

# Social contacts in the UK from the CoMix social contact survey

## Report for survey week 98

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*Report for SPI-M-O and SAGE, 15 February 2022  
Data up to 07 February 2022*

**NOTE: The CoMix study will stop in the first week of March. The final routine report is anticipated for the 8th of March.**

### Summary

- Adult reported contacts fell in December 2021 and recovered in January 2022. However, they remain low at around 3 reported contacts per day, on average.
- Reported contact rates for children are much higher, and have been similar to those recorded during previous periods when schools have been open.
- There are still high levels of individuals reporting being in isolation or quarantine, with around 7-8% of teenagers or adults 18-59 years old and close to 10% of younger children reporting isolating in the most recent weeks. Fewer older adults (60+) are isolating (around 2%).
- In England, there has been a large drop in reported use of face coverings which is coincident with the lifting of Plan B restrictions at the end of January. There is no evidence of such a fall in Wales and Scotland, where mandates to wear face coverings in many public places remain in place. The fall in the use of face-coverings in England occurred across all adult age groups and reported use of face-coverings is now at similar levels to those reported before Plan B measures were introduced in early December.
- Adults who attended their workplace continue to report approximately twice the mean number of contacts than employed adults who did not attend their workplace.
- Adults who are isolating, or those who had reported testing positive in the previous 14 days make fewer contacts than those who are not in isolation or who have not reported testing positive. The differences in reported mean contacts (between those isolating or testing positive and those that have not) appear to be smallest in young adults. As expected, isolating individuals report, on average, fewer contacts outside the household than those who are not isolating, though mean recorded contacts with household members remains similar. This pattern does not hold for younger adults (18-29 years), however. They report fewer contacts within the household but mean contact rates outside the household are similar. The latter is affected by a few individuals who report large numbers of contacts outside the household despite isolating.

## Main

Mean reported contacts for adults fell during December 2021, but recovered in January 2022 (Figures 1-3). The December fall was mostly confined to contacts reported to occur in the Work or Educational settings (Figure 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 percentage of children aged 5 to 11 who are in isolation remains very high (at or just below 10%), though small numbers make this relatively difficult to estimate accurately and the recent drop may be due to panel effects rather than an actual change (Figure 5). The proportion of children aged 12 to 17 years who are isolating has hovered around 7% to 8% over the last few weeks, which is similar to the rate for adults aged 18 to 59. Around 2% of adults over 60 years old reported isolating.

In England, the overall reported use of facemasks for adults that made at least one contact fell in late-January from around 85% to around 70% (Figure 6). The use of face-coverings is now consistent with levels reported prior to Plan B being introduced on the 10th of December and the drop coincides with Plan B being removed on the 26th of January. In contrast, facemask restrictions remain in Scotland and Wales and usage has remained high in both these countries, though small sample sizes in Wales make levels difficult to estimate accurately (Figure 6). The drop in facemask use in England is seen in all adult ages, with those age 60+ falling the least and those in 30-59 falling the most (Figure 7).

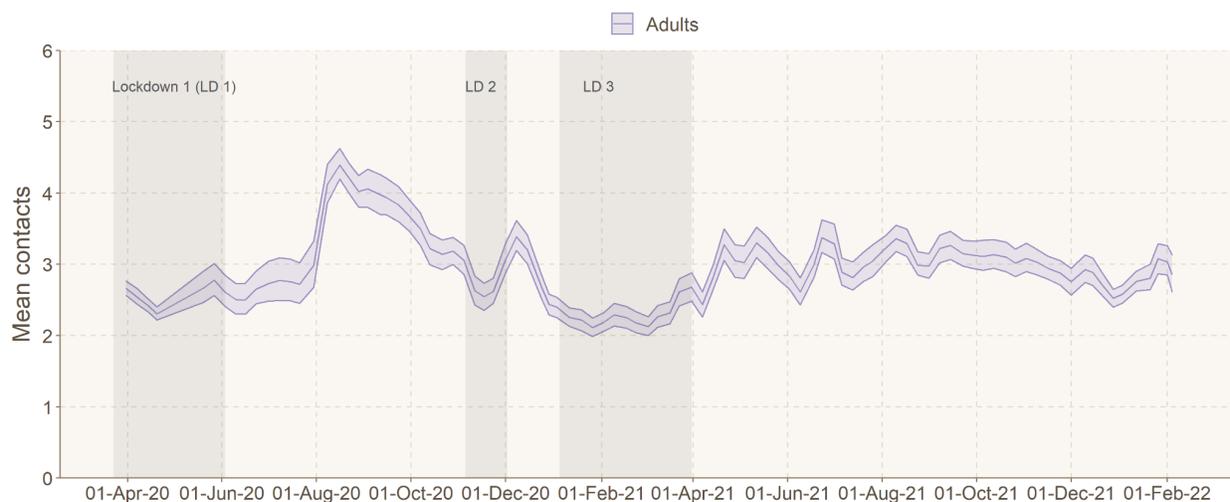
Those who attended work over the last year have reported consistently higher contacts compared to those whose work is open, but they did not attend (Figure 8).

Individuals who are in quarantine or isolation appear to have consistently reported lower mean contacts compared to those who are not in quarantine or isolation (Figure 9) A similar pattern is seen for those who tested positive for Covid-19 versus those who tested positive in the 14 days prior to the survey (Figure S2 and S3). Although those in isolation or quarantine report fewer contacts than those that do not, the difference is not large, perhaps reflecting that the number of reported contacts is low anyway. When separated by age, the patterns of contacts are more variable and uncertain due to lower numbers, though the difference looks more marked in the 70+ age group compared to the younger age groups (Figure 10).

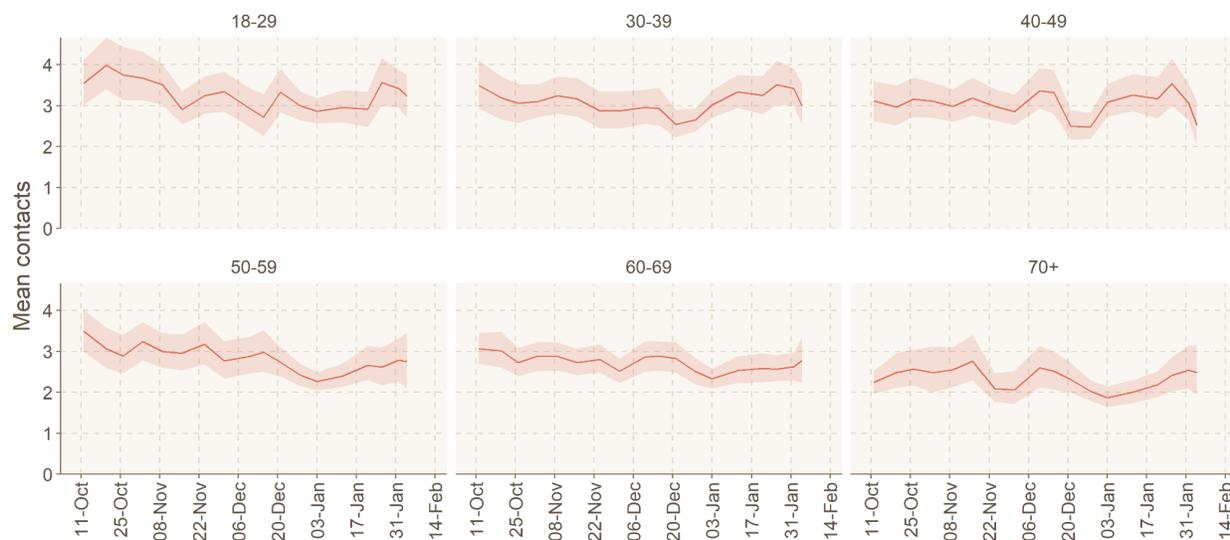
Separating these contacts by whether they were inside or outside the home indicates that during the third lockdown there was little difference between contacts at home and outside the home regardless of whether the respondent was isolating or not (Figure 11). After the lockdown was lifted, contacts outside the home increased considerably and the separation between those in isolation or not became more marked (Figure 11). When considered by age over the entire period of June 2021 to Feb 2022, we see that those aged 18-29 had lower contacts at home whilst in isolation, whereas older adults reported similar levels of contacts at home whether in isolation or not (Figure 12A). This may reflect the fact that a larger number of young adults live in shared accommodation (i.e. in households with 2 or more adult non-family members or in

households with 2 or more families). Older adults are more likely to live with family members, and this appears to reduce their ability to isolate themselves from each other.

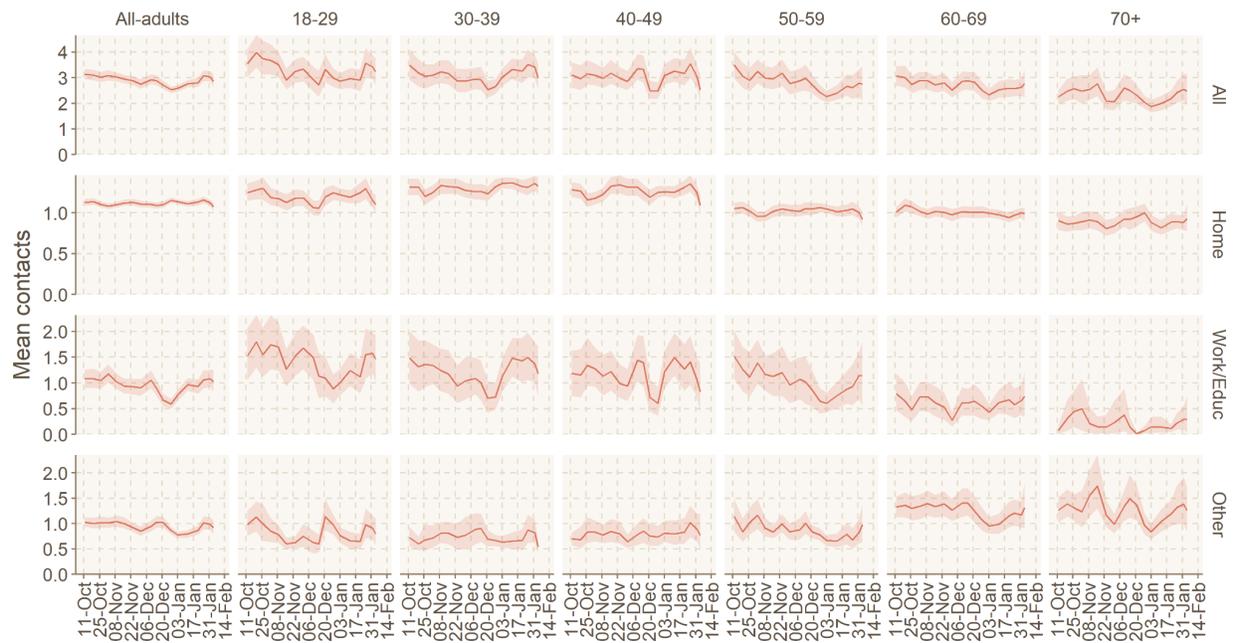
Interestingly, this pattern was reversed for contacts outside the home, with 18-29 year olds reporting similar levels and all other age groups reporting a drop in contacts outside the home whilst in quarantine or isolation (Figure 12B). Further inspection of the data suggests that the similar pattern of mean contacts reported outside the home for young adults whether they are isolating or not is driven by a few individuals who reported large numbers of contacts despite being in isolation.



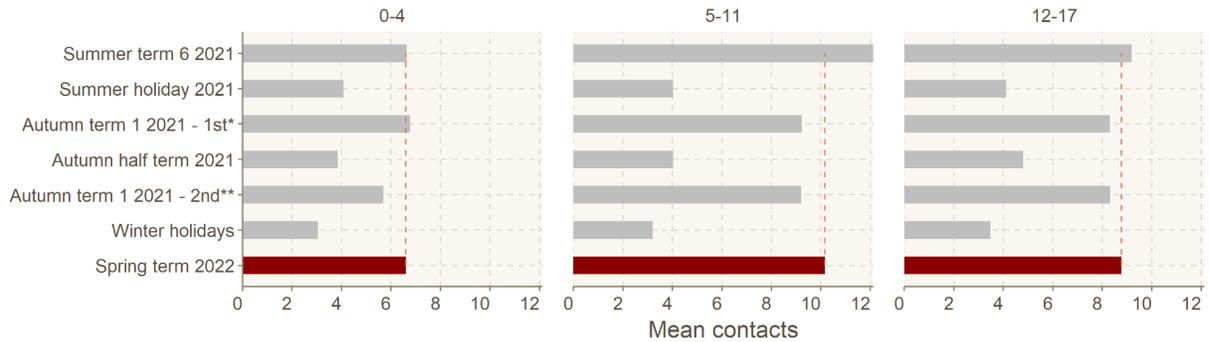
**Figure 1: Mean contacts in the UK since the 23rd March 2020 for adults.** Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.



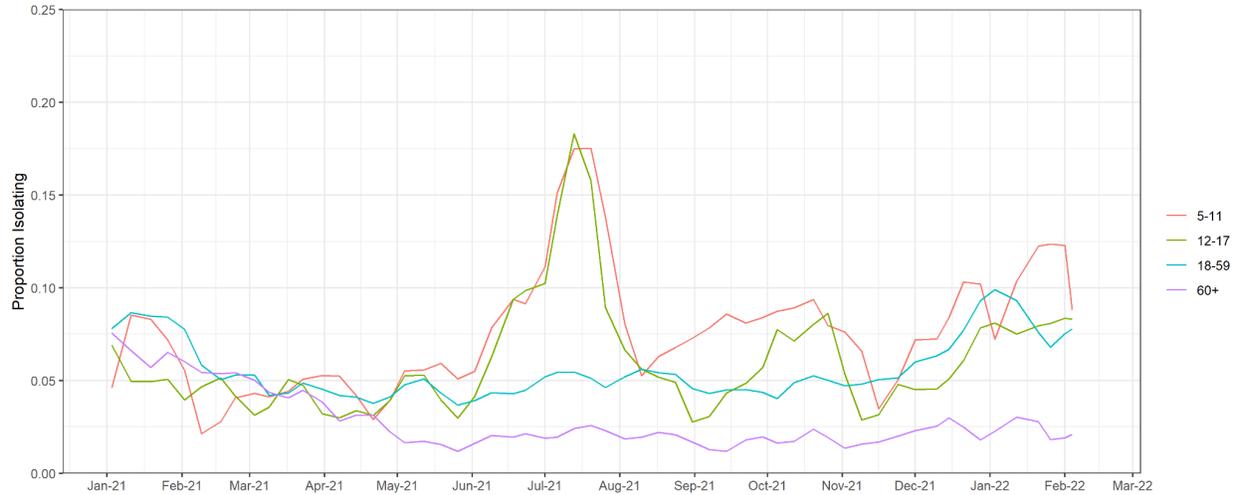
**Figure 2: Mean contacts in all settings by age-group for adults over time.** Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.



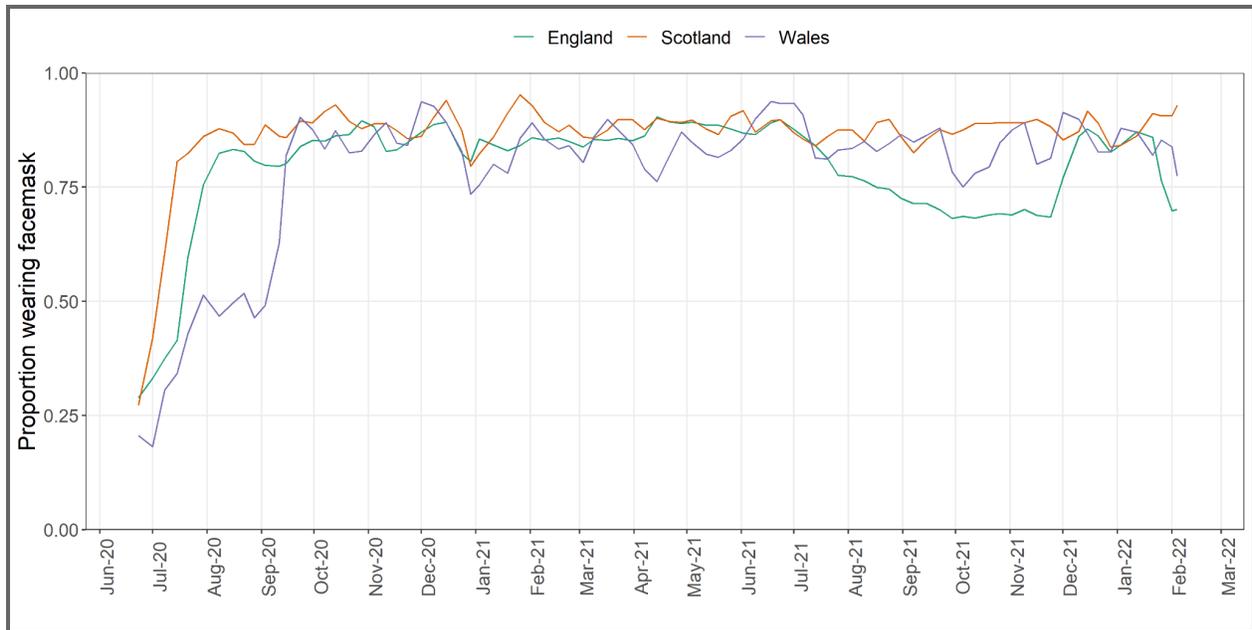
**Figure 3: Mean contacts by settings and by age-group over time.** Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.



**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 21 December 2021 inclusive.



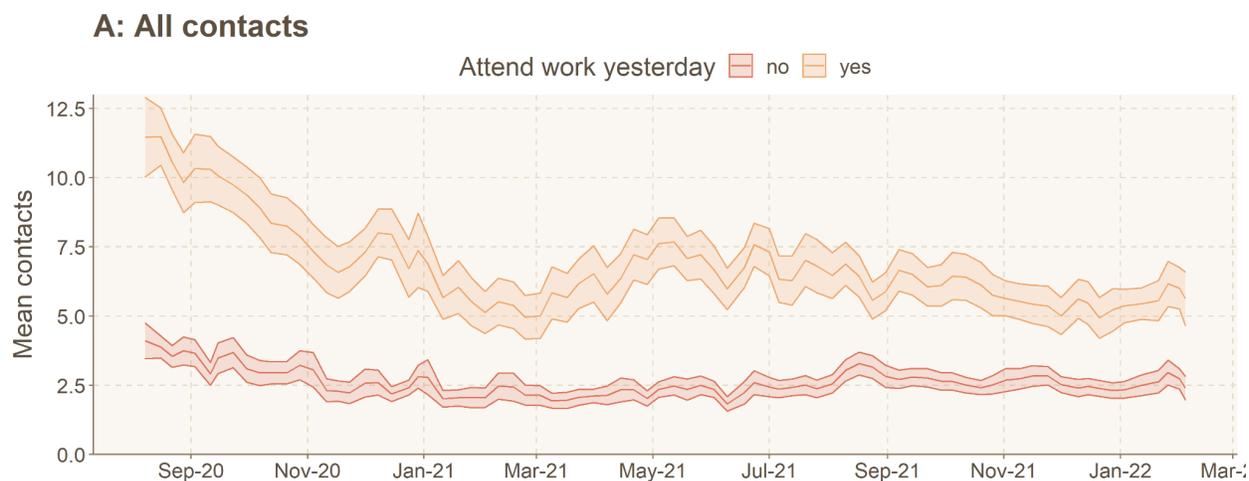
**Figure 5: Proportion of adults or children in isolation or quarantine by age-group.** Observations are smoothed over two weeks to account for panel effects apart from the most recent week of data. Date on x axis refers to the midpoint of the survey period and may be affected by panel effects.



**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.

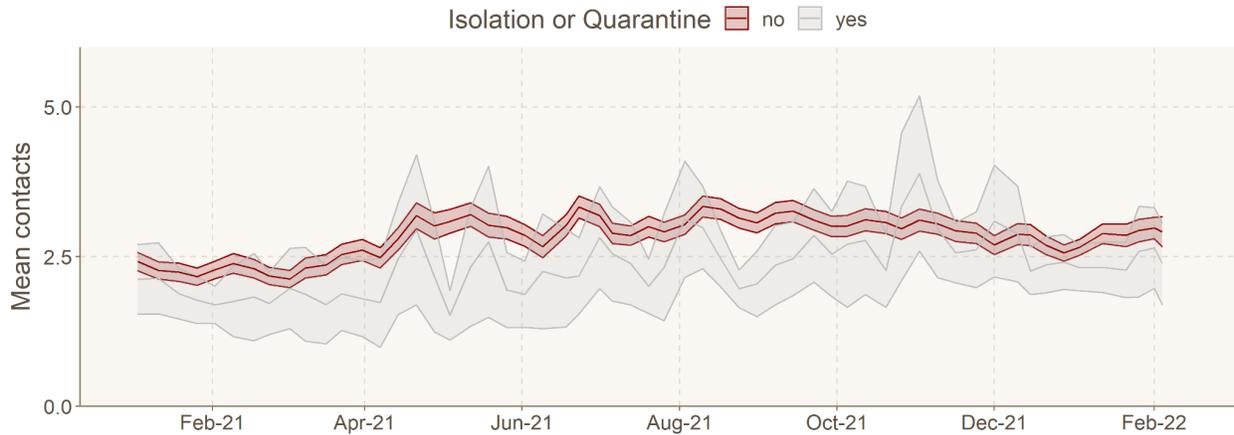


**Figure 7: Proportion of adults wearing a face mask over time in England by age-group (Solid line = with at least one contact outside of the home, dotted line = all participants).** Date on x axis refers to midpoint of the survey period.



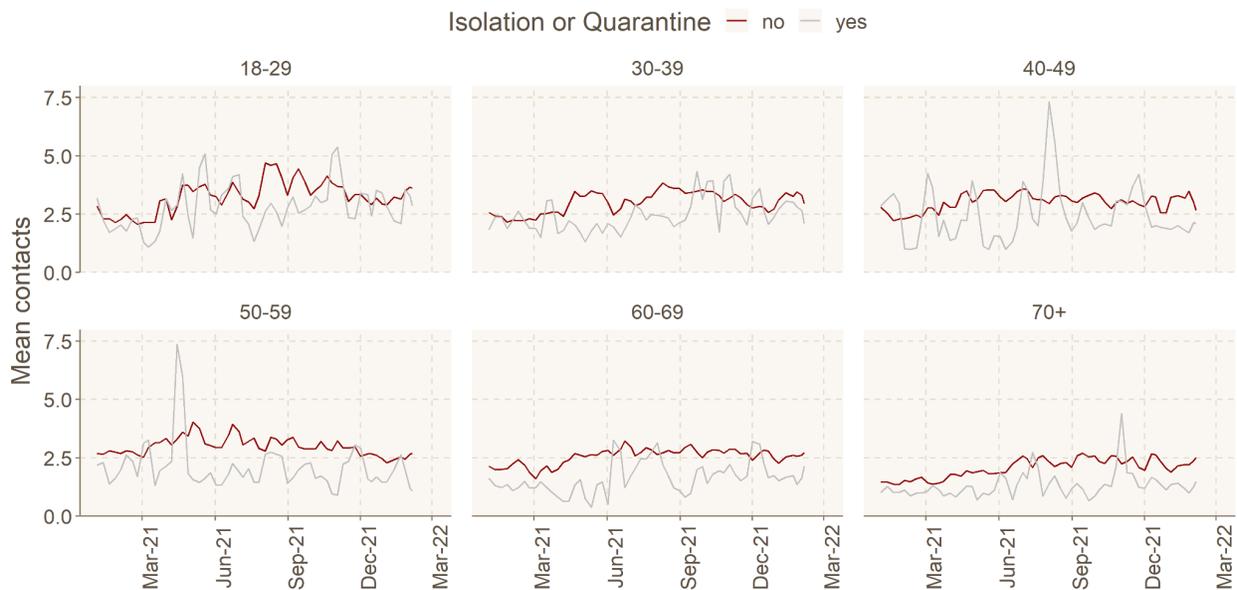
**Figure 8: Mean contacts in the UK since August 2020 for individuals attending or not attending work on the day of the survey for people that are employed and their work is open.** 95% uncertainty interval calculated assuming a standard normal mean of two times the standard error of the mean. Contacts 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. The final observation includes data for the most recent survey wave only.

### All contacts



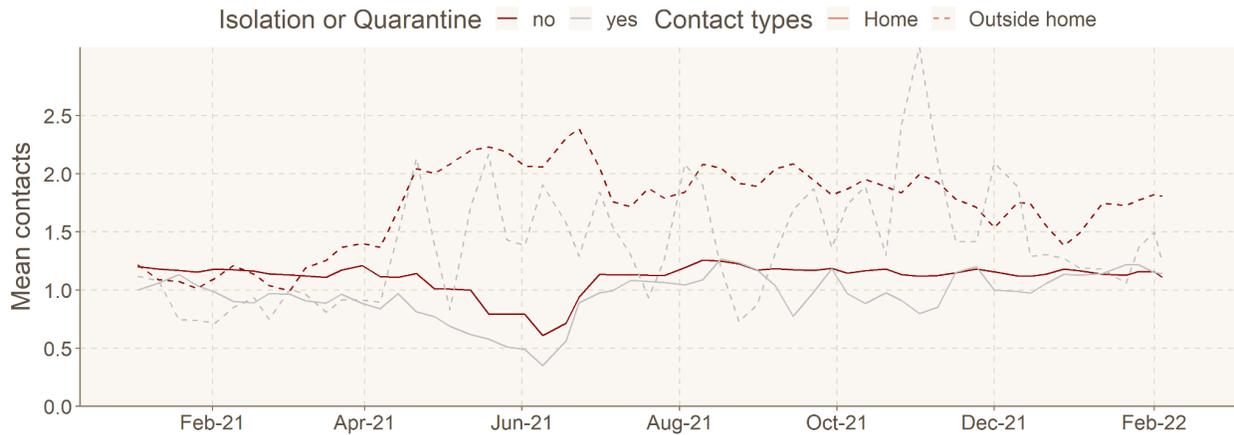
**Figure 9: Mean contacts in all settings in adults for those in isolation or quarantine or not.** 95% uncertainty interval calculated assuming a standard normal mean of two times the standard error of the mean. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period. The final observation includes data for the most recent survey wave only.

### All contacts

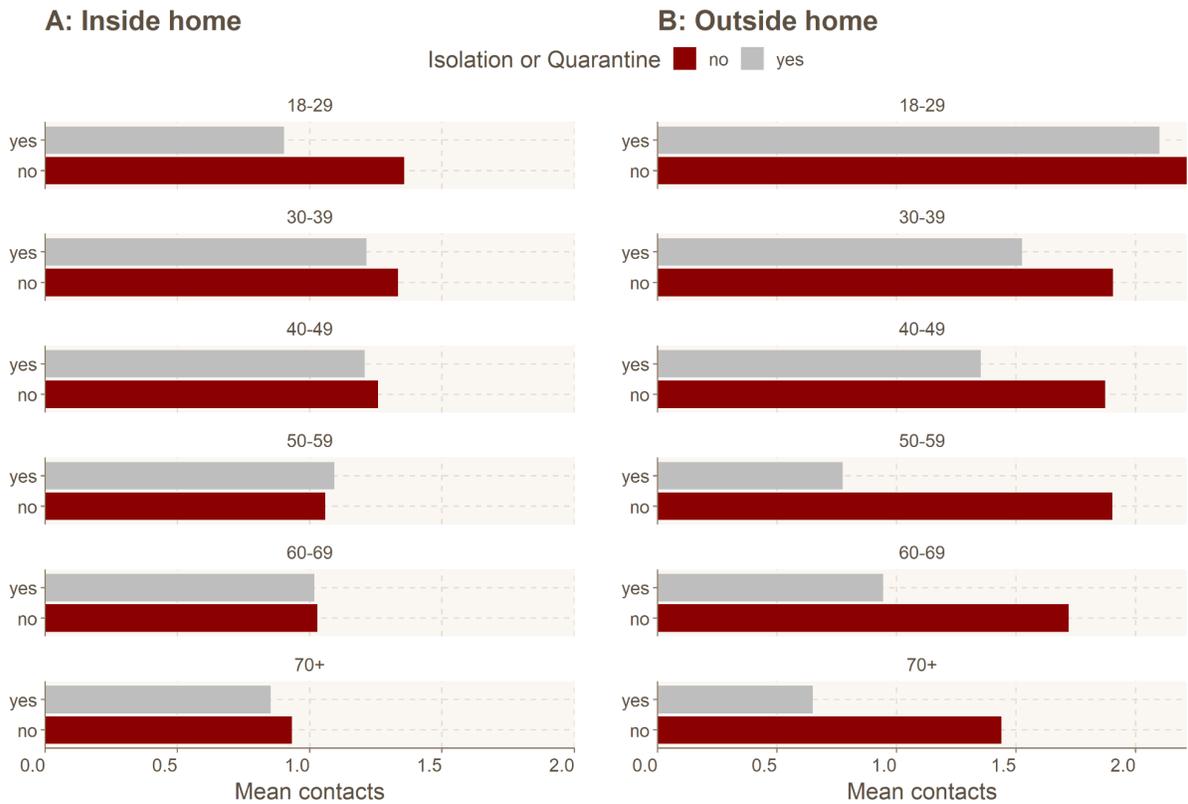


**Figure 10: Mean contacts in all settings by age-group for those in isolation or quarantine or not.** 95% uncertainty interval not included as the small numbers in the yes category lead to very wide intervals and make it difficult to compare the means visually. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period. The final observation includes data for the most recent survey wave only.

### Contacts in and outside of the home



**Figure 11: Mean contacts in the home (full line) and outside the home (dashed line) settings for those in isolation or quarantine.** 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. The final observation includes data for the most recent survey wave only.



**Figure 12: Mean contacts in the home (A) and outside the home (B) settings for those in isolation or quarantine by age-group.** Contacts truncated to 50 contacts per participant. Observations are aggregated from June 2021 to Feb 2022.

## **Methods**

CoMix is a behavioural survey, launched on 24<sup>th</sup> of March 2020. The sample is broadly representative of the UK adult population. Participants 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**

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## References

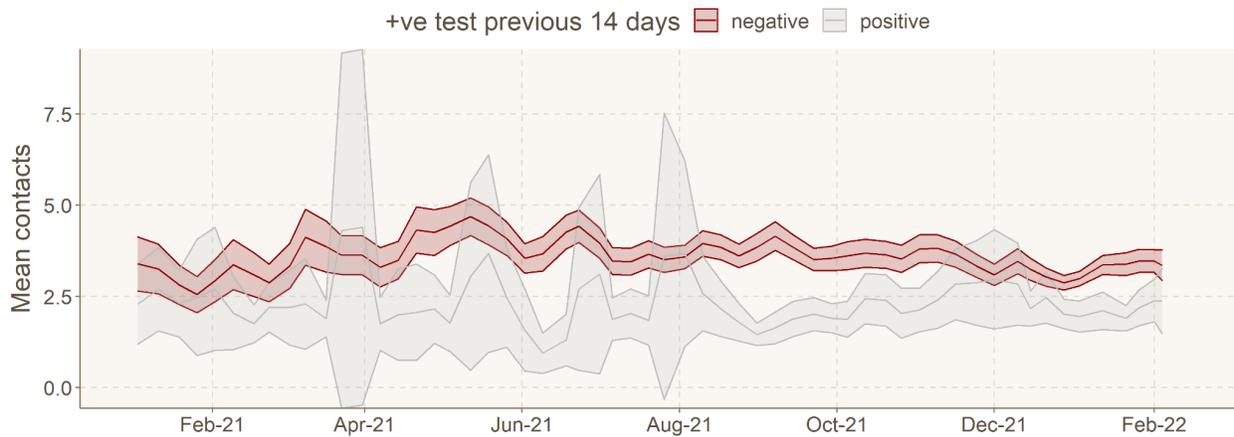
1. Jarvis CI, Van Zandvoort K, Gimma A, Prem K, CMMID COVID-19 working group, Klepac P, et al. Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK. *BMC Med.* 2020;18: 124.
2. Mossong J, Hens N, Jit M, Beutels P, Auranen K, Mikolajczyk R, et al. Social contacts and mixing patterns relevant to the spread of infectious diseases. *PLoS Med.* 2008;5: e74.
3. Coronavirus (COVID-19) Latest Insights - Office for National Statistics. 2022. Office for National Statistics. <https://www.ons.gov.uk>

## Additional graphs and tables



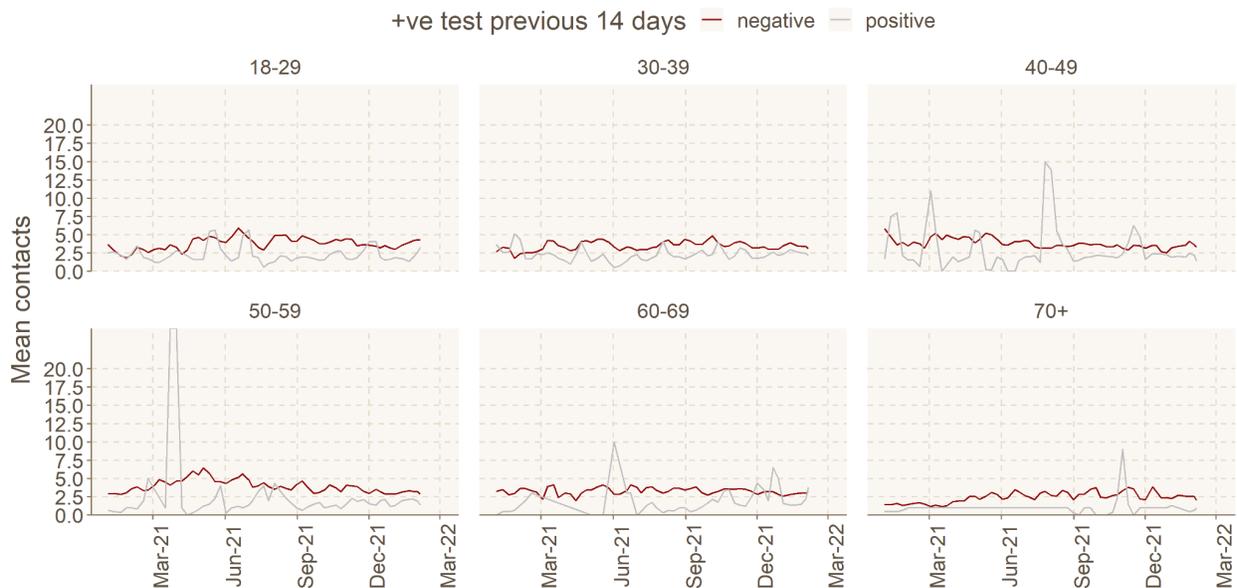
**Figure S1: Mean contacts in all settings in adults for UK nations and English regions over time.** Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint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

### All contacts



**Figure S2: Mean contacts in all settings in adults for those who tested positive or negative in the 14 days prior to taking the survey.** 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. The final observation includes data for the most recent survey wave only.

### All contacts



**Figure S3: Mean contacts in all settings by age-group for those who tested positive or negative 14 days prior to taking the survey.** 95% uncertainty interval not included as the small numbers in the yes category lead to very wide intervals and make it difficult to compare the means visually. 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. The final observation includes data for the most recent survey wave only.