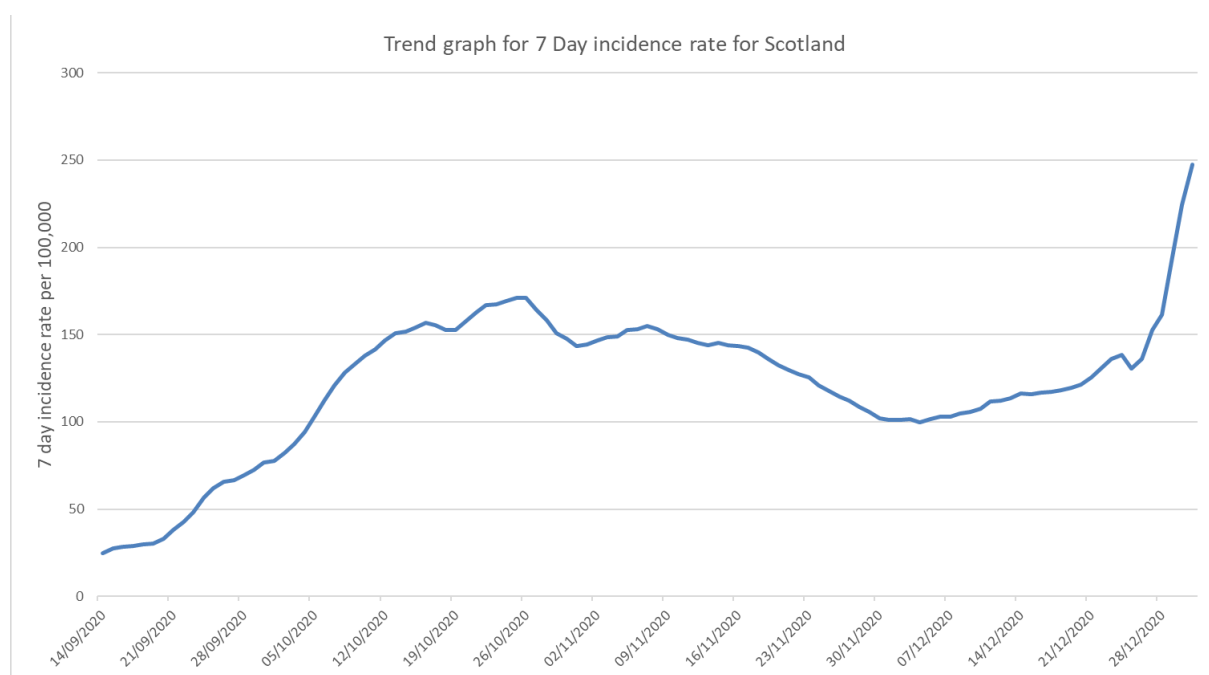


## STATE OF THE EPIDEMIC IN SCOTLAND, 4.1.2021

A new variant of SARS- CoV-2 has been detected called B.1.1.7 or VOC-202012/01. The latest evidence from Imperial College, published on 31<sup>st</sup> December presents a consensus that this new variant has a substantial transmission advantage, with an increased rate of transmission estimated to be somewhere between 0.4 and 0.7<sup>1</sup>. The percentage of cases composed of this new variant is increasing rapidly in Scotland, from 42.7% on 31<sup>st</sup> Dec to 47.5% on 3<sup>rd</sup> January. It is very likely that this strain will further increase in dominance in Scotland in a similar way to that already seen in London and SE England

In the week up to 4<sup>th</sup> January we have seen a step change in the incidence and prevalence of the virus, which we anticipate will lead to increased hospital admissions and mortality, even within the context of Nationwide level 4 restrictions which came in to play on the 26<sup>th</sup> December. Average daily case numbers have almost doubled to around 2,200 confirmed new cases per day over the past week. The percentage of positive tests has risen sharply to around 12% overall from around 6% the previous week<sup>2</sup>. On 3 January 15.2% of new tests for COVID-19 that reported results were positive. At Christmas and New Year it is often difficult to interpret rates of infection due to changes in behaviour that can affect testing. The cumulative seven day incidence per 100,000 of the population by specimen date to 30<sup>th</sup> Dec is 225. This has risen by 65%, from 136, the level at the time of the announcement of tighter post-Christmas restrictions.

*Figure 1: Cumulative seven day incidence per 100,000 population by specimen date to 30<sup>th</sup> December 2020, steep rate increase (63% up compared to 23<sup>rd</sup> December) – source PHS ECOSS*



<sup>1</sup> [Report 42 - Transmission of SARS-CoV-2 Lineage B.1.1.7 in England: insights from linking epidemiological and genetic data | Faculty of Medicine | Imperial College London](#)

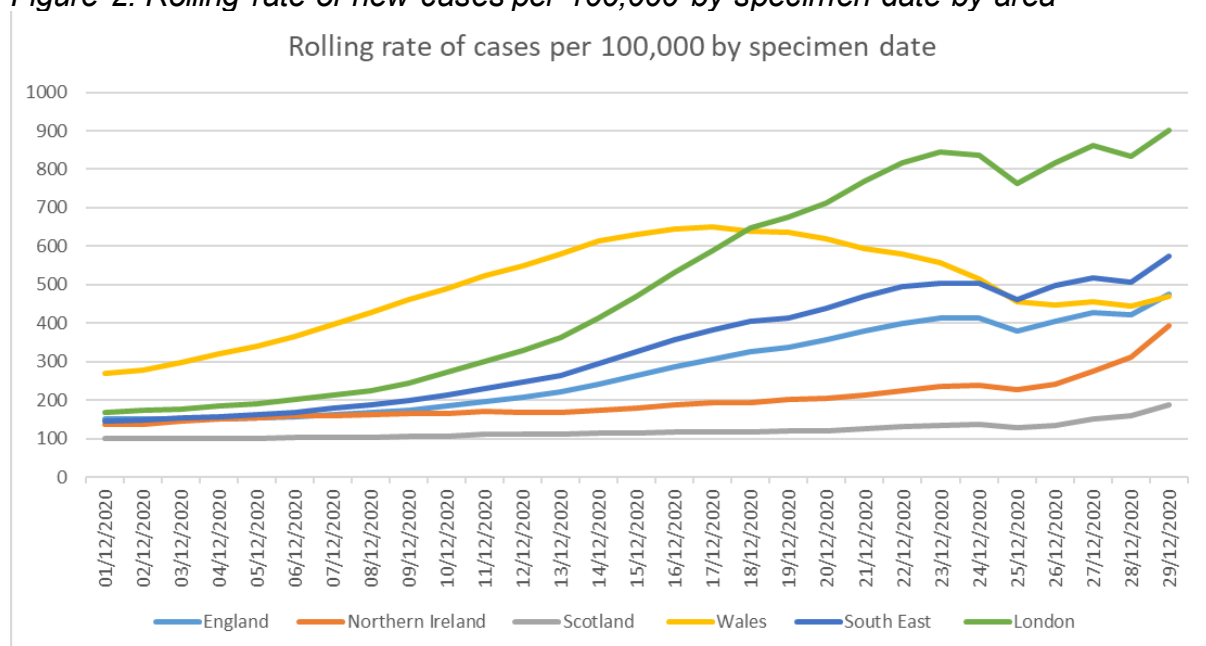
<sup>2</sup> We should be cautious about data over the festive period, testing dropped by a round 20% over the past week. It is likely that fewer people with milder symptoms came forward for testing over the festive period, which may affect test positivity.

As of 4<sup>th</sup> January, almost all Local Authority areas have seen substantial increases in case rates. Inverclyde has the highest case rates at almost 550 per 100,000 and Dumfries and Galloway, which previously recorded low case rates has increased by over 400 in the past week to 475 cases per 100,000. Dundee City, East Ayrshire, East Renfrewshire, North Lanarkshire, Renfrewshire and the Scottish Borders all now have case rates exceeding 300 per 100,000. Moray and Highland which both maintained low case levels prior to the end of 2020 now exceed 100 cases per 100,000.

The only local authority area in Scotland with a very low case rate is currently the Orkney Islands, having reported no cases in the week to 1<sup>st</sup> January.

The UK as a whole is experiencing substantial increases in case numbers. Using cumulative seven day incidence per 100,000 for the month of December, Scotland's case rate has consistently remained lower than the rest of the UK despite recent increases. Over the month of December the number of cases per 100,000 has doubled from around 100 to over 200 cases per 100,000. There is a five day lag with specimen data. Using reporting data to the 3<sup>rd</sup> of January instead there were around 270 cases per 100,000, which is a 75% increase on the previous week. In comparison to London and SE England our rates are around 4 weeks behind the increase in rates that they continue to observe. Over December the case rate per 100,000 in London increased to more than 5 fold the rate at the start of the month and in the South East the case rate almost quadrupled. The emergence of the Variant strain (VOC202012/01 also called B.1.1.7) as a dominant strain type with increased transmissibility is thought to largely explain the increased rates of infection in London and South East England. The increase has been despite public health measures introduced to try and curb this spread in England.

Figure 2: Rolling rate of new cases per 100,000 by specimen date by area



The number of people in hospital and patients in ICU with COVID-19 has increased over the last week. As of 31<sup>st</sup> December management Information suggests 1,174 Covid19 Positive Patients<sup>3</sup> were in NHS Scotland Hospital acute beds. The number of people in hospital increased by around 10% over the last week. The latest data from PHS shows there were 91 positive or suspected cases of COVID in ICU at 2/3 January compared to 80 the previous day.

Given the rise of the new virus variant, new modelling has been undertaken. Scenario 1 is based on 50% increased infectivity of the new strain, Scottish festive contact patterns (from SCS run over festive period to midnight last night) and the proportion of new variant based on ONS survey results. However this does not fit the actuals seen over the last few days. Scenarios 2 and 3 are based on 70% increased infectivity of the new strain in the attached modelling signalling a further increase in COVID cases and an increase in hospital and ICU bed demand for Covid-19 patients from the beginning of January and in both cases assume the variant is a week further ahead in its spread. Scenario 2 uses assumptions on contacts and mixing driven from the Scottish Contact Survey run up to 31 December. Scenario 3 uses a more pessimistic assumption of contacts during the period, with both scenarios fitting to actuals based on this period of winter that we are now in.

The current working assumption is that we are in scenario 2 with a bias to scenario 3, see next page.

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<sup>3</sup> positive test within 28 days

Figure 3: Modelling Scenarios, Scenario 1 – 50% increased transmission, Scenario 2 – 70% increased transmission and earlier spread, Scenario 3 – 70% increased transmission from new variant, earlier spread and increased festive period infections

Scenario 1							Scenario 2						Scenario 3					
Week commencing	Hospital beds			ICU beds			Hospital beds			ICU beds			Hospital beds			ICU beds		
	Central estimate	90% interval	98% interval	Central estimates	90% interval	98% interval	Central estimate	90% interval	98% interval	Central estimates	90% interval	98% interval	Central estimate	90% interval	98% interval	Central estimates	90% interval	98% interval
04/01/2021	950	720-1200	610-1200	93	71-110	60-120	1300	1100-1500	900-1600	130	100-150	84-150	1800	1400-2300	1200-2600	160	120-210	110-230
11/01/2021	960	730-1200	620-1200	94	72-110	61-120	1400	1100-1600	980-1700	130	110-160	94-170	2300	1700-3000	1600-3200	210	160-270	150-290
18/01/2021	840	630-1000	560-1100	87	65-110	57-120	1500	1200-1900	1100-2000	150	120-180	110-200	3300	2500-4200	2300-4700	300	230-390	210-430
25/01/2021	870	650-1100	600-1200	88	66-110	61-120	2000	1500-2500	1400-2700	190	150-240	130-260	5100	3900-6600	3500-7200	470	360-600	320-660
01/02/2021	1,100	830-1500	760-1600	110	81-140	74-160	2900	2300-3800	2100-4200	280	210-350	190-390	8300	6300-10000	5600-12000	760	580-960	520-1100

The first vaccines were administered on Tuesday 8th of December and by the end of 27<sup>th</sup> December 92,188 had received their first dose, it is anticipated that vaccination will reduce infection levels in the most vulnerable in the coming weeks and months and will make a significant difference to the NHS capacity required.