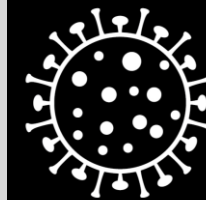


IEMAG briefing

25 February 2021



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Cases, numbers in hospital and intensive care

There is progress against all indicators of disease, though cases and number of people requiring hospital care remain high. The number of people in hospital and ICU is decreasing. The number of deaths per day remains high.

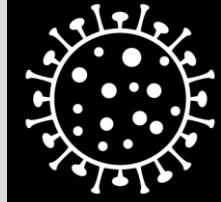


	Apr 2020	Summer 2020	Oct 2020	Dec 2020	Jan 2021	27 Jan	3 Feb	10 Feb	17 Feb	24 Feb	Daily count 25 Feb
Cases confirmed per day	859 <small>18-04</small>	8.7 <small>25-06</small>	1158 <small>21-10</small>	262 <small>12-12</small>	6520 <small>10-01</small>	1699	1188	943	816	737	613
14-day incidence <i>per 100,000 population</i>	212 <small>19-04</small>	3.0 <small>04-07</small>	306 <small>26-10</small>	79 <small>09-12</small>	1532 <small>15-01</small>	674	424	312	261	231	226
Hospital in-patients	862 <small>17-04</small>	9 <small>02-08</small>	333 <small>01-11</small>	198 <small>16-12</small>	1949 <small>24-01</small>	1889	1499	1188	907	723	593
<i>Hospital admissions per day</i>	85 <small>04-04</small>	<1 <small>10-07</small>	27 <small>26-10</small>	11 <small>13-12</small>	158 <small>15-01</small>	89	68	52	45	40	20
ICU confirmed cases	150 <small>14-04</small>	4 <small>04-08</small>	43 <small>04-11</small>	26 <small>27-12</small>	217 <small>28-01</small>	217	209	179	163	149	138
<i>ICU admissions per day</i>	14 <small>31-03</small>	<1 <small>03-06</small>	4 <small>03-11</small>	1 <small>16-12</small>	20 <small>17-01</small>	15	11	6	8	6	9
Deaths confirmed per day	46 <small>22-04</small>	<1 <small>30-07</small>	7 <small>01-12</small>	4 <small>17-12</small>	57 <small>03-02</small>	50	57	41	35	29	35

Data are 7-day averages (the indicated day and the preceding 6 days, rounded to the nearest whole number) with the exception of 14 day cumulative incidence, which is the total number of cases in the preceding 14 days per 100,000 population. The highest and lowest values of each indicator are given for each wave of the pandemic, along with the date on which that value was recorded, as well as the data for recent weeks. The historic incidence data may change due to denotification of cases.

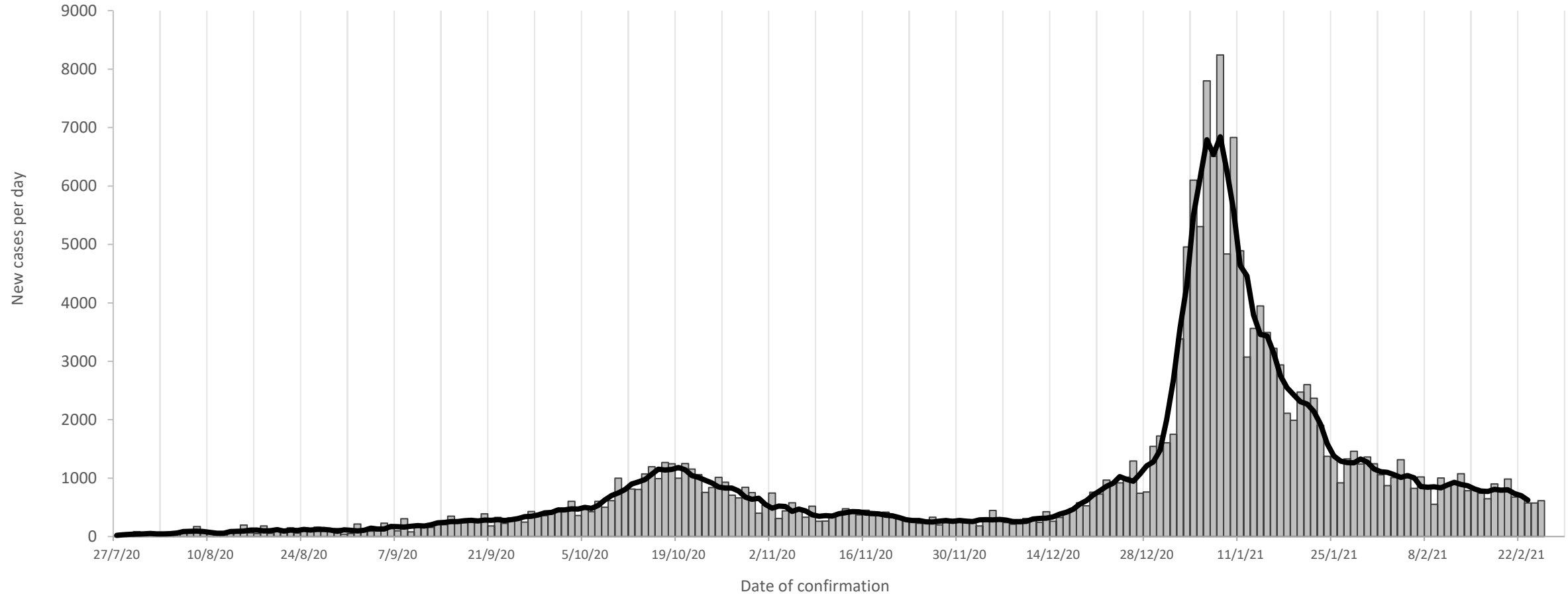
Confirmed cases each day

Daily and weekly count and 5-day rolling average. The 5-day average peaked at 1186 on 21 October, reached a low of 251 on 28 November, peaked again at 6847 on 8 January and is now **625**



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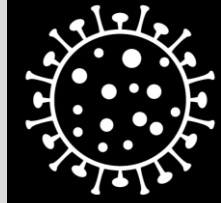
Cases per week	284	540	546	711	796	912	1303	1947	2059	3031	4457	7398	7073	4838	3424	2583	2580	1798	2028	1964	3369	6602	15729	45635	25135	14824	8933	7149	6031	5539
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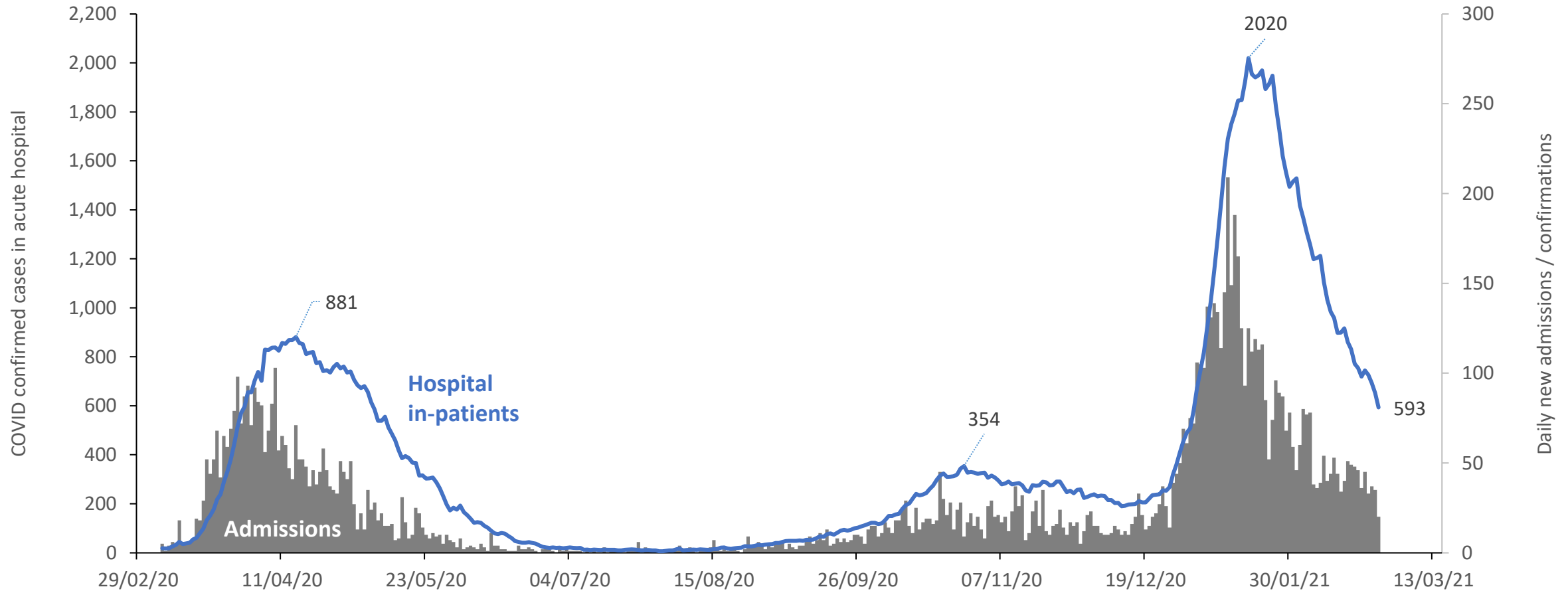
Daily count (bars) 5-day average (line) and weekly counts of the number of laboratory confirmed new cases by date on which they were confirmed by HPSC. Case counts may change due to denotification of cases. Weekly case counts are by notification (event) date and standard epidemiological week.

Confirmed cases in acute hospitals

The number of people in hospital with confirmed SARS-CoV-2 infection. The number of people in hospital continues to fall, but the number of admissions and newly confirmed cases in hospital per day is plateaued or decreasing slowly at 30-50 per day



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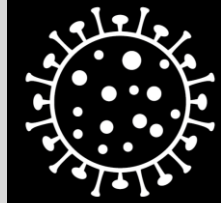
Hospital in-patients: Daily count of number of COVID-19 confirmed cases in acute hospitals. Daily admissions: New COVID-19 confirmed admissions and new laboratory confirmations of suspected cases in preceding 24 hours. Data from HSE PMIU-SDU, 8am census.



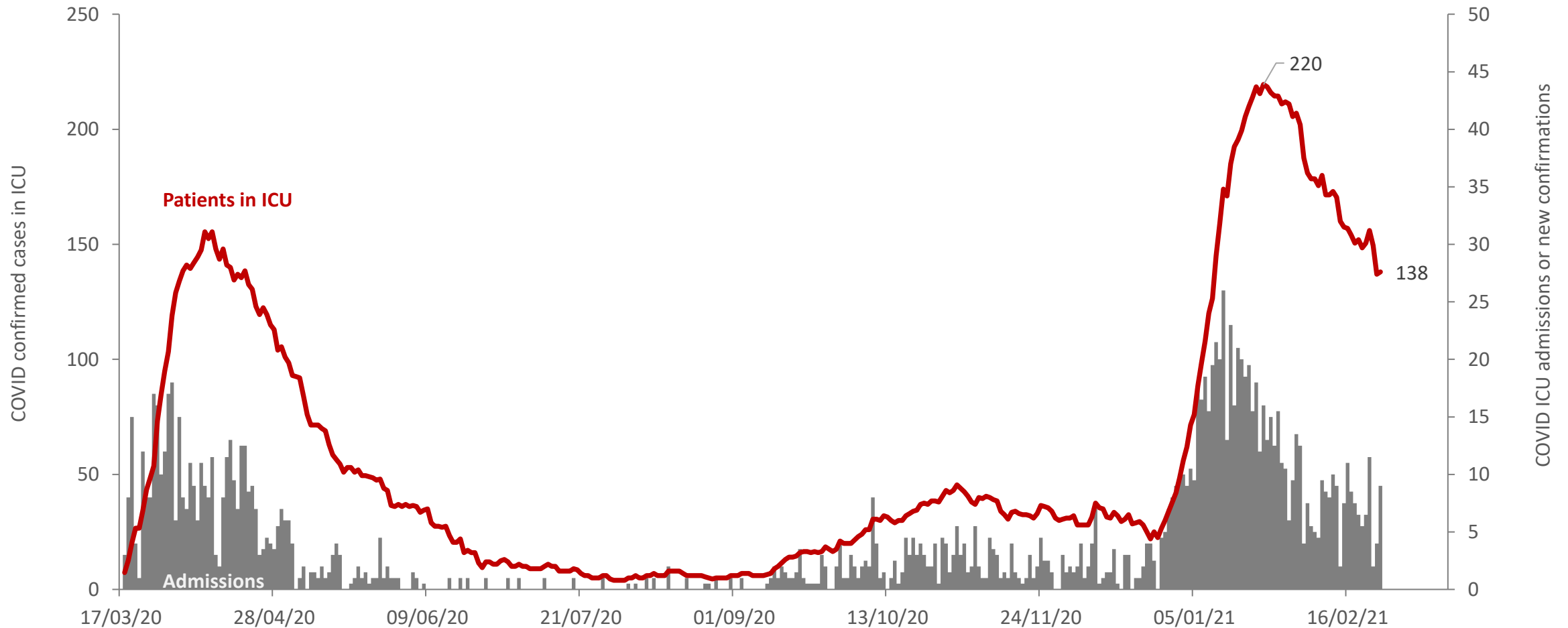
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Confirmed cases in intensive care

The number of people in ICU with confirmed SARS-CoV-2 infection remains very high but is now decreasing.



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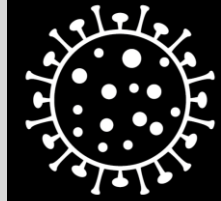
Patients in ICU: Daily count of number of COVID-19 confirmed cases in ICU. Daily admissions: new COVID-19 confirmed admissions to ICU and new laboratory confirmations of suspected cases in ICU. Average of morning and evening census from NOCA



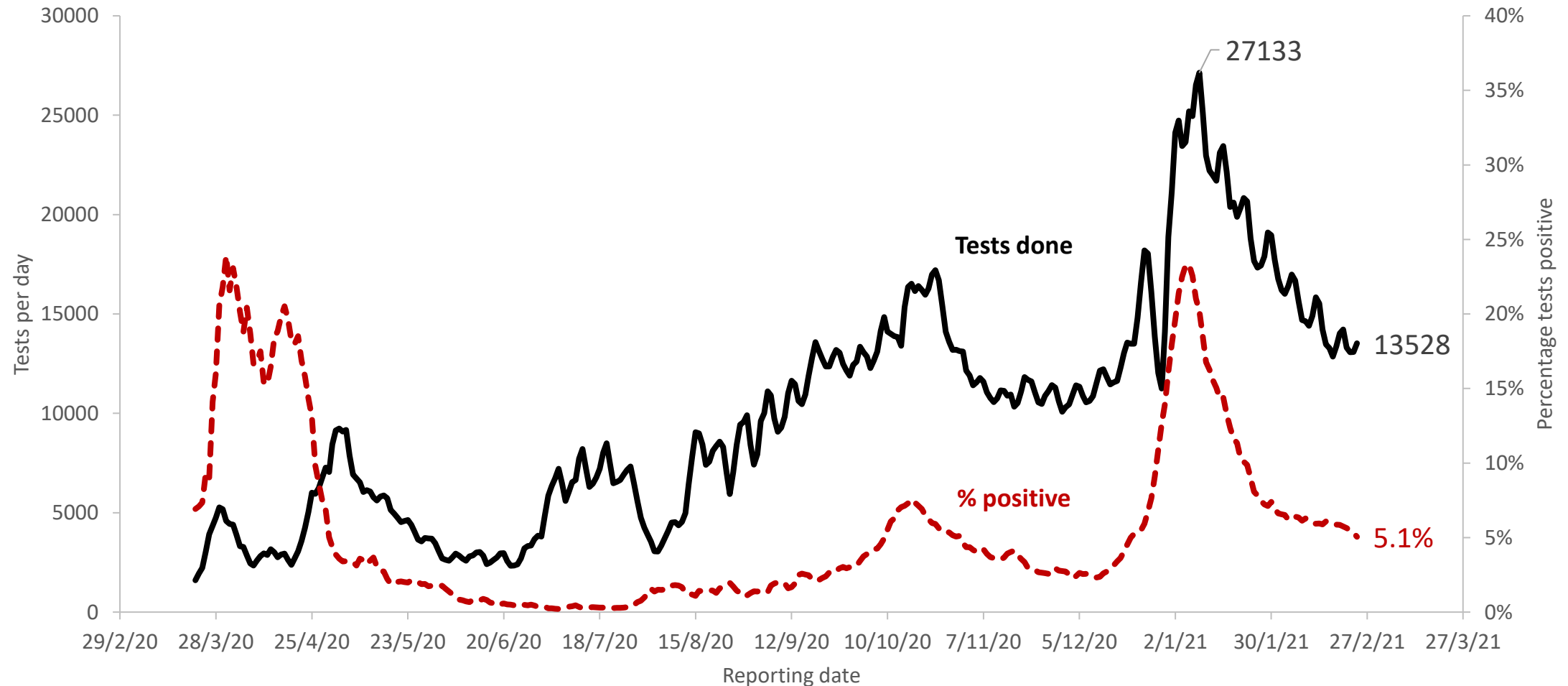
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Testing and test positive rate

The demand for tests has fallen. Positivity rate has fallen significantly: overall positivity rate peaked at 23% on 7 January; it had been plateaued near 6%, but may be decreasing again.



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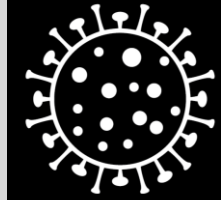
Data 5-day rolling averages, tests outsourced to German laboratory in April backdated using specimen collection date. The aggregate positivity rate should be interpreted with caution, as it includes community referrals, close contacts, mass and serial testing, and hospital testing, and changes in numbers of tests done in these different settings will alter the overall positivity rate.



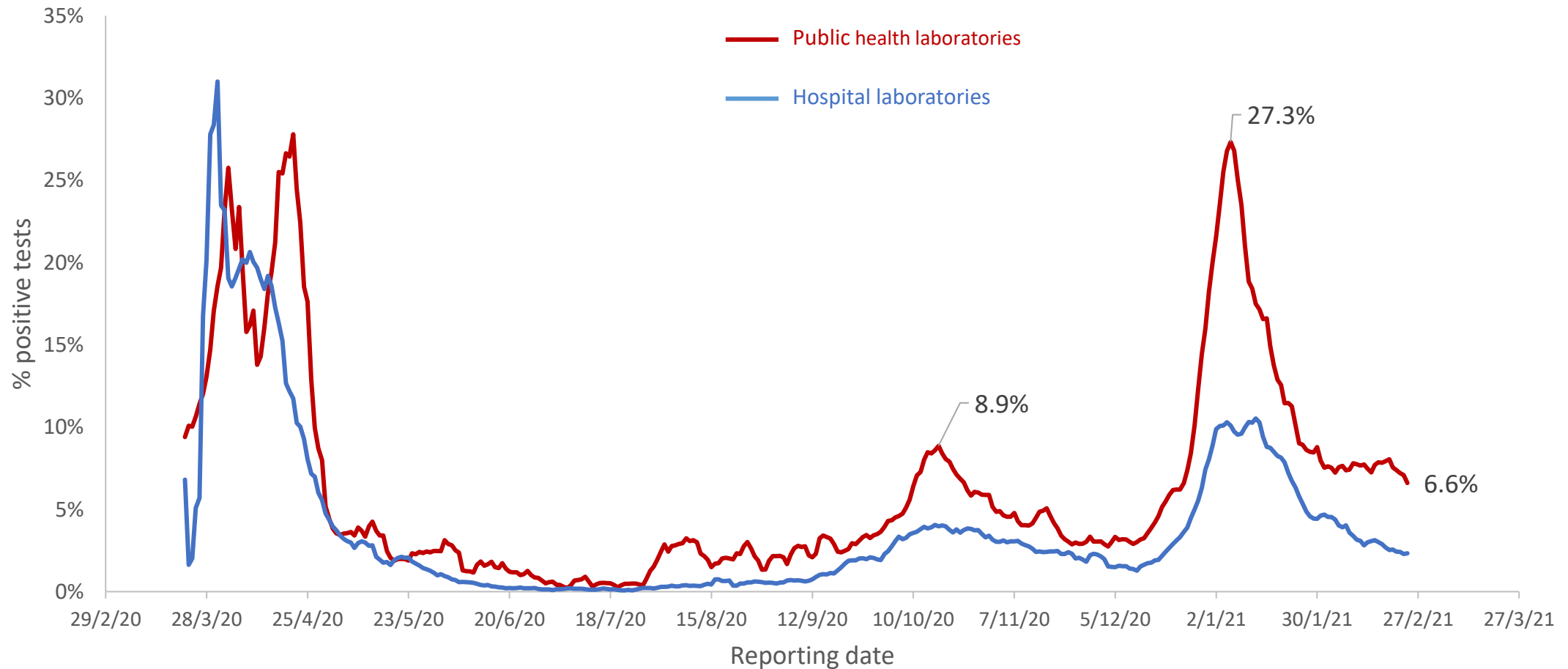
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Test positivity: public health laboratories

The positivity rate is higher for tests conducted in public health laboratories (NVRL, associated laboratories and Cherry Orchard) compared with tests conducted in hospitals. The test positivity in hospital laboratories continues to fall (2.3%). Positivity rates in public health laboratories have decreased from a peak 5-day average positivity of 27.4% on 6 January; it has been plateaued at 7-8%, and may now be starting to fall again



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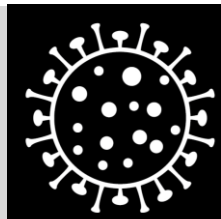
Data 5-day rolling averages of percentage of tests reported positive per day. Public health laboratories are NVRL and associated laboratories, plus Cherry Orchard
Backlog tests outsourced to German laboratory in April are not backdated and are assigned to date reported



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Incidence across different age groups (excluding HCW and LTRC)

Incidence has decreased across most adult age groups. The incidence in those aged 18 and under is stable or decreasing as the effect of resumed testing of close contacts wanes. While incidence in those aged 19-24 has increased, this is not yet an established trend.



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Week	Age band								
	0-4	5-12	13-18	19-24	25-39	40-64	65-74	75-84	85+
48	23.2	31.3	45.5	66.7	33.8	29.6	22.2	36.1	40.0
49	28.4	37.0	37.7	40.5	33.2	30.1	25.4	29.0	42.9
50	21.4	39.9	44.1	57.4	39.9	35.1	22.2	31.0	22.2
51	51.9	58.5	74.5	128.3	87.9	81.0	54.6	55.0	51.8
52	77.5	76.9	120.3	325.8	176.1	135.3	96.1	95.2	121.4
53	217.8	236.6	513.7	1404.0	762.8	637.5	424.4	349.1	362.7
1	183.7	208.9	569.2	1331.5	792.6	723.4	499.1	446.8	562.5
2	130.9	126.7	302.5	584.2	417.8	423.1	302.8	411.2	577.3
3	93.8	81.3	168.7	329.1	256.6	245.3	170.5	253.4	423.4
4	73.6	60.7	127.6	231.9	155.0	146.9	119.9	163.9	275.3
5	77.8	72.9	126.8	209.5	127.5	124.3	86.2	119.6	229.4
6	92.0	85.1	125.1	222.8	118.0	101.5	68.8	92.1	128.8
7	87.8	76.5	95.0	254.8	109.1	91.4	59.7	84.0	134.7

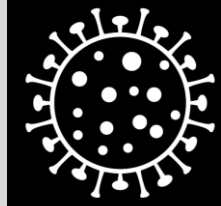
Heat map shows age-specific incidence (cases per week per 100,000 population). Healthcare workers and cases associated with outbreaks in long-term residential care are excluded, so that the analysis reflects the pattern of cases in the community. Cases dated by specimen collection date.



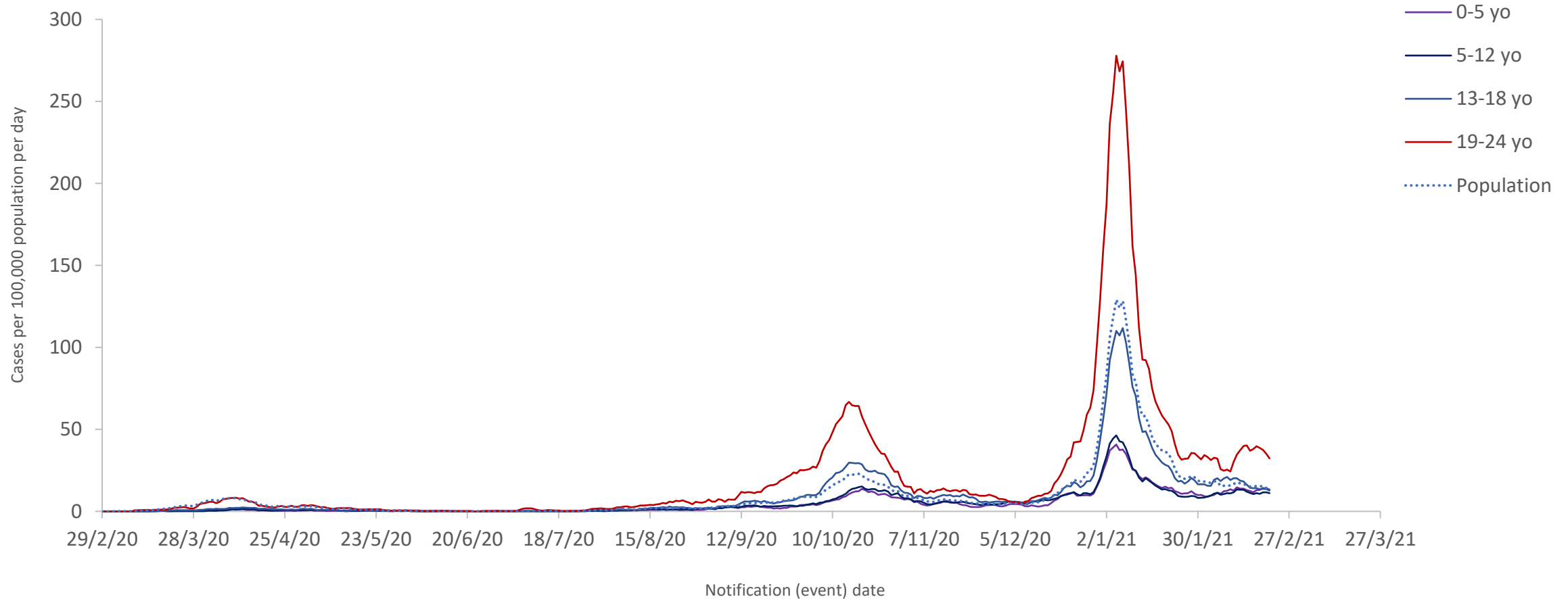
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Incidence in younger cohorts

The incidence per 100,000 population in those aged under 25, compared with the population as a whole. The incidence in those aged 18 and under is trending upwards, most likely due to increased testing of asymptomatic household contacts. Incidence in those aged 19-24 may also be starting to increase.



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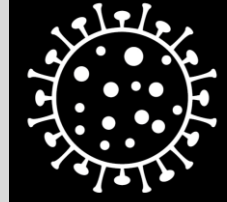
Age-specific incidence (cases per day per 100,000 population within each age cohort, population from CSO 2016 census data). Healthcare workers and cases associated with outbreaks in long-term residential care are excluded, so that the analysis reflects the pattern of cases in the community. Cases dated by notification (event) date. Tests outsourced to German laboratory in April backdated, using the specimen collection date, to the date they would have been confirmed in a timely manner.



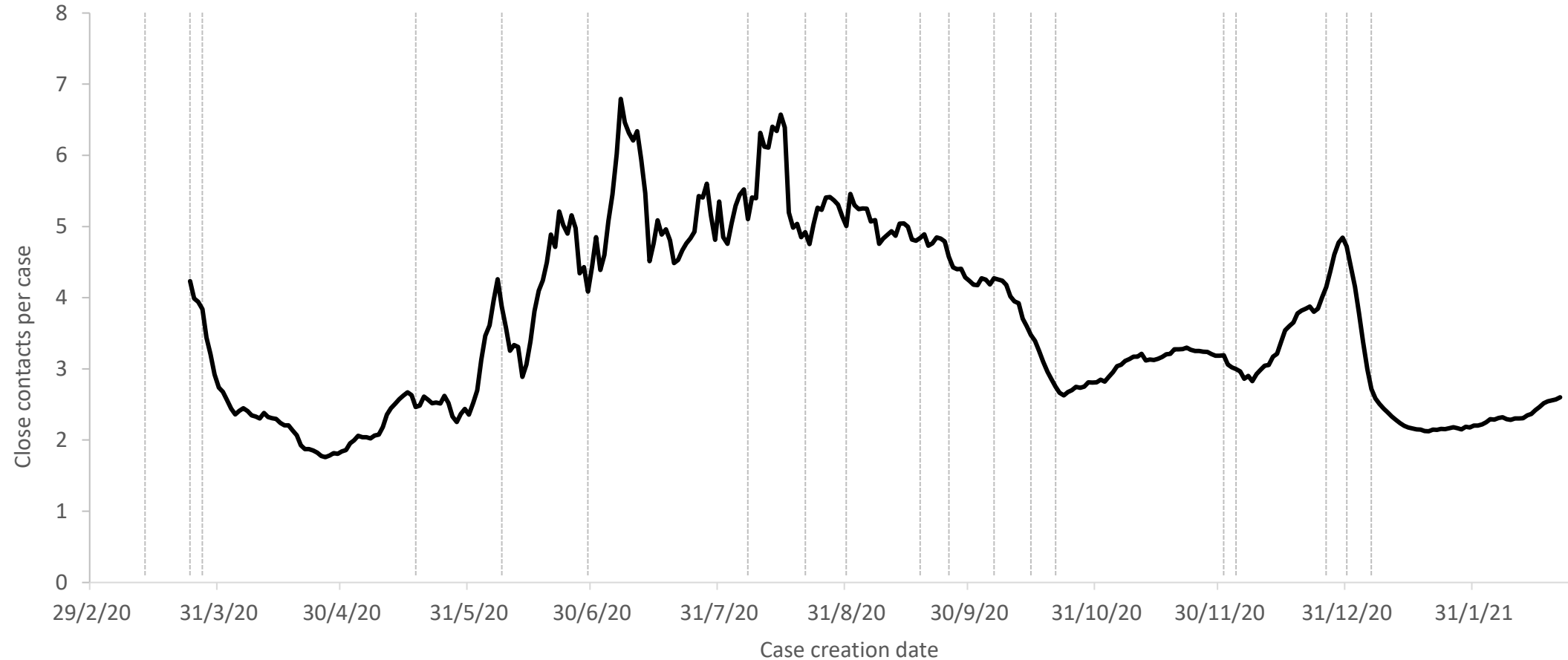
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Close contacts of adult confirmed cases

The mean number of close contacts per confirmed case. The number of contacts was very low (2 or less) during April, but increased to 5-6 per case during the summer. The progressive escalation of public health measures during October was associated with a progressive reduction in close contacts, to below 3. The number of close contacts remained below 3.3 on average until early December, rose to almost 5 on average by 28 December, while it remains very low it is increasing slowly (from 2.1 to 2.6)



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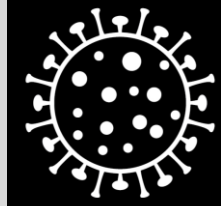
The average number of close contacts per confirmed case. Data from COVID-19 Care Tracker (CCT). Cases dated by case creation date. Cases (but not contacts) aged 18 and younger are excluded. Data are 7-day trailing averages except for the months of June – August where a 21-day trailing average is used due to very low case counts.



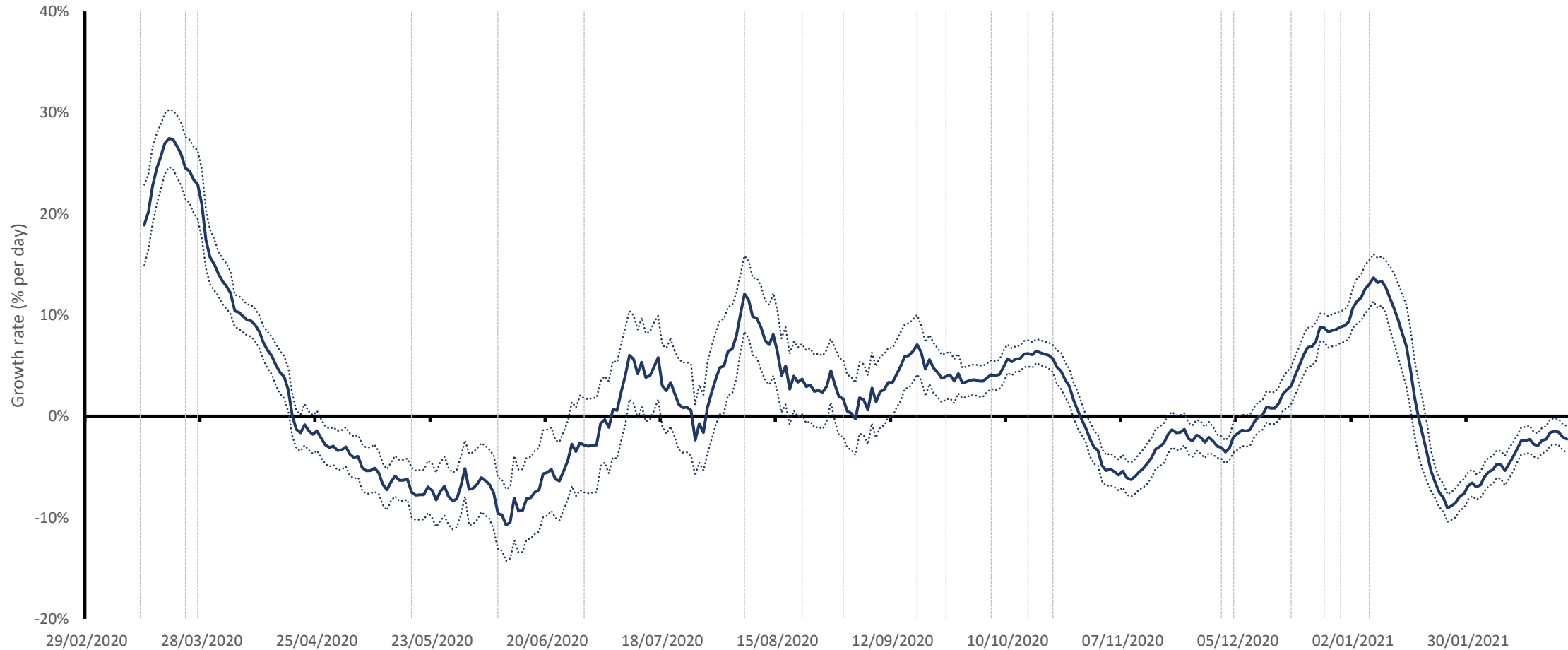
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Growth rate for case numbers

Growth rate peaked at 13% per day over the 21-day period up to 10 January 2021. While case numbers decreased very rapidly in January (-6 to -10% per day) case numbers are now decreasing more slowly at -2% to -4% per day



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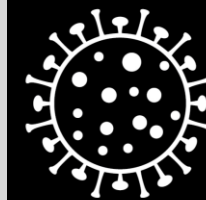
Growth rate calculated as the average growth rate over a 21-day trailing window, with 95% credible interval; cases dated by notification (event) date.



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Estimates of effective reproduction number (R)

Reproduction number is below 1.0 with increased uncertainty in its estimation, but R may be increasing; it is currently estimated at 0.6 – 0.9



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Method	Estimate	95% confidence interval
SEIR model-inferred	0.94	0.61 – 1.37
Bayesian model	0.87	0.54 – 1.42
Time-dependent R	0.85	0.79 – 0.91
GAM estimate 16 Feb 2021	0.79	0.65 – 0.93
GAM estimate 23 Feb 2021	0.73	0.56 – 0.90

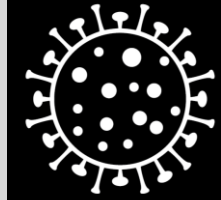
Estimates generated 24 February 2021, refer to IEMAG technical notes for methodology. Estimates are unreliable when case numbers are low or variable. SEIR-inferred estimate is slow to respond to changes in R. The time-dependent R estimate lags behind other estimates. These R estimates relate to viral transmissions and infections that occurred approximately 7-14 days ago. The estimate of R is influenced by different patterns of transmission in large outbreaks, smaller clusters, and individual transmission.



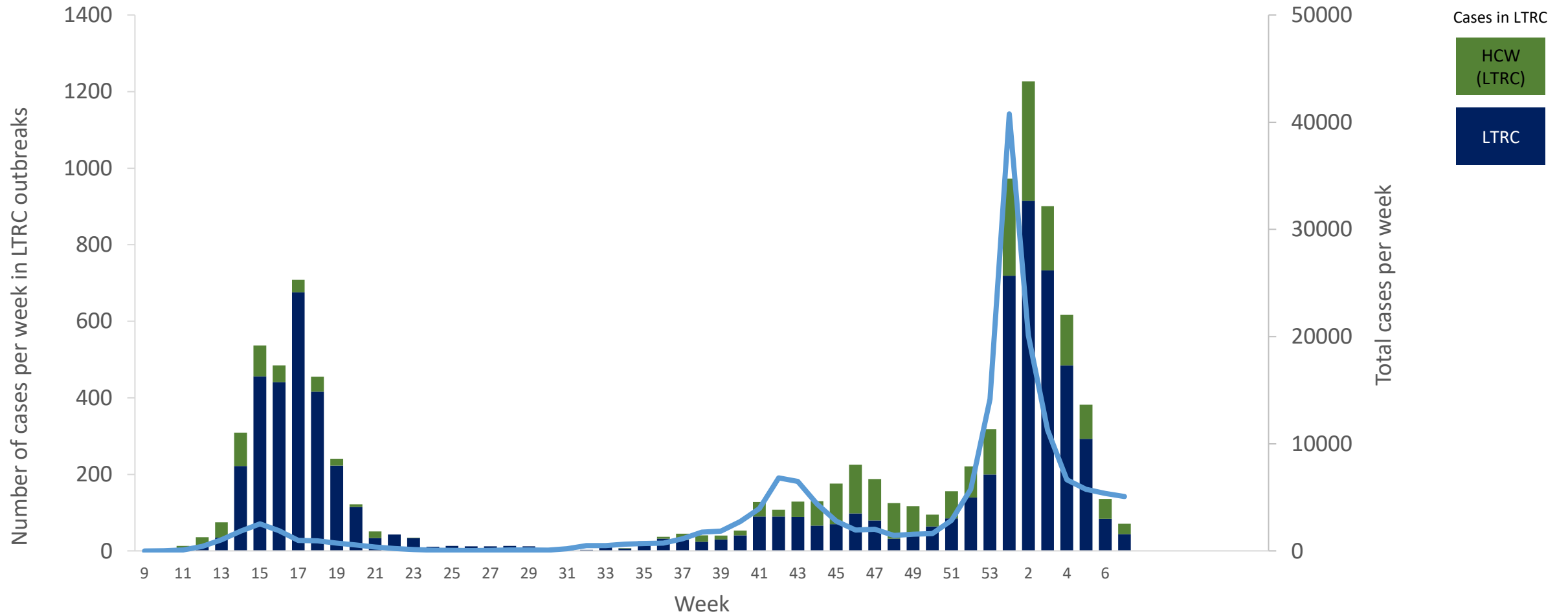
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Cases in long-term residential settings

The number of cases linked to outbreaks in LTRC, following the unprecedented levels of infection in the community in January 2021, was very high, similar to the numbers seen in April and May 2020. Nonetheless, when compared to the total burden of disease in the community (total cases per week) the level of infection in LTRC is significantly less than in April-May 2020. Cases in LTRC have decreased rapidly in parallel to the decline in incidence in the wider community.



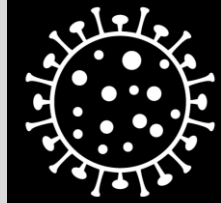
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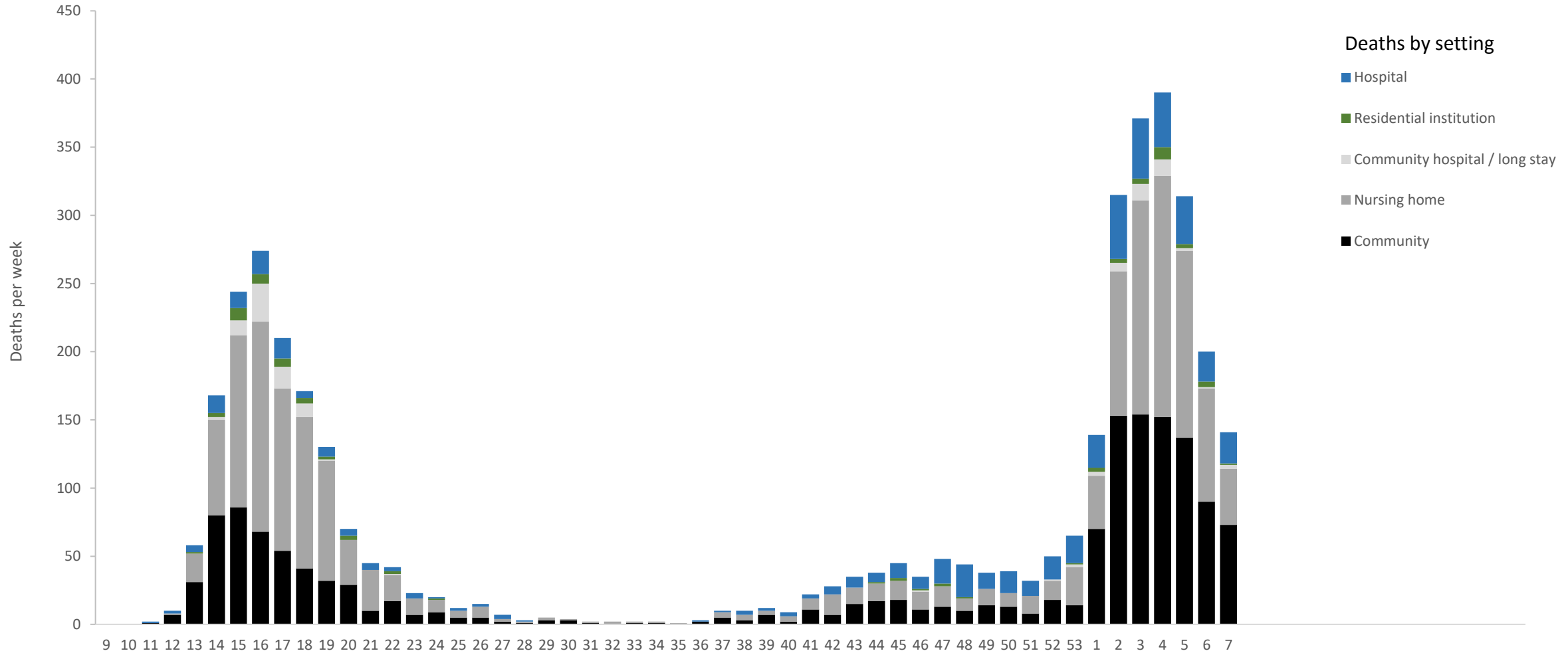
Number of cases per week linked to outbreaks in long-term residential care (bars) compared to the total number of cases per week (dotted line, referred to the secondary y-axis). LTRC: cases amongst residents in outbreaks in long-term residential settings. HCW (LTRC): Cases in healthcare workers associated with outbreaks in LTRC.

Deaths by setting

There were over 100 deaths per week in recent weeks in long-term residential facilities, although deaths in LTRC constituted a smaller proportion of all deaths. Deaths in hospital outbreaks were significant in the period after the October surge. Deaths associated with outbreaks in LTRC appear to be decreasing, which may be due to the protective effect of vaccination



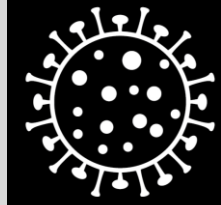
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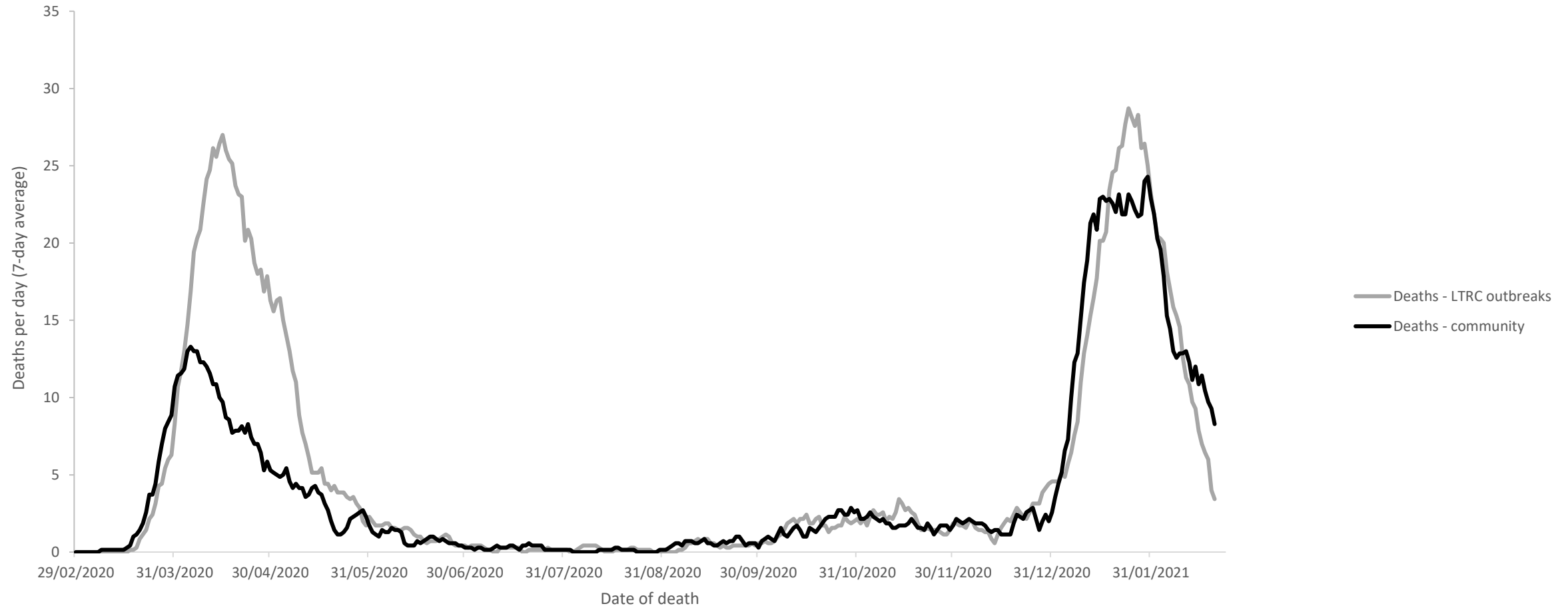
Deaths per week by week of death and the setting in which the death occurred. Deaths with laboratory confirmed SARS-CoV-2 only

Deaths per day in LTRC

The number of deaths per day in LTRC was less, relative to the number of deaths in the community, than in April 2020, and deaths in LTRC are currently decreasing more rapidly than in the wider community.



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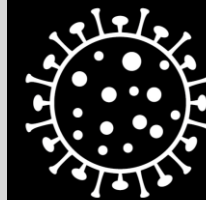
Deaths per day, separated into those associated with outbreaks in long-term residential care (LTRC), and those not associated with such outbreaks (community). Deaths with laboratory confirmed SARS-CoV-2 only. 7-day moving average



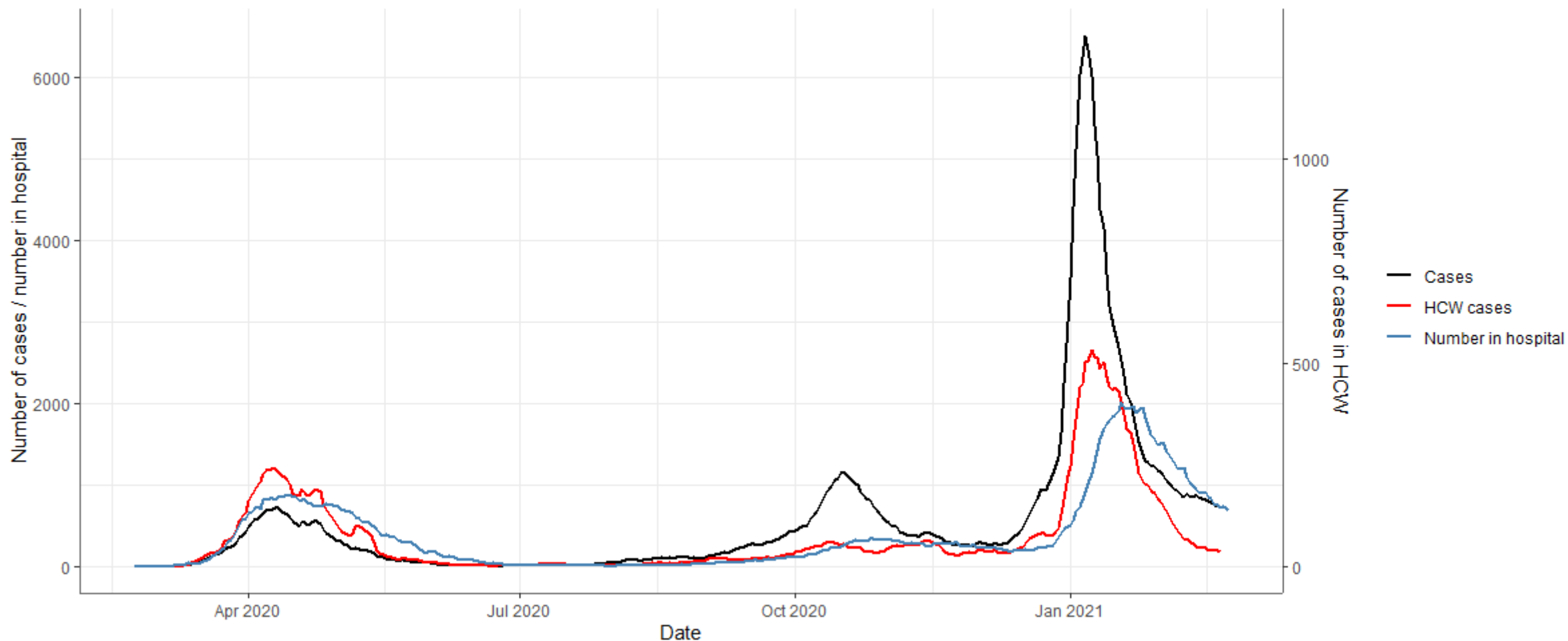
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Healthcare worker infections

The number of infections in healthcare workers correlated with the numbers of people in hospital throughout all three waves of the pandemic; since mid-January the number of HCW infections has been significantly less than expected



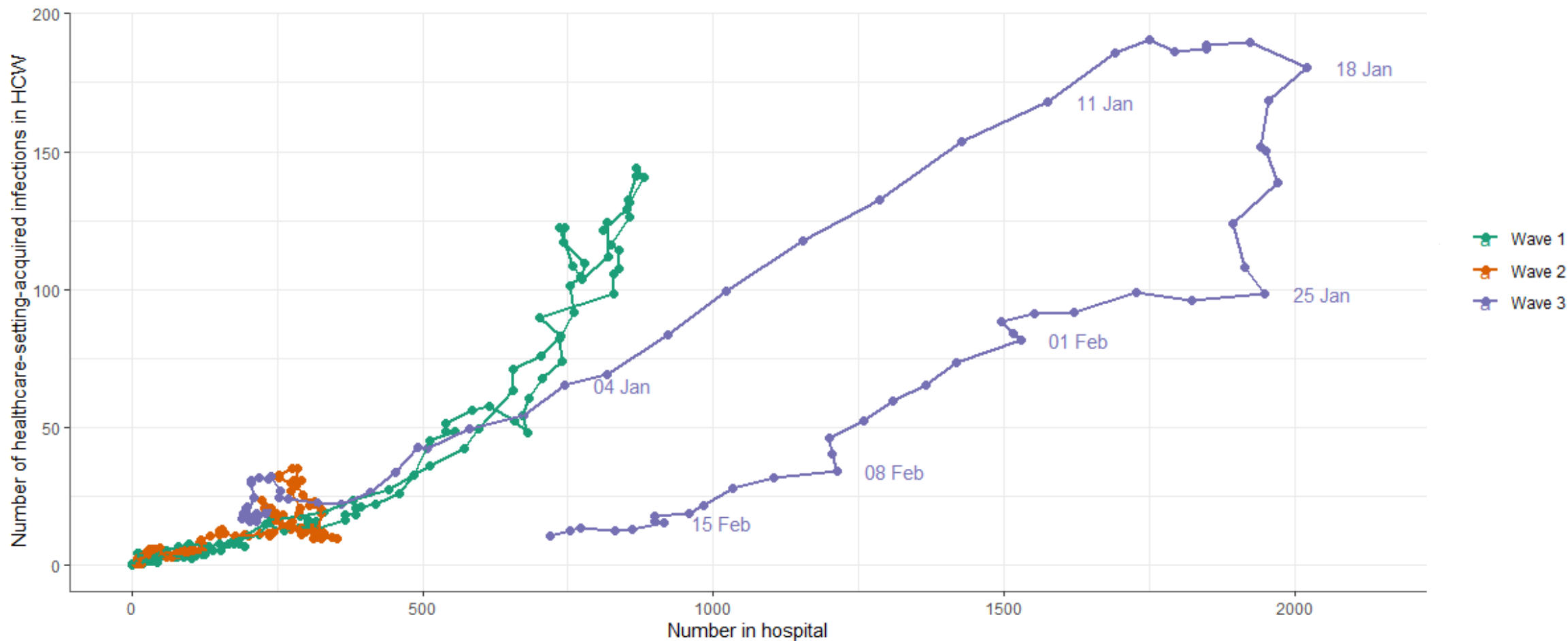
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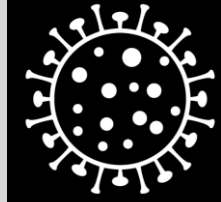
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The number of infections in healthcare workers correlated with the numbers of people in hospital throughout all three waves of the pandemic; since mid-January the number of HCW infections has been significantly less than expected



Situation analysis 24 February 2021



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- We are seeing **continued, but slower, progress** against **all indicators of disease**
- **Incidence remains high**
- Cases (5-day average) **625 cases per day**; 14-day incidence **226 per 100,000**
 - Incidence decreasing across most age groups
 - Recent increase in **young adults** aged 19-24 not yet an established trend
 - Numbers on hospital and ICU decreasing
 - Test positivity remains high, but may be starting to decrease
- B.1.1.7 variant accounts for 90% of cases with increased transmissibility
- We are maintaining suppression of transmission but it is precarious
 - Rate of decline now at 0 to -4%, halving time 18 days or longer (central estimate 35 days)
 - **R estimated at 0.6 – 0.9**
- Indicators of **mobility and contact** remain low with slight upward drift
- We continue to suppress transmission but disease levels remain very high and the rate of decline in cases is slow
- Emerging **evidence of protective effect of vaccination**