UK Lineages report

This report summarises pillar 2 sequences for week 2020-09-13. There are time lags due to batching, curation and analysis, the most recently sampled sequence is 2020-08-30. The analysis (eg time since last sample) is therefore undertaken from this date. 12639 sequences in the UK have been included in this analysis. 624 lineages have been recorded, 297 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 14 and the maximum is 2121

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

464 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 94 that remain: 14 are pending extinction, ie last seen three weeks ago. 50 lineages have gone quiet, ie haven't been seen this week. 2 lineages have reactivated. 28 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 expected 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 2020-07-20

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	Wales	England	Northern Ireland	Scotland	Date range	Global lineage	Total
UK5	22 (0.65%)	3273 (96.26%)	53 (1.56%)	52 (1.53%)	Apr-28, Aug-29	B.1.1, B.1.1.10	3400 taxa
UK1271	4 (0.63%)	631 (99.37%)	0 (0%)	0 (0%)	May-12, Aug-26	B.1.1	635 taxa
UK1205	0 (0%)	439 (99.55%)	2 (0.45%)	0 (0%)	May-13, Aug-21	B.1.1.1, B.1.1	441 taxa
UK1855	0 (0%)	268 (63.81%)	147 (35.0%)	5 (1.19%)	Jun-01, Aug-26	B.1.1, B.1.1.3	420 taxa
UK1951	8 (2.11%)	364 (96.04%)	0 (0%)	7 (1.85%)	May-01, Aug-20	B.1.1.1, B.1.1	379 taxa
UK109	1 (0.29%)	335 (98.53%)	1 (0.29%)	3 (0.88%)	May-11, Aug-18	B.1.79, B.1.77, B.1, B.1.5, B.1.99	340 taxa
UK2068	0 (0%)	333 (99.7%)	1 (0.3%)	0 (0%)	May-10, Aug-18	B.1.1.4, B.1.1	334 taxa
UK1195	11 (3.41%)	53 (16.41%)	0 (0%)	259 (80.19%)	Jun-01, Aug-30	B.1.1, B.1.1.25	323 taxa
UK1145	0 (0%)	270 (98.18%)	0 (0%)	5 (1.82%)	Jun-08, Aug-26	B.1.1	275 taxa
UK175	7 (2.79%)	215 (85.66%)	2 (0.8%)	27 (10.76%)	May-11, Aug-21	B.1.79, B.1.77, B.1.35, B.1.105, B.1.11, B.1	251 taxa

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.

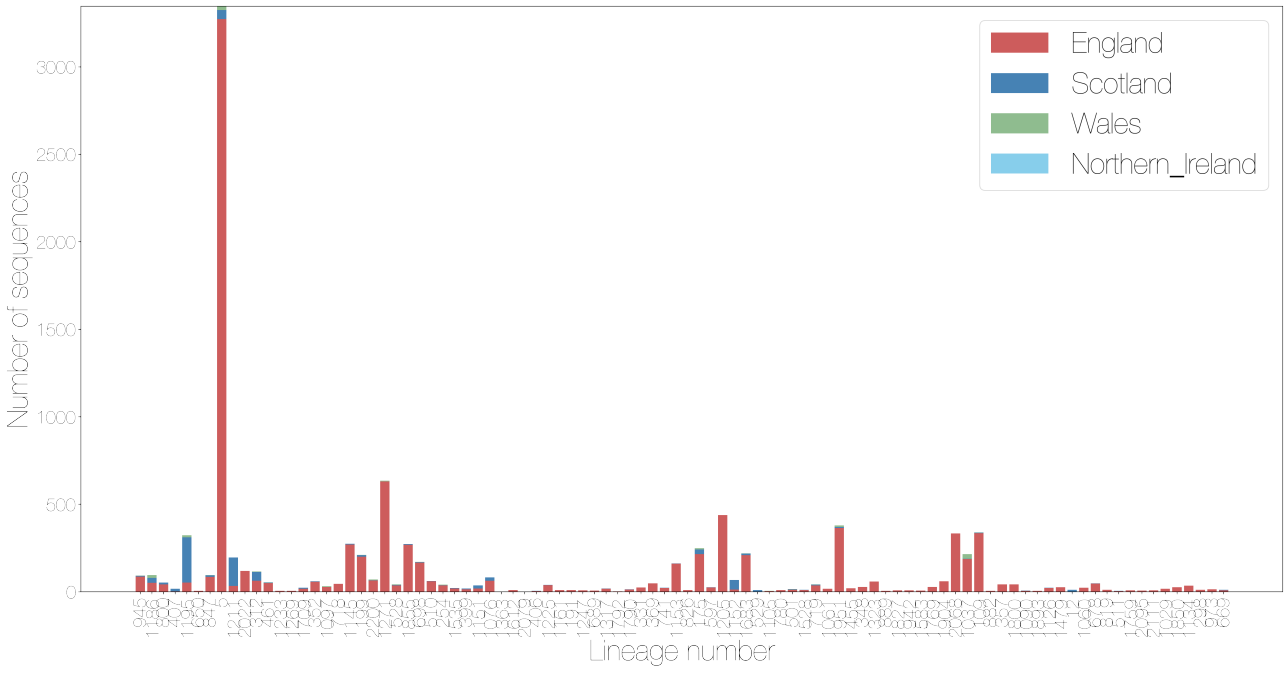


Figure 1: Number of sequences sampled in a lineage by country

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.

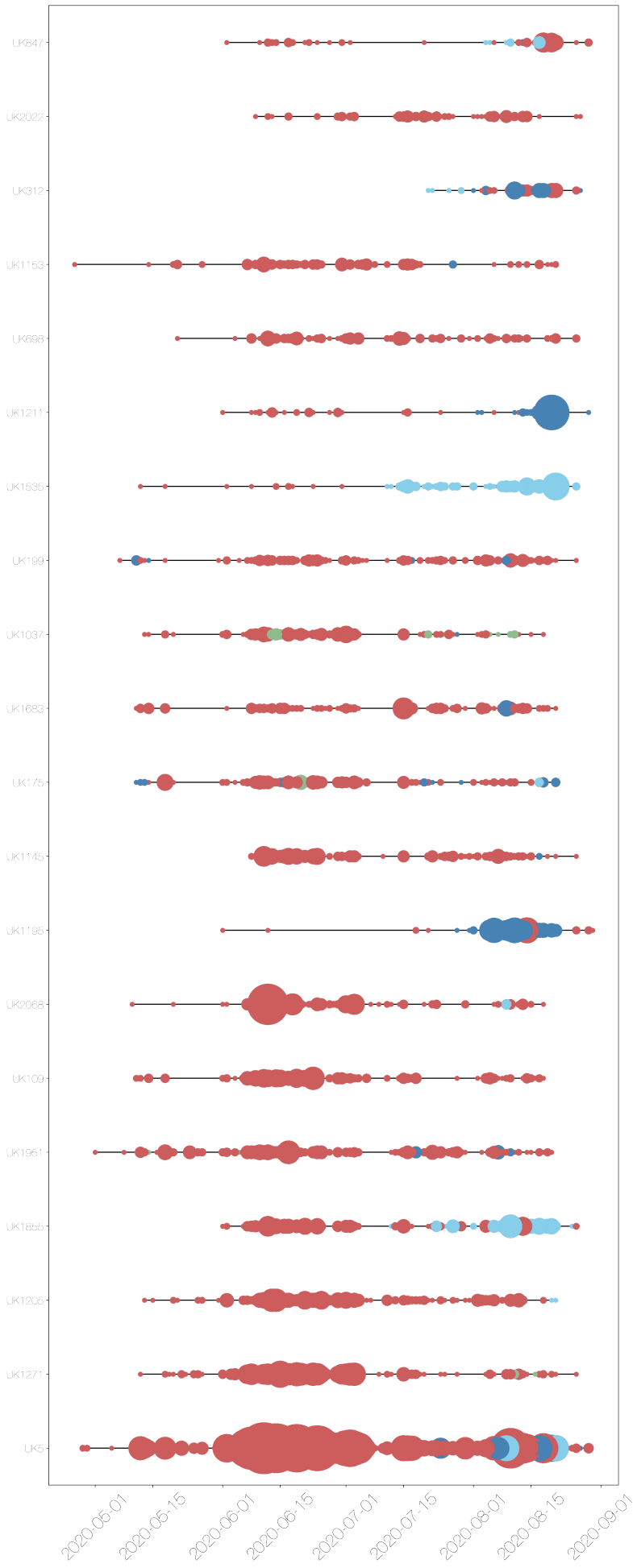


Figure 2: Timeline of lineages, sized by number of sequences from each country.

The date of first sequence in the cluster sampled by a pillar 2 lab is shown in figure five for every cluster with date information.

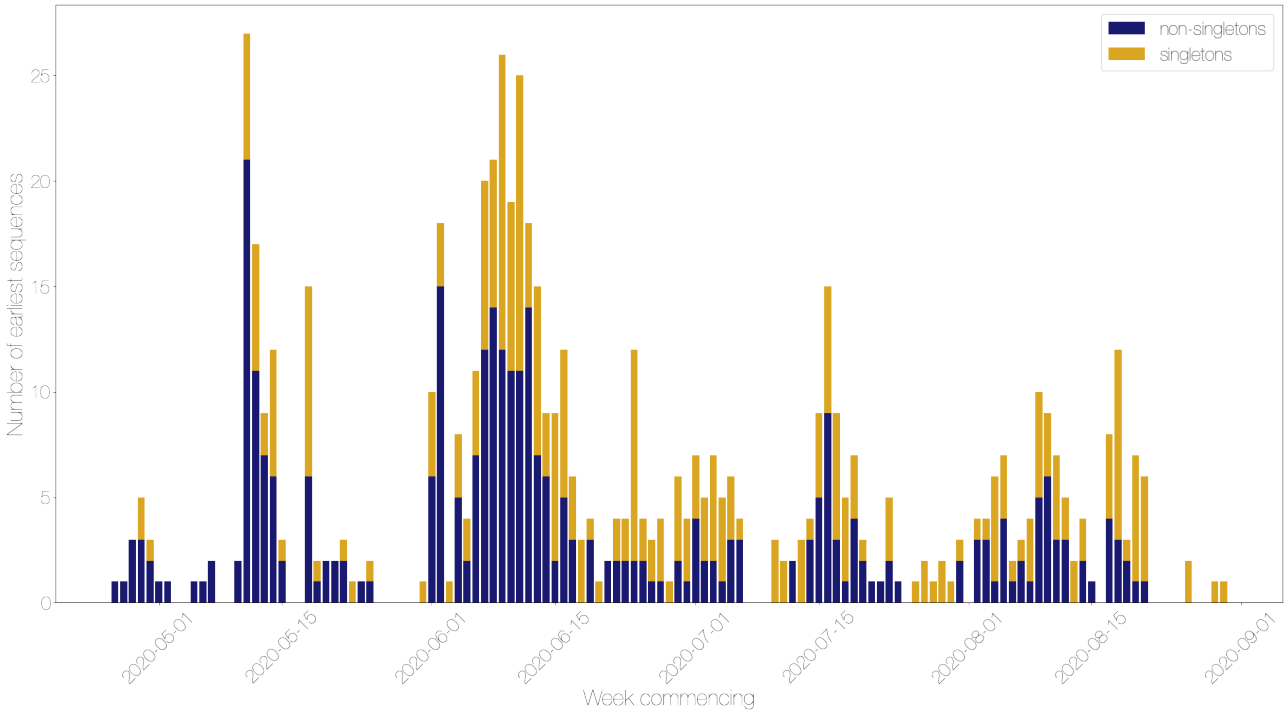


Figure 3: Lineage starts per week, split by singletons and non-singletons

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.

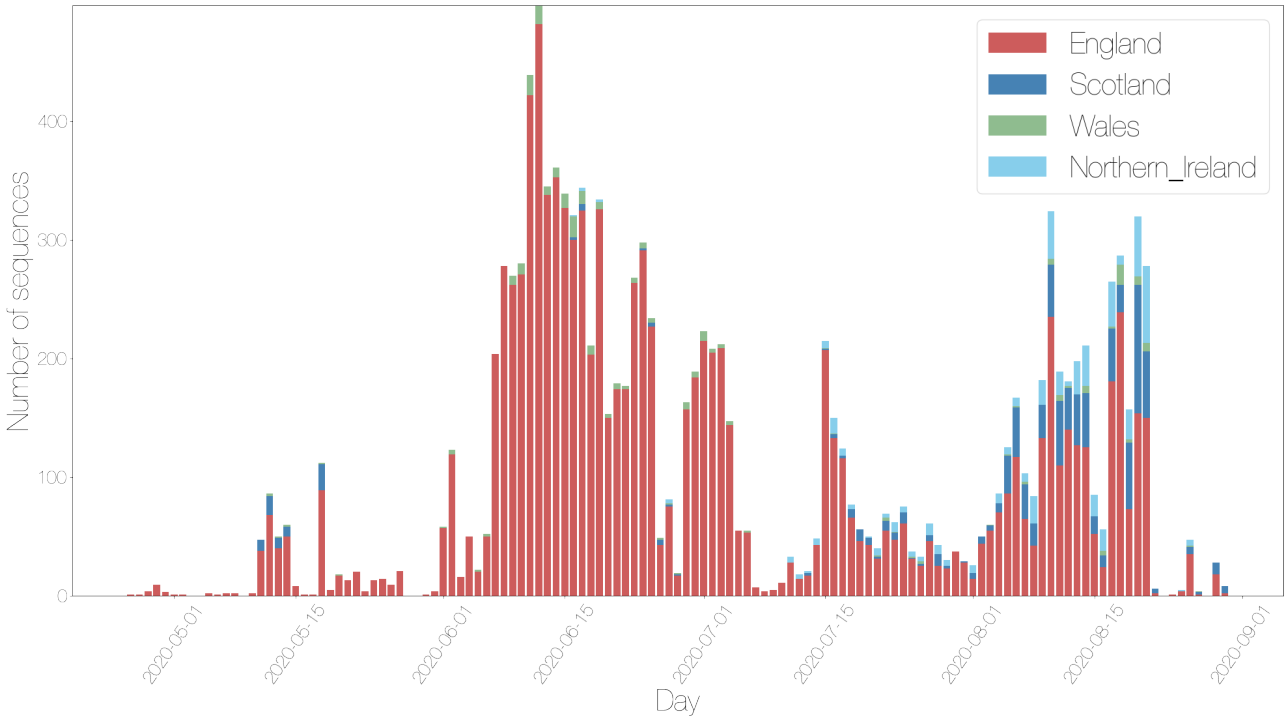


Figure 4: Sequences taken on each day by country

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.

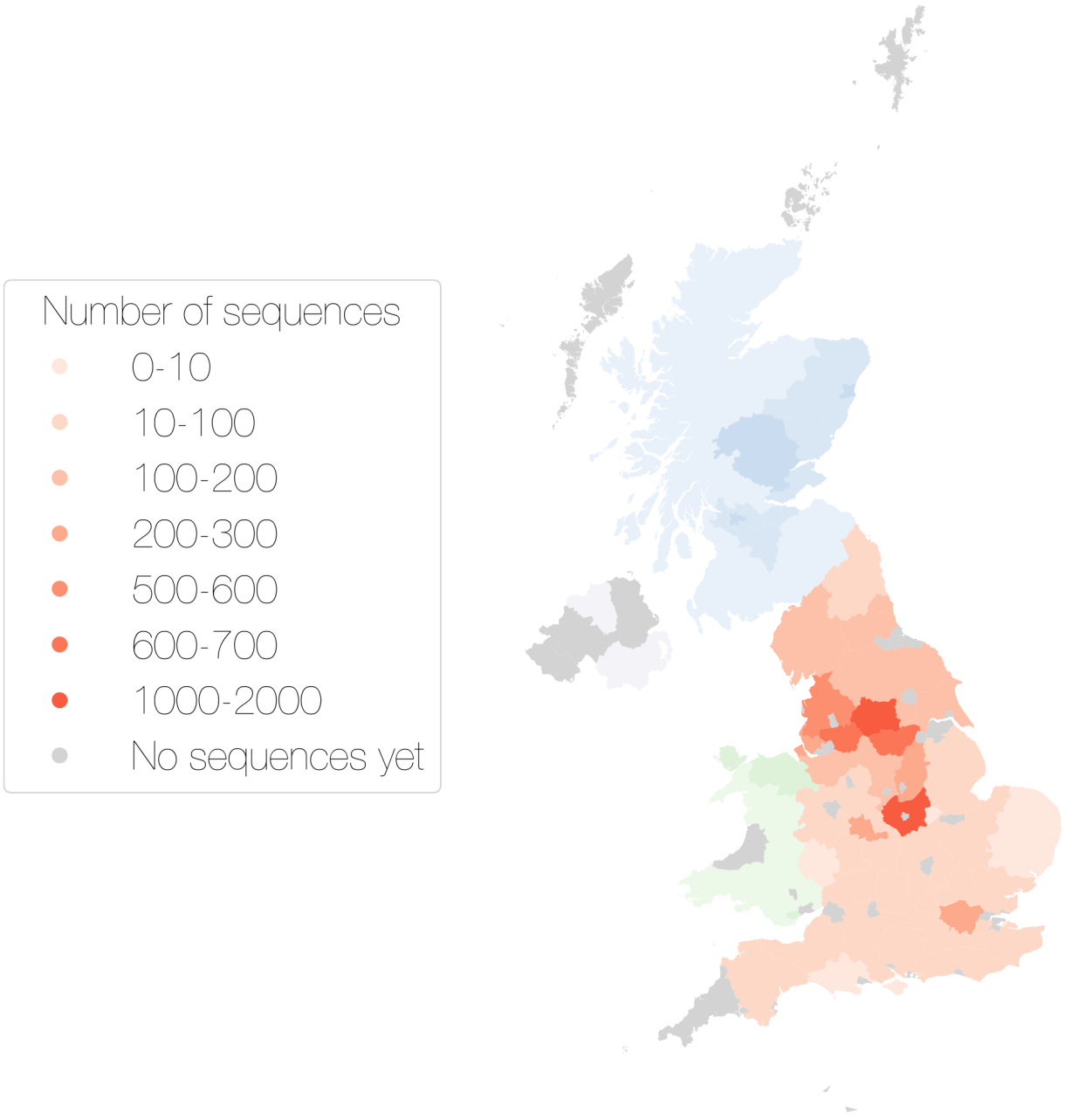


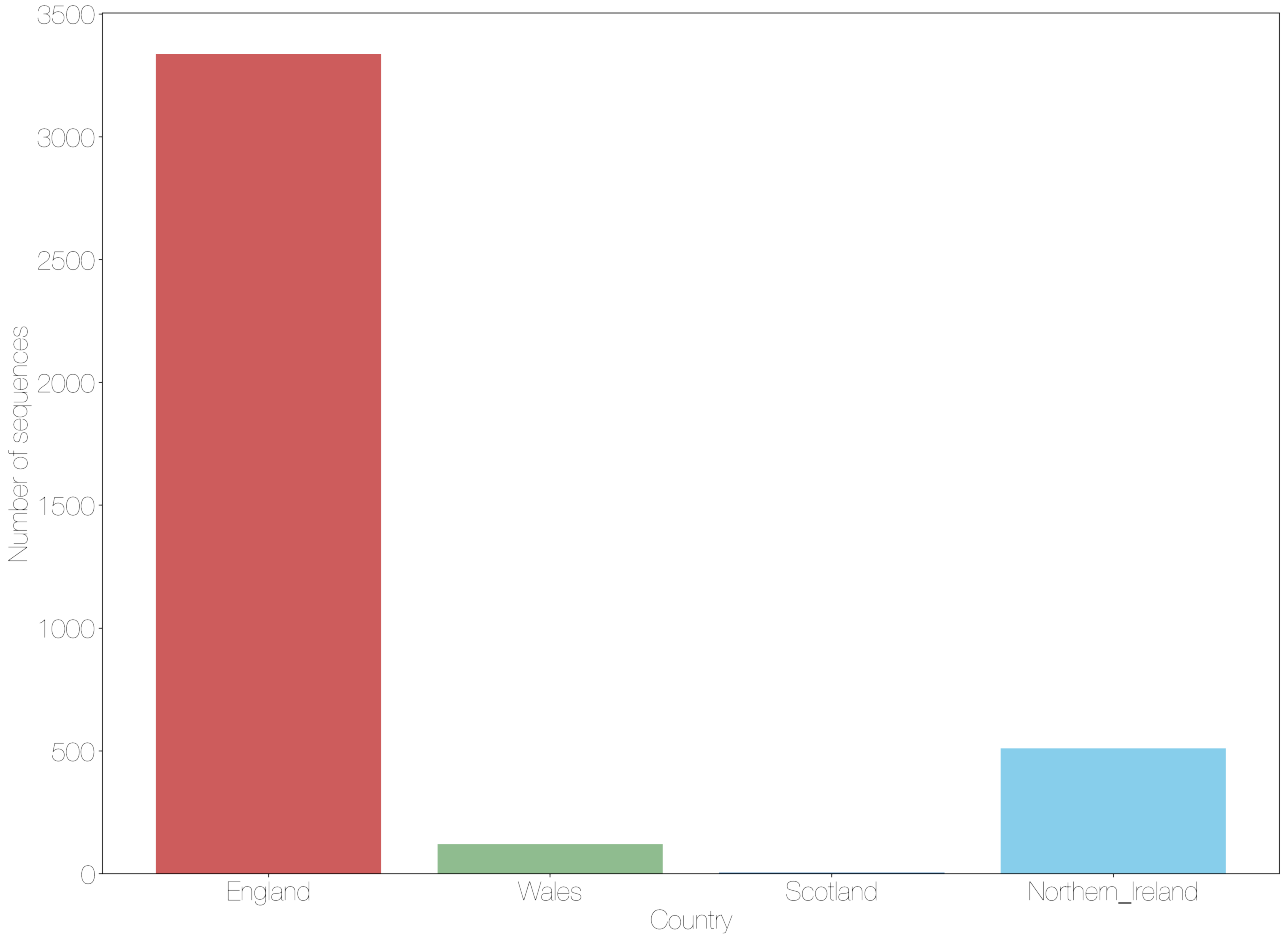
Figure 5: Map showing the number of sequences sampled by adm2 region

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

The plot below shows the number of sequences from each country that don't have specific enough location data to plot on the map.



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	Wales	England	Northern Ireland	Scotland	Date range	Global lineage	Total
UK5	22 (0.65%)	3273 (96.26%)	53 (1.56%)	52 (1.53%)	Apr-28, Aug-29	B.1.1, B.1.1.10	3400 taxa
UK1271	4 (0.63%)	631 (99.37%)	0 (0%)	0 (0%)	May-12, Aug-26	B.1.1	635 taxa
UK1205	0 (0%)	439 (99.55%)	2 (0.45%)	0 (0%)	May-13, Aug-21	B.1.1.1, B.1.1	441 taxa
UK1855	0 (0%)	268 (63.81%)	147 (35.0%)	5 (1.19%)	Jun-01, Aug-26	B.1.1, B.1.1.3	420 taxa
UK1951	8 (2.11%)	364 (96.04%)	0 (0%)	7 (1.85%)	May-01, Aug-20	B.1.1.1, B.1.1	379 taxa
UK109	1 (0.29%)	335 (98.53%)	1 (0.29%)	3 (0.88%)	May-11, Aug-18	B.1.79, B.1.77, B.1, B.1.5, B.1.99	340 taxa
UK2068	0 (0%)	333 (99.7%)	1 (0.3%)	0 (0%)	May-10, Aug-18	B.1.1.4, B.1.1	334 taxa
UK1195	11 (3.41%)	53 (16.41%)	0 (0%)	259 (80.19%)	Jun-01, Aug-30	B.1.1, B.1.1.25	323 taxa
UK1145	0 (0%)	270 (98.18%)	0 (0%)	5 (1.82%)	Jun-08, Aug-26	B.1.1	275 taxa
UK175	7 (2.79%)	215 (85.66%)	2 (0.8%)	27 (10.76%)	May-11, Aug-21	B.1.79, B.1.77, B.1.35, B.1.105, B.1.11, B.1	251 taxa
UK1683	1 (0.45%)	210 (95.45%)	0 (0%)	9 (4.09%)	May-11, Aug-21	B.1.1.1, B.1.1, B.1.1.10	220 taxa

Lineage name	Wales	England	Northern Ireland	Scotland	Date range	Global lineage	Total
UK1037	26 (12.09%)	188 (87.44%)	0 (0%)	1 (0.47%)	May-13, Aug-18	B.1.1.30, B.1.1	215 taxa
UK199	1 (0.47%)	201 (95.26%)	0 (0%)	9 (4.27%)	May-07, Aug-26	B.1, B.1.5	211 taxa
UK1535	0 (0%)	19 (9.13%)	186 (89.42%)	3 (1.44%)	May-12, Aug-26	B.1.1	208 taxa
UK1211	0 (0%)	33 (16.75%)	1 (0.51%)	163 (82.74%)	Jun-01, Aug-29	B.1.1	197 taxa
UK698	1 (0.58%)	167 (97.66%)	0 (0%)	3 (1.75%)	May-21, Aug-26	B.1.1	171 taxa
UK1153	0 (0%)	161 (98.77%)	0 (0%)	2 (1.23%)	Apr-26, Aug-21	B.1.1	163 taxa
UK2913	0 (0%)	126 (99.21%)	0 (0%)	1 (0.79%)	May-11, Jul-11	B.1, B.1.11	127 taxa
UK312	3 (2.46%)	64 (52.46%)	6 (4.92%)	49 (40.16%)	Jul-21, Aug-27	B.1	122 taxa
UK2022	0 (0%)	119 (98.35%)	1 (0.83%)	1 (0.83%)	Jun-09, Aug-27	B.1.1	121 taxa
UK847	2 (1.89%)	85 (80.19%)	10 (9.43%)	9 (8.49%)	Jun-02, Aug-29	B.1, B.1.36	106 taxa
UK1186	16 (15.09%)	51 (48.11%)	10 (9.43%)	29 (27.36%)	Aug-03, Aug-30	B.1.79, B.1	106 taxa
UK945	2 (2.15%)	87 (93.55%)	0 (0%)	4 (4.3%)	Apr-28, Aug-30	B.1.1.28, B.1.1	93 taxa
UK1076	1 (1.11%)	63 (70.0%)	7 (7.78%)	19 (21.11%)	May-11, Aug-22	B.1.1	90 taxa
UK2916	0 (0%)	89 (100.0%)	0 (0%)	0 (0%)	May-06, Jul-24	B.1, B.1.11	89 taxa
UK1065	66 (75.86%)	21 (24.14%)	0 (0%)	0 (0%)	Jun-02, Jul-22	B.1.1	87 taxa
UK1152	0 (0%)	13 (18.31%)	4 (5.63%)	54 (76.06%)	Jul-17, Aug-21	B.1.1	71 taxa
UK2200	5 (7.04%)	65 (91.55%)	0 (0%)	1 (1.41%)	May-19, Aug-26	B.1, B.1.5	71 taxa
UK461	2 (2.86%)	50 (71.43%)	15 (21.43%)	3 (4.29%)	Aug-02, Aug-27	B.1	70 taxa
UK510	0 (0%)	61 (96.83%)	1 (1.59%)	1 (1.59%)	Jul-18, Aug-26	B.1.106, B.1	63 taxa
UK352	0 (0%)	58 (95.08%)	0 (0%)	3 (4.92%)	Jul-05, Aug-26	B.1, B.1.113, B.1.36	61 taxa
UK1904	0 (0%)	60 (100.0%)	0 (0%)	0 (0%)	Jun-02, Aug-18	B.1.1	60 taxa
UK1323	0 (0%)	59 (100.0%)	0 (0%)	0 (0%)	May-11, Aug-19	B.1.1	59 taxa
UK800	0 (0%)	43 (74.14%)	5 (8.62%)	10 (17.24%)	Jul-15, Aug-30	B.1	58 taxa
UK1684	0 (0%)	58 (100.0%)	0 (0%)	0 (0%)	May-11, Jul-04	B.1.1.1, B.1.1	58 taxa
UK369	0 (0%)	48 (97.96%)	0 (0%)	1 (2.04%)	Jun-12, Aug-21	B.1, B.1.113	49 taxa
UK678	0 (0%)	47 (97.92%)	0 (0%)	1 (2.08%)	Jun-07, Aug-14	B.1.1	48 taxa
UK528	2 (4.26%)	37 (78.72%)	5 (10.64%)	3 (6.38%)	Jul-31, Aug-26	B.1	47 taxa
UK718	0 (0%)	46 (100.0%)	0 (0%)	0 (0%)	Jun-22, Aug-26	B.1.1	46 taxa
UK494	0 (0%)	43 (100.0%)	0 (0%)	0 (0%)	May-18, Jul-16	B.1, B.1.104	43 taxa

Lineage name	Wales	England	Northern Ireland	Scotland	Date range	Global lineage	Total
UK1800	1 (2.33%)	42 (97.67%)	0 (0%)	0 (0%)	Jun-02, Aug-17	B.1.1	43 taxa
UK1212	0 (0%)	38 (90.48%)	0 (0%)	4 (9.52%)	Jun-04, Jul-04	B.1.1	42 taxa
UK357	0 (0%)	42 (100.0%)	0 (0%)	0 (0%)	Jun-01, Aug-17	B.1	42 taxa
UK719	1 (2.38%)	37 (88.1%)	0 (0%)	4 (9.52%)	May-12, Aug-20	B.1.1	42 taxa
UK254	3 (7.32%)	36 (87.8%)	0 (0%)	2 (4.88%)	Aug-03, Aug-26	B.1	41 taxa
UK1225	0 (0%)	38 (97.44%)	0 (0%)	1 (2.56%)	Jun-12, Aug-21	B.1.1.1, B.1.1	39 taxa
UK1155	1 (2.7%)	36 (97.3%)	0 (0%)	0 (0%)	May-12, Jun-21	B.1.1	37 taxa
UK1119	35 (97.22%)	1 (2.78%)	0 (0%)	0 (0%)	Jun-09, Jun-23	B.1.1	36 taxa
UK1151	0 (0%)	19 (52.78%)	0 (0%)	17 (47.22%)	Aug-05, Aug-25	B.1	36 taxa
UK1134	0 (0%)	35 (100.0%)	0 (0%)	0 (0%)	May-20, Aug-06	B.1.1	35 taxa
UK1644	0 (0%)	33 (100.0%)	0 (0%)	0 (0%)	Jun-09, Jul-17	B.1.1	33 taxa
UK2464	0 (0%)	32 (100.0%)	0 (0%)	0 (0%)	Apr-29, Jun-29	B.1	32 taxa
UK1097	4 (12.5%)	28 (87.5%)	0 (0%)	0 (0%)	Jul-06, Aug-26	B.1, B.1.5	32 taxa
UK1218	0 (0%)	30 (96.77%)	0 (0%)	1 (3.23%)	Jun-10, Jul-22	B.1.1.1	31 taxa
UK1278	0 (0%)	30 (100.0%)	0 (0%)	0 (0%)	Jun-04, Jul-27	B.1.1	30 taxa
UK1769	0 (0%)	28 (100.0%)	0 (0%)	0 (0%)	Jun-12, Aug-18	B.1.1	28 taxa
UK1061	0 (0%)	17 (60.71%)	11 (39.29%)	0 (0%)	Jun-02, Aug-20	B.1	28 taxa
UK348	0 (0%)	28 (100.0%)	0 (0%)	0 (0%)	May-13, Aug-19	B.1	28 taxa
UK51	0 (0%)	28 (100.0%)	0 (0%)	0 (0%)	Jun-04, Jul-15	B.1, B.1.36	28 taxa
UK1148	0 (0%)	27 (100.0%)	0 (0%)	0 (0%)	Jun-09, Jun-19	B.1.1	27 taxa
UK597	1 (3.7%)	25 (92.59%)	0 (0%)	1 (3.7%)	Apr-28, Aug-21	B.1, B.1.117, B.1.5	27 taxa
UK1850	0 (0%)	27 (100.0%)	0 (0%)	0 (0%)	Jun-15, Aug-07	B.1.1	27 taxa
UK1709	0 (0%)	17 (65.38%)	3 (11.54%)	6 (23.08%)	Aug-07, Aug-26	B.1.1	26 taxa
UK1479	0 (0%)	26 (100.0%)	0 (0%)	0 (0%)	Jun-09, Aug-17	B.1.1	26 taxa
UK399	0 (0%)	14 (56.0%)	6 (24.0%)	5 (20.0%)	Aug-10, Aug-26	B.1	25 taxa
UK1232	0 (0%)	25 (100.0%)	0 (0%)	0 (0%)	May-18, Jul-03	B.1.1	25 taxa
UK331	0 (0%)	25 (100.0%)	0 (0%)	0 (0%)	Jul-02, Aug-21	B.1, B.1.36	25 taxa
UK5498	0 (0%)	24 (100.0%)	0 (0%)	0 (0%)	Jun-11, Jul-19	B.2	24 taxa
UK1126	0 (0%)	22 (91.67%)	0 (0%)	2 (8.33%)	Apr-29, Aug-17	B.1.1	24 taxa

Lineage name	Wales	England	Northern Ireland	Scotland	Date range	Global lineage	Total
UK1060	0 (0%)	23 (95.83%)	0 (0%)	1 (4.17%)	May-14, Aug-14	B.1.1	24 taxa
UK336	0 (0%)	12 (52.17%)	0 (0%)	11 (47.83%)	May-11, Jun-17	B.1, B.1.93	23 taxa
UK741	0 (0%)	22 (95.65%)	0 (0%)	1 (4.35%)	Jun-27, Aug-21	B.1.1	23 taxa
UK1455	0 (0%)	21 (95.45%)	1 (4.55%)	0 (0%)	Aug-04, Aug-19	B.1.1.1, B.1.1	22 taxa
UK1213	0 (0%)	21 (100.0%)	0 (0%)	0 (0%)	Jun-08, Jul-27	B.1.1.1	21 taxa
UK407	0 (0%)	3 (14.29%)	3 (14.29%)	15 (71.43%)	Aug-11, Aug-30	B.1.79, B.1	21 taxa
UK600	0 (0%)	21 (100.0%)	0 (0%)	0 (0%)	May-18, Jun-21	B.1.1	21 taxa
UK1317	0 (0%)	17 (89.47%)	0 (0%)	2 (10.53%)	May-11, Aug-21	B.1.1	19 taxa
UK1619	0 (0%)	19 (100.0%)	0 (0%)	0 (0%)	Jun-10, Jul-03	B.1.1	19 taxa
UK1388	0 (0%)	18 (100.0%)	0 (0%)	0 (0%)	Jun-08, Jul-06	B.1.1	18 taxa
UK2046	0 (0%)	18 (100.0%)	0 (0%)	0 (0%)	Jun-09, Jul-01	B.1.1	18 taxa
UK1029	0 (0%)	18 (100.0%)	0 (0%)	0 (0%)	Jun-12, Aug-09	B.1	18 taxa
UK1105	1 (5.88%)	4 (23.53%)	12 (70.59%)	0 (0%)	Jul-03, Aug-20	B.1	17 taxa
UK108	0 (0%)	15 (93.75%)	0 (0%)	1 (6.25%)	Jun-07, Jul-01	B.1	16 taxa
UK1577	1 (6.25%)	15 (93.75%)	0 (0%)	0 (0%)	May-12, Jun-30	B.1.1	16 taxa
UK501	1 (6.25%)	12 (75.0%)	0 (0%)	3 (18.75%)	May-13, Aug-20	B.1	16 taxa
UK1375	0 (0%)	16 (100.0%)	0 (0%)	0 (0%)	Jun-08, Jun-25	B.1.1	16 taxa
UK1926	0 (0%)	15 (100.0%)	0 (0%)	0 (0%)	Jun-12, Jul-01	B.1.1	15 taxa
UK1968	0 (0%)	14 (100.0%)	0 (0%)	0 (0%)	Jun-04, Jun-29	B.1.1	14 taxa
UK973	0 (0%)	14 (100.0%)	0 (0%)	0 (0%)	Jun-12, Aug-05	B.1, B.1.36	14 taxa
UK630	0 (0%)	14 (100.0%)	0 (0%)	0 (0%)	Jun-10, Jul-03	B.1.1	14 taxa
UK5741	0 (0%)	14 (100.0%)	0 (0%)	0 (0%)	May-11, Jul-15	B.1	14 taxa
UK1790	0 (0%)	13 (92.86%)	0 (0%)	1 (7.14%)	Jun-11, Aug-21	B.1.1.1, B.1.1, B.1.1.10	14 taxa
UK709	0 (0%)	14 (100.0%)	0 (0%)	0 (0%)	Jun-02, Jun-20	B.1.1	14 taxa
UK5501	0 (0%)	13 (100.0%)	0 (0%)	0 (0%)	Jun-05, Jun-24	B.1.12, B.1	13 taxa
UK592	0 (0%)	12 (92.31%)	0 (0%)	1 (7.69%)	Jun-11, Jul-01	B.1	13 taxa
UK1344	0 (0%)	12 (100.0%)	0 (0%)	0 (0%)	May-11, Jun-23	B.1.1	12 taxa
UK819	0 (0%)	12 (100.0%)	0 (0%)	0 (0%)	Aug-02, Aug-13	B.1, B.1.113	12 taxa
UK231	0 (0%)	12 (100.0%)	0 (0%)	0 (0%)	Jun-02, Jul-02	B.1	12 taxa

Lineage name	Wales	England	Northern Ireland	Scotland	Date range	Global lineage	Total
UK1264	0 (0%)	12 (100.0%)	0 (0%)	0 (0%)	Jun-07, Jul-02	B.1.1	12 taxa
UK1091	6 (50.0%)	6 (50.0%)	0 (0%)	0 (0%)	Jun-06, Jun-21	B.1.1.2, B.1.1	12 taxa
UK12	0 (0%)	1 (8.33%)	0 (0%)	11 (91.67%)	Jul-31, Aug-14	B.1	12 taxa
UK1528	0 (0%)	10 (83.33%)	0 (0%)	2 (16.67%)	Jul-20, Aug-20	B.1.1	12 taxa
UK387	0 (0%)	11 (91.67%)	0 (0%)	1 (8.33%)	May-02, Jul-31	B.1	12 taxa
UK669	0 (0%)	9 (75.0%)	0 (0%)	3 (25.0%)	May-11, Aug-03	B.1.1	12 taxa
UK2079	0 (0%)	0 (0%)	12 (100.0%)	0 (0%)	Aug-19, Aug-21	B.1.1, B.1.1.25	12 taxa
UK1300	0 (0%)	12 (100.0%)	0 (0%)	0 (0%)	Jun-09, Jul-02	B.1.1	12 taxa
UK701	0 (0%)	11 (100.0%)	0 (0%)	0 (0%)	Jun-10, Jun-14	B.1.1	11 taxa
UK298	0 (0%)	11 (100.0%)	0 (0%)	0 (0%)	Jul-16, Aug-05	B.1, B.1.5	11 taxa
UK1411	0 (0%)	11 (100.0%)	0 (0%)	0 (0%)	Jun-13, Jul-15	B.1.1	11 taxa
UK160	0 (0%)	11 (100.0%)	0 (0%)	0 (0%)	May-20, Jul-01	B.1	11 taxa
UK1380	0 (0%)	11 (100.0%)	0 (0%)	0 (0%)	Jun-07, Jun-18	B.1.1	11 taxa
UK406	0 (0%)	4 (36.36%)	5 (45.45%)	2 (18.18%)	Aug-10, Aug-21	B.1.79, B.1	11 taxa
UK2094	0 (0%)	11 (100.0%)	0 (0%)	0 (0%)	Jun-04, Jun-24	B.1.1	11 taxa
UK529	0 (0%)	0 (0%)	0 (0%)	10 (100.0%)	Aug-06, Aug-21	B.1	10 taxa
UK191	0 (0%)	10 (100.0%)	0 (0%)	0 (0%)	Jun-07, Aug-21	B.1	10 taxa
UK780	0 (0%)	10 (100.0%)	0 (0%)	0 (0%)	Jul-05, Aug-20	B.1.3	10 taxa
UK1301	0 (0%)	10 (100.0%)	0 (0%)	0 (0%)	May-12, Jun-18	B.1	10 taxa
UK1161	0 (0%)	10 (100.0%)	0 (0%)	0 (0%)	Jul-06, Aug-21	B.1.1	10 taxa
UK826	0 (0%)	10 (100.0%)	0 (0%)	0 (0%)	Jun-12, Aug-21	B.1, B.1.36	10 taxa
UK1163	0 (0%)	10 (100.0%)	0 (0%)	0 (0%)	May-12, Jul-14	B.1.1	10 taxa
UK1612	0 (0%)	10 (100.0%)	0 (0%)	0 (0%)	Aug-09, Aug-21	B.1.1	10 taxa
UK1759	0 (0%)	8 (88.89%)	0 (0%)	1 (11.11%)	May-13, Aug-11	B.1	9 taxa
UK1827	0 (0%)	9 (100.0%)	0 (0%)	0 (0%)	Jul-16, Aug-18	B.1.1	9 taxa
UK1363	0 (0%)	1 (11.11%)	8 (88.89%)	0 (0%)	Jul-16, Aug-21	B.1	9 taxa
UK1979	0 (0%)	9 (100.0%)	0 (0%)	0 (0%)	May-22, Jun-13	B.1.1	9 taxa
UK1570	0 (0%)	9 (100.0%)	0 (0%)	0 (0%)	May-11, Jun-23	B.1.1	9 taxa
UK1830	0 (0%)	9 (100.0%)	0 (0%)	0 (0%)	Jun-02, Jul-02	B.1.1	9 taxa

Lineage name	Wales	England	Northern Ireland	Scotland	Date range	Global lineage	Total
UK805	9 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Jun-13, Jul-16	B.1.1	9 taxa
UK1247	0 (0%)	9 (100.0%)	0 (0%)	0 (0%)	Aug-05, Aug-21	B.1	9 taxa
UK1133	9 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Jun-02, Jun-15	B.1.1.29	9 taxa
UK696	0 (0%)	8 (100.0%)	0 (0%)	0 (0%)	Jun-11, Jun-23	B.1.1	8 taxa
UK1857	0 (0%)	8 (100.0%)	0 (0%)	0 (0%)	Jun-09, Jul-17	B.1.1	8 taxa
UK2111	0 (0%)	8 (100.0%)	0 (0%)	0 (0%)	Jun-02, Aug-09	B.1.1	8 taxa
UK882	0 (0%)	5 (62.5%)	3 (37.5%)	0 (0%)	Jun-24, Aug-17	B.1	8 taxa
UK1792	0 (0%)	2 (25.0%)	6 (75.0%)	0 (0%)	Aug-07, Aug-21	B.1.1	8 taxa
UK1210	0 (0%)	4 (50.0%)	4 (50.0%)	0 (0%)	Jul-14, Jul-29	B.1.1.1, B.1.1	8 taxa
UK511	0 (0%)	4 (50.0%)	2 (25.0%)	2 (25.0%)	Jul-24, Aug-13	B.1	8 taxa
UK1942	0 (0%)	8 (100.0%)	0 (0%)	0 (0%)	Jun-06, Aug-18	B.1.1	8 taxa
UK689	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Jul-15, Aug-21	B.1.1	7 taxa
UK2061	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Jun-11, Jul-05	B.1.1	7 taxa
UK2051	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Jun-08, Jul-28	B.1.1	7 taxa
UK1359	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	May-11, May-18	B.1.1	7 taxa
UK2007	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Jun-10, Jun-18	B.1.1	7 taxa
UK1090	0 (0%)	6 (85.71%)	0 (0%)	1 (14.29%)	Jul-14, Aug-17	B.1	7 taxa
UK2030	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Jul-12, Jul-19	B.1.1	7 taxa
UK1583	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Aug-09, Aug-18	B.1.1	7 taxa
UK2095	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Jul-03, Aug-10	B.1.1	7 taxa
UK697	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Jun-08, Jul-02	B.1	7 taxa
UK167	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	May-12, Jul-15	B.1	6 taxa
UK564	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Jun-07, Jun-25	B.1	6 taxa
UK1893	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Jun-07, Aug-17	B.1.1	6 taxa
UK1743	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Jun-11, Jun-30	B.1.1	6 taxa
UK889	0 (0%)	5 (83.33%)	0 (0%)	1 (16.67%)	May-12, Aug-18	B.1	6 taxa
UK1314	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Jun-08, Aug-02	B.1.1	6 taxa
UK1860	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Jun-10, Jun-14	B.1.1	6 taxa
UK1269	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Jun-21, Aug-26	B.1.1.1, B.1.1	6 taxa

Lineage name	Wales	England	Northern Ireland	Scotland	Date range	Global lineage	Total
UK1233	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Jun-26, Aug-26	B.1.1	6 taxa
UK927	4 (66.67%)	2 (33.33%)	0 (0%)	0 (0%)	Jun-16, Jun-30	B.1.1	6 taxa
UK650	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	May-24, Aug-29	B.1.1	6 taxa
UK1202	1 (16.67%)	5 (83.33%)	0 (0%)	0 (0%)	Jun-11, Jun-21	B.1.1	6 taxa

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

Table S2 is not appropriate for this report and so has been omitted.

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

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

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

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

Day	Number of singleton starts	Number of non-singleton starts	Total
2020-08-15	0	1	1
2020-08-17	4	4	8
2020-08-18	9	3	12
2020-08-19	1	2	3
2020-08-20	6	1	7
2020-08-21	5	1	6
2020-08-26	2	0	2
2020-08-29	1	0	1
2020-08-30	1	0	1

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

Day	England	Scotland	Wales	Northern Ireland
2020-04-26	1	0	0	0
2020-04-27	1	0	0	0
2020-04-28	4	0	0	0
2020-04-29	9	0	0	0
2020-04-30	3	0	0	0
2020-05-01	1	0	0	0
2020-05-02	1	0	0	0
2020-05-05	2	0	0	0
2020-05-06	1	0	0	0
2020-05-07	2	0	0	0
2020-05-08	2	0	0	0
2020-05-10	2	0	0	0
2020-05-11	38	9	0	0
2020-05-12	68	16	2	0
2020-05-13	40	9	1	0
2020-05-14	50	8	2	0
2020-05-15	8	0	0	0
2020-05-16	1	0	0	0
2020-05-17	1	0	0	0
2020-05-18	89	22	1	0
2020-05-19	5	0	0	0
2020-05-20	17	0	1	0
2020-05-21	13	0	0	0
2020-05-22	20	0	0	0
2020-05-23	4	0	0	0
2020-05-24	13	0	0	0
2020-05-25	14	0	0	0
2020-05-26	9	0	0	0
2020-05-27	21	0	0	0
2020-05-30	1	0	0	0
2020-05-31	4	0	0	0
2020-06-01	57	0	1	0
2020-06-02	119	0	4	0
2020-06-03	16	0	0	0
2020-06-04	50	0	0	0
2020-06-05	20	0	2	0
2020-06-06	50	0	2	0
2020-06-07	204	0	0	0
2020-06-08	278	0	0	0
2020-06-09	262	0	8	0
2020-06-10	271	0	9	0
2020-06-11	422	0	17	0
2020-06-12	482	0	16	0
2020-06-13	338	0	7	0
2020-06-14	353	0	8	0

Day	England	Scotland	Wales	Northern Ireland
2020-06-15	327	0	12	0
2020-06-16	300	2	18	1
2020-06-17	325	5	11	3
2020-06-18	203	0	8	0
2020-06-19	326	0	6	2
2020-06-20	150	0	3	0
2020-06-21	174	0	5	0
2020-06-22	174	0	3	0
2020-06-23	264	0	4	0
2020-06-24	291	2	5	0
2020-06-25	227	3	4	0
2020-06-26	43	4	2	0
2020-06-27	75	2	1	3
2020-06-28	17	1	1	0
2020-06-29	157	0	6	0
2020-06-30	184	0	5	0
2020-07-01	215	0	8	0
2020-07-02	205	0	3	0
2020-07-03	209	0	3	0
2020-07-04	144	0	3	0
2020-07-05	55	0	0	0
2020-07-06	53	0	2	0
2020-07-07	7	0	0	0
2020-07-08	4	0	0	0
2020-07-09	5	0	0	0
2020-07-10	11	0	0	0
2020-07-11	28	0	0	5
2020-07-12	14	0	0	4
2020-07-13	17	2	0	2
2020-07-14	43	0	0	5
2020-07-15	207	1	1	6
2020-07-16	133	3	1	13
2020-07-17	116	2	0	6
2020-07-18	66	7	0	4
2020-07-19	46	10	0	0
2020-07-20	43	6	0	1
2020-07-21	31	2	1	6
2020-07-22	55	8	3	3
2020-07-23	47	6	1	8
2020-07-24	61	9	0	5
2020-07-25	31	1	1	4
2020-07-26	25	2	2	4
2020-07-27	46	5	0	10
2020-07-28	25	10	0	8
2020-07-29	23	2	0	5
2020-07-30	37	0	0	0
2020-07-31	28	1	0	0
2020-08-01	14	5	0	7
2020-08-02	44	6	0	0
2020-08-03	55	4	1	0
2020-08-04	70	8	0	8
2020-08-05	86	32	1	6
2020-08-06	117	42	1	7
2020-08-07	65	29	2	7
2020-08-08	42	19	0	23
2020-08-09	133	28	0	21
2020-08-10	235	44	5	40
2020-08-11	110	54	5	20
2020-08-12	140	35	2	4

Day	England	Scotland	Wales	Northern Ireland
2020-08-13	127	43	0	28
2020-08-14	125	46	6	34
2020-08-15	52	15	0	18
2020-08-16	24	10	4	18
2020-08-17	181	44	2	38
2020-08-18	239	23	17	8
2020-08-19	73	56	3	25
2020-08-20	154	108	7	51
2020-08-21	150	56	7	65
2020-08-22	2	4	0	0
2020-08-24	1	0	0	0
2020-08-25	4	0	0	1
2020-08-26	35	6	1	5
2020-08-27	1	2	1	0
2020-08-29	18	10	0	0
2020-08-30	2	6	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	175	100-200
ABERDEENSHIRE	Scotland	88	10-100
ANGLESEY	Wales	17	10-100
ANGUS	Scotland	17	10-100
ANTRIM	Northern Ireland	0	0
ARGYLL AND BUTE	Scotland	6	1-10
ARMAGH	Northern Ireland	2	1-10
BEDFORDSHIRE	England	97	10-100
BERKSHIRE	England	43	10-100
BLACKBURN WITH DARWEN	England	0	0
BLACKPOOL	England	0	0
BLAENAU GWENT	Wales	0	0
BOURNEMOUTH	England	0	0
BRIDGEND	Wales	1	1-10
BRIGHTON AND HOVE	England	0	0
BRISTOL	England	12	10-100
BUCKINGHAMSHIRE	England	73	10-100
CAERPHILLY	Wales	2	1-10
CAMBRIDGESHIRE	England	93	10-100
CARDIFF	Wales	15	10-100
CARMARTHENSHIRE	Wales	5	1-10
CEREDIGION	Wales	0	0
CHESHIRE	England	146	100-200
CLACKMANNANSHIRE	Scotland	5	1-10
CLWYD	Wales	80	10-100
CORNWALL	England	0	0
CUMBRIA	England	109	100-200
DARLINGTON	England	0	0
DERBY	England	0	0
DERBYSHIRE	England	146	100-200
DEVON	England	12	10-100
DORSET	England	4	1-10
DOWN	Northern Ireland	6	1-10
DUMFRIES AND GALLOWAY	Scotland	4	1-10
DUNDEE	Scotland	66	10-100
DURHAM	England	158	100-200
EAST AYRSHIRE	Scotland	6	1-10
EAST DUNBARTONSHIRE	Scotland	19	10-100

Admin2	Country	Number of sequences	Sequence group
EAST LOTHIAN	Scotland	4	1-10
EAST RENFREWSHIRE	Scotland	17	10-100
EAST RIDING OF YORKSHIRE	England	106	100-200
EDINBURGH	Scotland	28	10-100
EILEAN SIAR	Scotland	0	0
ESSEX	England	82	10-100
FALKIRK	Scotland	6	1-10
FERMANAGH	Northern Ireland	0	0
FIFE	Scotland	28	10-100
GLASGOW	Scotland	115	100-200
GLOUCESTERSHIRE	England	28	10-100
GREATER LONDON	England	266	200-300
GREATER MANCHESTER	England	686	600-700
GUERNSEY	Channel_islands	0	0
GWYNEDD	Wales	3	1-10
HALTON	England	0	0
HAMPSHIRE	England	31	10-100
HARTLEPOOL	England	0	0
HEREFORDSHIRE	England	4	1-10
HERTFORDSHIRE	England	33	10-100
HIGHLAND	Scotland	4	1-10
INVERCLYDE	Scotland	8	1-10
ISLE OF WIGHT	England	4	1-10
ISLES OF SCILLY	England	0	0
JERSEY	Channel_islands	0	0
KENT	England	71	10-100
KINGSTON UPON HULL	England	0	0
LANCASHIRE	England	501	500-600
LEICESTER	England	0	0
LEICESTERSHIRE	England	1589	1000-2000
LINCOLNSHIRE	England	86	10-100
LONDONDERRY	Northern Ireland	3	1-10
MEDWAY	England	0	0
MERSEYSIDE	England	225	200-300
MERTHYR TYDFIL	Wales	2	1-10
MIDDLESBROUGH	England	0	0
MIDLOTHIAN	Scotland	4	1-10
MILTON KEYNES	England	0	0
MONMOUTHSHIRE	Wales	1	1-10
MORAY	Scotland	5	1-10
NEATH PORT TALBOT	Wales	3	1-10
NEWPORT	Wales	0	0
NORFOLK	England	8	1-10
NORTH AYRSHIRE	Scotland	7	1-10
NORTH LANARKSHIRE	Scotland	70	10-100
NORTH LINCOLNSHIRE	England	0	0
NORTH YORKSHIRE	England	170	100-200
NORTHAMPTONSHIRE	England	98	10-100
NORTHUMBERLAND	England	33	10-100
NOTTINGHAM	England	0	0
NOTTINGHAMSHIRE	England	227	200-300
ORKNEY ISLANDS	Scotland	0	0
OXFORDSHIRE	England	44	10-100
PEMBROKESHIRE	Wales	2	1-10
PERTHSHIRE AND KINROSS	Scotland	104	100-200
PETERBOROUGH	England	0	0
PLYMOUTH	England	0	0
POOLE	England	0	0
PORTSMOUTH	England	0	0

Admin2	Country	Number of sequences	Sequence group
POWYS	Wales	3	1-10
REDCAR AND CLEVELAND	England	0	0
RENFREWSHIRE	Scotland	22	10-100
RHONDDA, CYNON, TAFF	Wales	7	1-10
RUTLAND	England	4	1-10
SCOTTISH BORDERS	Scotland	2	1-10
SHETLAND ISLANDS	Scotland	0	0
SHROPSHIRE	England	38	10-100
SOMERSET	England	17	10-100
SOUTH AYRSHIRE	Scotland	9	1-10
SOUTH GLOUCESTERSHIRE	England	0	0
SOUTH LANARKSHIRE	Scotland	36	10-100
SOUTH YORKSHIRE	England	674	600-700
SOUTHAMPTON	England	0	0
SOUTHEND-ON-SEA	England	0	0
STAFFORDSHIRE	England	72	10-100
STIRLING	Scotland	4	1-10
STOCKTON-ON-TEES	England	0	0
STOKE-ON-TRENT	England	0	0
SUFFOLK	England	8	1-10
SURREY	England	34	10-100
SUSSEX	England	57	10-100
SWANSEA	Wales	3	1-10
SWINDON	England	0	0
TELFORD AND WREKIN	England	0	0
THURROCK	England	0	0
TORBAY	England	0	0
TORFAEN	Wales	1	1-10
TYNE AND WEAR	England	123	100-200
TYRONE	Northern Ireland	0	0
VALE OF GLAMORGAN	Wales	3	1-10
WARRINGTON	England	0	0
WARWICKSHIRE	England	29	10-100
WEST DUNBARTONSHIRE	Scotland	10	10-100
WEST LOTHIAN	Scotland	17	10-100
WEST MIDLANDS	England	236	200-300
WEST YORKSHIRE	England	1027	1000-2000
WILTSHIRE	England	67	10-100
WORCESTERSHIRE	England	18	10-100
YORK	England	0	0