Social contacts in the UK from the CoMix social contact survey
Report for survey week 94

Christopher Jarvis, Amy Gimma, Kerry Wong, John Edmunds on behalf of CMMID COVID-19 Working Group, London School of Hygiene and Tropical Medicine.

Report for SPI-M-O and SAGE, 18 January 2022
Data up to 10 January 2022

Summary

- The mean number of contacts reported by adults has stayed mostly constant during December and January at just below 3 contacts per day after reducing slightly prior to December.
- The proportion of children ages 5-11 years in isolation has reduced to approximately 5% and to approximately 7% for those ages 12-17 years .
- The proportion of adults aged 18-59 years in isolation is up to about 10%.
- Wearing face coverings (masks) remains high after increasing from early December at above 80%.
- Adults who attended their workplace continue to report approximately twice the mean number of contacts than employed adults who did not attend their workplace.

Main

Mean reported contacts for adults remain similar to those seen throughout December and January (Figures 1-3). Contacts remain quite consistent across the regions of England and different nations of the UK (Figure S1). Children's contacts during the new spring term are in line with those seen in previous school terms, after reducing over the winter holidays (Figure 4). The fraction of children aged 5 to 11 years and 12 to 17 years in isolation is now lower than in previous weeks at approximately 5% and 7% respectively (Figure 5). The fraction of adults aged 18 to 59 have increased to approximately 10% and adults over 60 in isolation/quarantine remains low at approximately 2.5%.

Reported face mask use in participants in Scotland who reported more than one contact remains high with 88% reporting wearing a facemask at least once in the latest wave (Figure 6). In Wales, the proportion of those who reported at least one contact continues to fluctuate, though the sample size is low and this result should be interpreted with caution. In England, the overall reported facemask use for those with at least one contact was 68%. Participants in England ages 18 to 29 report the lowest use of facemasks at 56% (for those making at least one contact outside the home), while 63% of 30 to 59 year olds and 78% of those over 60 reported wearing a face mask if they made a contact outside the home (Figure 7).

Those who attended work over the last year have reported consistently higher contacts compared to those whose work is open, but they did not attend (Figure 8).

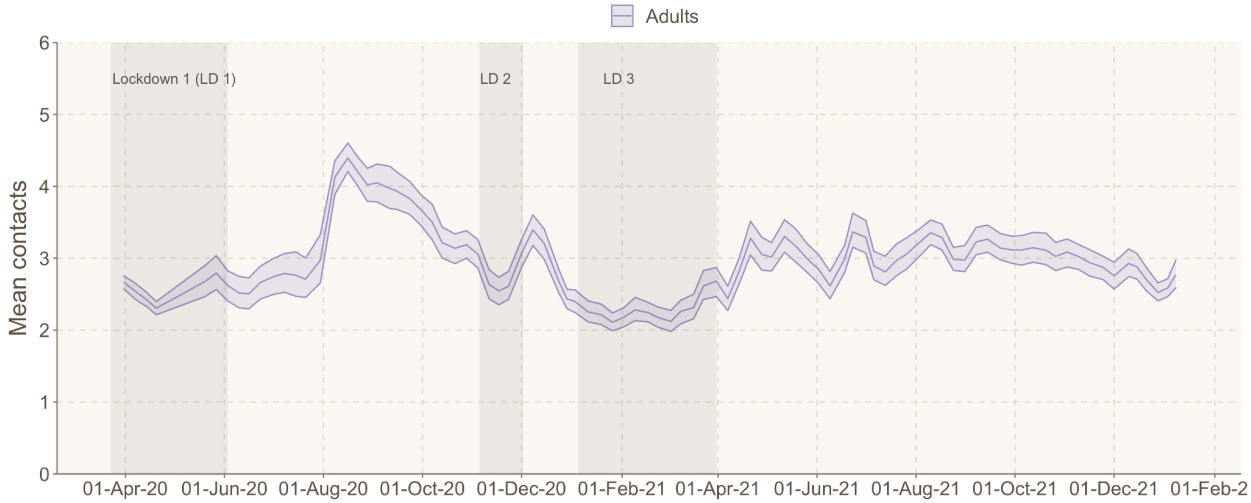

Figure 1: Mean contacts in the UK since the 23rd March 2020 for adults. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

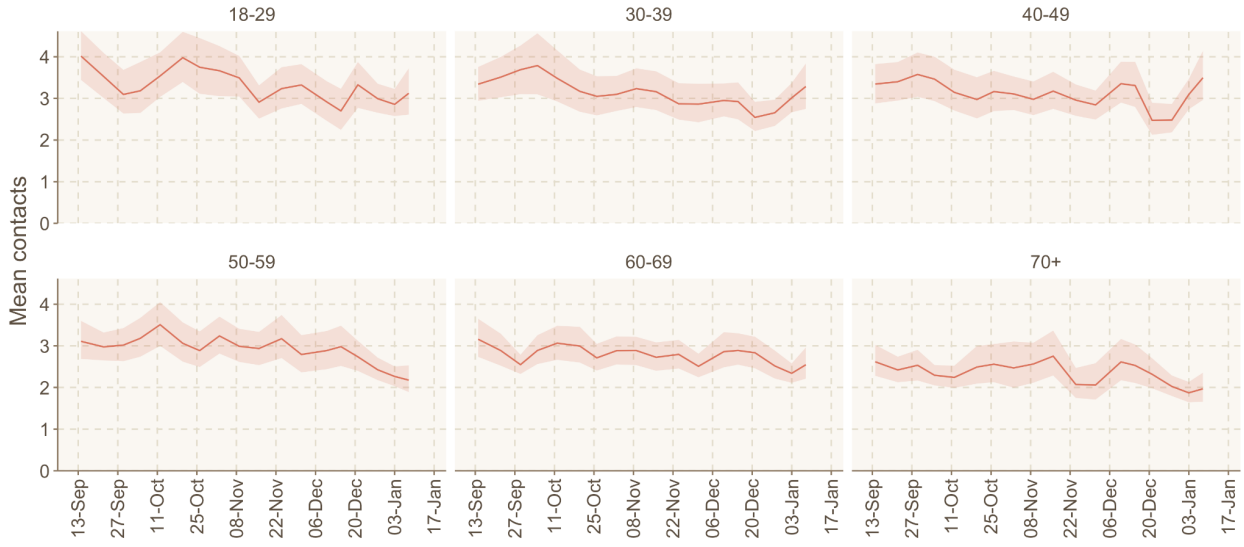

Figure 2: Mean contacts in all settings by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

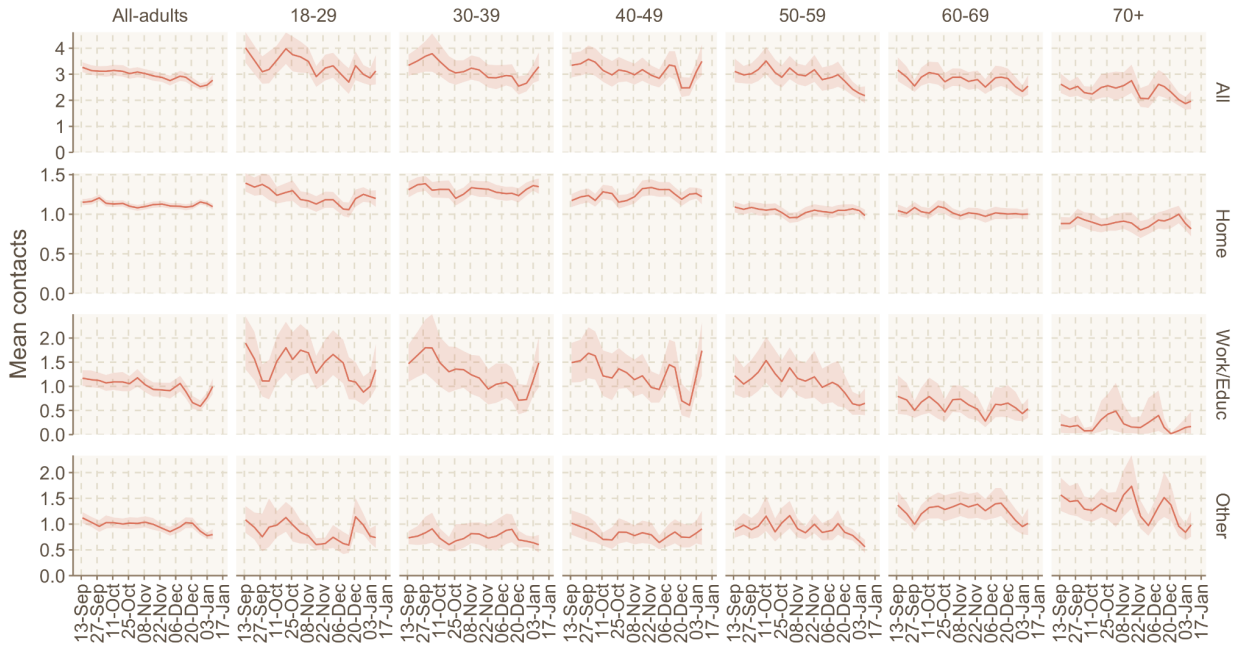

Figure 3: Mean contacts by settings and by age-group over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

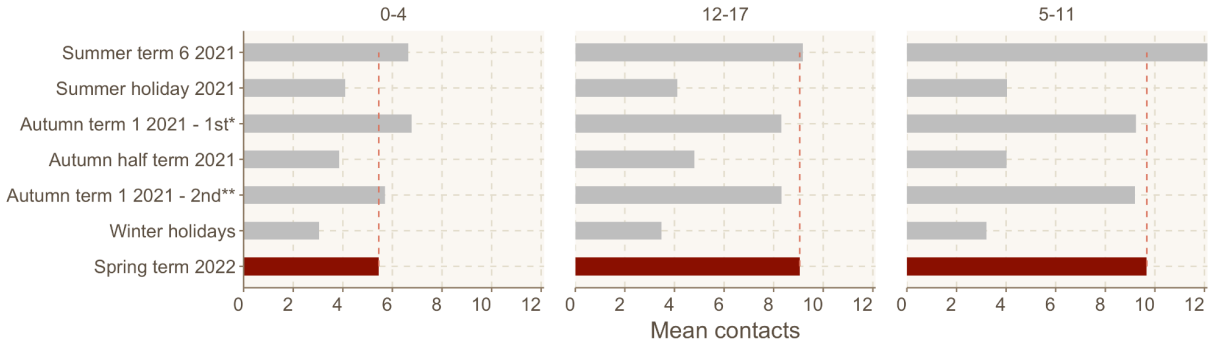

Figure 4: Comparison of mean contacts from the autumn half term to previous school term and holidays periods by age for children. Current period highlighted in red with dashed line for easier comparison to previous periods. * Autumn term 1 2021 - 1st half Includes data from 1st September to 28th September 2021 inclusive. ** Autumn term 1 2021 - 2nd half includes data from 3 November to 9 November 2021 inclusive.

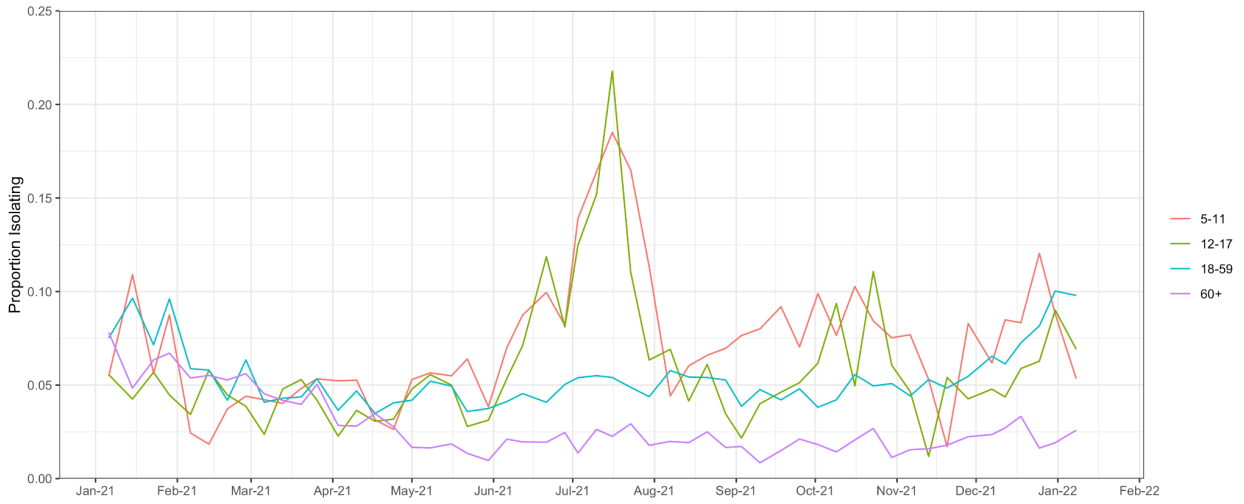

Figure 5: Proportion of adults or children in isolation or quarantine. Observations are smoothed over two weeks to account for panel effects apart from the most recent week of data. Date on x axis refers to the midpoint of the survey period.

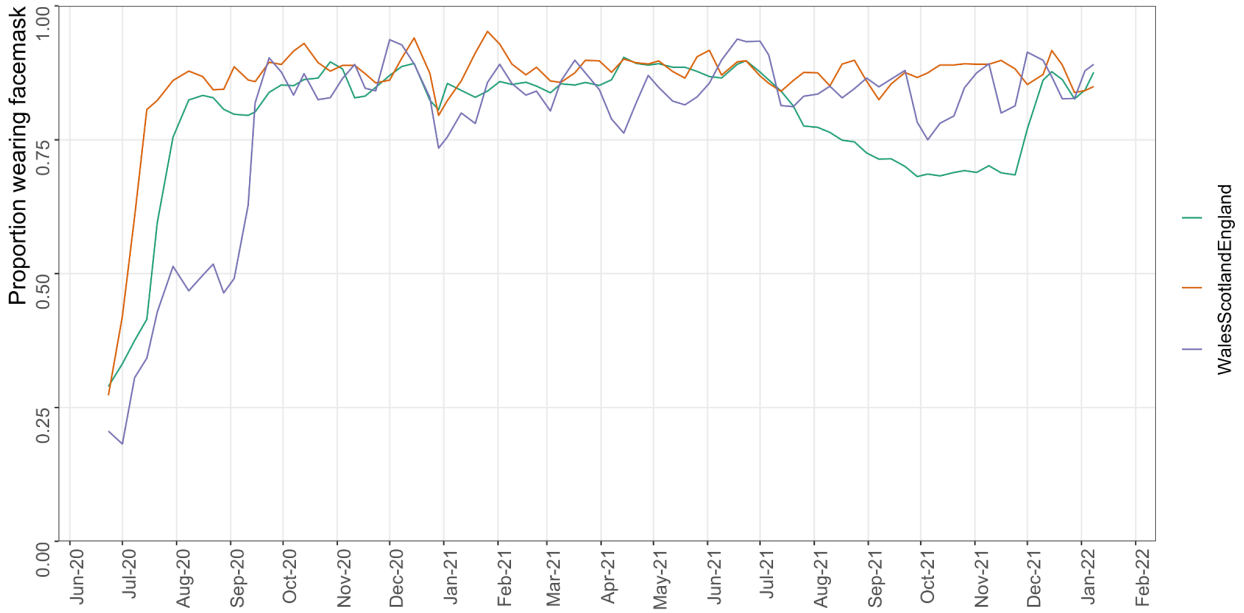

Figure 6: Proportion of adults wearing a face mask over time by country (with at least one contact outside of the home). Observations are smoothed over two weeks to account for panel effects apart from the most recent week of data. Date on x axis refers to midpoint of the survey period.

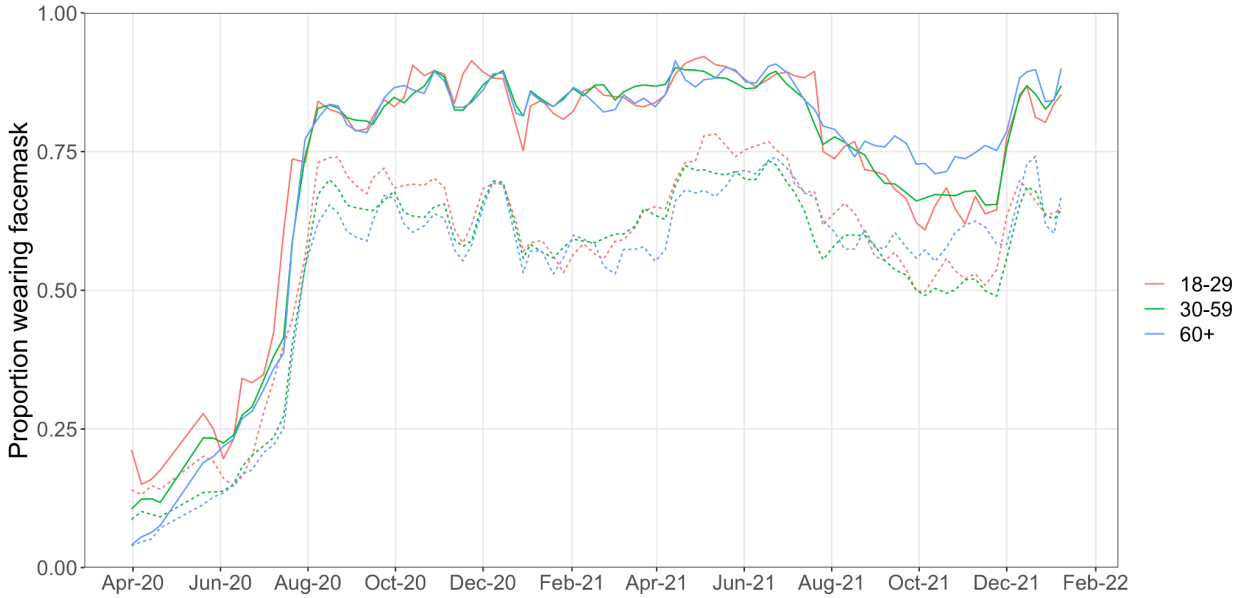

Figure 7: Proportion of adults wearing a face mask over time in England (Solid line = with at least one contact outside of the home, dotted line = all participants). Date on x axis refers to midpoint of the survey period.

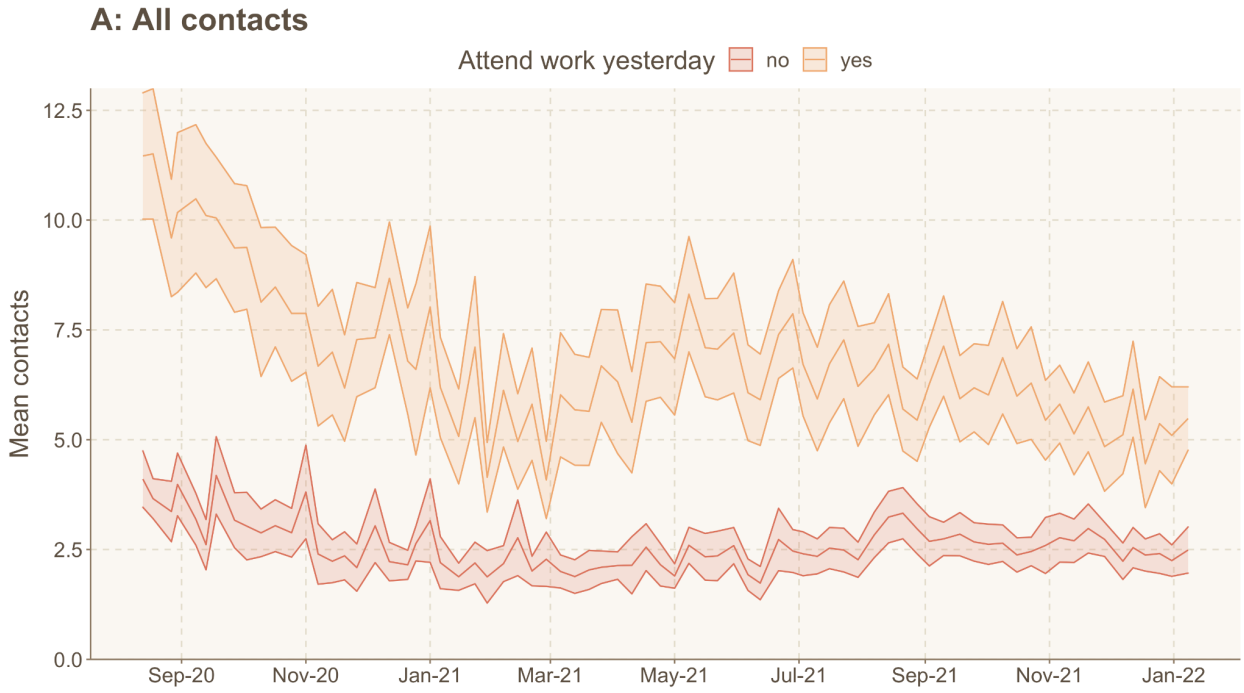

Figure 8: Mean contacts in the UK since August 2020 for individuals attending or not attending work on the day of the survey for people that are employed and their work is open. 95% Uncertainty interval calculated assuming a standard normal mean of two times the standard error of the mean. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

Methods

CoMix is a behavioural survey, launched on 24th of March 2020. The sample is broadly representative of the UK adult population. Participant's are invited to respond to the survey once every two weeks. We collect weekly data by running two alternating panels. Parents complete the survey on behalf of children (17 years old or younger). Participants record direct, face-to-face contacts made on the previous day, specifying certain characteristics for each contact including the age and sex of the contact, whether contact was physical (skin-to-skin contact), and where contact occurred (e.g. at home, work, while undertaking leisure activities, etc). Further details have been published elsewhere [1]. The contact survey is based on the POLYMOD contact survey [2].

We calculated the mean contacts using 1000 bootstrap samples. Bootstrap samples were calculated at the participant level, then all observations for those participants are included in a sample to respect the correlation structure of the data. We collect data in two panels which alternate weekly, therefore we calculated the mean smoothed over the 2 week intervals to give a larger number of participants per estimate and account for panel effects. We used a post-stratification method to assign weights, based on the World Population Prospect population estimates for the UK by age and gender, when calculating the mean number of contacts. We calculated the mean number of contacts in the settings home, work and school (including all educational establishments, including childcare, nurseries and universities and colleges), and "other" (mostly leisure and social contacts, but includes shopping). We look at the mean contacts by age, country, and region of England. The mean number of contacts is influenced by a few individuals who report very high numbers of contacts (often in a work context). The means shown here are calculated based on truncating the maximum number of contacts recorded at 50 per individual per day. We compared the mean reported contacts for the most recent data of the survey to the mean contacts reported during ten time periods over the previous year which represent different levels of restrictions.

Participants were asked whether they were in isolation or quarantine on the day they reported contacts. They were also asked whether they wore a facemask on the day of reported contacts, we filtered to participants who had at least one contact outside of the home. We calculated the proportion who said yes for both these categories over those who responded.

Funding

Medical Research Council (MC_PC_19065), the European Commission (EpiPose 101003688), the NIHR (CV220-088 - COMIX), HPRU in Modelling & Health Economics (NIHR200908) and UKHSA.

References

1. Jarvis CI, Van Zandvoort K, Gimma A, Prem K, CMMID COVID-19 working group, Klepac P, et al. Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK. BMC Med. 2020;18: 124.

2. Mossong J, Hens N, Jit M, Beutels P, Auranen K, Mikolajczyk R, et al. Social contacts and mixing patterns relevant to the spread of infectious diseases. PLoS Med. 2008;5: e74.

Additional graphs and tables

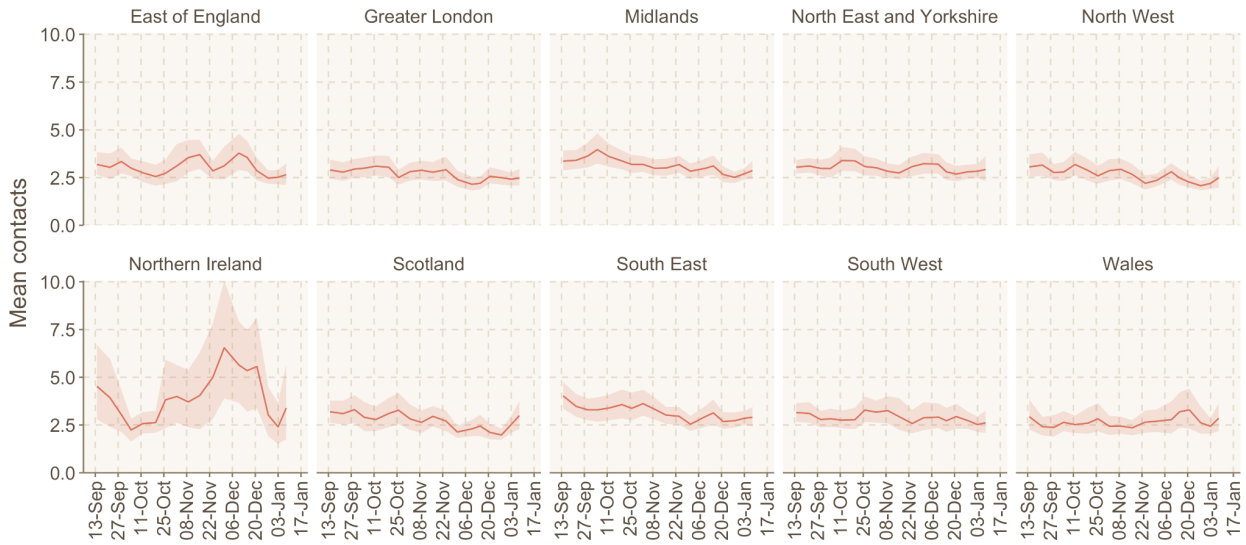

Figure S1: Mean contacts in all settings in adults for UK nations and English regions over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.