98  | 1.13  | 0.16 |
|            | m-23       | 1.16      | 1.08  | 1.23  | 0.00 | 1.07       | 1.00  | 1.15  | 0.06 |
|            | m-24       | 1.09      | 1.03  | 1.16  | 0.01 | 1.08       | 1.01  | 1.16  | 0.03 |
|            | m-25       | 1.11      | 1.05  | 1.19  | 0.00 | 1.12       | 1.05  | 1.21  | 0.00 |
|            | m-26       | 1.11      | 1.04  | 1.18  | 0.00 | 1.06       | 0.99  | 1.14  | 0.09 |
|            | m-27       | 1.18      | 1.11  | 1.26  | 0.00 | 1.11       | 1.04  | 1.19  | 0.00 |
|            | m-28       | 1.14      | 1.08  | 1.22  | 0.00 | 1.19       | 1.11  | 1.27  | 0.00 |
|            | m-29       | 1.16      | 1.09  | 1.23  | 0.00 | 1.23       | 1.15  | 1.32  | 0.00 |
|            | m-30       | 1.23      | 1.15  | 1.30  | 0.00 | 1.21       | 1.13  | 1.29  | 0.00 |
|            | m-31       | 1.19      | 1.12  | 1.26  | 0.00 | 1.26       | 1.17  | 1.34  | 0.00 |
|            | m-32       | 1.29      | 1.21  | 1.37  | 0.00 | 1.26       | 1.18  | 1.35  | 0.00 |



| Term group | Term | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|------|-----------|-------|-------|------|------------|-------|-------|------|
|            |      | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | m-33 | 1.30      | 1.22  | 1.38  | 0.00 | 1.28       | 1.20  | 1.37  | 0.00 |
|            | m-34 | 1.35      | 1.27  | 1.43  | 0.00 | 1.23       | 1.15  | 1.32  | 0.00 |
|            | m-35 | 1.36      | 1.28  | 1.44  | 0.00 | 1.33       | 1.24  | 1.42  | 0.00 |
|            | m-36 | 1.38      | 1.30  | 1.47  | 0.00 | 1.39       | 1.30  | 1.49  | 0.00 |
|            | m-37 | 1.46      | 1.38  | 1.55  | 0.00 | 1.37       | 1.28  | 1.46  | 0.00 |
|            | m-38 | 1.46      | 1.37  | 1.55  | 0.00 | 1.38       | 1.29  | 1.48  | 0.00 |
|            | m-39 | 1.46      | 1.37  | 1.55  | 0.00 | 1.38       | 1.29  | 1.48  | 0.00 |
|            | m-40 | 1.57      | 1.48  | 1.66  | 0.00 | 1.50       | 1.41  | 1.61  | 0.00 |
|            | m-41 | 1.54      | 1.46  | 1.64  | 0.00 | 1.58       | 1.48  | 1.69  | 0.00 |
|            | m-42 | 1.56      | 1.47  | 1.66  | 0.00 | 1.58       | 1.48  | 1.70  | 0.00 |
|            | m-43 | 1.59      | 1.49  | 1.68  | 0.00 | 1.62       | 1.52  | 1.74  | 0.00 |
|            | m-44 | 1.66      | 1.57  | 1.76  | 0.00 | 1.65       | 1.55  | 1.77  | 0.00 |
|            | m-45 | 1.78      | 1.68  | 1.89  | 0.00 | 1.73       | 1.62  | 1.85  | 0.00 |
|            | m-46 | 1.78      | 1.68  | 1.89  | 0.00 | 1.82       | 1.70  | 1.95  | 0.00 |
|            | m-47 | 1.76      | 1.66  | 1.87  | 0.00 | 1.76       | 1.65  | 1.88  | 0.00 |
|            | m-48 | 1.87      | 1.77  | 1.99  | 0.00 | 1.80       | 1.68  | 1.92  | 0.00 |
|            | m-49 | 2.00      | 1.88  | 2.12  | 0.00 | 2.00       | 1.86  | 2.14  | 0.00 |
|            | m-50 | 2.01      | 1.89  | 2.13  | 0.00 | 2.13       | 1.99  | 2.28  | 0.00 |
|            | m-51 | 2.09      | 1.97  | 2.21  | 0.00 | 2.24       | 2.09  | 2.39  | 0.00 |
|            | m-52 | 2.09      | 1.97  | 2.22  | 0.00 | 2.31       | 2.16  | 2.47  | 0.00 |
|            | m-53 | 2.23      | 2.10  | 2.36  | 0.00 | 2.23       | 2.08  | 2.38  | 0.00 |
|            | m-54 | 2.25      | 2.12  | 2.39  | 0.00 | 2.34       | 2.18  | 2.51  | 0.00 |
|            | m-55 | 2.34      | 2.21  | 2.48  | 0.00 | 2.48       | 2.31  | 2.65  | 0.00 |
|            | m-56 | 2.35      | 2.22  | 2.50  | 0.00 | 2.76       | 2.58  | 2.96  | 0.00 |
|            | m-57 | 2.67      | 2.51  | 2.83  | 0.00 | 2.71       | 2.53  | 2.91  | 0.00 |
|            | m-58 | 2.64      | 2.49  | 2.80  | 0.00 | 2.75       | 2.57  | 2.95  | 0.00 |
|            | m-59 | 2.76      | 2.60  | 2.93  | 0.00 | 2.86       | 2.67  | 3.07  | 0.00 |
|            | m-60 | 3.01      | 2.84  | 3.20  | 0.00 | 3.05       | 2.84  | 3.27  | 0.00 |
|            | m-61 | 3.22      | 3.03  | 3.41  | 0.00 | 3.10       | 2.88  | 3.32  | 0.00 |
|            | m-62 | 3.27      | 3.08  | 3.48  | 0.00 | 3.29       | 3.06  | 3.53  | 0.00 |
|            | m-63 | 3.38      | 3.18  | 3.59  | 0.00 | 3.42       | 3.18  | 3.67  | 0.00 |
|            | m-64 | 3.61      | 3.40  | 3.84  | 0.00 | 3.49       | 3.25  | 3.75  | 0.00 |
|            | m-65 | 3.83      | 3.60  | 4.07  | 0.00 | 3.84       | 3.57  | 4.13  | 0.00 |
|            | m-66 | 3.78      | 3.55  | 4.03  | 0.00 | 4.00       | 3.72  | 4.30  | 0.00 |
|            | m-67 | 4.03      | 3.78  | 4.29  | 0.00 | 4.14       | 3.85  | 4.46  | 0.00 |
|            | m-68 | 4.22      | 3.97  | 4.50  | 0.00 | 4.19       | 3.89  | 4.51  | 0.00 |
|            | m-69 | 4.25      | 3.99  | 4.53  | 0.00 | 4.35       | 4.04  | 4.68  | 0.00 |
|            | m-70 | 4.49      | 4.22  | 4.79  | 0.00 | 4.69       | 4.36  | 5.05  | 0.00 |
|            | m-71 | 4.50      | 4.22  | 4.80  | 0.00 | 4.79       | 4.45  | 5.17  | 0.00 |
|            | m-72 | 5.02      | 4.70  | 5.36  | 0.00 | 4.99       | 4.63  | 5.38  | 0.00 |
|            | m-73 | 4.85      | 4.54  | 5.18  | 0.00 | 4.95       | 4.59  | 5.34  | 0.00 |
|            | m-74 | 4.94      | 4.63  | 5.28  | 0.00 | 5.39       | 4.99  | 5.82  | 0.00 |
|            | m-75 | 5.18      | 4.84  | 5.55  | 0.00 | 5.32       | 4.92  | 5.75  | 0.00 |
|            | m-76 | 5.37      | 5.01  | 5.75  | 0.00 | 5.34       | 4.94  | 5.78  | 0.00 |



| Term group | Term       | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|------------|-----------|-------|-------|------|------------|-------|-------|------|
|            |            | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | m-77       | 5.50      | 5.13  | 5.89  | 0.00 | 5.52       | 5.09  | 6.00  | 0.00 |
|            | m-78       | 5.43      | 5.05  | 5.83  | 0.00 | 5.79       | 5.33  | 6.30  | 0.00 |
|            | m-79       | 5.84      | 5.42  | 6.28  | 0.00 | 5.85       | 5.36  | 6.37  | 0.00 |
|            | m-80       | 5.91      | 5.49  | 6.37  | 0.00 | 6.11       | 5.61  | 6.66  | 0.00 |
|            | m-81       | 6.30      | 5.84  | 6.80  | 0.00 | 5.71       | 5.22  | 6.25  | 0.00 |
|            | m-82       | 6.20      | 5.72  | 6.71  | 0.00 | 6.33       | 5.76  | 6.95  | 0.00 |
|            | m-83       | 6.16      | 5.68  | 6.69  | 0.00 | 6.31       | 5.75  | 6.93  | 0.00 |
|            | m-84       | 6.66      | 6.13  | 7.25  | 0.00 | 6.58       | 5.95  | 7.28  | 0.00 |
|            | m-85       | 6.41      | 5.86  | 7.01  | 0.00 | 6.61       | 5.98  | 7.32  | 0.00 |
|            | m-86       | 6.51      | 5.93  | 7.14  | 0.00 | 6.59       | 5.90  | 7.35  | 0.00 |
|            | m-87       | 6.33      | 5.72  | 7.00  | 0.00 | 6.75       | 5.99  | 7.59  | 0.00 |
|            | m-88       | 7.05      | 6.32  | 7.87  | 0.00 | 5.89       | 5.19  | 6.68  | 0.00 |
|            | m-89       | 7.11      | 6.33  | 7.98  | 0.00 | 6.21       | 5.43  | 7.10  | 0.00 |
|            | m-90+      | 6.59      | 6.12  | 7.11  | 0.00 | 5.83       | 5.36  | 6.34  | 0.00 |
| year       | 1995       | 0.63      | 0.62  | 0.65  | 0.00 | 0.49       | 0.48  | 0.51  | 0.00 |
|            | 1996       | 0.65      | 0.64  | 0.67  | 0.00 | 0.50       | 0.48  | 0.51  | 0.00 |
|            | 1997       | 0.72      | 0.70  | 0.73  | 0.00 | 0.53       | 0.52  | 0.55  | 0.00 |
|            | 1998       | 0.78      | 0.76  | 0.80  | 0.00 | 0.54       | 0.52  | 0.55  | 0.00 |
|            | 1999       | 0.83      | 0.81  | 0.85  | 0.00 | 0.56       | 0.55  | 0.58  | 0.00 |
|            | 2000       | 0.93      | 0.91  | 0.95  | 0.00 | 0.61       | 0.59  | 0.62  | 0.00 |
|            | 2001       | 0.94      | 0.92  | 0.97  | 0.00 | 0.67       | 0.66  | 0.69  | 0.00 |
|            | 2002       | 0.95      | 0.93  | 0.98  | 0.00 | 0.72       | 0.70  | 0.74  | 0.00 |
|            | 2003       | 0.98      | 0.95  | 1.00  | 0.03 | 0.78       | 0.76  | 0.80  | 0.00 |
|            | 2004       | 0.99      | 0.97  | 1.02  | 0.64 | 0.84       | 0.82  | 0.86  | 0.00 |
|            | 2005       | 1.02      | 1.00  | 1.05  | 0.04 | 0.92       | 0.90  | 0.94  | 0.00 |
|            | 2006       | 1.02      | 0.99  | 1.04  | 0.19 | 0.94       | 0.92  | 0.96  | 0.00 |
|            | 2007       | 1.00      | 0.98  | 1.02  | 0.92 | 0.97       | 0.95  | 1.00  | 0.04 |
|            | 2008 (ref) | 1.00      | -     | -     | -    | 1.00       | -     | -     | -    |
|            | 2009       | 1.04      | 1.02  | 1.07  | 0.00 | 1.05       | 1.02  | 1.07  | 0.00 |
|            | 2010       | 1.04      | 1.02  | 1.06  | 0.00 | 1.05       | 1.03  | 1.08  | 0.00 |
|            | 2011       | 1.04      | 1.02  | 1.06  | 0.00 | 1.06       | 1.03  | 1.08  | 0.00 |
|            | 2012       | 1.09      | 1.07  | 1.12  | 0.00 | 1.09       | 1.06  | 1.12  | 0.00 |
|            | 2013       | 1.09      | 1.07  | 1.12  | 0.00 | 1.10       | 1.08  | 1.13  | 0.00 |
|            | 2014       | 1.07      | 1.05  | 1.10  | 0.00 | 1.09       | 1.06  | 1.12  | 0.00 |
|            | 2015       | 1.06      | 1.04  | 1.09  | 0.00 | 1.08       | 1.05  | 1.10  | 0.00 |
|            | 2016       | 1.07      | 1.04  | 1.10  | 0.00 | 1.07       | 1.04  | 1.10  | 0.00 |
|            | 2017       | 1.03      | 1.00  | 1.05  | 0.02 | 1.03       | 1.00  | 1.06  | 0.02 |
|            | 2018       | 0.99      | 0.96  | 1.01  | 0.31 | 1.01       | 0.99  | 1.04  | 0.42 |
|            | 2019       | 0.96      | 0.94  | 0.99  | 0.00 | 1.05       | 1.02  | 1.07  | 0.00 |
|            | 2020       | 0.82      | 0.80  | 0.84  | 0.00 | 1.01       | 0.99  | 1.04  | 0.38 |
|            | 2021       | 0.86      | 0.84  | 0.88  | 0.00 | 1.18       | 1.15  | 1.21  | 0.00 |
|            | 2022       | 0.88      | 0.86  | 0.90  | 0.00 | -          | -     | -     | -    |



**Table 2b: Other characteristics for models G-AS and A-AS**

| Other model characteristics                  | CPRD Gold | CPRD Aurum |
|----------------------------------------------|-----------|------------|
| Standard deviation of practice random effect | 0.267     | 0.323      |
| Efron's pseudo R squared                     | 0.201     | 0.188      |



**Table 2c: Other characteristics for models G-ASDM and A-ASDM**

| Term group                     | Term      | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|--------------------------------|-----------|-----------|-------|-------|------|------------|-------|-------|------|
|                                |           | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|                                | intercept | 0.00      | 0.00  | 0.00  | 0.00 | 0.00       | 0.00  | 0.00  | 0.00 |
| Cambridge Multimorbidity Score | 0 (ref)   | 1.00      | -     | -     | -    | 1.00       | -     | -     | -    |
|                                | 1         | 1.64      | 1.62  | 1.66  | 0.00 | 1.65       | 1.62  | 1.68  | 0.00 |
|                                | 2         | 1.94      | 1.91  | 1.97  | 0.00 | 1.89       | 1.86  | 1.93  | 0.00 |
|                                | 3         | 2.27      | 2.23  | 2.32  | 0.00 | 2.17       | 2.13  | 2.21  | 0.00 |
|                                | 4         | 2.59      | 2.54  | 2.65  | 0.00 | 2.60       | 2.54  | 2.66  | 0.00 |
|                                | 5         | 2.84      | 2.75  | 2.92  | 0.00 | 2.83       | 2.75  | 2.92  | 0.00 |
|                                | 6         | 3.00      | 2.92  | 3.08  | 0.00 | 2.98       | 2.89  | 3.06  | 0.00 |
|                                | 7         | 3.34      | 3.24  | 3.44  | 0.00 | 3.39       | 3.28  | 3.49  | 0.00 |
|                                | 8         | 3.54      | 3.42  | 3.66  | 0.00 | 3.56       | 3.44  | 3.69  | 0.00 |
|                                | 9         | 3.71      | 3.57  | 3.85  | 0.00 | 3.80       | 3.66  | 3.95  | 0.00 |
|                                | 10+       | 4.44      | 4.33  | 4.55  | 0.00 | 4.62       | 4.50  | 4.74  | 0.00 |
| deprivation quintile           | 1 (ref)   | 1.00      | -     | -     | -    | 1.00       | -     | -     | -    |
|                                | 2         | 1.03      | 1.01  | 1.04  | 0.00 | 1.00       | 0.98  | 1.01  | 0.54 |
|                                | 3         | 1.03      | 1.02  | 1.05  | 0.00 | 1.02       | 1.01  | 1.04  | 0.01 |
|                                | 4         | 1.06      | 1.04  | 1.07  | 0.00 | 1.06       | 1.04  | 1.08  | 0.00 |
|                                | 5         | 1.10      | 1.08  | 1.12  | 0.00 | 1.11       | 1.09  | 1.13  | 0.00 |
| sex:age                        | f-00      | 8.17      | 7.35  | 9.09  | 0.00 | 9.47       | 8.50  | 10.56 | 0.00 |
|                                | f-01      | 5.23      | 4.82  | 5.68  | 0.00 | 5.14       | 4.72  | 5.61  | 0.00 |
|                                | f-02      | 2.72      | 2.50  | 2.95  | 0.00 | 2.94       | 2.69  | 3.21  | 0.00 |
|                                | f-03      | 2.54      | 2.34  | 2.76  | 0.00 | 2.62       | 2.40  | 2.87  | 0.00 |
|                                | f-04      | 2.38      | 2.19  | 2.59  | 0.00 | 2.63       | 2.40  | 2.87  | 0.00 |
|                                | f-05      | 1.70      | 1.56  | 1.86  | 0.00 | 1.78       | 1.62  | 1.95  | 0.00 |
|                                | f-06      | 1.47      | 1.34  | 1.60  | 0.00 | 1.45       | 1.32  | 1.59  | 0.00 |
|                                | f-07      | 1.29      | 1.18  | 1.41  | 0.00 | 1.28       | 1.17  | 1.41  | 0.00 |
|                                | f-08      | 1.20      | 1.09  | 1.31  | 0.00 | 1.24       | 1.13  | 1.37  | 0.00 |
|                                | f-09      | 1.14      | 1.04  | 1.24  | 0.01 | 1.22       | 1.11  | 1.35  | 0.00 |
|                                | f-10      | 1.12      | 1.02  | 1.22  | 0.02 | 1.22       | 1.11  | 1.34  | 0.00 |
|                                | f-11      | 1.10      | 1.00  | 1.20  | 0.05 | 1.16       | 1.05  | 1.27  | 0.00 |
|                                | f-12      | 1.11      | 1.01  | 1.21  | 0.02 | 1.18       | 1.07  | 1.30  | 0.00 |
|                                | f-13      | 1.23      | 1.13  | 1.35  | 0.00 | 1.23       | 1.12  | 1.36  | 0.00 |
|                                | f-14      | 1.59      | 1.46  | 1.74  | 0.00 | 1.47       | 1.33  | 1.61  | 0.00 |
|                                | f-15      | 1.66      | 1.52  | 1.81  | 0.00 | 1.80       | 1.64  | 1.99  | 0.00 |
|                                | f-16      | 1.96      | 1.80  | 2.14  | 0.00 | 2.00       | 1.81  | 2.20  | 0.00 |
|                                | f-17      | 2.33      | 2.13  | 2.54  | 0.00 | 2.23       | 2.02  | 2.45  | 0.00 |
|                                | f-18      | 2.58      | 2.37  | 2.82  | 0.00 | 2.44       | 2.22  | 2.69  | 0.00 |
|                                | f-19      | 2.76      | 2.53  | 3.01  | 0.00 | 2.53       | 2.31  | 2.78  | 0.00 |
|                                | f-20      | 2.63      | 2.41  | 2.87  | 0.00 | 2.64       | 2.41  | 2.88  | 0.00 |
|                                | f-21      | 2.79      | 2.56  | 3.04  | 0.00 | 2.57       | 2.36  | 2.81  | 0.00 |
|                                | f-22      | 2.78      | 2.56  | 3.03  | 0.00 | 2.54       | 2.33  | 2.77  | 0.00 |



| Term group | Term | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|------|-----------|-------|-------|------|------------|-------|-------|------|
|            |      | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | f-23 | 2.83      | 2.60  | 3.08  | 0.00 | 2.63       | 2.41  | 2.86  | 0.00 |
|            | f-24 | 2.91      | 2.68  | 3.16  | 0.00 | 2.56       | 2.35  | 2.79  | 0.00 |
|            | f-25 | 2.98      | 2.74  | 3.23  | 0.00 | 2.92       | 2.68  | 3.18  | 0.00 |
|            | f-26 | 2.84      | 2.62  | 3.08  | 0.00 | 2.79       | 2.56  | 3.04  | 0.00 |
|            | f-27 | 2.92      | 2.69  | 3.16  | 0.00 | 3.01       | 2.76  | 3.28  | 0.00 |
|            | f-28 | 3.06      | 2.82  | 3.32  | 0.00 | 3.19       | 2.93  | 3.47  | 0.00 |
|            | f-29 | 3.05      | 2.81  | 3.31  | 0.00 | 3.10       | 2.85  | 3.38  | 0.00 |
|            | f-30 | 2.91      | 2.68  | 3.16  | 0.00 | 3.05       | 2.80  | 3.32  | 0.00 |
|            | f-31 | 3.11      | 2.87  | 3.37  | 0.00 | 2.87       | 2.63  | 3.12  | 0.00 |
|            | f-32 | 2.98      | 2.75  | 3.23  | 0.00 | 2.97       | 2.73  | 3.24  | 0.00 |
|            | f-33 | 3.03      | 2.79  | 3.28  | 0.00 | 2.93       | 2.69  | 3.19  | 0.00 |
|            | f-34 | 2.97      | 2.74  | 3.22  | 0.00 | 2.96       | 2.71  | 3.22  | 0.00 |
|            | f-35 | 2.92      | 2.69  | 3.16  | 0.00 | 2.92       | 2.68  | 3.18  | 0.00 |
|            | f-36 | 2.82      | 2.60  | 3.05  | 0.00 | 2.87       | 2.63  | 3.12  | 0.00 |
|            | f-37 | 2.75      | 2.54  | 2.98  | 0.00 | 2.82       | 2.59  | 3.07  | 0.00 |
|            | f-38 | 2.74      | 2.53  | 2.97  | 0.00 | 2.62       | 2.40  | 2.85  | 0.00 |
|            | f-39 | 2.65      | 2.45  | 2.87  | 0.00 | 2.75       | 2.53  | 3.00  | 0.00 |
|            | f-40 | 2.64      | 2.43  | 2.86  | 0.00 | 2.70       | 2.47  | 2.94  | 0.00 |
|            | f-41 | 2.68      | 2.47  | 2.91  | 0.00 | 2.45       | 2.25  | 2.67  | 0.00 |
|            | f-42 | 2.58      | 2.38  | 2.80  | 0.00 | 2.51       | 2.30  | 2.73  | 0.00 |
|            | f-43 | 2.44      | 2.25  | 2.64  | 0.00 | 2.49       | 2.28  | 2.71  | 0.00 |
|            | f-44 | 2.43      | 2.24  | 2.64  | 0.00 | 2.38       | 2.19  | 2.60  | 0.00 |
|            | f-45 | 2.50      | 2.31  | 2.71  | 0.00 | 2.41       | 2.22  | 2.63  | 0.00 |
|            | f-46 | 2.60      | 2.40  | 2.82  | 0.00 | 2.44       | 2.24  | 2.65  | 0.00 |
|            | f-47 | 2.51      | 2.32  | 2.72  | 0.00 | 2.39       | 2.20  | 2.60  | 0.00 |
|            | f-48 | 2.45      | 2.26  | 2.65  | 0.00 | 2.42       | 2.22  | 2.64  | 0.00 |
|            | f-49 | 2.43      | 2.24  | 2.63  | 0.00 | 2.47       | 2.26  | 2.69  | 0.00 |
|            | f-50 | 2.54      | 2.34  | 2.75  | 0.00 | 2.54       | 2.33  | 2.76  | 0.00 |
|            | f-51 | 2.53      | 2.34  | 2.75  | 0.00 | 2.49       | 2.29  | 2.72  | 0.00 |
|            | f-52 | 2.43      | 2.24  | 2.64  | 0.00 | 2.47       | 2.26  | 2.69  | 0.00 |
|            | f-53 | 2.33      | 2.15  | 2.52  | 0.00 | 2.41       | 2.21  | 2.63  | 0.00 |
|            | f-54 | 2.37      | 2.18  | 2.57  | 0.00 | 2.37       | 2.17  | 2.59  | 0.00 |
|            | f-55 | 2.40      | 2.21  | 2.60  | 0.00 | 2.31       | 2.11  | 2.53  | 0.00 |
|            | f-56 | 2.32      | 2.14  | 2.51  | 0.00 | 2.40       | 2.20  | 2.63  | 0.00 |
|            | f-57 | 2.40      | 2.21  | 2.60  | 0.00 | 2.30       | 2.10  | 2.52  | 0.00 |
|            | f-58 | 2.44      | 2.24  | 2.65  | 0.00 | 2.35       | 2.15  | 2.57  | 0.00 |
|            | f-59 | 2.44      | 2.25  | 2.65  | 0.00 | 2.27       | 2.07  | 2.48  | 0.00 |
|            | f-60 | 2.30      | 2.11  | 2.50  | 0.00 | 2.46       | 2.25  | 2.69  | 0.00 |
|            | f-61 | 2.53      | 2.33  | 2.75  | 0.00 | 2.49       | 2.28  | 2.73  | 0.00 |
|            | f-62 | 2.48      | 2.29  | 2.70  | 0.00 | 2.44       | 2.23  | 2.67  | 0.00 |
|            | f-63 | 2.45      | 2.25  | 2.66  | 0.00 | 2.57       | 2.35  | 2.81  | 0.00 |
|            | f-64 | 2.50      | 2.30  | 2.72  | 0.00 | 2.46       | 2.25  | 2.70  | 0.00 |
|            | f-65 | 2.57      | 2.36  | 2.79  | 0.00 | 2.59       | 2.37  | 2.84  | 0.00 |
|            | f-66 | 2.50      | 2.30  | 2.72  | 0.00 | 2.62       | 2.39  | 2.87  | 0.00 |



| Term group | Term       | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|------------|-----------|-------|-------|------|------------|-------|-------|------|
|            |            | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | f-67       | 2.61      | 2.40  | 2.85  | 0.00 | 2.49       | 2.28  | 2.73  | 0.00 |
|            | f-68       | 2.56      | 2.35  | 2.79  | 0.00 | 2.61       | 2.38  | 2.86  | 0.00 |
|            | f-69       | 2.67      | 2.45  | 2.91  | 0.00 | 2.61       | 2.37  | 2.86  | 0.00 |
|            | f-70       | 2.86      | 2.62  | 3.12  | 0.00 | 2.79       | 2.54  | 3.06  | 0.00 |
|            | f-71       | 2.72      | 2.49  | 2.96  | 0.00 | 2.83       | 2.58  | 3.11  | 0.00 |
|            | f-72       | 2.76      | 2.53  | 3.01  | 0.00 | 2.70       | 2.46  | 2.97  | 0.00 |
|            | f-73       | 2.85      | 2.61  | 3.12  | 0.00 | 2.68       | 2.44  | 2.95  | 0.00 |
|            | f-74       | 2.89      | 2.64  | 3.16  | 0.00 | 2.91       | 2.65  | 3.21  | 0.00 |
|            | f-75       | 2.86      | 2.61  | 3.13  | 0.00 | 2.81       | 2.55  | 3.10  | 0.00 |
|            | f-76       | 2.99      | 2.73  | 3.28  | 0.00 | 2.74       | 2.48  | 3.02  | 0.00 |
|            | f-77       | 2.85      | 2.59  | 3.12  | 0.00 | 3.00       | 2.72  | 3.31  | 0.00 |
|            | f-78       | 2.98      | 2.72  | 3.27  | 0.00 | 2.89       | 2.62  | 3.19  | 0.00 |
|            | f-79       | 3.10      | 2.82  | 3.40  | 0.00 | 2.90       | 2.62  | 3.21  | 0.00 |
|            | f-80       | 2.90      | 2.64  | 3.19  | 0.00 | 2.82       | 2.55  | 3.12  | 0.00 |
|            | f-81       | 3.01      | 2.73  | 3.31  | 0.00 | 2.78       | 2.51  | 3.08  | 0.00 |
|            | f-82       | 2.92      | 2.65  | 3.22  | 0.00 | 2.75       | 2.47  | 3.05  | 0.00 |
|            | f-83       | 3.01      | 2.73  | 3.32  | 0.00 | 2.92       | 2.63  | 3.25  | 0.00 |
|            | f-84       | 3.06      | 2.77  | 3.38  | 0.00 | 2.84       | 2.55  | 3.18  | 0.00 |
|            | f-85       | 2.97      | 2.69  | 3.29  | 0.00 | 2.79       | 2.50  | 3.12  | 0.00 |
|            | f-86       | 3.02      | 2.71  | 3.37  | 0.00 | 2.86       | 2.55  | 3.21  | 0.00 |
|            | f-87       | 3.26      | 2.93  | 3.63  | 0.00 | 2.83       | 2.52  | 3.17  | 0.00 |
|            | f-88       | 2.85      | 2.54  | 3.18  | 0.00 | 2.67       | 2.38  | 3.00  | 0.00 |
|            | f-89       | 2.96      | 2.63  | 3.33  | 0.00 | 2.71       | 2.39  | 3.07  | 0.00 |
|            | f-90+      | 2.92      | 2.69  | 3.16  | 0.00 | 2.60       | 2.39  | 2.83  | 0.00 |
|            | m-00       | 9.33      | 8.44  | 10.32 | 0.00 | 10.11      | 9.09  | 11.23 | 0.00 |
|            | m-01       | 5.53      | 5.10  | 6.00  | 0.00 | 5.60       | 5.14  | 6.11  | 0.00 |
|            | m-02       | 2.97      | 2.74  | 3.23  | 0.00 | 3.17       | 2.90  | 3.47  | 0.00 |
|            | m-03       | 2.50      | 2.30  | 2.71  | 0.00 | 2.76       | 2.53  | 3.02  | 0.00 |
|            | m-04       | 2.44      | 2.24  | 2.65  | 0.00 | 2.54       | 2.32  | 2.77  | 0.00 |
|            | m-05       | 1.69      | 1.55  | 1.84  | 0.00 | 1.77       | 1.62  | 1.93  | 0.00 |
|            | m-06       | 1.38      | 1.27  | 1.51  | 0.00 | 1.45       | 1.33  | 1.59  | 0.00 |
|            | m-07       | 1.21      | 1.11  | 1.33  | 0.00 | 1.27       | 1.16  | 1.39  | 0.00 |
|            | m-08       | 1.15      | 1.06  | 1.26  | 0.00 | 1.20       | 1.10  | 1.32  | 0.00 |
|            | m-09       | 1.07      | 0.98  | 1.17  | 0.14 | 1.08       | 0.98  | 1.18  | 0.13 |
|            | m-10       | 1.04      | 0.95  | 1.14  | 0.40 | 1.13       | 1.03  | 1.24  | 0.01 |
|            | m-11 (ref) | 1.00      | -     | -     | -    | 1.00       | -     | -     | -    |
|            | m-12       | 1.00      | 0.91  | 1.10  | 0.98 | 1.05       | 0.95  | 1.16  | 0.32 |
|            | m-13       | 1.07      | 0.98  | 1.17  | 0.12 | 1.05       | 0.96  | 1.16  | 0.30 |
|            | m-14       | 1.13      | 1.04  | 1.24  | 0.01 | 1.13       | 1.02  | 1.24  | 0.01 |
|            | m-15       | 1.09      | 1.00  | 1.19  | 0.06 | 1.15       | 1.05  | 1.27  | 0.00 |
|            | m-16       | 1.11      | 1.02  | 1.22  | 0.02 | 1.08       | 0.98  | 1.19  | 0.11 |
|            | m-17       | 1.02      | 0.93  | 1.12  | 0.62 | 1.05       | 0.95  | 1.16  | 0.34 |
|            | m-18       | 1.08      | 0.99  | 1.18  | 0.09 | 1.19       | 1.08  | 1.31  | 0.00 |
|            | m-19       | 1.10      | 1.01  | 1.21  | 0.03 | 1.22       | 1.11  | 1.34  | 0.00 |



| Term group | Term | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|------|-----------|-------|-------|------|------------|-------|-------|------|
|            |      | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | m-20 | 1.10      | 1.00  | 1.20  | 0.04 | 1.16       | 1.06  | 1.28  | 0.00 |
|            | m-21 | 1.08      | 0.99  | 1.18  | 0.10 | 1.09       | 0.99  | 1.19  | 0.08 |
|            | m-22 | 1.07      | 0.98  | 1.18  | 0.13 | 1.05       | 0.96  | 1.15  | 0.27 |
|            | m-23 | 1.12      | 1.02  | 1.22  | 0.01 | 1.03       | 0.94  | 1.13  | 0.50 |
|            | m-24 | 1.07      | 0.98  | 1.17  | 0.14 | 1.10       | 1.01  | 1.21  | 0.04 |
|            | m-25 | 1.12      | 1.02  | 1.22  | 0.01 | 1.07       | 0.98  | 1.17  | 0.15 |
|            | m-26 | 1.05      | 0.96  | 1.15  | 0.31 | 1.05       | 0.96  | 1.15  | 0.33 |
|            | m-27 | 1.15      | 1.05  | 1.25  | 0.00 | 1.11       | 1.01  | 1.22  | 0.02 |
|            | m-28 | 1.14      | 1.04  | 1.24  | 0.00 | 1.15       | 1.05  | 1.26  | 0.00 |
|            | m-29 | 1.12      | 1.03  | 1.23  | 0.01 | 1.22       | 1.11  | 1.33  | 0.00 |
|            | m-30 | 1.21      | 1.11  | 1.33  | 0.00 | 1.17       | 1.07  | 1.28  | 0.00 |
|            | m-31 | 1.17      | 1.07  | 1.27  | 0.00 | 1.22       | 1.12  | 1.34  | 0.00 |
|            | m-32 | 1.16      | 1.07  | 1.27  | 0.00 | 1.29       | 1.18  | 1.40  | 0.00 |
|            | m-33 | 1.20      | 1.10  | 1.30  | 0.00 | 1.19       | 1.09  | 1.30  | 0.00 |
|            | m-34 | 1.30      | 1.19  | 1.41  | 0.00 | 1.13       | 1.04  | 1.24  | 0.01 |
|            | m-35 | 1.28      | 1.18  | 1.40  | 0.00 | 1.24       | 1.14  | 1.36  | 0.00 |
|            | m-36 | 1.27      | 1.17  | 1.39  | 0.00 | 1.31       | 1.20  | 1.43  | 0.00 |
|            | m-37 | 1.38      | 1.27  | 1.50  | 0.00 | 1.25       | 1.14  | 1.36  | 0.00 |
|            | m-38 | 1.35      | 1.24  | 1.47  | 0.00 | 1.27       | 1.17  | 1.39  | 0.00 |
|            | m-39 | 1.31      | 1.21  | 1.43  | 0.00 | 1.27       | 1.17  | 1.39  | 0.00 |
|            | m-40 | 1.44      | 1.32  | 1.56  | 0.00 | 1.41       | 1.29  | 1.54  | 0.00 |
|            | m-41 | 1.46      | 1.34  | 1.58  | 0.00 | 1.45       | 1.33  | 1.58  | 0.00 |
|            | m-42 | 1.37      | 1.26  | 1.49  | 0.00 | 1.46       | 1.34  | 1.60  | 0.00 |
|            | m-43 | 1.37      | 1.26  | 1.49  | 0.00 | 1.43       | 1.31  | 1.56  | 0.00 |
|            | m-44 | 1.45      | 1.34  | 1.57  | 0.00 | 1.43       | 1.31  | 1.56  | 0.00 |
|            | m-45 | 1.54      | 1.42  | 1.67  | 0.00 | 1.50       | 1.38  | 1.64  | 0.00 |
|            | m-46 | 1.47      | 1.35  | 1.59  | 0.00 | 1.60       | 1.47  | 1.75  | 0.00 |
|            | m-47 | 1.44      | 1.32  | 1.56  | 0.00 | 1.48       | 1.36  | 1.62  | 0.00 |
|            | m-48 | 1.55      | 1.43  | 1.68  | 0.00 | 1.47       | 1.34  | 1.60  | 0.00 |
|            | m-49 | 1.60      | 1.48  | 1.74  | 0.00 | 1.56       | 1.43  | 1.70  | 0.00 |
|            | m-50 | 1.63      | 1.51  | 1.77  | 0.00 | 1.72       | 1.58  | 1.88  | 0.00 |
|            | m-51 | 1.63      | 1.51  | 1.77  | 0.00 | 1.75       | 1.60  | 1.91  | 0.00 |
|            | m-52 | 1.66      | 1.53  | 1.80  | 0.00 | 1.71       | 1.57  | 1.86  | 0.00 |
|            | m-53 | 1.70      | 1.57  | 1.85  | 0.00 | 1.73       | 1.58  | 1.89  | 0.00 |
|            | m-54 | 1.69      | 1.56  | 1.84  | 0.00 | 1.69       | 1.55  | 1.85  | 0.00 |
|            | m-55 | 1.75      | 1.62  | 1.90  | 0.00 | 1.87       | 1.71  | 2.04  | 0.00 |
|            | m-56 | 1.78      | 1.64  | 1.93  | 0.00 | 1.99       | 1.82  | 2.17  | 0.00 |
|            | m-57 | 1.91      | 1.75  | 2.07  | 0.00 | 1.90       | 1.73  | 2.07  | 0.00 |
|            | m-58 | 1.97      | 1.81  | 2.14  | 0.00 | 1.88       | 1.72  | 2.06  | 0.00 |
|            | m-59 | 1.98      | 1.82  | 2.15  | 0.00 | 1.91       | 1.75  | 2.09  | 0.00 |
|            | m-60 | 1.98      | 1.82  | 2.16  | 0.00 | 1.94       | 1.77  | 2.13  | 0.00 |
|            | m-61 | 2.10      | 1.93  | 2.28  | 0.00 | 2.03       | 1.85  | 2.22  | 0.00 |
|            | m-62 | 2.20      | 2.02  | 2.40  | 0.00 | 2.02       | 1.85  | 2.22  | 0.00 |
|            | m-63 | 2.10      | 1.93  | 2.28  | 0.00 | 2.00       | 1.83  | 2.20  | 0.00 |



| Term group | Term       | CPRD Gold |       |       |      | CPRD Aurum |       |       |      |
|------------|------------|-----------|-------|-------|------|------------|-------|-------|------|
|            |            | IRR       | LCL95 | UCL95 | p    | IRR        | LCL95 | UCL95 | p    |
|            | m-64       | 2.25      | 2.06  | 2.44  | 0.00 | 2.18       | 1.99  | 2.39  | 0.00 |
|            | m-65       | 2.38      | 2.18  | 2.59  | 0.00 | 2.26       | 2.06  | 2.48  | 0.00 |
|            | m-66       | 2.33      | 2.14  | 2.53  | 0.00 | 2.36       | 2.16  | 2.59  | 0.00 |
|            | m-67       | 2.30      | 2.11  | 2.50  | 0.00 | 2.44       | 2.22  | 2.67  | 0.00 |
|            | m-68       | 2.41      | 2.21  | 2.63  | 0.00 | 2.35       | 2.14  | 2.58  | 0.00 |
|            | m-69       | 2.47      | 2.26  | 2.69  | 0.00 | 2.36       | 2.15  | 2.59  | 0.00 |
|            | m-70       | 2.51      | 2.30  | 2.73  | 0.00 | 2.62       | 2.39  | 2.88  | 0.00 |
|            | m-71       | 2.51      | 2.29  | 2.74  | 0.00 | 2.52       | 2.29  | 2.77  | 0.00 |
|            | m-72       | 2.67      | 2.44  | 2.92  | 0.00 | 2.64       | 2.40  | 2.91  | 0.00 |
|            | m-73       | 2.56      | 2.33  | 2.80  | 0.00 | 2.46       | 2.24  | 2.71  | 0.00 |
|            | m-74       | 2.56      | 2.33  | 2.81  | 0.00 | 2.63       | 2.39  | 2.91  | 0.00 |
|            | m-75       | 2.66      | 2.42  | 2.93  | 0.00 | 2.60       | 2.35  | 2.87  | 0.00 |
|            | m-76       | 2.63      | 2.39  | 2.89  | 0.00 | 2.70       | 2.44  | 2.99  | 0.00 |
|            | m-77       | 2.75      | 2.50  | 3.02  | 0.00 | 2.48       | 2.23  | 2.75  | 0.00 |
|            | m-78       | 2.67      | 2.42  | 2.95  | 0.00 | 2.72       | 2.44  | 3.02  | 0.00 |
|            | m-79       | 2.82      | 2.55  | 3.12  | 0.00 | 2.73       | 2.45  | 3.04  | 0.00 |
|            | m-80       | 2.81      | 2.55  | 3.10  | 0.00 | 2.80       | 2.52  | 3.12  | 0.00 |
|            | m-81       | 2.81      | 2.53  | 3.11  | 0.00 | 2.48       | 2.21  | 2.77  | 0.00 |
|            | m-82       | 2.98      | 2.68  | 3.31  | 0.00 | 2.85       | 2.54  | 3.21  | 0.00 |
|            | m-83       | 3.05      | 2.73  | 3.41  | 0.00 | 2.95       | 2.64  | 3.31  | 0.00 |
|            | m-84       | 3.00      | 2.68  | 3.35  | 0.00 | 2.86       | 2.52  | 3.25  | 0.00 |
|            | m-85       | 3.02      | 2.69  | 3.41  | 0.00 | 3.02       | 2.67  | 3.41  | 0.00 |
|            | m-86       | 3.02      | 2.67  | 3.41  | 0.00 | 2.68       | 2.34  | 3.07  | 0.00 |
|            | m-87       | 2.84      | 2.50  | 3.23  | 0.00 | 3.08       | 2.68  | 3.54  | 0.00 |
|            | m-88       | 2.91      | 2.54  | 3.33  | 0.00 | 2.50       | 2.15  | 2.91  | 0.00 |
|            | m-89       | 3.23      | 2.79  | 3.75  | 0.00 | 2.72       | 2.33  | 3.19  | 0.00 |
|            | m-90+      | 3.04      | 2.75  | 3.35  | 0.00 | 2.59       | 2.33  | 2.87  | 0.00 |
| year       | 2008 (ref) | 1.00      | -     | -     | -    | 1.00       | -     | -     | -    |
|            | 2009       | 1.03      | 1.01  | 1.06  | 0.00 | 1.03       | 1.01  | 1.06  | 0.00 |
|            | 2010       | 1.01      | 0.99  | 1.04  | 0.20 | 1.04       | 1.01  | 1.06  | 0.00 |
|            | 2011       | 1.02      | 1.00  | 1.04  | 0.10 | 1.03       | 1.01  | 1.05  | 0.01 |
|            | 2012       | 1.06      | 1.04  | 1.09  | 0.00 | 1.06       | 1.04  | 1.08  | 0.00 |
|            | 2013       | 1.06      | 1.04  | 1.08  | 0.00 | 1.06       | 1.04  | 1.08  | 0.00 |
|            | 2014       | 1.04      | 1.02  | 1.07  | 0.00 | 1.05       | 1.03  | 1.07  | 0.00 |
|            | 2015       | 1.04      | 1.01  | 1.06  | 0.00 | 1.04       | 1.01  | 1.06  | 0.00 |
|            | 2016       | 1.03      | 1.00  | 1.05  | 0.02 | 1.01       | 0.99  | 1.03  | 0.40 |
|            | 2017       | 0.98      | 0.96  | 1.00  | 0.06 | 0.96       | 0.94  | 0.99  | 0.00 |
|            | 2018       | 0.95      | 0.93  | 0.97  | 0.00 | 0.94       | 0.92  | 0.96  | 0.00 |
|            | 2019       | 0.93      | 0.91  | 0.95  | 0.00 | 0.98       | 0.95  | 1.00  | 0.03 |



**Table 2d: Other characteristics for models G-ASDM and A-ASDM**

| Other model characteristics                  | CPRD Gold | CPRD Aurum |
|----------------------------------------------|-----------|------------|
| Standard deviation of practice random effect | 0.289     | 0.298      |
| Efron's pseudo R squared                     | 0.352     | 0.319      |



**Table 3a: Percentage of the population sample with CMS > 1.5, by age and year (female)**

*Derived from CPRD Gold year-stratified random samples*

| Age | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----|------|------|------|------|------|------|------|------|------|
| 0   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2   | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| 4   | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| 5   | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 6   | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| 7   | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8   | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9   | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| 10  | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| 11  | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 |
| 12  | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 |
| 13  | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 |
| 14  | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| 15  | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 |
| 16  | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 17  | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 |
| 18  | 0.01 | 0.01 | 0.02 | 0.00 | 0.02 | 0.03 | 0.00 | 0.00 | 0.02 |
| 19  | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 |
| 20  | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 |
| 21  | 0.00 | 0.00 | 0.02 | 0.03 | 0.00 | 0.01 | 0.05 | 0.02 | 0.00 |
| 22  | 0.00 | 0.01 | 0.01 | 0.00 | 0.03 | 0.01 | 0.01 | 0.01 | 0.00 |
| 23  | 0.01 | 0.00 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |
| 24  | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 |
| 25  | 0.03 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 |
| 26  | 0.00 | 0.00 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.01 | 0.01 |
| 27  | 0.00 | 0.02 | 0.03 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 |
| 28  | 0.02 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.05 | 0.04 |
| 29  | 0.03 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.02 | 0.05 | 0.01 |
| 30  | 0.01 | 0.04 | 0.02 | 0.04 | 0.01 | 0.01 | 0.01 | 0.01 | 0.04 |
| 31  | 0.03 | 0.00 | 0.06 | 0.02 | 0.02 | 0.06 | 0.04 | 0.01 | 0.01 |
| 32  | 0.01 | 0.02 | 0.03 | 0.04 | 0.01 | 0.02 | 0.03 | 0.01 | 0.03 |
| 33  | 0.01 | 0.04 | 0.01 | 0.02 | 0.00 | 0.02 | 0.01 | 0.00 | 0.02 |
| 34  | 0.00 | 0.02 | 0.01 | 0.03 | 0.02 | 0.04 | 0.03 | 0.01 | 0.05 |
| 35  | 0.03 | 0.05 | 0.02 | 0.02 | 0.01 | 0.02 | 0.03 | 0.02 | 0.03 |
| 36  | 0.00 | 0.04 | 0.03 | 0.01 | 0.02 | 0.03 | 0.03 | 0.03 | 0.06 |
| 37  | 0.04 | 0.03 | 0.01 | 0.00 | 0.03 | 0.04 | 0.02 | 0.04 | 0.01 |



| Age | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----|------|------|------|------|------|------|------|------|------|
| 38  | 0.03 | 0.04 | 0.03 | 0.03 | 0.04 | 0.05 | 0.03 | 0.01 | 0.05 |
| 39  | 0.04 | 0.02 | 0.06 | 0.01 | 0.02 | 0.04 | 0.05 | 0.05 | 0.03 |
| 40  | 0.03 | 0.07 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 | 0.04 | 0.03 |
| 41  | 0.03 | 0.04 | 0.03 | 0.05 | 0.02 | 0.07 | 0.04 | 0.04 | 0.03 |
| 42  | 0.01 | 0.01 | 0.02 | 0.05 | 0.01 | 0.02 | 0.05 | 0.05 | 0.03 |
| 43  | 0.05 | 0.02 | 0.04 | 0.03 | 0.06 | 0.04 | 0.06 | 0.01 | 0.03 |
| 44  | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.07 | 0.05 | 0.05 |
| 45  | 0.03 | 0.06 | 0.04 | 0.06 | 0.06 | 0.09 | 0.02 | 0.05 | 0.08 |
| 46  | 0.06 | 0.04 | 0.05 | 0.06 | 0.10 | 0.08 | 0.07 | 0.07 | 0.06 |
| 47  | 0.06 | 0.05 | 0.09 | 0.07 | 0.02 | 0.09 | 0.08 | 0.06 | 0.05 |
| 48  | 0.06 | 0.06 | 0.07 | 0.07 | 0.06 | 0.09 | 0.07 | 0.07 | 0.05 |
| 49  | 0.04 | 0.07 | 0.05 | 0.06 | 0.09 | 0.08 | 0.06 | 0.14 | 0.09 |
| 50  | 0.09 | 0.06 | 0.07 | 0.12 | 0.07 | 0.05 | 0.07 | 0.05 | 0.07 |
| 51  | 0.07 | 0.07 | 0.11 | 0.04 | 0.08 | 0.10 | 0.07 | 0.08 | 0.03 |
| 52  | 0.07 | 0.09 | 0.09 | 0.06 | 0.05 | 0.04 | 0.10 | 0.10 | 0.12 |
| 53  | 0.09 | 0.08 | 0.09 | 0.07 | 0.12 | 0.12 | 0.10 | 0.07 | 0.13 |
| 54  | 0.09 | 0.10 | 0.11 | 0.09 | 0.10 | 0.12 | 0.11 | 0.07 | 0.12 |
| 55  | 0.06 | 0.08 | 0.06 | 0.08 | 0.11 | 0.10 | 0.14 | 0.13 | 0.15 |
| 56  | 0.09 | 0.12 | 0.19 | 0.12 | 0.10 | 0.16 | 0.09 | 0.10 | 0.13 |
| 57  | 0.10 | 0.08 | 0.10 | 0.14 | 0.09 | 0.11 | 0.08 | 0.16 | 0.10 |
| 58  | 0.12 | 0.10 | 0.13 | 0.13 | 0.10 | 0.12 | 0.16 | 0.13 | 0.18 |
| 59  | 0.12 | 0.17 | 0.12 | 0.08 | 0.10 | 0.15 | 0.08 | 0.13 | 0.14 |
| 60  | 0.10 | 0.09 | 0.16 | 0.10 | 0.14 | 0.18 | 0.09 | 0.19 | 0.20 |
| 61  | 0.12 | 0.10 | 0.18 | 0.12 | 0.21 | 0.13 | 0.10 | 0.17 | 0.08 |
| 62  | 0.17 | 0.15 | 0.13 | 0.12 | 0.21 | 0.17 | 0.15 | 0.14 | 0.16 |
| 63  | 0.12 | 0.16 | 0.13 | 0.14 | 0.16 | 0.15 | 0.18 | 0.20 | 0.19 |
| 64  | 0.20 | 0.22 | 0.14 | 0.16 | 0.15 | 0.18 | 0.19 | 0.14 | 0.22 |
| 65  | 0.18 | 0.15 | 0.21 | 0.16 | 0.22 | 0.18 | 0.16 | 0.18 | 0.17 |
| 66  | 0.21 | 0.17 | 0.18 | 0.17 | 0.14 | 0.15 | 0.15 | 0.21 | 0.13 |
| 67  | 0.18 | 0.22 | 0.21 | 0.17 | 0.21 | 0.20 | 0.17 | 0.20 | 0.21 |
| 68  | 0.18 | 0.19 | 0.25 | 0.24 | 0.25 | 0.22 | 0.20 | 0.25 | 0.21 |
| 69  | 0.17 | 0.25 | 0.22 | 0.29 | 0.19 | 0.27 | 0.21 | 0.19 | 0.19 |
| 70  | 0.22 | 0.25 | 0.25 | 0.15 | 0.23 | 0.28 | 0.24 | 0.14 | 0.21 |
| 71  | 0.32 | 0.28 | 0.25 | 0.23 | 0.21 | 0.27 | 0.19 | 0.26 | 0.38 |
| 72  | 0.24 | 0.30 | 0.22 | 0.29 | 0.36 | 0.20 | 0.28 | 0.29 | 0.22 |
| 73  | 0.29 | 0.32 | 0.31 | 0.32 | 0.22 | 0.32 | 0.29 | 0.39 | 0.22 |
| 74  | 0.33 | 0.25 | 0.25 | 0.21 | 0.39 | 0.29 | 0.21 | 0.24 | 0.28 |
| 75  | 0.33 | 0.31 | 0.20 | 0.36 | 0.36 | 0.38 | 0.32 | 0.32 | 0.23 |
| 76  | 0.39 | 0.32 | 0.39 | 0.35 | 0.41 | 0.31 | 0.41 | 0.38 | 0.32 |
| 77  | 0.28 | 0.43 | 0.31 | 0.32 | 0.43 | 0.47 | 0.23 | 0.51 | 0.29 |
| 78  | 0.41 | 0.34 | 0.45 | 0.33 | 0.42 | 0.42 | 0.34 | 0.33 | 0.49 |
| 79  | 0.38 | 0.39 | 0.45 | 0.46 | 0.42 | 0.42 | 0.34 | 0.37 | 0.33 |
| 80  | 0.46 | 0.47 | 0.56 | 0.46 | 0.43 | 0.37 | 0.37 | 0.47 | 0.39 |
| 81  | 0.44 | 0.30 | 0.42 | 0.38 | 0.48 | 0.52 | 0.41 | 0.38 | 0.47 |



| Age | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----|------|------|------|------|------|------|------|------|------|
| 82  | 0.40 | 0.43 | 0.52 | 0.43 | 0.40 | 0.56 | 0.44 | 0.62 | 0.45 |
| 83  | 0.47 | 0.49 | 0.46 | 0.57 | 0.43 | 0.46 | 0.37 | 0.53 | 0.42 |
| 84  | 0.46 | 0.56 | 0.38 | 0.52 | 0.54 | 0.60 | 0.51 | 0.50 | 0.40 |
| 85  | 0.52 | 0.38 | 0.33 | 0.62 | 0.45 | 0.50 | 0.73 | 0.30 | 0.50 |
| 86  | 0.45 | 0.64 | 0.52 | 0.68 | 0.61 | 0.57 | 0.52 | 0.58 | 0.48 |
| 87  | 0.52 | 0.58 | 0.51 | 0.50 | 0.48 | 0.65 | 0.63 | 0.47 | 0.55 |
| 88  | 0.52 | 0.42 | 0.71 | 0.71 | 0.51 | 0.56 | 0.59 | 0.47 | 0.63 |
| 89  | 0.54 | 0.63 | 0.41 | 0.47 | 0.67 | 0.72 | 0.82 | 0.64 | 0.46 |
| 90+ | 0.58 | 0.50 | 0.55 | 0.64 | 0.62 | 0.67 | 0.57 | 0.65 | 0.64 |



**Table 3b: Percentage of the population sample with CMS > 1.5, by age and year (male)**

*Derived from CPRD Gold year-stratified random samples*

| Age | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----|------|------|------|------|------|------|------|------|------|
| 0   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| 3   | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4   | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| 5   | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| 7   | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 8   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| 9   | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10  | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| 11  | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 |
| 12  | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| 13  | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 |
| 14  | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| 15  | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| 16  | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 |
| 17  | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 |
| 18  | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 19  | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 |
| 20  | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 |
| 21  | 0.02 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| 22  | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 |
| 23  | 0.01 | 0.01 | 0.03 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |
| 24  | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 |
| 25  | 0.01 | 0.03 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| 26  | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 |
| 27  | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 |
| 28  | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 |
| 29  | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| 30  | 0.01 | 0.02 | 0.01 | 0.02 | 0.03 | 0.03 | 0.02 | 0.01 | 0.01 |
| 31  | 0.00 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 |
| 32  | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.01 | 0.00 | 0.02 |
| 33  | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.00 | 0.02 | 0.01 |
| 34  | 0.01 | 0.01 | 0.02 | 0.01 | 0.03 | 0.02 | 0.00 | 0.02 | 0.01 |
| 35  | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.00 | 0.02 | 0.01 | 0.01 |
| 36  | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.01 | 0.01 | 0.02 | 0.01 |
| 37  | 0.04 | 0.02 | 0.02 | 0.01 | 0.03 | 0.01 | 0.02 | 0.02 | 0.03 |
| 38  | 0.02 | 0.02 | 0.04 | 0.02 | 0.01 | 0.03 | 0.02 | 0.00 | 0.01 |



| Age | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----|------|------|------|------|------|------|------|------|------|
| 39  | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | 0.02 | 0.06 |
| 40  | 0.00 | 0.01 | 0.04 | 0.02 | 0.02 | 0.01 | 0.04 | 0.02 | 0.02 |
| 41  | 0.01 | 0.03 | 0.03 | 0.02 | 0.01 | 0.03 | 0.01 | 0.02 | 0.03 |
| 42  | 0.02 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.05 | 0.02 | 0.00 |
| 43  | 0.01 | 0.03 | 0.01 | 0.01 | 0.04 | 0.03 | 0.02 | 0.05 | 0.04 |
| 44  | 0.04 | 0.02 | 0.02 | 0.05 | 0.06 | 0.03 | 0.03 | 0.03 | 0.02 |
| 45  | 0.03 | 0.02 | 0.06 | 0.04 | 0.06 | 0.03 | 0.04 | 0.04 | 0.03 |
| 46  | 0.04 | 0.05 | 0.05 | 0.05 | 0.05 | 0.06 | 0.07 | 0.03 | 0.04 |
| 47  | 0.04 | 0.04 | 0.03 | 0.05 | 0.07 | 0.05 | 0.05 | 0.02 | 0.03 |
| 48  | 0.01 | 0.02 | 0.05 | 0.03 | 0.07 | 0.06 | 0.01 | 0.03 | 0.06 |
| 49  | 0.05 | 0.03 | 0.05 | 0.02 | 0.05 | 0.03 | 0.05 | 0.06 | 0.06 |
| 50  | 0.06 | 0.02 | 0.08 | 0.01 | 0.06 | 0.09 | 0.04 | 0.02 | 0.06 |
| 51  | 0.08 | 0.04 | 0.03 | 0.07 | 0.05 | 0.08 | 0.03 | 0.05 | 0.07 |
| 52  | 0.09 | 0.02 | 0.09 | 0.04 | 0.07 | 0.05 | 0.06 | 0.07 | 0.05 |
| 53  | 0.05 | 0.07 | 0.06 | 0.05 | 0.08 | 0.06 | 0.08 | 0.09 | 0.04 |
| 54  | 0.06 | 0.06 | 0.04 | 0.07 | 0.06 | 0.04 | 0.04 | 0.05 | 0.08 |
| 55  | 0.07 | 0.07 | 0.10 | 0.08 | 0.12 | 0.08 | 0.06 | 0.11 | 0.09 |
| 56  | 0.07 | 0.08 | 0.09 | 0.07 | 0.08 | 0.08 | 0.09 | 0.07 | 0.08 |
| 57  | 0.15 | 0.07 | 0.09 | 0.10 | 0.06 | 0.08 | 0.09 | 0.08 | 0.06 |
| 58  | 0.09 | 0.10 | 0.11 | 0.12 | 0.11 | 0.12 | 0.09 | 0.05 | 0.11 |
| 59  | 0.08 | 0.08 | 0.10 | 0.15 | 0.07 | 0.17 | 0.10 | 0.12 | 0.15 |
| 60  | 0.14 | 0.06 | 0.14 | 0.13 | 0.10 | 0.16 | 0.14 | 0.15 | 0.11 |
| 61  | 0.16 | 0.17 | 0.16 | 0.14 | 0.12 | 0.12 | 0.14 | 0.13 | 0.14 |
| 62  | 0.13 | 0.14 | 0.12 | 0.12 | 0.09 | 0.11 | 0.17 | 0.12 | 0.19 |
| 63  | 0.17 | 0.16 | 0.13 | 0.16 | 0.19 | 0.24 | 0.17 | 0.18 | 0.19 |
| 64  | 0.17 | 0.07 | 0.11 | 0.23 | 0.13 | 0.17 | 0.13 | 0.16 | 0.22 |
| 65  | 0.11 | 0.20 | 0.14 | 0.23 | 0.20 | 0.20 | 0.20 | 0.23 | 0.16 |
| 66  | 0.25 | 0.21 | 0.20 | 0.17 | 0.25 | 0.19 | 0.19 | 0.20 | 0.20 |
| 67  | 0.21 | 0.22 | 0.17 | 0.22 | 0.20 | 0.19 | 0.23 | 0.19 | 0.21 |
| 68  | 0.22 | 0.13 | 0.24 | 0.20 | 0.18 | 0.23 | 0.18 | 0.20 | 0.32 |
| 69  | 0.23 | 0.29 | 0.19 | 0.30 | 0.22 | 0.26 | 0.33 | 0.22 | 0.26 |
| 70  | 0.19 | 0.21 | 0.28 | 0.33 | 0.22 | 0.32 | 0.32 | 0.35 | 0.32 |
| 71  | 0.30 | 0.16 | 0.35 | 0.28 | 0.32 | 0.29 | 0.20 | 0.22 | 0.23 |
| 72  | 0.27 | 0.28 | 0.27 | 0.25 | 0.30 | 0.32 | 0.29 | 0.24 | 0.32 |
| 73  | 0.34 | 0.34 | 0.35 | 0.25 | 0.31 | 0.25 | 0.25 | 0.29 | 0.30 |
| 74  | 0.31 | 0.28 | 0.33 | 0.30 | 0.29 | 0.29 | 0.30 | 0.33 | 0.28 |
| 75  | 0.34 | 0.31 | 0.46 | 0.34 | 0.31 | 0.24 | 0.19 | 0.27 | 0.22 |
| 76  | 0.39 | 0.37 | 0.38 | 0.43 | 0.33 | 0.39 | 0.42 | 0.33 | 0.40 |
| 77  | 0.34 | 0.41 | 0.36 | 0.34 | 0.37 | 0.45 | 0.42 | 0.25 | 0.39 |
| 78  | 0.42 | 0.51 | 0.40 | 0.36 | 0.43 | 0.55 | 0.44 | 0.39 | 0.36 |
| 79  | 0.33 | 0.41 | 0.46 | 0.39 | 0.44 | 0.47 | 0.40 | 0.37 | 0.43 |
| 80  | 0.49 | 0.39 | 0.32 | 0.45 | 0.49 | 0.46 | 0.51 | 0.42 | 0.38 |
| 81  | 0.43 | 0.43 | 0.48 | 0.65 | 0.48 | 0.43 | 0.47 | 0.52 | 0.54 |
| 82  | 0.57 | 0.37 | 0.69 | 0.48 | 0.44 | 0.54 | 0.64 | 0.46 | 0.40 |



| Age | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----|------|------|------|------|------|------|------|------|------|
| 83  | 0.56 | 0.46 | 0.57 | 0.53 | 0.57 | 0.37 | 0.60 | 0.48 | 0.32 |
| 84  | 0.56 | 0.47 | 0.44 | 0.57 | 0.55 | 0.61 | 0.62 | 0.56 | 0.50 |
| 85  | 0.48 | 0.47 | 0.52 | 0.71 | 0.61 | 0.59 | 0.52 | 0.43 | 0.56 |
| 86  | 0.44 | 0.61 | 0.48 | 0.45 | 0.57 | 0.41 | 0.47 | 0.68 | 0.48 |
| 87  | 0.50 | 0.56 | 0.69 | 0.72 | 0.67 | 0.62 | 0.52 | 0.50 | 0.52 |
| 88  | 0.73 | 0.70 | 0.76 | 0.67 | 0.76 | 0.54 | 0.44 | 0.59 | 0.54 |
| 89  | 0.63 | 0.35 | 0.57 | 0.72 | 0.64 | 0.41 | 0.47 | 0.32 | 0.71 |
| 90+ | 0.52 | 0.68 | 0.63 | 0.74 | 0.65 | 0.66 | 0.54 | 0.60 | 0.56 |