

SPI-M-O

Medium-Term Projections

10th March 2021

SPI-M-O Medium-term Projections

- **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 up to 8th March.
- The delay between infection, developing symptoms, the need for hospital care, and death means **they will not fully reflect the impact of behavioural changes in the two to three weeks prior to 8th March.**
- **These projections include the potential impact of vaccinations over the next four weeks.** This has been based on a rollout scenario provided by Cabinet Office for modelling purposes; it assumes an average of 3.5 million doses are administered per week across the UK.
- The projections assume vaccinations are administered according to JCVI's priority order, with 95% coverage in the over 80s and care home residents; 85% coverage in 50 to 80 year olds and care home workers and 75% coverage in under 50 year olds.
- Modelling groups have used their expert judgement based on evidence from the [JCVI](#), [Public Health England](#), [Scottish universities and Public Health Scotland](#) as well as other published sources when making assumptions about vaccine effectiveness. A table summarising these assumptions is in the annex.
- Modelling groups have used data from contact surveys, [previous findings](#) and their own expert judgement to incorporate the impact of re-opening schools. **The projections do not include the effects of any other future policy or behavioural changes.**
- Not all modelling groups produce projections for both hospitalisations and deaths so there will be some differences between the models included in the combined projections for each metric.

Metrics:

- **New hospitalisations per day:** Number of individuals admitted with COVID-19 and inpatients newly diagnosed with COVID-19. Data definitions differ slightly across all four nations.
- **New deaths per day (by date of death):** The number of COVID-19 deaths within 28 days of a positive test. Data definitions differ slightly across all four nations.

Modelled projections based on trends to 8th March 2021

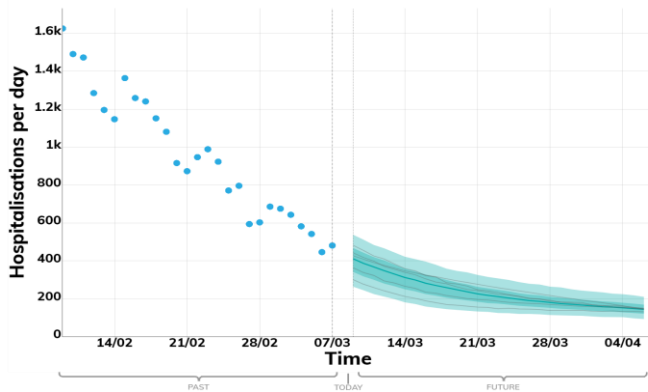
New hospital admissions per day

These projections are based on current trends and will not fully reflect the impact of behavioural changes over the past two to three weeks. They are not forecasts or predictions.

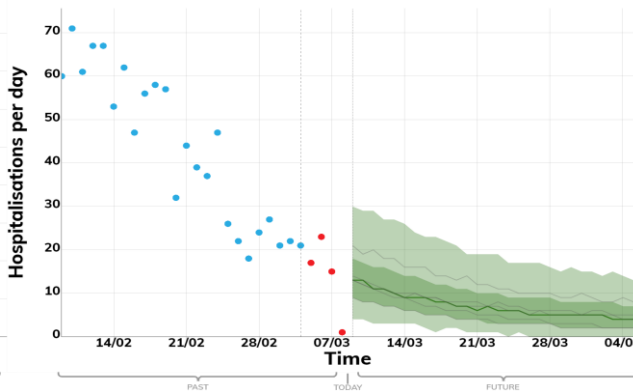
Key

- Real data
- Expected to Increase
- Projection Midpoint
- High and low estimates 5th to 95th percentile
- High and low estimates 25th to 75th percentile
- Models

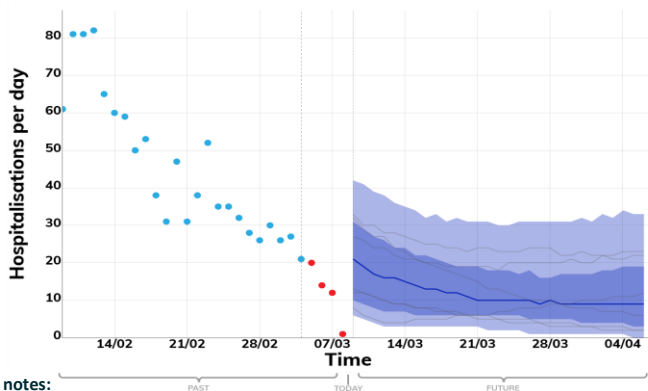
ENGLAND



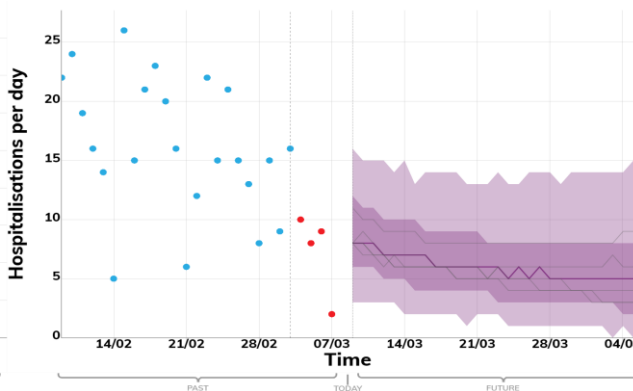
WALES



SCOTLAND



NORTHERN IRELAND



These fan charts show the **90% credible interval and interquartile range** of the combined projections based on current trends. They cannot account for behavioural changes in the two to three weeks prior to 8th March, as these will not yet have been reflected in epidemiological data.

These projections *include* the potential impact of vaccinations over the next four weeks. This has been based on a rollout scenario provided by Cabinet Office for modelling purposes; with 95% coverage in the over 80s and care home residents; 85% coverage in 50 to 80 year olds and care home workers and 75% in under 50s. The vaccine effectiveness assumptions used by each group are summarised in the annex.

Other than the reopening of schools, these projections do not include any effects of future policy or behavioural changes.

Data notes:

England: Number of patients admitted with confirmed COVID-19 and the number of inpatients diagnosed with COVID-19 in the past 24 hours. Taken from the NHSE COVID-19 Situation reports.

Wales: Number of patients admitted with confirmed COVID-19 and the number of inpatients diagnosed with COVID-19. Provided by Public Health Wales.

Scotland: Number of patients testing positive for COVID-19 when admitted and inpatients diagnosed with COVID-19. Provided by Public Health Scotland.

Northern Ireland: Number of patients admitted with confirmed COVID-19 and the number of inpatients diagnosed with COVID-19. Provided by Health and Social Care Northern Ireland.

Modelled projections based on trends to 8th March 2021

New hospital admissions per day

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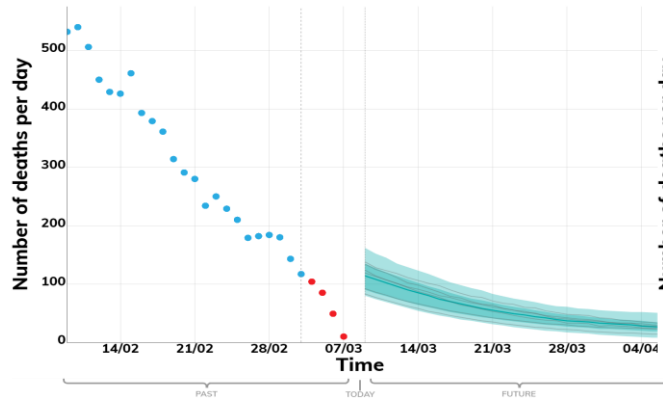
New deaths per day

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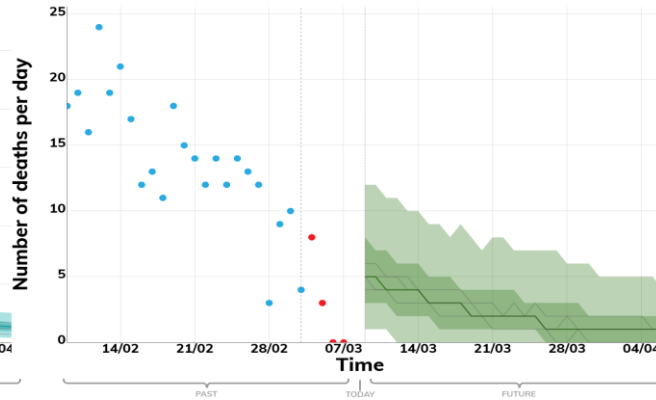
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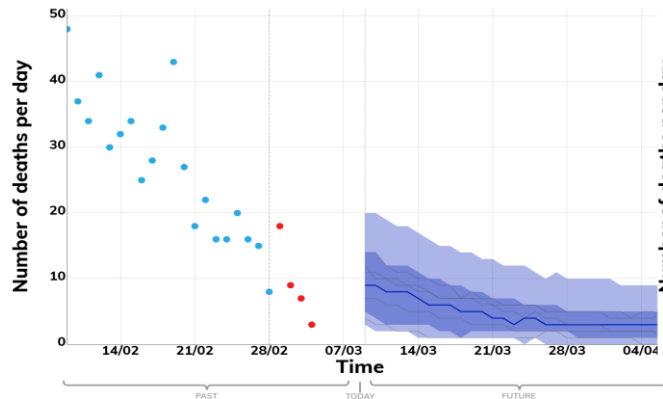
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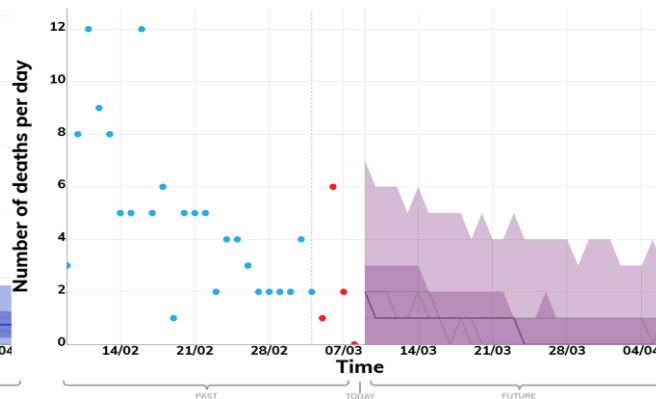
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Other than the reopening of schools, these projections do not include any effects of future policy or behavioural changes.

Data Notes:

The number of COVID-19 deaths (by date of death) within 28 days of a positive test. The past data for England is taken from the PHE line list of deaths. The past data for Scotland, Wales, and Northern Ireland is taken from the Coronavirus (COVID-19) in the UK dashboard on Gov.uk.

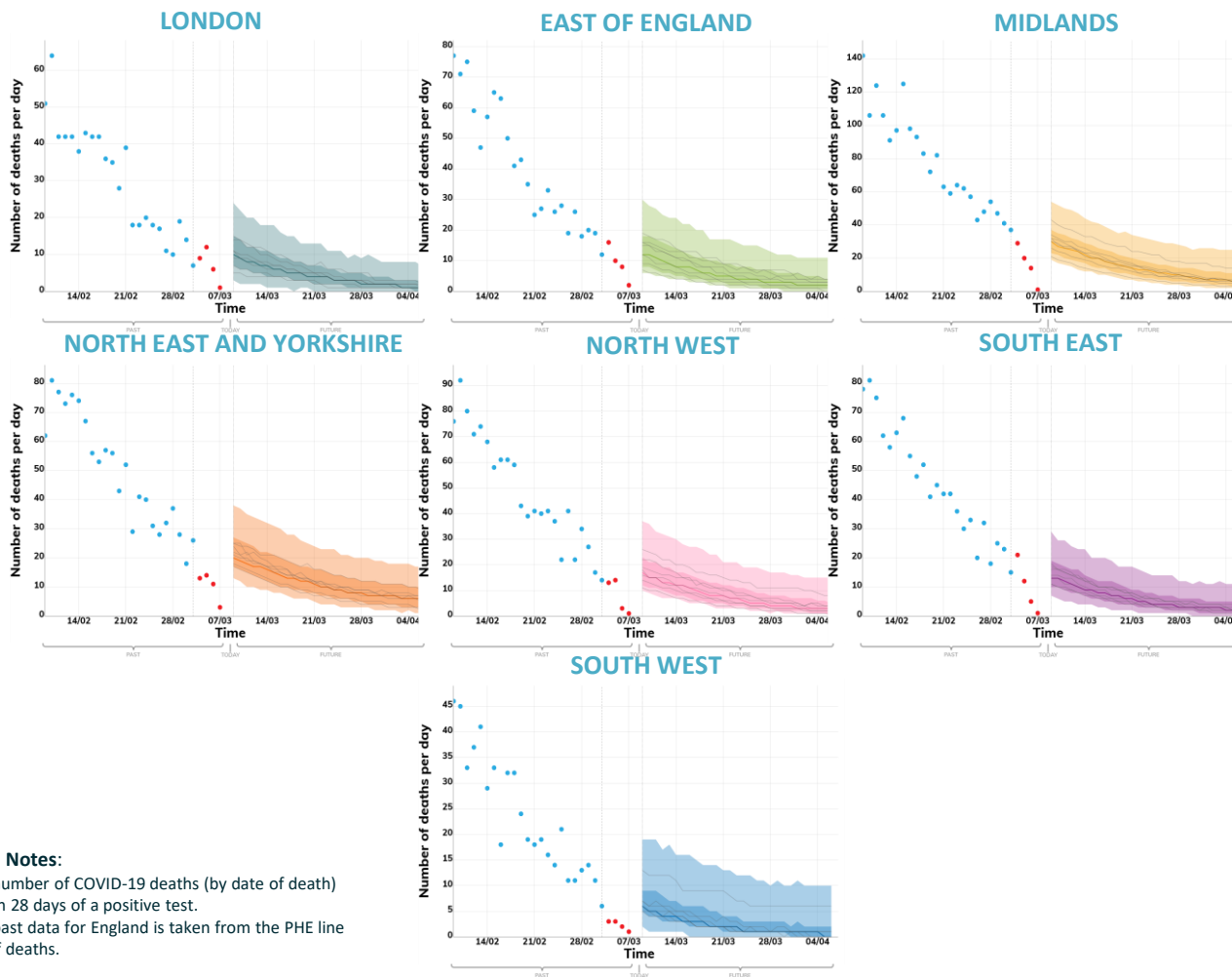
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Annex: SPI-M-O Vaccine Effectiveness Assumptions

Table 1: Vaccine reduction in risk of hospitalisation or death

		LSHTM (Transmission)	Imperial	Manchester [1]	Warwick [2]	PHE	Scottish Government
Pfizer-BioNTech	1st Dose	88%	86%	75%	70%	80%	88%
	2nd Dose	94%	98%	75%	88%	95%	95%
Oxford-AstraZeneca	1st Dose	70%	80%	75%	70%	50%	75%
	2nd Dose	82%	80%	75%	88%	70%	84%

Table 2: Vaccine reduction in risk of infection

		LSHTM (Transmission)	Imperial	Manchester [1]	Warwick [2]	PHE	Scottish Government
Pfizer-BioNTech	1st Dose	48%	65%	75%	48%	48%	48%
	2nd Dose	60%	94%	75%	60%	60%	60%
Oxford-AstraZeneca	1st Dose	48%	63%	75%	48%	48%	48%
	2nd Dose	60%	63%	75%	60%	60%	60%

[1] Manchester’s model doesn’t split vaccine effectiveness by vaccine type or different doses.

[2] Warwick’s vaccine effectiveness assumptions are based on a weighted average of the two vaccines.