Lineages report for SANG

This report gives summaries of UK specific lineages sequenced by SANG for week 2020-06-19. There are time lags due to batching, curation and analysis, the most recently sampled sequence is 2020-06-05. The analysis (eg time since last sample) is therefore undertaken from this date. 6352 sequences in the UK from the sequencing centre SANG have been included in this analysis.

A few notes: the size of a lineage may be due to a low amount of transmission of this lineage, but it is likely also that it just hasn't been sampled as frequently, especially for newer lineages. It's also important to realise that these lineages are *estimates* of how we think the virus is spreading in the UK after being introduced from abroad, as the low evolutionary rate of the virus makes it difficult to separate lineages with certainty.

The minimum number of introductions is 208 and the maximum is 3097

Sequences which were replicates or too error-prone were removed from this analysis.

331 are lineages which only contained five sequences or fewer, and so have been left out of visualisation in the interests of clarity

Furthermore, those sequences which haven't been sampled in the last month are not shown.

Of the 24 that remain: 19 are pending extinction, ie last seen three weeks ago. 3 lineages have reactivated. 2 lineages have been continuously circulating.

The following table contains information about the ten largest lineages lineages and the number of sequences the dataset. Information about other lineages is found in the appendix, along with the raw data for all of the other figures.

Each entry is the count of sequences from each lineage in each country, with the percentage of the total sequences from that lineage that this count represents.

"Activity score" is calculated by taking the average gap between sampling for each lineage, and dividing it by the number of days since the lineage was last sampled. Therefore the higher the number, the more active the lineage is. If the score is above 1, then it has been sampled *more* recently than expected given its average gap size. We might interpret this as an increase in activity. If the score is below 1, it has been sampled *less* recently than expect given its average gap size, so we might interpret this as a decrease in activity.

The global lineages are correct as of the data release on 2020-05-19

It is written to "summary_files" as "lineage_summary.tsv" for further use, and the full list of lineages is available in the same directory as "all_lineages.csv"

Lineage name	England	Northern Ireland	Scotland	Date range	Total sequences	Global lineage	Time since last sample (days)	Activity score
UK5	1991 (90.34%)	170 (7.71%)	43 (1.95%)	Mar-07, Jun-04	2204	B.1.1, B.1.1.1, B.1.1.13, B.1.1.10	1	0.0404
UK107	385 (97.22%)	7 (1.77%)	4 (1.01%)	Mar-08, May-01	396	B.2.1	35	0.0039
UK42	302 (93.79%)	1 (0.31%)	19 (5.9%)	Mar-03, May-17	322	B.1.p11, B.1.35, B.1.72, B.1.p73, B.1	19	0.0123
UK5676	119 (79.87%)	0 (0%)	30 (20.13%)	Mar-09, Apr-20	149	B.2	46	0.0062
UK167	123 (89.13%)	12 (8.7%)	3 (2.17%)	Mar-11, Jun-04	138	B.1	1	0.6204
UK2464	110 (83.97%)	0 (0%)	21 (16.03%)	Mar-12, May-01	131	B.1.p11, B.1	35	0.011
UK2913	93 (85.32%)	11 (10.09%)	5 (4.59%)	Mar-11, Jun-01	109	B.1.p11, B.1	4	0.1898
UK9	105 (100.0%)	0 (0%)	0 (0%)	Mar-19, May-04	105	B.1.13	32	0.0138
UK72	98 (97.03%)	2 (1.98%)	1 (0.99%)	Mar-10, Apr-26	101	B	40	0.0118

Lineage name	England	Northern Ireland	Scotland	Date range	Total sequences	Global lineage	Time since last sample (days)	Activity score
UK199	76 (87.36%)	0 (0%)	11 (12.64%)	Mar-19, May-11	87	B.1, B.1.5, B.1.5.5	25	0.0247

These data is represented in the figure one. Note that the number of sequences is likely to be due more to differing sampling efforts in different regions, rather than genuine differences in numbers of cases.

The raw data for this bar chart are in the table above.

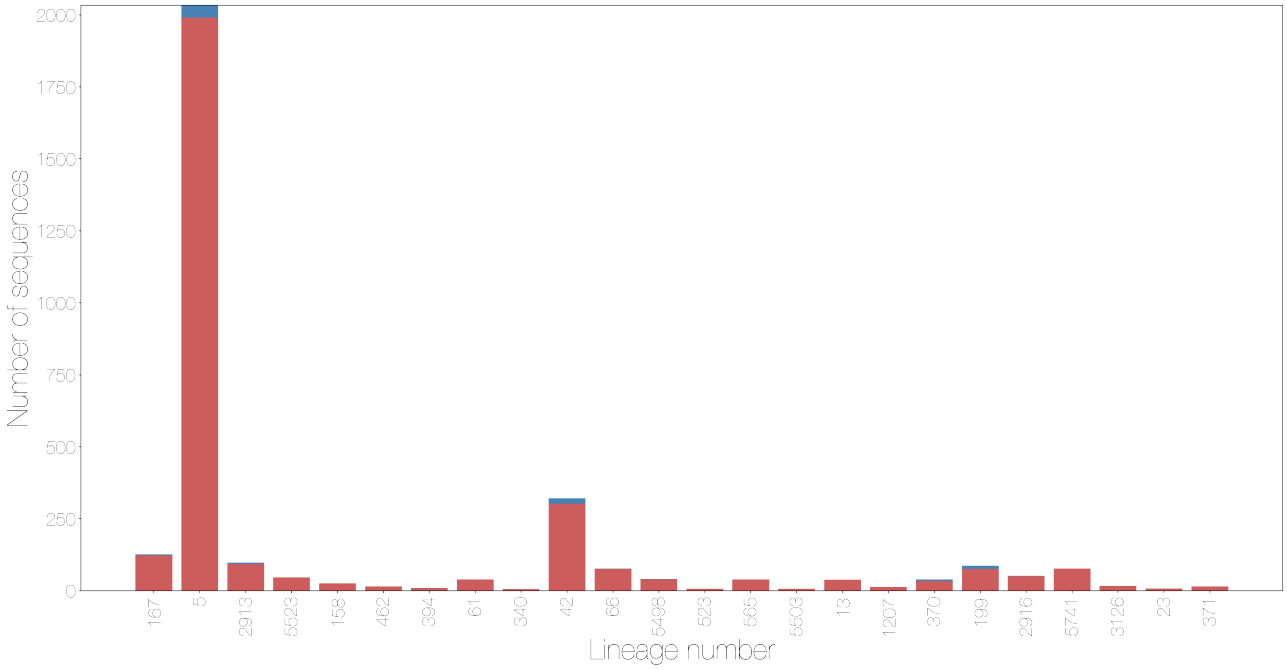

Figure 1: Number of sequences sampled in a lineage by country

Different sequencing centres have different delays in turn around from receipt of samples to submission of sequence data. This will affect all of the figures shown after this if lineages have geographical variation, as some regions have less up to date data.

`The lag for this sequencing centre is 14 days`

The relative growth and decline of the ten most sampled lineages in terms of number of counties they are present in is shown in figure three.

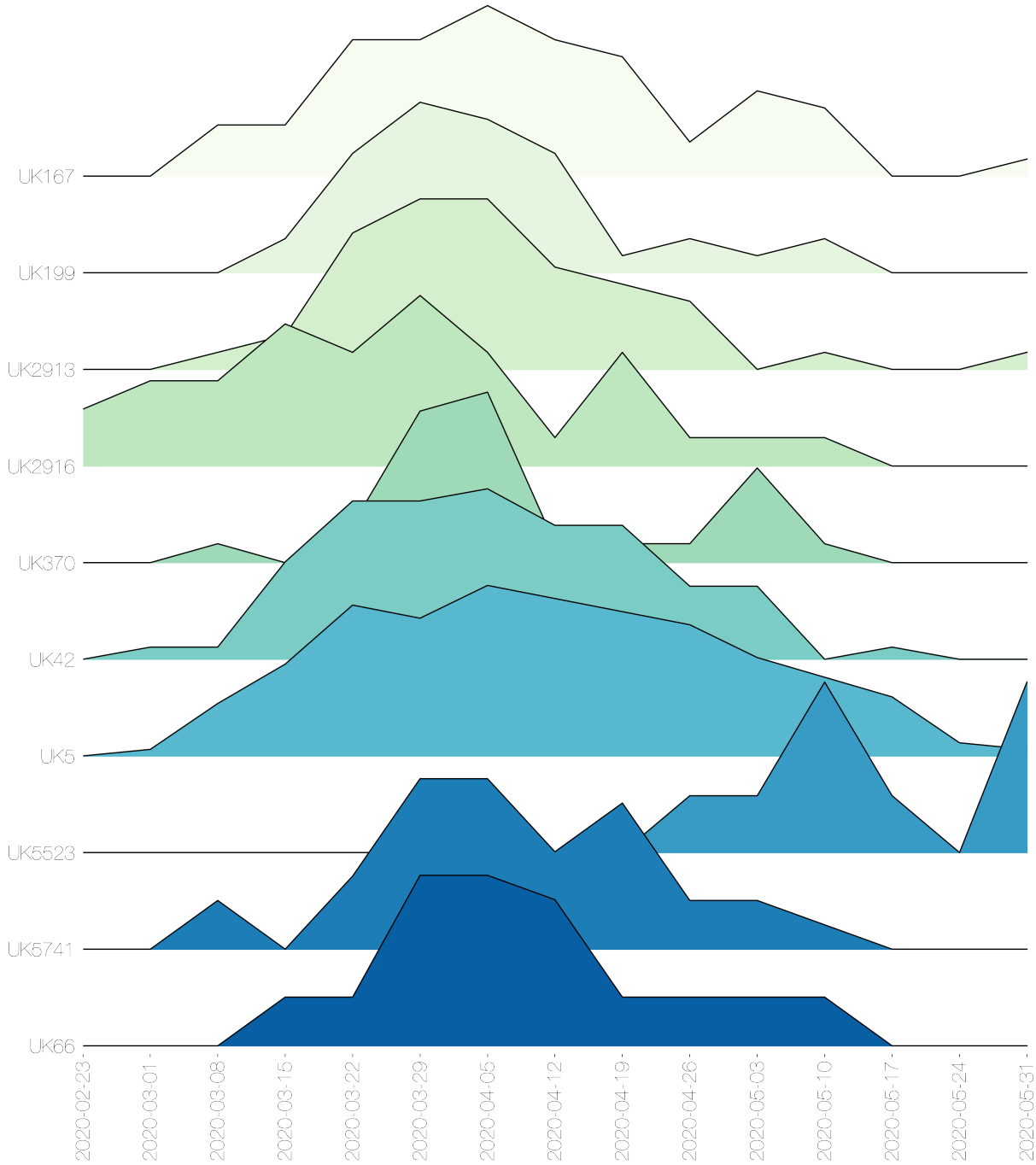

Figure 2: Lineages by number of adm2 regions present by epiweek

These lineages are shown on the timeline. Each line represents the length of the cluster, from oldest to most recent sampling date. The dots are sized by the number of sequences taken on that date, and again are colour coded by country. The raw data has been written to a summary file.

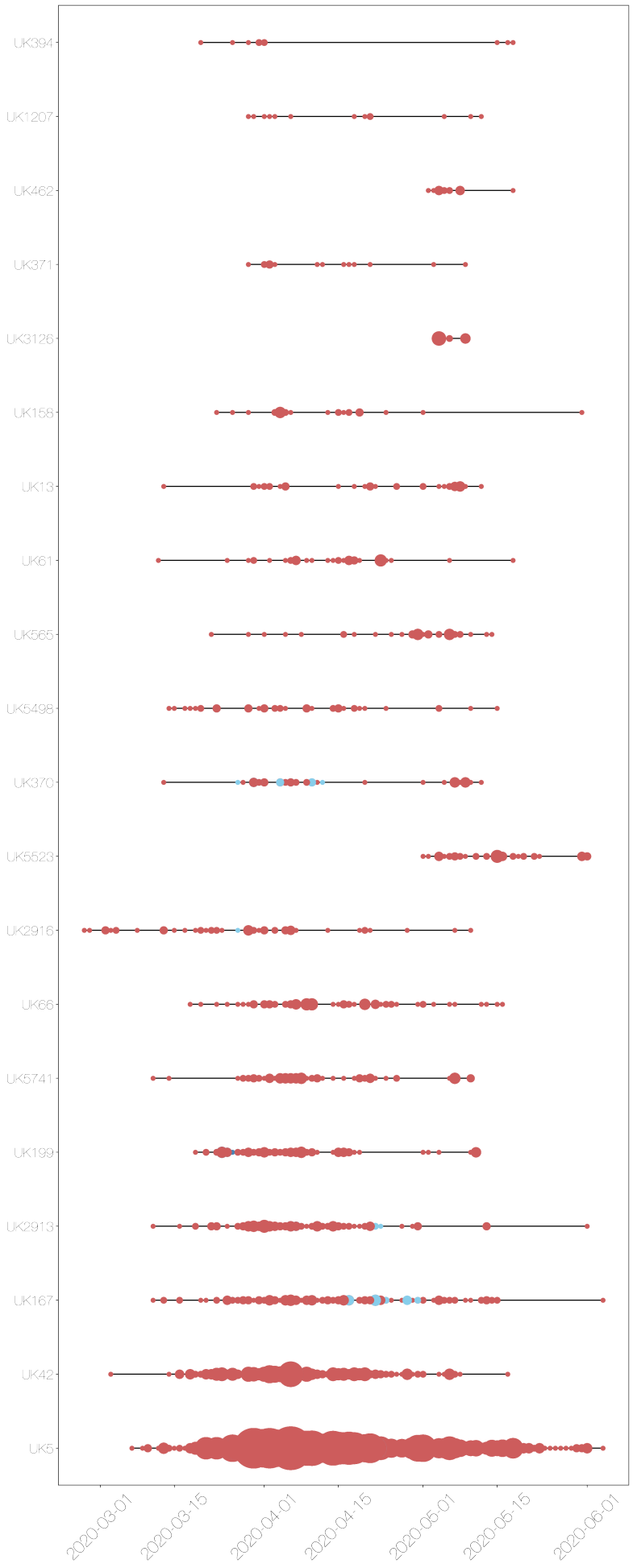

Figure 3: Timeline of lineages, sized by number of sequences from each country.

The date of first sequence in the cluster is shown in figure five for every cluster with date information.

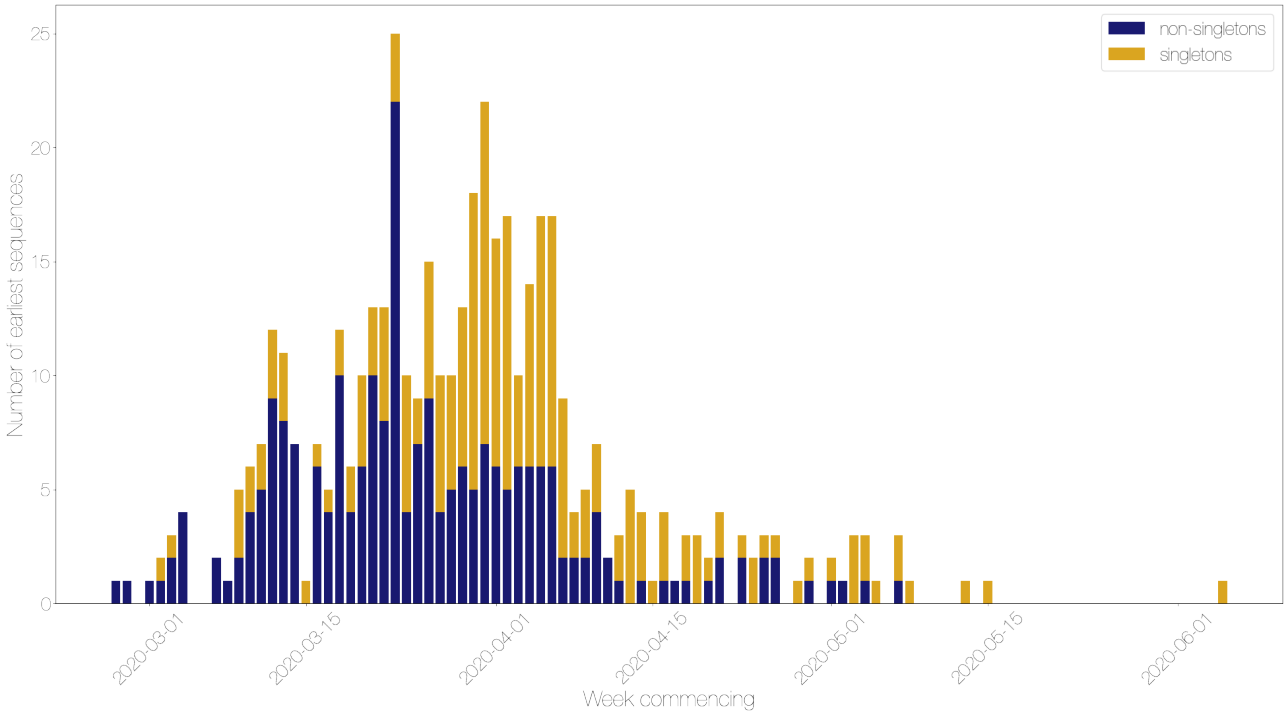

Figure 4: Lineage starts per week, split by singletons and non-singletons

For comparison, here is a plot of the day that every sequence was taken, coloured by country. Note that sequences without dates were not included.

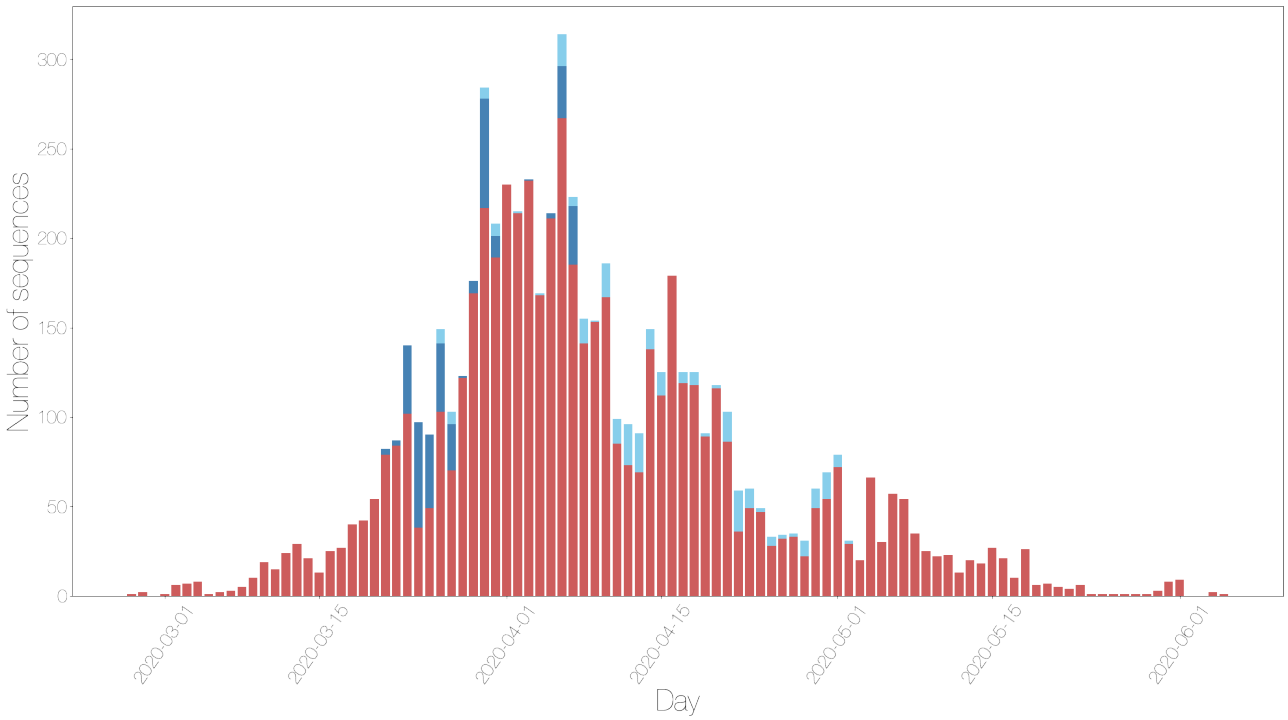

Figure 5: Sequences taken on each day by country

The map shows the number of sequences sampled in each admin2 region in the UK. The colour scale is the same for all four countries, but with different underlying base colours.

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There are 536 sequences without enough geographical information to map
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from this centre.

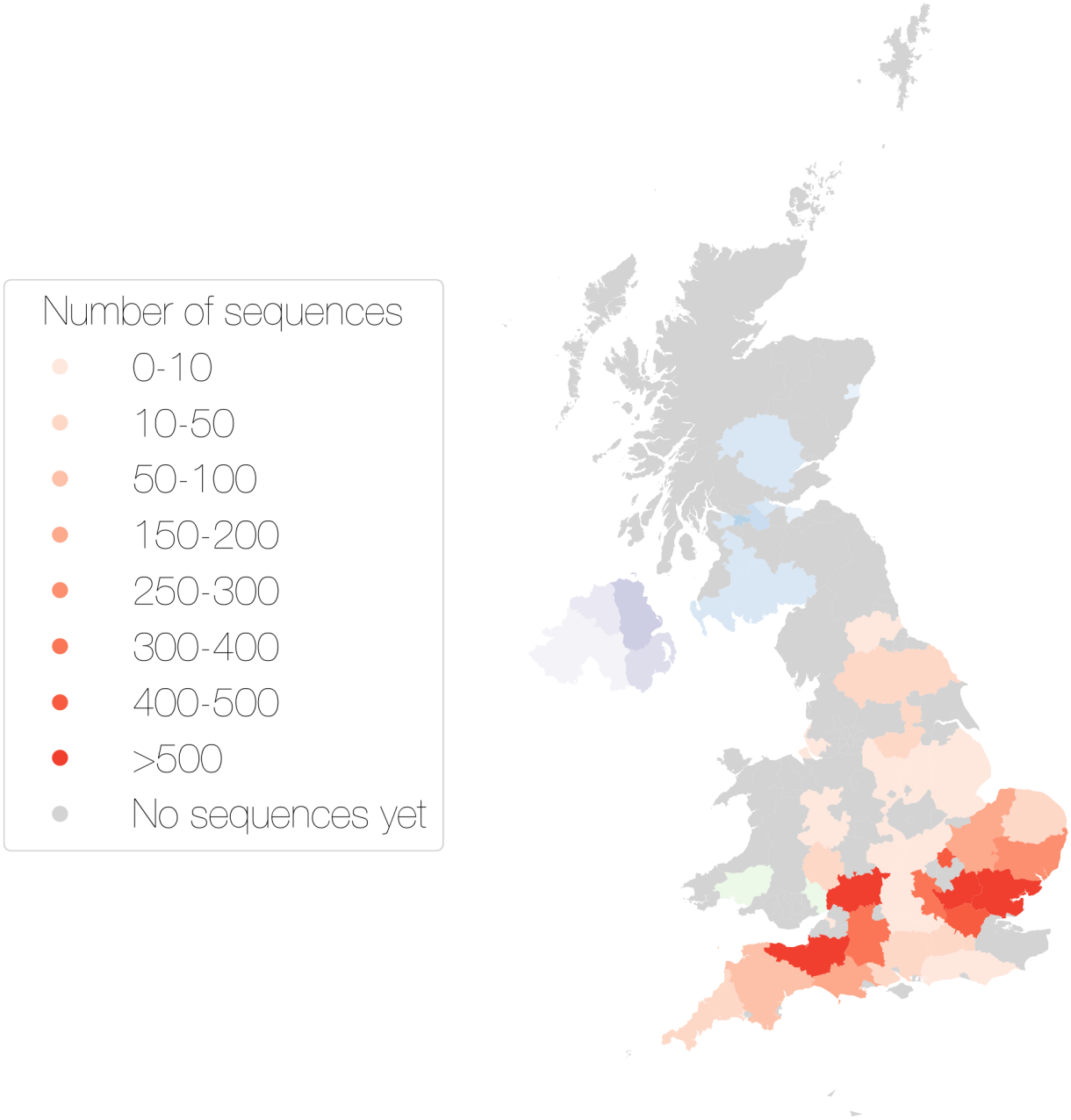

Figure 6: Map showing the number of sequences sampled by adm2 region

There are some sequences with locations that are not matched to real Admin2 regions, some manual curation required.

Other results modules for UK lineage analysis can be added in here if required.

Appendix

Below are the raw data tables for each of the figures in the report.

Table S1 Description of all lineages that have been circulating in the last month, and have more than 5 sequences.

Lineage name	England	Northern Ireland	Scotland	Date range	Total sequences	Global lineage	Time since last sample (days)	Activity score
UK5	1991 (90.34%)	170 (7.71%)	43 (1.95%)	Mar-07, Jun-04	2204	B.1.1, B.1.1.1, B.1.1.13, B.1.1.10	1	0.0404
UK107	385 (97.22%)	7 (1.77%)	4 (1.01%)	Mar-08, May-01	396	B.2.1	35	0.0039
UK42	302 (93.79%)	1 (0.31%)	19 (5.9%)	Mar-03, May-17	322	B.1.p11, B.1.35, B.1.72, B.1.p73, B.1	19	0.0123
UK5676	119 (79.87%)	0 (0%)	30 (20.13%)	Mar-09, Apr-20	149	B.2	46	0.0062
UK167	123 (89.13%)	12 (8.7%)	3 (2.17%)	Mar-11, Jun-04	138	B.1	1	0.6204
UK2464	110 (83.97%)	0 (0%)	21 (16.03%)	Mar-12, May-01	131	B.1.p11, B.1	35	0.011
UK2913	93 (85.32%)	11 (10.09%)	5 (4.59%)	Mar-11, Jun-01	109	B.1.p11, B.1	4	0.1898
UK9	105 (100.0%)	0 (0%)	0 (0%)	Mar-19, May-04	105	B.1.13	32	0.0138
UK72	98 (97.03%)	2 (1.98%)	1 (0.99%)	Mar-10, Apr-26	101	B	40	0.0118
UK199	76 (87.36%)	0 (0%)	11 (12.64%)	Mar-19, May-11	87	B.1, B.1.5, B.1.5.5	25	0.0247
UK3929	86 (98.85%)	1 (1.15%)	0 (0%)	Mar-18, May-06	87	B.1.1, B.1.1.3, B.1.1.4	30	0.019
UK494	80 (100.0%)	0 (0%)	0 (0%)	Mar-21, May-01	80	B.1.p11	35	0.0148
UK5741	77 (100.0%)	0 (0%)	0 (0%)	Mar-11, May-10	77	B.1	26	0.0304
UK66	76 (98.7%)	0 (0%)	1 (1.3%)	Mar-18, May-16	77	B.1.1.8	20	0.0388
UK28	72 (100.0%)	0 (0%)	0 (0%)	Mar-26, May-08	72	B.1.1.10	28	0.0216
UK2735	50 (81.97%)	10 (16.39%)	1 (1.64%)	Mar-24, May-07	61	B.1.1	29	0.0253
UK2916	51 (96.23%)	1 (1.89%)	1 (1.89%)	Feb-27, May-10	53	B.1	26	0.054
UK5523	46 (100.0%)	0 (0%)	0 (0%)	May-01, Jun-01	46	B.1	4	0.1722
UK370	34 (75.56%)	6 (13.33%)	5 (11.11%)	Mar-13, May-12	45	B.1.1.10	24	0.0568
UK40	0 (0%)	0 (0%)	43 (100.0%)	Mar-21, Apr-07	43	B.16	59	0.0069
UK5498	40 (97.56%)	0 (0%)	1 (2.44%)	Mar-14, May-15	41	B.2	21	0.0738
UK61	39 (100.0%)	0 (0%)	0 (0%)	Mar-12, May-18	39	B.3	18	0.098
UK63	39 (100.0%)	0 (0%)	0 (0%)	Mar-28, Apr-30	39	B.1.1	36	0.0241
UK565	39 (100.0%)	0 (0%)	0 (0%)	Mar-22, May-14	39	B.1.1	22	0.0634

Lineage name	England	Northern Ireland	Scotland	Date range	Total sequences	Global lineage	Time since last sample (days)	Activity score
UK13	38 (100.0%)	0 (0%)	0 (0%)	Mar-13, May-12	38	B.1.1	24	0.0676
UK4	36 (97.3%)	1 (2.7%)	0 (0%)	Mar-10, Apr-25	37	B	41	0.0312
UK5180	34 (91.89%)	3 (8.11%)	0 (0%)	Mar-13, Apr-22	37	B.1.1.7	44	0.0253
UK5098	2 (5.71%)	0 (0%)	33 (94.29%)	Mar-23, Apr-16	35	B.1, B.1.p73	50	0.0141
UK37	31 (100.0%)	0 (0%)	0 (0%)	Mar-17, May-04	31	B.1.30	32	0.05
UK5561	29 (93.55%)	0 (0%)	2 (6.45%)	Mar-18, May-07	31	B.2, B.2.2	29	0.0575
UK79	30 (100.0%)	0 (0%)	0 (0%)	Mar-24, May-04	30	B.1	32	0.0442
UK36	11 (36.67%)	1 (3.33%)	18 (60.0%)	Mar-19, Apr-18	30	B.1	48	0.0216
UK15	25 (89.29%)	0 (0%)	3 (10.71%)	Mar-01, Apr-16	28	B.1.1	50	0.0341
UK51	26 (96.3%)	0 (0%)	1 (3.7%)	Mar-26, May-08	27	B.1.36	28	0.0591
UK158	26 (100.0%)	0 (0%)	0 (0%)	Mar-23, May-31	26	B.1.1, B.1.1.2	5	0.552
UK39	0 (0%)	0 (0%)	24 (100.0%)	Mar-24, Apr-07	24	A.2	59	0.0103
UK601	3 (13.64%)	19 (86.36%)	0 (0%)	Mar-13, Apr-27	22	B.10	39	0.0549
UK501	19 (95.0%)	0 (0%)	1 (5.0%)	Mar-25, Apr-19	20	B.1	47	0.028
UK5309	20 (100.0%)	0 (0%)	0 (0%)	Mar-25, May-02	20	B.1.1, B.1.1.10	34	0.0588
UK497	20 (100.0%)	0 (0%)	0 (0%)	Mar-13, Apr-27	20	A.2	39	0.0607
UK829	20 (100.0%)	0 (0%)	0 (0%)	Mar-13, Apr-17	20	B.2.5	49	0.0376
UK101	19 (100.0%)	0 (0%)	0 (0%)	Mar-21, Apr-21	19	B.1.5	45	0.0383
UK276	18 (94.74%)	0 (0%)	1 (5.26%)	Mar-18, Apr-09	19	B.1.1	57	0.0214
UK339	17 (89.47%)	0 (0%)	2 (10.53%)	Mar-14, Apr-16	19	B.3	50	0.0367
UK77	18 (100.0%)	0 (0%)	0 (0%)	Mar-23, Apr-26	18	B.2	40	0.05
UK1721	18 (100.0%)	0 (0%)	0 (0%)	Mar-23, May-08	18	B.1	28	0.0966
UK109	14 (77.78%)	4 (22.22%)	0 (0%)	Mar-14, May-01	18	B.1.5	35	0.0807
UK517	18 (100.0%)	0 (0%)	0 (0%)	Mar-02, Apr-18	18	B.1.1	48	0.0576
UK85	17 (100.0%)	0 (0%)	0 (0%)	Mar-16, Apr-11	17	B.3	55	0.0295
UK3126	17 (100.0%)	0 (0%)	0 (0%)	May-04, May-09	17	B.1.1	27	0.0116
UK513	16 (100.0%)	0 (0%)	0 (0%)	Apr-03, Apr-27	16	B.1.p11	39	0.041
UK31	16 (100.0%)	0 (0%)	0 (0%)	Mar-21, Apr-20	16	B.3	46	0.0435

Lineage name	England	Northern Ireland	Scotland	Date range	Total sequences	Global lineage	Time since last sample (days)	Activity score
UK6	16 (100.0%)	0 (0%)	0 (0%)	Mar-12, Apr-14	16	B.1	52	0.0423
UK179	15 (100.0%)	0 (0%)	0 (0%)	Mar-26, Apr-18	15	B.1.1, B.1.1.p11	48	0.0342
UK462	15 (100.0%)	0 (0%)	0 (0%)	May-02, May-18	15	B.1	18	0.0635
UK371	15 (100.0%)	0 (0%)	0 (0%)	Mar-29, May-09	15	B.1.1	27	0.1085
UK274	15 (100.0%)	0 (0%)	0 (0%)	Mar-21, Apr-08	15	B.3	58	0.0222
UK240	12 (80.0%)	0 (0%)	3 (20.0%)	Mar-14, May-01	15	B.3, B.2, B	35	0.098
UK173	14 (100.0%)	0 (0%)	0 (0%)	Mar-16, Apr-13	14	B	53	0.0406
UK146	14 (100.0%)	0 (0%)	0 (0%)	Apr-01, May-07	14	B.1.1	29	0.0955
UK275	13 (100.0%)	0 (0%)	0 (0%)	Mar-13, Apr-17	13	B.1.13	49	0.0595
UK5649	13 (100.0%)	0 (0%)	0 (0%)	Apr-05, May-04	13	B.2.6	32	0.0755
UK569	13 (100.0%)	0 (0%)	0 (0%)	Mar-23, Apr-18	13	B.1.1	48	0.0451
UK1207	13 (100.0%)	0 (0%)	0 (0%)	Mar-29, May-12	13	B.1.1	24	0.1528
UK706	1 (7.69%)	12 (92.31%)	0 (0%)	Apr-01, Apr-29	13	B.1.1	37	0.0631
UK1703	12 (100.0%)	0 (0%)	0 (0%)	Apr-09, May-01	12	B.1	35	0.0571
UK3021	12 (100.0%)	0 (0%)	0 (0%)	Mar-16, Apr-16	12	B.1	50	0.0564
UK1006	12 (100.0%)	0 (0%)	0 (0%)	Apr-04, Apr-29	12	B.1.1	37	0.0614
UK241	12 (100.0%)	0 (0%)	0 (0%)	Mar-22, Apr-16	12	B.1.5.3	50	0.0455
UK566	11 (100.0%)	0 (0%)	0 (0%)	Apr-02, Apr-21	11	B.1.1, B.1.1.10	45	0.0422
UK174	11 (100.0%)	0 (0%)	0 (0%)	Mar-19, May-02	11	B.1.5	34	0.1294
UK2200	3 (27.27%)	2 (18.18%)	6 (54.55%)	Mar-20, Apr-29	11	B.1.5, B.1.5.6	37	0.1081
UK198	2 (20.0%)	2 (20.0%)	6 (60.0%)	Mar-23, Apr-12	10	B.1.5	54	0.0412
UK18	10 (100.0%)	0 (0%)	0 (0%)	Mar-12, Apr-14	10	B.1.1.7	52	0.0705
UK2045	10 (100.0%)	0 (0%)	0 (0%)	Mar-17, Apr-29	10	B.1	37	0.1291
UK394	10 (100.0%)	0 (0%)	0 (0%)	Mar-20, May-18	10	B.1.1	18	0.3642
UK134	10 (100.0%)	0 (0%)	0 (0%)	Mar-09, Apr-07	10	B.1	59	0.0546
UK132	9 (90.0%)	0 (0%)	1 (10.0%)	Mar-27, Apr-28	10	B.1	38	0.0936
UK119	10 (100.0%)	0 (0%)	0 (0%)	Mar-23, Apr-24	10	B.2.5	42	0.0847
UK58	6 (66.67%)	0 (0%)	3 (33.33%)	Mar-17, Apr-09	9	B.1	57	0.0504

Lineage name	England	Northern Ireland	Scotland	Date range	Total sequences	Global lineage	Time since last sample (days)	Activity score
UK632	8 (88.89%)	0 (0%)	1 (11.11%)	Mar-25, Apr-13	9	B.1.1	53	0.0448
UK448	9 (100.0%)	0 (0%)	0 (0%)	Apr-04, May-02	9	B.1.1	34	0.1029
UK71	9 (100.0%)	0 (0%)	0 (0%)	Mar-26, May-06	9	B	30	0.1708
UK12	8 (88.89%)	1 (11.11%)	0 (0%)	Mar-22, Apr-13	9	B.1.p11	53	0.0519
UK64	8 (100.0%)	0 (0%)	0 (0%)	Apr-01, Apr-15	8	B.1	51	0.0392
UK335	8 (100.0%)	0 (0%)	0 (0%)	Mar-27, Apr-07	8	B.1.1	59	0.0266
UK46	8 (100.0%)	0 (0%)	0 (0%)	Mar-14, Apr-15	8	B.2.1	51	0.0896
UK86	8 (100.0%)	0 (0%)	0 (0%)	Mar-23, Mar-30	8	B.1	67	0.0149
UK287	8 (100.0%)	0 (0%)	0 (0%)	Mar-31, Apr-18	8	B.1	48	0.0536
UK27	8 (100.0%)	0 (0%)	0 (0%)	Mar-12, Apr-19	8	B.1.1	47	0.1155
UK23	8 (100.0%)	0 (0%)	0 (0%)	Mar-21, May-09	8	B.9	27	0.2593
UK384	7 (87.5%)	0 (0%)	1 (12.5%)	Feb-28, Mar-30	8	B.2.1	67	0.0661
UK759	8 (100.0%)	0 (0%)	0 (0%)	Mar-28, Apr-04	8	B.1.1	62	0.0161
UK5503	7 (100.0%)	0 (0%)	0 (0%)	Apr-02, May-13	7	B.1	23	0.2971
UK203	7 (100.0%)	0 (0%)	0 (0%)	Mar-28, Apr-17	7	B.1.1	49	0.068
UK404	7 (100.0%)	0 (0%)	0 (0%)	Mar-18, Apr-06	7	B.1	60	0.0528
UK5348	7 (100.0%)	0 (0%)	0 (0%)	Mar-14, Apr-24	7	B.1.1	42	0.1627
UK523	7 (100.0%)	0 (0%)	0 (0%)	Apr-25, May-14	7	B.1.1	22	0.1439
UK38	7 (100.0%)	0 (0%)	0 (0%)	Mar-04, Apr-08	7	B.2.1	58	0.1006
UK70	6 (85.71%)	1 (14.29%)	0 (0%)	Mar-28, Apr-18	7	B.2	48	0.0729
UK2906	7 (100.0%)	0 (0%)	0 (0%)	Mar-12, Apr-20	7	B.1	46	0.1413
UK3692	7 (100.0%)	0 (0%)	0 (0%)	Mar-23, Apr-29	7	B.1.1	37	0.1667
UK284	6 (100.0%)	0 (0%)	0 (0%)	Apr-02, Apr-20	6	B.1.1	46	0.0783
UK47	6 (100.0%)	0 (0%)	0 (0%)	Mar-22, Apr-20	6	B.1.1	46	0.1261
UK49	4 (66.67%)	1 (16.67%)	1 (16.67%)	Mar-18, Apr-12	6	B.9	54	0.0926
UK32	6 (100.0%)	0 (0%)	0 (0%)	Apr-10, May-01	6	B.1.1	35	0.12
UK4237	6 (100.0%)	0 (0%)	0 (0%)	Apr-02, Apr-16	6	B.1.1	50	0.056
UK581	0 (0%)	6 (100.0%)	0 (0%)	Apr-06, May-01	6	B.1.1	35	0.1429

Lineage name	England	Northern Ireland	Scotland	Date range	Total sequences	Global lineage	Time since last sample (days)	Activity score
UK5549	6 (100.0%)	0 (0%)	0 (0%)	Mar-12, Apr-06	6	B.2.2	60	0.0833
UK340	6 (100.0%)	0 (0%)	0 (0%)	Apr-09, May-17	6	B.1.1	19	0.4

Table S2 Raw data for figure two showing lags between the most recent sequence and current date for each sequencing centre

	Centre	Lag in days
0	SANG	14

Table S3 Raw data for figure three showing the number of admin2 regions a lineage is present in over time

Week commencing	UK5	UK42	UK167	UK2913	UK199	UK5741	UK66	UK2916	UK5523	UK370
2020-02-23	0	0	0	0	0	0	0	2	0	0
2020-03-01	1	1	0	0	0	0	0	3	0	0
2020-03-08	8	1	3	1	0	2	0	3	0	1
2020-03-15	14	8	3	2	2	0	2	5	0	0
2020-03-22	23	13	8	8	7	3	2	4	0	2
2020-03-29	21	13	8	10	10	7	7	6	0	8
2020-04-05	26	14	10	10	9	7	7	4	0	9
2020-04-12	24	11	8	6	7	4	6	1	0	1
2020-04-19	22	11	7	5	1	6	2	4	0	1
2020-04-26	20	6	2	4	2	2	2	1	1	1
2020-05-03	15	6	5	0	1	2	2	1	1	5
2020-05-10	12	0	4	1	2	1	2	1	3	1
2020-05-17	9	1	0	0	0	0	0	0	1	0
2020-05-24	2	0	0	0	0	0	0	0	0	0
2020-05-31	1	0	1	1	0	0	0	0	3	0

Table S4 is not appropriate for this report and so has been omitted.

Table S5 Raw data for figure five showing when lineages started per day, divided by singletons and non-singletons

Day	Number of singleton starts	Number of non-singleton starts	Total
2020-02-27	0	1	1
2020-02-28	0	1	1
2020-03-01	0	1	1
2020-03-02	1	1	2
2020-03-03	1	2	3
2020-03-04	0	4	4
2020-03-07	0	2	2
2020-03-08	0	1	1
2020-03-09	3	2	5
2020-03-10	2	4	6
2020-03-11	2	5	7
2020-03-12	3	9	12
2020-03-13	3	8	11
2020-03-14	0	7	7
2020-03-15	1	0	1
2020-03-16	1	6	7
2020-03-17	1	4	5
2020-03-18	2	10	12
2020-03-19	2	4	6
2020-03-20	4	6	10
2020-03-21	3	10	13
2020-03-22	5	8	13
2020-03-23	3	22	25
2020-03-24	6	4	10
2020-03-25	2	7	9
2020-03-26	6	9	15
2020-03-27	6	4	10
2020-03-28	5	5	10
2020-03-29	7	6	13
2020-03-30	13	5	18
2020-03-31	15	7	22
2020-04-01	10	6	16
2020-04-02	12	5	17
2020-04-03	4	6	10
2020-04-04	8	6	14
2020-04-05	11	6	17
2020-04-06	11	6	17
2020-04-07	7	2	9
2020-04-08	2	2	4
2020-04-09	3	2	5
2020-04-10	3	4	7
2020-04-11	0	2	2
2020-04-12	2	1	3
2020-04-13	5	0	5
2020-04-14	3	1	4
2020-04-15	1	0	1
2020-04-16	3	1	4
2020-04-17	0	1	1
2020-04-18	2	1	3
2020-04-19	3	0	3
2020-04-20	1	1	2
2020-04-21	2	2	4
2020-04-23	1	2	3
2020-04-24	2	0	2
2020-04-25	1	2	3
2020-04-26	1	2	3
2020-04-28	1	0	1

Day	Number of singleton starts	Number of non-singleton starts	Total
2020-04-29	1	1	2
2020-05-01	1	1	2
2020-05-02	0	1	1
2020-05-03	3	0	3
2020-05-04	2	1	3
2020-05-05	1	0	1
2020-05-07	2	1	3
2020-05-08	1	0	1
2020-05-13	1	0	1
2020-05-15	1	0	1
2020-06-05	1	0	1

Table S6 Raw data for figure six showing the number of sequences taken over time.

Day	England	Scotland	Northern Ireland
2020-02-27	1	0	0
2020-02-28	2	0	0
2020-03-01	1	0	0
2020-03-02	6	0	0
2020-03-03	7	0	0
2020-03-04	8	0	0
2020-03-05	1	0	0
2020-03-06	2	0	0
2020-03-07	3	0	0
2020-03-08	5	0	0
2020-03-09	10	0	0
2020-03-10	19	0	0
2020-03-11	15	0	0
2020-03-12	24	0	0
2020-03-13	29	0	0
2020-03-14	21	0	0
2020-03-15	13	0	0
2020-03-16	25	0	0
2020-03-17	27	0	0
2020-03-18	40	0	0
2020-03-19	42	0	0
2020-03-20	54	0	0
2020-03-21	79	3	0
2020-03-22	84	3	0
2020-03-23	102	38	0
2020-03-24	38	59	0
2020-03-25	49	41	0
2020-03-26	103	38	8
2020-03-27	70	26	7
2020-03-28	122	1	0
2020-03-29	169	7	0
2020-03-30	217	61	6
2020-03-31	189	12	7
2020-04-01	230	0	0
2020-04-02	214	0	1
2020-04-03	232	1	0
2020-04-04	168	0	1
2020-04-05	211	3	0
2020-04-06	267	29	18
2020-04-07	185	33	5
2020-04-08	141	0	14
2020-04-09	153	0	1
2020-04-10	167	0	19
2020-04-11	85	0	14
2020-04-12	73	0	23
2020-04-13	69	0	22
2020-04-14	138	0	11
2020-04-15	112	0	13
2020-04-16	179	0	0
2020-04-17	119	0	6
2020-04-18	118	0	7
2020-04-19	89	0	2
2020-04-20	116	0	2
2020-04-21	86	0	17
2020-04-22	36	0	23
2020-04-23	49	0	11
2020-04-24	47	0	2

Day	England	Scotland	Northern Ireland
2020-04-25	28	0	5
2020-04-26	32	0	2
2020-04-27	33	0	2
2020-04-28	22	0	9
2020-04-29	49	0	11
2020-04-30	54	0	15
2020-05-01	72	0	7
2020-05-02	29	0	2
2020-05-03	20	0	0
2020-05-04	66	0	0
2020-05-05	30	0	0
2020-05-06	57	0	0
2020-05-07	54	0	0
2020-05-08	35	0	0
2020-05-09	25	0	0
2020-05-10	22	0	0
2020-05-11	23	0	0
2020-05-12	13	0	0
2020-05-13	20	0	0
2020-05-14	18	0	0
2020-05-15	27	0	0
2020-05-16	21	0	0
2020-05-17	10	0	0
2020-05-18	26	0	0
2020-05-19	6	0	0
2020-05-20	7	0	0
2020-05-21	5	0	0
2020-05-22	4	0	0
2020-05-23	6	0	0
2020-05-24	1	0	0
2020-05-25	1	0	0
2020-05-26	1	0	0
2020-05-27	1	0	0
2020-05-28	1	0	0
2020-05-29	1	0	0
2020-05-30	3	0	0
2020-05-31	8	0	0
2020-06-01	9	0	0
2020-06-04	2	0	0
2020-06-05	1	0	0

Table S7 Raw data for the figure seven with the number of sequences assigned to each admin2 region.

Admin2	Country	Number of sequences	Sequence group
ABERDEEN	Scotland	1	1-10
ANTRIM	Northern Ireland	156	150-200
ARMAGH	Northern Ireland	3	1-10
BEDFORDSHIRE	England	403	400-500
BERKSHIRE	England	3	1-10
BRISTOL	England	2	1-10
BUCKINGHAMSHIRE	England	312	300-400
CAMBRIDGESHIRE	England	192	150-200
CARMARTHENSHIRE	Wales	1	1-10
CORNWALL	England	19	10-50
DERBYSHIRE	England	1	1-10
DEVON	England	72	50-100
DORSET	England	166	150-200
DOWN	Northern Ireland	111	100-150
DUMFRIES AND GALLOWAY	Scotland	25	10-50
DURHAM	England	7	1-10
EAST AYRSHIRE	Scotland	31	10-50
EDINBURGH	Scotland	1	1-10
ESSEX	England	1021	>500
FALKIRK	Scotland	22	10-50
FERMANAGH	Northern Ireland	1	1-10
GLASGOW	Scotland	159	150-200
GLOUCESTERSHIRE	England	617	>500
GREATER LONDON	England	439	400-500
HAMPSHIRE	England	34	10-50
HEREFORDSHIRE	England	33	10-50
HERTFORDSHIRE	England	545	>500
LINCOLNSHIRE	England	1	1-10
LONDONDERRY	Northern Ireland	13	10-50
MERSEYSIDE	England	1	1-10
MONMOUTHSHIRE	Wales	3	1-10
NORFOLK	England	16	10-50
NORTH LANARKSHIRE	Scotland	55	50-100
NORTH YORKSHIRE	England	28	10-50
NORTHAMPTONSHIRE	England	8	1-10
NOTTINGHAMSHIRE	England	3	1-10
OXFORDSHIRE	England	6	1-10
PERTHSHIRE AND KINROSS	Scotland	28	10-50
RENFREWSHIRE	Scotland	31	10-50
SHROPSHIRE	England	3	1-10
SOMERSET	England	529	>500
SOUTH YORKSHIRE	England	10	10-50
SUFFOLK	England	291	250-300
SURREY	England	22	10-50
SUSSEX	England	1	1-10
TYRONE	Northern Ireland	8	1-10
WARWICKSHIRE	England	1	1-10
WILTSHIRE	England	334	300-400