

Social contacts in the UK from the CoMix social contact survey

Report for survey week 64

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*Report for SPI-M-O and SAGE, 22 June 2021
Data up to 16 June 2021*

Summary

- Mean contact rates reported for school-aged (5-17 years) children are similar to last week and consistent with other rates reported when schools are open. The increase seen in leisure contacts for children appears to be levelling off.
- Mean reported daily contacts for working aged adults (18-59) appear to have increased briefly following movement into Step 3 but then have decreased and are now at levels consistent with those seen in Step 2. Contacts for older adults (60+) appear to have held steady since the move to Step 3.
- This decrease in adult contacts appears to be due to a reduction in contacts in the home. There is no obvious explanation for this, and we are investigating whether there may be some data quality issues that have affected data from recent weeks. This should be borne in mind when interpreting these results.
- If this reduction in home contacts was not present in the data then overall contact levels would have been sustained at a higher level over the preceding 4 weeks.

Main

Overall mean contacts have decreased slowly in the previous three weeks towards similar levels seen during Step 2 when schools were open (Figure 1). This overall figure masks differences by age groups, where mean rates of contact reported for school-aged children (5-17 years) are consistent with those seen during previous periods when schools were open (Figure 2). However, mean adult contacts appear to have declined somewhat over recent weeks (Figure 3). This appears to be driven by a reduction in reported contacts at home (Figure S1), which appears consistent despite little change in the mean household size of the adult participants and is recorded in the data as a drop in household member contacts at home (Figure S2 and S3). This may reflect changes in household mixing, though this is challenging to discern. Alternatively, it could point to a data quality issue. We are currently investigating this, and so the results of the survey for recent weeks should be read with this in mind. If adult contacts within the household have not changed, then there would be no decline in adult contact rates over the last few weeks. Contacts amongst those 60+ years appear steady since the 19th of April (Figure 3)

Figures 4 and 5 compare the mean rates of contact reported by children and adults during Step 3 of the Roadmap, excluding the week of half-term, with other periods during the pandemic (see table 1 for details). Reported rates of childhood contacts are equivalent or higher than any other period during the last year (Figure 4). However, rates of adult contact appear to be lower now than during the summer 2020 peak (Figure 5), and more comparable to rates observed during Step 2 of the Roadmap and in some cases slightly lower.

Discerning clear trends in regional contact patterns is difficult. Northern Ireland appears to be consistently higher in terms of central estimate though the uncertainty for this country is wide due to small sample size (Figure 6).

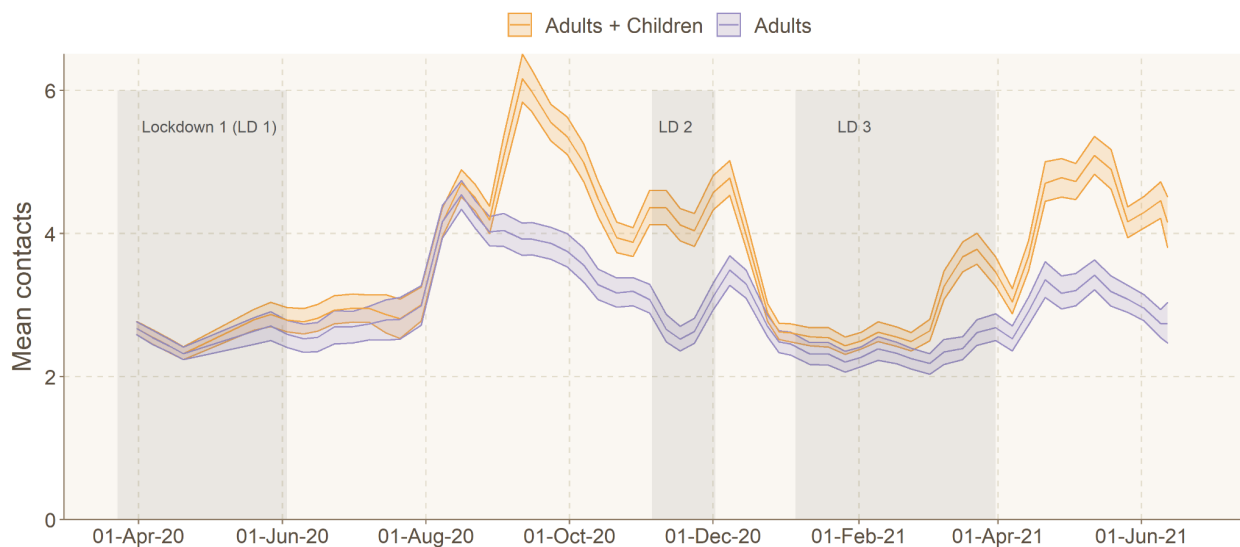


Figure 1: Mean contacts in the UK since the 23rd March 2020 for adults and children (all

participants) and adults only (18 year +). 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.

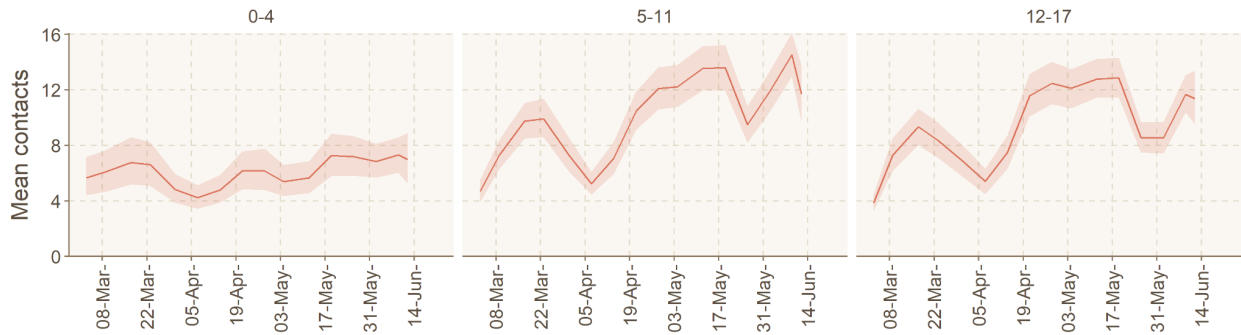


Figure 2: Mean contacts in all settings by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

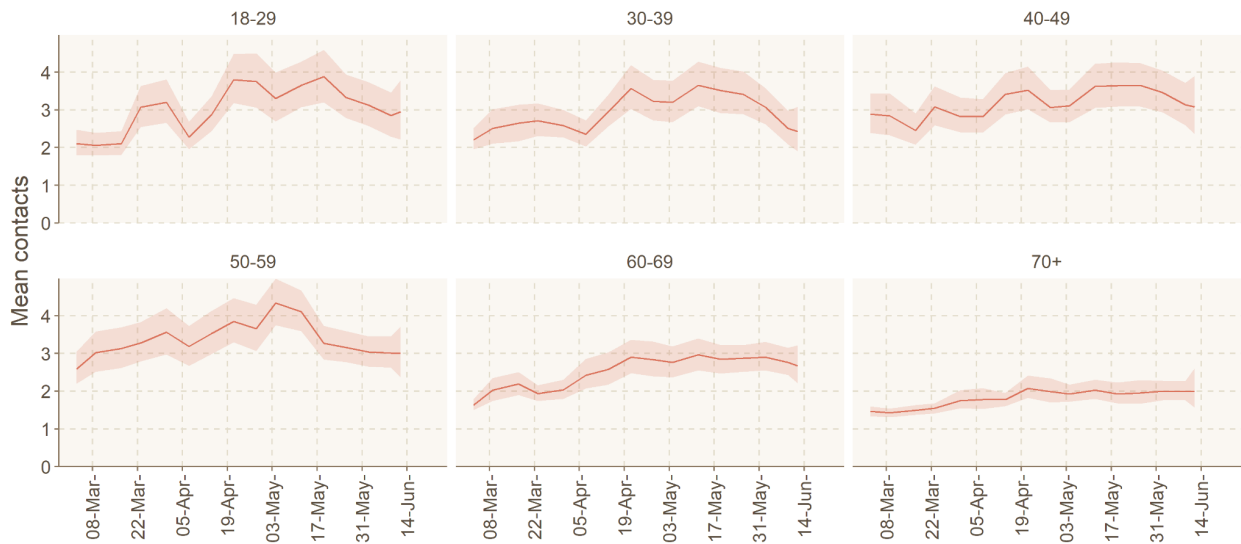


Figure 3: Mean contacts in all settings by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

Table 1. Time periods based on different level of lockdowns and restrictions in England over the previous year

Period	Date	Period	Date
1. Lockdown 1 (LD 1)	24 Mar 2020 - 03 Jun 2020	6. Lockdown 2 easing	03 Dec 2020 - 19 Dec 2020
2. Lockdown 1 easing	04 Jun 2020 - 29 Jul 2020	7. Lockdown 3	05 Jan 2021 - 07 Mar 2021
3. Relaxed restrictions	30 Jul 2020 - 03 Sep 2020	8. Lockdown 3 + schools	08 Mar 2021 - 31 Mar 2021
4. School reopening	04 Sep 2020 - 24 Oct 2020	9. Step 2 + schools	16 Apr 2021 - 16 May 2021
5. Lockdown 2	05 Nov 2020 - 02 Dec 2020	10. Step 3 + schools	17 May 2021 - 16 June 2021 Excludes 31 May to 4 June for half term.

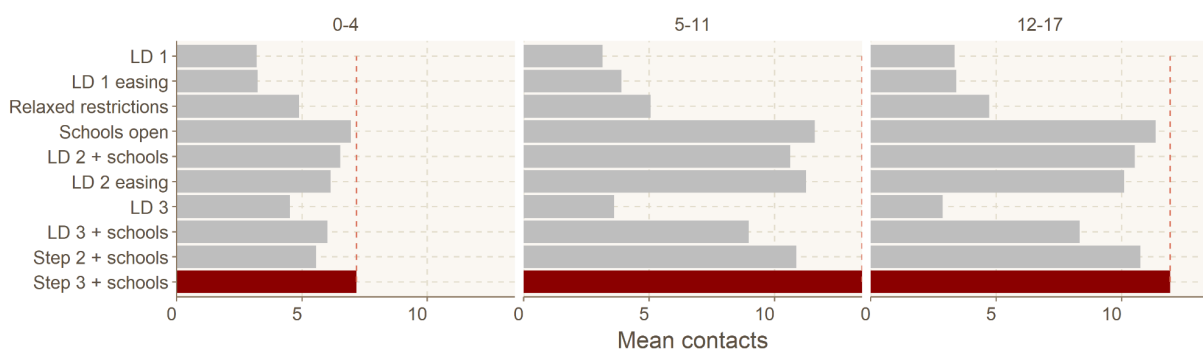


Figure 4: Comparison of mean weekday contacts from the 17 of May to 10 June, (excludes half term) to nine previous time periods of different restrictions by age for children. Current period highlighted in red with dashed line for easier comparison to previous periods.

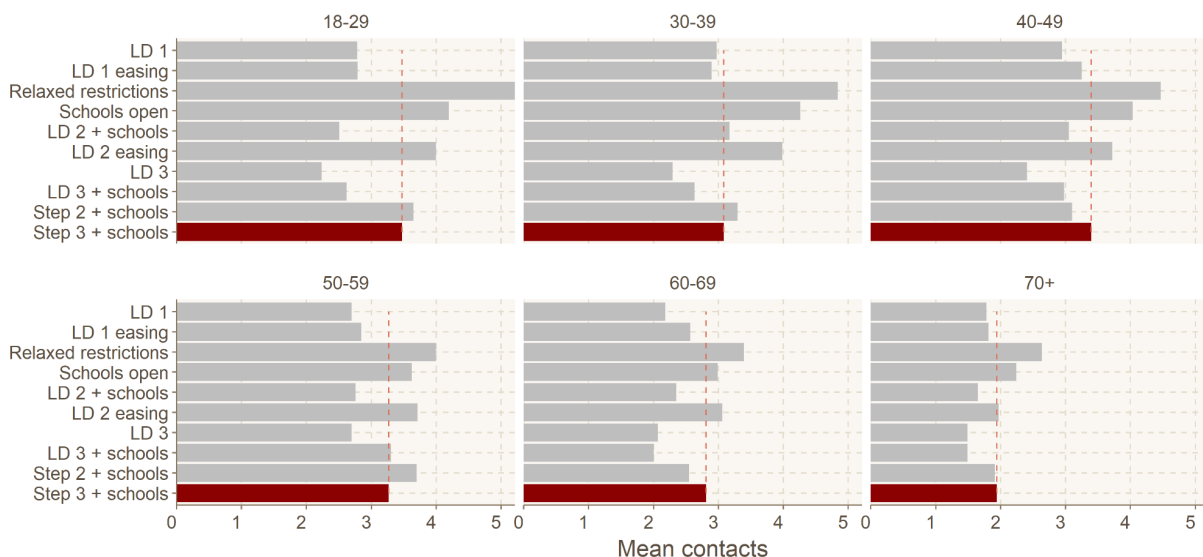


Figure 5: Comparison of mean weekday contacts from the 17 of May to 10 June, (excludes half term) to nine previous time periods of different restrictions by age for adults. Current period highlighted in red with dashed line for easier comparison to previous periods.

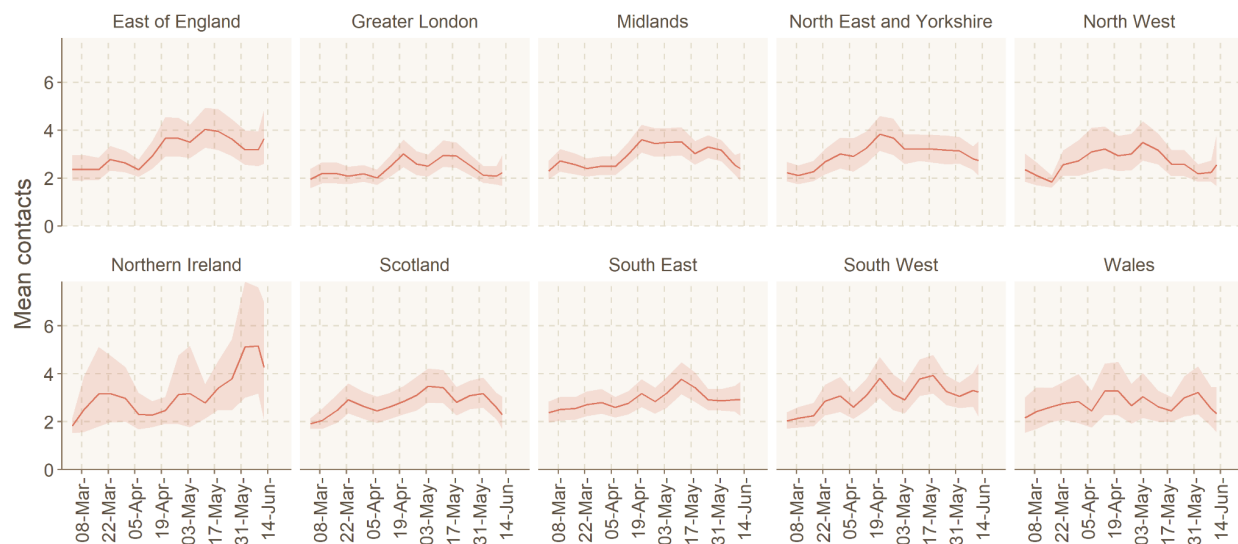


Figure 6: Mean contacts in all settings in adults for UK nations and English regions over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

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 [2]. The contact survey is based on the POLYMOD contact survey [1].

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 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 nine time periods over the previous year which represent different levels of restrictions.

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References

1. 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.
2. 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.

Appendix



Figure S1: Setting-specific mean contacts 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.

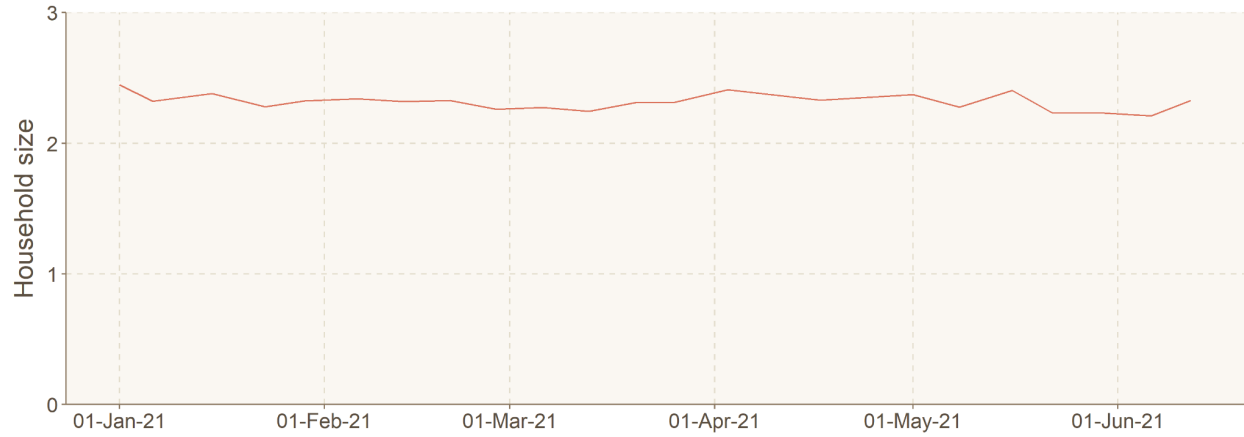


Figure S2: Mean household size for adults over time since January 2021. Date on x axis refers to the midpoint of the survey period.

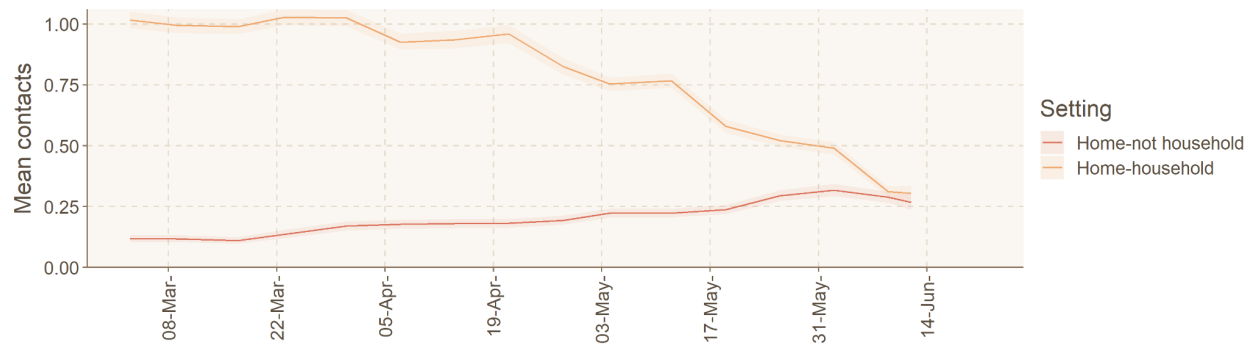


Figure S3: Mean household contacts by household or non-household member. Date on x axis refers to the midpoint of the survey period.

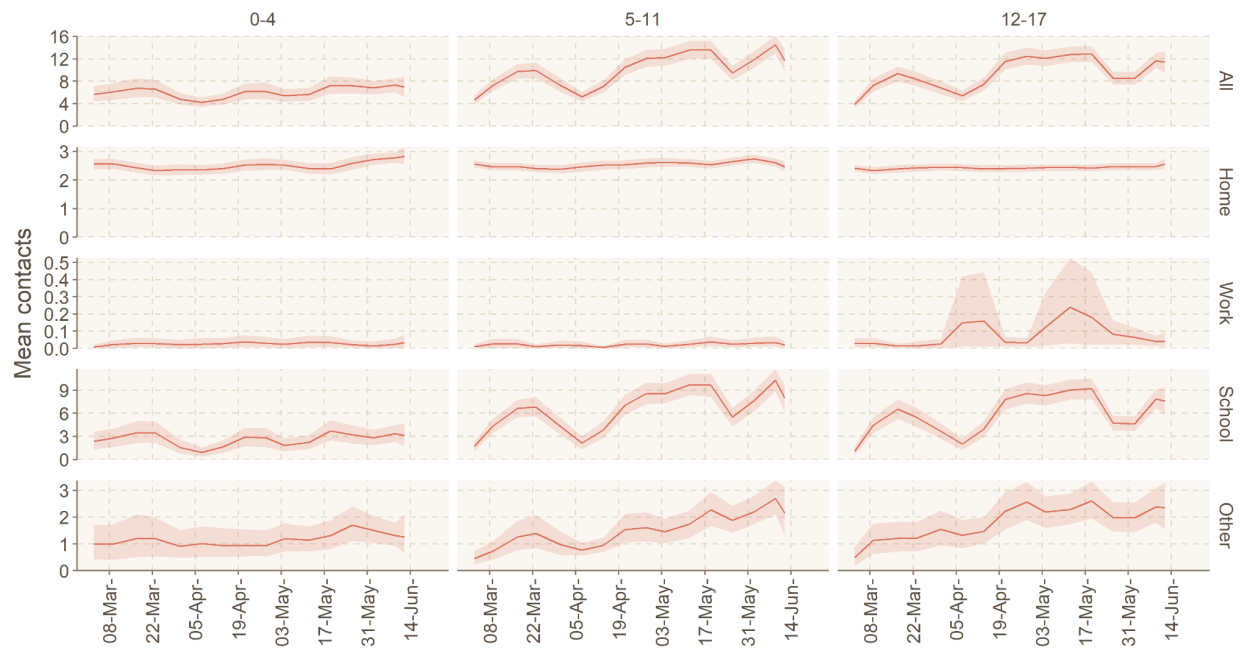


Figure S4: Setting-specific mean contacts by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.