Isle of Man Government

Reiltys Ellan Vannin



# COVID-19 Weekly Surveillance Report

## *23rd December 2021*

## Public Health Directorate

# Introduction

- This report is a summary of indicators which are used to understand the dynamics of the spread of COVID-19 on the Isle of Man.
- This report will be published each Thursday for data up to and including the previous Sunday e.g. 12th August is for data up to 8th August.
- Time periods, unless otherwise specified, will start from the 28th June which is taken to be the beginning of this current wave.
- Confirmed cases are where a PCR test has returned a positive result.
- The report has been compiled by the Public Health Intelligence Team using data from Manx Care and the Civil Registry.

# Wave Surveillance

- Currently the indicators suggest that the Isle of Man is seeing a levelling off and possible fall in the third wave of widespread community transmission.  This wave has been driven almost entirely by transmission of the delta variant.
- We now have the omicron variant present on Island and it is rapidly becoming the dominant strain. Due to the concerns regarding the ability of this variant to evade vaccine and infection induced immunity, we expect to see a fourth wave driven by omicron developing over the rest of this year and into next.  It is not yet possible to model the impact of this or its implications for demand on NHS services with any accuracy at this stage.
- Cases have fallen this week, with a fall in or levelling of cases across all age groups other than those age 20-29 where cases have risen over the last three weeks.

# Wave Surveillance

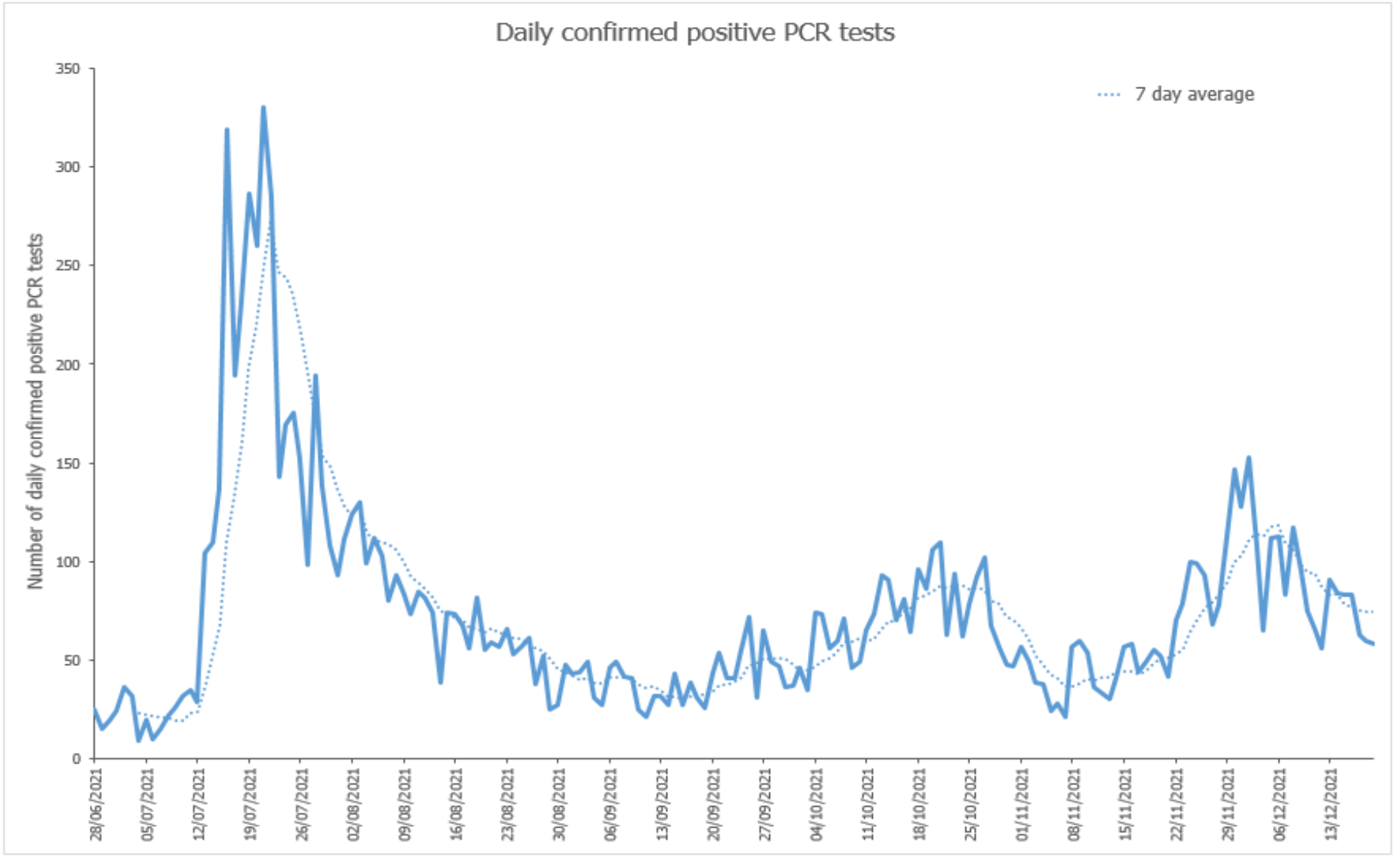
In response to concerns regarding the omicron variant, from 30th November, arrivals testing requirements have changed as follows:

- Manx residents and non-resident fully vaccinated travellers who have been in the Common Travel Area (and no history of travel outside the CTA in preceding 10 days) are now required to undertake a LFD test within twelve hours of arrival and report the result on the government website. Those testing positive on LFD are required to have a PCR test.
- Travellers who have been outside the CTA in the preceding 10 days are required to undertake a PCR test.
- Results from these test pathways will be included in future reports.

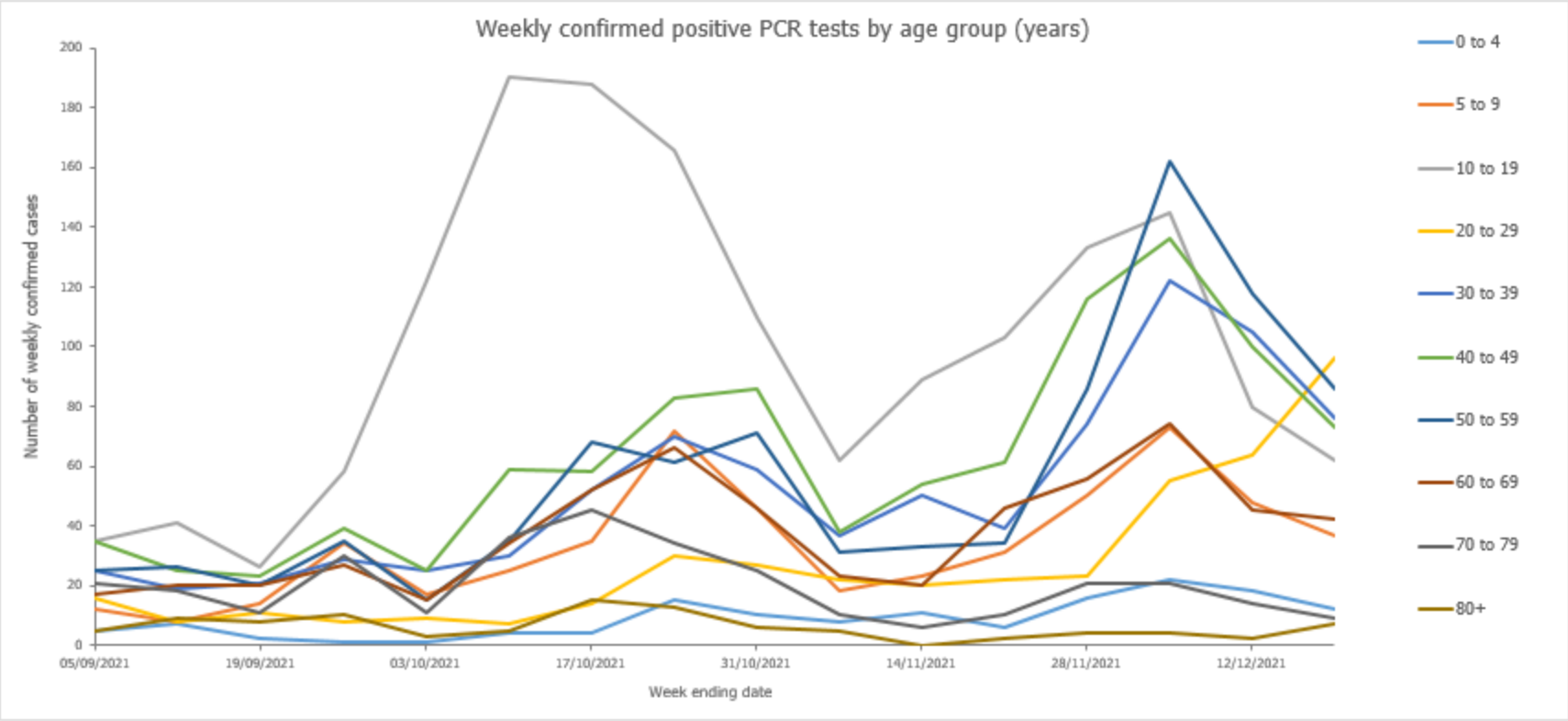
# Key Points

- The current 7-day average for confirmed positive cases is around 72.
- The current overall trend of confirmed cases is slightly decreasing.
- Most recent 7-day daily average test positivity rate is 21.7%.
- 88% of positive PCR tests are from the LFD pathway.
- The effective reproduction number ($R_t$) was 0.73 this week.
- The snapshot census of the Hospital shows 8 patients currently admitted with a COVID positive status.
- Daily and Weekly deaths continue to show a level trend overall.

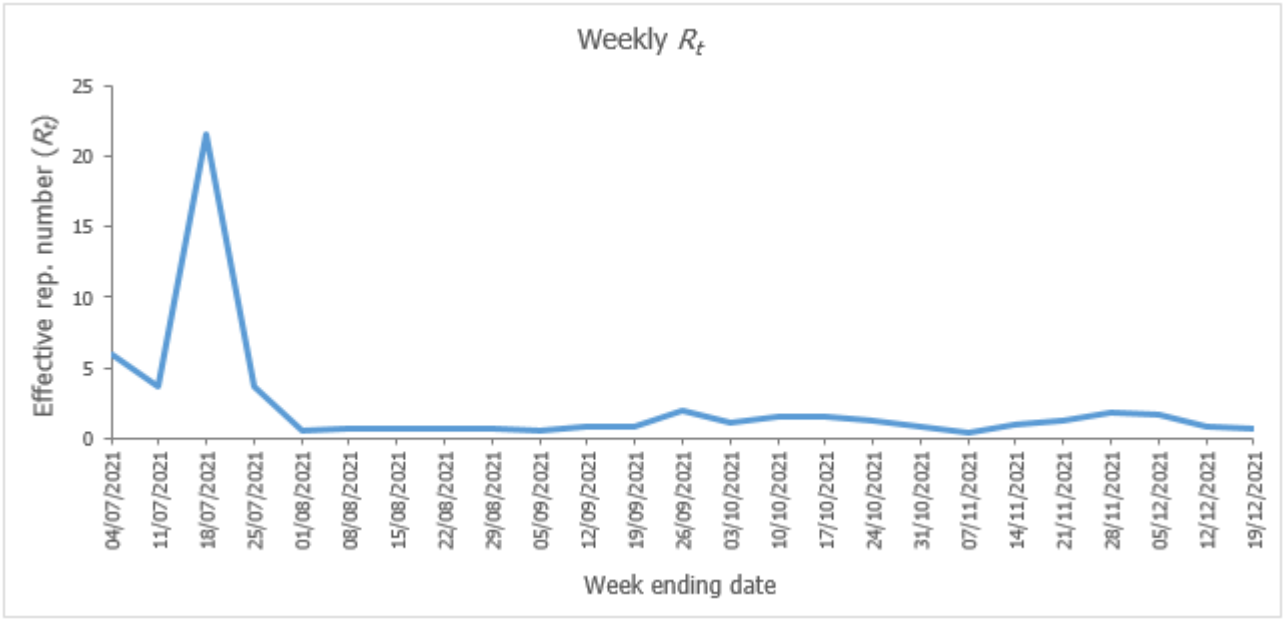
# Daily Positive Cases Update – Current Wave



# Age Group Analysis



# Effective Reproduction Number ($R_t$)



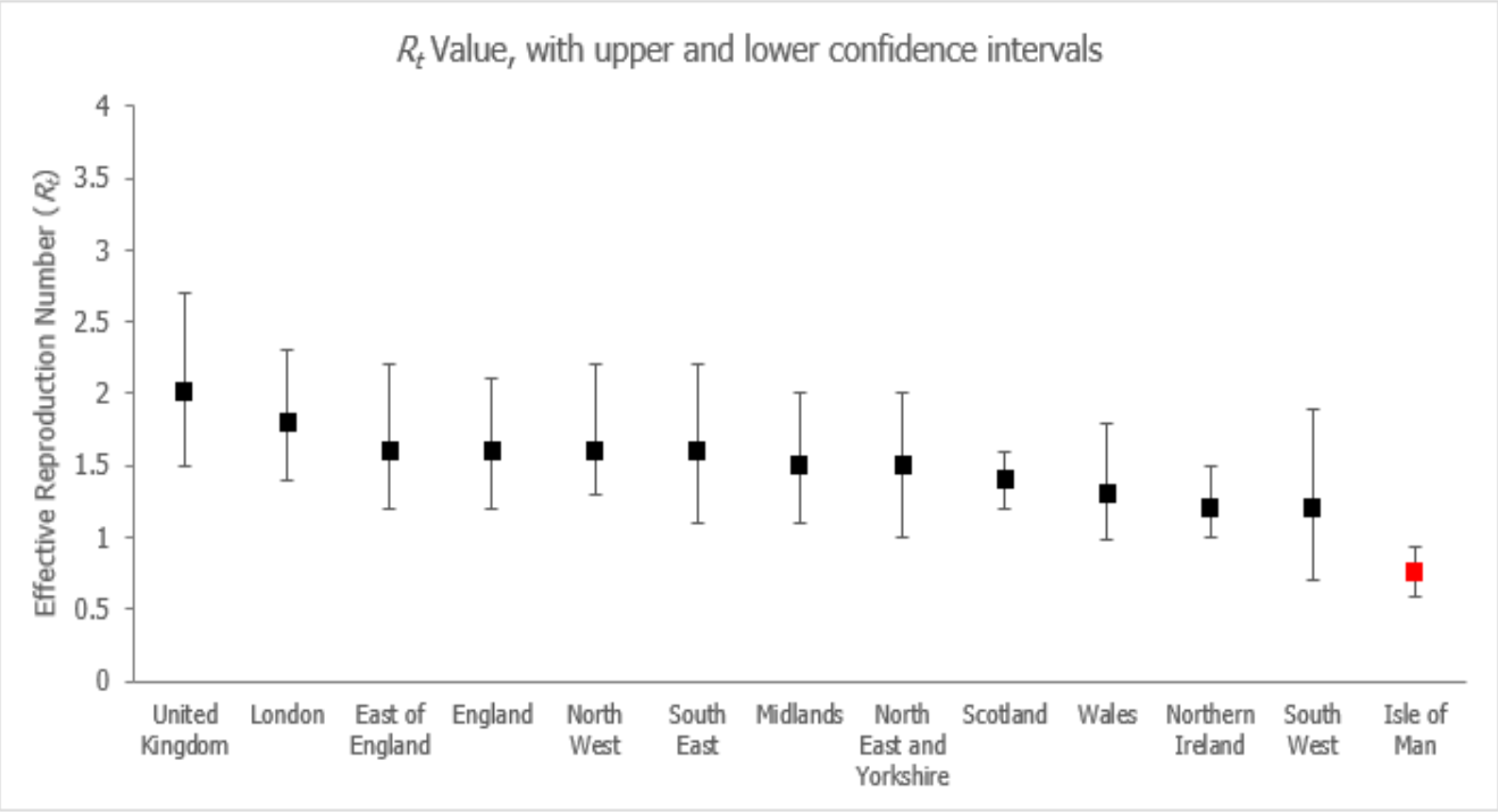

Latest 7 day
$R_t = 0.73$

- The Effective Reproduction Number ($R_t$) represents the number of secondary infections generated by each case over time 't' (over a week as presented here) and can be dramatically modified by applying effective interventions.
- When $R_t > 1$ there are more new infections than recoveries, thus the number of infected individuals in the population is increasing, while for $R_t < 1$ the number of infected individuals must be decreasing for the opposite reason.
- The calculation of $R_t$ is as follows[1]:

$$R_t\,(t_i) = \frac{\text{New Infections}}{\text{New Recoveries} + \text{New Deaths}}$$

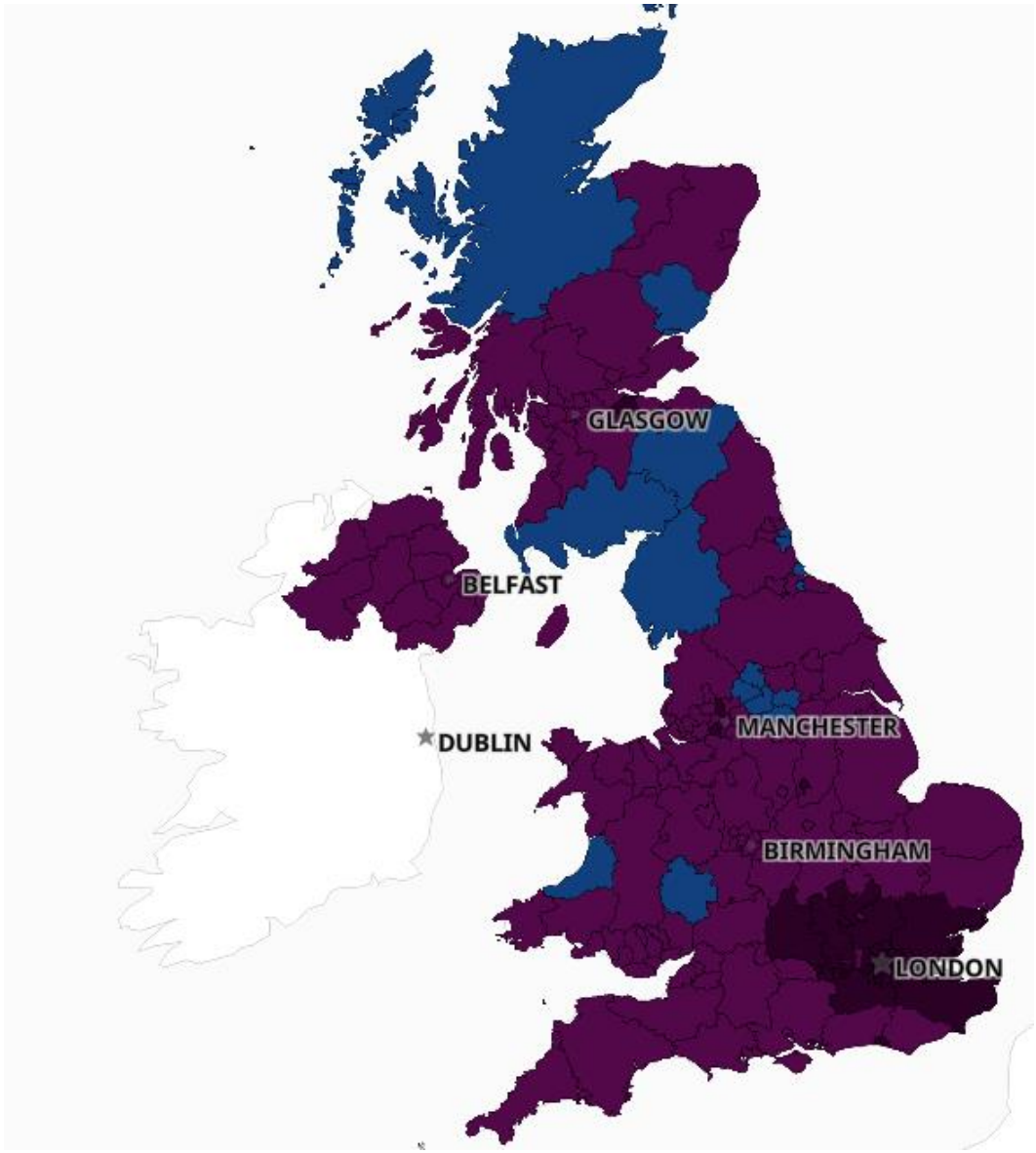
- The UK uses a more complex method of estimating $R_t$ which we are not able to replicate here. The use of this simplified methodology limits the robustness of comparing our $R_t$ value with UK estimates, however it provides a useful comparison between different time periods on Island. New Recoveries is calculated using the presumed 10 day recovery period from positive PCR test result.
- A full table of daily $R_t$ values for the current wave is available in Appendix 1.

# $R_t$ Area Comparison

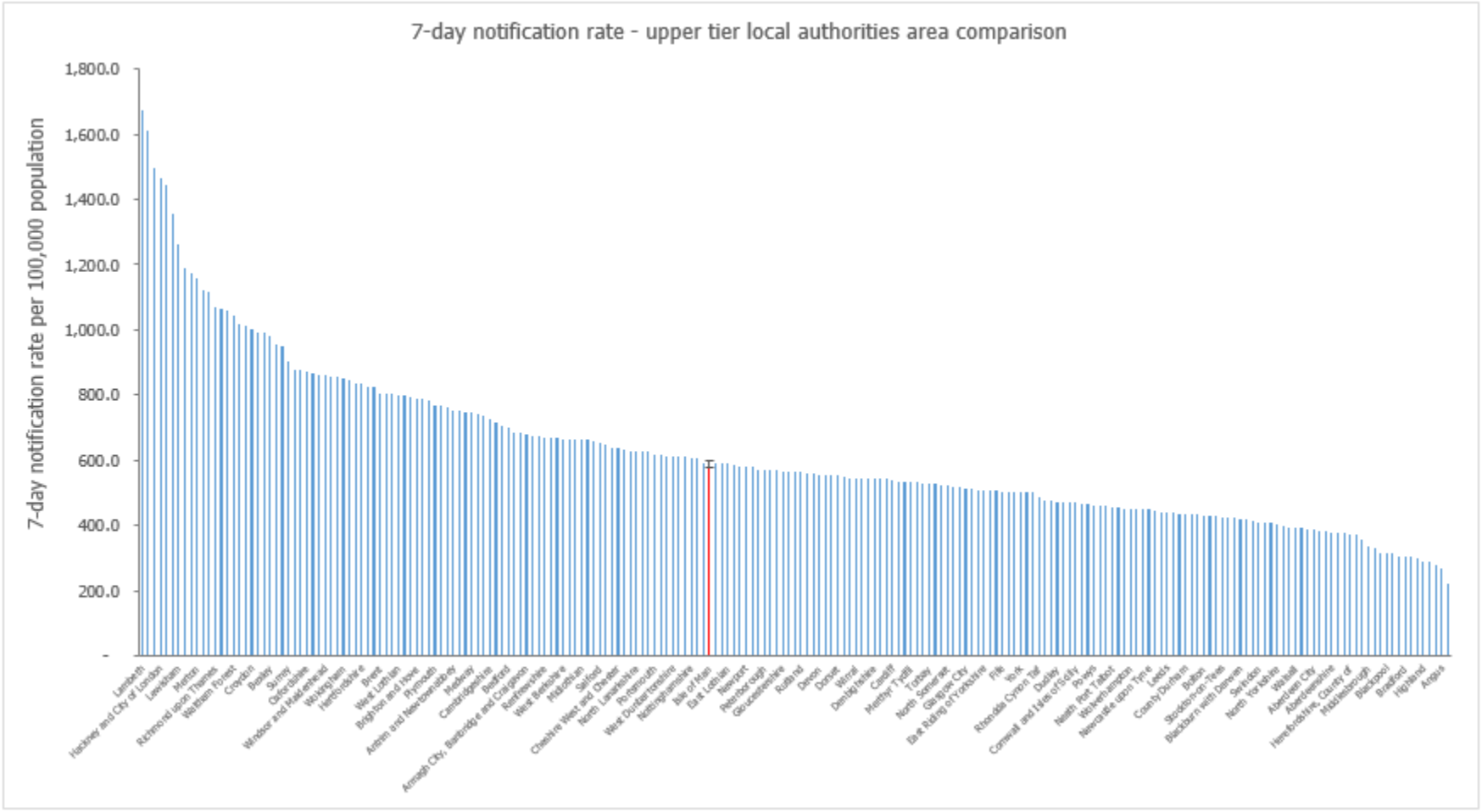



- $R_t$ value shown for Isle of Man is $R_t$ for 19/12/2021
- $R_t$ values shown for United Kingdom areas are 7 day $R_t$ values for 16/12/2021 (latest figures)

# 7-day Notification Rate Area Comparison

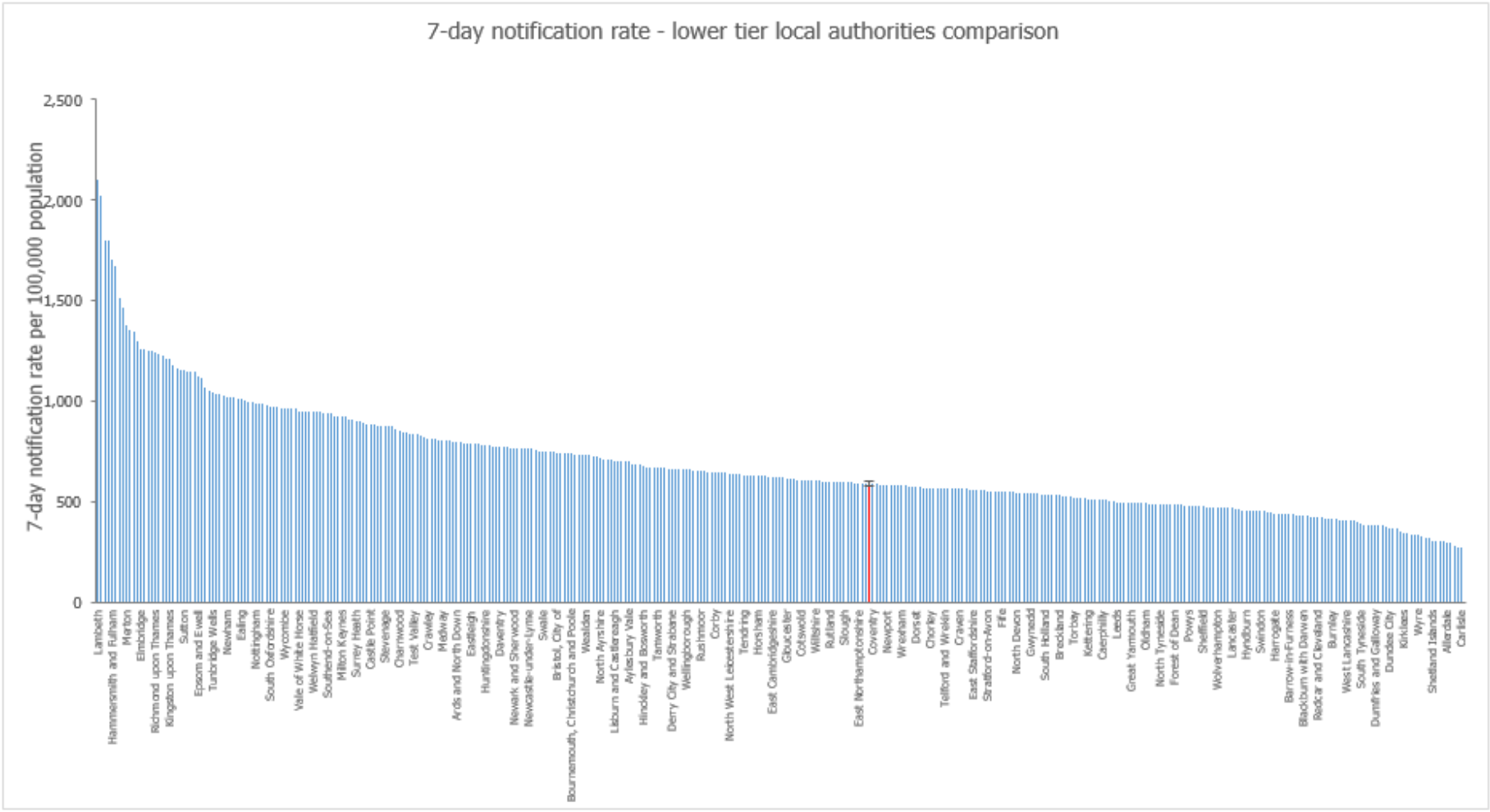


# 7-day Notification Rate – Upper Tier LA Comparison




The Isle of Man (shown in red), is in the middle range on the 7-day notification rate per 100,000 population when included in the upper tier local authorities of the UK.

# 7-day Notification Rate – Lower Tier LA Comparison




The Isle of Man (shown in red), is in the middle range on the 7-day notification rate per 100,000 population when included in the lower tier local authorities of the UK.

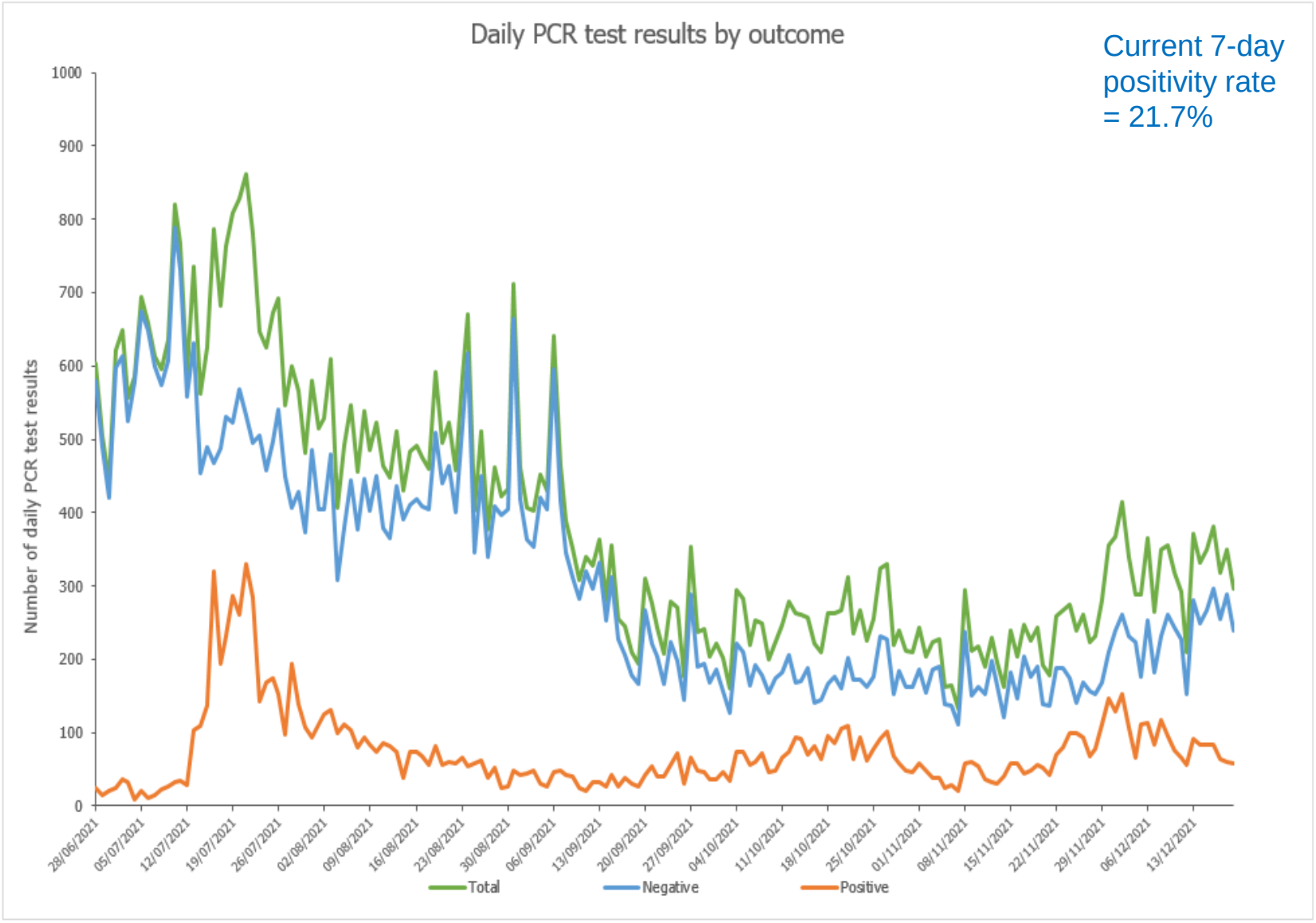
# 14-day Notification Rate Comparison

| | | Isle of Man | | United Kingdom |
|---|---|---|---|---|
| Week number | 14 day rate | Lower CI | Upper CI | 14 day rate |
| 36 | 617.41 | 612.23 | 622.60 | 727.08 |
| 37 | 565.67 | 561.04 | 570.30 | 663.56 |
| 38 | 660.93 | 654.07 | 667.78 | 643.48 |
| 39 | 766.77 | 760.65 | 772.89 | 691.94 |
| 40 | 874.96 | 867.84 | 882.08 | 778.05 |
| 41 | 1136.04 | 1128.80 | 1143.29 | 805.89 |
| 42 | 1357.14 | 1348.52 | 1365.75 | 852.05 |
| 43 | 1303.04 | 1291.68 | 1314.39 | 936.14 |
| 44 | 878.49 | 865.69 | 891.29 | 776.13 |
| 45 | 666.81 | 660.02 | 673.60 | 697.62 |
| 46 | 785.59 | 780.35 | 790.83 | 798.68 |
| 47 | 1110.17 | 1099.81 | 1120.53 | 860.74 |
| 48 | 1660.55 | 1645.83 | 1675.27 | 909.34 |
| 49 | 1680.54 | 1664.71 | 1696.38 | 988.25 |
| 50 | 1299.51 | 1289.26 | 1309.77 | - |

The 14-day rate is calculated by totalling new confirmed cases over the past 14-day period, dividing this number by the total population, and then multiplying by 100,000 to enable area comparisons.

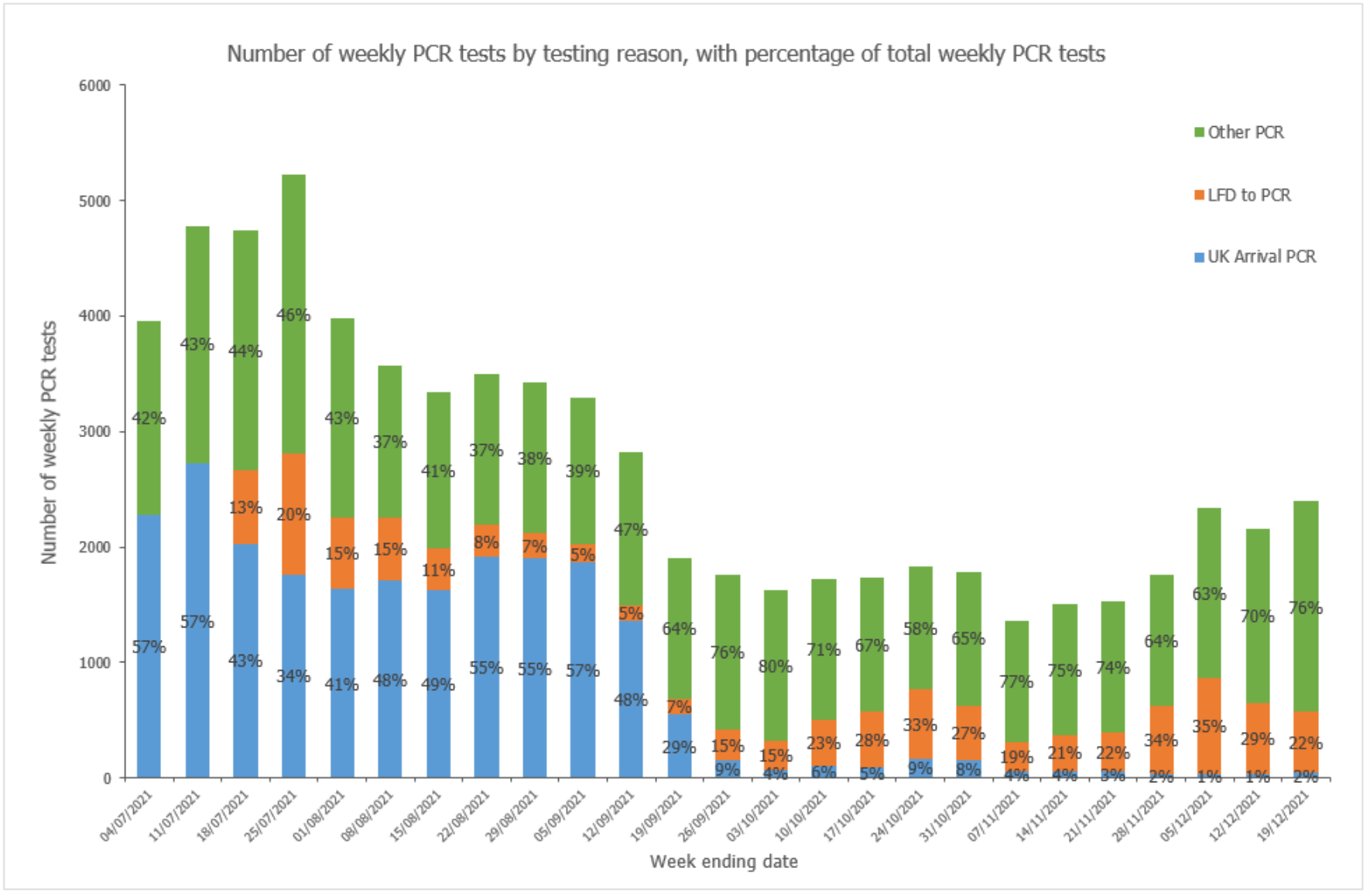
Since the week ending 10/10/21, the Isle of Man has had significantly higher 14 day notification rates than the UK

# PCR Testing Update




Current 7-day positivity rate = 21.7%

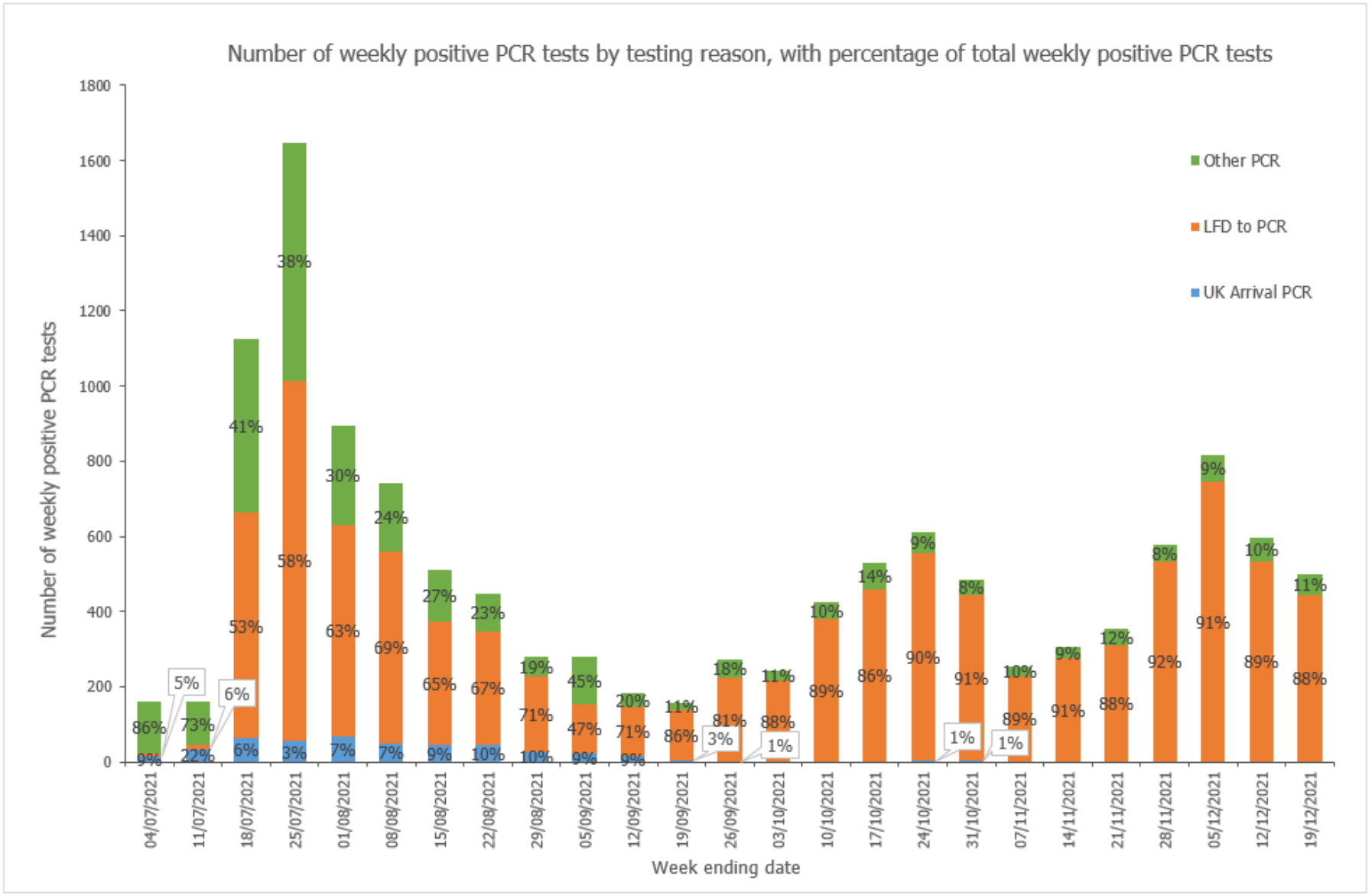
# PCR Tests by Pathway




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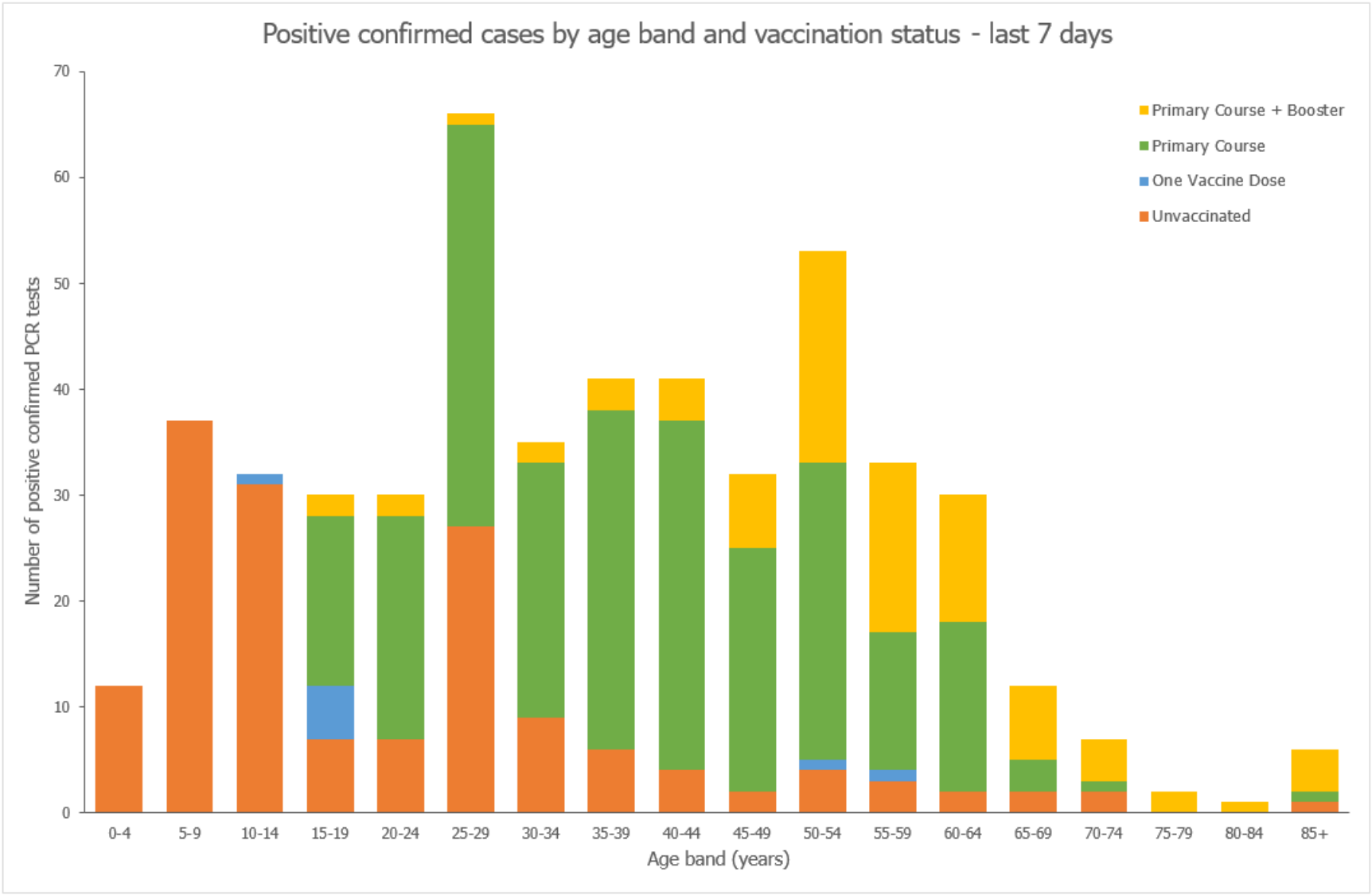
See last page for definitions

# Positive PCR Tests by Pathway

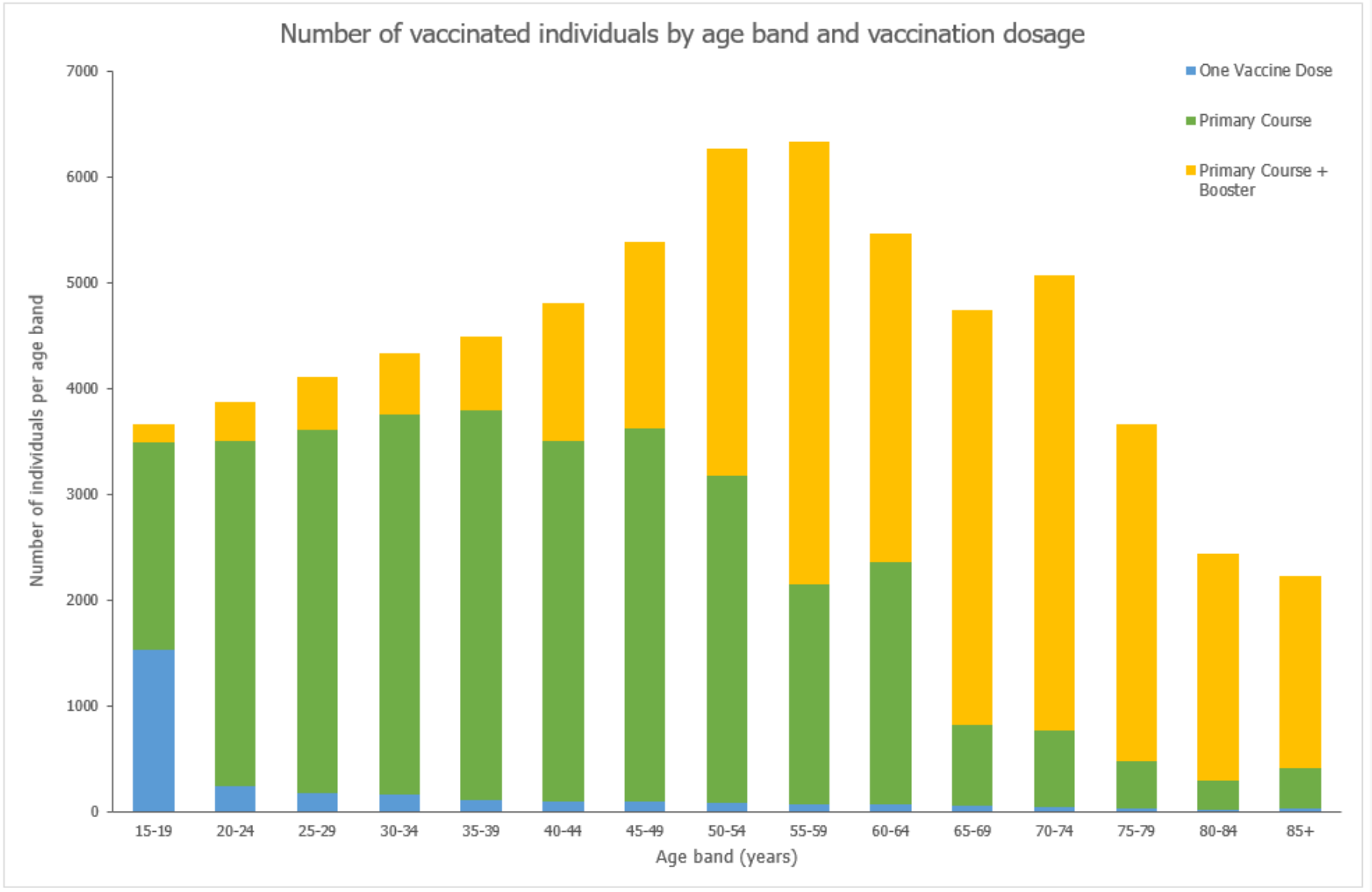



See last page for definitions

# Weekly Positive Cases by Age Group



# Vaccine Uptake and Coverage




This data will be expanded in future reports to show % of eligible population vaccinated

# Hospitalised Patients

This figure is a snapshot census of the cases in Hospital.

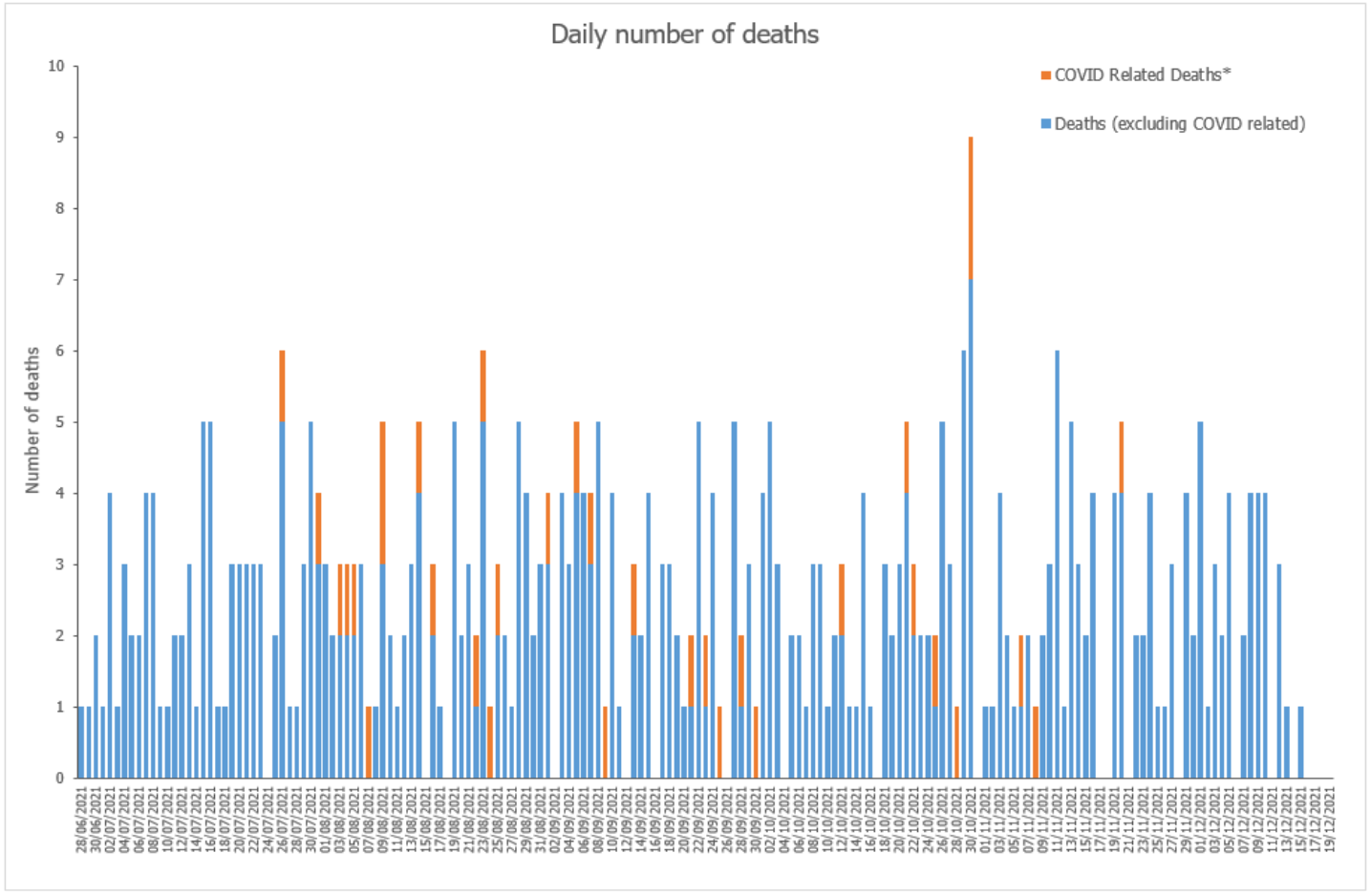
When broken down into vaccination status some of the numbers are 5 or below. Therefore, further sub-analysis of weekly figures cannot be produced due to the caveats and identifiable nature of small numbers.

**SUMMARY**

| | |
|---|---|
| Total Patients | 8 |
| With COVID-19 Symptoms | 100.0% |
| Without COVID-19 Symptoms | |

| Vaccination Status of Hospital Admissions | |
|---|---|
| Fully Vaccinated (2+2+ Booster) | 12.5% |
| Fully Vaccinated (2+2) | 12.5% |
| Partially Vaccinated | |
| Unvaccinated | 75.0% |

# Daily Deaths – Current Wave



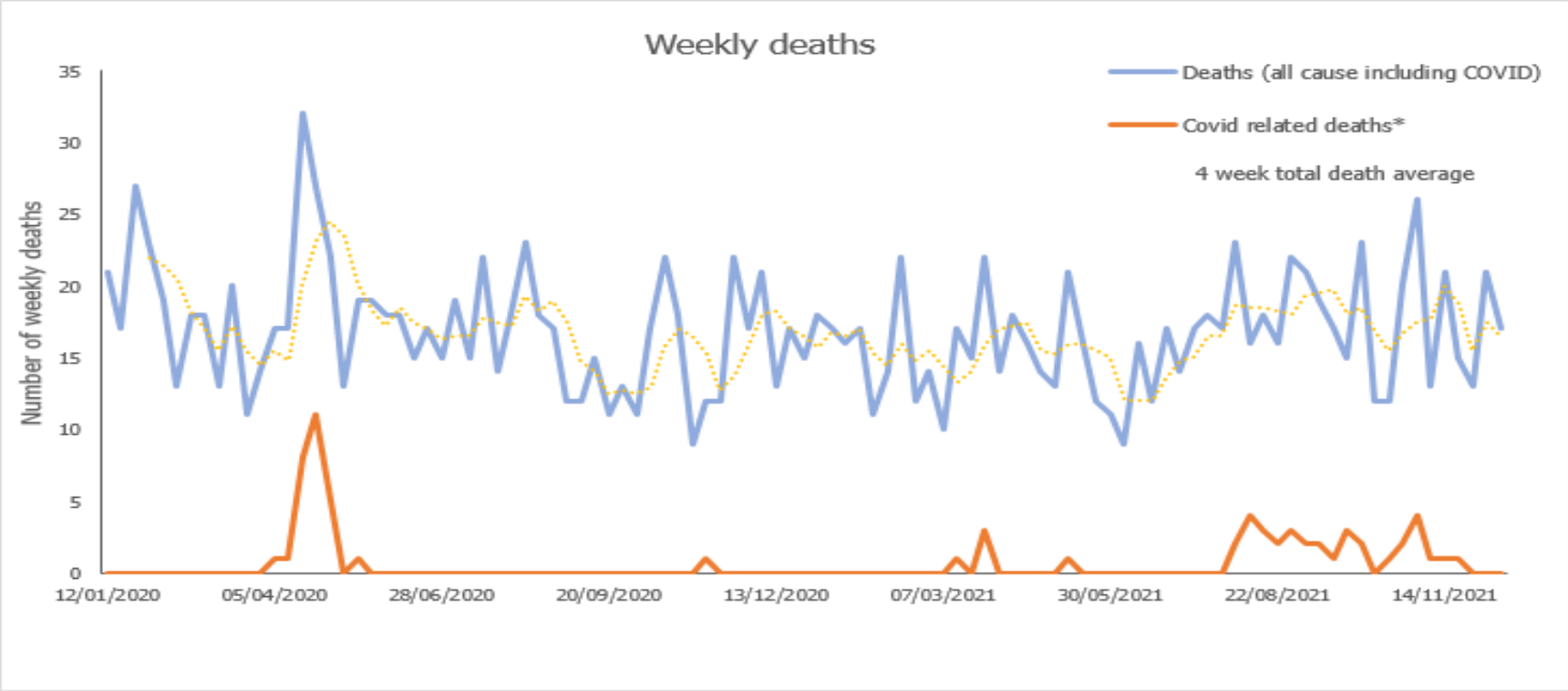

Cumulative COVID Related Deaths = 67

Numbers up to date at time of publication.

*Note*: Death registrations are often delayed and therefore deaths occurring in a given week may not be input into the week of which death occurred until a later date, meaning figures are likely to change retrospectively as data is updated and the most recent week's numbers will be incomplete.

*COVID deaths are those where COVID-19 is mentioned anywhere within the death certificate

# Weekly Deaths – Whole Pandemic

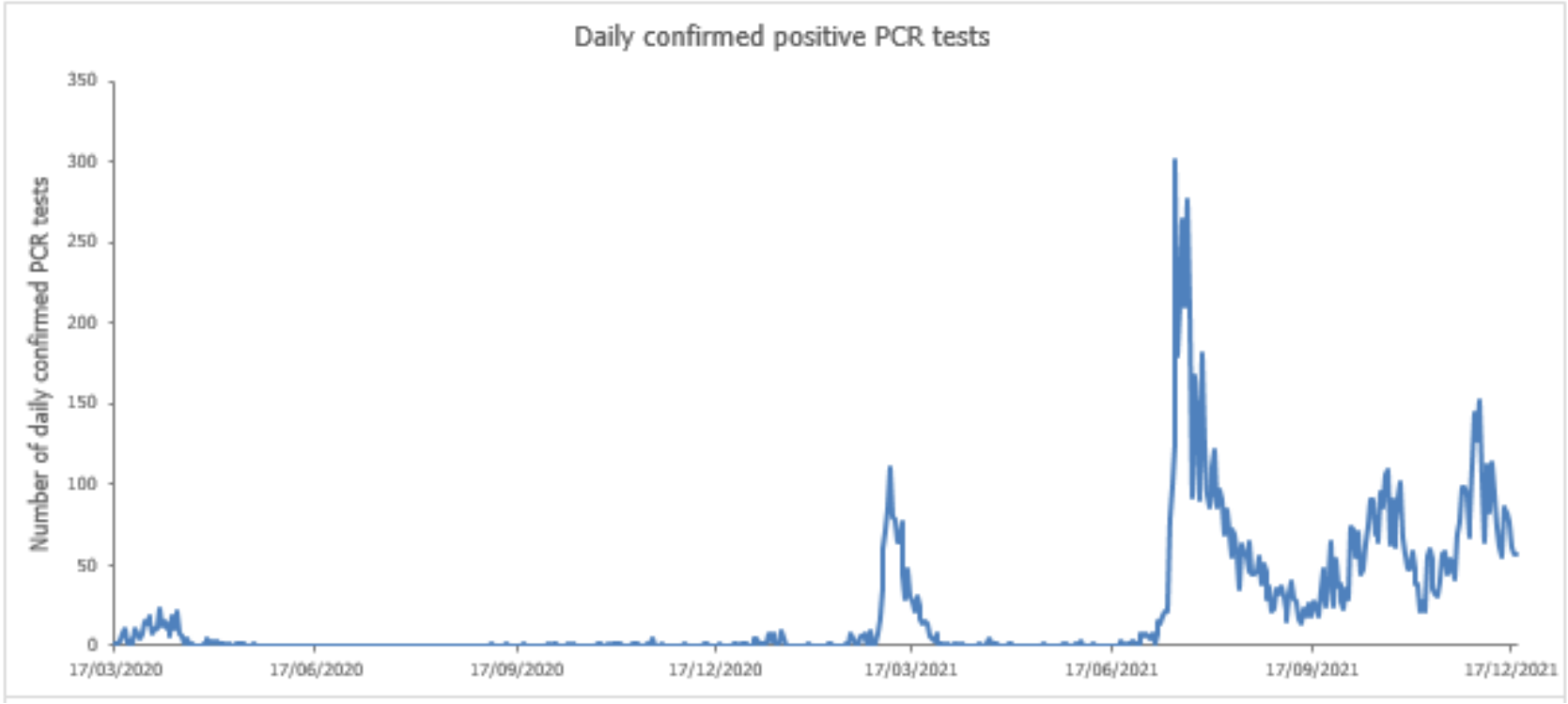



*Note*: Death registrations are often delayed and therefore deaths occurring in a given week may not be input into the week of which death occurred until a later date, meaning figures are likely to change retrospectively as data is updated and the most recent week's numbers will be incomplete.

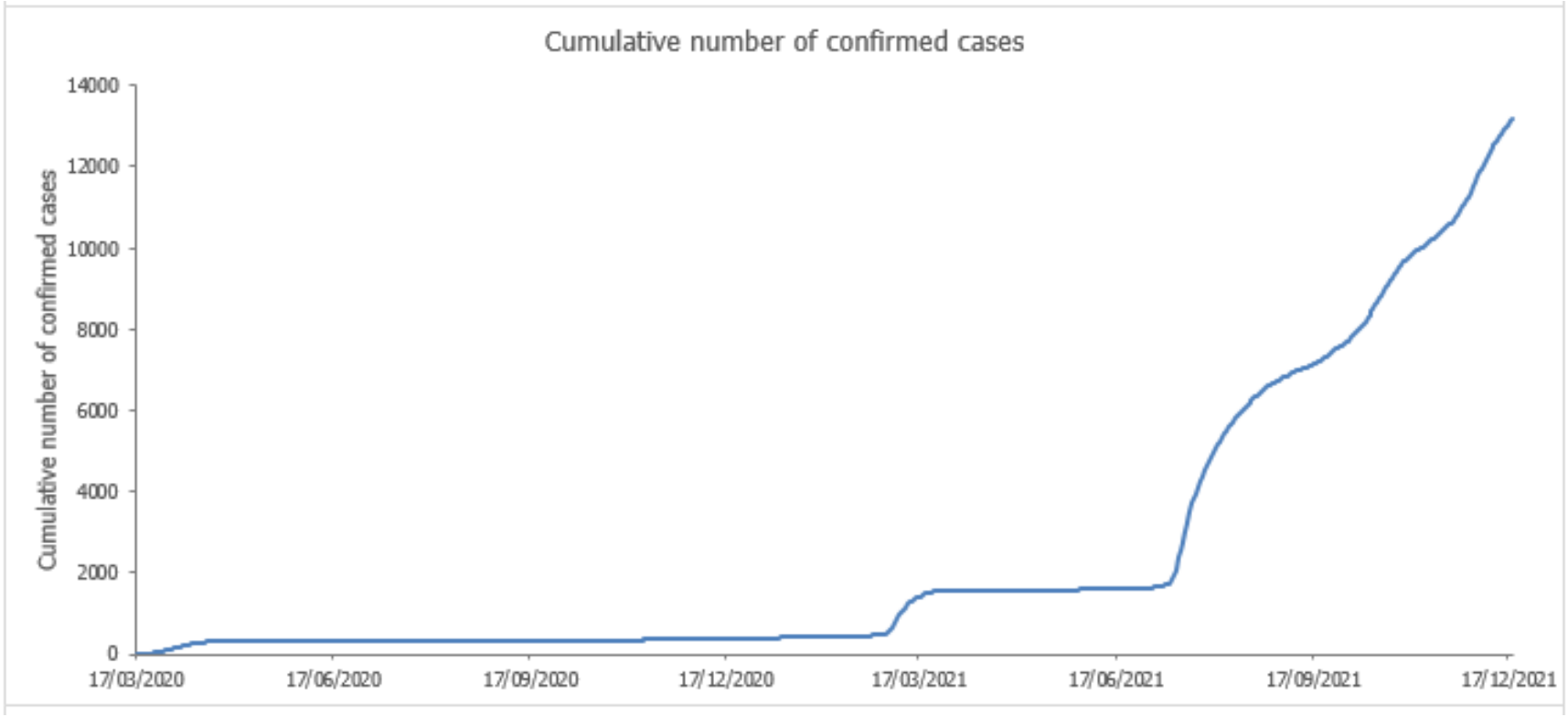
Weekly death data is 11 days behind the Weekly Surveillance Report's release date. This is to allow for death registrations to be received with any delays and stop an incorrect perceived 'sudden drop' in weekly deaths that would occur if an appropriate time period was not given to allow for death registrations to be received in due course.

*COVID deaths are those where COVID-19 is mentioned anywhere within the death certificate. This differs from the definition used by Public Health England, who classify a COVID death as "people who had had a positive test result for COVID-19 and dies within 28 days of the first positive test result."

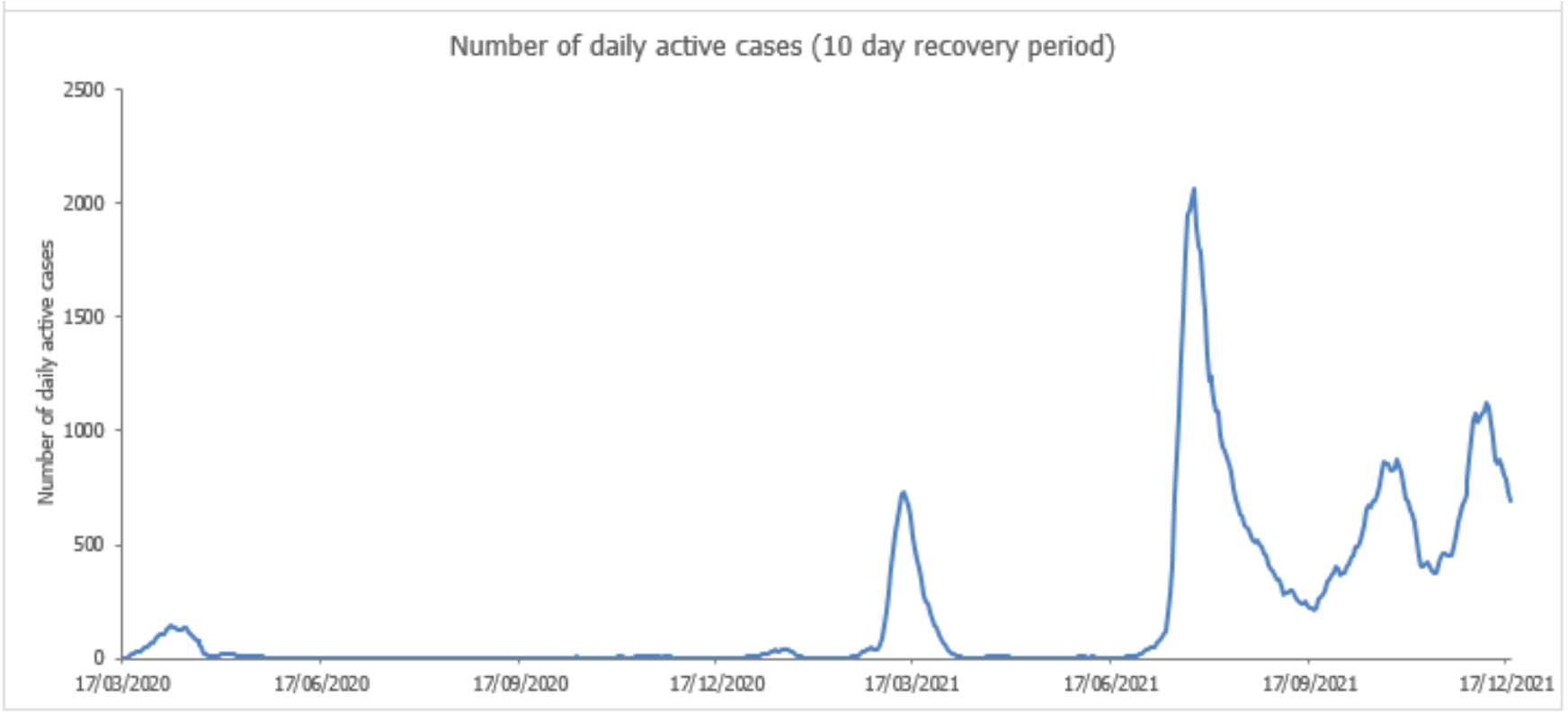
# Daily Positive Cases Update – Whole Pandemic



# Cumulative Confirmed Cases

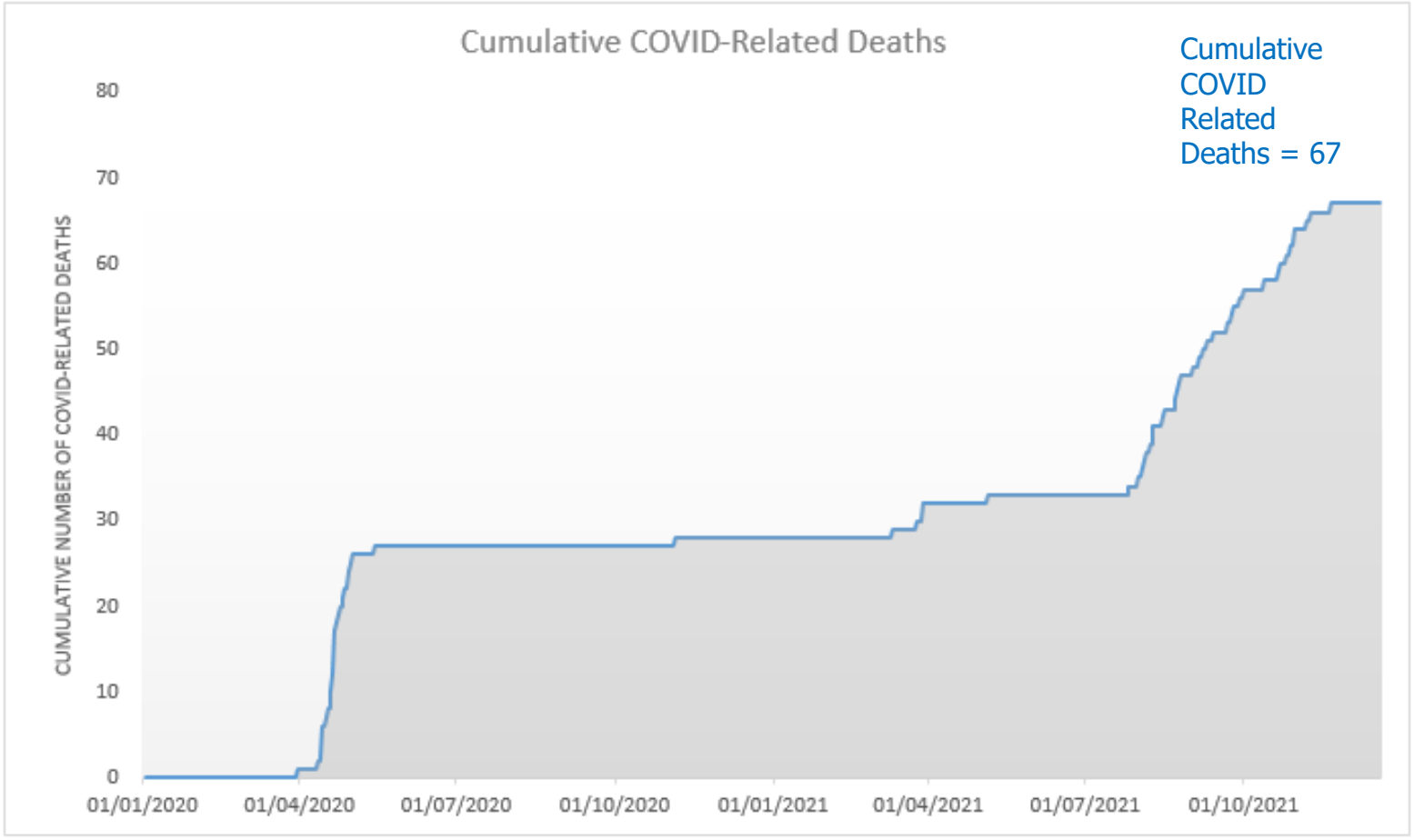


# Daily Active Cases (assumed 10 day recovery period)




This data was calculated on 20/12/2021, using the current guidance of an assumed 10 day recovery period.

# Cumulative COVID-Related Deaths



# Definitions

- **Testing Pathways**
  - Other PCR = hospital, surveillance, symptomatics, other travel
  - LFD to PCR = positive LFD subsequently confirmed by PCR
  - UK Arrivals = identified arrivals from UK requiring PCR testing

- **LFD Pathway**
  - See above LFD to PCR definition

- **Vaccination Status**
  - One dose = those who have received only one dose
  - Primary Course = those who have received a full course (two or three dose). Third dose, those with immunosuppression only.
  - Primary Course + Booster = a full course plus a booster

# Appendix 1

| Date | Daily $R_t$ | Date | Daily $R_t$ | Date | Daily $R_t$ | Date | Daily $R_t$ | Date | Daily $R_t$ | Date | Daily $R_t$ | Date | Daily $R_t$ | Date | Daily $R_t$ | Date | Daily $R_t$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01-Jul | 6.00 | 20-Jul | 11.67 | 08-Aug | 0.67 | 27-Aug | 0.54 | 15-Sep | 1.63 | 04-Oct | 1.76 | 23-Oct | 0.99 | 11-Nov | 0.61 | 30-Nov | 2.74 |
| 02-Jul | 2.67 | 21-Jul | 13.14 | 09-Aug | 0.73 | 28-Aug | 0.79 | 16-Sep | 0.59 | 05-Oct | 1.14 | 24-Oct | 0.67 | 12-Nov | 0.67 | 01-Dec | 3.12 |
| 03-Jul | 6.00 | 22-Jul | 9.55 | 10-Aug | 0.64 | 29-Aug | 0.34 | 17-Sep | 0.70 | 06-Oct | 2.24 | 25-Oct | 1.09 | 13-Nov | 0.77 | 02-Dec | 2.19 |
| 04-Jul | 5.00 | 23-Jul | 1.13 | 11-Aug | 0.76 | 30-Aug | 0.51 | 18-Sep | 0.86 | 07-Oct | 1.13 | 26-Oct | 1.13 | 14-Nov | 1.05 | 03-Dec | 1.38 |
| 05-Jul | 7.00 | 24-Jul | 1.56 | 12-Aug | 0.63 | 31-Aug | 0.78 | 19-Sep | 0.64 | 08-Oct | 1.89 | 27-Oct | 1.59 | 15-Nov | 2.59 | 04-Dec | 0.65 |
| 06-Jul | 0.67 | 25-Jul | 1.35 | 13-Aug | 0.48 | 01-Sep | 0.68 | 20-Sep | 2.00 | 09-Oct | 1.15 | 28-Oct | 0.71 | 16-Nov | 2.15 | 05-Dec | 1.11 |
| 07-Jul | 7.00 | 26-Jul | 0.47 | 14-Aug | 0.40 | 02-Sep | 0.66 | 21-Sep | 3.62 | 10-Oct | 1.85 | 29-Oct | 0.66 | 17-Nov | 2.10 | 06-Dec | 1.20 |
| 08-Jul | 6.00 | 27-Jul | 0.52 | 15-Aug | 0.65 | 03-Sep | 0.77 | 22-Sep | 1.52 | 11-Oct | 2.74 | 30-Oct | 0.44 | 18-Nov | 0.87 | 07-Dec | 1.24 |
| 09-Jul | 7.00 | 28-Jul | 0.86 | 16-Aug | 0.63 | 04-Sep | 0.44 | 23-Sep | 1.09 | 12-Oct | 1.97 | 31-Oct | 0.43 | 19-Nov | 0.88 | 08-Dec | 1.48 |
| 10-Jul | 2.57 | 29-Jul | 0.48 | 17-Aug | 0.81 | 05-Sep | 0.33 | 24-Sep | 2.33 | 13-Oct | 3.03 | 01-Nov | 0.94 | 20-Nov | 1.00 | 09-Dec | 0.86 |
| 11-Jul | 3.50 | 30-Jul | 0.45 | 18-Aug | 0.56 | 06-Sep | 1.07 | 25-Sep | 2.33 | 14-Oct | 1.23 | 02-Nov | 0.53 | 21-Nov | 1.14 | 10-Dec | 0.51 |
| 12-Jul | 2.75 | 31-Jul | 0.31 | 19-Aug | 0.92 | 07-Sep | 1.05 | 26-Sep | 1.32 | 15-Oct | 0.96 | 03-Nov | 0.64 | 22-Nov | 2.16 | 11-Dec | 0.48 |
| 13-Jul | 13.33 | 01-Aug | 0.45 | 20-Aug | 0.80 | 08-Sep | 1.32 | 27-Sep | 1.89 | 16-Oct | 1.43 | 04-Nov | 0.50 | 23-Nov | 2.53 | 12-Dec | 0.36 |
| 14-Jul | 19.60 | 02-Aug | 1.22 | 21-Aug | 0.64 | 09-Sep | 1.17 | 28-Sep | 1.42 | 17-Oct | 1.07 | 05-Nov | 0.24 | 24-Nov | 2.45 | 13-Dec | 0.82 |
| 15-Jul | 17.86 | 03-Aug | 0.80 | 22-Aug | 0.66 | 10-Sep | 0.47 | 29-Sep | 2.17 | 18-Oct | 1.36 | 06-Nov | 0.26 | 25-Nov | 1.74 | 14-Dec | 1.27 |
| 16-Jul | 150.50 | 04-Aug | 0.51 | 23-Aug | 0.93 | 11-Sep | 0.38 | 30-Sep | 0.74 | 19-Oct | 1.91 | 07-Nov | 0.31 | 26-Nov | 1.60 | 15-Dec | 0.75 |
| 17-Jul | 25.57 | 05-Aug | 0.68 | 24-Aug | 1.08 | 12-Sep | 0.62 | 01-Oct | 0.49 | 20-Oct | 2.21 | 08-Nov | 0.95 | 27-Nov | 1.52 | 16-Dec | 0.68 |
| 18-Jul | 17.67 | 06-Aug | 0.99 | 25-Aug | 0.78 | 13-Sep | 0.71 | 02-Oct | 1.06 | 21-Oct | 1.73 | 09-Nov | 1.28 | 28-Nov | 1.60 | 17-Dec | 0.73 |
| 19-Jul | 18.57 | 07-Aug | 0.38 | 26-Aug | 0.80 | 14-Sep | 0.82 | 03-Oct | 1.20 | 22-Oct | 0.86 | 10-Nov | 1.13 | 29-Nov | 2.09 | 18-Dec | 0.50 |

# References

[1] Contreras, S., Villavicencio, H. A., Medina-Ortiz, D., Saavedra, C. P., & Olivera-Nappa, Á. (2020). Real-Time Estimation of $R_t$ for Supporting Public-Health Policies Against COVID-19. *Frontiers in public health*, *8*, 556689. https://doi.org/10.3389/fpubh.2020.556689

# Updates