UK lineages summary report

This report gives summaries of lineages sampled in England for week 2020-05-29. There are time lags due to batching, curation and analysis, the most recently sampled sequence is 2020-05-23. The analysis (eg time since last sample) is therefore undertaken from this date. 13522 sequences from England have been included in this analysis. 4680 lineages have been recorded, 3565 of which only contain one sequence.

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 4822 and the maximum is 7104

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

4356 are lineages which were sampled less than five times in England, 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 324 that remain: 125 are pending extinction, ie last seen three weeks ago. 136 have not been seen for more than one month, and so are viewed as extinct, but will continue to be monitored. 36 lineages have gone quiet, ie haven't been seen this week. 9 lineages have reactivated. 18 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 lienages 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	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK5	Mar-03, May-22	1000	B.1.1.1, B.1.1, B.1	1	0.0668
UK701	Feb-03, May-10	244	B.1, B.1.p11	13	0.0248
UK2464	Mar-09, May-11	240	B.1.p11	12	0.0145
UK9	Mar-09, May-05	199	B.1.13	18	0.0159
UK4	Feb-28, May-01	138	B	22	0.019

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK19	Mar-09, May-10	137	B.1	13	0.022
UK6	Mar-06, May-13	112	B.1	10	0.0591
UK494	Mar-20, May-05	105	B.1.p11	18	0.0241
UK63	Mar-18, May-05	103	B.1.1	18	0.0254
UK36	Mar-19, May-12	81	B.1	11	0.0167

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.

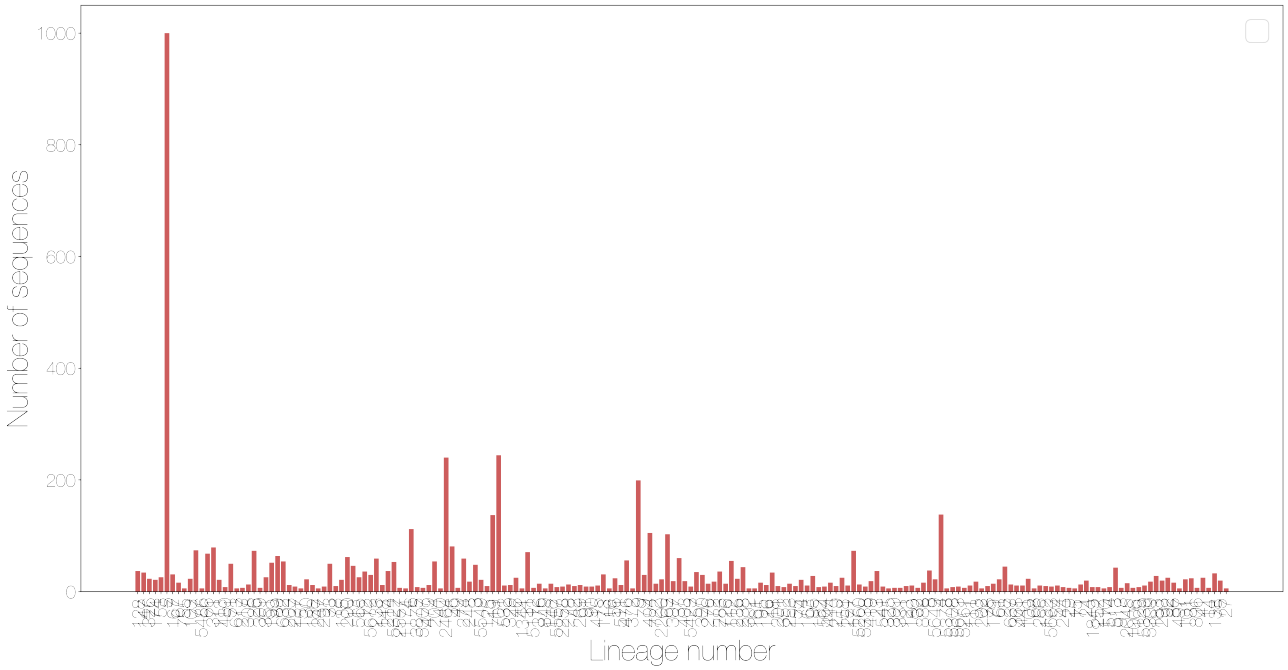

Figure 1: Number of sequences sampled in a lineage by country

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 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.

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.

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

NB the lineage may have started anywhere in the UK, but has been recorded at least once in England

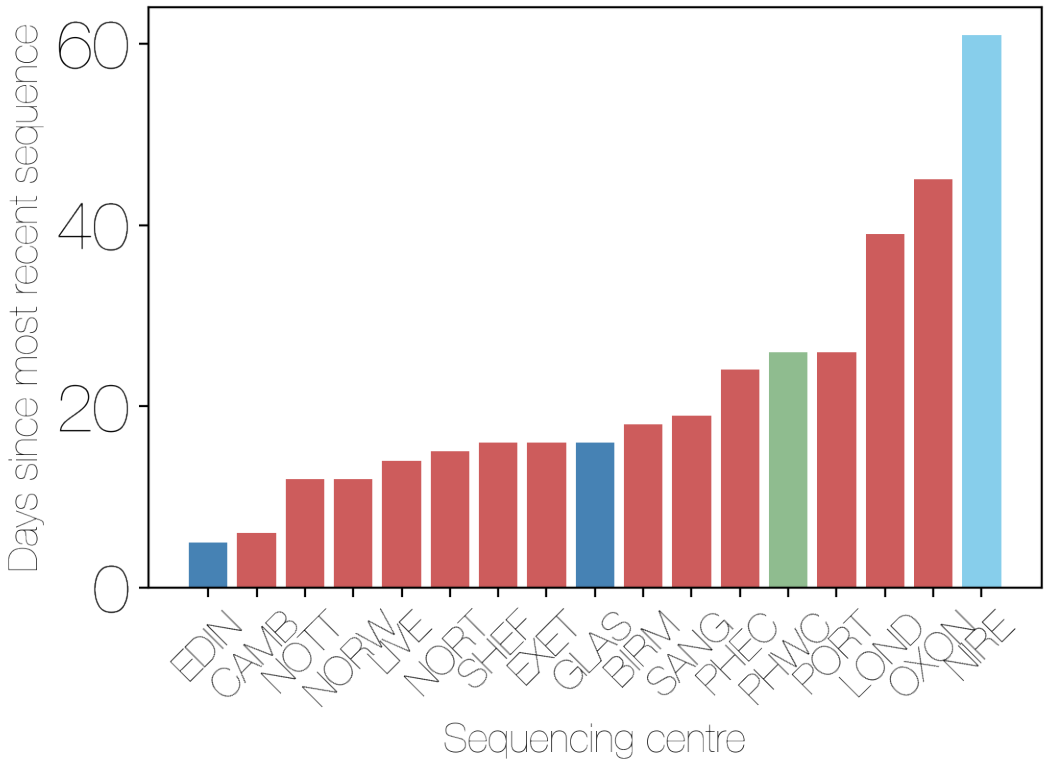

Figure 2: Lag since the most recent sequence from each sequencing centre to most current date

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.

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.

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.

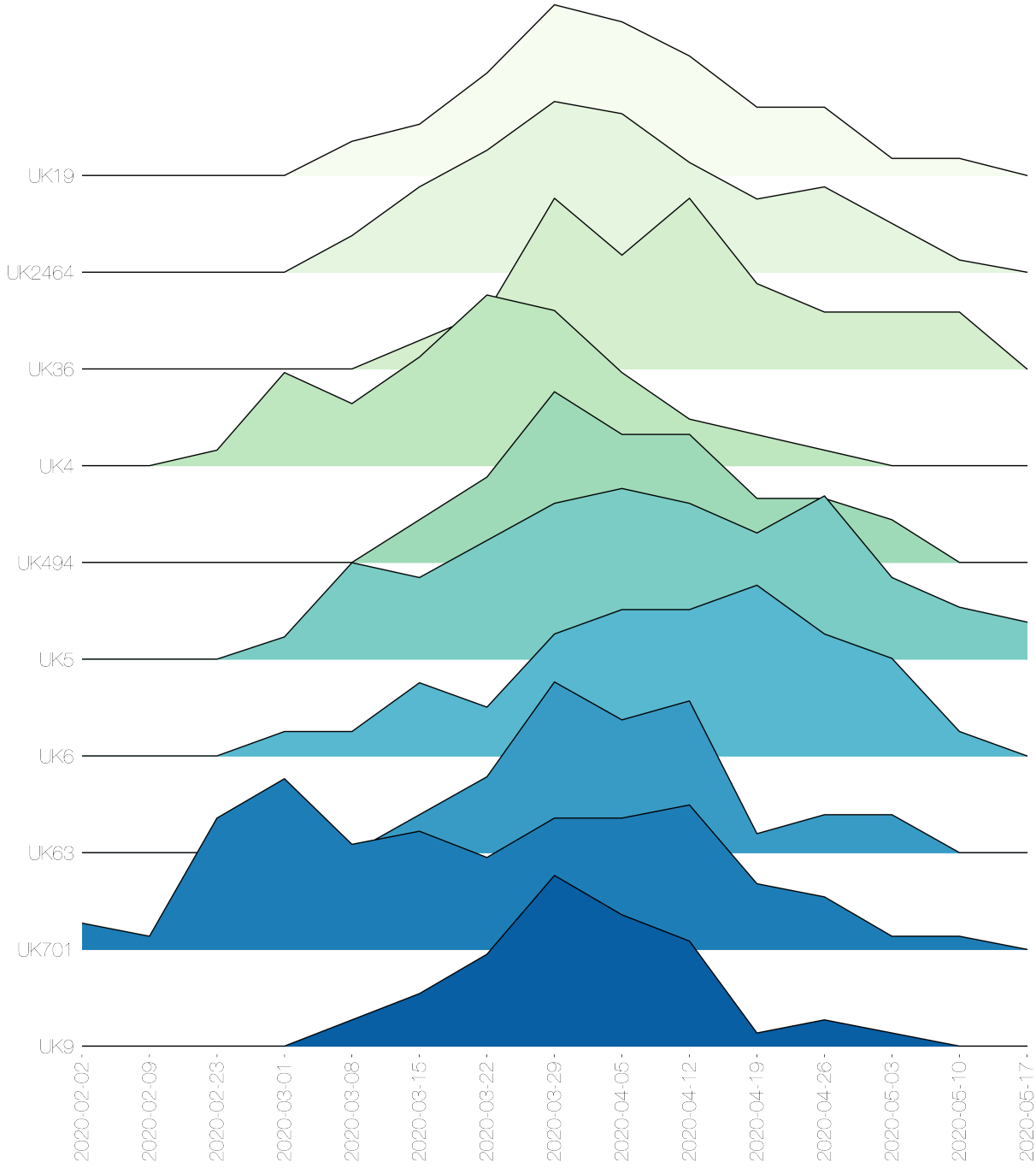

Figure 3: Lineages by number of adm2 regions present by epiweek

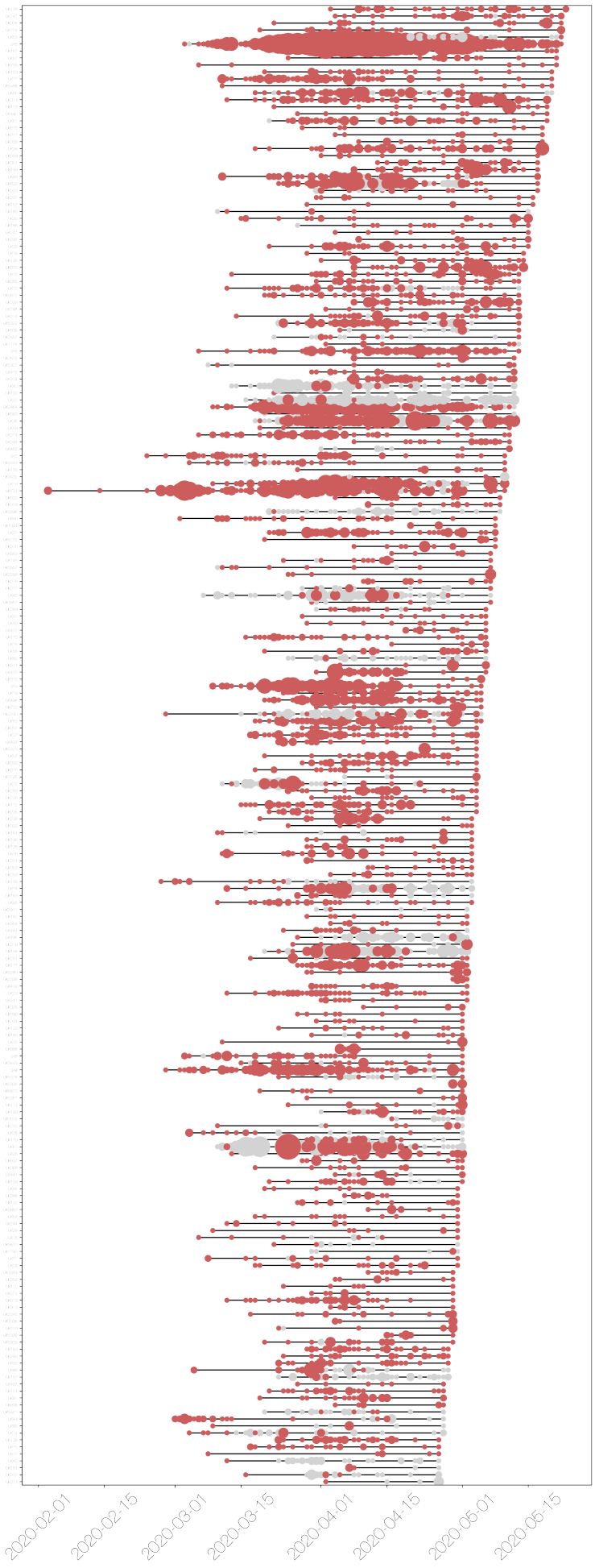

Figure 4: Timeline of lineages, sized by number of sequences from each country.

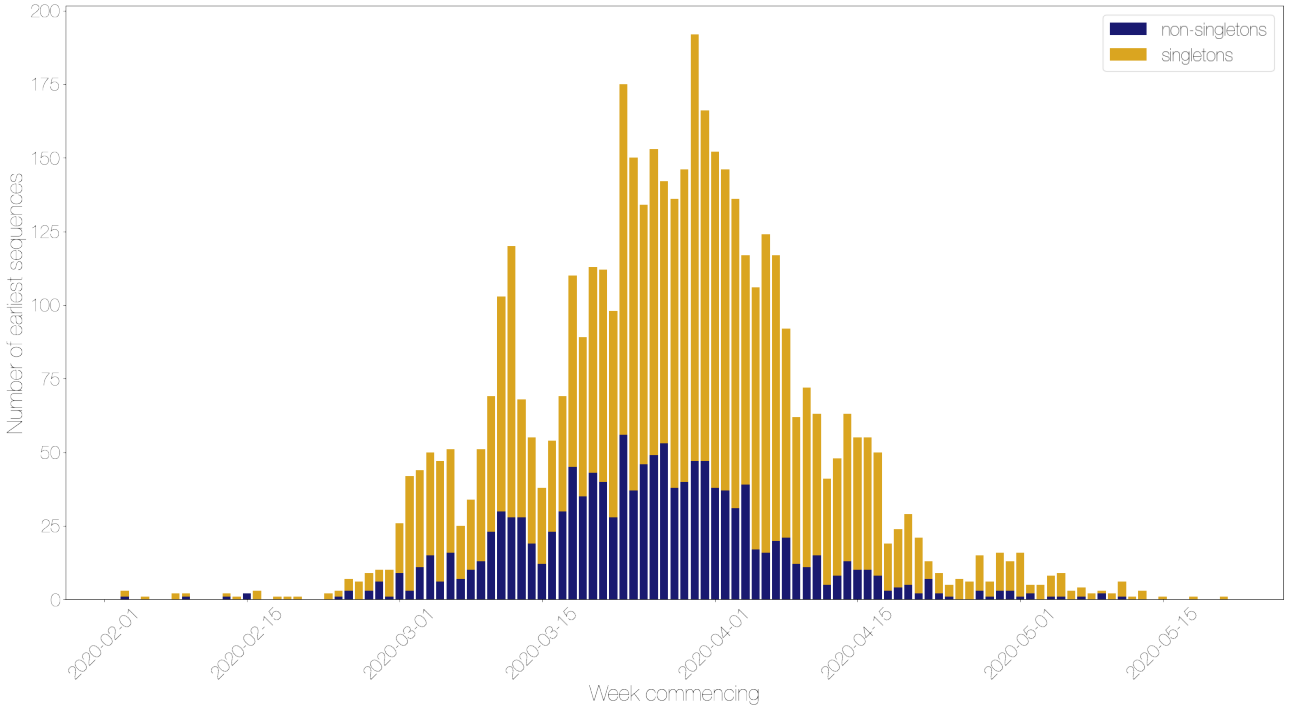

Figure 5: Lineage starts per week, split by singletons and non-singletons

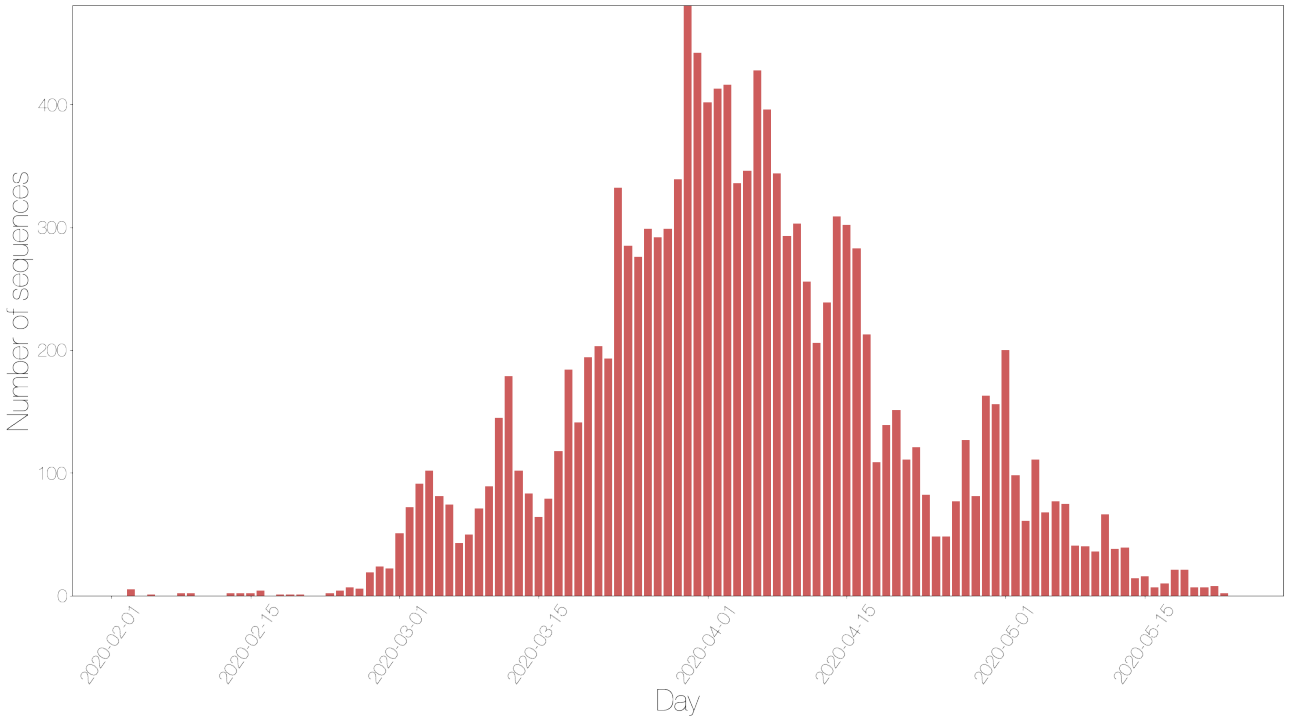

Figure 6: Sequences taken on each day by country

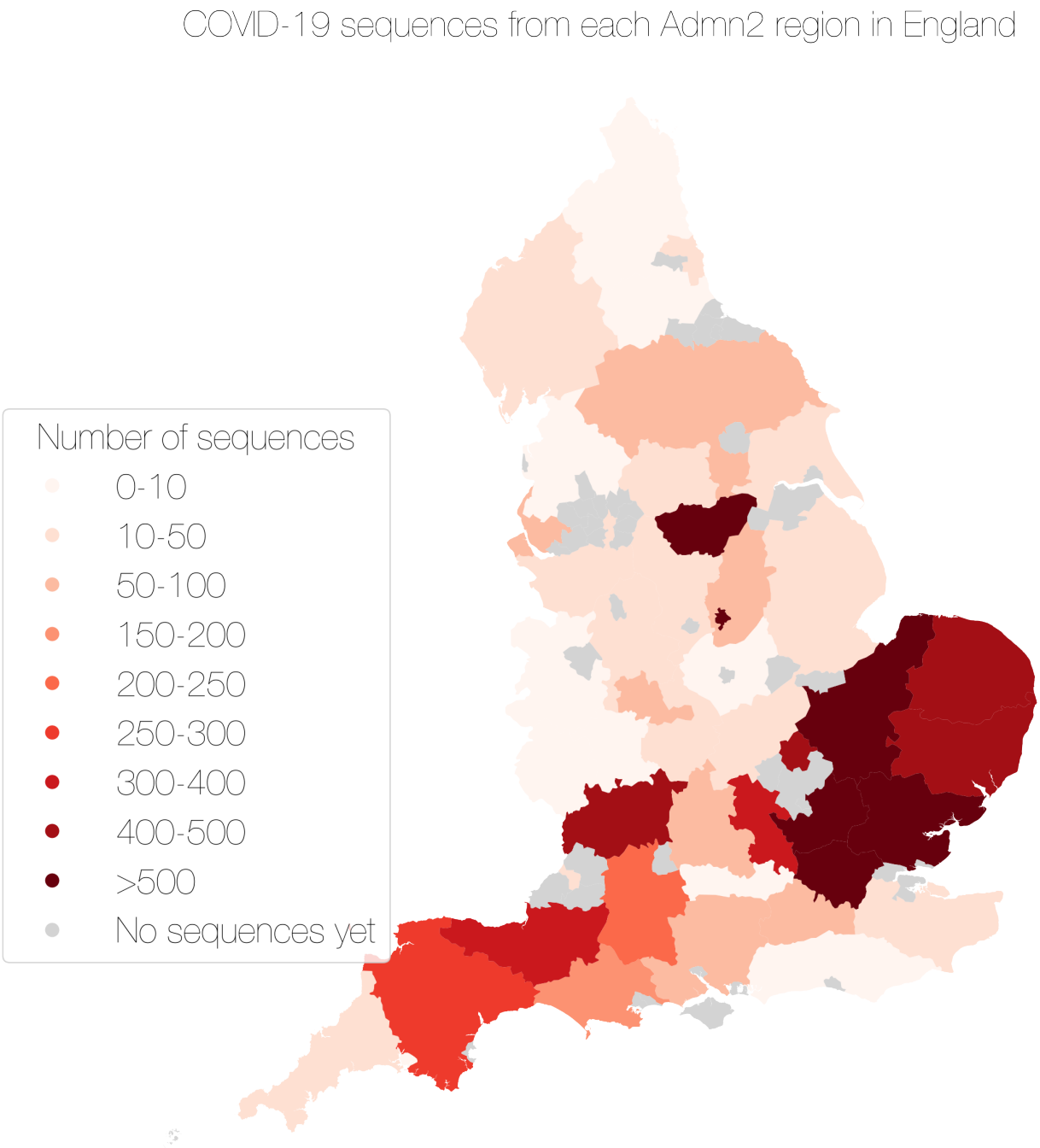

Figure 7: Map showing the number of sequences sampled by adm2 region

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	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK5	Mar-03, May-22	1000	B.1.1.1, B.1.1, B.1	1	0.0668
UK701	Feb-03, May-10	244	B.1, B.1.p11	13	0.0248
UK2464	Mar-09, May-11	240	B.1.p11	12	0.0145
UK9	Mar-09, May-05	199	B.1.13	18	0.0159
UK4	Feb-28, May-01	138	B	22	0.019
UK19	Mar-09, May-10	137	B.1	13	0.022
UK6	Mar-06, May-13	112	B.1	10	0.0591
UK494	Mar-20, May-05	105	B.1.p11	18	0.0241
UK63	Mar-18, May-05	103	B.1.1	18	0.0254
UK36	Mar-19, May-12	81	B.1	11	0.0167
UK371	Mar-12, May-19	79	B.1.1	4	0.2179
UK77	Mar-11, May-20	74	B.2, B.2.4	3	0.303
UK177	Mar-27, May-02	73	B.1.1	21	0.0238
UK26	Mar-18, May-18	73	B.1.1.3	5	0.1694
UK31	Mar-21, May-08	71	B.1	15	0.0457
UK107	Mar-15, Apr-21	68	B.2.5, B.2, B.2.1	32	0.0173
UK66	Mar-18, May-01	68	B.1.1.8	22	0.25
UK89	Mar-11, May-17	64	B.1.1.9	6	0.1718
UK200	Apr-08, May-14	62	B.1.p11	9	0.0656
UK194	Mar-19, Apr-24	61	B.1.1	29	0.0207
UK343	Mar-28, Apr-24	60	B.1	29	0.0158

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK37	Mar-17, May-04	60	B.1, B.1.30	19	0.0414
UK233	Apr-08, May-13	59	B.1.1	10	0.0603
UK274	Mar-06, May-11	59	B.3, B	12	0.0902
UK115	Mar-15, Apr-20	58	B.2.1	33	0.0188
UK476	Mar-31, May-06	56	B.1.1	17	0.0385
UK112	Mar-15, May-04	55	B.1.1.p11, B.1.1	19	0.0487
UK632	Mar-23, May-17	54	B.1.1	6	0.0611
UK204	Apr-07, May-12	54	B.1.1	11	0.06
UK5322	Mar-24, May-13	53	B.1.1	10	0.0689
UK199	Apr-08, May-17	52	B.1.5.5	6	0.1275
UK62	Mar-12, Apr-23	52	B.3	30	0.0259
UK51	Mar-25, May-19	50	B.1.36	4	0.2634
UK33	Mar-21, May-15	50	B.1.1	8	0.1348
UK3	Feb-24, May-10	48	B.1	13	0.1244
UK94	Mar-12, Apr-19	47	B.2, B.2.1	34	0.0243
UK11	Mar-06, Apr-11	46	B.1	42	0.0181
UK13	Mar-13, May-13	46	B.1.1	10	0.1356
UK28	Mar-13, May-01	45	B.1.1.10	22	0.0506
UK238	Mar-19, May-03	44	B.1.1	20	0.0523
UK513	Mar-12, Apr-29	43	B.1.p11	24	0.0476
UK8	Mar-03, May-01	38	B	22	0.0654
UK23	Mar-12, May-02	37	B, B.9	21	0.0656
UK214	Mar-14, May-13	37	B.1.1	10	0.1622
UK2240	Mar-01, Apr-19	37	B.1	34	0.0379

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK128	Apr-03, May-23	37	B.1.1	0	active today
UK283	Mar-25, May-04	36	B.1.1	19	0.0602
UK12	Mar-12, May-07	36	B.1.p11	16	0.1148
UK346	Mar-16, Apr-19	36	B.1.72, B.1	34	0.0286
UK57	Mar-20, May-04	35	B.1.1	19	0.0697
UK18	Mar-11, May-03	34	B.1.1.7	20	0.0803
UK147	Apr-04, May-22	34	B.1.1	1	1.4118
UK131	Mar-11, Apr-14	34	B.15	39	0.0229
UK138	Mar-23, Apr-26	33	B.2.1	27	0.0394
UK167	Mar-29, May-21	31	B.1.66, B.1	2	0.8833
UK173	Mar-16, May-06	31	B	17	0.1
UK5672	Mar-20, May-13	30	B.2	10	0.1862
UK300	Mar-28, May-04	30	B.1.1	19	0.0672
UK79	Mar-24, May-05	30	B.1	18	0.0805
UK1845	Mar-01, Apr-07	30	B	46	0.0296
UK241	Mar-22, Apr-16	29	B.1.5.3	37	0.0241
UK183	Mar-29, Apr-28	28	B.1.1	25	0.0444
UK116	Feb-25, Apr-01	28	B.2.1	52	0.0256
UK95	Mar-10, May-03	28	B.2.1	20	0.0964
UK565	Mar-31, May-13	26	B.1.1	10	0.172
UK351	Apr-13, May-17	26	B.1.1, B.1.1.10	6	0.2267
UK53	Mar-26, May-22	26	B.1.1.4	1	1.1633
UK144	Mar-05, Apr-07	26	B.2.1	46	0.0287
UK158	Mar-23, Apr-19	25	B.1.1, B.1.1.2	34	0.0123

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK92	Mar-23, Apr-28	25	B.1.1	25	0.06
UK41	Mar-01, Apr-15	25	B.1	38	0.0664
UK46	Mar-02, May-08	25	B.2.1	15	0.1787
UK5675	Mar-03, Apr-10	25	B.2	43	0.0327
UK64	Mar-12, Apr-17	24	B.1	36	0.0369
UK81	Mar-19, Apr-27	24	B.1.1	26	0.0625
UK56	Mar-20, May-06	24	B.1.1	17	0.1202
UK119	Mar-11, Apr-16	23	B.2.5	37	0.0324
UK109	Mar-21, May-01	23	B.1.5	22	0.0745
UK235	Mar-21, May-04	23	B.1.1	19	0.1053
UK103	Mar-20, May-20	23	B.1.1	3	0.9242
UK326	Mar-22, May-22	23	B.1.1.10	1	2.7727
UK101	Mar-21, Apr-27	22	B.1.5	26	0.0647
UK61	Mar-12, Apr-21	22	B.3	32	0.0065
UK2200	Feb-28, May-04	22	B.1.5.6, B.1.5	19	0.0418
UK5649	Mar-15, May-01	22	B.2.6	22	0.089
UK30	Mar-15, May-15	22	B.1.1	8	0.3631
UK114	Mar-16, Apr-21	22	B.1.1	32	0.0536
UK279	Mar-26, Apr-25	22	B.1.1	28	0.051
UK74	Mar-12, Apr-16	21	B.1	37	0.0224
UK5549	Mar-04, May-10	21	B.2.2	13	0.2241
UK384	Mar-14, Apr-02	21	B.2.1	51	0.0186
UK174	Mar-19, May-22	21	B.1.5	1	3.2
UK135	Apr-01, May-14	21	B.1.p11	9	0.2389

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK113	Mar-22, May-19	21	B.1.1	4	0.725
UK293	Mar-24, Apr-28	20	B.1	25	0.0737
UK75	Mar-17, Apr-26	20	B.1, B.1.34	27	0.078
UK24	Mar-18, Apr-30	20	B.1.1, B.1.1.10	23	0.0984
UK291	Mar-13, Apr-05	20	B.2.1	48	0.024
UK514	Mar-30, Apr-13	19	B.1.1	40	0.0194
UK419	Mar-30, May-02	19	B.1.1	21	0.0873
UK403	Mar-23, May-04	19	B.1.1	19	0.1228
UK307	Mar-28, May-04	19	B.1.1	19	0.1082
UK5309	Mar-20, Apr-29	18	B.1.1, B.1.1.10	24	0.0833
UK117	Feb-28, Apr-04	18	B.2.1	49	0.0432
UK248	Apr-08, May-11	18	B.1.1	12	0.1618
UK193	Apr-07, May-01	18	B.1.1	22	0.0505
UK143	Mar-14, Apr-16	18	B.2.1	37	0.0525
UK72	Mar-13, May-04	18	B.10	19	0.0374
UK444	Mar-24, Apr-17	16	B.1.1	36	0.1161
UK86	Mar-05, Apr-10	16	B.1	43	0.0568
UK888	Apr-05, May-01	16	B.1.1	22	0.0788
UK195	Mar-29, May-03	16	B.1.1	20	0.1167
UK67	Mar-25, May-21	16	B.1.1	2	1.9
UK134	Mar-04, Apr-07	15	B.1	46	0.0411
UK374	Apr-01, Apr-20	15	B.1.1	33	0.0411
UK2045	Mar-17, Apr-29	15	B.1, B	24	0.128
UK5084	Mar-23, Apr-16	15	B.2.1, B.1, B.1.p11	37	0.0405

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK146	Mar-24, May-07	14	B.1.1	16	0.1964
UK5409	Mar-22, Apr-19	14	B.1.1	34	0.0633
UK236	Mar-27, Apr-22	14	B.1.1	31	0.0599
UK254	Mar-20, Apr-14	14	B.1.1	39	0.0493
UK249	Apr-01, Apr-25	14	B.1.1	28	0.0638
UK5180	Apr-04, Apr-24	14	B.1.1.7	29	0.0531
UK722	Mar-31, May-05	14	B.1.1	18	0.1496
UK179	Mar-26, Apr-18	14	B.1.1.p11	35	0.0584
UK276	Mar-18, May-04	14	B.1.1	19	0.1903
UK376	Apr-08, May-08	14	B.1.1	15	0.1538
UK726	Mar-30, May-04	14	B.1	19	0.1417
UK153	Mar-13, Apr-14	14	B.2	39	0.0631
UK45	Mar-02, Apr-15	14	B.1.1	38	0.0606
UK253	Apr-03, May-03	14	B.1.1	20	0.1154
UK378	Feb-15, Mar-05	13	B.1.1	79	0.02
UK34	Feb-15, Apr-02	13	B.4	51	0.0768
UK278	Apr-10, May-07	13	B.1.1	16	0.1406
UK5260	Mar-29, May-02	13	B.1.1	21	0.1349
UK637	Mar-28, May-01	13	B.1.1	22	0.1288
UK71	Mar-08, Apr-30	13	B	23	0.1773
UK5498	Apr-01, Apr-20	13	B.2	33	0.0653
UK354	Mar-18, Apr-07	13	B.1.1	46	0.0362
UK308	Apr-09, May-18	13	B.1.1	5	0.65
UK397	Mar-28, Apr-14	13	B.1.1.13	39	0.0311

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK501	Apr-03, Apr-22	13	B.1, B	31	0.0511
UK604	Mar-09, Mar-12	12	B.1.1	72	0.0103
UK126	Mar-29, May-03	12	B.1.1	20	0.1591
UK5715	Feb-13, Apr-05	12	B.2	48	0.1855
UK168	Mar-16, Apr-16	12	B.2.1	37	0.0762
UK347	Mar-13, Apr-02	12	B.1	51	0.0357
UK694	Mar-06, Mar-14	12	B	70	0.0104
UK203	Apr-01, May-17	12	B.1.1	6	0.5222
UK329	Apr-11, May-09	12	B.1.1	14	0.1818
UK511	Apr-05, May-06	12	B.1.1	17	0.1658
UK186	Apr-08, May-15	12	B	8	0.5104
UK269	Apr-03, May-06	12	B.1.1	17	0.1513
UK479	Mar-30, May-12	12	B.1.1	11	0.3554
UK148	Apr-02, May-13	12	B.1.1	10	0.3727
UK240	Mar-16, Apr-11	11	B.2	42	0.0619
UK141	Mar-22, Apr-24	11	B.1.1	29	0.1138
UK1018	Apr-20, Apr-21	11	B.1.1	32	0.0031
UK415	Apr-19, May-06	11	B.1	17	0.1
UK180	Mar-30, May-01	11	B.1.1	22	0.1322
UK428	Mar-20, Apr-06	11	B.2, B.2.1	47	0.0362
UK163	Mar-27, Apr-16	11	B.1.1	37	0.1156
UK47	Mar-17, Apr-13	11	B.1.1	40	0.045
UK368	Mar-18, May-01	11	B.1	22	0.2
UK532	Apr-04, May-09	11	B.1.1	14	0.25

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK441	Apr-04, May-01	11	B.1.1	22	0.0944
UK251	Mar-17, May-02	11	B.1.1	21	0.1991
UK266	Apr-06, Apr-30	11	B.1	23	0.1043
UK54	Mar-18, Apr-30	11	B.1.1.10	23	0.187
UK5339	Apr-15, Apr-29	11	B.1.1	24	0.0583
UK111	Mar-25, May-01	11	B.1.1	22	0.1529
UK759	Mar-28, Apr-04	11	B.1.1	49	0.0143
UK255	Mar-26, Apr-20	10	B.1.1	33	0.0758
UK22	Mar-02, Apr-21	10	B	32	0.1736
UK132	Mar-27, Apr-30	10	B.1	23	0.1232
UK42	Mar-28, Apr-28	10	B.1, B.1.35	25	0.0307
UK687	Feb-28, Mar-08	10	B.2, B.2.1	76	0.0132
UK125	Mar-27, May-10	10	B.1.1	13	0.3761
UK219	Mar-26, May-02	10	B.1.1	21	0.1468
UK123	Mar-23, May-01	10	B.1	22	0.197
UK178	Mar-14, Apr-13	10	B.1.1	40	0.0833
UK155	Feb-27, Mar-24	10	B.1	60	0.1833
UK38	Mar-04, Apr-20	10	B.2.1	33	0.1648
UK171	Mar-13, Apr-13	10	B.2, B.2.1	40	0.0861
UK220	Mar-27, Apr-22	10	B.1.1	31	0.0932
UK201	Mar-29, May-03	10	B.1	20	0.1944
UK909	Apr-13, Apr-20	10	B.1	33	0.0236
UK78	Mar-29, May-14	10	B.1.5	9	0.5679
UK242	Mar-26, Apr-20	10	B.1.5	33	0.0842

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK564	Apr-03, May-02	9	B.1.1	21	0.1726
UK802	Mar-21, Apr-22	9	B.1	31	0.129
UK541	Apr-01, May-02	9	B.1.1	21	0.1845
UK569	Mar-23, Apr-10	9	B.1.1	43	0.0523
UK5423	Apr-23, May-04	9	B.1.1	19	0.0724
UK5338	Apr-29, May-02	9	B.1.1	21	0.0179
UK2258	Mar-25, May-07	9	B.1.5, B.1	16	0.3359
UK142	Mar-15, Apr-17	9	B.2.1	36	0.1146
UK432	Mar-24, Apr-09	9	B.3	44	0.0455
UK237	Mar-31, May-16	9	B.1.1	7	0.8214
UK312	Mar-01, Mar-23	9	B.1.1	61	0.0451
UK190	Mar-01, Mar-30	9	B.1	54	0.0671
UK5685	Mar-17, Apr-13	9	B.2	40	0.0614
UK5663	Apr-11, Apr-30	9	B.2	23	0.1033
UK90	Mar-29, May-06	9	B.1.1	17	0.2794
UK91	Mar-28, May-06	9	B.1.1	17	0.2868
UK1737	Mar-11, Apr-14	9	B.1	39	0.0969
UK5673	Mar-19, May-01	9	B.2	22	0.2443
UK297	Apr-09, May-15	9	B.1.p11	8	0.5625
UK645	Mar-29, Apr-08	9	B.2.1	45	0.0278
UK1013	Apr-15, Apr-16	8	B.1.1	37	0.0039
UK311	Mar-20, Apr-11	8	B.1.1	42	0.0748
UK70	Mar-06, Apr-16	8	B.2	37	0.1108
UK5707	Mar-18, Apr-14	8	B.2	39	0.0989

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK252	Apr-04, Apr-29	8	B.1.1	24	0.1488
UK318	Mar-20, Apr-10	8	B	43	0.0698
UK129	Mar-23, Apr-29	8	B.1.1	24	0.1927
UK480	Mar-27, May-19	8	B.1.1.10, B.1.1	4	1.8929
UK287	Mar-28, Apr-18	8	B.1	35	0.0657
UK223	Mar-10, Apr-06	8	B.2.1	47	0.0821
UK306	Mar-26, Apr-10	8	B.1.1	43	0.0436
UK341	Mar-23, Apr-12	8	B.1	41	0.0697
UK324	Mar-31, Apr-21	8	B.1.1	32	0.0938
UK335	Mar-25, Apr-15	8	B.2.1	38	0.0789
UK1849	Apr-11, Apr-29	8	B.1.1	24	0.1071
UK733	Mar-10, Apr-22	8	B.2.1	31	0.1982
UK739	Mar-01, Mar-08	8	B.4	76	0.0132
UK5563	Apr-11, Apr-22	8	B.2.2	31	0.0507
UK83	Feb-29, Apr-08	8	B.1.1	45	0.0867
UK5505	Mar-23, Apr-21	8	B.2, B.1	32	0.1295
UK352	Apr-11, May-03	8	B.1.1	20	0.1571
UK5557	Mar-11, May-07	8	B.2.2	16	0.4028
UK788	Feb-28, Mar-05	8	B.4	79	0.0108
UK756	Feb-27, Mar-05	8	B.1.1	79	0.0127
UK5308	Apr-29, May-01	8	B.1.1	22	0.013
UK574	Mar-30, Apr-29	8	B.1.1	24	0.1786
UK3875	Apr-08, May-12	8	B.1.1	11	0.4416
UK182	Mar-29, May-02	8	B.1.1	21	0.2313

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK5178	Mar-21, Apr-17	8	B.1.1.7	36	0.1071
UK244	Mar-12, Apr-30	8	B.1.1	23	0.2663
UK634	Mar-30, Apr-18	7	B.1.1	35	0.0905
UK487	Mar-24, Apr-08	7	B.1.1	45	0.0556
UK213	Mar-18, Apr-17	7	B.1.1	36	0.1389
UK510	Apr-02, Apr-16	7	B.1.1	37	0.0631
UK5307	Mar-10, May-12	7	B.1.1	11	0.7386
UK913	Apr-03, Apr-29	7	B.1	24	0.1806
UK188	Mar-07, Apr-15	7	B.1	38	0.1466
UK232	Mar-04, Mar-30	7	B.1.1	54	0.0802
UK29	Mar-09, Apr-30	7	B.1.1	23	0.3768
UK49	Mar-19, May-11	7	B.2.1	12	0.7361
UK309	Apr-01, May-17	7	B.1.1	6	1.2778
UK692	Mar-04, Apr-03	7	B.2, B, B.2.1	50	0.1
UK540	Apr-09, Apr-22	7	B.1.1, B.1.1.p15	31	0.0699
UK5174	Mar-26, Apr-07	7	B.1.1.7	46	0.0373
UK1006	Apr-04, Apr-29	7	B.1.1	24	0.1736
UK206	Mar-22, Apr-19	7	B.2.1	34	0.1373
UK65	Mar-07, Apr-17	7	B.1.1	36	0.1627
UK69	Mar-04, Apr-14	7	B.2.1	39	0.1502
UK5261	Mar-29, May-01	7	B.1.1	22	0.25
UK317	Mar-26, Apr-16	7	B.3	37	0.0946
UK390	Mar-27, May-01	7	B.1.5	22	0.2652
UK14	Mar-04, Apr-01	7	B	52	0.067

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK629	Mar-23, Apr-13	7	B.1	40	0.0875
UK5112	Mar-20, May-08	7	B.1, B.2.1	15	0.5444
UK5177	Mar-27, Apr-11	7	B.1.1.7	42	0.0595
UK268	Mar-23, Apr-16	7	B.1.1	37	0.0649
UK217	Apr-04, May-18	7	B.1.1	5	1.4667
UK331	Mar-31, May-01	7	B.1.1	22	0.2348
UK32	Mar-11, May-01	7	B.1.1	22	0.3864
UK2557	Apr-01, May-13	7	B.1.p11	10	0.325
UK806	Apr-04, Apr-27	7	B.1.1.10	26	0.1474
UK682	Mar-21, Mar-30	6	B.2, B.2.1	54	0.0333
UK647	Mar-21, Mar-27	6	B.2, B.2.1	57	0.0292
UK270	Mar-13, Apr-09	6	B.3	44	0.1227
UK5666	Mar-13, Apr-05	6	B.2	48	0.0958
UK755	Mar-06, May-21	6	B.1.1	2	7.6
UK544	Mar-24, Apr-06	6	B.2.1	47	0.0553
UK654	Feb-27, Mar-08	6	B.2.5	76	0.0263
UK716	Mar-31, Apr-08	6	B.1.1	45	0.0356
UK440	Mar-28, Apr-13	6	B.1.1.10	40	0.08
UK517	Mar-29, Apr-12	6	B.1.1	41	0.0683
UK799	Mar-01, Mar-07	6	B.1	77	0.0156
UK5581	Mar-11, Apr-08	6	B.2.2	45	0.1244
UK1023	Apr-07, Apr-16	6	B.1.1	37	0.0486
UK673	Mar-28, May-18	6	B.1.1	5	2.04
UK68	Mar-20, Apr-30	6	B.1.1	23	0.3565

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK263	Mar-20, Apr-13	6	B.1.p11	40	0.12
UK849	Apr-16, May-07	6	B.1.1	16	0.2625
UK325	Apr-10, May-01	6	B.1.1	22	0.1909
UK110	Mar-24, Apr-29	6	B.1	24	0.3
UK542	Apr-01, Apr-14	6	B.1	39	0.0667
UK16	Apr-16, May-06	6	B.1.1	17	0.2353
UK435	Apr-03, Apr-23	6	B.1.5	30	0.1333
UK302	Mar-25, May-03	6	B.1.1	20	0.39
UK161	Mar-10, May-03	6	B.1.1	20	0.27
UK372	Apr-16, May-05	6	B.1.1	18	0.2111
UK497	Mar-27, Apr-27	6	A.2	26	0.2385
UK1344	Apr-20, May-08	6	B	15	0.24
UK58	Mar-17, Apr-09	6	B.1	44	0.053
UK15	Mar-06, Apr-30	6	B.1.1	23	0.2657
UK5378	Mar-23, May-01	6	B.1.1	22	0.1043
UK157	Mar-29, May-16	6	B.1	7	1.3714
UK746	Mar-31, Apr-14	6	B.1.5	39	0.0718
UK247	Apr-04, May-15	6	B.1.1	8	1.025
UK202	Mar-10, Apr-30	6	B.1.1	23	0.2149
UK5703	Mar-06, Apr-07	6	B.2	46	0.1429
UK489	Mar-23, Apr-07	6	B.2.1	46	0.0652
UK481	Mar-30, Apr-14	6	B.1.1	39	0.0769
UK659	Mar-21, Mar-30	6	B	54	0.0333
UK447	Apr-05, Apr-21	6	B.1.1	32	0.1

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK284	Apr-02, Apr-25	6	B.1.1	28	0.1643
UK512	Mar-30, Apr-13	6	B.1.1	40	0.07
UK570	Apr-05, Apr-17	6	B.1.1	36	0.0667
UK102	Mar-10, Apr-16	6	B.1	37	0.2
UK735	Mar-13, Apr-16	6	B.3	37	0.1838
UK5486	Mar-11, May-20	6	B.2, B.1.1	3	4.6667
UK280	Mar-30, Apr-15	6	B.1.1	38	0.0842
UK680	Apr-05, Apr-14	6	B.1	39	0.0462
UK330	Mar-23, Apr-13	6	B.1.1	40	0.0875
UK40	Mar-31, Apr-20	6	B.16	33	0.041
UK1174	Apr-02, May-12	6	B.1.1	11	0.6833
UK313	Mar-23, Apr-14	6	B.1.1	39	0.1128
UK989	Mar-21, Apr-19	6	B.1	34	0.1706
UK27	Mar-08, Apr-26	6	B.1.1	27	0.363
UK857	Mar-24, Mar-29	6	B.2.1	55	0.0182

Table S2 Raw data for figure three showing the number of admin2 regions a lineage is present in over time

Week commencing	UK5	UK701	UK2464	UK9	UK4	UK19	UK6	UK494	UK63	UK36
2020-02-02	0	2	0	0	0	0	0	0	0	0
2020-02-09	0	1	0	0	0	0	0	0	0	0
2020-02-23	0	10	0	0	1	0	0	0	0	0
2020-03-01	3	13	0	0	6	0	1	0	0	0
2020-03-08	13	8	3	2	4	2	1	0	0	0
2020-03-15	11	9	7	4	7	3	3	2	2	1
2020-03-22	16	7	10	7	11	6	2	4	4	2
2020-03-29	21	10	14	13	10	10	5	8	9	6
2020-04-05	23	10	13	10	6	9	6	6	7	4
2020-04-12	21	11	9	8	3	7	6	6	8	6
2020-04-19	17	5	6	1	2	4	7	3	1	3
2020-04-26	22	4	7	2	1	4	5	3	2	2
2020-05-03	11	1	4	1	0	1	4	2	2	2
2020-05-10	7	1	1	0	0	1	1	0	0	2
2020-05-17	5	0	0	0	0	0	0	0	0	0

Table S3 is not appropriate for this report and so has been omitted.

Table S4 Raw data for figure six showing when lineages started per day, divided by singletons and non-singletons

Day	Number of singleton starts	Number of non-singleton starts	Total
2020-02-03	2	1	3
2020-02-05	1	0	1
2020-02-08	2	0	2
2020-02-09	1	1	2
2020-02-13	1	1	2
2020-02-14	1	0	1
2020-02-15	0	2	2
2020-02-16	3	0	3
2020-02-18	1	0	1
2020-02-19	1	0	1
2020-02-20	1	0	1
2020-02-23	2	0	2
2020-02-24	2	1	3
2020-02-25	4	3	7
2020-02-26	6	0	6
2020-02-27	6	3	9
2020-02-28	4	6	10
2020-02-29	9	1	10
2020-03-01	17	9	26
2020-03-02	39	3	42
2020-03-03	33	11	44
2020-03-04	35	15	50
2020-03-05	41	6	47
2020-03-06	35	16	51
2020-03-07	18	7	25
2020-03-08	24	10	34
2020-03-09	38	13	51
2020-03-10	46	23	69
2020-03-11	73	30	103
2020-03-12	92	28	120
2020-03-13	40	28	68
2020-03-14	36	19	55
2020-03-15	26	12	38
2020-03-16	31	23	54
2020-03-17	39	30	69
2020-03-18	65	45	110
2020-03-19	54	35	89
2020-03-20	70	43	113
2020-03-21	72	40	112
2020-03-22	70	28	98
2020-03-23	119	56	175
2020-03-24	113	37	150
2020-03-25	88	46	134
2020-03-26	104	49	153
2020-03-27	89	53	142
2020-03-28	98	38	136

Day	Number of singleton starts	Number of non-singleton starts	Total
2020-03-29	106	40	146
2020-03-30	145	47	192
2020-03-31	119	47	166
2020-04-01	114	38	152
2020-04-02	109	37	146
2020-04-03	105	31	136
2020-04-04	78	39	117
2020-04-05	89	17	106
2020-04-06	108	16	124
2020-04-07	97	20	117
2020-04-08	71	21	92
2020-04-09	50	12	62
2020-04-10	61	11	72
2020-04-11	48	15	63
2020-04-12	36	5	41
2020-04-13	40	8	48
2020-04-14	50	13	63
2020-04-15	45	10	55
2020-04-16	45	10	55
2020-04-17	42	8	50
2020-04-18	16	3	19
2020-04-19	20	4	24
2020-04-20	24	5	29
2020-04-21	19	2	21
2020-04-22	6	7	13
2020-04-23	7	2	9
2020-04-24	4	1	5
2020-04-25	7	0	7
2020-04-26	6	0	6
2020-04-27	12	3	15
2020-04-28	5	1	6
2020-04-29	13	3	16
2020-04-30	10	3	13
2020-05-01	15	1	16
2020-05-02	3	2	5
2020-05-03	5	0	5
2020-05-04	7	1	8
2020-05-05	8	1	9
2020-05-06	3	0	3
2020-05-07	3	1	4
2020-05-08	2	0	2
2020-05-09	1	2	3
2020-05-10	2	0	2
2020-05-11	5	1	6
2020-05-12	1	0	1
2020-05-13	3	0	3
2020-05-15	1	0	1
2020-05-18	1	0	1

Day	Number of singleton starts	Number of non-singleton starts	Total
2020-05-21	1	0	1

Table S5 Raw data for figure seven showing the number of sequences taken over time.

Day	England
2020-02-03	5
2020-02-05	1
2020-02-08	2
2020-02-09	2
2020-02-13	2
2020-02-14	2
2020-02-15	2
2020-02-16	4
2020-02-18	1
2020-02-19	1
2020-02-20	1
2020-02-23	2
2020-02-24	4
2020-02-25	7
2020-02-26	6
2020-02-27	19
2020-02-28	24
2020-02-29	22
2020-03-01	51
2020-03-02	72
2020-03-03	91
2020-03-04	102
2020-03-05	81
2020-03-06	74
2020-03-07	43
2020-03-08	50
2020-03-09	71
2020-03-10	89
2020-03-11	145
2020-03-12	179
2020-03-13	102
2020-03-14	83
2020-03-15	64
2020-03-16	79
2020-03-17	118
2020-03-18	184
2020-03-19	141
2020-03-20	194
2020-03-21	203
2020-03-22	193
2020-03-23	332
2020-03-24	285
2020-03-25	276
2020-03-26	299
2020-03-27	292
2020-03-28	299
2020-03-29	339

Day	England
2020-03-30	481
2020-03-31	442
2020-04-01	402
2020-04-02	413
2020-04-03	416
2020-04-04	336
2020-04-05	346
2020-04-06	428
2020-04-07	396
2020-04-08	344
2020-04-09	293
2020-04-10	303
2020-04-11	256
2020-04-12	206
2020-04-13	239
2020-04-14	309
2020-04-15	302
2020-04-16	283
2020-04-17	213
2020-04-18	109
2020-04-19	139
2020-04-20	151
2020-04-21	111
2020-04-22	121
2020-04-23	82
2020-04-24	48
2020-04-25	48
2020-04-26	77
2020-04-27	127
2020-04-28	81
2020-04-29	163
2020-04-30	156
2020-05-01	200
2020-05-02	98
2020-05-03	61
2020-05-04	111
2020-05-05	68
2020-05-06	77
2020-05-07	75
2020-05-08	41
2020-05-09	40
2020-05-10	36
2020-05-11	66
2020-05-12	38
2020-05-13	39
2020-05-14	14
2020-05-15	16
2020-05-16	7
2020-05-17	10

Day	England
2020-05-18	21
2020-05-19	21
2020-05-20	7
2020-05-21	7
2020-05-22	8
2020-05-23	2

Table S6 Raw data for the map with the number of sequences assigned to each admin2 region.

Admin2	Country	Number of sequences	Sequence group
BATH AND NORTH EAST SOMERSET	England	0	0
BEDFORDSHIRE	England	417	400-500
BERKSHIRE	England	7	1-10
BLACKBURN WITH DARWEN	England	0	0
BLACKPOOL	England	0	0
BOLTON	England	0	0
BOURNEMOUTH	England	0	0
BRIGHTON AND HOVE	England	0	0
BRISTOL	England	18	10-50
BUCKINGHAMSHIRE	England	348	300-400
BURY	England	0	0
CAMBRIDGESHIRE	England	656	>500
CENTRAL BEDFORDSHIRE	England	0	0
CHESHIRE	England	10	10-50
CORNWALL	England	20	10-50
CUMBRIA	England	31	10-50
DARLINGTON	England	0	0
DERBY	England	0	0
DERBYSHIRE	England	25	10-50
DEVON	England	283	250-300
DORSET	England	159	150-200
DURHAM	England	3	1-10
EAST RIDING OF YORKSHIRE	England	31	10-50
ESSEX	England	1189	>500
GATESHEAD	England	0	0
GLOUCESTERSHIRE	England	452	400-500
GREATER LONDON	England	2273	>500
HALTON	England	0	0
HAMPSHIRE	England	95	50-100
HARTLEPOOL	England	0	0
HEREFORDSHIRE	England	4	1-10
HERTFORDSHIRE	England	928	>500
ISLE OF WIGHT	England	0	0
ISLES OF SCILLY	England	0	0
KENT	England	28	10-50
KINGSTON UPON HULL	England	0	0
LANCASHIRE	England	6	1-10
LEICESTER	England	0	0
LEICESTERSHIRE	England	5	1-10
LINCOLNSHIRE	England	16	10-50
LUTON	England	0	0
MANCHESTER	England	30	10-50
MEDWAY	England	0	0
MERSEYSIDE	England	59	50-100
MIDDLESBROUGH	England	0	0
MILTON KEYNES	England	0	0
NORFOLK	England	498	400-500

Admin2	Country	Number of sequences	Sequence group
NORTH LINCOLNSHIRE	England	0	0
NORTH SOMERSET	England	0	0
NORTH YORKSHIRE	England	53	50-100
NORTHAMPTONSHIRE	England	22	10-50
NORTHUMBERLAND	England	2	1-10
NOTTINGHAM	England	559	>500
NOTTINGHAMSHIRE	England	58	50-100
OLDHAM	England	0	0
OXFORDSHIRE	England	97	50-100
PETERBOROUGH	England	0	0
PLYMOUTH	England	1	1-10
POOLE	England	0	0
PORTSMOUTH	England	0	0
REDCAR AND CLEVELAND	England	0	0
ROCHDALE	England	0	0
RUTLAND	England	0	0
SALFORD	England	0	0
SHROPSHIRE	England	1	1-10
SOMERSET	England	338	300-400
SOUTH GLOUCESTERSHIRE	England	0	0
SOUTH YORKSHIRE	England	1165	>500
SOUTHAMPTON	England	0	0
SOUTHEND-ON-SEA	England	0	0
STAFFORDSHIRE	England	28	10-50
STOCKPORT	England	0	0
STOCKTON-ON-TEES	England	0	0
STOKE-ON-TRENT	England	0	0
SUFFOLK	England	484	400-500
SURREY	England	60	50-100
SUSSEX	England	1	1-10
SWINDON	England	0	0
TAMESIDE	England	0	0
TELFORD AND WREKIN	England	0	0
THURROCK	England	0	0
TORBAY	England	0	0
TRAFFORD	England	0	0
TYNE AND WEAR	England	38	10-50
WARRINGTON	England	0	0
WARWICKSHIRE	England	10	10-50
WEST MIDLANDS	England	89	50-100
WEST YORKSHIRE	England	20	10-50
WIGAN	England	0	0
WILTSHIRE	England	243	200-250
WORCESTERSHIRE	England	7	1-10
YORK	England	0	0