

Scottish Government Central Analysis Division

Coronavirus (Covid-19): modelling the epidemic in Scotland (Issue No. 93)

Background

This is a report on the Scottish Government modelling of the spread and level of Covid-19 in Scotland. This updates the previous publication on modelling of Covid-19 in Scotland published on 3rd March 2022. The estimates in this document help the Scottish Government, the health service and the wider public sector plan and put into place what is needed to keep us safe and treat people who have the virus.

This edition of the research findings focuses on the epidemic as a whole, looking at estimates of R, growth rate and incidence as well as local measures of change in the epidemic.

Key Points

- The reproduction rate R in Scotland is currently estimated as being between 0.9 and 1.2, as at 22nd February 2022. The upper limit has increased since last week.
- The daily growth rate for Scotland is currently estimated as between -1 and 2% as at 22nd February. This is unchanged since last week.
- Average contacts from the most recent Panel B cohort of the Scottish Contact Survey (week ending 2nd March) indicate an average of 5.0 contacts. This has remained at a similar level compared to the previous Panel B of the survey (week ending 16th February),
- Mean contacts within the other setting (contacts outside home, school and work) have increased by 11% within the last two weeks. Contacts within the home and work have remained at a similar levels over the same period.
- Those within the 50-69 age groups have reported the biggest decrease in contacts, by at least 12%. This was largely driven by a reduction in contacts in the other and work setting. All remaining age groups have either reported an increase or a similar level of contacts over the same period.

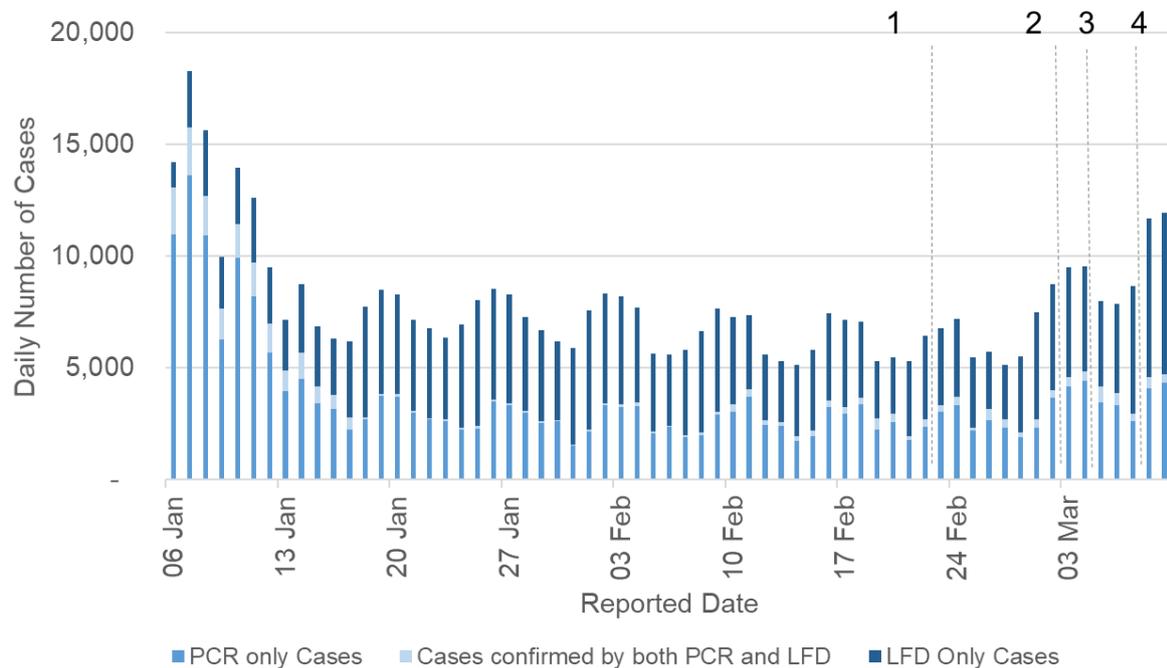
- The biggest decrease in interactions between age groups is between those aged 18-29 with each other.
- Visits to a non-essential shop have shown the biggest increase, increasing from approximately 40% to 44% while visits to a pub or restaurant have shown the biggest decrease, decreasing from 44% to 40% in the last two weeks.
- Of those who have reported visiting a healthcare facility in the last 7 days, the most visited location was the GP by 29%, followed by 24% of individuals attending an outpatient facility.
- The number of people wearing a face covering where they have at least one contact outside of the home has increased in the last two weeks from 83% to 85%.
- Approximately 76% of individuals had taken at least one lateral flow test within the last 7 days for the survey pertaining to the 24th February - 2nd March, decreasing from 79% two weeks prior.
- Approximately 27% of individuals believe they have had Covid-19 at least once since March 2020. Of those who think they have had Covid-19, 85% have had this confirmed through a test.
- The future trajectory of infections, hospitalisations, hospital occupancy and deaths is still uncertain. We estimate that daily infections may be between 2,000 and 26,000 in late March.
- Modelled rates of positive tests per 100K using data to 7th March indicate that, for the week commencing 20th March, all 30 of the local authorities included are expected to exceed 50 cases per 100K with at least 75% probability. These same 30 local authorities also have at least a 75% probability of exceeding 100 cases per 100K.
- 24 of the 30 local authorities included are expected to exceed 500 cases per 100K with at least 75% probability. The exceptions are Aberdeen, Dundee, Highlands, Midlothian, Na h-Eileanan Siar, and Perth & Kinross.
- Nine local authorities are expected to exceed 1000 cases per 100K with at least 75% probability. These are Aberdeenshire, Angus, Argyll & Bute, East Ayrshire, East Dunbartonshire, Falkirk, North Ayrshire, North Lanarkshire and South Lanarkshire.
- One local authority (East Ayrshire) is expected to exceed 2000 cases per 100K with at least 75% probability.
- The modelling indicates there remains a substantial variation in risk of infection by average census age in each datazone. Deprivation in this period is not a substantial factor when comparing across local authorities. Risk factors remain stable, when comparing to previous weeks.

- There is evidence that the number of tests being taken is declining, as positivity is increasing across all deprivation deciles, a trend that continues with a recent rise in positive cases from 28th February.
- The distribution of lateral flow/LFD tests being reported continues to vary substantially by both age and deprivation status, with many fewer tests reported in younger adults across all deciles of deprivation, and for children in more deprived deciles. The high level of LFD positivity in the latter category is marked, and when compared to the high number of positives amongst the least deprived, is consistent with under-ascertainment being concentrated in particular groups.
- Nationwide, wastewater Covid-19 RNA levels have shown an uptick this week. The week ending on 4th March saw levels of just over 100 million gene copies per person per day (Mgc/p/d), up from 74 Mgc/p/d the previous week, an increase of 35%.

Recent cases

Figure 1 shows the number of Covid-19 cases (from either PCR or LFD) in Scotland between January and March 2022. The vertical dashed lines indicate the cut off points for each of the modelling inputs; after these dates, the number of cases is not incorporated into the outputs.

Figure 1: PCR and LFD positive daily and weekly case numbers by reporting date¹



R, growth rate and incidence are as of 22nd February 2022 (dashed line 1). The Scottish Contact Survey uses data to 2nd March 2022 (dashed line 2). The wastewater analysis uses data to 4th March 2022 (dashed line 3). The Scottish Government modelling of infections and hospitalisations, and the modelled rates of positive tests per 100K use data to 7th March (dashed line 4).

Overview of Scottish Government Modelling

Modelling outputs are provided here on the current epidemic in Scotland as a whole, based on a range of methods. Because it takes a little over three weeks on average for a person who catches Covid-19 to show symptoms, become sick, and either die or recover, there is a time lag in what our model can tell us about any change in the epidemic.

This week the Scottish Government presented one output to EMRG, using wastewater data. This output is included in Figure 2.

¹ On 1st March there is a jump in cases due to historical reinfections being added to the cumulative number of reported cases [Coronavirus \(Covid-19\): trends in daily data - gov.scot](https://www.gov.scot/Coronavirus-Covid-19-trends-in-daily-data) (www.gov.scot)

The R value and growth rates are estimated by several independent modelling groups based in universities and the UKHSA. Estimates are considered, discussed and combined at the Epidemiology Modelling Review Group (EMRG), which sits within the UKHSA. These are based on data to 7th March.

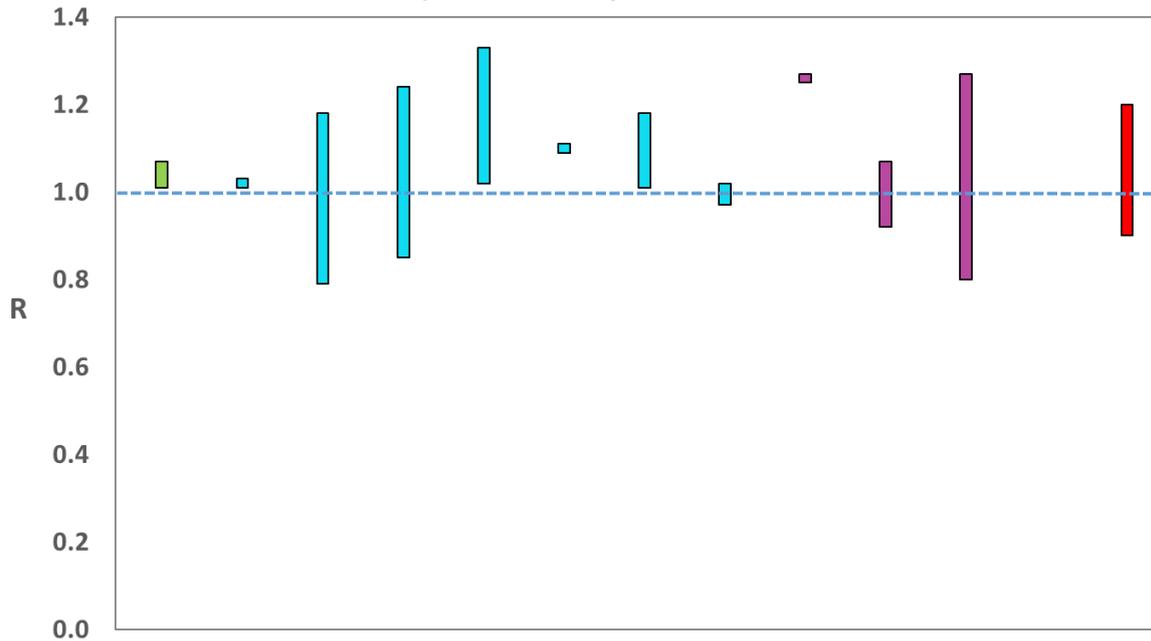
This week, EMRG was not able to agree on a consensus for incidence values in Scotland. The individual model estimates for incidence form two clusters where the confidence intervals of these two clusters do not cross. It is hence deemed that these estimates do not form a consensus, and therefore a combination is not provided.

UKHSA's consensus view across these methods was that the value of R in Scotland² is between 0.9 and 1.2, as of 22nd February 2022³ (Figure 2). The upper limit has increased since last week. R is an indicator that lags by two to three weeks.

² Using data to 5th March.

³ Particular care should be taken when interpreting this estimate as it is based on low numbers of cases, hospitalisations, or deaths and / or dominated by clustered outbreaks. It should not be treated as robust enough to inform policy decisions alone.

Figure 2. Estimates of R_t for Scotland, as of 22nd February, including 90% confidence intervals, produced by EMRG⁴.



Source: EMRG

The consensus from UKHSA for this week is that the growth rate in Scotland is between -1% and 2% per day as at 22nd February. This is unchanged since last week.

What we know about how people's contact patterns have changed

Average contacts from the most recent Panel B cohort of the Scottish Contact Survey (week ending 2nd March) indicate an average of 5.0 contacts. This has remained at a similar level compared to the previous Panel B of the survey (week ending 16th February), as seen in Figure 3. Mean contacts within the other setting (contacts outside home, school and work) have increased by 11% within the last two weeks. Contacts within the home and work have remained at a similar levels over the same period.

⁴ The cyan bars use Covid-19 test data and purple bars use multiple sources of data. The estimate produced by the Scottish Government is on the left in green. The UKHSA consensus range is the right-most (red). Data to 5th March 2022. R and growth rate as of 22nd February 2022.

Figure 3: Mean Adult Contacts (truncated at 100) from SCS.

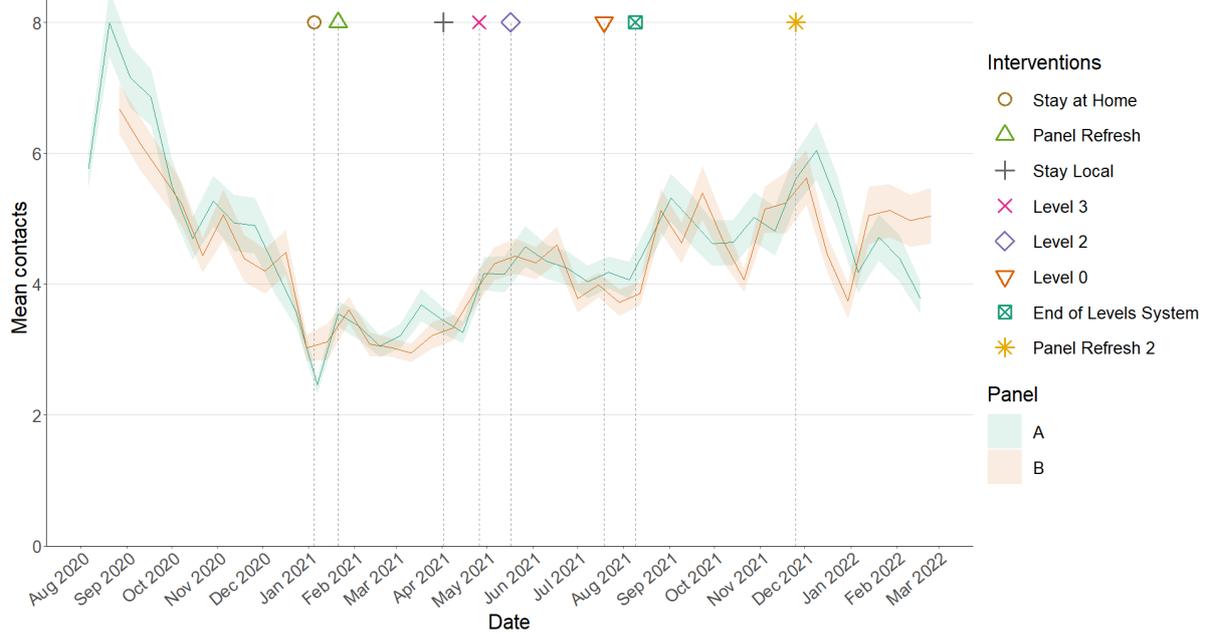
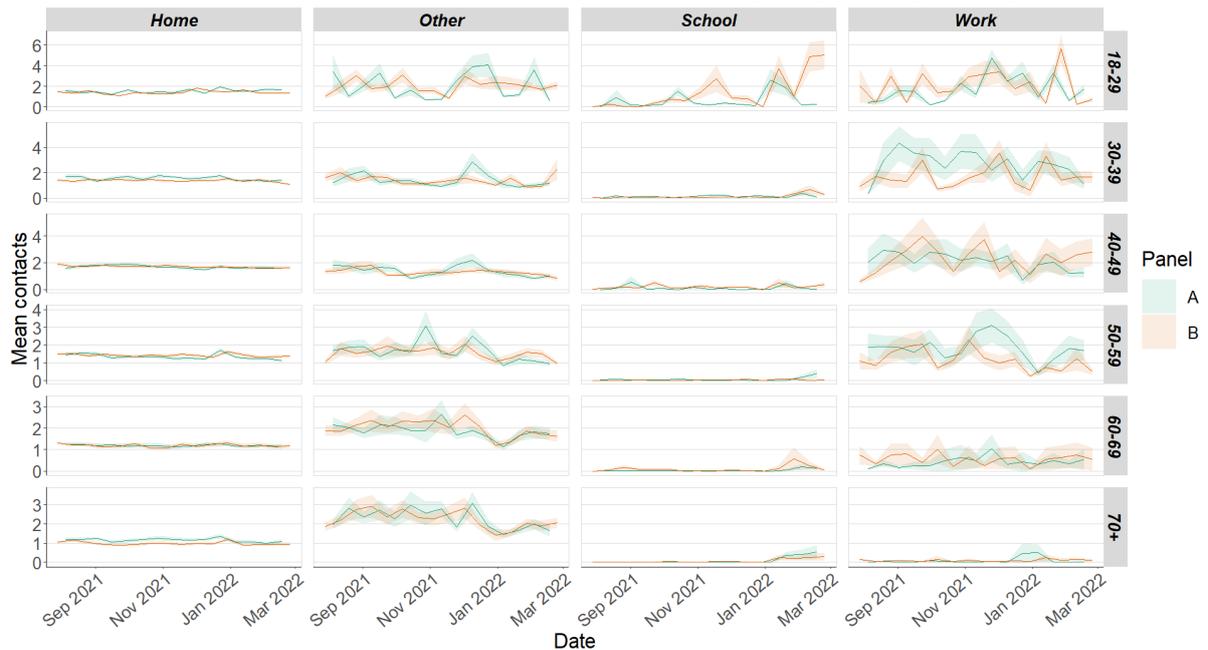


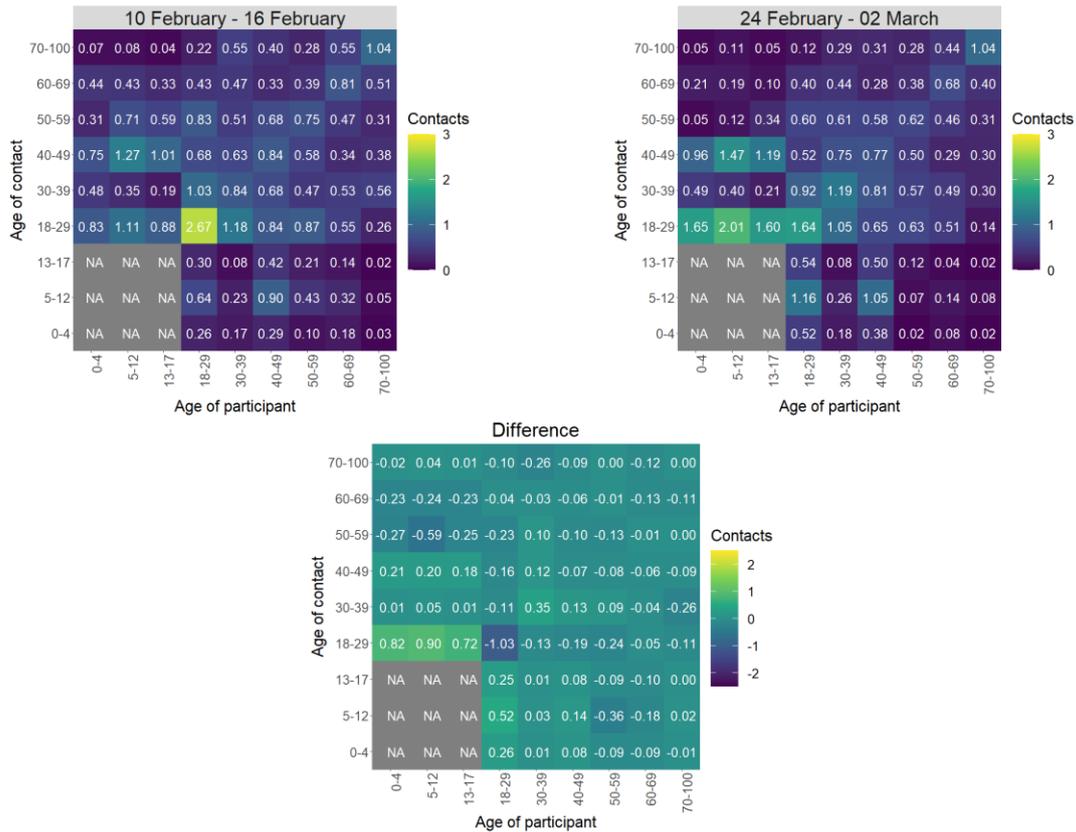
Figure 4 shows how contacts change across age group and setting. Those within the 50-69 age groups have reported the biggest decrease in contacts, by at least 12%. This was largely driven by a reduction in contacts in the other and work setting. All remaining age groups have either reported an increase or a similar level of contacts over the same period.

Figure 4: Average (mean) contacts for each panel per day by setting for adults in Scotland, truncated to 100 contacts per participant (from SCS).



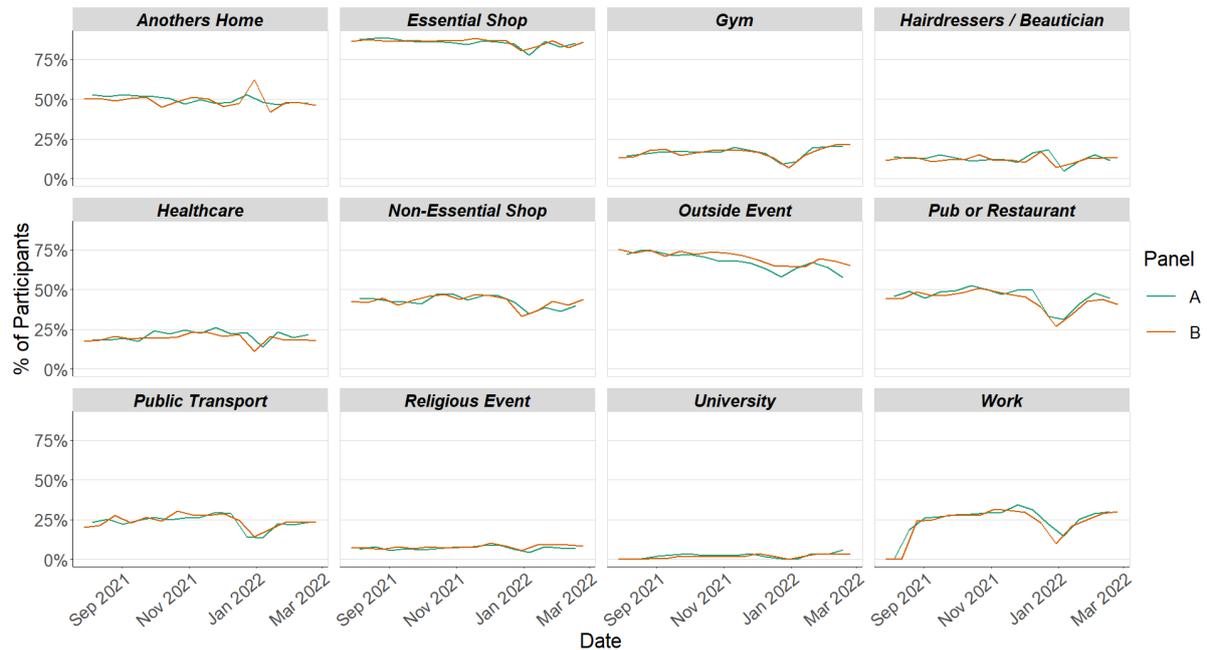
The heatmaps in Figure 5 show the mean overall contacts between age groups for the weeks relating to 10th February - 16th February and 24th February - 2nd March and the difference between these periods. The biggest decrease in interactions between age groups is between those aged 18-29 with each other.

Figure 5: Overall mean contacts by age group before for the weeks relating to 10th February - 16th February and 24th February - 2nd March.



The biggest changes in the proportion of participants visiting different locations is seen in those visiting a non-essential shop and individuals visiting a pub or restaurant. Visits to a non-essential shop have shown the biggest increase, increasing from approximately 40% to 44% while visits to a pub or restaurant have shown the biggest decrease, decreasing from 44% to 40% in the last two weeks as shown in Figure 6.

Figure 6: Locations visited by participants at least once for panel A and B (from SCS).



Of those who have reported visiting a healthcare facility in the last 7 days, the most visited location was the GP by 29%, followed by 24% of individuals attending an outpatient facility as shown in Figure 7.

Figure 7: Healthcare settings visited by participants at least once.

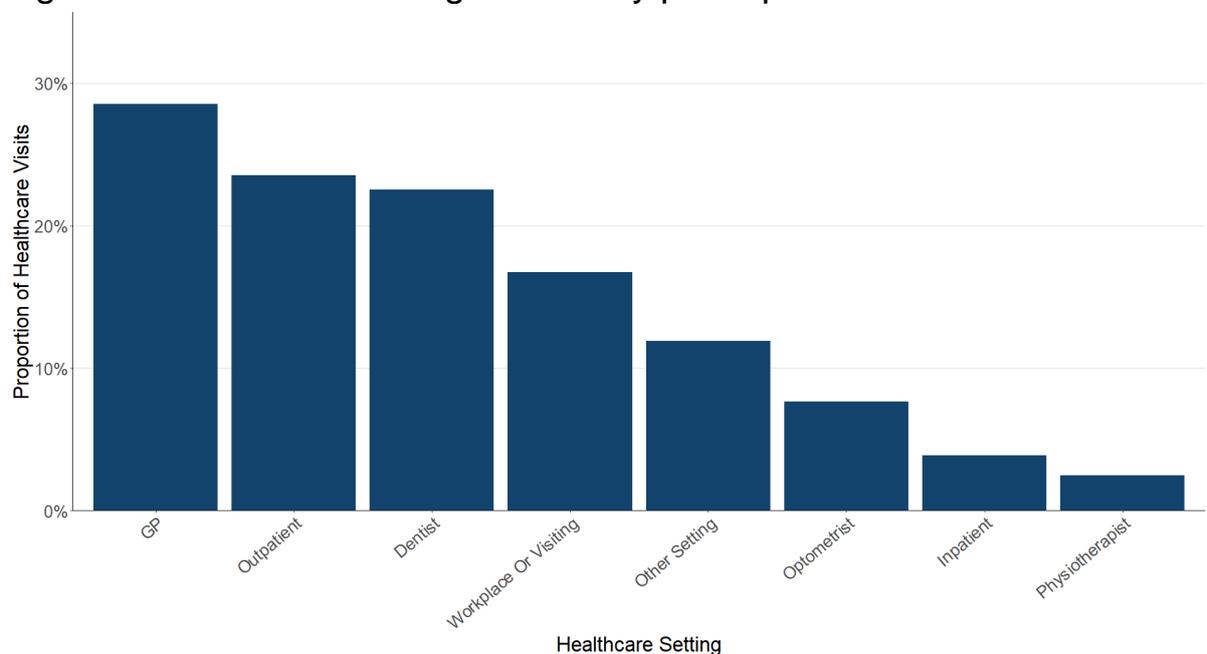


Figure 8 shows the number of people wearing a face covering where they have at least one contact outside of the home. This has increased in the last two weeks from 83% to 85%.

Figure 8: Proportion of participants wearing a face coverings over time (with at least one contact outside of the home).



Approximately 76% of individuals had taken at least one lateral flow test within the last 7 days for the survey pertaining to the 24th February - 2nd March, decreasing from 79% two weeks prior as shown in Figure 9.

Figure 9: Proportion of participants taken a lateral flow in last 7 days

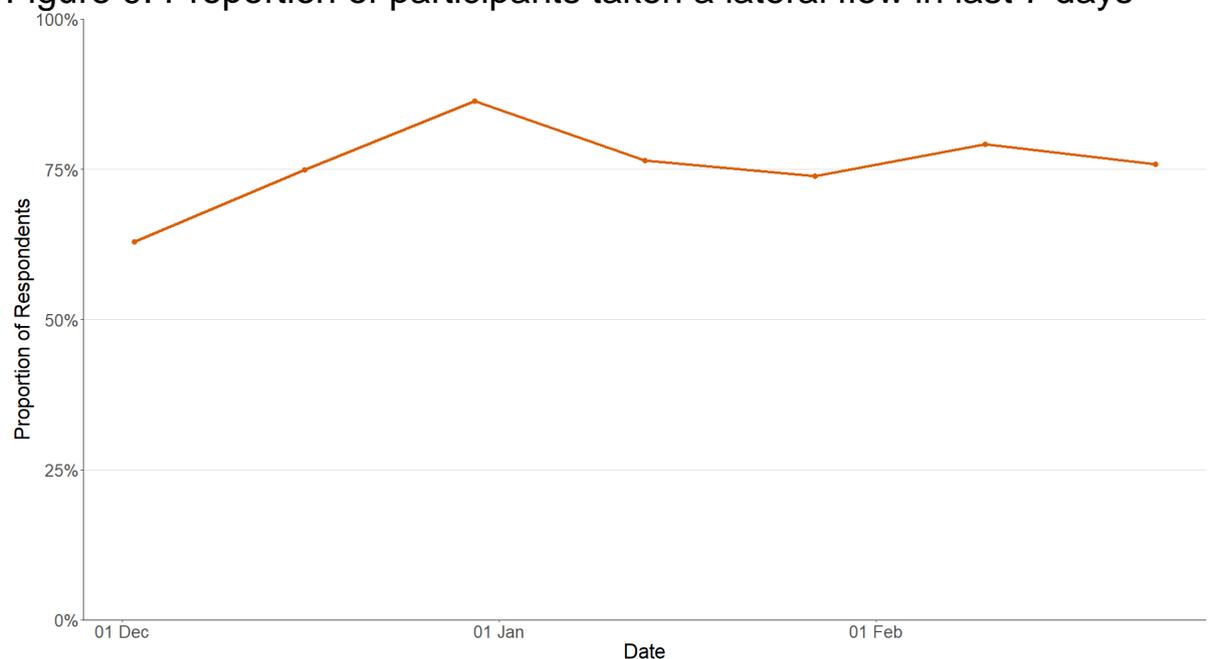
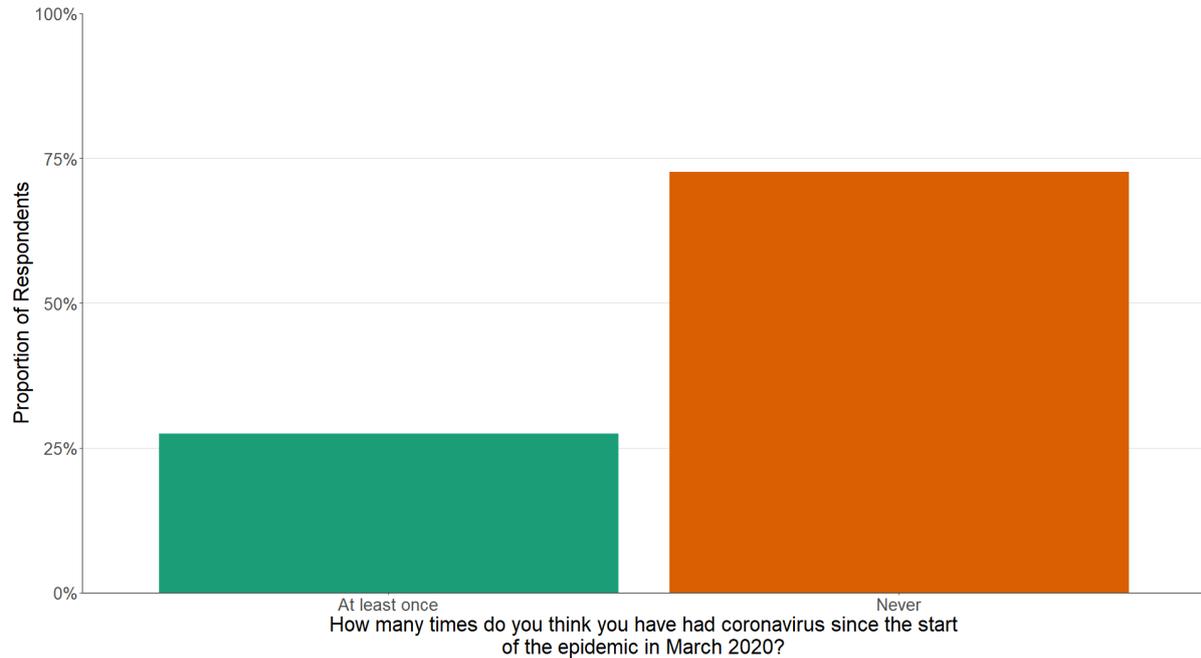


Figure 10 shows that approximately 27% of individuals believe they have had Covid-19 at least once since March 2020. Of those who think they have had Covid-19, 85% have had this confirmed through a test.

Figure 10: Proportion of participants who believe they have had Covid-19 since March 2020.



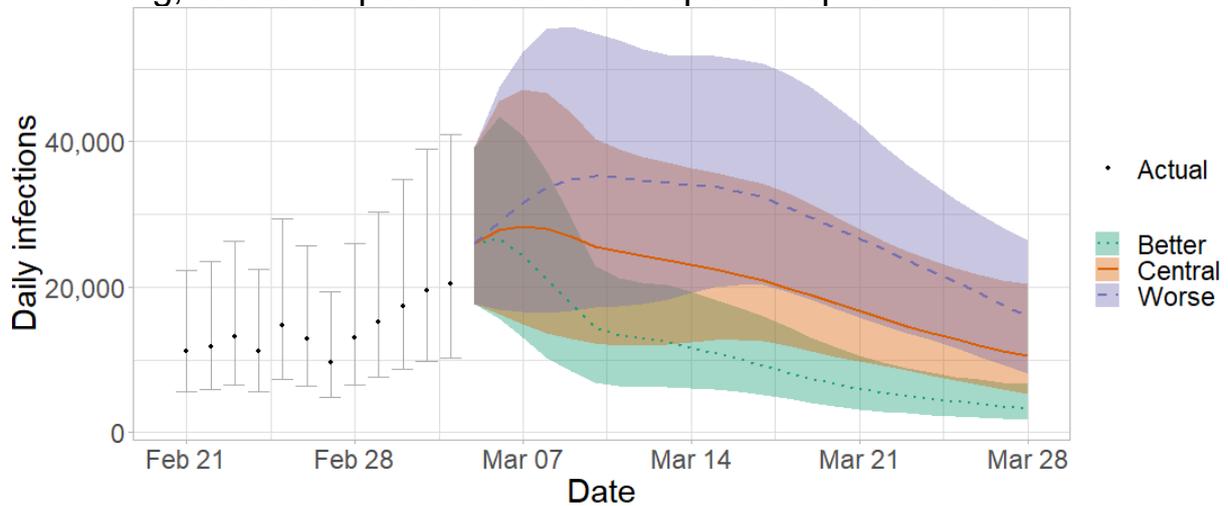
What the modelling tells us about estimated infections and hospitalisations

The Scottish Government assesses the impact of Covid-19 on the NHS in the next few weeks. Figures 11 - 13 show projections over three weeks.

These projections include the effect of booster take up. 'Central' assumes that transmissibility remains at current levels. 'Worse' assumes a higher transmissibility, whereas 'Better' assumes a lower transmissibility .

The future trajectory of infections is uncertain.

Figure 11. Medium term projections of modelled total new combined daily infections in Scotland, adjusting positive tests to account for asymptomatic and undetected infections, from Scottish Government modelling, based on positive test data reported up to 7th March



We estimate that daily infections may be between 2,000 and 26,000 in late March.

Figure 12 shows the impact of the projections on the number of people in hospital. The modelling includes all hospital stays, whereas the actuals only include stays up to 28 days duration that are linked to Covid-19.

There continues to be uncertainty over hospital occupancy and intensive care in the next three weeks.

Figure 12. Medium term projections of modelled hospital bed demand, from Scottish Government modelling, based on positive test data reported up to 7th March.

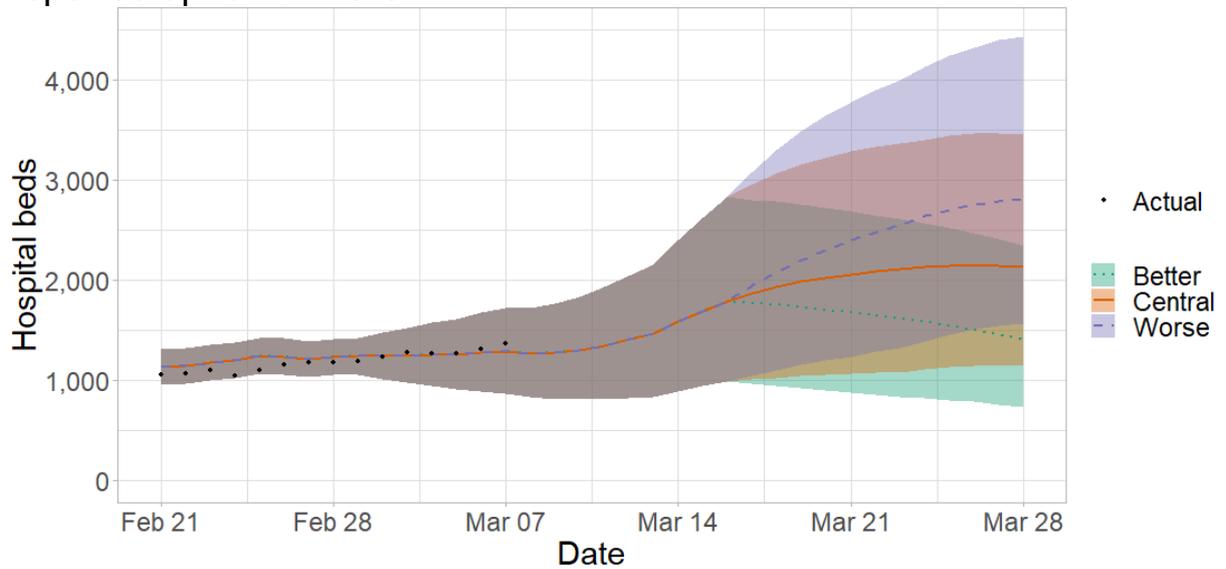
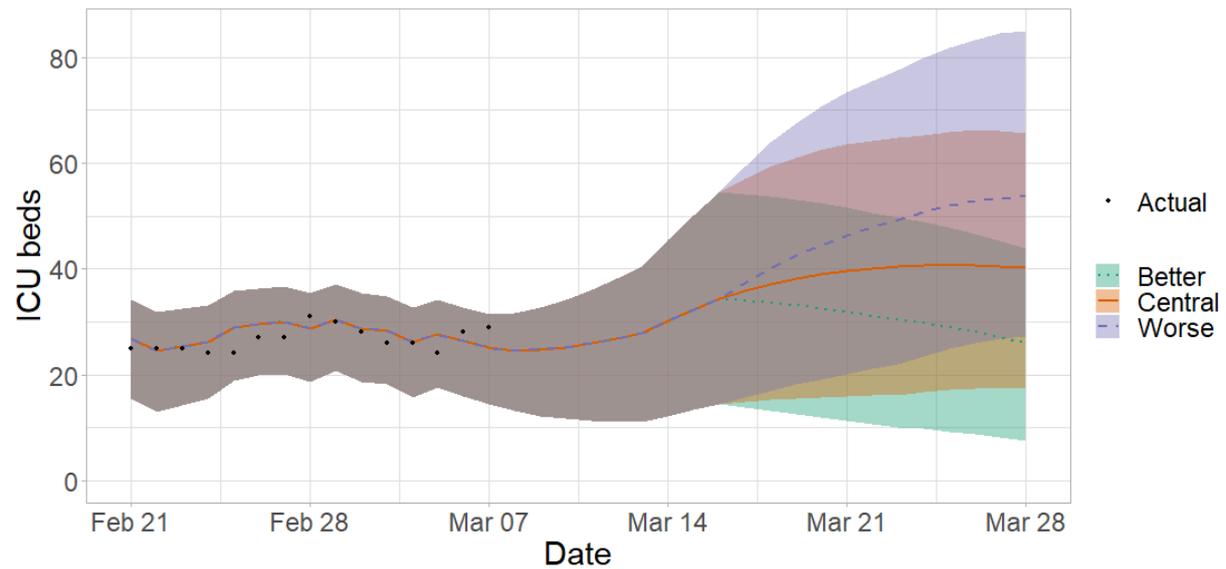


Figure 13 shows the impact of the projection on ICU bed demand.

Figure 13. Medium term projections of modelled ICU bed demand, from Scottish Government modelling, based on positive test data reported up to 7th March.



What the modelling tells us about projections of hospitalisations, occupancy and deaths in the medium term

SPI-M-O produces projections of the epidemic (Figures 14 - 16), combining estimates from several independent models. These projections are not forecasts or predictions. They represent a scenario in which the trajectory of the epidemic continues to follow the trends that were seen in the data available to 7th March and do not include the effects of any future policy or behavioural changes.

The delay between infection, developing symptoms, the need for hospital care, and death means they cannot fully reflect the impact of behaviour changes in the two to three weeks prior to 7th March.

The projections include the potential impact of vaccinations over the next few weeks. Modelling groups have used their expert judgement and evidence from UKHSA, Scottish Universities & Public Health Scotland, and other published efficacy studies when making assumptions about vaccine effectiveness.

Figure 14. SPI-M-O medium-term projection of daily hospitalisations in Scotland, at 50% and 90% credible intervals.

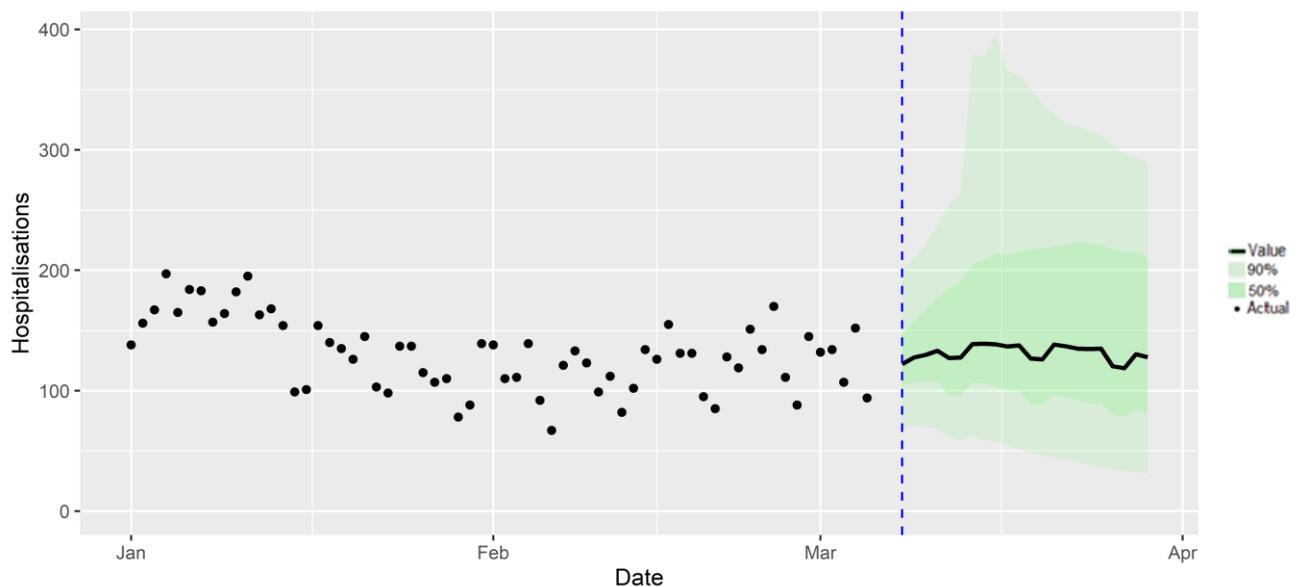


Figure 15 shows the SPI-M-O consensus on hospital occupancy. Hospital occupancy is determined by the combination of admissions and length of stay, the latter of which is difficult to model with confidence.

Figure 15. SPI-M-O medium-term projection of hospital occupancy in Scotland, at 50% and 90% credible intervals

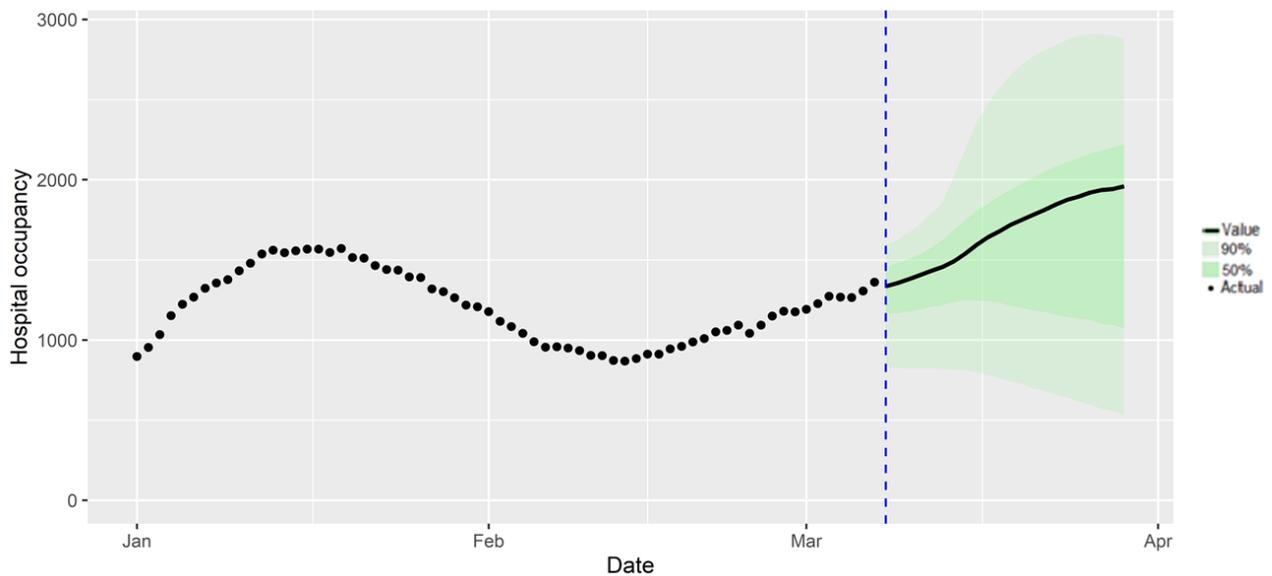
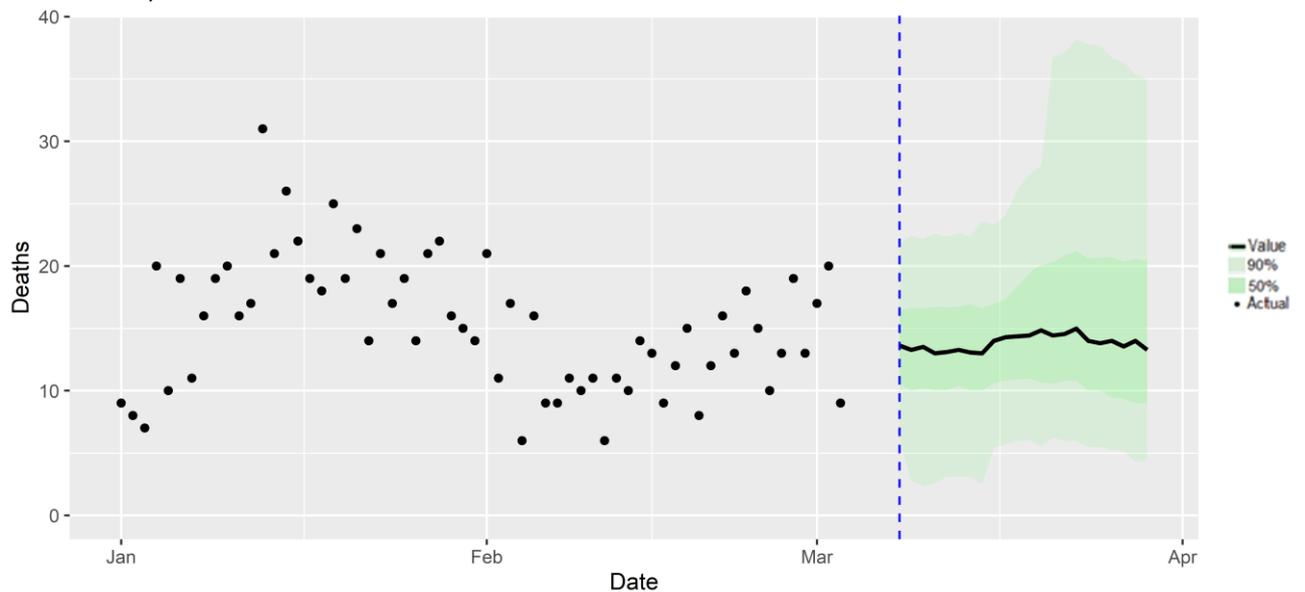


Figure 16 shows the SPI-M-O consensus on daily Covid-19 deaths.

Figure 16. SPI-M-O medium-term projection of daily Covid-19 deaths in Scotland, at 50% and 90% credible intervals.



What we know about which local authorities are likely to experience high levels of Covid-19 in two weeks' time

We continue to use modelling based on Covid-19 cases and deaths using data to 7th March from several academic groups to give us an indication of whether a local authority is likely to experience high levels of Covid-19 in the future. This has not been compiled via UKHSA into a consensus this week and is based on one modelling group.

In less populated regions in which case numbers are small, there is a greater variation in model estimates, and hence increased uncertainty. This has led to us not including Orkney Islands and Shetland Islands this week.

Some of the increase in the projected cases compared to last week will be associated with the step change in cases reported on 1st March, which was due to historical reinfections being added to the cumulative number of reported cases.

In this, an area is defined as a hotspot if the two week prediction of cases (positive tests) per 100K population is predicted to exceed a threshold, e.g. 500 cases.

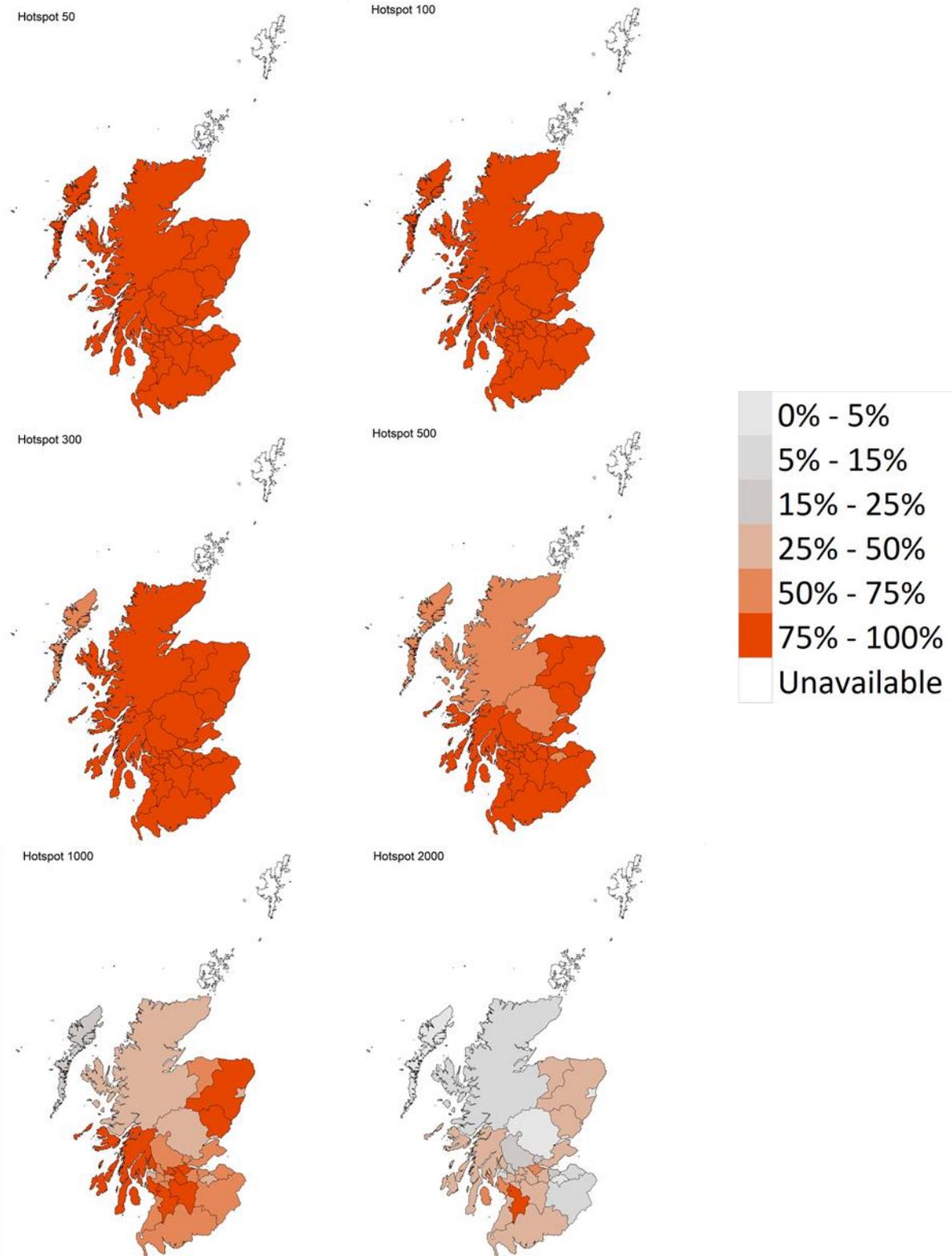
Modelled rates of positive tests per 100K using data to 7th March (Figure 17) indicate that, for the week commencing 20th March, all 30 of the local authorities included are expected to exceed 50 cases per 100K with at least 75% probability. These same 30 local authorities also have at least a 75% probability of exceeding 100 cases per 100K.

24 of the 30 local authorities included are expected to exceed 500 cases per 100K with at least 75% probability. The exceptions are Aberdeen, Dundee, Highlands, Midlothian, Na h-Eileanan Siar, and Perth & Kinross.

Nine local authorities are expected to exceed 1000 cases per 100K with at least 75% probability. These are Aberdeenshire, Angus, Argyll & Bute, East Ayrshire, East Dunbartonshire, Falkirk, North Ayrshire, North Lanarkshire and South Lanarkshire.

One local authority (East Ayrshire) is expected to exceed 2000 cases per 100K with at least 75% probability.

Figure 17. Probability of local authority areas exceeding thresholds of cases per 100K (20th March to 26th March 2022), data to 7th March.



Summary of spatial analysis of Covid-19 spread in Scotland

Researchers at the Edinburgh University Roslin Institute have conducted spatial analysis of COVID-19 Spread in Scotland. A summary of findings from the week from 1st March to 7th March 2022 is included here. Risk factors indicate where the number of cases are higher than expected geographically (i.e. administrative data zones), but do not necessarily represent the risk to individuals in those areas.

The modelling indicates there remains a substantial variation in risk of infection by average census age in each datazone. Deprivation in this period is not a substantial factor when comparing across local authorities. Risk factors remain stable, when comparing to previous weeks.

The trend where numbers of PCR and LFD tests are both declining, but positivity is increasing, continues across all deprivation scores, suggesting ascertainment (ie the proportion of infections which are detected by testing) may be continuing to decrease. This decline in testing continues past 28th February, despite a rise in number of positive tests being reported, across both PCR and LFD, resulting in a sharper rise in positivity.

The change in positive PCR and LFD testing patterns is broadly consistent across all age and deprivation brackets, with no significant new deviation seen in any one bracket.

The distribution of LFD tests being reported varies substantially by both age and deprivation status, with many fewer tests reported in younger adults across all deciles of deprivation, and for children in more deprived deciles. The high level of LFD positivity in the latter category is marked, and when compared to the high number of positives amongst the least deprived, suggests that ascertainment may be lower in younger people in deprived areas.

Figure 18. Variation in testing outcomes comparing Lateral Flow and PCR testing considering age and deprivation status of the data zone of record based on data to 5th March 2022.

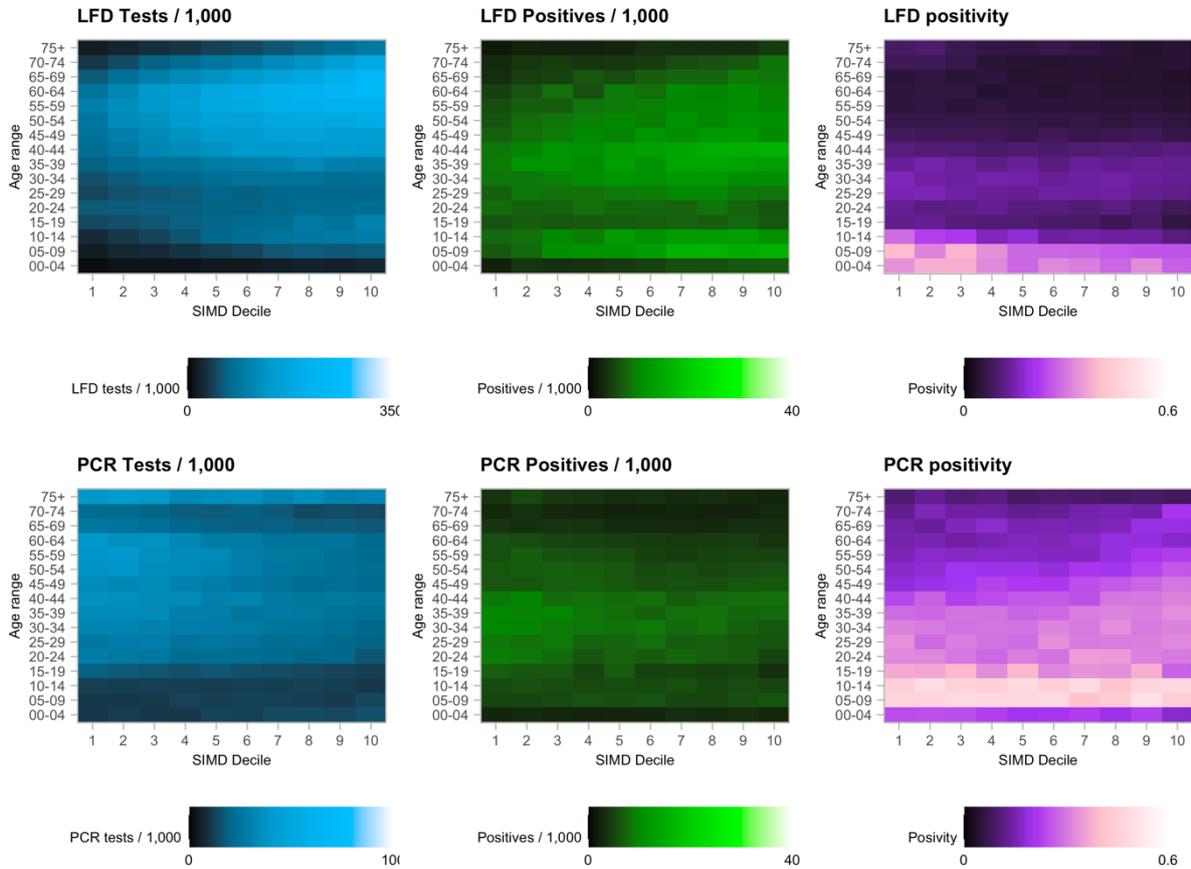
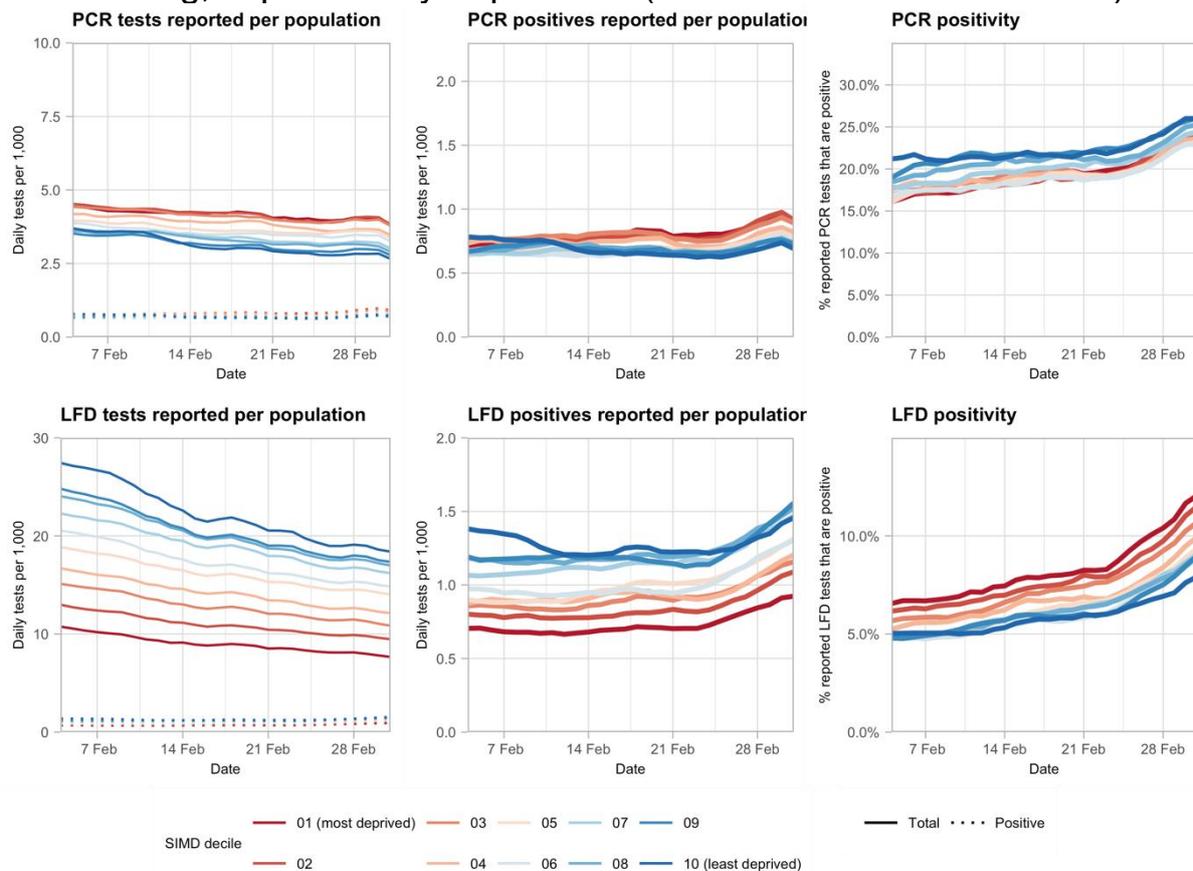


Figure 19. Variation in testing outcomes comparing Lateral Flow and PCR testing, separated by deprivation (based on data to 3rd March).



What can analysis of wastewater samples tell us about local outbreaks of Covid-19 infection?

Levels of Covid-19 RNA in wastewater (WW) collected at a number of sites around Scotland are adjusted for population and local changes in intake flow rate (or ammonia levels where flow is not available). See Technical Annex in Issue 34 of these Research Findings for the methodology.

Nationwide, wastewater Covid-19 levels have shown an uptick this week. The week ending on 4th March saw levels of just over 100 million gene copies per person per day (Mgc/p/d), up from 74 Mgc/p/d the previous week (week ending 25th February), an increase of 35%.

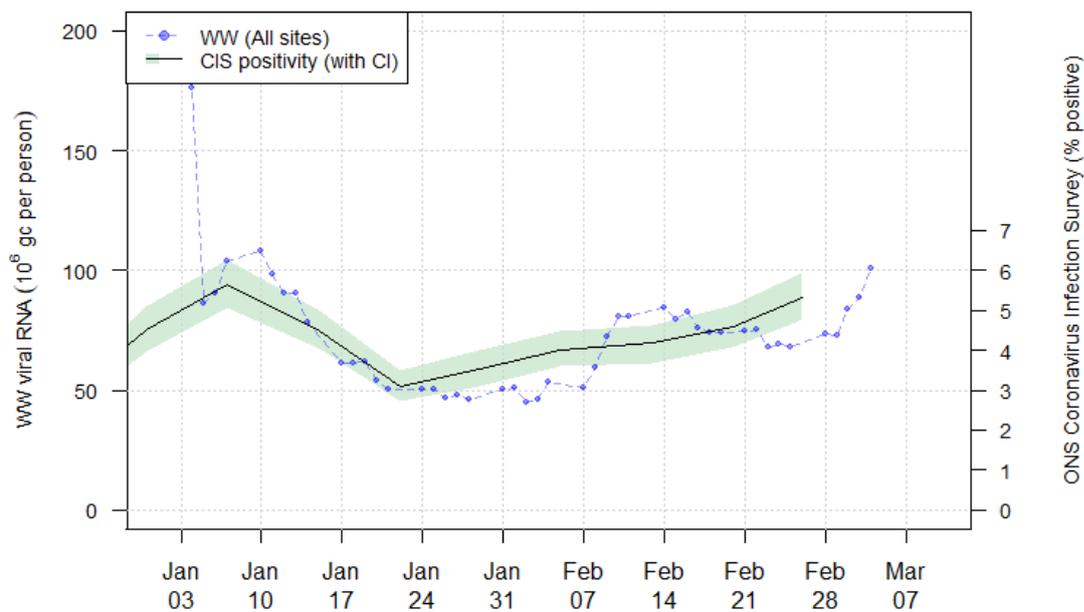
This week saw sampling at similar levels to recent weeks.

In Figure 20, we restrict plotting to the period after the end of 2021, at which point S-gene dropout testing data suggest that nearly all cases are from the Omicron variant. In this period, WW testing should have a consistent relationship with Covid-19 prevalence, assuming that the change in relationship is due to the new dominant variant and there is no

shedding difference with Omicron BA.2. We also superimpose data from the ONS Coronavirus Infection Survey (CIS) to 26th February, with axis scaling chosen to match post-2021 levels in both datasets. Note that this scaling is not the same as that used in past reports, where a scaling relative based on 2021 data was used.

In this graph, we see a break in the flat or declining trend in WW viral Covid-19 levels, as levels increased over the last week. This means that while previously there was a concern that the trends in WW viral levels and CIS estimates were going in different directions, with this week's data there seems to be a better correspondence between the two. Note that case data (not shown) also suggests an increase in Covid-19 prevalence in recent days.

Figure 20. National running average trends in wastewater RNA from 31st December 2021 to 4th March 2022.⁵



Long Covid

A report on the rate of long Covid has not been included this week. We will report the long Covid projections again once updated estimates of self-reported long Covid prevalence amongst those infected with the less severe Omicron variant become available.

⁵ For this graph, a wastewater RNA average using the last 7 days of data is computed at every sampling date. Prevalence estimates and 95% confidence intervals from the ONS Coronavirus Infection Survey are overlaid, with a scale chosen to approximately match wastewater Covid-19 levels in 2022.

What next?

Modelling will continue to look at the impact of Omicron, particularly the variant BA.2. The UKHSA Risk Assessment for BA.2 (23rd February 2022) stated that there is moderate confidence that BA.2 has a growth advantage compared to BA.1, from data reported by multiple countries. As the year progresses we will incorporate different models as and when it is appropriate to do so.

We hope to include our analysis on long Covid in future weeks.

UKHSA is considering a change in the frequency that Covid-19 estimates are published, to every two weeks from 1st April. This would mean that this *Modelling the Epidemic* publication would also move to every two weeks from 1st April. If you have any feedback about this, please contact UKHSA at enquiries@ukhsa.gov.uk.

Technical Annex

Epidemiology is the study of how diseases spread within populations. One way we do this is using our best understanding of the way the infection is passed on and how it affects people who catch it to create mathematical simulations. Because people who catch Covid-19 have a relatively long period in which they can pass it on to others before they begin to have symptoms, and the majority of people infected with the virus will experience mild symptoms, this “epidemiological modelling” provides insights into the epidemic that cannot easily be measured through testing e.g. of those with symptoms, as it estimates the total number of new daily infections and infectious people, including those who are asymptomatic or have mild symptoms.

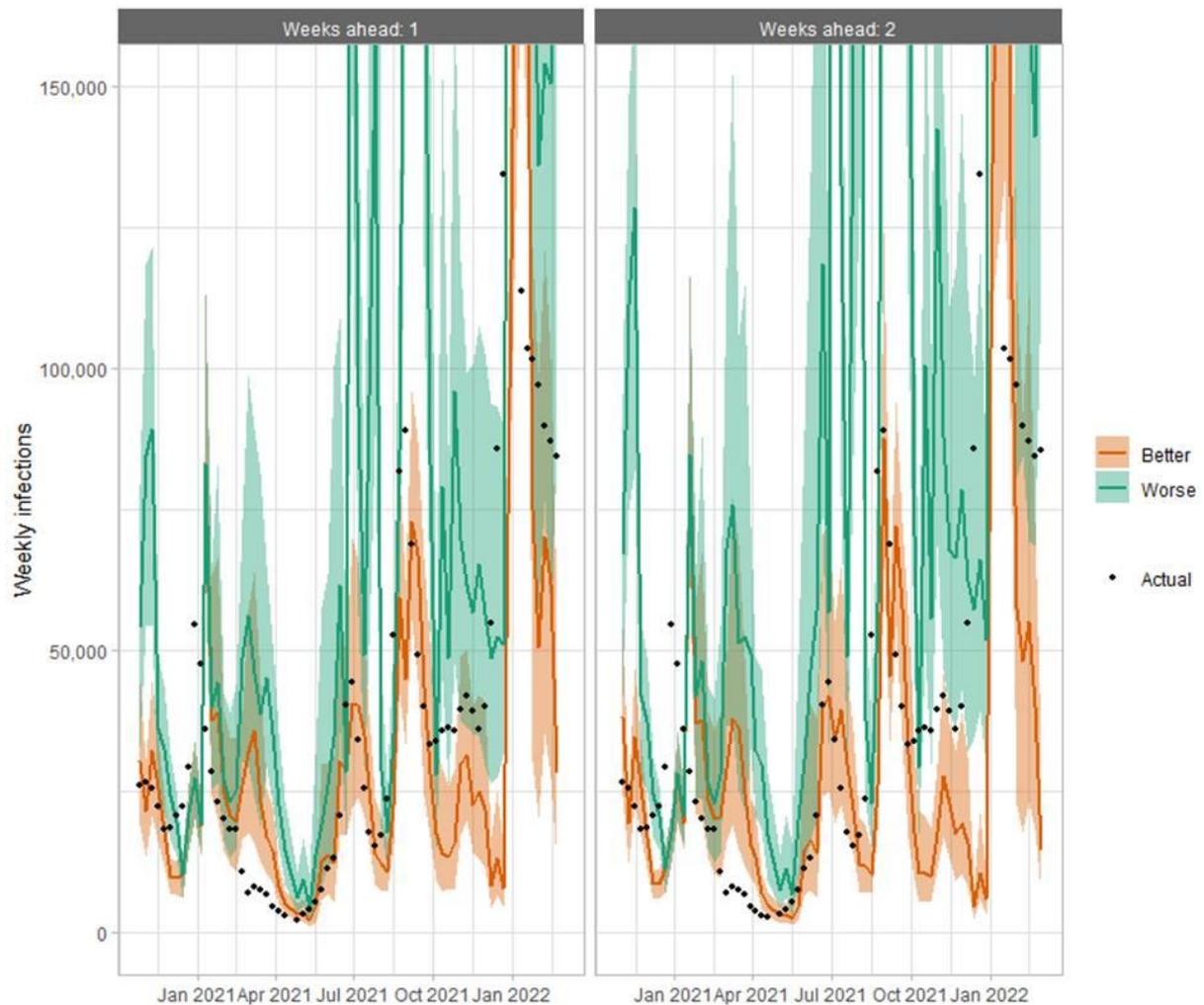
Modelling also allows us to make short-term forecasts of what may happen with a degree of uncertainty. These can be used in health care and other planning. The modelling in this research findings is undertaken using different types of data which going forward aims to both model the progress of the epidemic in Scotland and provide early indications of where any changes are taking place.

The delivery of the vaccination programme will offer protection against severe disease and death. The modelling includes assumptions about compliance with restrictions and vaccine take-up. Work is still ongoing to understand how many vaccinated people might still spread the virus if infected. As Covid-19 is a new disease there remain uncertainties associated with vaccine effectiveness. Furthermore, there is a risk that new variants emerge for which immunisation is less effective.

How the modelling compares to the real data as it emerges

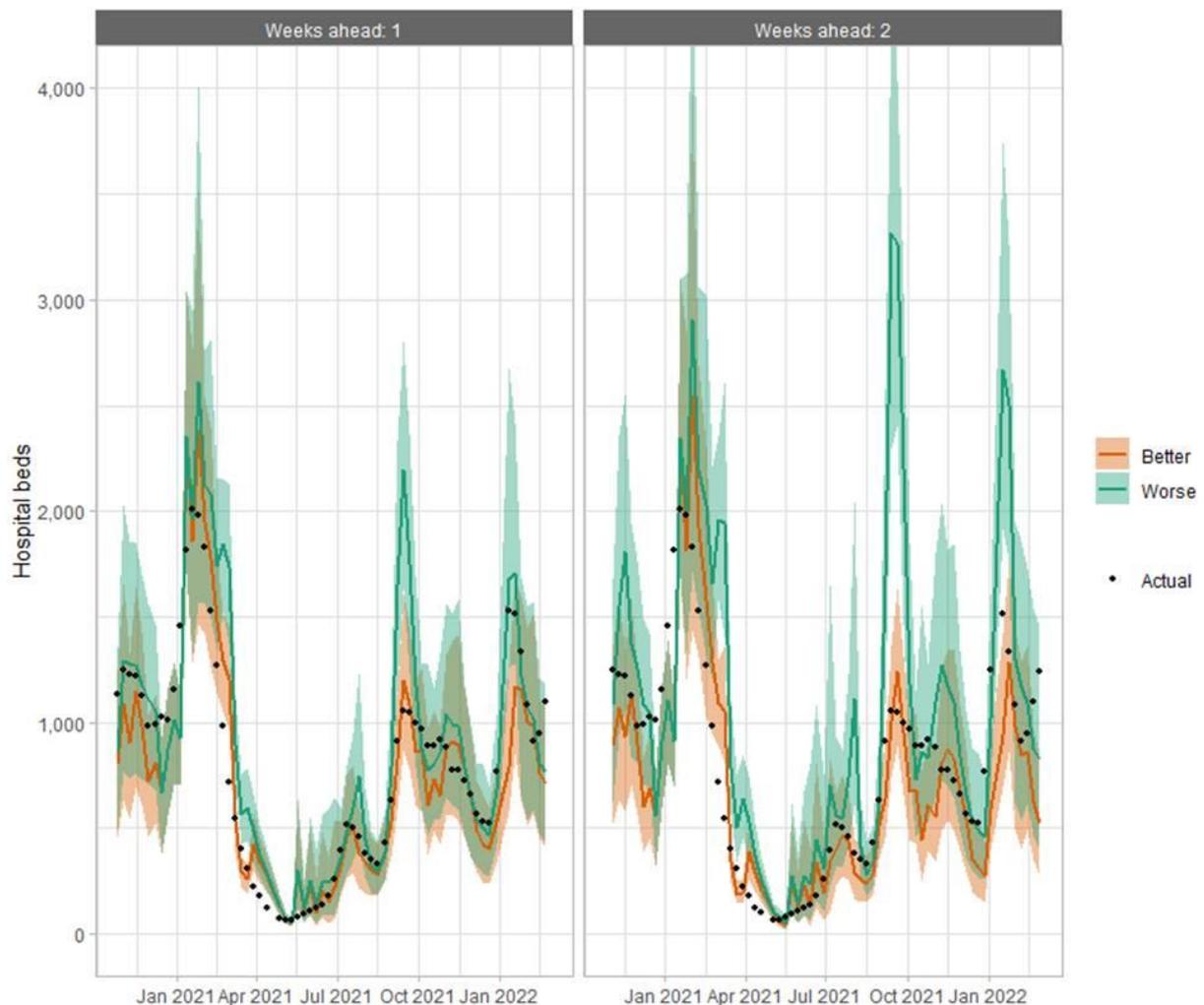
The following charts show the history of our modelling projections in comparison to estimates of the actual data. The infections projections were largely accurate from mid-January 2021 until mid-December 2021, from which point the projections have underestimated the number of infections, due to the unforeseen effects of the Omicron variant. The same is true for the hospital beds projections, however the ICU beds 24 projections have overestimated the actual figures since mid-December 2021, due to the lower severity of Omicron.

Figure 21. Infections projections versus actuals, for historical projections published between one and two weeks before the actual data came in.



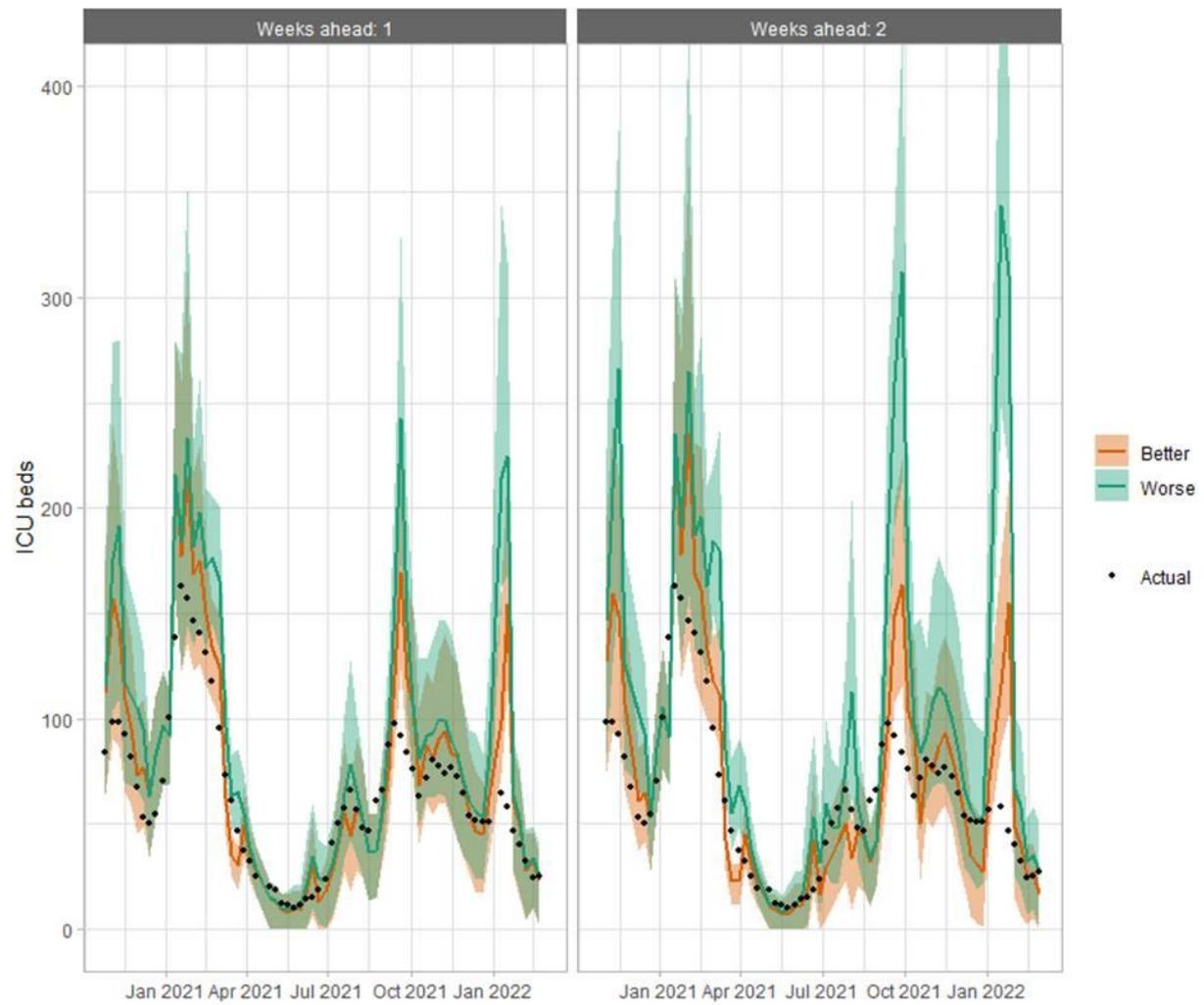
Hospital bed projections have generally been more precise than infections estimates due to being partially based on already known information about numbers of current infections, and number of people already in hospital. The projections are for number of people in hospital due to Covid-19, which is slightly different to the actuals, which are number of people in hospital within 28 days of a positive Covid-19 test.

Figure 22. Hospital bed projections versus actuals, for historical projections published between one and two weeks before the actual data came in.



As with hospital beds, ICU bed projections have generally been more precise than infections. The projections are for number of people in ICU due to Covid-19. The actuals are number of people in ICU within 28 days of a positive Covid-19 test up to 20 January 2021, after which they include people in ICU over the 28 day limit.

Figure 23. ICU bed projections versus actuals, for historical projections published between one and two weeks before the actual data came in.



Which local authorities are likely to experience high levels of Covid-19 in two weeks' time

Table 1. Probability of local authority areas exceeding thresholds of cases per 100K (20th March to 26th March 2022). Data to 7th March.

Local Authority (LA)	Probability of exceeding (cases per 100K)					
	50	100	300	500	1000	2000
Aberdeen City	75-100%	75-100%	75-100%	50-75%	25-50%	0-5%
Aberdeenshire	75-100%	75-100%	75-100%	75-100%	75-100%	25-50%
Angus	75-100%	75-100%	75-100%	75-100%	75-100%	25-50%
Argyll and Bute	75-100%	75-100%	75-100%	75-100%	75-100%	25-50%
City of Edinburgh	75-100%	75-100%	75-100%	75-100%	50-75%	15-25%
Clackmannanshire	75-100%	75-100%	75-100%	75-100%	50-75%	15-25%
Dumfries & Galloway	75-100%	75-100%	75-100%	75-100%	50-75%	25-50%
Dundee City	75-100%	75-100%	75-100%	50-75%	25-50%	5-15%
East Ayrshire	75-100%	75-100%	75-100%	75-100%	75-100%	75-100%
East Dunbartonshire	75-100%	75-100%	75-100%	75-100%	75-100%	25-50%
East Lothian	75-100%	75-100%	75-100%	75-100%	50-75%	5-15%
East Renfrewshire	75-100%	75-100%	75-100%	75-100%	50-75%	25-50%
Falkirk	75-100%	75-100%	75-100%	75-100%	75-100%	50-75%
Fife	75-100%	75-100%	75-100%	75-100%	50-75%	25-50%
Glasgow City	75-100%	75-100%	75-100%	75-100%	50-75%	25-50%
Highland	75-100%	75-100%	75-100%	50-75%	25-50%	5-15%
Inverclyde	75-100%	75-100%	75-100%	75-100%	25-50%	5-15%
Midlothian	75-100%	75-100%	75-100%	50-75%	25-50%	0-5%
Moray	75-100%	75-100%	75-100%	75-100%	50-75%	25-50%
Na h-Eileanan Siar	75-100%	75-100%	50-75%	50-75%	15-25%	0-5%
North Ayrshire	75-100%	75-100%	75-100%	75-100%	75-100%	50-75%
North Lanarkshire	75-100%	75-100%	75-100%	75-100%	75-100%	25-50%
Orkney Islands ⁶	-	-	-	-	-	-
Perth and Kinross	75-100%	75-100%	75-100%	50-75%	25-50%	0-5%
Renfrewshire	75-100%	75-100%	75-100%	75-100%	50-75%	25-50%
Scottish Borders	75-100%	75-100%	75-100%	75-100%	50-75%	5-15%
Shetland Islands ⁶	-	-	-	-	-	-
South Ayrshire	75-100%	75-100%	75-100%	75-100%	50-75%	25-50%
South Lanarkshire	75-100%	75-100%	75-100%	75-100%	75-100%	25-50%
Stirling	75-100%	75-100%	75-100%	75-100%	50-75%	15-25%
West Dunbartonshire	75-100%	75-100%	75-100%	75-100%	50-75%	15-25%
West Lothian	75-100%	75-100%	75-100%	75-100%	50-75%	25-50%

⁶ We have not been able to provide estimates for the Orkney or Shetland Islands this week.

What levels of Covid-19 are indicated by wastewater data?

Table 2 provides population weighted daily averages for normalised WW Covid-19 levels in the weeks ending 25th February and 4th March 2022, with no estimate for error. This is given in Million gene copies per person per day. Coverage is given as percentage of inhabitants in each local authority covered by a wastewater Covid-19 sampling site delivering data during this period⁷.

Table 2. Average Covid-19 wastewater levels (Mgc/p/d)⁸.

Local authority (LA)	w/e 25th February	w/e 4th March	Coverage
Aberdeen City	115	104	99%
Aberdeenshire	80	94	52%
Angus	86	112	68%
Argyll and Bute	77	84	23%
City of Edinburgh	45	96	98%
Clackmannanshire	89	98	92%
Dumfries & Galloway	74	86	29%
Dundee City	92	130	100%
East Ayrshire	66	96	57%
East Dunbartonshire	73	119	99%
East Lothian	43	96	56%
East Renfrewshire	38	87	95%
Falkirk	69	116	96%
Fife	64	113	84%
Glasgow City	75	95	98%
Highland	95	158	39%
Inverclyde	41	104	98%
Midlothian	46	112	88%
Moray	240	180	55%
Na h-Eileanan Siar	–	21	21%
North Ayrshire	43	75	92%
North Lanarkshire	83	94	92%
Orkney Islands	–	108	34%
Perth and Kinross	91	73	45%
Renfrewshire	62	75	97%
Scottish Borders	46	83	59%
Shetland Islands	59	8	29%
South Ayrshire	48	102	88%
South Lanarkshire	69	103	77%
Stirling	21	38	63%
West Dunbartonshire	89	114	98%
West Lothian	41	114	95%

⁷ Advancements in detection and interpretation practices allow us to identify when outlying results are anomalous rather than indicators of spikes in Covid-19 levels. Table 3 provides population weighted daily averages for normalised WW Covid-19 levels with the outliers removed. See Technical Annex in Issue 60 of these Research Findings for further details.

⁸ Coverage as for week ending 4th March 2022.

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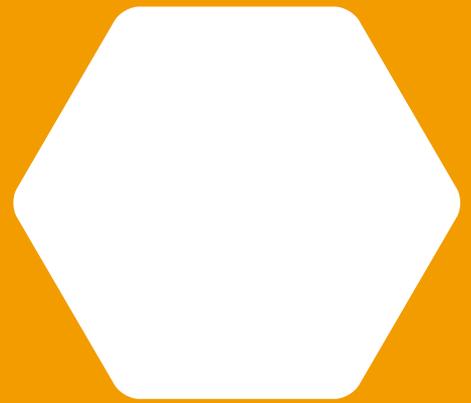
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