

# NI COVID-19 modelling update

## Modelling the COVID-19 epidemic; the Reproduction Number and other indicators

Current estimate of  $R_t$  (new positive tests): 1.50 – 1.90 (7 days previous 1.40-1.80)

Current estimate of  $R_t$  (hospital admissions): 1.10 – 1.30 (7 days previous 1.10-1.30)

7 day incidence based on new positive tests: 2820 / 100k (7 days previous 1380)

14 day incidence based on new positive tests: 4217/ 100k (7 days previous 2165)

7 day average of total positive individuals (pillar 1/2): 14.8% (7 days previous 7.7%)

7 day average Pillar 2 test positivity: 33.3% (7 days previously 20.2%)

7 day daily average tests completed: 42,316 (7 days previous 38,056)

Number of new positive tests in over 60s in last 7 days: 4307 (8 days previous 2005)

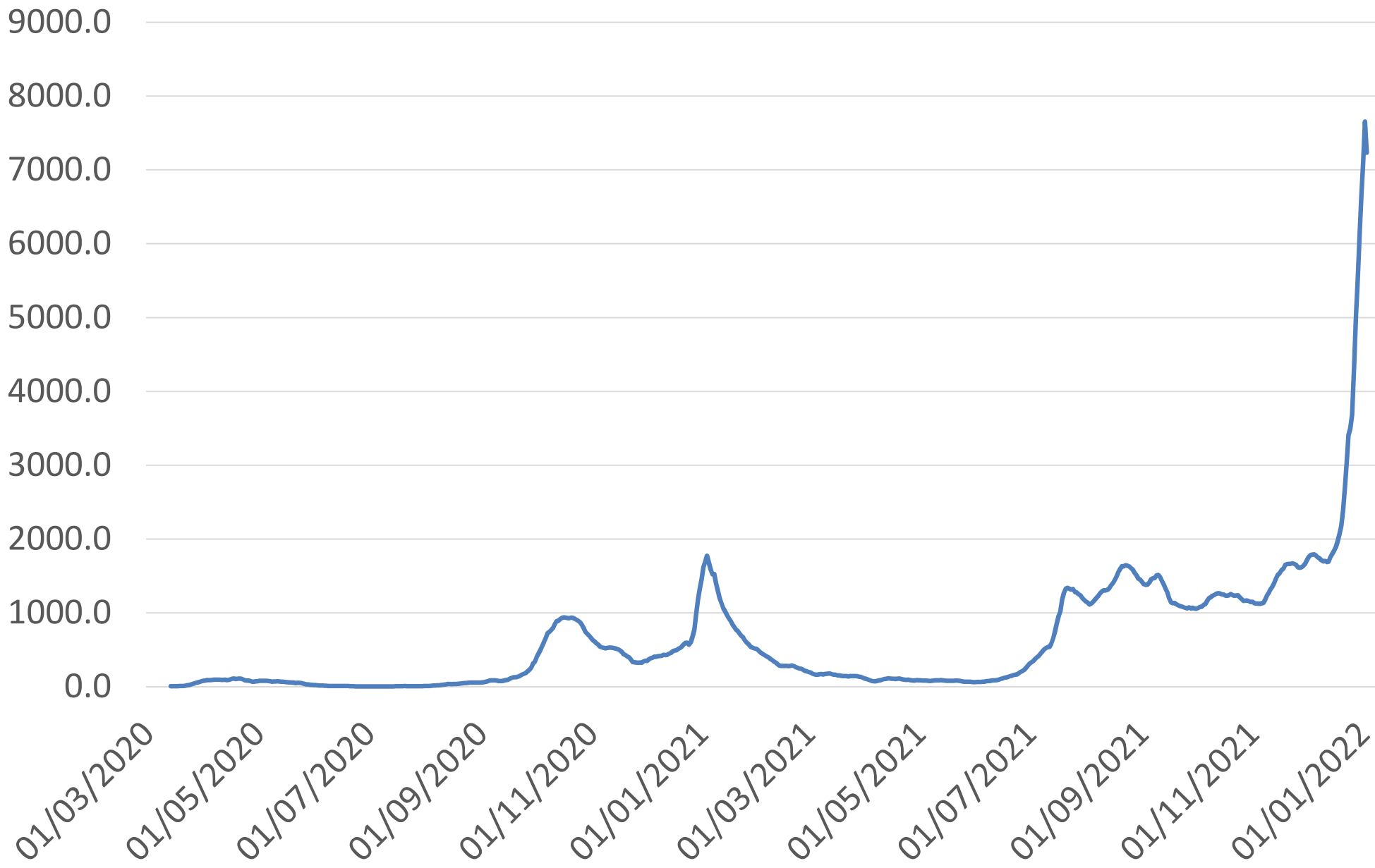
Proportion of total positive tests occurring in over 60s: 8.5% (9 days previous 6.5%)

COVID-19 +ve hospital admission in last week: 280 (7 days previous 196)

Number of COVID-19 inpatients: 362 (7 days previous 303)

COVID-19 +ve ICU patients: 31 (7 days previous 32)

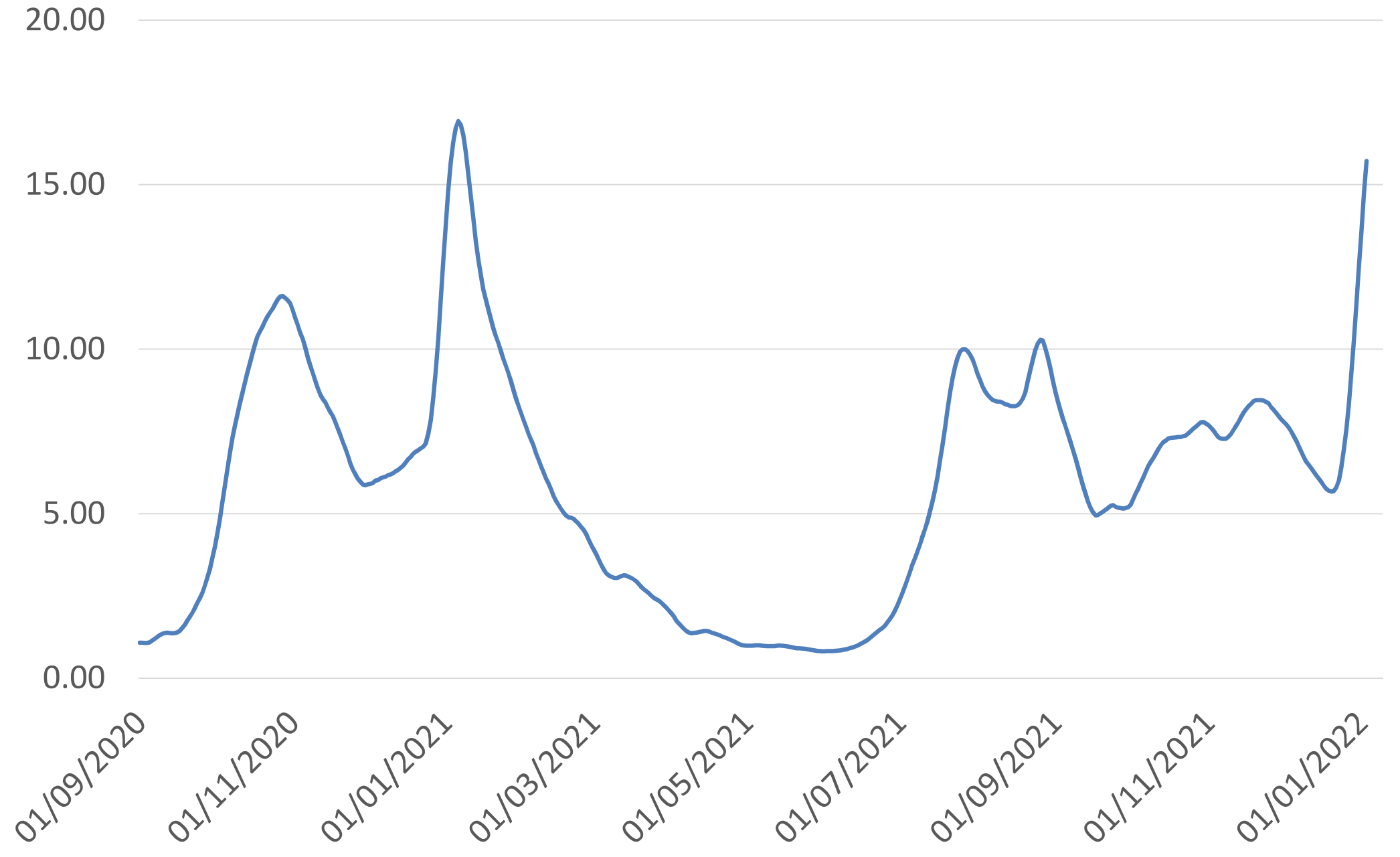
7 day rolling average new cases/day



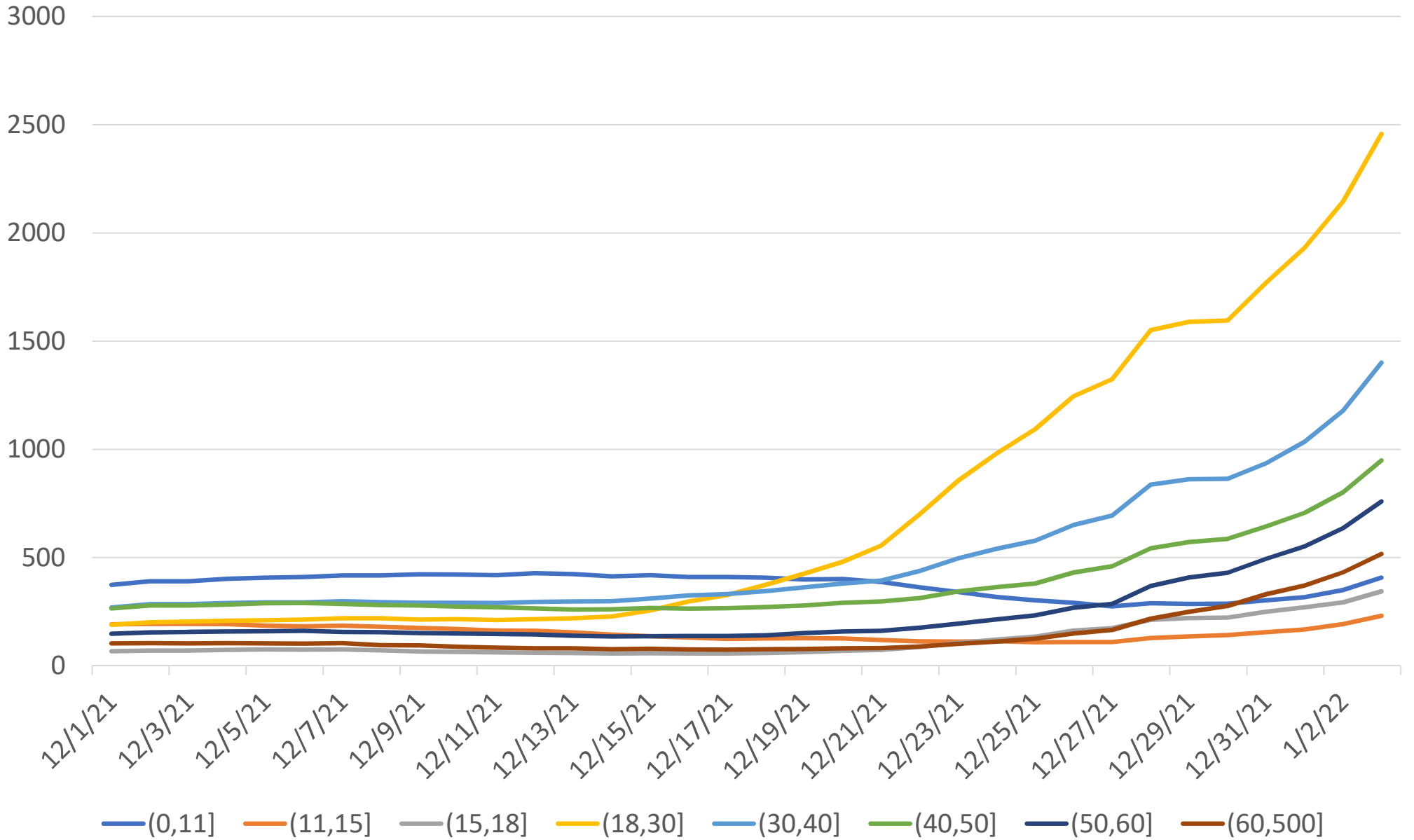
7 day rolling average tests per 1000 population



7 day rolling average test positivity (%)



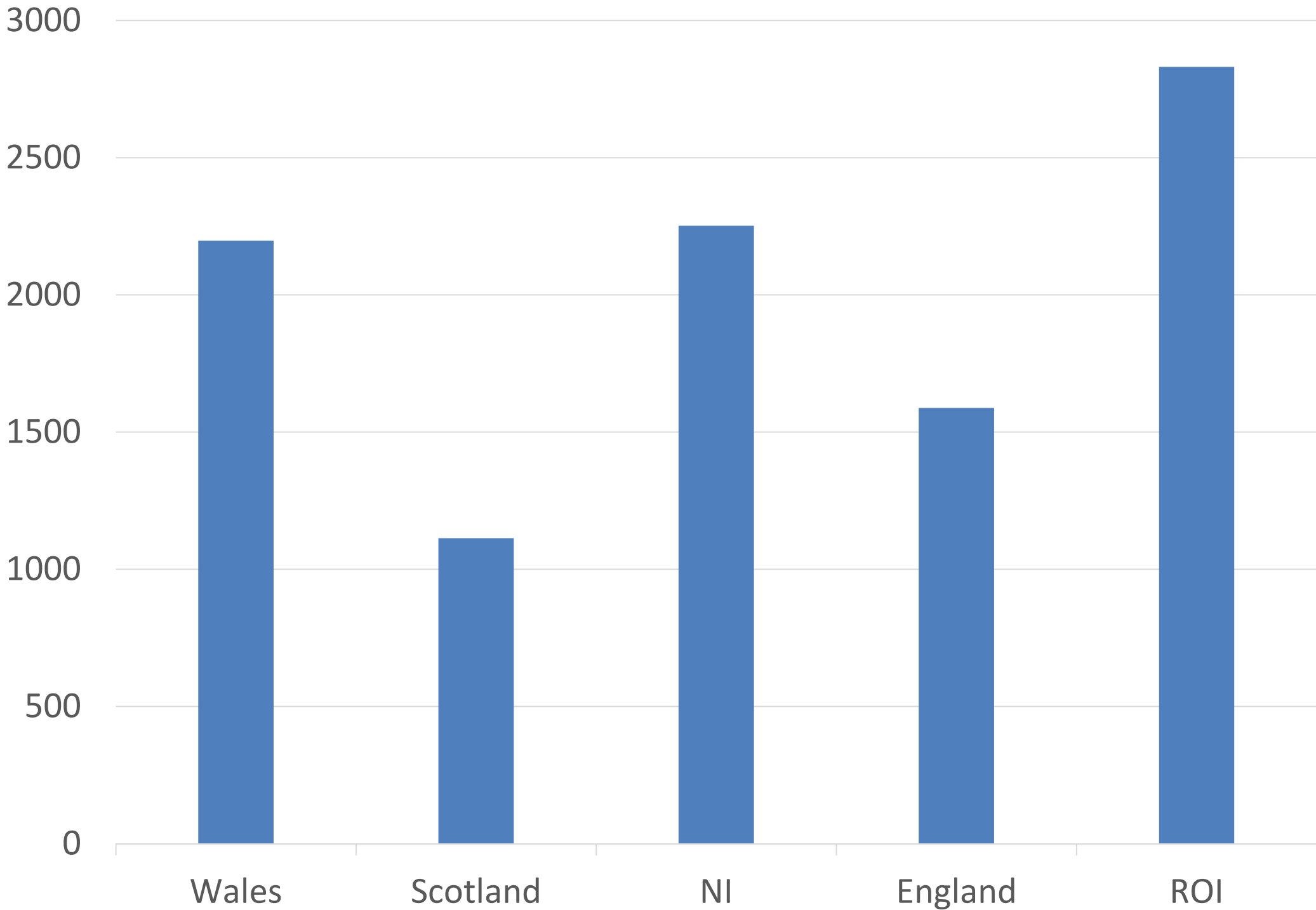
# Daily Cases By Age Band (7 days moving average)



## 7-day total cases / 100,000 population by LGD

| 27th Dec | 28th Dec | 29th Dec | 30th Dec | 31st Dec | 1st Jan | 2nd Jan | 3rd Jan | LGD                                  |
|----------|----------|----------|----------|----------|---------|---------|---------|--------------------------------------|
|          | 1665     | 1638     | 1714     |          |         |         | 2350    | Antrim and Newtownabbey              |
|          | 1558     | 1505     | 1532     |          |         |         | 1882    | Ards and North Down                  |
|          | 1281     | 1346     | 1479     |          |         |         | 2370    | Armagh City, Banbridge and Craigavon |
|          | 1718     | 1705     | 1826     |          |         |         | 2491    | Belfast                              |
|          | 1279     | 1358     | 1525     |          |         |         | 2432    | Causeway Coast and Glens             |
|          | 2266     | 2423     | 2947     |          |         |         | 4453    | Derry City and Strabane              |
|          | 1827     | 1996     | 2367     |          |         |         | 3598    | Fermanagh and Omagh                  |
|          | 1653     | 1640     | 1712     |          |         |         | 2074    | Lisburn and Castlereagh              |
|          | 1132     | 1114     | 1245     |          |         |         | 1877    | Mid and East Antrim                  |
|          | 1466     | 1547     | 1719     |          |         |         | 2822    | Mid Ulster                           |
|          | 1526     | 1608     | 1884     |          |         |         | 2813    | Newry, Mourne and Down               |

7 day cumulative total cases / 100k population





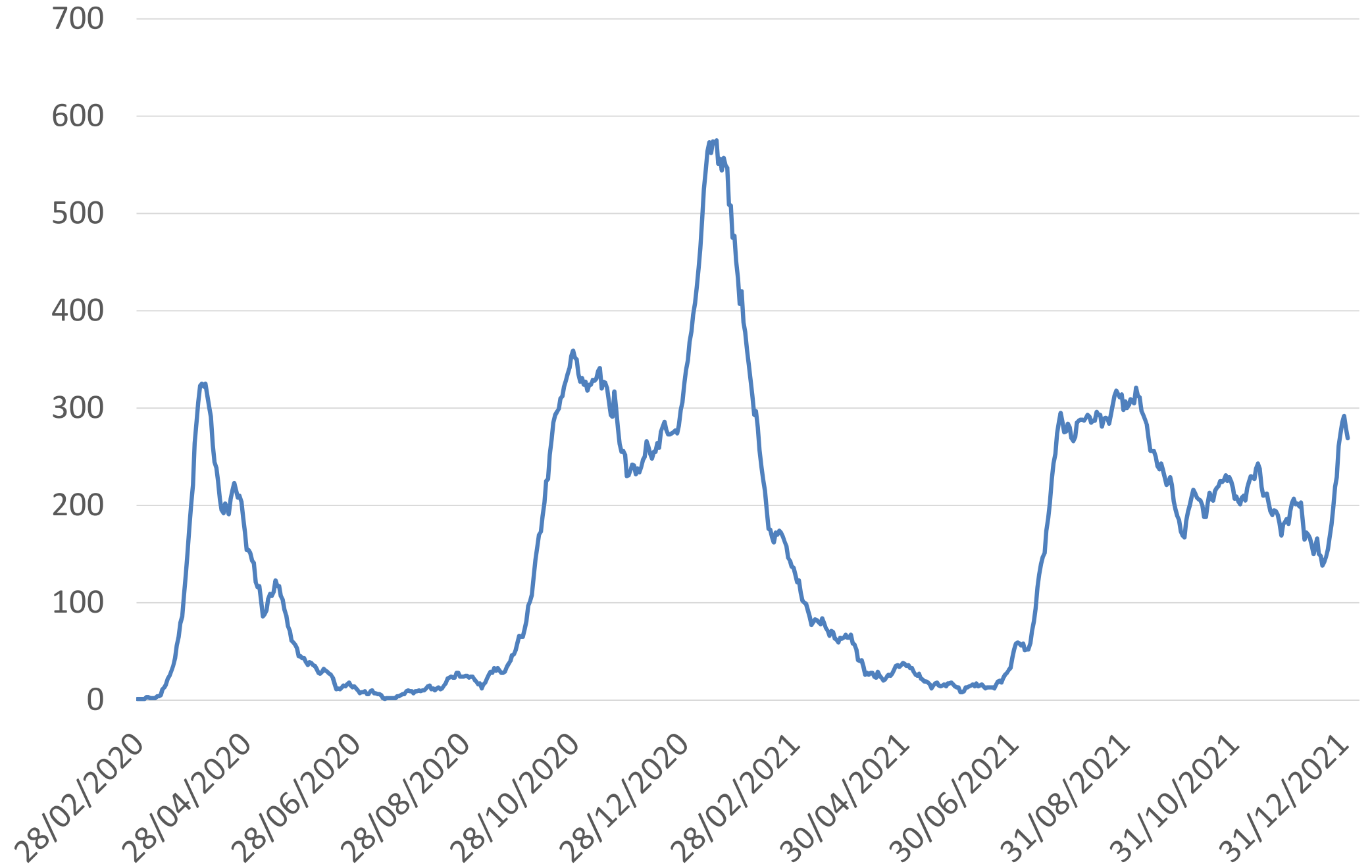
# ONS COVID-19 Infection Survey

## Week up to 23<sup>rd</sup> December

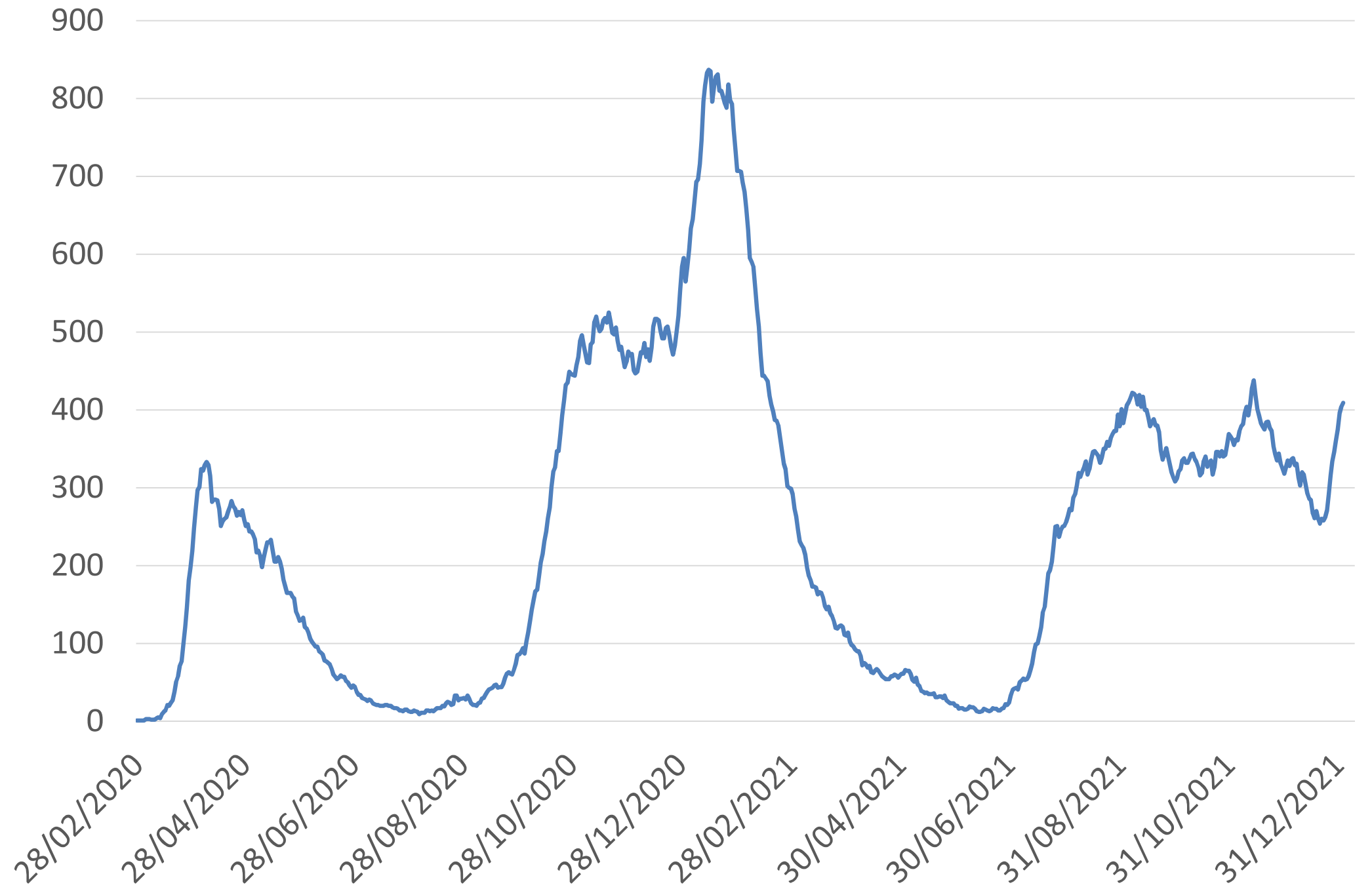
| Country          | Estimated average % of the population that had COVID-19 | 95% CI |       | Estimated number of people testing positive for COVID-19 | 95% CI    |           | Estimated average ratio of the population that had COVID-19 | 95% CI  |         |
|------------------|---------------------------------------------------------|--------|-------|----------------------------------------------------------|-----------|-----------|-------------------------------------------------------------|---------|---------|
|                  |                                                         | Lower  | Upper |                                                          | Lower     | Upper     |                                                             | Lower   | Upper   |
| England          | 3.71                                                    | 3.58   | 3.84  | 2,024,700                                                | 1,951,200 | 2,096,300 | 1 in 25                                                     | 1 in 30 | 1 in 25 |
| Wales            | 2.52                                                    | 2.14   | 2.93  | 76,500                                                   | 65,100    | 89,200    | 1 in 40                                                     | 1 in 45 | 1 in 35 |
| Northern Ireland | 2.59                                                    | 2.06   | 3.19  | 47,500                                                   | 37,800    | 58,600    | 1 in 40                                                     | 1 in 50 | 1 in 30 |
| Scotland         | 2.57                                                    | 2.23   | 2.94  | 135,400                                                  | 117,400   | 154,800   | 1 in 40                                                     | 1 in 45 | 1 in 35 |

Source: Office for National Statistics – Coronavirus (COVID-19) Infection Survey

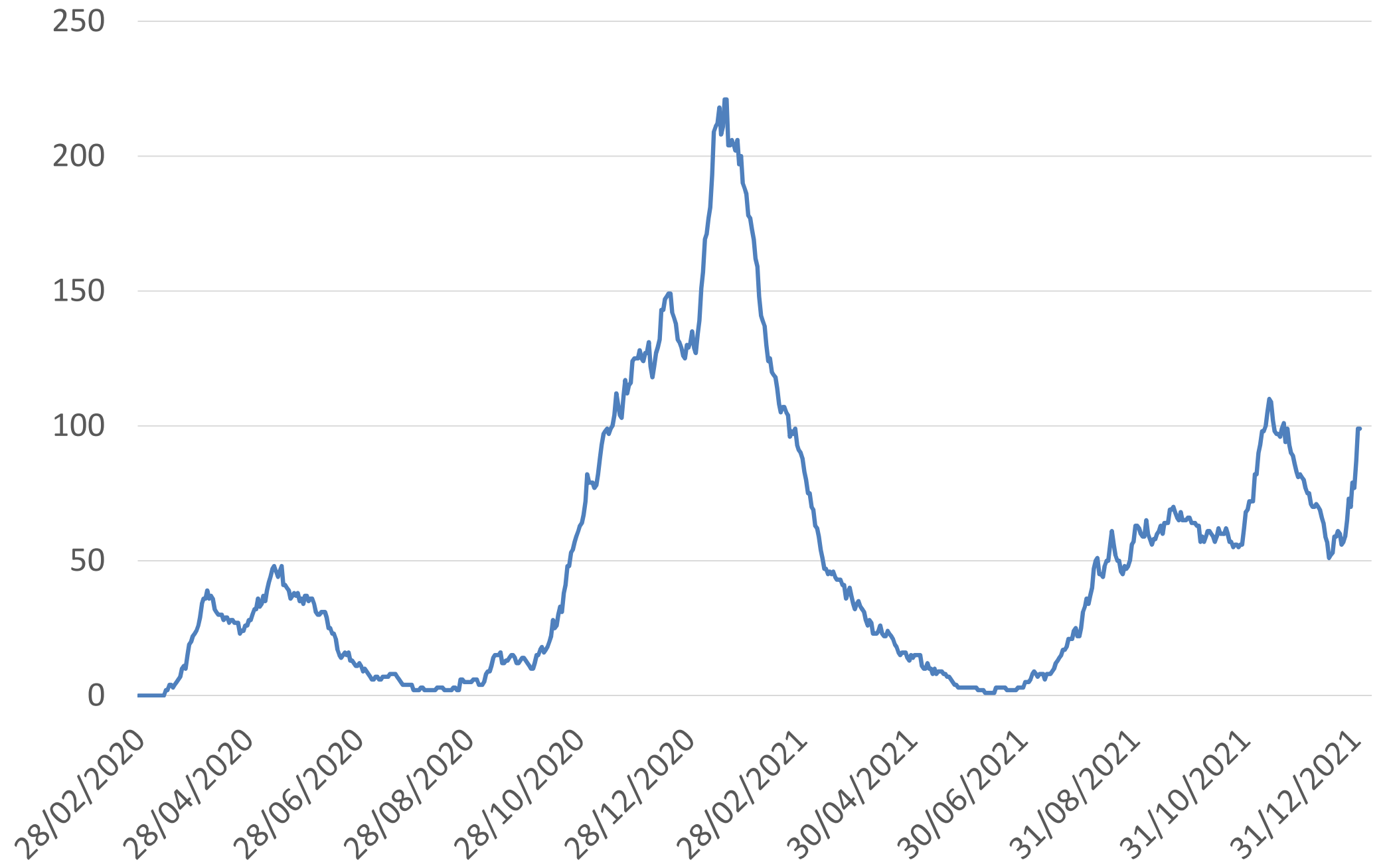
7 day rolling total COVID +ve hospital admission



# COVID +ve total inpatients



# COVID +ve hospital acquired inpatients



# Non-ICU Respiratory Support (all Trusts)

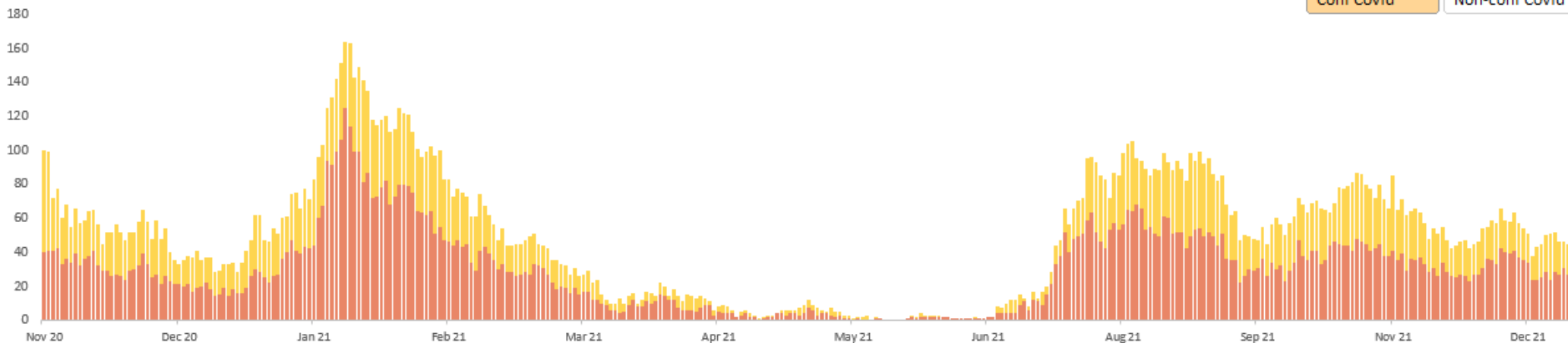
NON ICU RESPIRATORY SUPPORT - TRUST: (ALL), SITE: (ALL), TYPE: CONF COVID

■ CPAP ■ HFNO

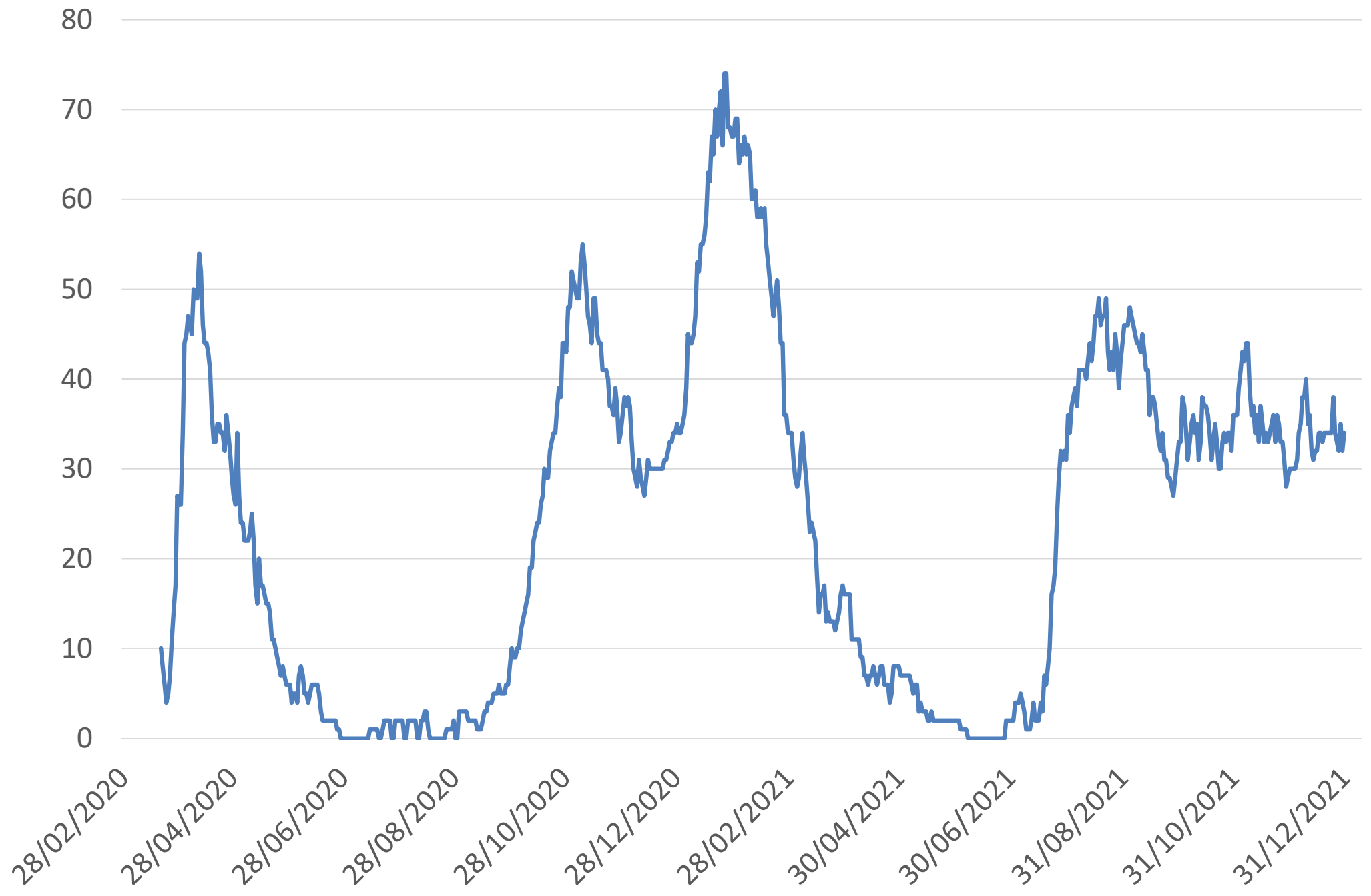
Type

Conf Covid

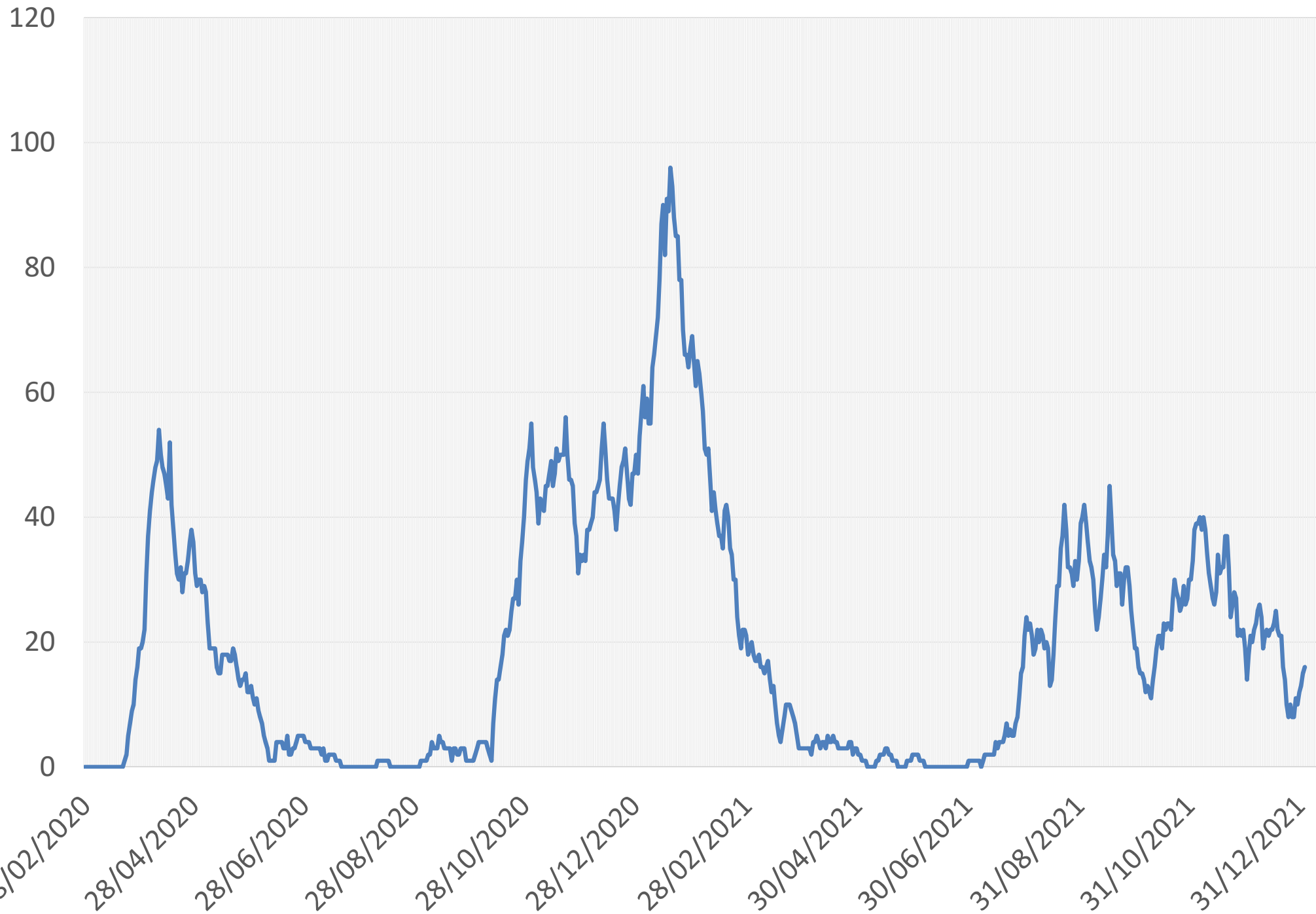
Non-conf Covid



# COVID +ve patients in ICU



# COVID-19 7 day total hospital deaths



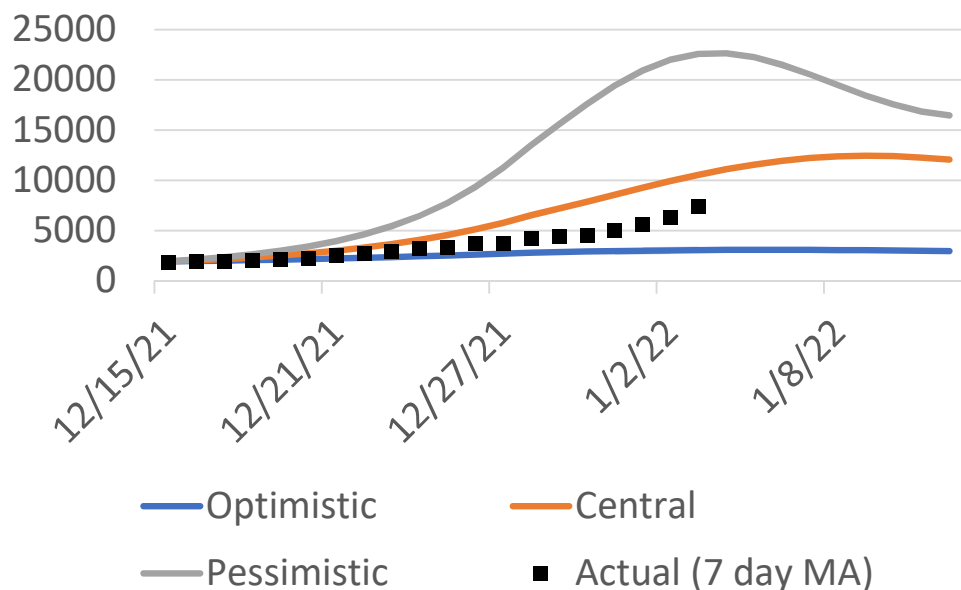
## Omicron Assumptions

| Omicron (low escape)  |                |            |
|-----------------------|----------------|------------|
| Effectiveness Against | No Booster (%) | Booster(%) |
| Infection             | 40             | 70         |
| Hospitalisation       | 80             | 95         |
|                       |                |            |
|                       |                |            |
| Omicron (mid escape)  |                |            |
| Effectiveness Against | No Booster (%) | Booster(%) |
| Infection             | 30             | 60         |
| Hospitalisation       | 70             | 90         |
|                       |                |            |
| Omicron (high escape) |                |            |
| Effectiveness Against | No Booster(%)  | Booster(%) |
| Infection             | 20             | 50         |
| Hospitalisation       | 60             | 85         |

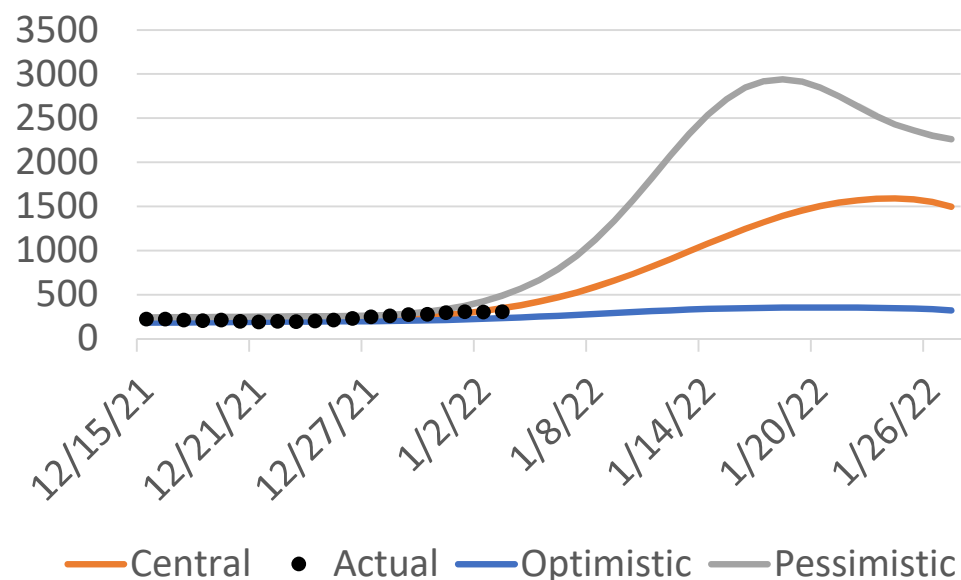


## Scenario 1: Boosters continue on current trajectory (with no further NPI's)

Daily Cases: Scenario Projection –  
Seven day moving average  
(This is not a prediction)



Community Acquired Inpatients:  
Scenario Projection  
(This is not a prediction)



- Actual cases likely underestimated due to testing constraints and Xmas holidays
- **Vaccination Run rate** assumed at **15000 per day**.
- Significant uncertainty remains around impact of Omicron.
- **Potential hospital pressures** remain **uncertain**