**Step 0: complete contact matrix for GB**

**Supporting information Table S8.4**. Contact matrix of all reported contacts in Great Britain consisting of the average number of contact persons recorded per day per survey participant

a) all reported contacts (physical and non-physical contacts)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **age group of participant** | | | | | | | | | | | | | | |
| **age of contact** | | 00-04 | 05-09 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ |
|  | 00-04 | 1.92 | 0.65 | 0.41 | 0.24 | 0.46 | 0.73 | 0.67 | 0.83 | 0.24 | 0.22 | 0.36 | 0.20 | 0.20 | 0.26 | 0.13 |
|  | 05-09 | 0.95 | 6.64 | 1.09 | 0.73 | 0.61 | 0.75 | 0.95 | 1.39 | 0.90 | 0.16 | 0.30 | 0.22 | 0.50 | 0.48 | 0.20 |
|  | 10-14 | 0.48 | 1.31 | 6.85 | 1.52 | 0.27 | 0.31 | 0.48 | 0.76 | 1.00 | 0.69 | 0.32 | 0.44 | 0.27 | 0.41 | 0.33 |
|  | 15-19 | 0.33 | 0.34 | 1.03 | 6.71 | 1.58 | 0.73 | 0.42 | 0.56 | 0.85 | 1.16 | 0.70 | 0.30 | 0.20 | 0.48 | 0.63 |
|  | 20-24 | 0.45 | 0.30 | 0.22 | 0.93 | 2.59 | 1.49 | 0.75 | 0.63 | 0.77 | 0.87 | 0.88 | 0.61 | 0.53 | 0.37 | 0.33 |
|  | 25-29 | 0.79 | 0.66 | 0.44 | 0.74 | 1.29 | 1.83 | 0.97 | 0.71 | 0.74 | 0.85 | 0.88 | 0.87 | 0.67 | 0.74 | 0.33 |
|  | 30-34 | 0.97 | 1.07 | 0.62 | 0.50 | 0.88 | 1.19 | 1.67 | 0.89 | 1.02 | 0.91 | 0.92 | 0.61 | 0.76 | 0.63 | 0.27 |
|  | 35-39 | 1.02 | 0.98 | 1.26 | 1.09 | 0.76 | 0.95 | 1.53 | 1.50 | 1.32 | 1.09 | 0.83 | 0.69 | 1.02 | 0.96 | 0.20 |
|  | 40-44 | 0.55 | 1.00 | 1.14 | 0.94 | 0.73 | 0.88 | 0.82 | 1.23 | 1.35 | 1.27 | 0.89 | 0.67 | 0.94 | 0.81 | 0.80 |
|  | 45-49 | 0.29 | 0.54 | 0.57 | 0.77 | 0.97 | 0.93 | 0.57 | 0.80 | 1.32 | 1.87 | 0.61 | 0.80 | 0.61 | 0.59 | 0.57 |
|  | 50-54 | 0.33 | 0.38 | 0.40 | 0.41 | 0.44 | 0.85 | 0.60 | 0.61 | 0.71 | 0.95 | 0.74 | 1.06 | 0.59 | 0.56 | 0.57 |
|  | 55-59 | 0.31 | 0.21 | 0.25 | 0.33 | 0.39 | 0.53 | 0.68 | 0.53 | 0.55 | 0.51 | 0.82 | 1.17 | 0.85 | 0.85 | 0.33 |
|  | 60-64 | 0.26 | 0.25 | 0.19 | 0.24 | 0.19 | 0.34 | 0.40 | 0.39 | 0.47 | 0.55 | 0.41 | 0.78 | 0.65 | 0.85 | 0.57 |
|  | 65-69 | 0.09 | 0.11 | 0.12 | 0.20 | 0.19 | 0.22 | 0.13 | 0.30 | 0.23 | 0.13 | 0.21 | 0.28 | 0.36 | 0.70 | 0.60 |
|  | 70+ | 0.14 | 0.15 | 0.21 | 0.10 | 0.24 | 0.17 | 0.15 | 0.41 | 0.50 | 0.71 | 0.53 | 0.76 | 0.47 | 0.74 | 1.47 |

b) physical contacts only

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **age group of participant** | | | | | | | | | | | | | | |
| **age of contact** | | 00-04 | 05-09 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ |
|  | 00-04 | 1.49 | 0.59 | 0.25 | 0.18 | 0.42 | 0.61 | 0.57 | 0.74 | 0.18 | 0.20 | 0.36 | 0.15 | 0.18 | 0.26 | 0.07 |
|  | 05-09 | 0.74 | 3.82 | 0.53 | 0.44 | 0.37 | 0.42 | 0.68 | 0.99 | 0.66 | 0.15 | 0.17 | 0.19 | 0.41 | 0.30 | 0.07 |
|  | 10-14 | 0.36 | 0.73 | 3.19 | 0.79 | 0.17 | 0.14 | 0.32 | 0.51 | 0.69 | 0.27 | 0.20 | 0.19 | 0.17 | 0.26 | 0.17 |
|  | 15-19 | 0.26 | 0.22 | 0.52 | 3.10 | 0.85 | 0.12 | 0.17 | 0.29 | 0.48 | 0.51 | 0.27 | 0.13 | 0.09 | 0.26 | 0.37 |
|  | 20-24 | 0.39 | 0.19 | 0.09 | 0.38 | 1.32 | 0.49 | 0.28 | 0.16 | 0.23 | 0.44 | 0.20 | 0.28 | 0.11 | 0.15 | 0.00 |
|  | 25-29 | 0.53 | 0.37 | 0.11 | 0.20 | 0.58 | 0.64 | 0.35 | 0.21 | 0.23 | 0.25 | 0.30 | 0.30 | 0.20 | 0.04 | 0.03 |
|  | 30-34 | 0.77 | 0.72 | 0.29 | 0.17 | 0.31 | 0.42 | 0.80 | 0.21 | 0.27 | 0.38 | 0.23 | 0.20 | 0.23 | 0.15 | 0.07 |
|  | 35-39 | 0.73 | 0.65 | 0.61 | 0.35 | 0.20 | 0.24 | 0.47 | 0.76 | 0.47 | 0.29 | 0.18 | 0.11 | 0.32 | 0.04 | 0.03 |
|  | 40-44 | 0.38 | 0.59 | 0.58 | 0.47 | 0.27 | 0.29 | 0.25 | 0.49 | 0.45 | 0.40 | 0.12 | 0.19 | 0.23 | 0.15 | 0.30 |
|  | 45-49 | 0.22 | 0.23 | 0.22 | 0.34 | 0.46 | 0.29 | 0.17 | 0.17 | 0.35 | 0.58 | 0.15 | 0.19 | 0.14 | 0.11 | 0.20 |
|  | 50-54 | 0.26 | 0.21 | 0.14 | 0.17 | 0.22 | 0.17 | 0.15 | 0.14 | 0.19 | 0.27 | 0.33 | 0.35 | 0.20 | 0.04 | 0.07 |
|  | 55-59 | 0.22 | 0.12 | 0.10 | 0.10 | 0.14 | 0.22 | 0.13 | 0.21 | 0.05 | 0.25 | 0.17 | 0.52 | 0.32 | 0.44 | 0.10 |
|  | 60-64 | 0.22 | 0.15 | 0.10 | 0.10 | 0.10 | 0.14 | 0.15 | 0.20 | 0.19 | 0.13 | 0.09 | 0.24 | 0.27 | 0.30 | 0.13 |
|  | 65-69 | 0.05 | 0.08 | 0.07 | 0.08 | 0.07 | 0.12 | 0.08 | 0.16 | 0.11 | 0.04 | 0.05 | 0.07 | 0.17 | 0.37 | 0.43 |
|  | 70+ | 0.09 | 0.09 | 0.10 | 0.08 | 0.19 | 0.10 | 0.05 | 0.13 | 0.24 | 0.29 | 0.23 | 0.22 | 0.11 | 0.22 | 0.70 |

**Step 1: sum over contact age groups to aggregate into three groups**

a) all reported contacts (physical and non-physical contacts)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **age group of participant** | | | | | | | | | | | | | | |
| **age of contact** | | 00-04 | 05-09 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ |
|  | 00-14 | 3.35 | 8.60 | 8.35 | 2.49 | 1.34 | 1.79 | 2.10 | 2.98 | 2.14 | 1.07 | 0.98 | 0.86 | 0.97 | 1.15 | 0.66 |
|  | 15-64 | 5.30 | 5.73 | 6.12 | 12.66 | 9.82 | 9.72 | 8.41 | 7.85 | 9.10 | 10.03 | 7.68 | 7.56 | 6.82 | 6.84 | 4.60 |
|  | 65+ | 0.23 | 0.26 | 0.33 | 0.30 | 0.43 | 0.39 | 0.28 | 0.71 | 0.73 | 0.84 | 0.74 | 1.04 | 0.83 | 1.44 | 2.07 |

b) physical contacts only

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **age group of participant** | | | | | | | | | | | | | | |
| **age of contact** | | 00-04 | 05-09 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ |
|  | 00-14 | 2.59 | 5.14 | 3.97 | 1.41 | 0.96 | 1.17 | 1.57 | 2.24 | 1.53 | 0.62 | 0.73 | 0.53 | 0.76 | 0.82 | 0.31 |
|  | 15-64 | 3.98 | 3.45 | 2.76 | 5.38 | 4.45 | 3.02 | 2.92 | 2.84 | 2.91 | 3.50 | 2.04 | 5.21 | 2.11 | 1.49 | 1.30 |
|  | 65+ | 0.14 | 0.17 | 0.17 | 0.16 | 0.45 | 0.32 | 0.18 | 0.42 | 0.59 | 0.62 | 0.28 | 0.29 | 0.28 | 0.59 | 1.13 |

**Step 2: use age percentages of participants to weight the fine-grained age groups within larger age groups**

**(Based on) supporting information Table 3.4.**

|  |  |  |
| --- | --- | --- |
|  | **Percentage of sample** | **% of larger age group** |
| **0-4** | 9.39% | 31.77664975% |
| **5-9** | 10.08% | 34.11167513% |
| **10-14** | 10.08% | 34.11167513% |
| **15-19** | 10.38% | 16.01110597% |
| **20-24** | 5.83% | 8.99275027% |
| **25-29** | 5.83% | 8.99275027% |
| **30-34** | 5.93% | 9.146999846% |
| **35-39** | 6.92% | 10.67407065% |
| **40-44** | 6.13% | 9.455498997% |
| **45-49** | 5.43% | 8.375751967% |
| **50-54** | 6.52% | 10.05707234% |
| **55-59** | 5.34% | 8.236927348% |
| **60-64** | 6.52% | 10.05707234% |
| **65-69** | 2.67% | 47.42451155% |
| **70 +** | 2.96% | 52.57548845% |
|  |  |  |

**Step 3: weight the contact figures accordingly**

1. all reported contacts (physical and non-physical contacts)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **age group of participant** | | | | | | | | | | | | | | |
| **age of contact** | | 00-04 | 05-09 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ |
|  | 00-14 | 1.065 | 2.934 | 2.848 | 0.399 | 0.121 | 0.161 | 0.192 | 0.318 | 0.202 | 0.090 | 0.099 | 0.071 | 0.098 | 0.545 | 0.347 |
|  | 15-64 | 1.684 | 1.955 | 2.088 | 2.027 | 0.883 | 0.874 | 0.769 | 0.838 | 0.860 | 0.840 | 0.772 | 0.623 | 0.686 | 3.244 | 2.418 |
|  | 65+ | 0.073 | 0.089 | 0.113 | 0.048 | 0.039 | 0.035 | 0.026 | 0.076 | 0.069 | 0.070 | 0.074 | 0.086 | 0.083 | 0.683 | 1.088 |

1. physical contacts only

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **age group of participant** | | | | | | | | | | | | | | |
| **age of contact** | | 00-04 | 05-09 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ |
|  | 00-14 | 0.823 | 1.753 | 1.354 | 0.226 | 0.086 | 0.105 | 0.144 | 0.239 | 0.145 | 0.052 | 0.073 | 0.044 | 0.076 | 0.389 | 0.163 |
|  | 15-64 | 1.265 | 1.177 | 0.942 | 0.861 | 0.400 | 0.272 | 0.267 | 0.303 | 0.275 | 0.293 | 0.205 | 0.429 | 0.212 | 0.707 | 0.683 |
|  | 65+ | 0.044 | 0.058 | 0.058 | 0.026 | 0.040 | 0.029 | 0.016 | 0.045 | 0.056 | 0.052 | 0.028 | 0.024 | 0.028 | 0.280 | 0.594 |

**Step 4: sum over the weighted figures to obtain final numbers**

a) all reported contacts (physical and non-physical contacts)

|  |  |
| --- | --- |
|  |  |
| **age of contact** | | 00-14 | 15-64 | 65+ |
|  | 00-14 | 6.846446701 | 1.749242635 | 0.8923801066 |
|  | 15-64 | 5.72639594 | 9.17289218 | 5.662309059 |
|  | 65+ | 0.2743451777 | 0.6061123461 | 1.771225577 |

1. physical contacts only

|  |  |
| --- | --- |
|  |  |
| **age of contact** | | 00-14 | 15-64 | 65+ |
|  | 00-14 | 3.93058489 | 1.190114145 | 0.5518650089 |
|  | 15-64 | 3.383039627 | 3.518210743 | 1.390106572 |
|  | 65+ | 0.1024769442 | 0.3440814438 | 0.8739076376 |

**Step 5: round figures**

a) all reported contacts (physical and non-physical contacts)

|  |  |
| --- | --- |
|  |  |
| **age of contact** | | 00-14 | 15-64 | 65+ |
|  | 00-14 | 6.8 | 1.7 | 0.9 |
|  | 15-64 | 5.7 | 9.2 | 5.7 |
|  | 65+ | 0.3 | 0.6 | 1.8 |

1. physical contacts only

|  |  |
| --- | --- |
|  |  |
| **age of contact** | | 00-14 | 15-64 | 65+ |
|  | 00-14 | 3.9 | 1.2 | 0.6 |
|  | 15-64 | 3.4 | 3.5 | 1.4 |
|  | 65+ | 0.1 | 0.3 | 0.9 |