



COVID Symptom Study Report

09 March 2021

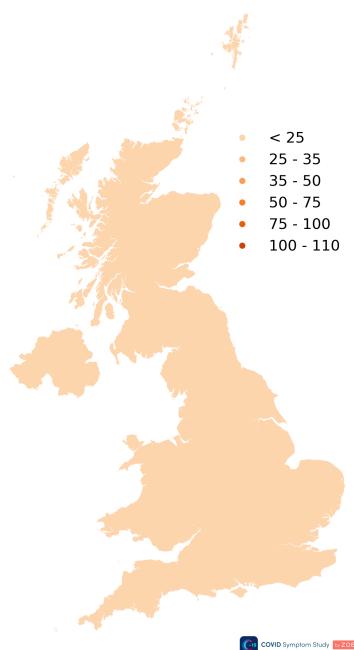
Analysis by ZOE and King's College London

covid.joinzoe.com

Daily new cases of COVID - Incidence (based on 2 weeks up to 05 March 2021)

We estimate there have been 5862 daily new cases of COVID in the UK on average over the two weeks up to 05 March 2021. This is based on the number of newly symptomatic app users per day, and the proportion of these who give positive swab tests.

Daily new cases of COVID per 100,000 (05 March 2021) [\[1\]](#)

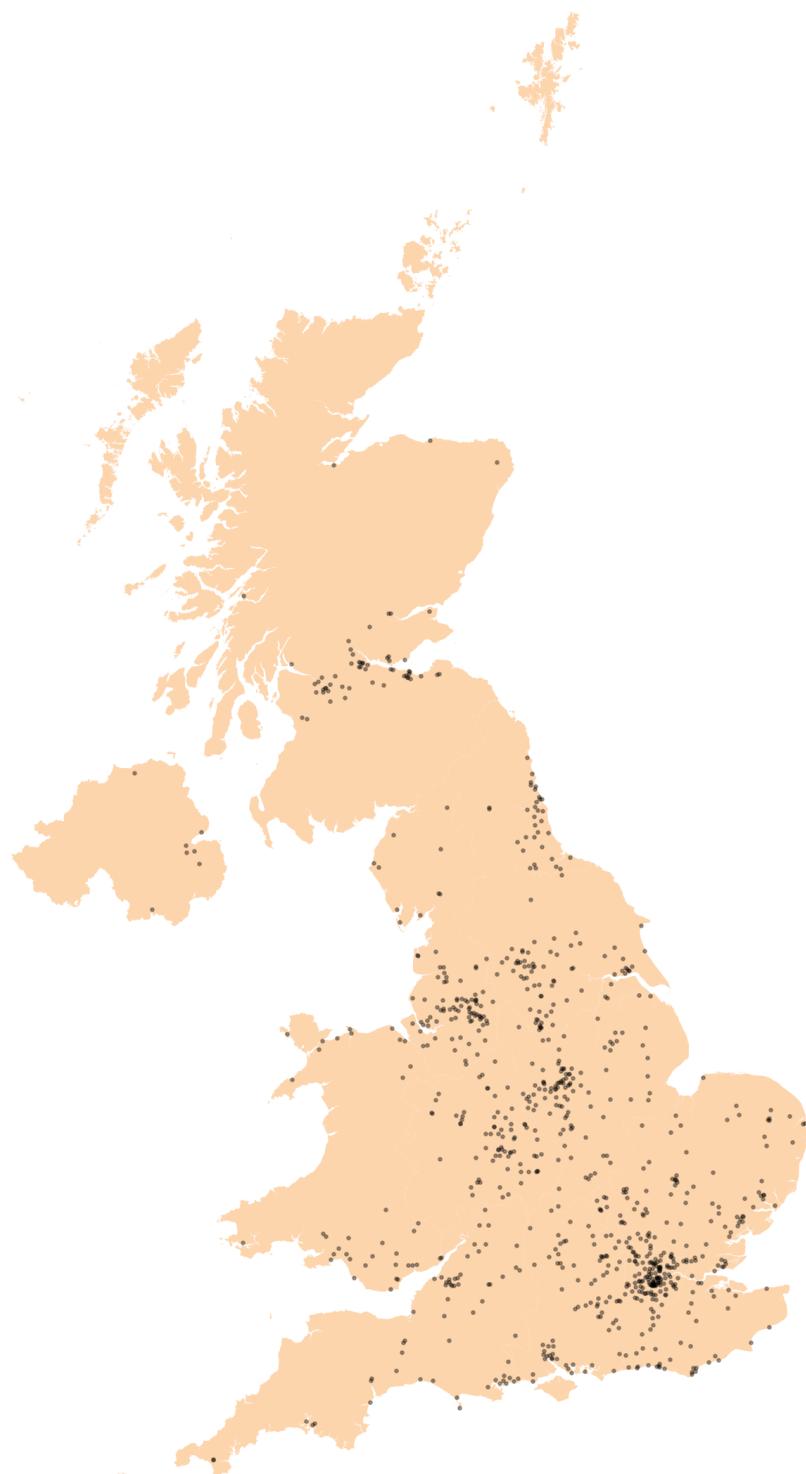


Daily new cases per 100,000 R

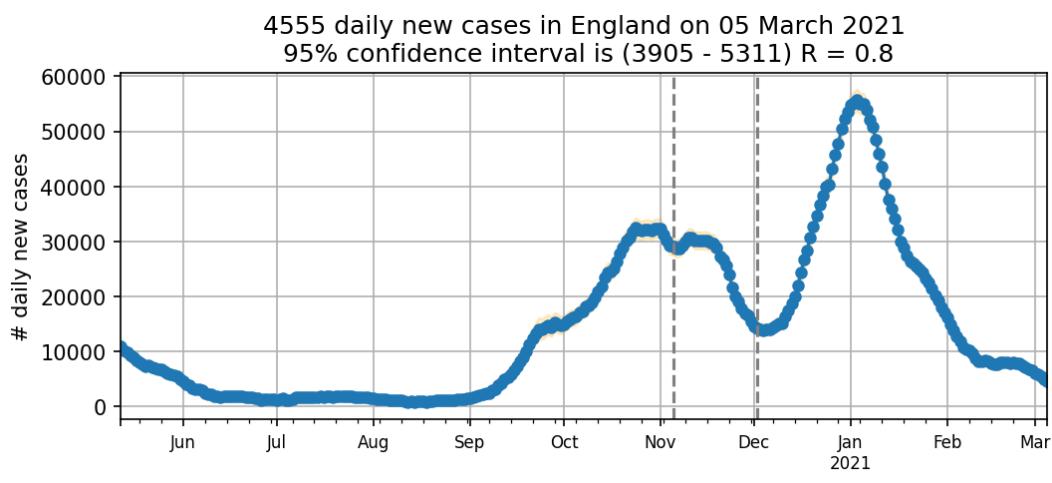
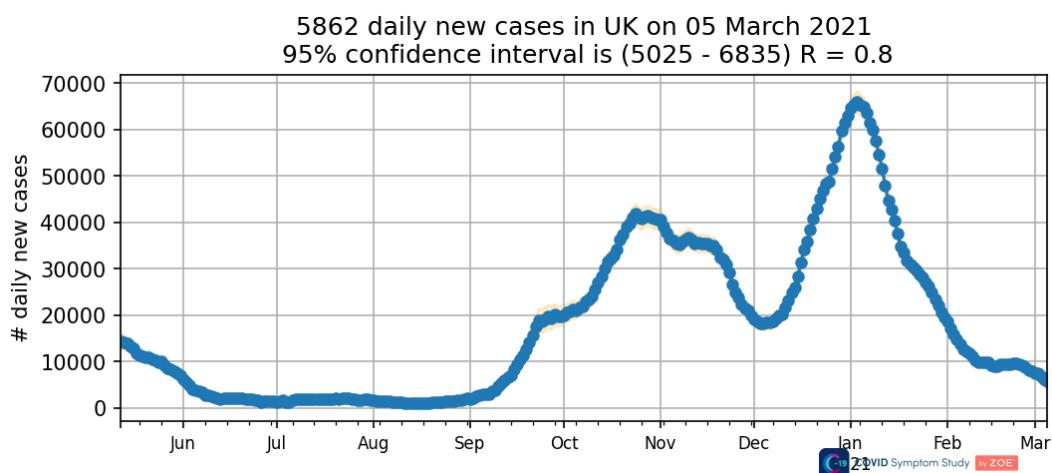
	Daily new cases per 100,000	R
England	7 - 9	0.8 (0.7 - 0.9)
Scotland	7 - 19	0.9 (0.7 - 1.0)
Wales	6 - 19	0.9 (0.7 - 1.0)
South East	5 - 9	0.8 (0.7 - 1.0)
London	4 - 10	0.8 (0.5 - 0.9)
East of England	4 - 10	0.8 (0.7 - 1.0)
South West	2 - 7	0.7 (0.3 - 0.9)
North West	7 - 17	1.0 (0.8 - 1.1)
East Midlands	11 - 24	0.8 (0.7 - 1.0)
Yorkshire and The Humber	8 - 20	0.9 (0.7 - 1.0)
West Midlands	6 - 17	0.8 (0.6 - 1.0)
North East	7 - 25	1.0 (0.8 - 1.1)
Northern Ireland	5 - 58	1.2 (0.8 - 1.7)

[1] Please refer to the publication by [Varsavsky et al. \(2020\)](#) for details on how R values are calculated

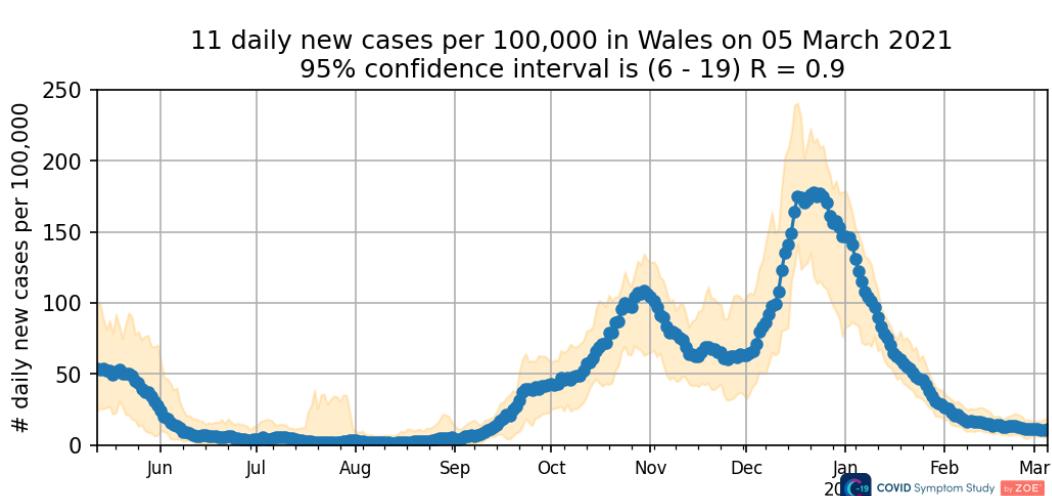
Location of positive test results reported in the UK
in the 2 weeks up to 05 March 2021



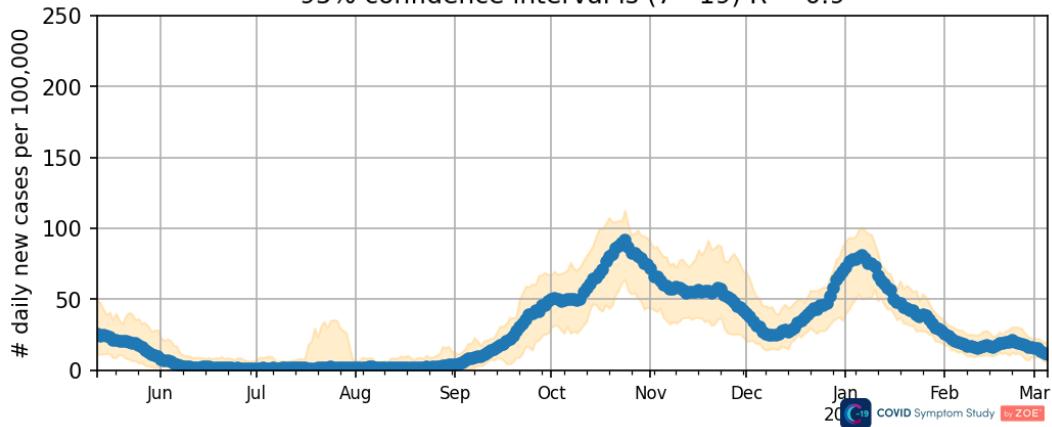
Changes in daily new cases of COVID in UK (based on 2 weeks up to each date)



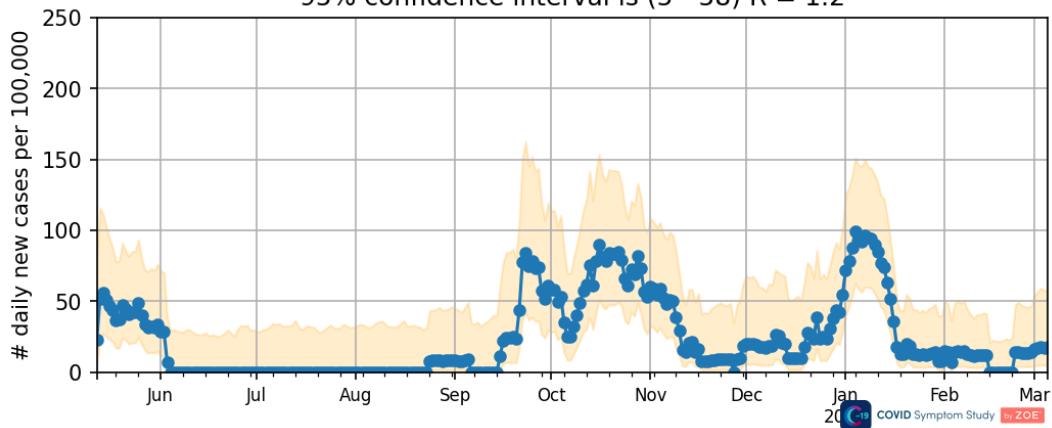
Changes in daily new cases of COVID per 100,000 in different regions (based on 2 weeks up to each date)



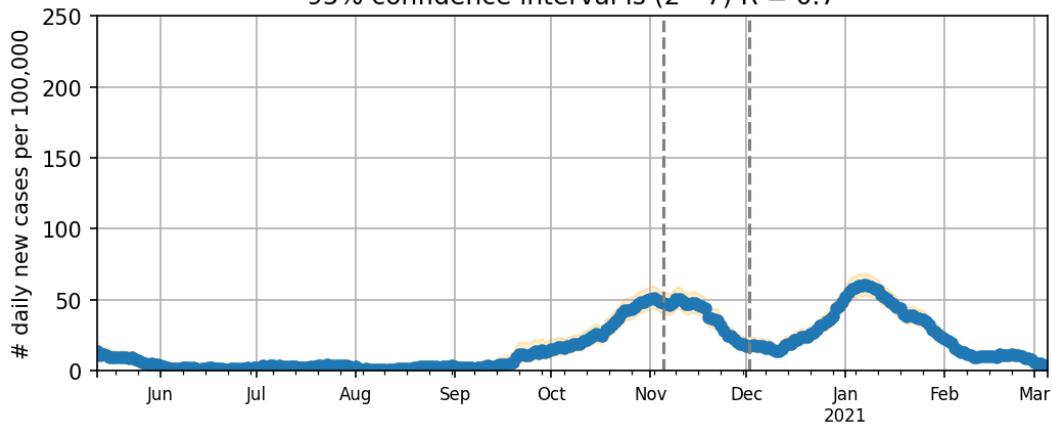
12 daily new cases per 100,000 in Scotland on 05 March 2021
95% confidence interval is (7 - 19) R = 0.9



17 daily new cases per 100,000 in Northern Ireland on 05 March 2021
95% confidence interval is (5 - 58) R = 1.2

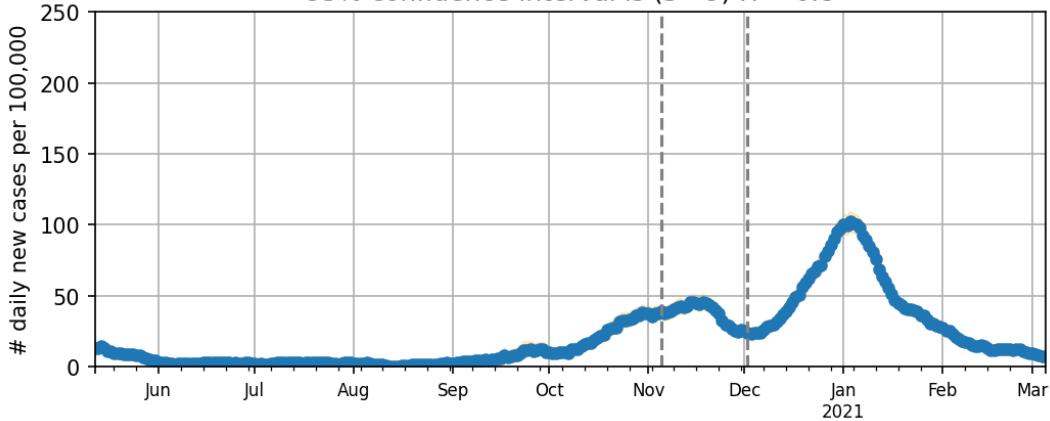


4 daily new cases per 100,000 in South West on 05 March 2021
95% confidence interval is (2 - 7) R = 0.7



Dashed lines: the beginning and the end of the 2nd national lockdown in England

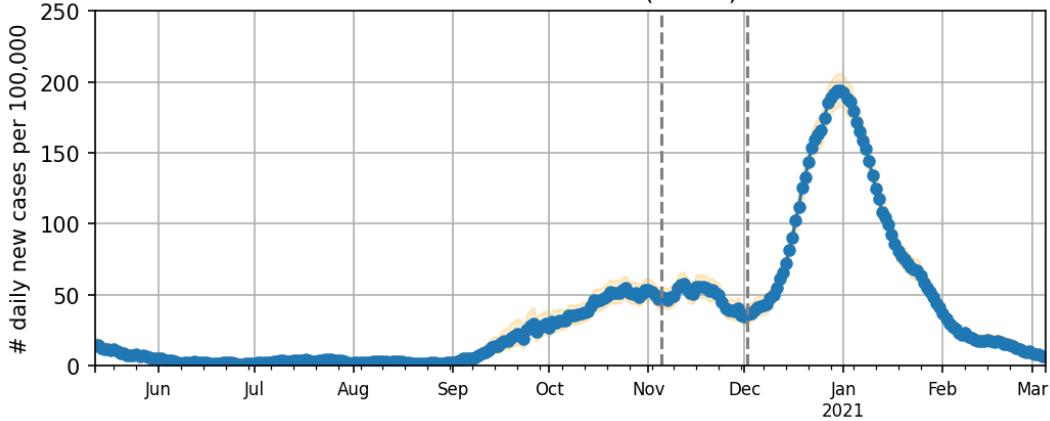
7 daily new cases per 100,000 in South East on 05 March 2021
95% confidence interval is (5 - 9) R = 0.8



Dashed lines: the beginning and the end of the 2nd national lockdown in England

COVID Symptom Study by ZOE

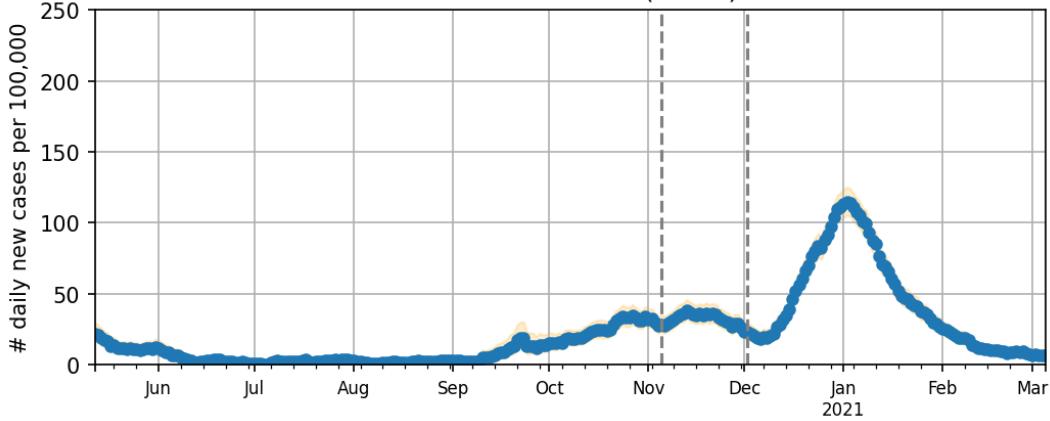
7 daily new cases per 100,000 in London on 05 March 2021
95% confidence interval is (4 - 10) R = 0.8



Dashed lines: the beginning and the end of the 2nd national lockdown in England

COVID Symptom Study by ZOE

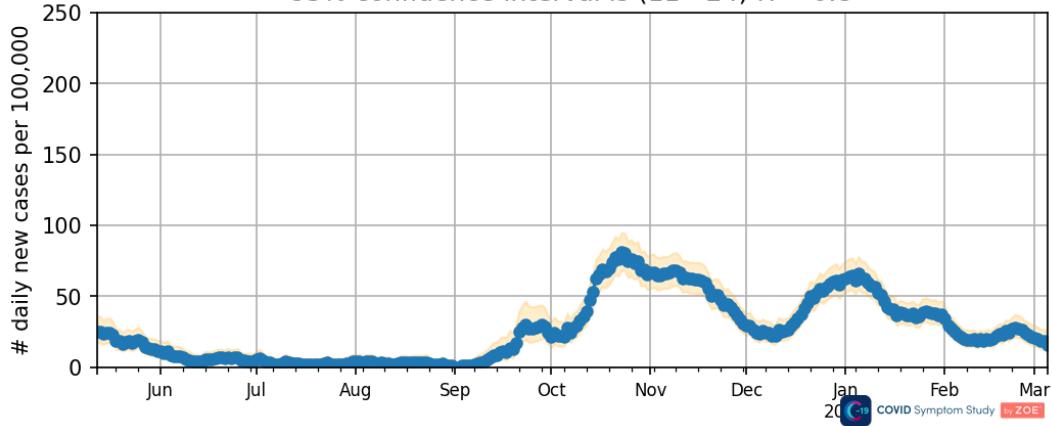
6 daily new cases per 100,000 in East of England on 05 March 2021
95% confidence interval is (4 - 10) R = 0.8



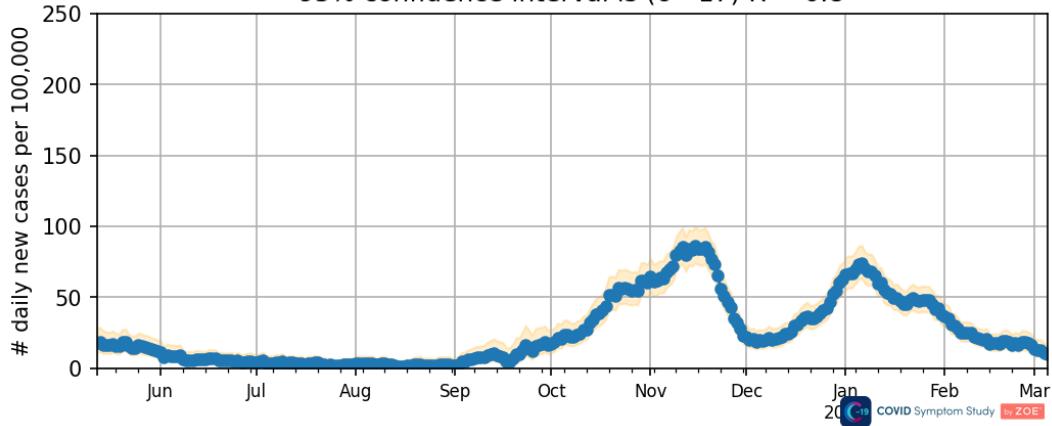
Dashed lines: the beginning and the end of the 2nd national lockdown in England

COVID Symptom Study by ZOE

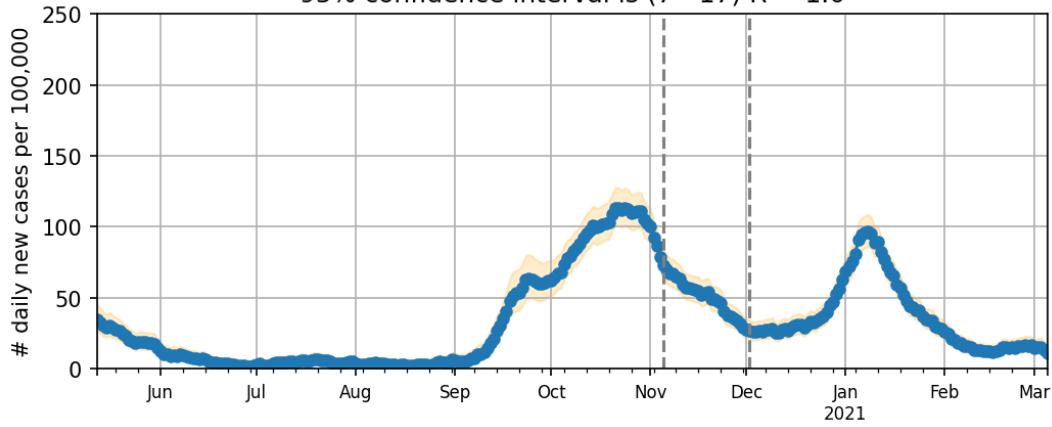
16 daily new cases per 100,000 in East Midlands on 05 March 2021
95% confidence interval is (11 - 24) R = 0.8



10 daily new cases per 100,000 in West Midlands on 05 March 2021
95% confidence interval is (6 - 17) R = 0.8

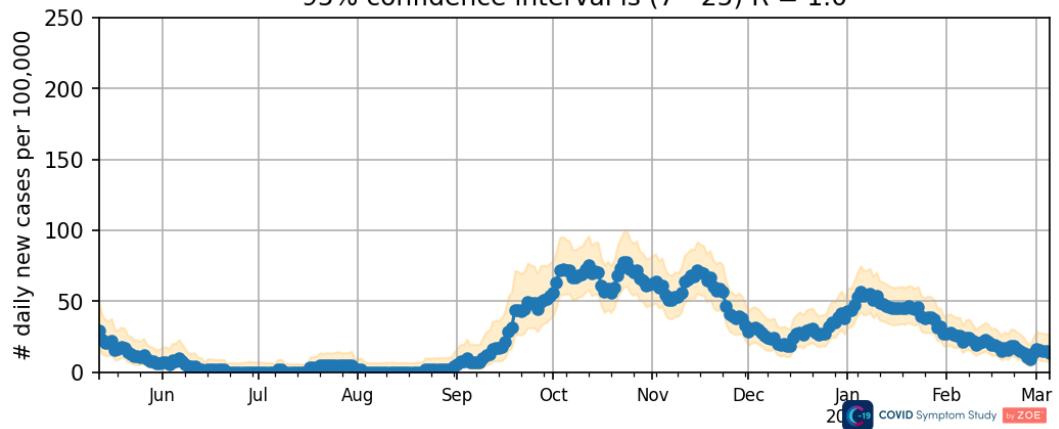


11 daily new cases per 100,000 in North West on 05 March 2021
95% confidence interval is (7 - 17) R = 1.0

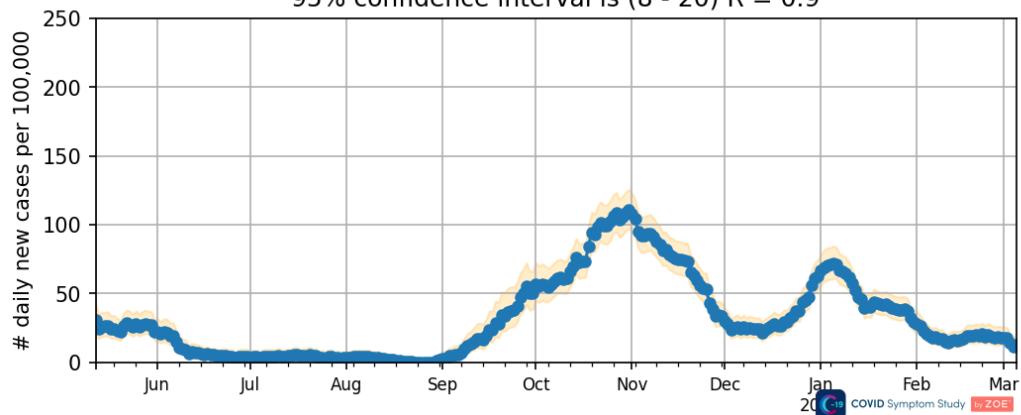


Dashed lines: the beginning and the end of the 2nd national lockdown in England

13 daily new cases per 100,000 in North East on 05 March 2021
95% confidence interval is (7 - 25) R = 1.0



13 daily new cases per 100,000 in Yorkshire and The Humber on 05 March 2021
95% confidence interval is (8 - 20) R = 0.9



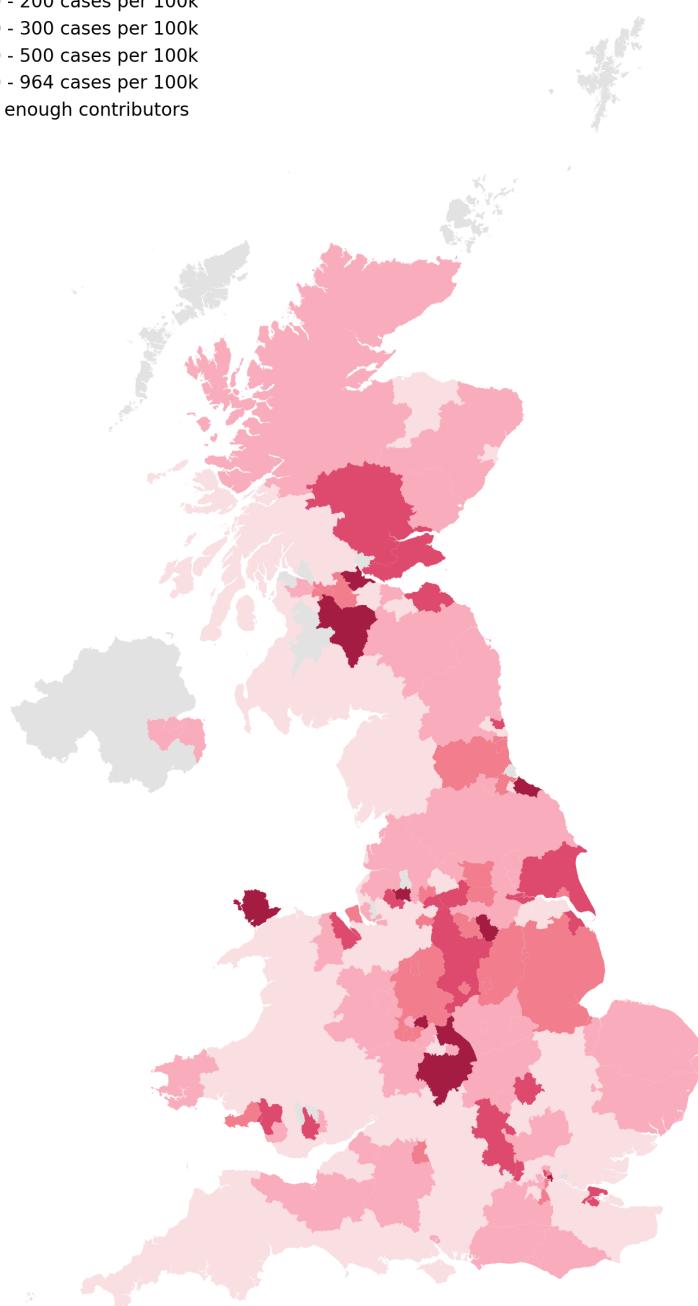
COVID active cases - Prevalence (on 08 March 2021)

The COVID active cases (prevalence) or Symptomatic COVID estimate is based on the most recent report for each contributor that logged during the previous 7 days.

Estimated rate of people with Symptomatic COVID

Based on data from 980383 contributors that logged from 1 March 2021 to 8 March 2021

- 0 - 100 cases per 100k
- 100 - 200 cases per 100k
- 200 - 300 cases per 100k
- 300 - 500 cases per 100k
- 500 - 964 cases per 100k
- Not enough contributors



COVID active cases - English tier system

The local restriction tiers by area were replaced by a national lockdown on the 4th of January 2021.

The table below contains the previous 7 days' average prevalence rates for the English tier regions. The tier areas and the tier assignments are defined by the Department of Health and Social Care and we provide estimated rates based on data from the CSS App.

		Current tier assignment	Prevalence rate (per 100,000)	Last week's trend	Prevalence rate among 60+ (per 100,000)	Last week's trend among 60+
Region	Subregion					
North West	Greater Manchester	5.0	282	●	92	●
	Lancashire, Blackpool, and Blackburn with Darwen	5.0	240	●	49	●
	Cumbria	5.0	171	▼	69	▼
	Liverpool City Region	5.0	106	●	81	●
North East	Warrington and Cheshire	5.0	100	▼	66	▼
	Tees Valley (LA5)	5.0	261	▼	0	▼
	North East 7 (LA7)	5.0	119	●	38	●
Yorkshire and The Humber	The Humber	5.0	507	●	28	●
	West Yorkshire	5.0	331	●	29	●
	South Yorkshire	5.0	226	●	84	●
	York and North Yorkshire	5.0	129	▼	15	▼
East Midlands	Nottingham and Nottinghamshire	5.0	335	●	75	●
	Derby and Derbyshire	5.0	305	●	66	●
	Leicester and Leicestershire	5.0	305	●	89	●
	Lincolnshire	5.0	271	▼	80	▼
	Northamptonshire	5.0	209	●	103	●
West Midlands	Rutland	5.0	missing	●	missing	●
	Warwickshire, Coventry and Solihull	5.0	334	●	33	●
	Birmingham and Black Country	5.0	244	▼	158	▼
	Staffordshire and Stoke-on-Trent	5.0	236	●	75	●
	Shropshire and Telford & Wrekin	5.0	188	▼	32	▼
	Worcestershire	5.0	151	●	74	●
London	Herefordshire	5.0	42	●	76	●
	London	5.0	168	▼	44	▼
East of England	Bedfordshire and Milton Keynes	5.0	213	●	3	●
	Hertfordshire	5.0	158	▼	98	▼

		Current tier assignment	Prevalence rate (per 100,000)	Last week's trend	Prevalence rate among 60+ (per 100,000)	Last week's trend among 60+
Region	Subregion					
South East	Norfolk	5.0	123	●	31	●
	Essex, Thurrock and Southend on Sea	5.0	101	▼	15	▼
	Cambridgeshire and Peterborough	5.0	99	●	181	●
	Suffolk	5.0	75	▲	42	▲
	Buckinghamshire	5.0	301	▲	42	▲
	East and West Sussex, and Brighton and Hove	5.0	159	●	64	●
	Kent & Medway	5.0	157	●	73	●
	Surrey	5.0	134	▼	54	▼
	Hampshire, Portsmouth and Southampton	5.0	129	▼	23	▼
	Oxfordshire	5.0	99	●	65	●
South West	Reading, Wokingham, Bracknell Forest, Windsor and Maidenhead, West Berkshire	5.0	93	●	84	●
	Isle of Wight	5.0	missing	●	missing	●
	Slough	5.0	missing	●	missing	●
	Wiltshire and Swindon	5.0	183	●	20	●
	Somerset and Bath and North East Somerset	5.0	172	●	25	●
	Bristol, South Gloucestershire, North Somerset	5.0	157	▼	121	▼
	Cornwall and Isles of Scilly	5.0	127	●	145	●
	Dorset, Bournemouth, Christchurch and Poole	5.0	117	▼	30	▼
	Gloucestershire	5.0	67	●	138	●
	Devon	5.0	42	▼	15	▼

[*] The districts in the county are assigned to multiple different tiers.

- ▲ implies an increase in prevalence in the past week
- implies that prevalence has been fairly constant in the past week
- ▼ implies a decrease in prevalence in the past week
- too few respondents

Supplementary table on regions for tier assignment - English tier system

The local restriction tiers by area were replaced by a national lockdown on the 4th of January 2021.

In addition to case detection rates, tier assignment decisions take into account the rate at which cases are rising or falling, the positivity rate (the number of positive cases detected as a percentage of tests taken) and the pressure on the NHS. Therefore, in the table below we report the R rate, the positivity rate and the percentage of hospital bed capacity occupied by COVID patients for each region in England. [\[2\]](#)

Region	Positivity rate	Incidence rate (per 100,000)	R rate	% hospital bed occupancy
South East	1.7 %	6.8	0.8	7.61 %
London	1.29 %	6.6	0.8	10.83 %
East of England	1.61 %	6.5	0.8	7.37 %
South West	0.87 %	3.5	0.7	3.21 %
North West	2.83 %	10.9	1.0	8.73 %
East Midlands	3.69 %	15.9	0.8	9.75 %
Yorkshire and The Humber	3.03 %	12.6	0.9	7.75 %
West Midlands	2.39 %	9.8	0.8	9.75 %
North East	3.32 %	13.2	1.0	7.75 %

[2] The % hospital bed occupancy is calculated as a ratio of the Total number of confirmed COVID-19 patients in hospital on the reporting date ([source: coronavirus.gov.uk](#)) and the overnight bed availability for acute and general cases ([source: NHS Statistics](#)). This statistics is published on NHS Region level, therefore the same occupancy rate corresponds to East and West Midlands, and North East and Yorkshire.

Symptomatic COVID by Region

Symptomatic COVID cases

East Midlands	13734
East of England	6798
London	12638
North East	5367
North West	14199
(*) Northern Ireland	3496
Scotland	11825
South East	12271
South West	5454
Wales	5189
West Midlands	12379
Yorkshire and The Humber	12538
TOTAL	115895

(*) The number of respondents in Northern Ireland is low to generate a good estimate.

Symptomatic COVID by Socio-economic status (IMD)

Symptomatic COVID cases per 100,000 people

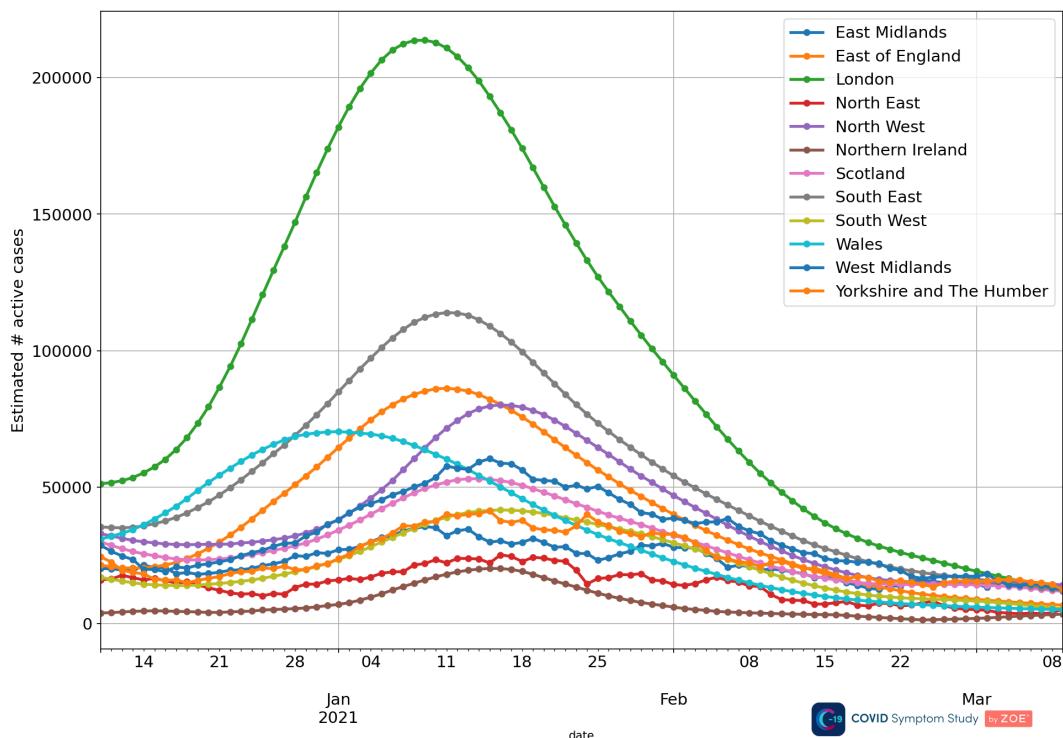
LOW (1st - 3rd decile)	279
MEDIUM (4th - 6th decile)	171
HIGH (7th - 10th decile)	101
TOTAL	176

Symptomatic COVID by Age

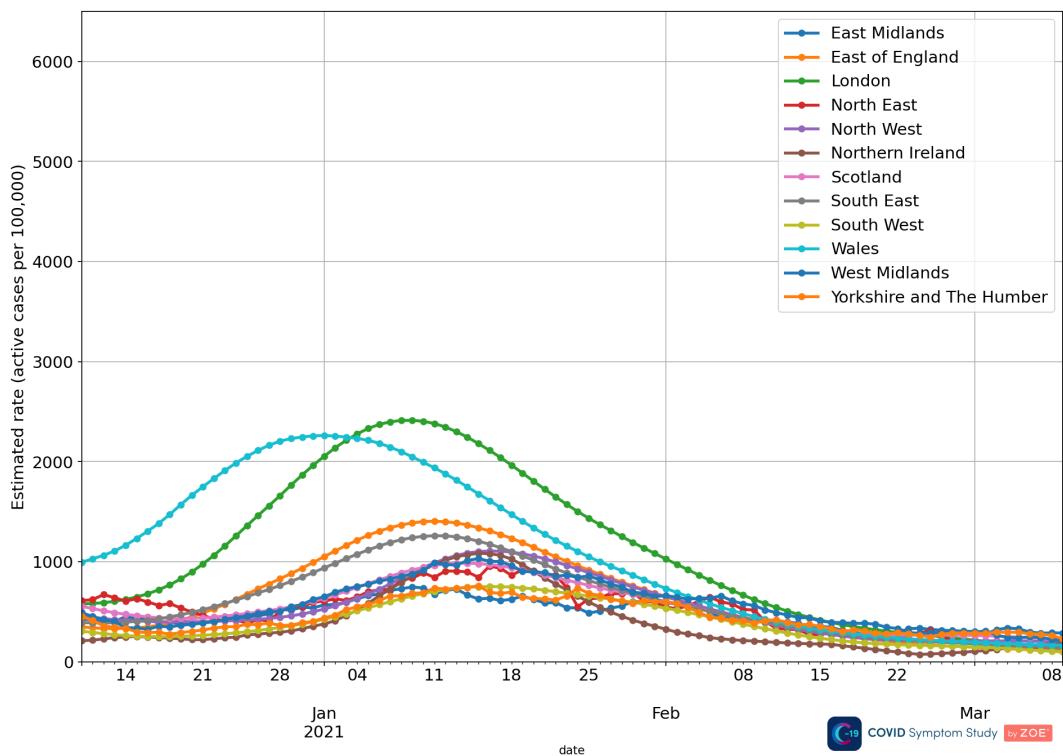
Symptomatic COVID cases per 100,000 people

Age 0 - 9	61
Age 10 - 19	210
Age 20 - 29	293
Age 30 - 39	310
Age 40 - 49	240
Age 50 - 59	159
Age 60 - 69	77
Age 70 - 79	29
Age 80 - 89	24
TOTAL	176

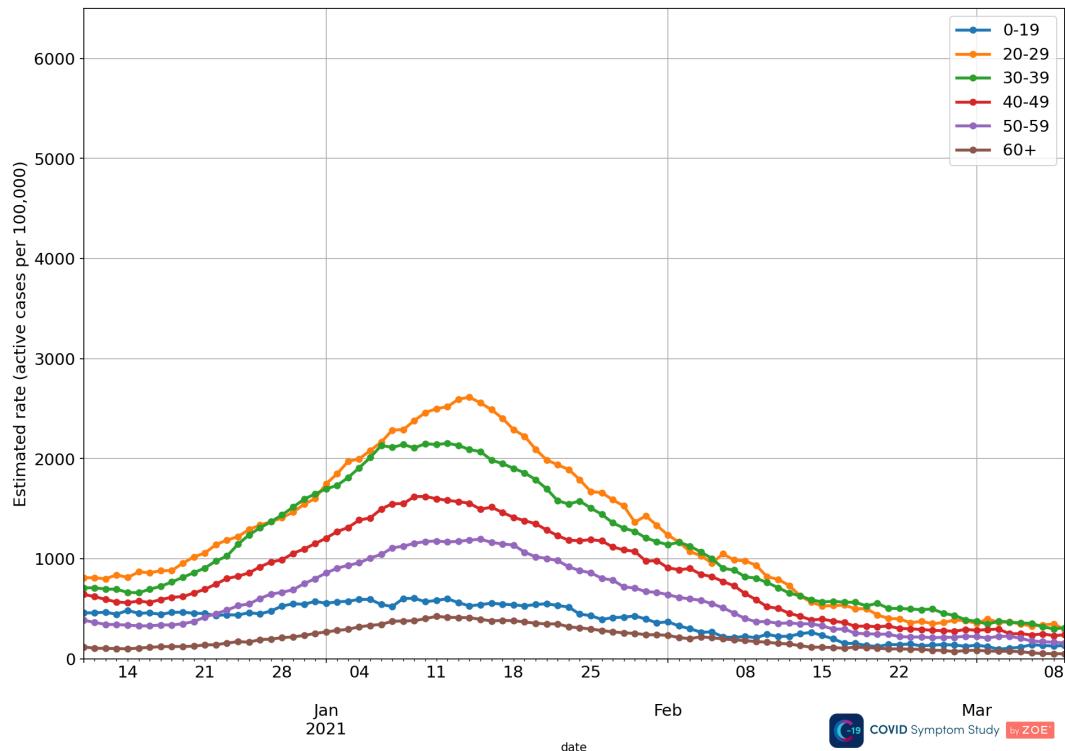
Estimate of people with Symptomatic COVID across Nations and Regions



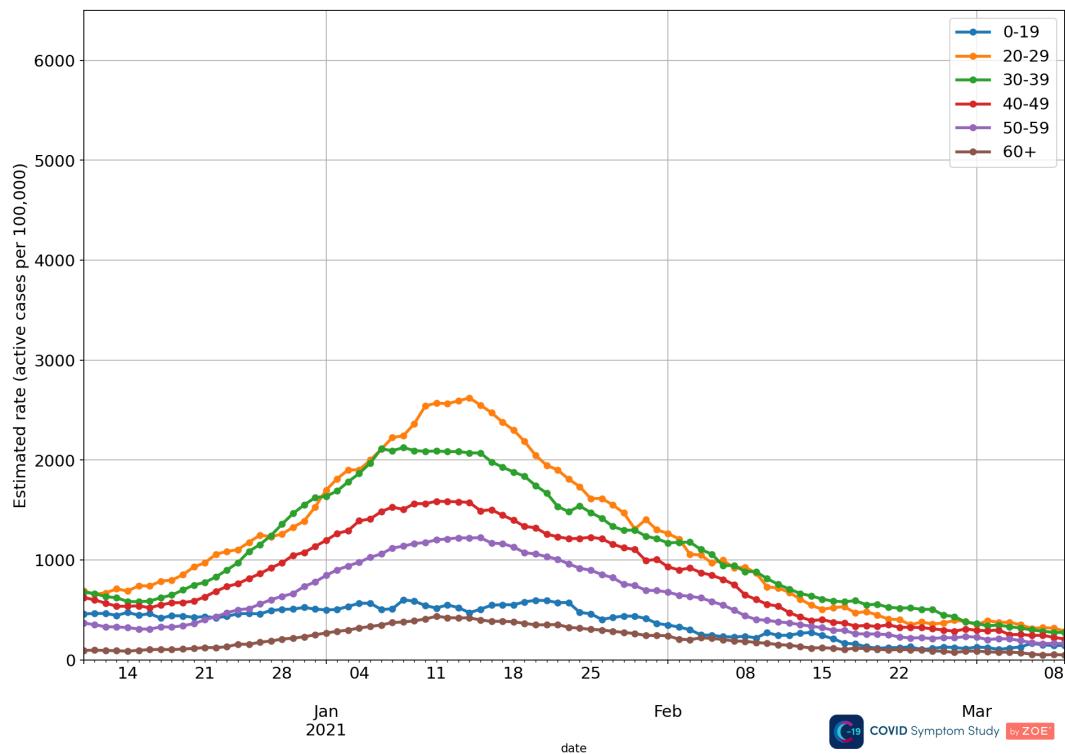
Estimated rate of people with Symptomatic COVID across Nations and Regions



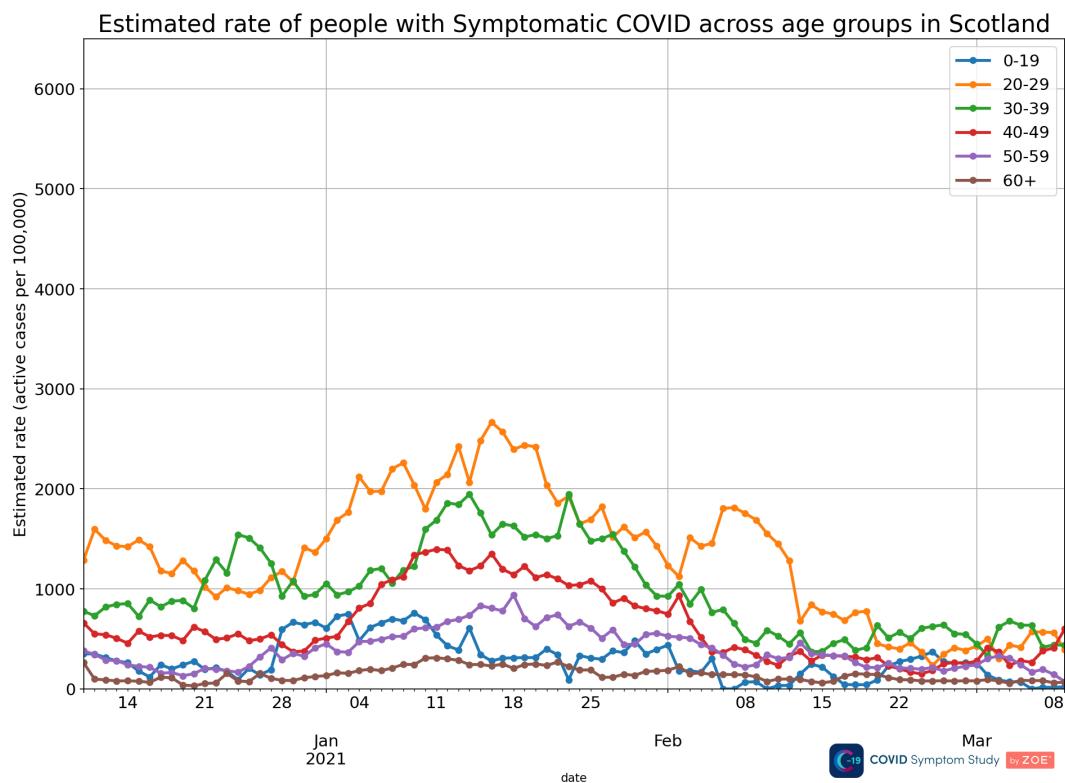
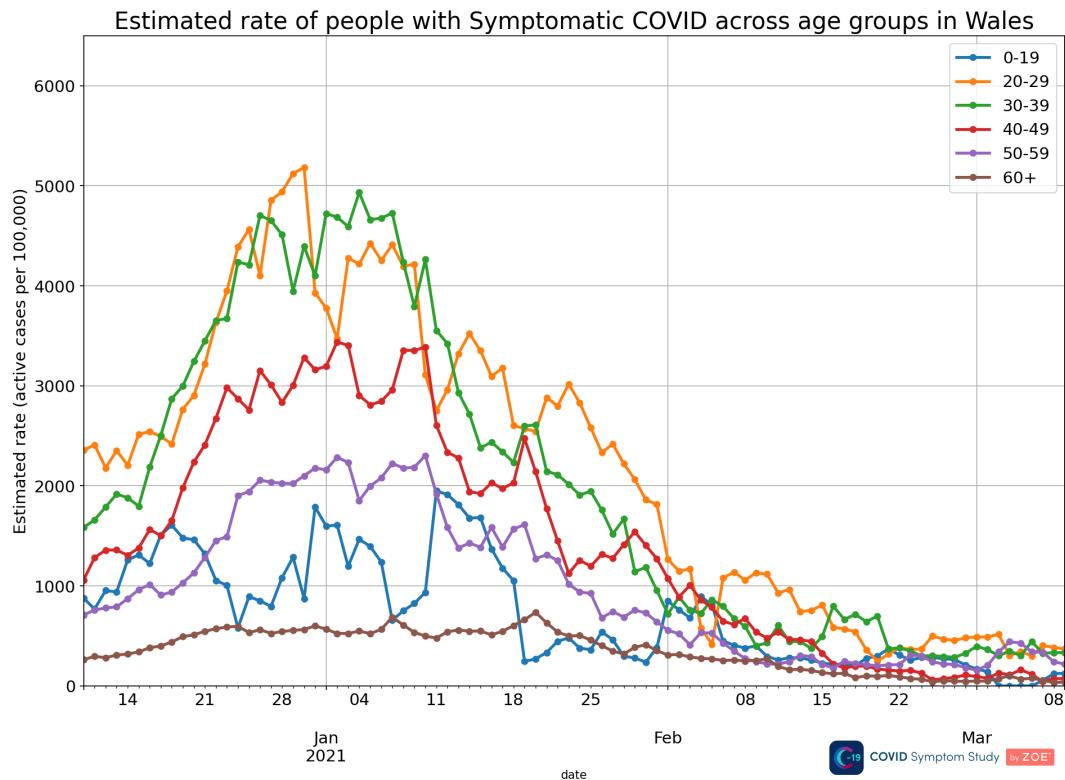
Estimated rate of people with Symptomatic COVID across age groups in the UK

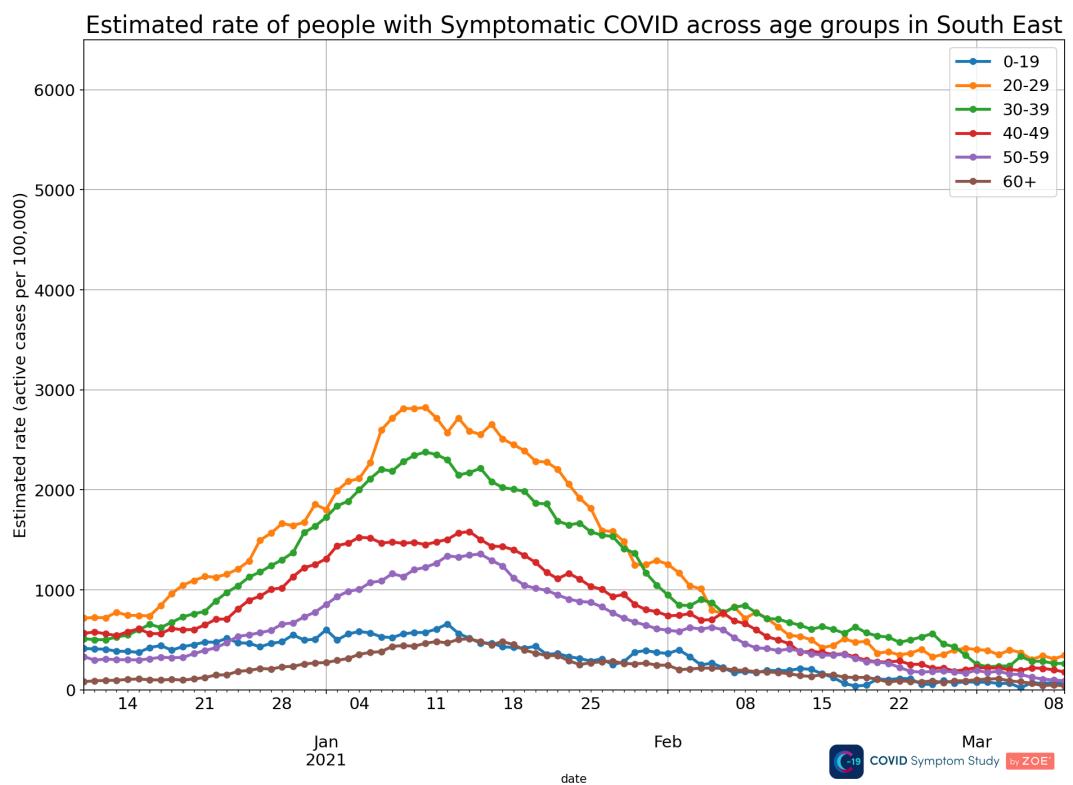
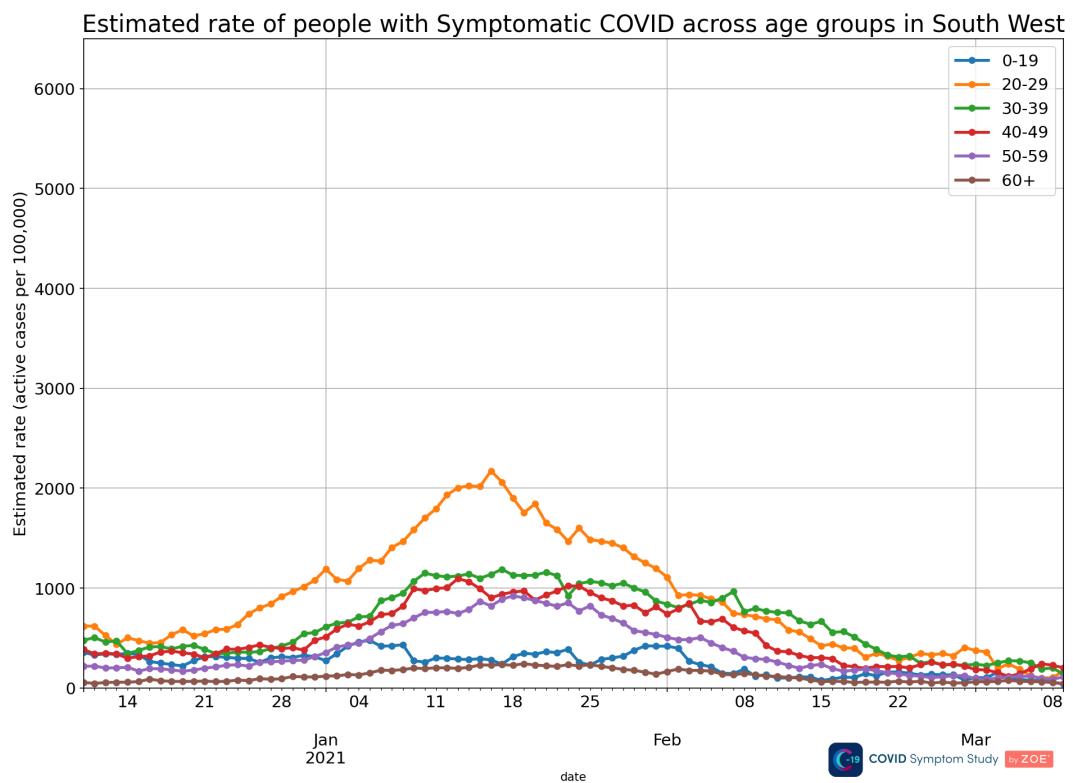


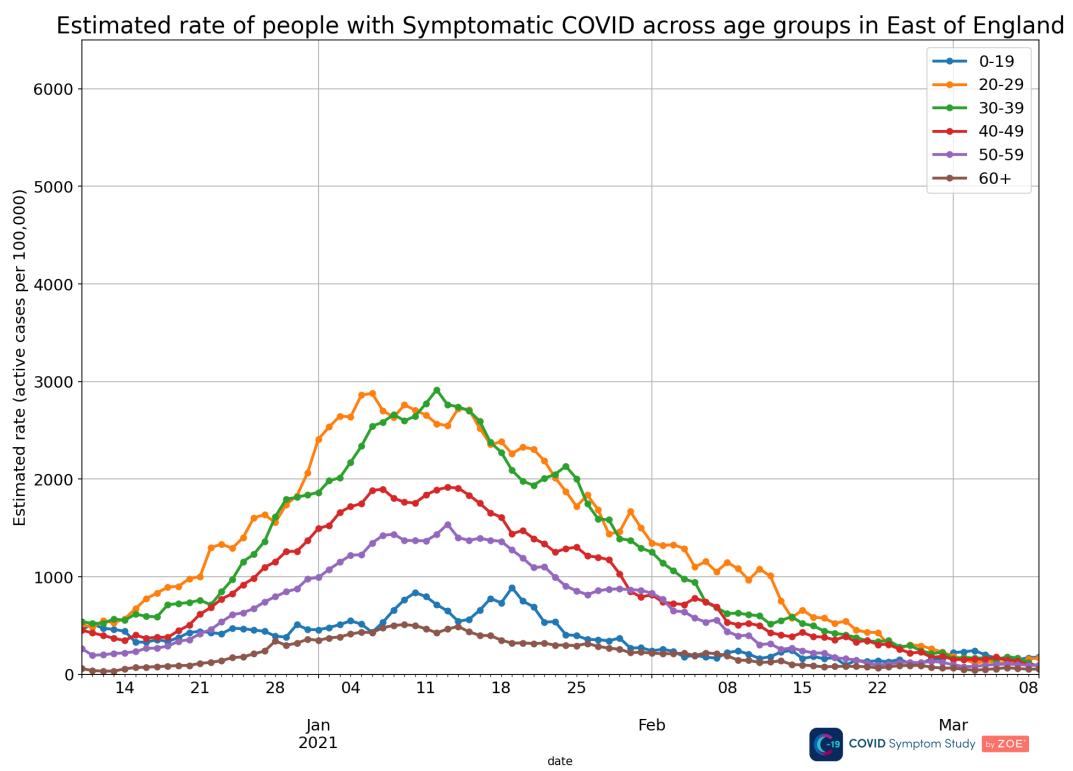
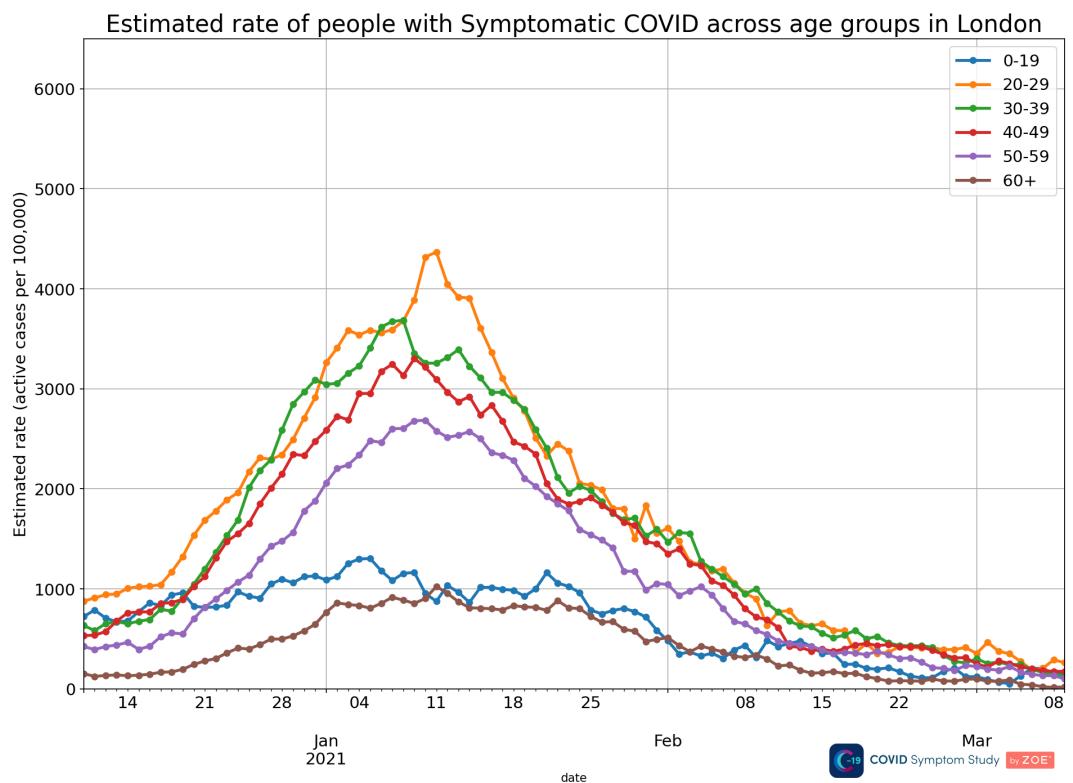
Estimated rate of people with Symptomatic COVID across age groups in England

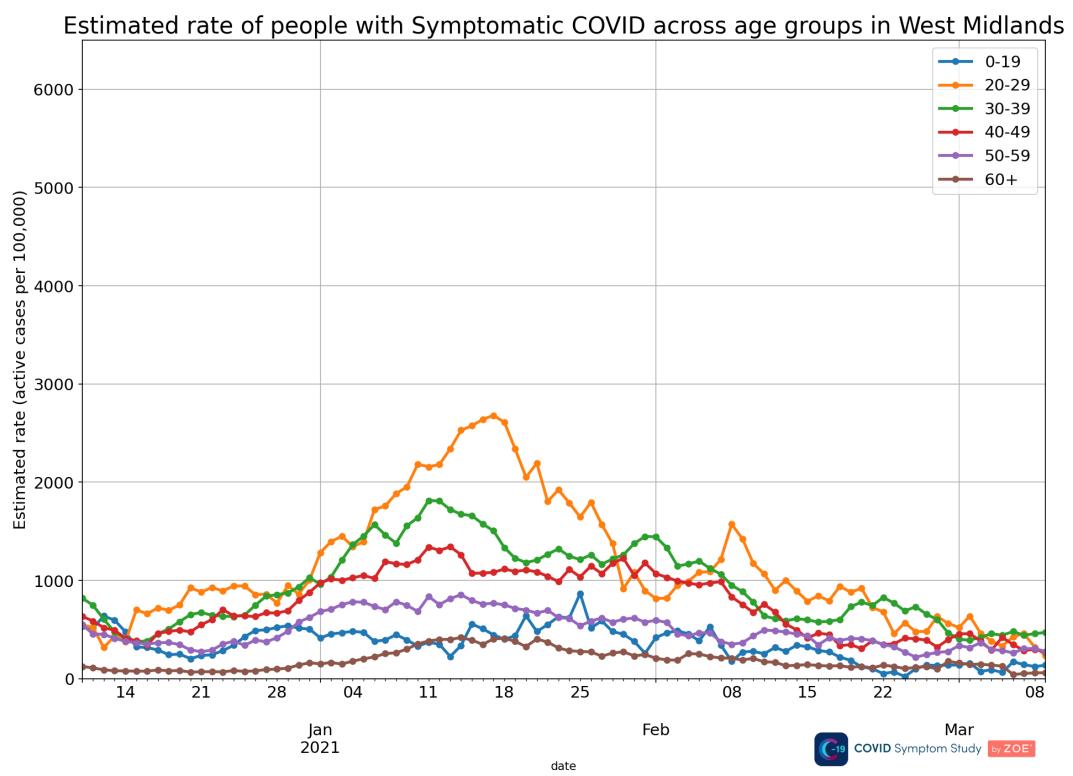
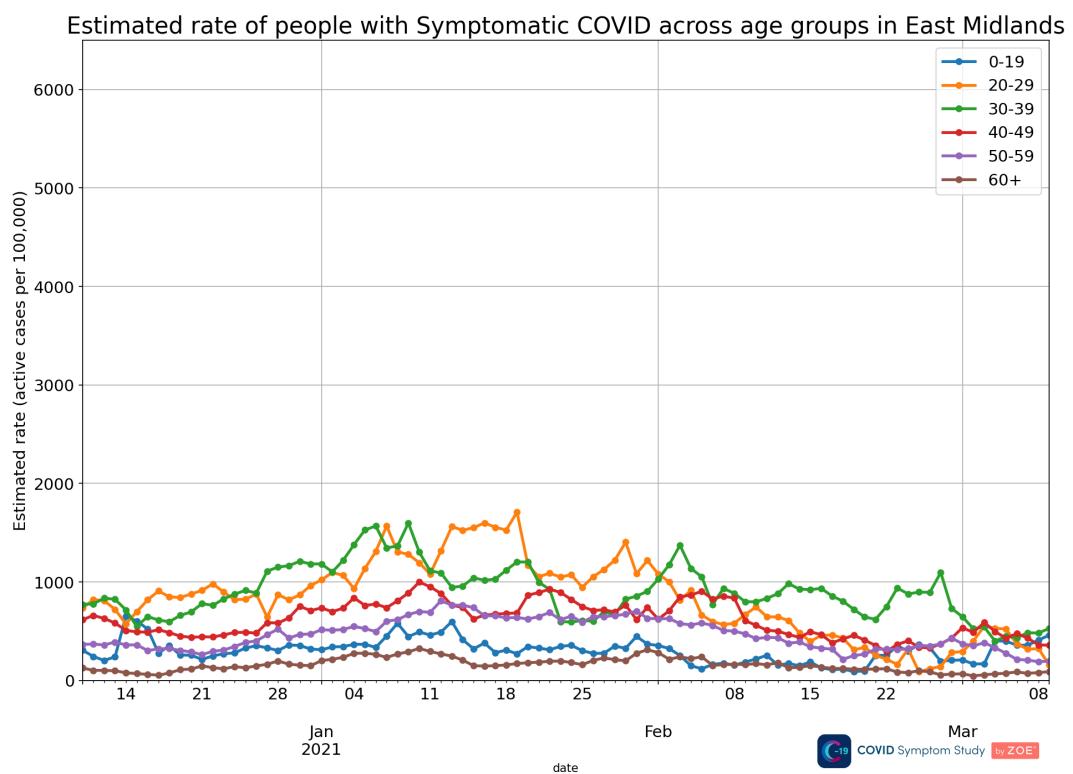


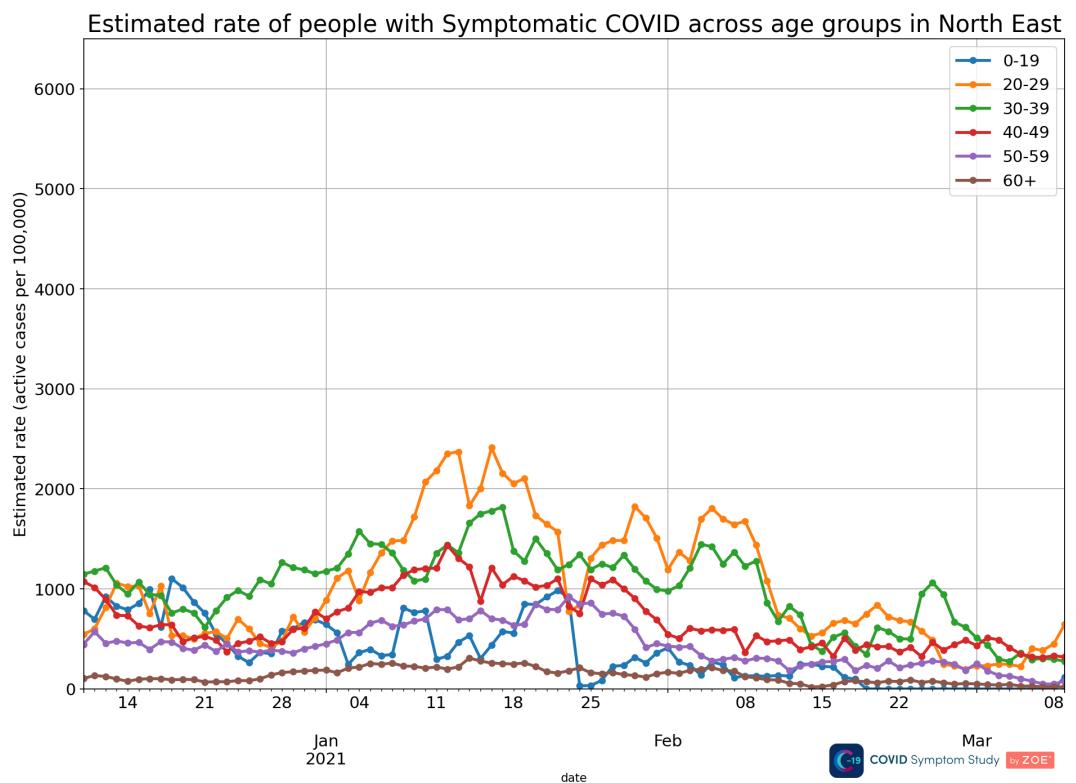
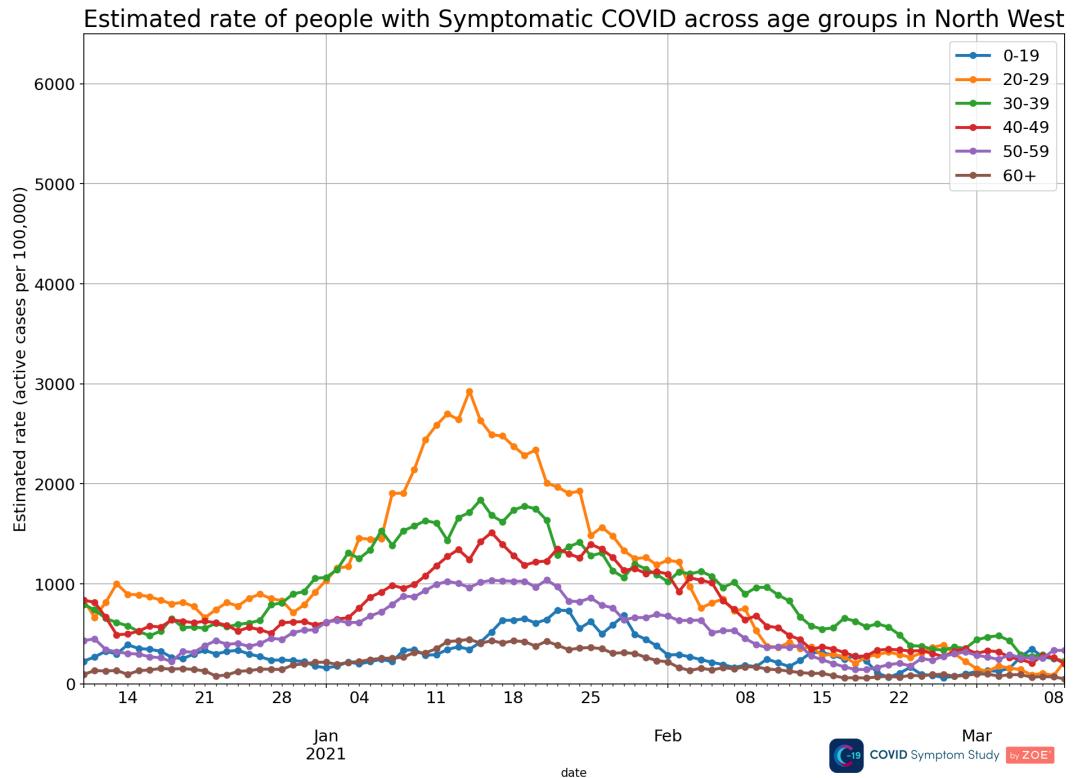
Estimated rate of people with Symptomatic COVID across age groups in different regions



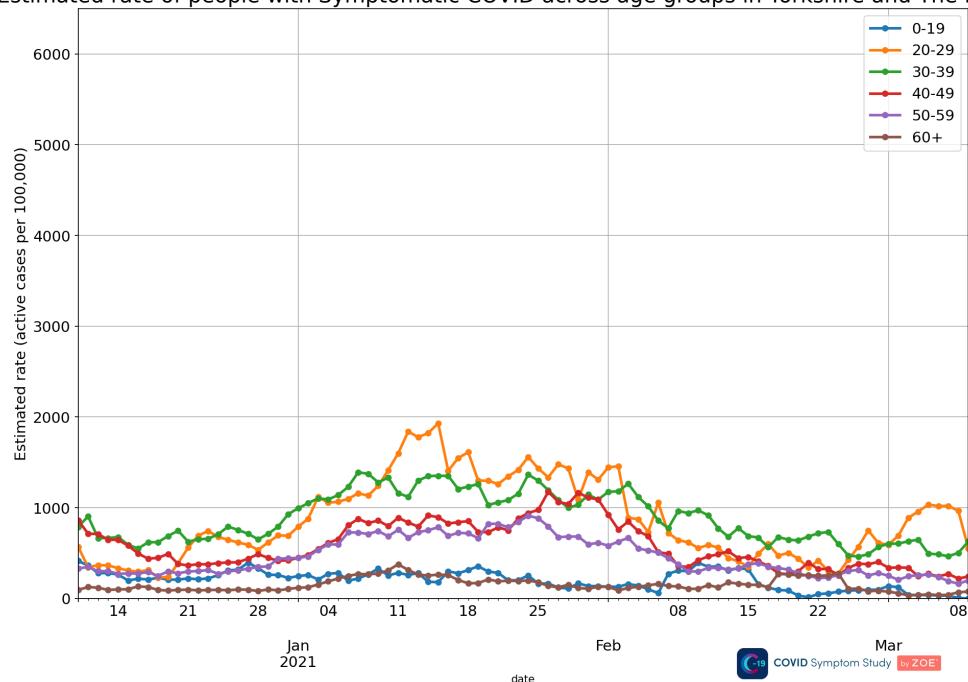








Estimated rate of people with Symptomatic COVID across age groups in Yorkshire and The Humber



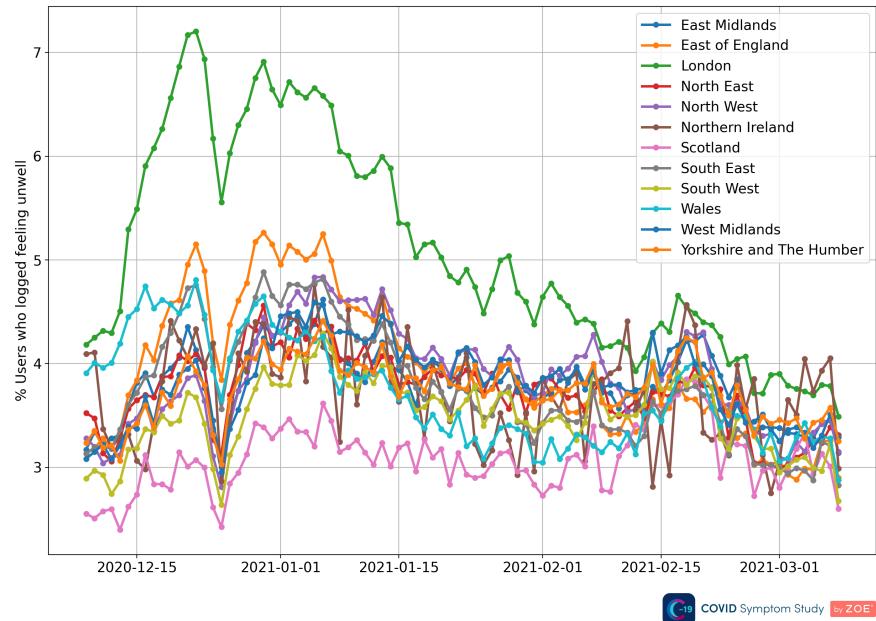
Raw Data (up to 08 March 2021)

This section reports raw data by day, with no temporal averaging or rebalancing/extrapolation to the UK population.

Users who logged feeling unwell in the last 24 hours

	# users who logged feeling well	# users who logged feeling unwell	% users who logged feeling unwell
East Midlands	40222	1304	3.14 %
East of England	75412	2252	2.90 %
London	77814	2815	3.49 %
North East	17517	600	3.31 %
North West	50444	1640	3.15 %
Northern Ireland	3302	102	3.00 %
Scotland	32978	918	2.71 %
South East	138831	4040	2.83 %
South West	74828	2058	2.68 %
Wales	29720	881	2.88 %
West Midlands	40125	1366	3.29 %
Yorkshire and The Humber	40858	1374	3.25 %
TOTAL	622051	19350	3.02 %

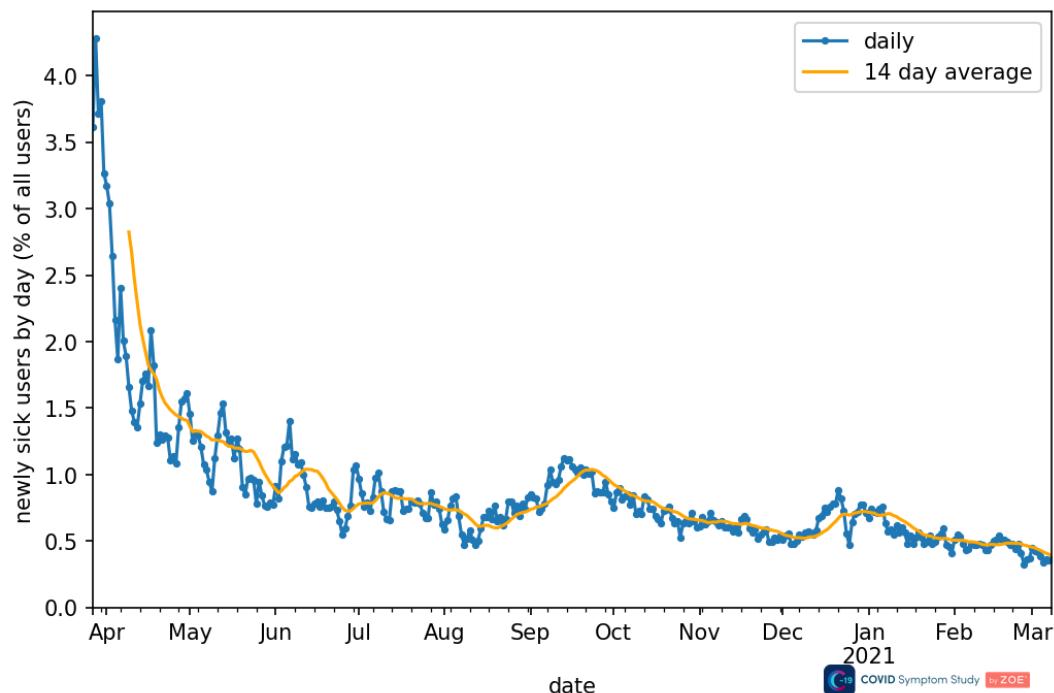
Users who logged feeling unwell by day



Newly Sick Users by Day (% of Active Users)

Active users are those who have been logging regularly in the past 10 days. Newly sick users are active users who haven't reported any symptoms for at least 9 days before reporting one of the following symptoms:

Persistent cough, Shortness of breath, Fever, Fatigue, Skipped meals, Hoarse voice, Sore throat, Delirium, Chest pain, Abdominal pain, Diarrhoea, Headache, Unusual muscle pains, Loss of smell, Chills or shivers, Eye soreness, Nausea, Dizzy light headed, Red welts on face or lips, Blisters on feet or any other symptom that makes them feel unwell



Positive Test Results by Day (% of Invited Test Takers)

