Lineages report for England

This report gives summaries of lineages sampled in England for week 2020-06-19. There are time lags due to batching, curation and analysis, the most recently sampled sequence is 2020-06-14. The analysis (eg time since last sample) is therefore undertaken from this date. 16137 sequences from England have been included in this analysis. 859 lineages have been recorded, 423 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 386 and the maximum is 7493

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

788 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 71 that remain: 36 are pending extinction, ie last seen three weeks ago. 29 lineages have gone quiet, ie haven't been seen this week. 1 has reactivated. 5 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	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK5	Feb-23, Jun-14	5390	B.1.1, B.1.1.p15, B.1.1.10, B.1.1.p11, B.1.1.13, B.1.1.1	0	active today
UK107	Feb-09, Jun-02	1183	B.2, B.2.1, B.2.5	12	0.0074
UK42	Feb-03, Jun-04	699	B.1.72, B.1, B.1.35, B.1.5	10	0.0093
UK5676	Feb-14, May-22	328	B.2	23	0.0081
UK2913	Mar-07, Jun-01	307	B.1.p11, B.1	13	0.016
UK2464	Mar-09, Jun-07	283	B.1.p11, B.1	7	0.0264
UK2916	Feb-03, Jun-01	252	B.1	13	0.0283
UK72	Feb-05, May-27	251	B.2, B.2.2, B	18	0.0193
UK199	Feb-26, Jun-08	243	B.1.5.5, B.1.5, B.1	6	0.0398
UK167	Mar-06, Jun-07	241	B.1.66, B.1	7	0.0482

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.

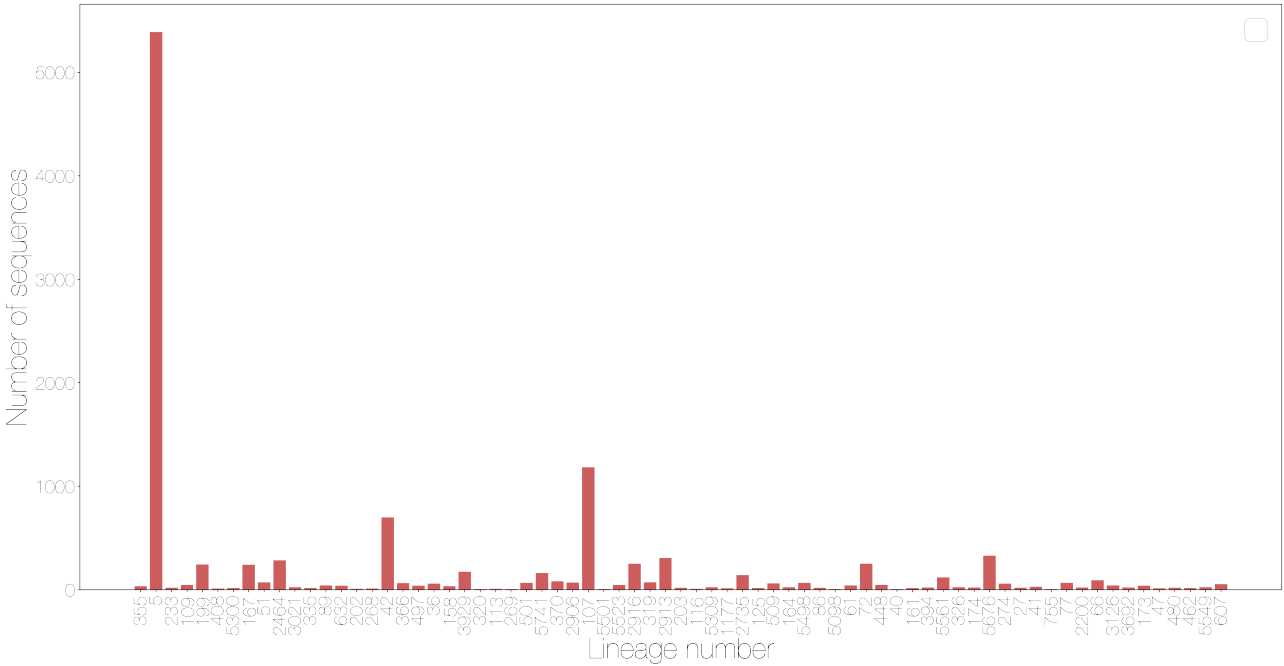Figure 1: Number of sequences sampled in a lineage by country

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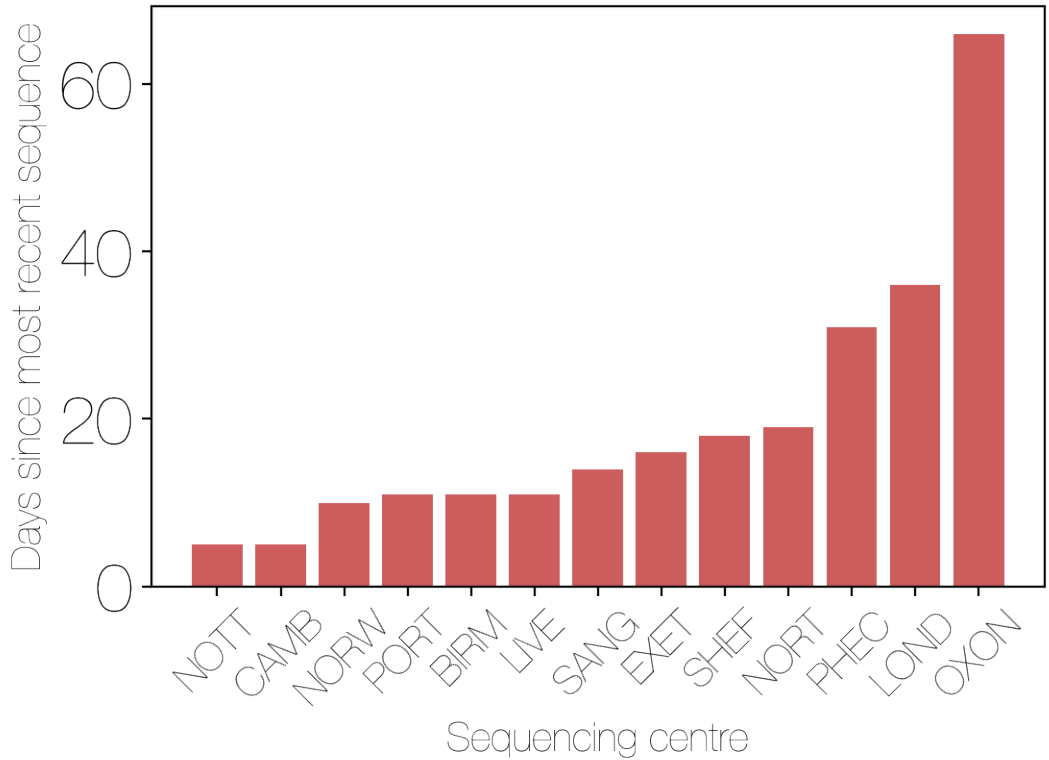
Figure 2: Lag since the most recent sequence from each sequencing centre to most current date

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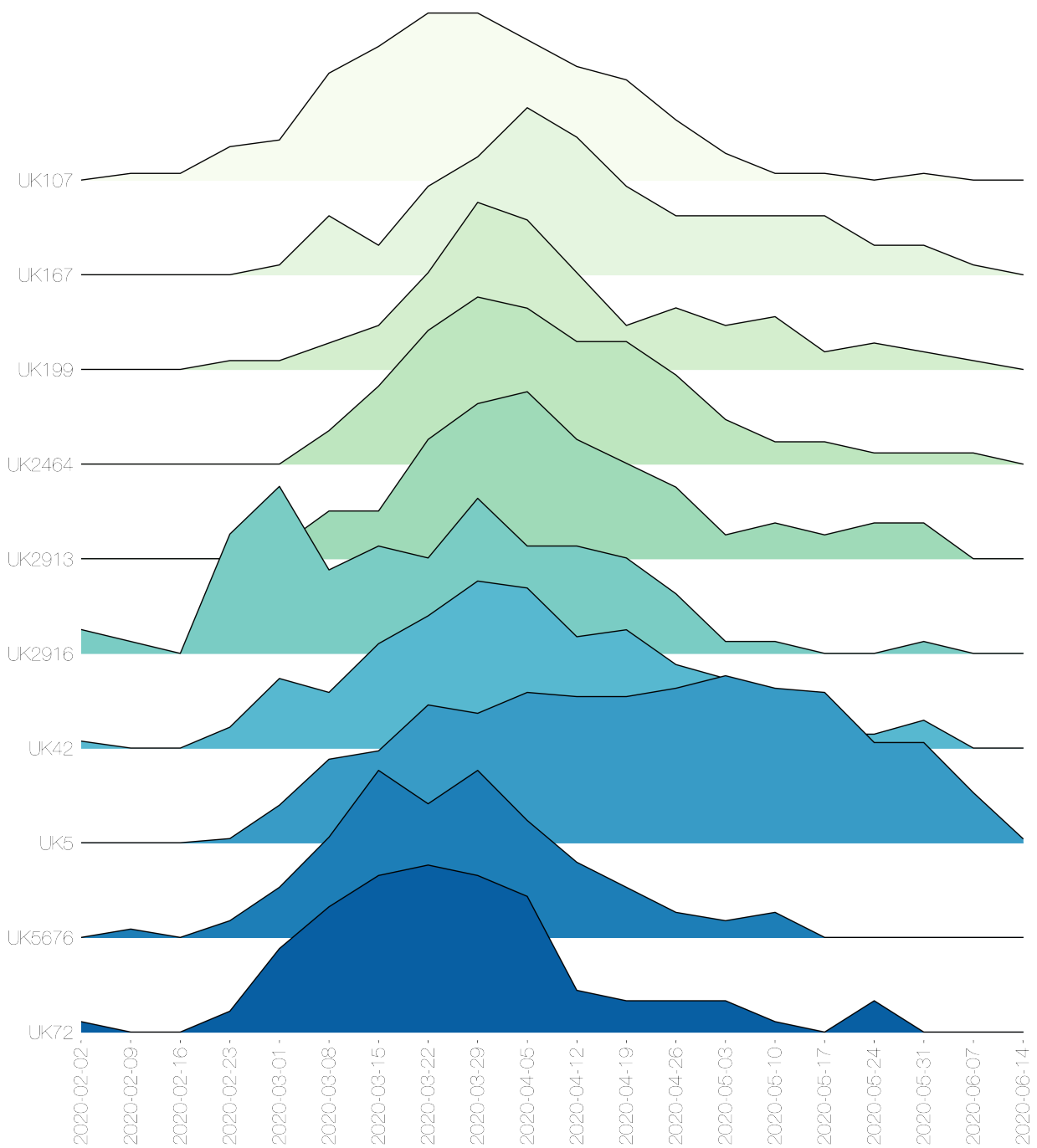
Figure 3: Lineages by number of adm2 regions present by epiweek

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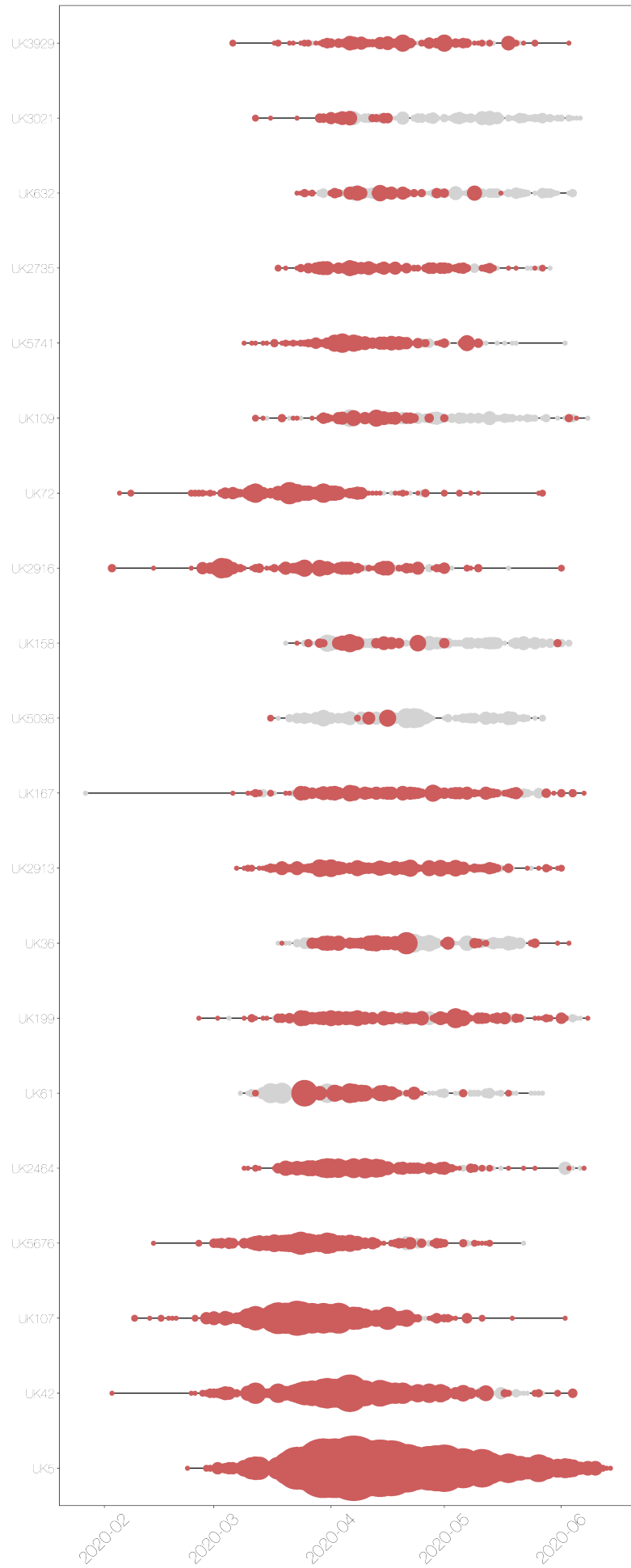
Figure 4: Timeline of lineages, sized by number of sequences from each country.

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

NB the lineage may have started anywhere in the UK, but has been recorded at least once in England
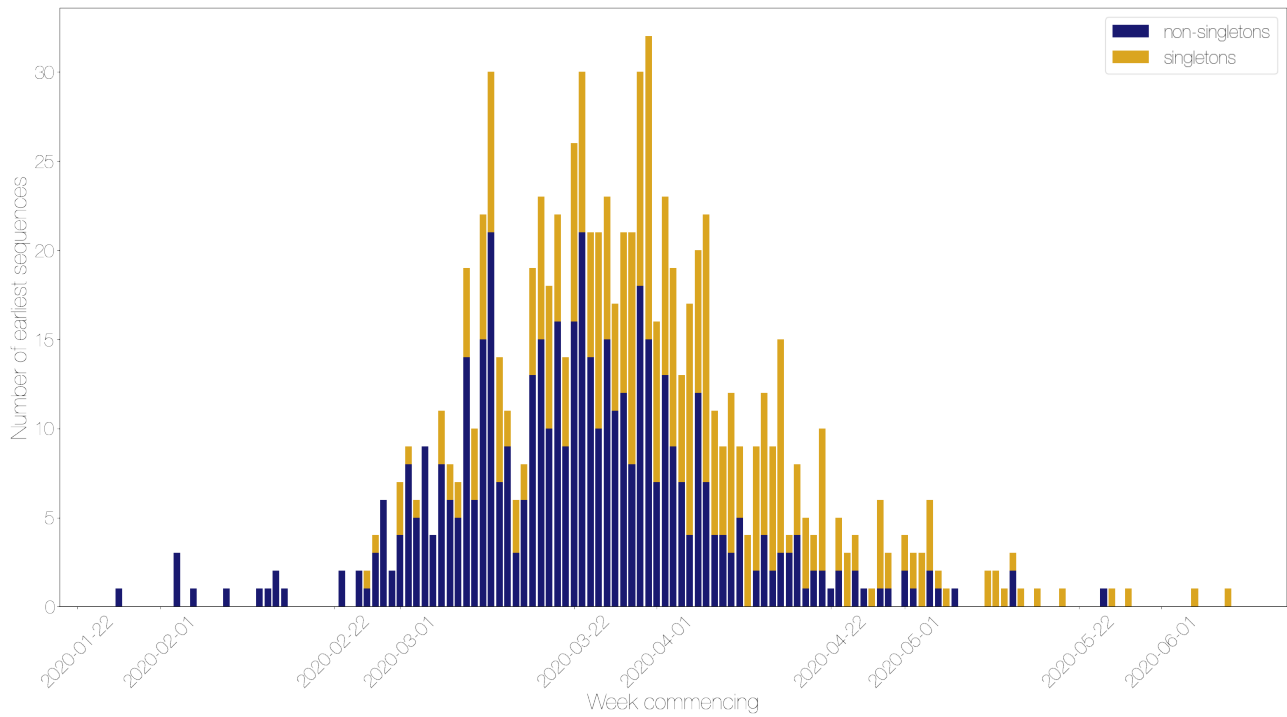
Figure 5: Lineage starts per week, split by singletons and non-singletons

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.
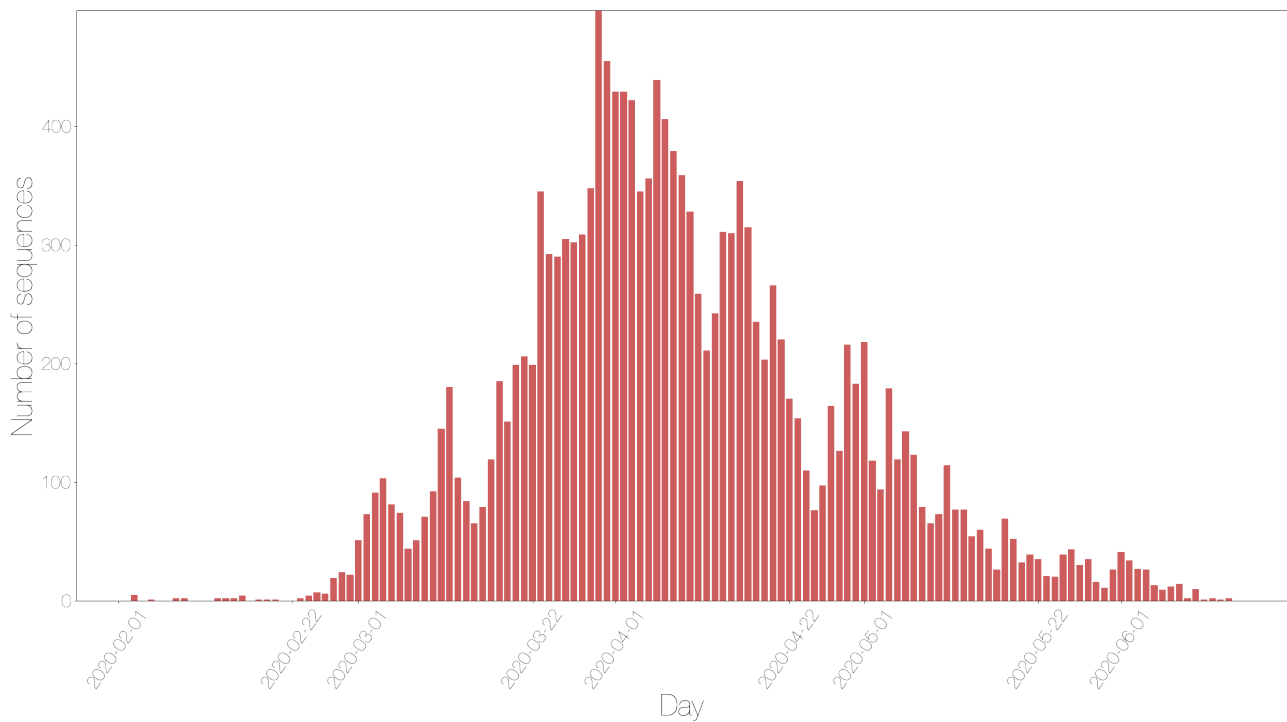
Figure 6: Sequences taken on each day by country

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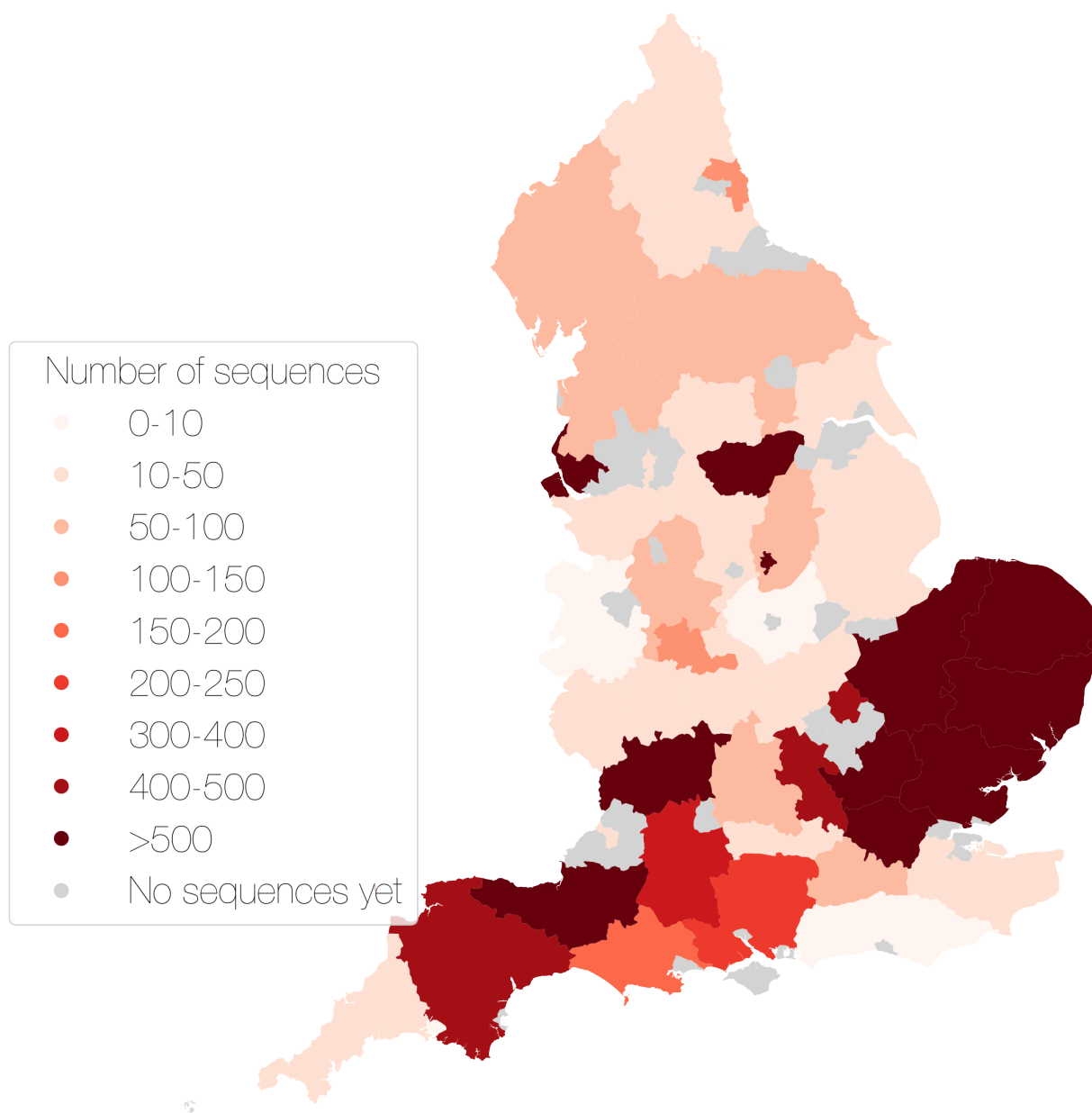
Figure 7: Map showing the number of sequences sampled by adm2 region

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	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK5	Feb-23, Jun-14	5390	B.1.1, B.1.1.p15, B.1.1.10, B.1.1.p11, B.1.1.13, B.1.1.1	0	active today
UK107	Feb-09, Jun-02	1183	B.2, B.2.1, B.2.5	12	0.0074
UK42	Feb-03, Jun-04	699	B.1.72, B.1, B.1.35, B.1.5	10	0.0093
UK5676	Feb-14, May-22	328	B.2	23	0.0081
UK2913	Mar-07, Jun-01	307	B.1.p11, B.1	13	0.016
UK2464	Mar-09, Jun-07	283	B.1.p11, B.1	7	0.0264
UK2916	Feb-03, Jun-01	252	B.1	13	0.0283
UK72	Feb-05, May-27	251	B.2, B.2.2, B	18	0.0193
UK199	Feb-26, Jun-08	243	B.1.5.5, B.1.5, B.1	6	0.0398
UK167	Mar-06, Jun-07	241	B.1.66, B.1	7	0.0482
UK9	Mar-09, May-15	213	B.1.13	30	0.0105
UK3929	Mar-06, Jun-03	175	B.1.1, B.1.1.3, B.1.1.4	11	0.0385
UK5741	Mar-09, Jun-02	161	B.1	12	0.0261
UK2735	Mar-18, May-29	142	B.1.1	16	0.0183
UK6	Mar-06, May-13	133	B.1	32	0.0155
UK15	Feb-27, May-06	128	B.1.1	39	0.0106
UK4	Feb-28, Apr-29	124	B	46	0.0105
UK63	Mar-18, May-10	121	B.1.1	35	0.0125
UK494	Mar-19, May-05	121	B.1.p11	40	0.0096
UK5561	Feb-25, May-24	119	B.2, B.2.2	21	0.0288
UK565	Mar-11, May-14	102	B.1.1	31	0.0186
UK66	Mar-18, May-20	92	B.1.1.8	25	0.0231
UK28	Mar-13, May-08	89	B.1.1.10	37	0.0172
UK240	Feb-25, May-08	84	B.2.5, B.2, B.3, B.2.1, B	37	0.0217
UK5180	Mar-07, May-09	81	B.1.1.7	36	0.0199
UK370	Mar-06, Jun-02	81	B.1.1.10	12	0.0421

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK829	Mar-03, Apr-29	80	B.2.5	46	0.0155
UK51	Mar-25, Jun-07	72	B.1.36	7	0.141
UK319	Mar-28, Jun-01	71	B.1	13	0.0714
UK2906	Mar-06, Jun-02	68	B.1	12	0.1027
UK77	Mar-11, May-20	67	B.2	25	0.0394
UK501	Mar-02, Jun-02	66	B.1	12	0.0996
UK5498	Mar-06, May-28	66	B.2, B	17	0.0588
UK37	Mar-17, May-04	63	B.1, B.1.30	41	0.0183
UK366	Apr-04, Jun-03	63	B.1.1	11	0.088
UK85	Mar-09, Apr-27	63	B.3, B	48	0.0148
UK509	Apr-07, May-29	62	B.1.1	16	0.0533
UK339	Feb-23, Apr-16	61	B.3	59	0.0114
UK384	Feb-28, Apr-23	60	B.2, B.2.1	52	0.0171
UK31	Mar-11, Apr-23	60	B.3	52	0.0131
UK274	Mar-06, May-21	60	B.3, B	24	0.0511
UK36	Mar-19, Jun-03	59	B.1	11	0.0169
UK13	Mar-13, May-13	55	B.1.1	32	0.0353
UK476	Mar-30, May-06	55	B.1.1	39	0.0176
UK607	Mar-02, May-18	53	B	27	0.0446
UK120	Feb-03, May-05	52	B.14, B	40	0.0354
UK513	Mar-12, Apr-29	50	B.1.p11	46	0.0213
UK371	Mar-12, May-09	50	B.1.1	36	0.0322
UK448	Apr-04, May-26	47	B.1.1	19	0.0582
UK109	Mar-12, Jun-08	46	B.1.5	6	0.0475
UK5523	May-01, Jun-01	46	B.1	13	0.053
UK517	Mar-02, Apr-30	43	B.1.1	45	0.0291
UK89	Mar-21, Jun-05	42	B.1.1, B.1.1.9	9	0.1593
UK61	Mar-12, May-27	41	B.3	18	0.0102
UK3126	Apr-06, May-19	41	B.1.1	26	0.0413

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK632	Mar-23, Jun-04	38	B.1.1	10	0.0298
UK376	Mar-11, Apr-30	38	B.1.1.9	45	0.03
UK497	Mar-13, Jun-03	38	A.2	11	0.1818
UK173	Mar-14, May-19	38	B	26	0.0686
UK275	Mar-09, Apr-27	38	B.1.13	48	0.0222
UK404	Mar-01, Apr-19	37	B.1	56	0.0243
UK276	Mar-10, May-13	37	B.1.1	32	0.0526
UK12	Mar-12, May-07	36	B.1.p11	38	0.0409
UK79	Mar-24, May-05	35	B.1	40	0.0309
UK355	Mar-22, Jun-14	35	B.1.1	0	active today
UK131	Mar-11, Apr-14	34	B.15	61	0.0151
UK158	Mar-23, Jun-03	33	B.1.1, B.1.1.2	11	0.0205
UK18	Mar-11, Apr-14	31	B.1.1.7	61	0.0186
UK1207	Mar-23, May-12	30	B.1.1	33	0.0522
UK41	Feb-29, May-21	30	B.1	24	0.0813
UK241	Mar-22, Apr-16	30	B.1.5.3	59	0.0146
UK119	Mar-11, Apr-24	27	B.2.5	51	0.0254
UK64	Mar-12, May-05	26	B.1	40	0.0346
UK101	Mar-21, Apr-25	26	B.1.5	50	0.0269
UK94	Mar-12, Apr-19	26	B.2, B.2.1	56	0.0271
UK1721	Mar-19, May-08	26	B.1	37	0.052
UK23	Mar-21, May-09	25	B.9	36	0.0567
UK5649	Mar-15, May-04	24	B.2.6	41	0.0469
UK326	Mar-22, May-22	24	B.1.1.10	23	0.1105
UK164	Apr-11, May-28	24	B.1	17	0.1225
UK5549	Mar-04, May-18	24	B.2.2	27	0.1068
UK46	Mar-02, May-08	23	B.2.1	37	0.0787
UK5309	Mar-20, May-30	23	B.1.1, B.1.1.10	15	0.1893
UK3021	Mar-12, Jun-06	23	B.1	8	0.045

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK2200	Feb-28, May-20	22	B.1.5.6, B.1.5	25	0.0349
UK3692	Mar-09, May-19	22	B.1.1	26	0.0975
UK24	Mar-14, Apr-10	21	B.2.1	65	0.0208
UK174	Mar-19, May-22	21	B.1.5	23	0.1391
UK601	Mar-13, May-04	21	B.10	41	0.0143
UK2045	Mar-17, May-09	21	B.1	36	0.0736
UK394	Mar-20, May-24	21	B.1.1	21	0.0317
UK233	May-25, Jun-08	20	B.1	6	0.1228
UK75	Mar-17, Apr-26	20	B.1, B.1.34	49	0.043
UK5503	Mar-20, May-13	20	B.1	32	0.0888
UK480	Mar-23, May-18	19	B.1.1	27	0.1093
UK1703	Apr-02, May-01	19	B.1	44	0.0366
UK203	Mar-22, May-30	19	B.1.1	15	0.219
UK4237	Apr-02, Apr-20	18	B.1.1	55	0.0193
UK2539	Mar-24, May-14	18	B.1.1.5	31	0.0968
UK146	Mar-24, May-07	18	B.1.1	38	0.0643
UK27	Mar-05, May-21	18	B.1.1	24	0.1604
UK86	Mar-05, May-28	18	B.1, B.1.5	17	0.0677
UK462	May-01, May-18	17	B.1	27	0.0757
UK125	Apr-03, May-29	17	B.1.1	16	0.2206
UK491	Mar-03, Apr-14	16	B.2, B.2.1, B	61	0.0299
UK161	Mar-10, May-25	16	B.1.1	20	0.19
UK71	Mar-08, May-06	16	B	39	0.0946
UK5300	Apr-17, Jun-07	16	B.1.1	7	0.4554
UK3781	Mar-09, May-08	16	B.1.1	37	0.1081
UK335	Mar-07, Jun-05	16	B.1.1	9	0.5
UK179	Mar-26, May-07	16	B.1.1, B.1.1.p11	38	0.0353
UK5660	Apr-25, May-08	16	B.1.1	37	0.0234
UK47	Mar-17, May-18	15	B.1.1	27	0.1209

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK569	Mar-23, May-12	15	B.1.1	33	0.1082
UK34	Feb-15, Apr-02	15	B.4	73	0.046
UK1177	Apr-22, May-29	15	B.1.1	16	0.1652
UK1006	Apr-02, May-03	15	B.1.1	42	0.0527
UK134	Mar-04, Apr-07	15	B.1	68	0.0278
UK153	Mar-13, Apr-14	14	B.2	61	0.0404
UK38	Mar-04, Apr-20	14	B.2.1	55	0.061
UK5715	Feb-13, Apr-22	14	B.2	53	0.093
UK378	Feb-15, Mar-05	13	B.1.1	101	0.0157
UK186	Apr-08, May-15	13	B	30	0.1256
UK268	Mar-23, Jun-04	12	B.1.1	10	0.4867
UK604	Mar-09, Mar-17	12	B.1.1	89	0.0077
UK832	Mar-09, Apr-26	12	A.5	49	0.0816
UK49	Mar-12, May-01	12	B.9	44	0.0874
UK5663	Apr-11, May-02	12	B.2	43	0.0444
UK141	Mar-22, Apr-24	12	B.1.1	51	0.0588
UK408	Apr-13, Jun-08	12	B.1.1	6	0.7778
UK70	Mar-06, Apr-18	12	B.2	57	0.0539
UK5446	May-05, May-16	12	B.1.1	29	0.0345
UK507	Mar-18, Apr-30	12	B.1.1.10	45	0.0869
UK572	Mar-16, Apr-11	11	B.2	64	0.0406
UK193	Mar-30, May-01	11	B.1.1	44	0.0661
UK759	Mar-28, Apr-27	11	B.1.1	48	0.0568
UK132	Mar-27, Apr-30	11	B.1	45	0.0687
UK266	Apr-06, Apr-30	11	B.1	45	0.0533
UK566	Apr-02, Apr-21	11	B.1.1, B.1.1.10	54	0.0352
UK445	Mar-14, Apr-27	11	B.1.1	48	0.0917
UK415	Apr-19, May-06	11	B.1	39	0.0436
UK317	Mar-13, Apr-20	11	B.3	55	0.0288

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK287	Mar-28, Apr-24	11	B.1	51	0.0481
UK523	Apr-14, May-14	11	B.1.1	31	0.0968
UK178	Mar-14, Apr-29	11	B.1.1	46	0.0909
UK553	Feb-28, Apr-29	11	B.1	46	0.0884
UK113	Mar-22, Jun-02	10	B.1.1	12	0.6667
UK291	Mar-29, May-14	10	B.1.5	31	0.1649
UK788	Feb-28, Mar-05	10	B.4	101	0.0066
UK242	Mar-26, Apr-20	10	B.1.5	55	0.0505
UK22	Mar-02, Apr-21	10	B	54	0.1029
UK527	Mar-22, Apr-18	10	B.1	57	0.0351
UK340	Mar-23, May-17	9	B.1.1	28	0.2455
UK454	Mar-22, Apr-29	9	B.1.1	46	0.1033
UK5653	Mar-10, Apr-01	9	B.2.6	74	0.033
UK59	Mar-24, Apr-21	9	B.1	54	0.0648
UK83	Feb-29, Apr-08	9	B.1.1	67	0.0529
UK5084	Mar-29, Apr-16	9	B.1	59	0.0305
UK202	Mar-10, Jun-04	9	B.1.1	10	0.3909
UK5307	Mar-10, May-12	9	B.1.1	33	0.197
UK342	Apr-02, Apr-23	8	B.1.1	52	0.0577
UK756	Feb-27, Mar-05	8	B.1.1	101	0.0099
UK739	Mar-01, Mar-08	8	B.4	98	0.0102
UK2888	Apr-09, May-14	8	B.1.1	31	0.1613
UK570	Mar-24, Apr-29	8	B.1.1	46	0.1118
UK284	Apr-02, Apr-25	8	B.1.1	50	0.0657
UK479	Apr-01, Apr-27	8	B.1.1	48	0.0774
UK116	Mar-24, May-30	8	B.1	15	0.2233
UK5308	Apr-29, May-01	8	B.1.1	44	0.0065
UK5348	Mar-14, Apr-24	8	B.1.1	51	0.1148
UK244	Mar-12, Apr-06	7	B.1.1	69	0.0518

Lineage name	Date range	Number of sequences	Global lineage	Time since last sample (days)	Activity score
UK520	Mar-14, Apr-08	7	B.2, B.2.1	67	0.0622
UK584	Mar-21, May-08	7	B.2, B.2.1	37	0.2008
UK5501	Apr-16, Jun-01	7	B.1.12	13	0.5897
UK490	Apr-03, May-02	7	B.1.1	43	0.1124
UK32	Apr-10, May-01	7	B.1.1	44	0.0795
UK390	Mar-27, May-01	7	B.1.5	44	0.1326
UK232	Mar-04, Mar-30	7	B.1.1	76	0.057
UK65	Mar-07, Apr-21	7	B.1.1	54	0.119
UK122	Mar-23, May-07	7	B.1	38	0.1974
UK755	Mar-06, May-21	7	B.1.1	24	0.5278
UK58	Mar-17, Apr-09	6	B.1	66	0.0354
UK5098	Mar-16, May-27	6	B.1.8, B.1, B.1.p73	18	0.0119
UK40	Mar-31, May-26	6	B.16	19	0.0228
UK629	Mar-23, Apr-13	6	B.1	62	0.0677
UK263	Mar-20, Apr-13	6	B.1.p11	62	0.0774
UK320	Apr-11, Jun-02	6	B.1	12	0.6667
UK654	Feb-27, Mar-08	6	B.2.5	98	0.0204
UK799	Mar-01, Mar-07	6	B.1	99	0.0121
UK269	Mar-25, Jun-02	6	B.1.1	12	1.15

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	NOTT	5
1	CAMB	5
2	NORW	10
3	PORT	11
4	BIRM	11
5	LIVE	11
6	SANG	14
7	EXET	16
8	SHEF	18
9	NORT	19
10	PHEC	31
11	LOND	36
12	OXON	66

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

Week commencing	UK5	UK107	UK42	UK5676	UK2913	UK2464	UK2916	UK72	UK199	UK167
2020-02-02	0	0	1	0	0	0	2	1	0	0
2020-02-09	0	1	0	1	0	0	1	0	0	0
2020-02-16	0	1	0	0	0	0	0	0	0	0
2020-02-23	1	5	3	2	0	0	10	2	1	0
2020-03-01	9	6	10	6	1	0	14	8	1	1
2020-03-08	20	16	8	12	4	3	7	12	3	6
2020-03-15	22	20	15	20	4	7	9	15	5	3
2020-03-22	33	25	19	16	10	12	8	16	11	9
2020-03-29	31	25	24	20	13	15	13	15	19	12
2020-04-05	36	21	23	14	14	14	9	13	17	17
2020-04-12	35	17	16	9	10	11	9	4	11	14
2020-04-19	35	15	17	6	8	11	8	3	5	9
2020-04-26	37	9	12	3	6	8	5	3	7	6
2020-05-03	40	4	10	2	2	4	1	3	5	6
2020-05-10	37	1	3	3	3	2	1	1	6	6
2020-05-17	36	1	2	0	2	2	0	0	2	6
2020-05-24	24	0	2	0	3	1	0	3	3	3
2020-05-31	24	1	4	0	3	1	1	0	2	3
2020-06-07	12	0	0	0	0	1	0	0	1	1
2020-06-14	1	0	0	0	0	0	0	0	0	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
2020-01-27	0	1	1
2020-02-03	0	3	3
2020-02-05	0	1	1
2020-02-09	0	1	1
2020-02-13	0	1	1
2020-02-14	0	1	1
2020-02-15	0	2	2
2020-02-16	0	1	1
2020-02-23	0	2	2
2020-02-25	0	2	2
2020-02-26	1	1	2
2020-02-27	1	3	4
2020-02-28	0	6	6
2020-02-29	0	2	2
2020-03-01	3	4	7
2020-03-02	1	8	9
2020-03-03	1	5	6
2020-03-04	0	9	9
2020-03-05	0	4	4
2020-03-06	3	8	11
2020-03-07	2	6	8
2020-03-08	2	5	7
2020-03-09	5	14	19
2020-03-10	4	6	10
2020-03-11	7	15	22
2020-03-12	9	21	30
2020-03-13	7	7	14
2020-03-14	2	9	11
2020-03-15	3	3	6
2020-03-16	2	6	8
2020-03-17	6	13	19
2020-03-18	8	15	23
2020-03-19	8	10	18
2020-03-20	6	16	22
2020-03-21	5	9	14
2020-03-22	10	16	26
2020-03-23	9	21	30
2020-03-24	7	14	21
2020-03-25	11	10	21
2020-03-26	8	15	23
2020-03-27	6	11	17
2020-03-28	9	12	21
2020-03-29	13	8	21
2020-03-30	12	18	30
2020-03-31	17	15	32
2020-04-01	9	7	16
2020-04-02	10	13	23
2020-04-03	10	9	19
2020-04-04	6	7	13
2020-04-05	13	4	17
2020-04-06	8	12	20
2020-04-07	15	7	22
2020-04-08	7	4	11
2020-04-09	5	4	9
2020-04-10	9	3	12
2020-04-11	4	5	9
2020-04-12	4	0	4

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

Table S6 Raw data for figure six 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	73
2020-03-03	91
2020-03-04	103
2020-03-05	81
2020-03-06	74
2020-03-07	44
2020-03-08	51
2020-03-09	71
2020-03-10	92
2020-03-11	145
2020-03-12	180
2020-03-13	104
2020-03-14	84
2020-03-15	65
2020-03-16	79
2020-03-17	119
2020-03-18	185
2020-03-19	151
2020-03-20	199
2020-03-21	206
2020-03-22	199
2020-03-23	345
2020-03-24	292
2020-03-25	290
2020-03-26	305
2020-03-27	302
2020-03-28	309
2020-03-29	348
2020-03-30	498
2020-03-31	455
2020-04-01	429
2020-04-02	429
2020-04-03	422
2020-04-04	345
2020-04-05	356
2020-04-06	439
2020-04-07	406
2020-04-08	379

Day	England
2020-04-09	359
2020-04-10	328
2020-04-11	259
2020-04-12	211
2020-04-13	242
2020-04-14	311
2020-04-15	310
2020-04-16	354
2020-04-17	315
2020-04-18	235
2020-04-19	203
2020-04-20	266
2020-04-21	220
2020-04-22	170
2020-04-23	154
2020-04-24	110
2020-04-25	76
2020-04-26	97
2020-04-27	164
2020-04-28	126
2020-04-29	216
2020-04-30	183
2020-05-01	218
2020-05-02	118
2020-05-03	94
2020-05-04	179
2020-05-05	119
2020-05-06	143
2020-05-07	123
2020-05-08	79
2020-05-09	65
2020-05-10	73
2020-05-11	114
2020-05-12	77
2020-05-13	77
2020-05-14	54
2020-05-15	60
2020-05-16	44
2020-05-17	26
2020-05-18	69
2020-05-19	52
2020-05-20	32
2020-05-21	39
2020-05-22	35
2020-05-23	21
2020-05-24	20
2020-05-25	39
2020-05-26	43
2020-05-27	30
2020-05-28	35
2020-05-29	16
2020-05-30	11
2020-05-31	26
2020-06-01	41
2020-06-02	34
2020-06-03	27
2020-06-04	26
2020-06-05	13
2020-06-06	9

Day	England
2020-06-07	12
2020-06-08	14
2020-06-09	2
2020-06-10	10
2020-06-11	1
2020-06-12	2
2020-06-13	1
2020-06-14	2

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
BATH AND NORTH EAST SOMERSET	England	0	0
BEDFORDSHIRE	England	449	400-500
BERKSHIRE	England	10	10-50
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	400	400-500
BURY	England	0	0
CAMBRIDGESHIRE	England	706	>500
CENTRAL BEDFORDSHIRE	England	0	0
CHESHIRE	England	43	10-50
CORNWALL	England	23	10-50
CUMBRIA	England	58	50-100
DARLINGTON	England	0	0
DERBY	England	0	0
DERBYSHIRE	England	28	10-50
DEVON	England	400	400-500
DORSET	England	183	150-200
DURHAM	England	21	10-50
EAST RIDING OF YORKSHIRE	England	33	10-50
ESSEX	England	1375	>500
GATESHEAD	England	0	0
GLOUCESTERSHIRE	England	626	>500
GREATER LONDON	England	2368	>500
HALTON	England	0	0
HAMPSHIRE	England	226	200-250
HARTLEPOOL	England	0	0
HEREFORDSHIRE	England	39	10-50
HERTFORDSHIRE	England	1003	>500
ISLE OF WIGHT	England	0	0
ISLES OF SCILLY	England	0	0
KENT	England	29	10-50
KINGSTON UPON HULL	England	0	0
LANCASHIRE	England	53	50-100
LEICESTER	England	0	0
LEICESTERSHIRE	England	5	1-10
LINCOLNSHIRE	England	37	10-50
LUTON	England	0	0
MANCHESTER	England	30	10-50
MEDWAY	England	0	0
MERSEYSIDE	England	541	>500
MIDDLESBROUGH	England	0	0
MILTON KEYNES	England	0	0
NORFOLK	England	607	>500
NORTH LINCOLNSHIRE	England	0	0
NORTH SOMERSET	England	0	0
NORTH YORKSHIRE	England	96	50-100
NORTHAMPTONSHIRE	England	24	10-50
NORTHUMBERLAND	England	12	10-50
NOTTINGHAM	England	662	>500
NOTTINGHAMSHIRE	England	58	50-100
OLDHAM	England	0	0
OXFORDSHIRE	England	98	50-100
PETERBOROUGH	England	0	0

Admin2	Country	Number of sequences	Sequence group
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	6	1-10
SOMERSET	England	602	>500
SOUTH GLOUCESTERSHIRE	England	0	0
SOUTH YORKSHIRE	England	1425	>500
SOUTHAMPTON	England	0	0
SOUTHEND-ON-SEA	England	0	0
STAFFORDSHIRE	England	59	50-100
STOCKPORT	England	0	0
STOCKTON-ON-TEES	England	0	0
STOKE-ON-TRENT	England	0	0
SUFFOLK	England	569	>500
SURREY	England	65	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	106	100-150
WARRINGTON	England	0	0
WARWICKSHIRE	England	10	10-50
WEST MIDLANDS	England	120	100-150
WEST YORKSHIRE	England	20	10-50
WIGAN	England	0	0
WILTSHIRE	England	348	300-400
WORCESTERSHIRE	England	12	10-50
YORK	England	0	0