Latest numbers on COVID-19 in the UK – 12\textsuperscript{th} March 2021

Things are continuing to improve.

1. Cases
2. Hospitalisations
3. Deaths
4. Vaccinations
5. Lateral Flow Device tests

With many thanks to Bob Hawkins and Catherine Finnecy for their help in collating the data and discussions on interpretation.
Cases
Number of new UK confirmed COVID-19 cases by reported date (people who have had a positive test)

Data from https://coronavirus.data.gov.uk
Positivity rates – UK nations – by date of test to 6th March

All rates are calculated based on PCR tests only and are comparable across the Home Nations

% of people tested who are positive

Data from:
Scotland: https://www.opendata.nhs.scot/dataset/covid-19-in-Scotland
Visualisation courtesy of Bob Hawkins
Positivity rates – UK nations – by date of test to 6th March
All rates are calculated based on PCR tests only and are comparable across the Home Nations

Consistent with ONS infection survey

Data from:
Scotland: https://www.opendata.nhs.scot/dataset/covid-19-in-Scotland

Visualisation courtesy of Bob Hawkins
ONSA infection survey shows that cases are highest, and reducing the slowest, now in children and young adults.

Positivity rates – English regions – by date of test to 6th March
PCR tests only

% of people tested who are positive

Data from https://coronavirus.data.gov.uk
Map of where cases are week to 6th March

Graph from https://www.travellingtabby.com/uk-coronavirus-tracker/local
Hospitalisations
Number of people in hospital per million people – UK nations

Data from https://coronavirus.data.gov.uk.
Number of new hospital admissions with COVID-19 per day in England to 9th March

Data from https://coronavirus.data.gov.uk/
Deaths
Number of new UK deaths from COVID-19 registered per week, to 26th February

Data from:
Northern Ireland: [www.nisra.gov.uk/publications/weekly-deaths](http://www.nisra.gov.uk/publications/weekly-deaths)
Vaccination data
Number of 1st and 2nd doses given by day in the UK to 10th March

2.5 million people received a jab in the week to 10th March

Data from https://coronavirus.data.gov.uk/
Thanks to Bob Hawkins for the chart
Proportion of people over 16 years old vaccinated over time for each nation to 10th March

Data from https://coronavirus.data.gov.uk/
Thanks to Bob Hawkins for the chart
England: population coverage by age to 7th March

NOTE: percentages are based on population estimates which are not perfect

Thanks to Bob Hawkins for the chart
First Dose Coverage for Over 70-79 yrs by deprivation to 3 March

Data from [http://opensafely.org/research/2021/covid-vaccine-coverage/](http://opensafely.org/research/2021/covid-vaccine-coverage/)
Thanks to Bob Hawkins for the chart
First Dose Coverage for Over 65-69 yrs by deprivation to 3 March

Data from http://opensafely.org/research/2021/covid-vaccine-coverage/
Thanks to Bob Hawkins for the chart
First Dose Coverage for those shielding by deprivation to 3 March

Data from [http://opensafely.org/research/2021/covid-vaccine-coverage/](http://opensafely.org/research/2021/covid-vaccine-coverage/)

Thanks to Bob Hawkins for the chart
Lateral Flow Device tests
Increasing use of Lateral Flow Device (LFD) tests in England

Number of tests performed each day by LFD or PCR type

Data from https://coronavirus.data.gov.uk
Increasing use of Lateral Flow Device (LFD) tests

Percentage of positives that are from each type of test

Data from https://coronavirus.data.gov.uk
Thanks to Bob Hawkins for the chart
1,000,000 asymptomatic people

About 3000 might have Covid

And 997,000 won’t
False positives and why confirmatory testing so important for LFD...

1,000,000 asymptomatic people

About 3000 might have Covid

About 1500 might test positive with LFD

And about 1500 will not, and continue mixing

And 997,000 won’t

About 1000 might test positive with LFD

And about 996,000 will not, and continue mixing
1,000,000 asymptomatic people

约有 3000 人可能感染 Covid

约有 1500 人不会，并继续混群

约有 997,000 人不会，并继续混群

约有 2500 个积极的 LFD 检测试

约有 1500 个

约有 1000 个

所以有人测试阳性

与 LFD 非常有 60% 的几率真实患有 Covid

随着发病率的降低，这个几率也会减少。

如果发病率增加，这个几率也会增加。
1,000,000 asymptomatic people

About 3000 might have Covid

About 1500 might test positive with LFD

About 1000 might test positive with PCR.
Correctly isolate

And about 1500 will not, and continue mixing

About 1000 might test positive with LFD

About 500 might test negative with PCR.
Continue mixing

And about 997,000 won’t

About 996,000 will not, and continue mixing

And about 996,000 will not, and continue mixing

About 999 might test negative with PCR.
Incorrectly isolate

Maybe 1 person might test positive with PCR.
Incorrectly isolate

About 999 might test negative with PCR.
Continue mixing
False positives and why confirmatory testing so important for LFD...

1,000,000 asymptomatic people

About 3000 might have Covid

About 1500 might test positive with LFD

And about 1500 will not, and continue mixing

About 1000 might test positive with LFD

And about 996,000 will not, and continue mixing

About 1001 positive LFD and PCR tests

So someone testing positive with LFD and PCR has about a 99.9% chance of actually having Covid.
Why this makes interpreting case numbers so much harder

- Isolation is hard – disincentive to test children. Will likely be an inequality effect because poorer families less able to isolate.

- Tests are easy to do badly. Very low proportion of school LFD tests coming back positive (about 0.1% compared to 0.5% prevalence in ONS data) could be a sign of poor testing practice (https://twitter.com/deeksj/status/1369983105268932614?s=20).

- Will use become – in practice – more skewed towards children with vague symptoms? Will change interpretation if so – but how will we know?

- In England, school children can get confirmatory PCR tests from next week – but adults in the community cannot. LFD use will increase, as adults start going back to work (e.g. hairdressers, shops, pubs).

- Other home nations require confirmatory PCR for all LFDs. So not comparable.

- Positivity rates will become harder to interpret

- Increasing reliance on ONS and REACT type population surveys – but they are slower, have some of their own issues & measure prevalence, not incidence.
Summary

Cases, hospitalisations and deaths falling in all nations.

Vaccination going really well – but some worrying signs of inequality gradients meaning that potentially many people will remain vulnerable this summer.

The increasing, and inconsistent, use of lateral flow device tests will make interpreting case numbers and positivity rates over the coming weeks quite difficult.

Confusion of school testing, and how exactly lateral flow device are used (and acted upon) over the coming weeks will be very important for the impact that school reopening might have.