

Supplementary Information

Anonymised and aggregated crowd level mobility data from mobile phones suggests that initial compliance with COVID-19 social distancing interventions was high and geographically consistent across the UK

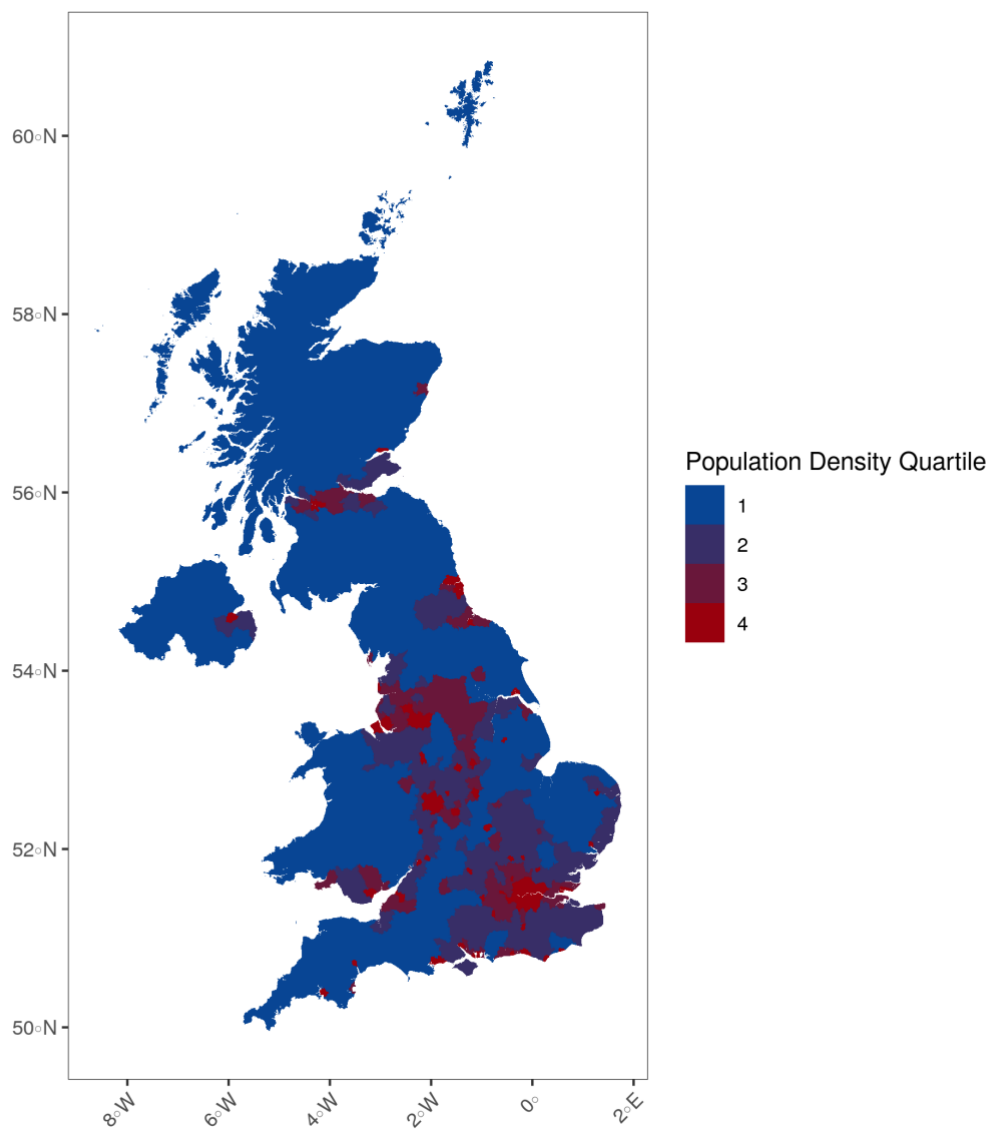


Figure S1: Population density per LAD in the UK split into quartiles with 1 being the lowest quartile of population density and 4 the greatest. These data were provided by LandScan [11].

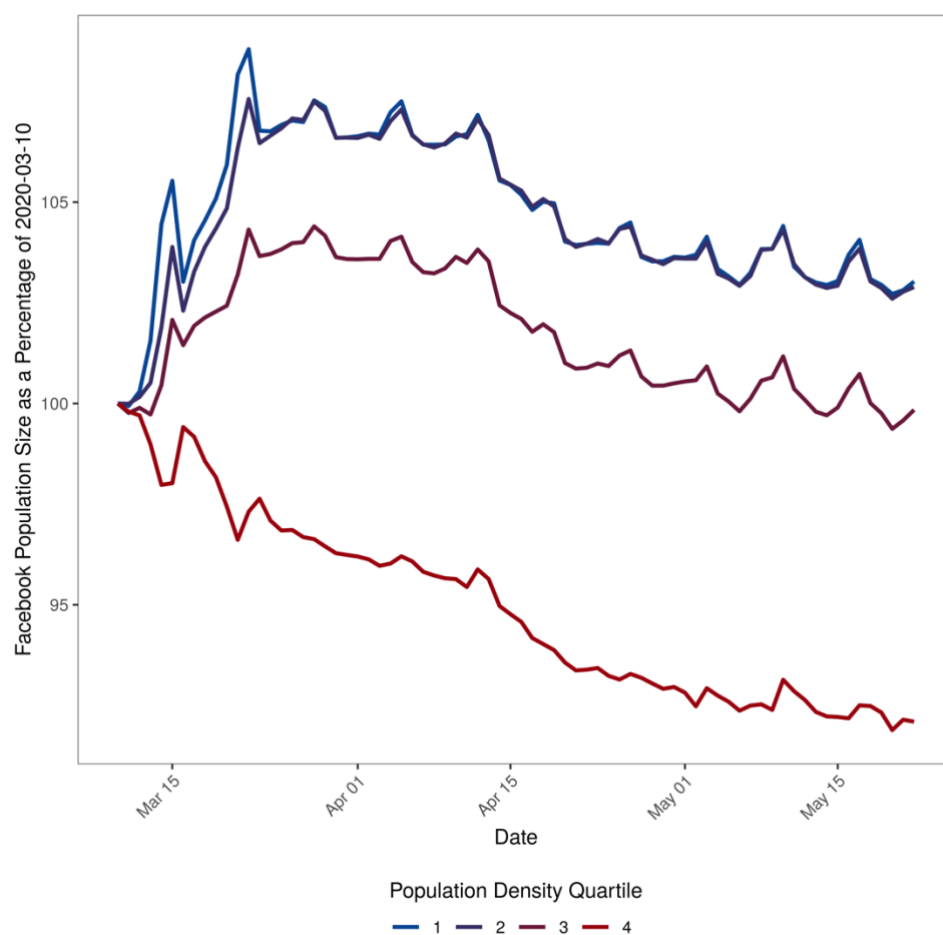


Figure S2: Changing number of users recorded in the Facebook data per LAD population density quartile in the UK. Population density quartile 1 is the lowest and 4 the highest. The y-axis shows the number of Facebook users as a percentage of the number there was on the first day recorded in the Facebook data, the 10th of March 2020.

Table S1: Key announcements from the UK government pertaining to movement restrictions.

Date of announcement	Date of action	Action	Source
12/03/2020	12/03/2020	Individuals displaying any COVID-19 symptoms asked to isolate at home for 7 days. Symptoms were defined as either a new continuous cough or a high temperature.	T1
16/03/2020	16/03/2020	Advised people to: <ul style="list-style-type: none"> - stop non-essential contact with others - stop all unnecessary travel - work from home where possible - avoid pubs, clubs, theatres and other such social venues. 	T2
18/03/2020	20/03/2020	Schools close for nearly all pupils; children of key workers can still attend school.	T3
20/03/2020	21/03/2020	Closure of all: <ul style="list-style-type: none"> - cafes, pubs, bars, restaurants with take away service allowed to continue - nightclubs, theatres, cinemas, gyms and leisure centres. <p>Agreed between all the formations of the United Kingdom and all the devolved administrations.</p>	T4
23/03/2020	23/03/2020	Individuals informed that they must stay home and only go out for: <ul style="list-style-type: none"> - shopping for basic necessities as infrequently as possible - one form of exercise per day, either alone or with members of your household - any medical need, or to care for a vulnerable person - travelling to and from work, but only when necessary and work cannot be done from home. 	T5
10/05/2020	11/05/2020 - 13/05/2020	England only, individuals: <ul style="list-style-type: none"> - May visit outside spaces, such as parks - May take multiple trips outside for exercise with members of your household - Encouraged to return to work if they cannot work from home, avoiding public transport if possible 	T6

Sources

- T1: <https://www.gov.uk/government/speeches/pm-statement-on-coronavirus-12-march-2020>
- T2: <https://www.gov.uk/government/speeches/pm-statement-on-coronavirus-16-march-2020>
- T3: <https://www.gov.uk/government/speeches/pm-statement-on-coronavirus-18-march-2020>
- T4: <https://www.gov.uk/government/speeches/pm-statement-on-coronavirus-20-march-2020>
- T5: <https://www.gov.uk/government/speeches/pm-address-to-the-nation-on-coronavirus-23-march-2020>
- T6: <https://www.gov.uk/government/speeches/pm-address-to-the-nation-on-coronavirus-10-may-2020>

Table S2: AICc and best fitting breakpoints for the segmented-linear models considered. The model with the lowest AICc is shaded green.

Number of breakpoints	AICc	Dates of breakpoints (95% CI)
0	-41.86	
1	-229.47	27 th March (27 th March - 29 th March)
2	-259.45	23 rd March (23 rd March - 23 rd March) 27 th March (27 th March - 29 th March)
3	-281.37	23 rd March (23 rd March - 23 rd March) 27 th March (27 th March - 29 th March) 1 st May (16 th April –16 th April, 23 rd April - 5 th May)
4	-299.86	13 th March (13 th March - 17 th March) 23 rd March (23 rd March - 23 rd March) 27 th March (27 th March - 29 th March) 1 st May (24 th April - 4 th May)
5	-300.68	13 th March (13 th March - 17 th March) 23 rd March (23 rd March - 23 rd March) 27 th March (27 th March - 29 th March) 20 th April (16 th April - 20 th April) 27 th April (24 th April - 4 th May)
6	-294.59	13 th March (13 th March -17 th March) 23 rd March (23 rd March - 23 rd March) 27 th March (27 th March - 29 th March) 20 th April (17 th April -20 th April) 27 th April (24 th April - 30 th April) 19 th May (7 th May - 7 th May, 18 th May - 19 th May)