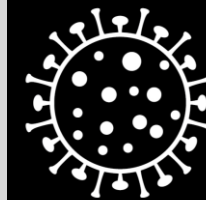


IEMAG briefing

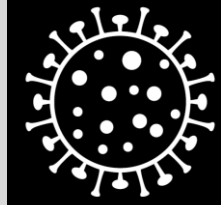
11 March 2021



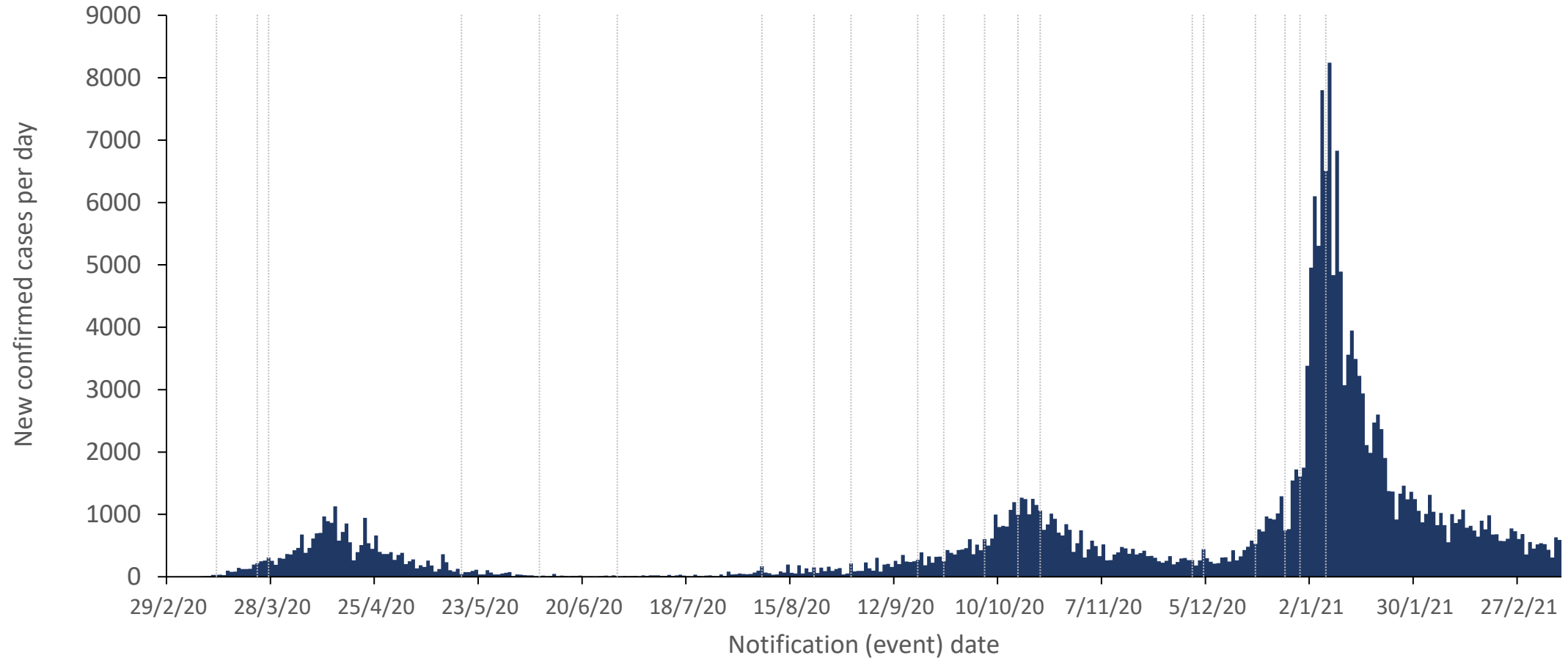
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Confirmed cases each day

Daily case count since the beginning of the epidemic



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Daily count of the number of laboratory confirmed new cases by date on which they were notified to HPSC. Tests outsourced to German laboratory in April backdated, using the specimen collection date, to the date they would have been confirmed if tested in a timely manner. The vertical dashed lines indicate the dates of escalation and de-escalation of public health restrictions



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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 continues to decrease. The number of deaths per day remains high but is decreasing

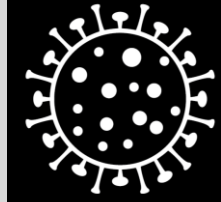


	Apr 2020	Summer 2020	Oct 2020	Dec 2020	Jan 2021	10 Feb	17 Feb	24 Feb	3 Mar	10 Mar	Daily count 11 Mar
Cases confirmed per day	859 <small>18-04</small>	8.7 <small>25-06</small>	1158 <small>21-10</small>	262 <small>12-12</small>	6520 <small>10-01</small>	943	816	737	620	487	592
14-day incidence <i>per 100,000 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>	312	261	231	199	163	162
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>	1188	907	723	542	415	359
<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>	52	45	40	23	24	32
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>	179	163	149	127	100	87
<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>	6	8	6	4	4	3
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>	41	35	29	18	20	10

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.

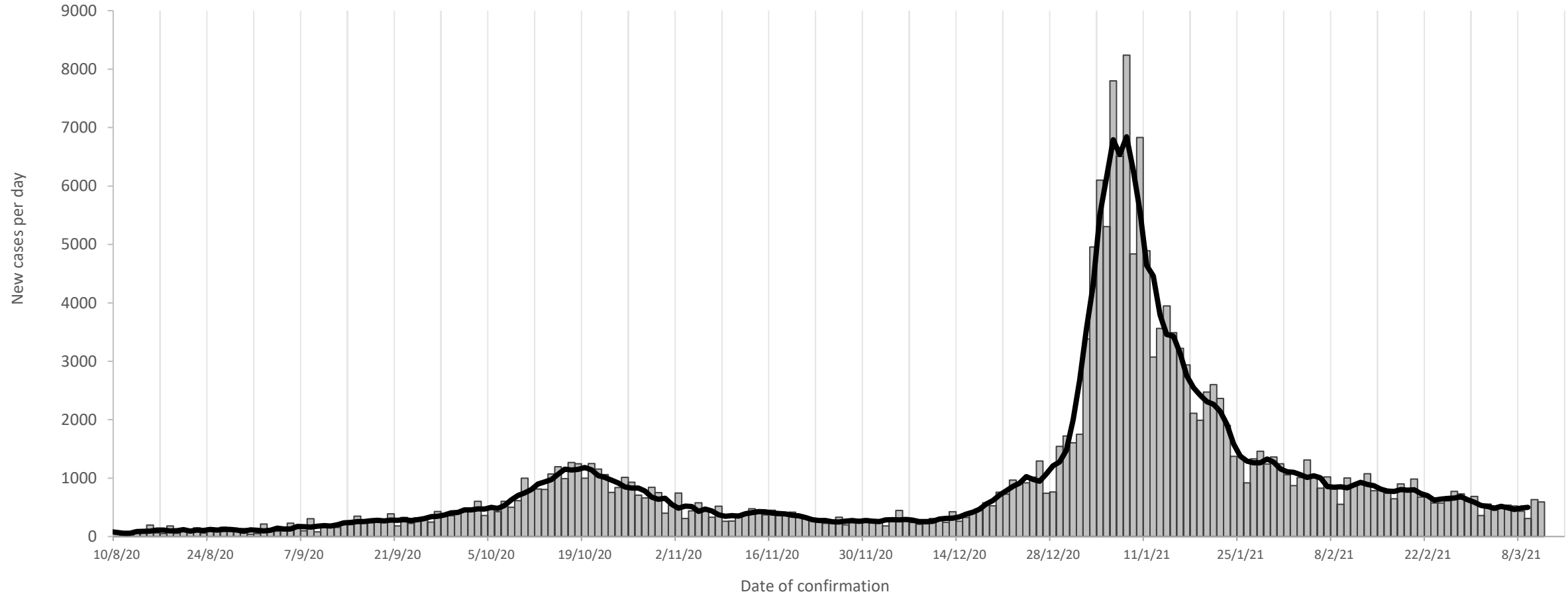
Confirmed cases each day

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 **499**



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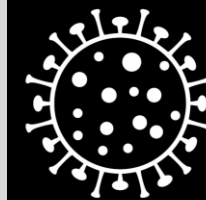
Cases per week	546	711	796	912	1303	1947	2059	3031	4457	7398	7073	4838	3424	2583	2580	1798	2028	1964	3368	6597	15729	45621	25123	14815	8931	7147	6031	5531	4556	3638
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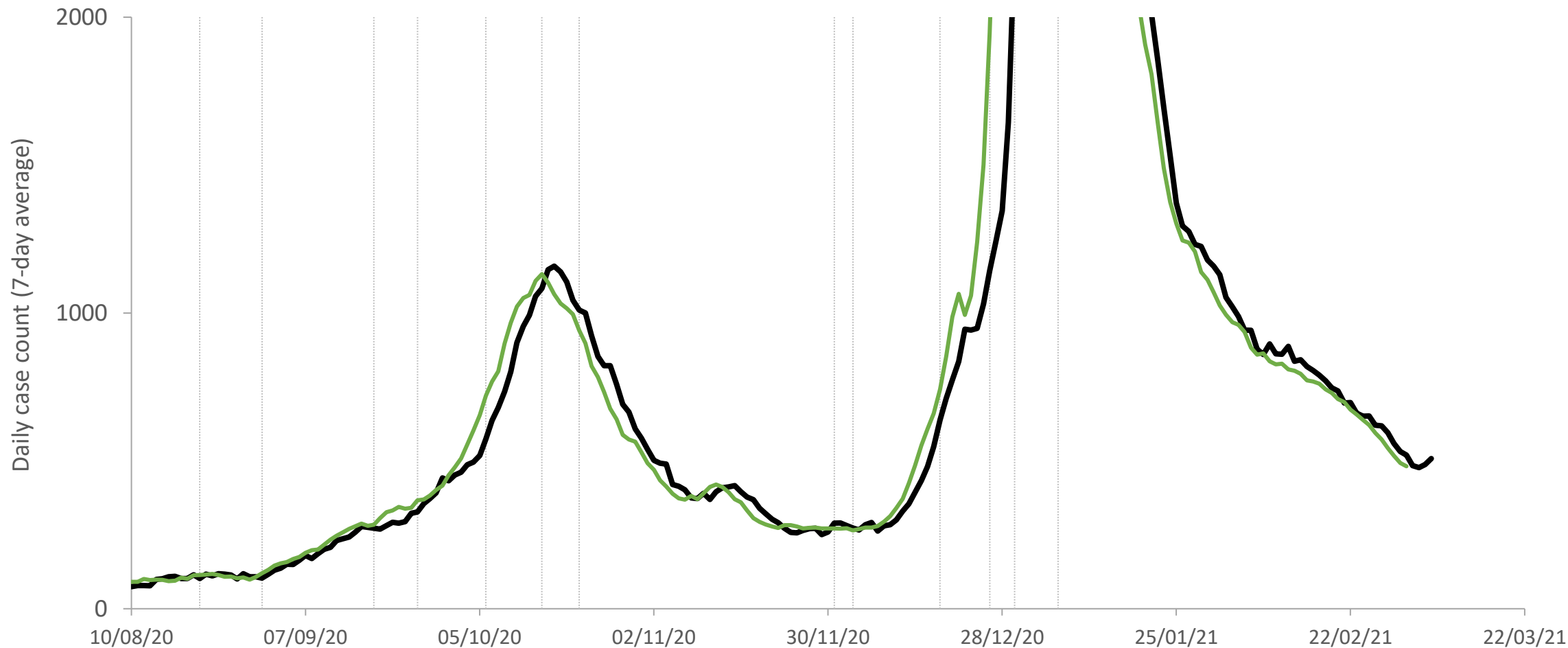
Daily count (bars) 5-day average (line) and weekly counts of the number of laboratory confirmed new cases by date on which they were confirmed by HPSC. Case counts may change due to denotification of cases. Weekly case counts are by notification (event) date and standard epidemiological week.

Daily incidence

Daily incidence is currently twice what it was in early December, and approximately 50 times what it was in late June 2020



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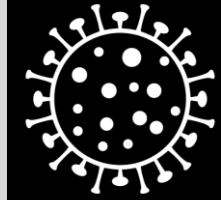
Daily cases by notification (event) date (black, the date the case was entered on the CIDR database) and specimen collection date (green). The vertical dashed lines indicate the dates of escalation and de-escalation of public health restrictions. Data are 7-day moving averages.



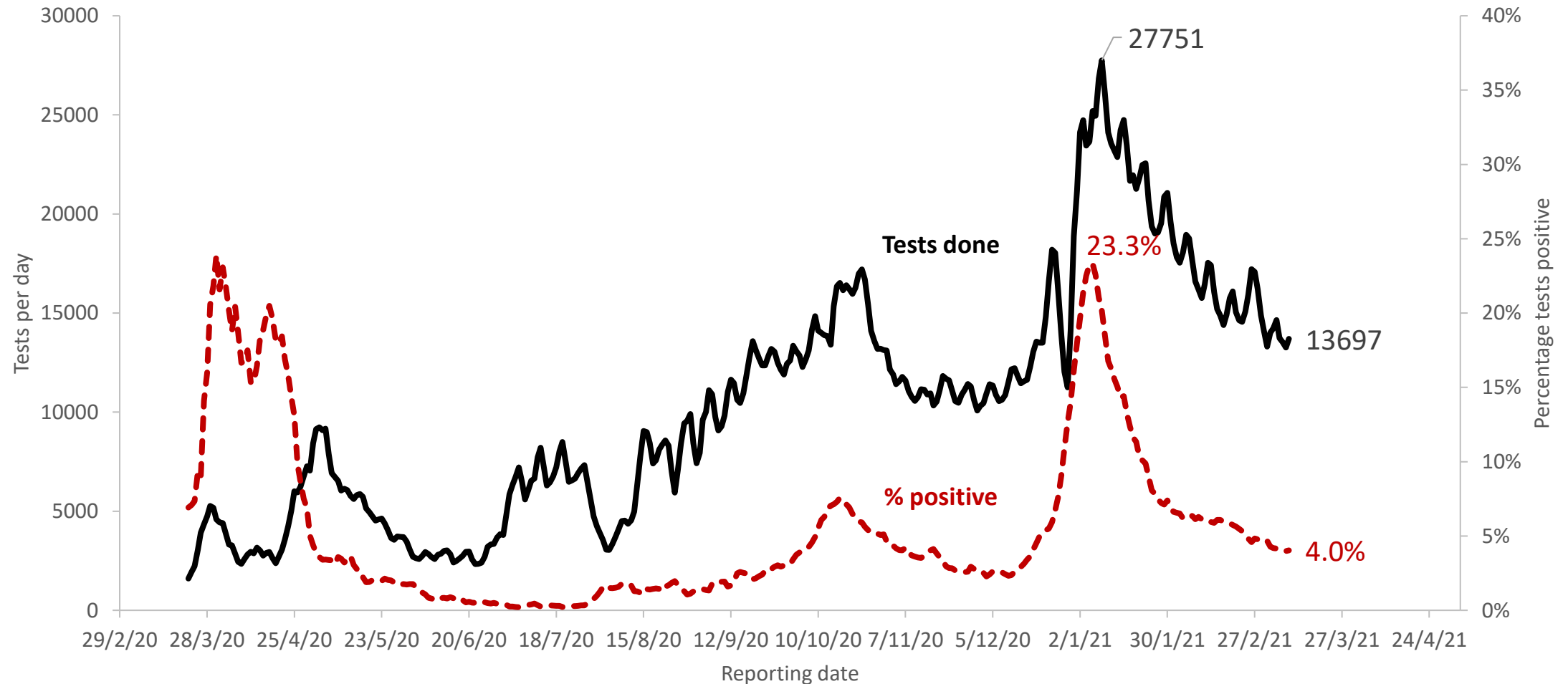
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Testing and test positive rate

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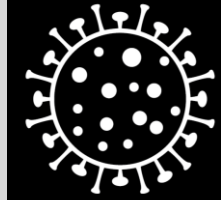
Data 5-day rolling averages, tests outsourced to German laboratory in April backdated using specimen collection date. The aggregate positivity rate should be interpreted with caution, as it includes community referrals, close contacts, mass and serial testing, and hospital testing, and changes in numbers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



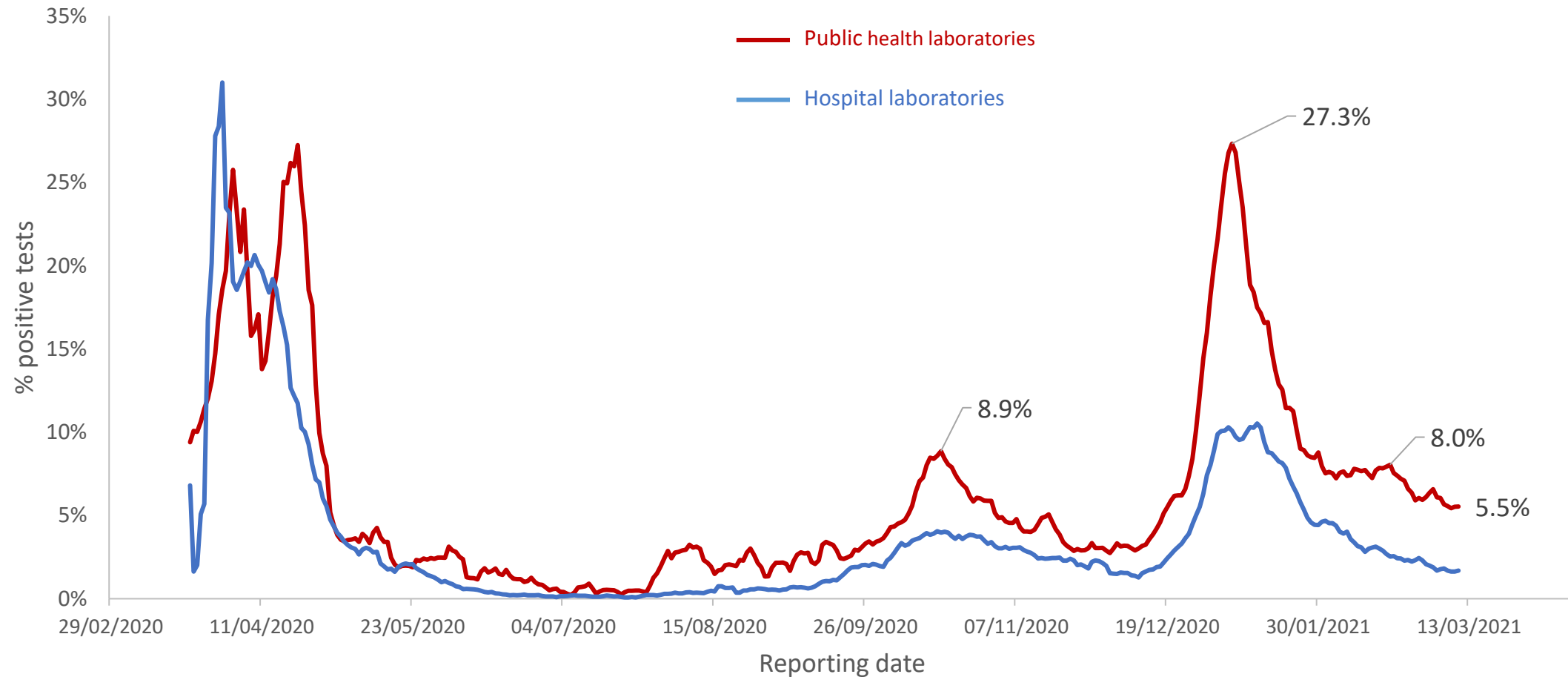
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Test positivity: public health laboratories

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 had been plateaued at 7-8%, but now appears to be decreasing again



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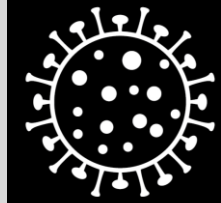
Data 5-day rolling averages of percentage of tests reported positive per day. Public health laboratories are NVRL and associated laboratories, plus Cherry Orchard
Backlog tests outsourced to German laboratory in April are not backdated and are assigned to date reported



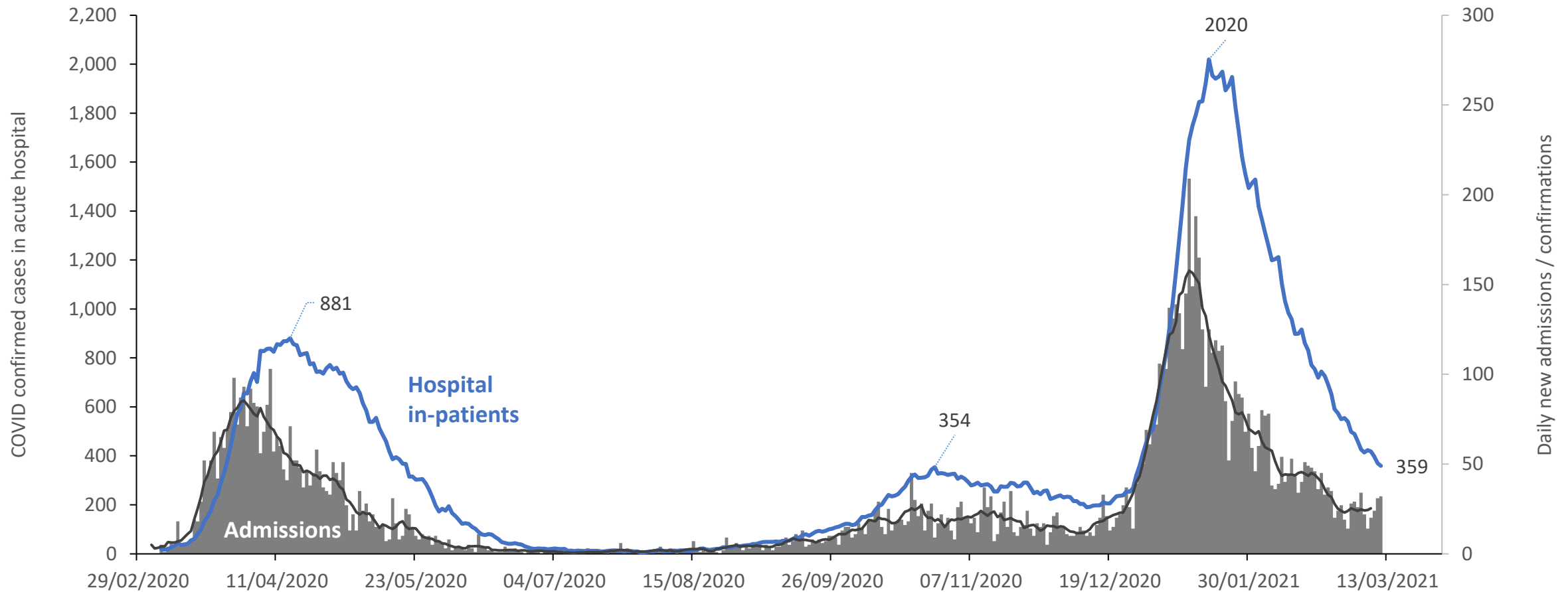
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Confirmed cases in acute hospitals

The number of people in hospital with confirmed SARS-CoV-2 infection. The number of people in hospital and the number of admissions and newly confirmed cases in hospital per day is decreasing.



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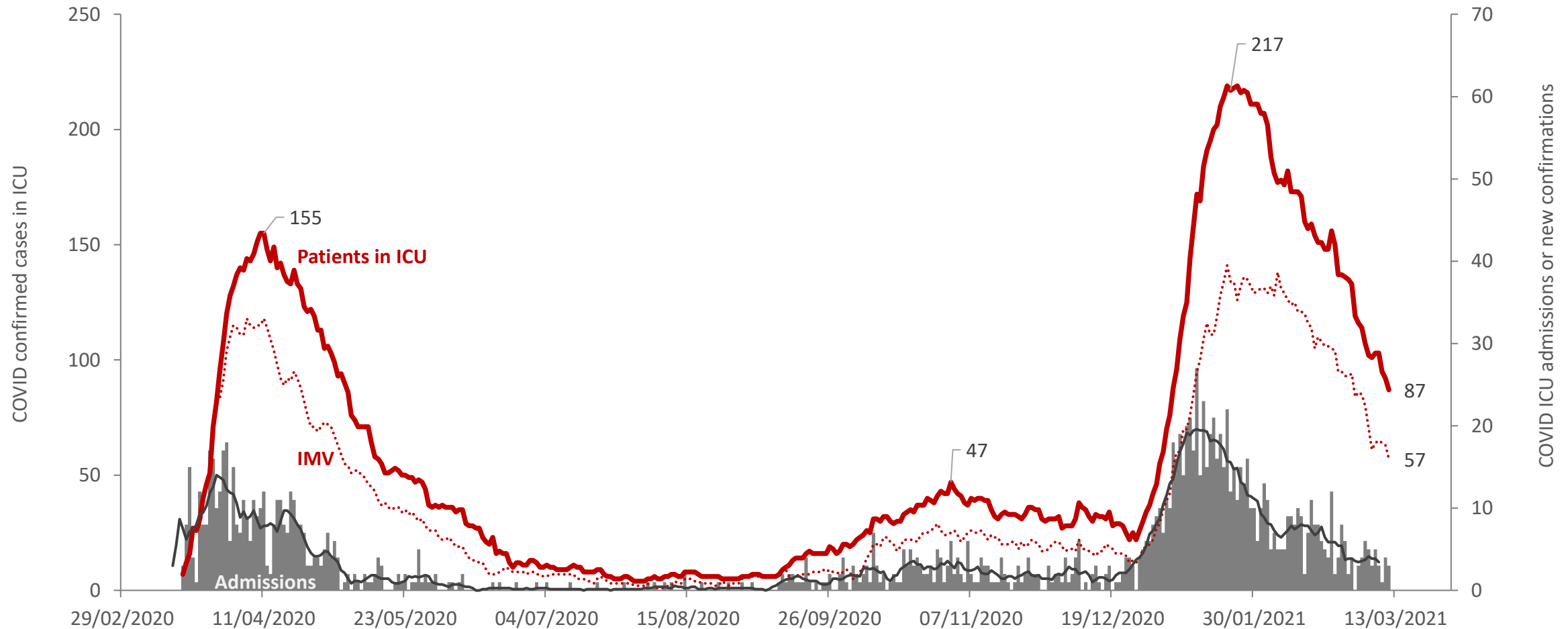
Hospital in-patients: Daily count of number of COVID-19 confirmed cases in acute hospitals. Admissions: New COVID-19 confirmed admissions and new laboratory confirmations of suspected cases in preceding 24 hours (7-day moving average also shown). Data from HSE PMIU-SDU, 8am census.



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Confirmed cases in intensive care

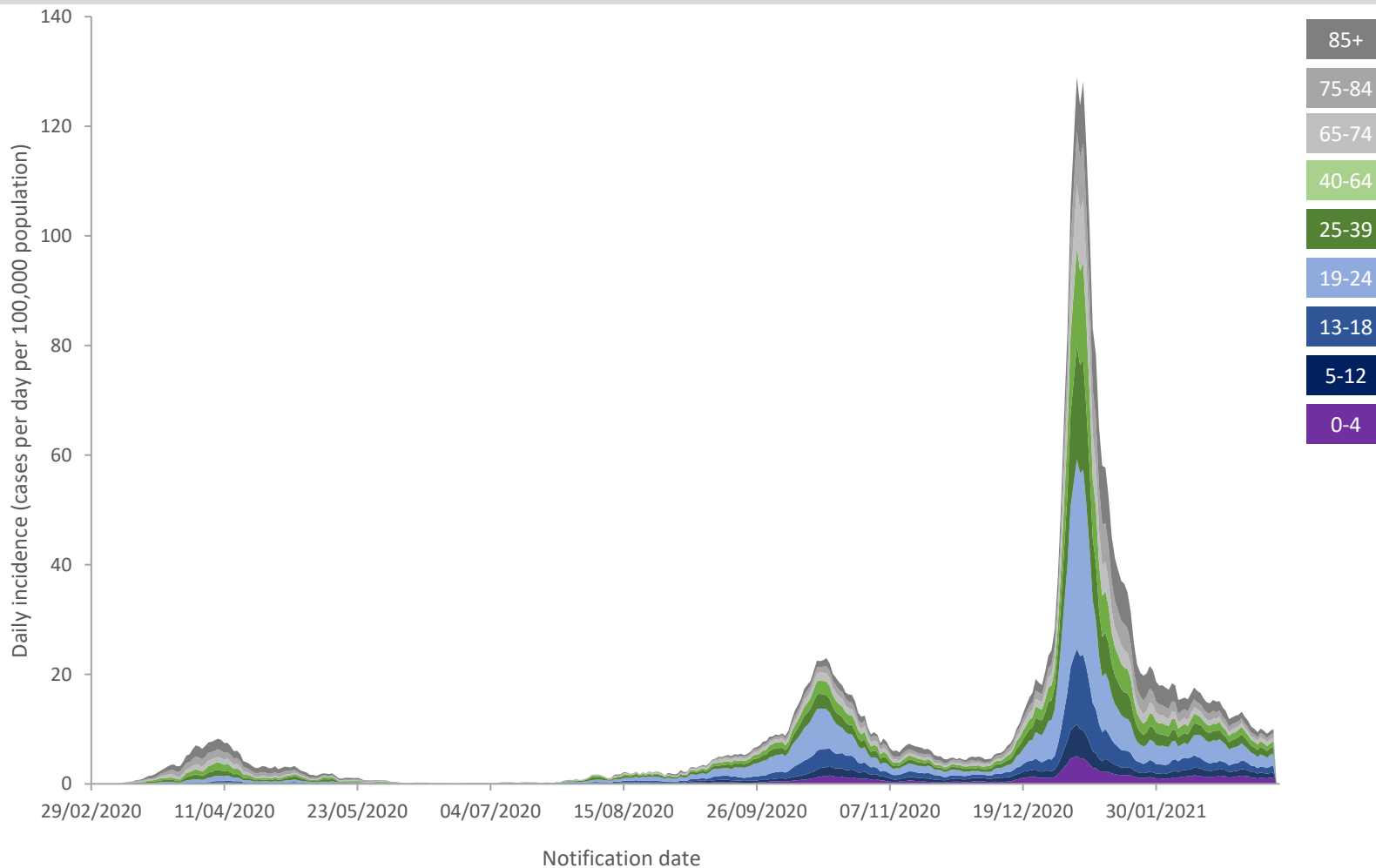
The number of people in ICU with confirmed SARS-CoV-2 infection remains high but is decreasing.



Patients in ICU: Daily count of number of COVID-19 confirmed cases in ICU. IMV: Daily count of number of COVID-19 patients requiring invasive mechanical ventilation. Admissions: daily new COVID-19 confirmed admissions to ICU and new laboratory confirmations of suspected cases in ICU (7-day average also shown). Data from morning census from NOCA

Incidence across different age groups (excluding HCW and LTRC)

Incidence has decreased across all age groups, and is relatively evenly spread across age groups

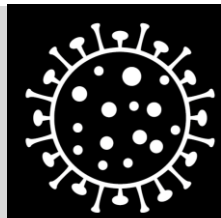


Week	Age band								
	0-4	5-12	13-18	19-24	25-39	40-64	65-74	75-84	85+
9	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.0
10	0.0	0.2	0.3	0.0	0.2	0.7	0.5	1.0	0.0
11	0.6	0.2	0.5	5.4	5.0	4.4	4.6	6.6	7.4
12	4.5	2.4	7.5	22.9	27.7	31.1	25.2	24.9	37.0
13	6.9	4.2	14.5	58.3	73.3	86.5	72.6	88.5	94.7
14	4.5	4.4	6.7	28.1	40.1	50.9	50.9	91.1	125.8
15	5.7	5.6	9.1	31.4	29.3	47.4	46.9	71.8	118.4
16	3.0	5.3	10.8	19.3	20.8	32.1	29.2	50.4	75.5
17	3.3	4.2	7.8	21.1	23.6	26.5	21.2	50.4	77.0
18	4.5	6.4	9.4	20.2	26.0	21.0	18.7	37.7	53.3
19	2.1	2.7	4.6	13.3	15.2	14.3	10.4	18.8	37.0
20	3.6	1.6	5.1	12.1	16.4	12.1	6.7	9.2	13.3
21	3.3	2.7	4.6	8.5	6.3	8.2	7.5	15.3	22.2
22	2.1	2.4	2.2	4.2	5.1	6.8	4.0	4.6	5.9
23	1.2	0.5	1.3	3.0	0.8	1.9	1.6	5.6	3.0
24	2.7	0.7	1.3	1.5	1.3	1.4	1.6	2.0	1.5
25	0.0	0.4	0.5	1.8	1.4	1.0	0.8	0.5	1.5
26	0.6	0.2	0.3	1.8	1.5	0.7	0.8	1.5	3.0
27	1.5	0.4	0.3	1.8	1.9	0.9	0.0	1.0	0.0
28	0.9	1.1	1.1	10.3	2.0	1.0	1.3	1.0	3.0
29	1.2	0.4	0.8	3.6	3.3	2.0	2.9	1.5	3.0
30	1.8	0.5	1.6	3.6	4.3	0.9	1.9	0.0	1.5
31	4.8	2.6	7.3	11.2	8.5	4.6	2.1	2.5	3.0
32	4.5	3.6	6.7	18.4	16.4	10.5	4.6	2.5	3.0
33	6.0	10.0	12.1	27.2	19.5	12.1	8.3	2.5	7.4
34	7.2	7.5	17.5	37.4	16.6	11.4	5.9	5.1	4.4
35	6.3	9.7	13.5	37.1	18.5	11.1	4.8	9.2	5.9
36	13.0	13.1	17.2	47.7	21.6	13.3	11.0	11.7	14.8
37	17.2	17.9	30.1	63.4	28.7	24.4	22.2	8.7	10.4
38	21.7	26.2	43.9	90.6	44.0	34.9	33.2	19.8	19.2
39	12.1	22.6	42.8	147.0	49.9	41.8	32.9	31.0	20.7
40	29.6	28.8	63.2	167.6	68.0	57.8	34.5	26.0	20.7
41	42.8	46.8	132.9	316.7	115.3	89.7	61.6	51.9	60.7
42	78.1	90.4	197.5	434.2	154.4	142.7	90.2	67.2	69.6
43	81.7	93.9	174.7	302.2	123.3	121.7	85.4	82.4	84.4
44	55.8	67.3	96.1	155.8	75.5	77.7	55.2	55.5	59.2
45	34.7	40.1	57.9	83.9	57.9	46.0	42.8	44.3	47.4
46	41.9	37.2	65.4	89.4	45.5	45.0	32.4	42.7	69.6
47	22.0	34.1	60.0	79.7	34.6	33.0	29.2	39.7	62.2
48	23.2	31.3	45.5	66.4	33.8	29.7	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	35.0	22.2	31.0	22.2
51	51.9	58.5	74.5	128.3	87.9	80.8	54.6	54.5	51.8
52	77.5	77.1	120.3	325.5	175.7	134.9	96.1	95.2	121.4
53	217.8	236.6	513.7	1402.7	761.7	636.5	424.6	350.1	361.2
1	183.7	208.9	569.2	1329.7	792.1	722.2	498.2	446.3	556.6
2	130.3	126.5	302.2	582.7	415.6	420.4	302.3	410.7	578.8
3	93.5	81.3	169.0	329.1	256.0	245.4	170.5	252.9	414.5
4	73.3	60.7	127.8	228.6	153.1	146.0	119.7	163.4	266.4
5	78.1	72.9	126.5	208.9	126.9	123.6	85.9	116.5	216.1
6	91.7	85.3	124.6	224.3	117.6	101.6	68.5	89.6	125.8
7	87.5	76.5	95.8	253.0	106.8	88.6	59.4	79.9	119.9
8	87.5	69.6	90.2	186.9	94.7	77.5	43.6	57.0	90.3
9	66.1	55.4	64.6	125.0	76.3	59.2	45.2	46.8	44.4

Chart shows 5-day rolling average of total incidence (cases per day per 100,000 population) with coloured bands showing the contribution of each age cohort to the total incidence, having adjusted for the number of people in that age cohort (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 date. A number of cases in those aged 65 and older will be linked in the coming days to outbreaks in LTRC.

Incidence across different age groups (excluding HCW and LTRC)

Incidence has decreased across all age groups, and is relatively evenly spread across age groups with highest incidence in those aged 19-24 years.



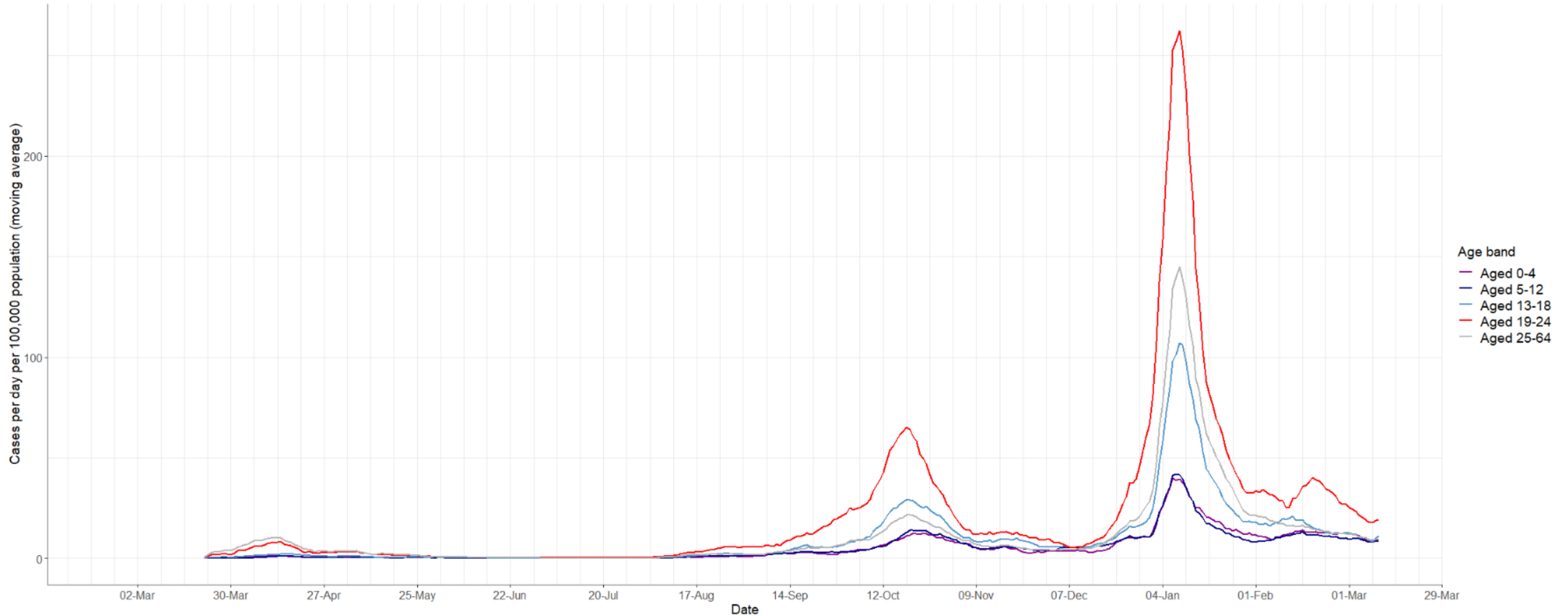
Week	Age band								
	0-4	5-12	13-18	19-24	25-39	40-64	65-74	75-84	85+
47	22.0	34.1	60.0	79.7	34.6	33.0	29.2	39.7	62.2
48	23.2	31.3	45.5	66.4	33.8	29.7	22.2	36.1	40.0
49	28.4	37.0	37.7	40.5	33.2	30.1	25.4	29.0	42.9
50	21.4	39.9	44.1	57.4	39.9	35.0	22.2	31.0	22.2
51	51.9	58.5	74.5	128.3	87.9	80.8	54.6	54.5	51.8
52	77.5	77.1	120.3	325.5	175.7	134.9	96.1	95.2	121.4
53	217.8	236.6	513.7	1402.7	761.7	636.5	424.6	350.1	361.2
1	183.7	208.9	569.2	1329.7	792.1	722.2	498.2	446.3	556.6
2	130.3	126.5	302.2	582.7	415.6	420.4	302.3	410.7	578.8
3	93.5	81.3	169.0	329.1	256.0	245.4	170.5	252.9	414.5
4	73.3	60.7	127.8	228.6	153.1	146.0	119.7	163.4	266.4
5	78.1	72.9	126.5	208.9	126.9	123.6	85.9	116.5	216.1
6	91.7	85.3	124.6	224.3	117.6	101.6	68.5	89.6	125.8
7	87.5	76.5	95.8	253.0	106.8	88.6	59.4	79.9	119.9
8	87.5	69.6	90.2	186.9	94.7	77.5	43.6	57.0	90.3
9	66.1	55.4	64.6	125.0	76.3	59.2	45.2	46.8	44.4

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.



Age-specific incidence

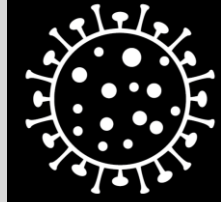
Increases in incidence in older age groups precede increases in incidence in children; there is no evidence that the opening of schools in September 2020 altered the growth rate or pattern of the pandemic in Ireland



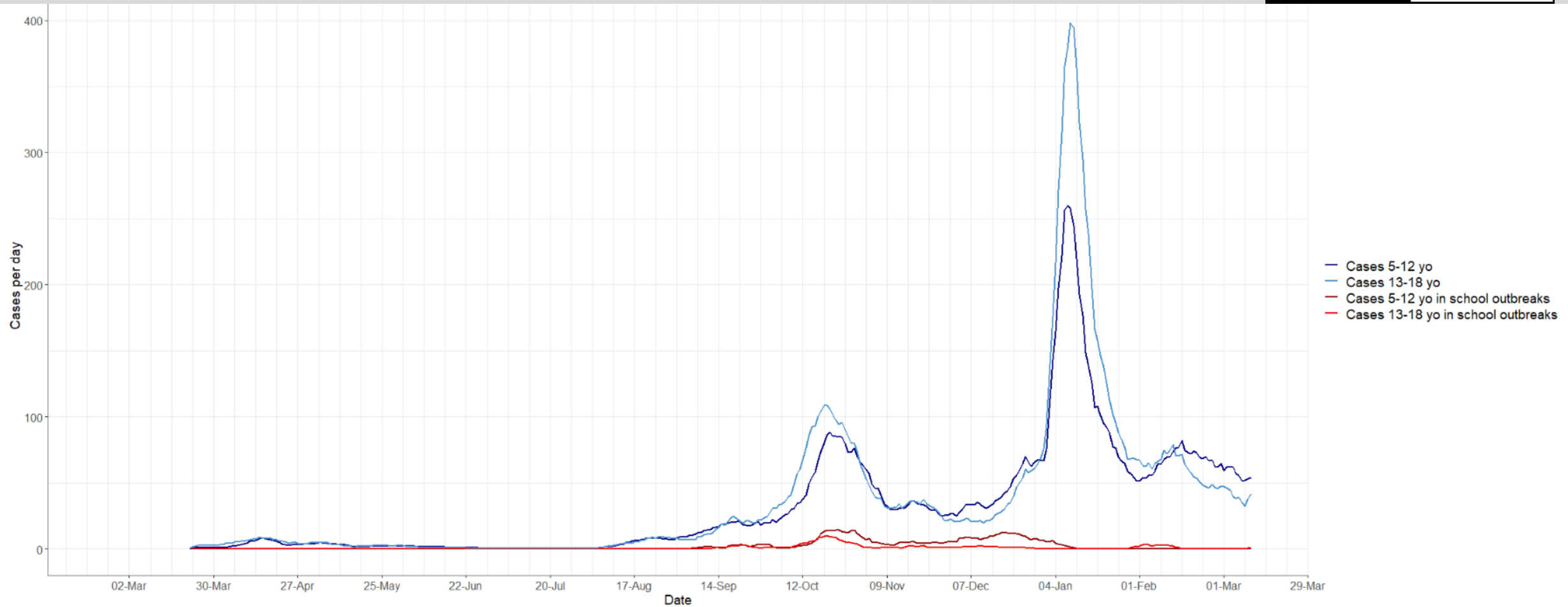
Age-specific incidence (cases per day per 100,000 population) for those aged 19-24 years (red), 25-64 years (grey), 13-18 years (blue), 5-12 years (navy) and 0-4 years (magenta). Data are averaged using a window that is 7 days or 1000 cases in duration, whichever is longer. Cases dated by notification (event) date.

Cases in outbreaks in schools

The number of cases in school outbreaks is a small fraction of the total number of cases in children of school-going age, and occur later in a surge when there is a high level of disease in the community



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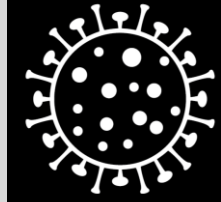
Total cases per day in those aged 5-12 years, and 13-18 years, and those cases in those age bands associated with outbreaks in schools. Data are averaged using a window that is 7 days or 1000 cases in duration, whichever is longer. Cases dated by notification (event) date.



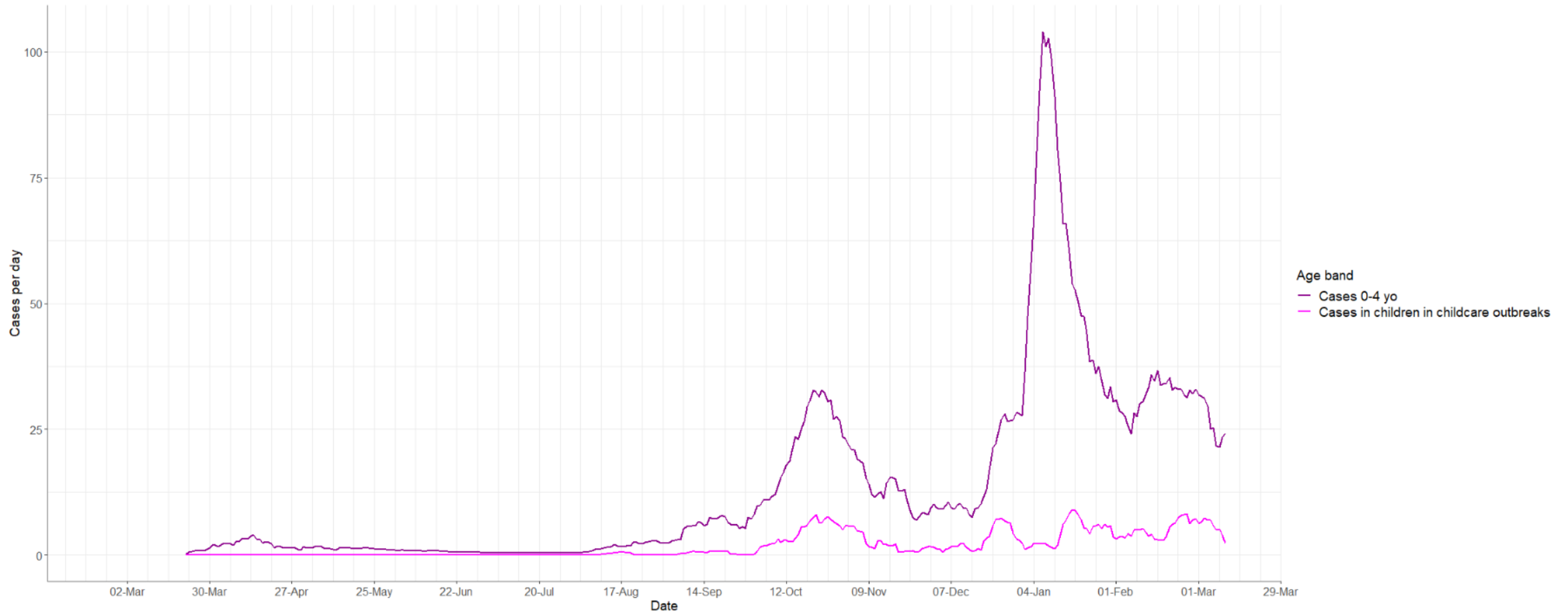
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Cases in outbreaks in schools

The number of cases in outbreaks in childcare is a small fraction of the total number of cases in children aged 0-4 years, and occur later in a surge when there is a high level of disease in the community.



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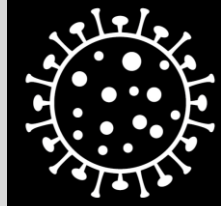
Total cases per day in those aged 0-4 years years, and cases aged 0-4 years associated with outbreaks in childcare facilities.
Data are averaged using a window that is 7 days or 1000 cases in duration, whichever is longer. Cases dated by notification (event) date.



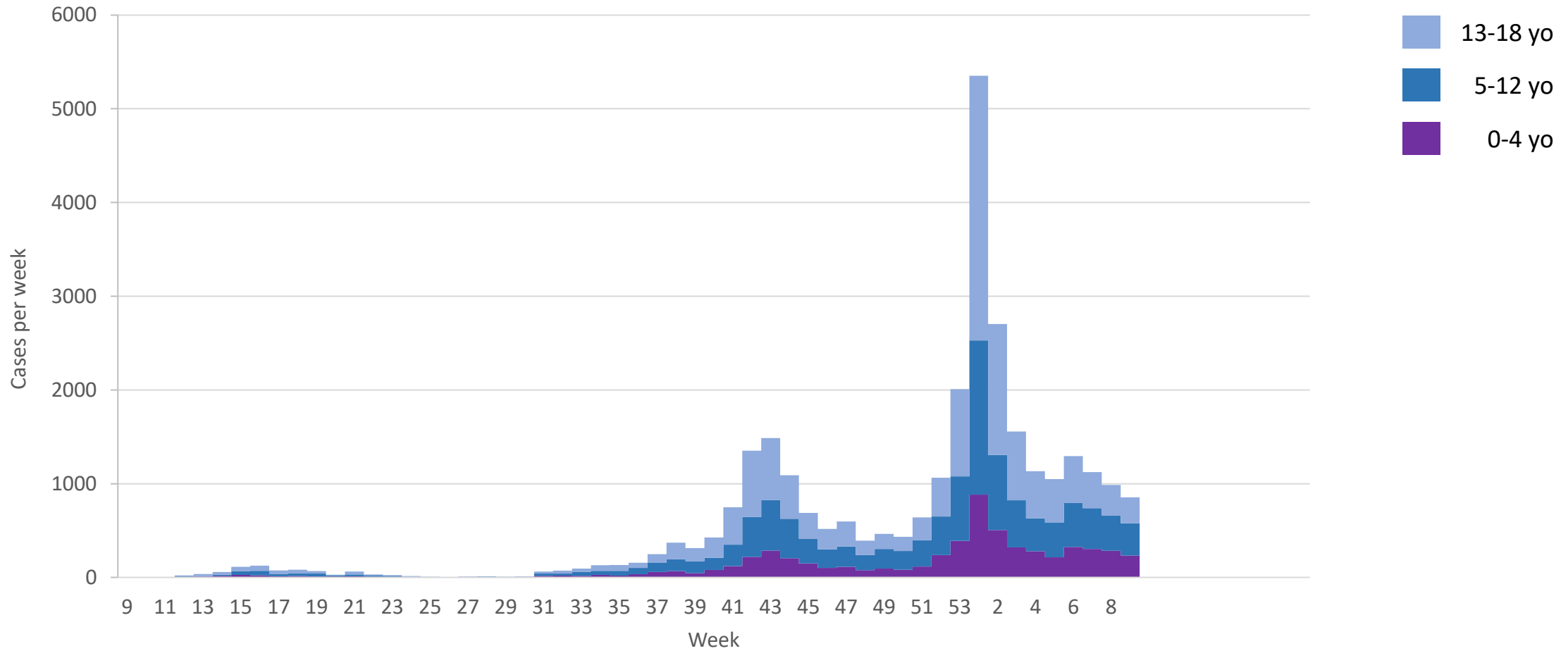
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Incidence in persons aged 18 and under

Weekly case counts in those aged 18 and under; case counts have decreased across all age groups at between -7% and -18% per week, and approximately -14% per week for the cohort as a whole, over the last four weeks



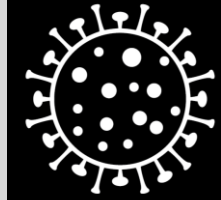
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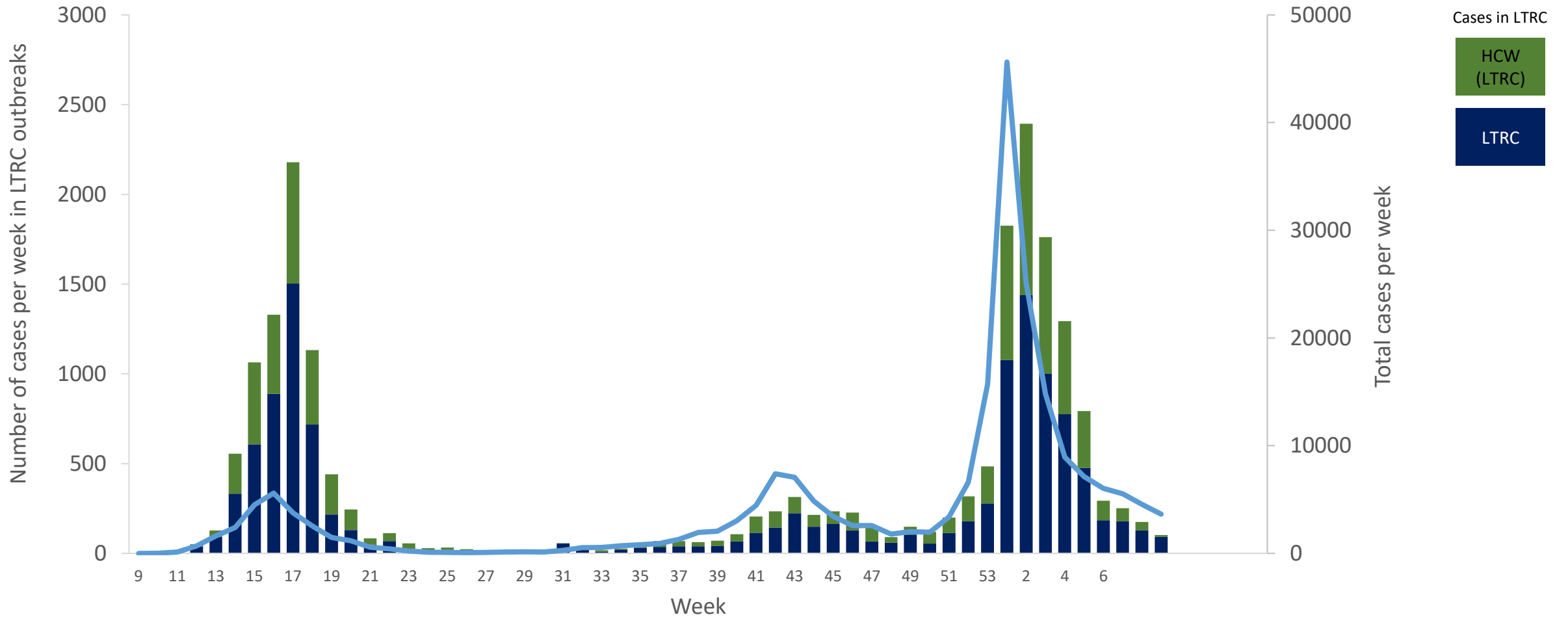
Weekly case counts in those aged 18 and under; cases dated by notification (event) date and epidemiological week.

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, and moreso than would be expected given the level of disease in the the wider community



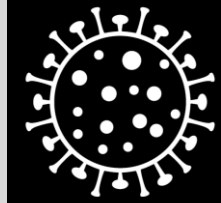
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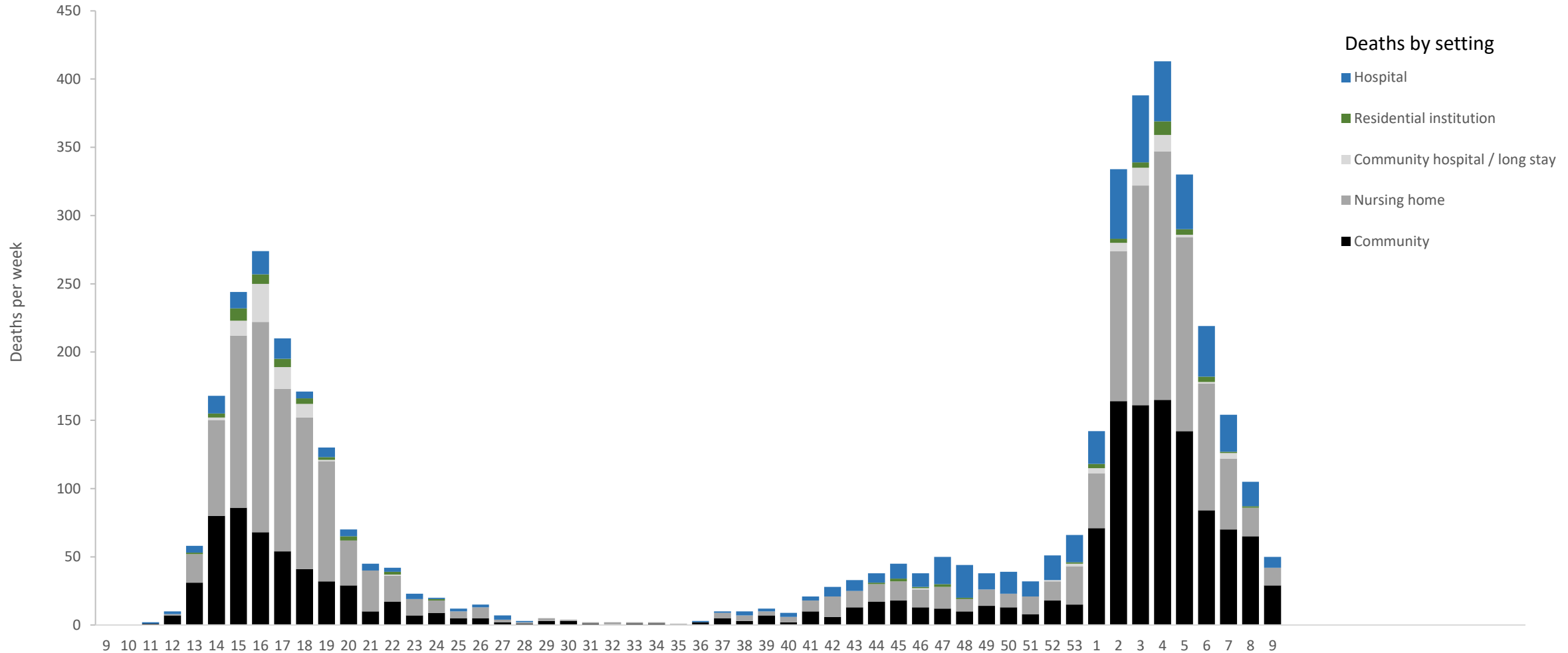
Number of cases per week linked to outbreaks in long-term residential care (bars) compared to the total number of cases per week (dotted line, referred to the secondary y-axis). LTRC: cases amongst residents in outbreaks in long-term residential settings. HCW (LTRC): Cases in healthcare workers associated 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 have decreased earlier and more rapidly than in the wider community, which may be due to the protective effect of vaccination



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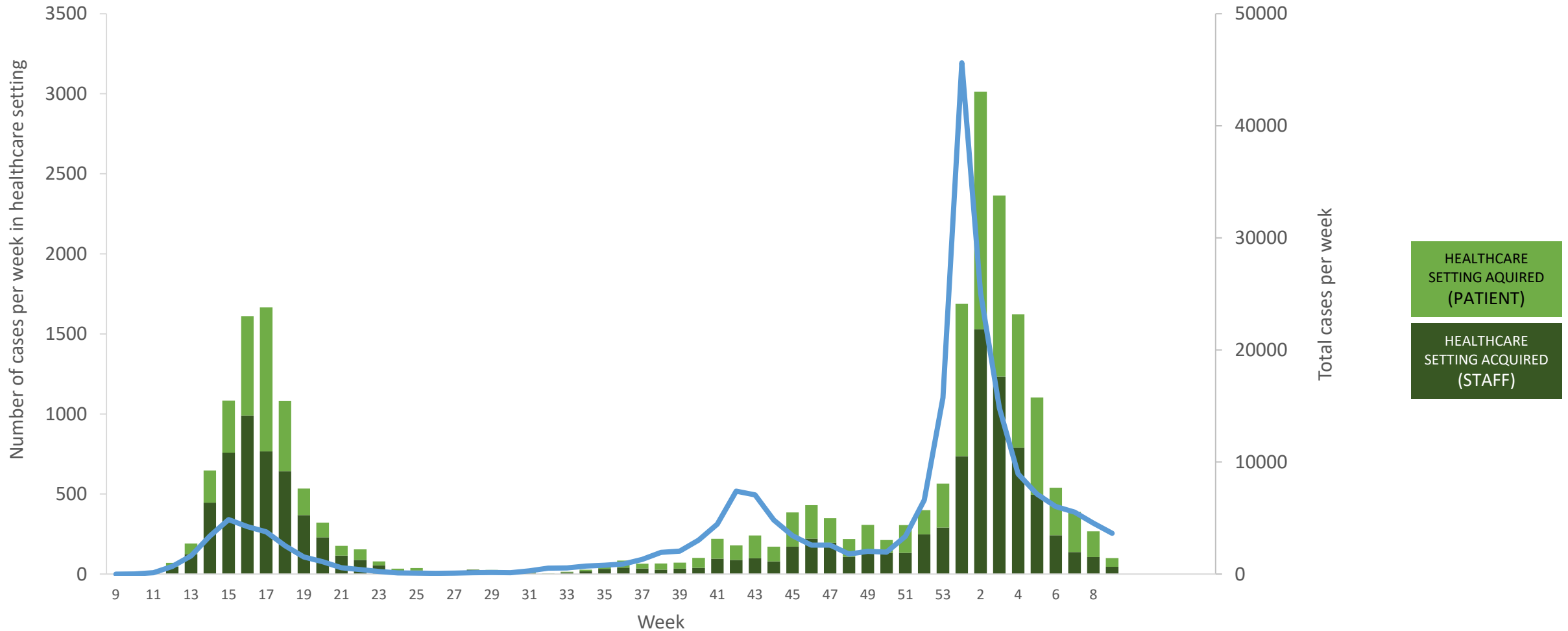
Deaths per week by week of death and the setting in which the death occurred. Deaths with laboratory confirmed SARS-CoV-2 only. Deaths in hospital outbreaks refers to deaths within a cluster of linked cases where the infection has been transmitted in the hospital setting, other deaths in hospitals are recorded as 'community' as the infection occurred in the community.



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Infections in the healthcare setting

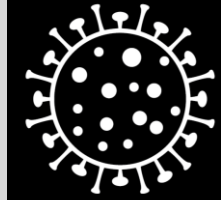
The number of healthcare-setting-acquired infections was very high through January 2021. Nonetheless, when compared to the total burden of disease in the community (total cases per week) the level of infection in healthcare settings is significantly less than in April-May 2020. The incidence of healthcare-acquired infection has decreased rapidly, and more quickly than expected, given its persistence after previous surges of disease



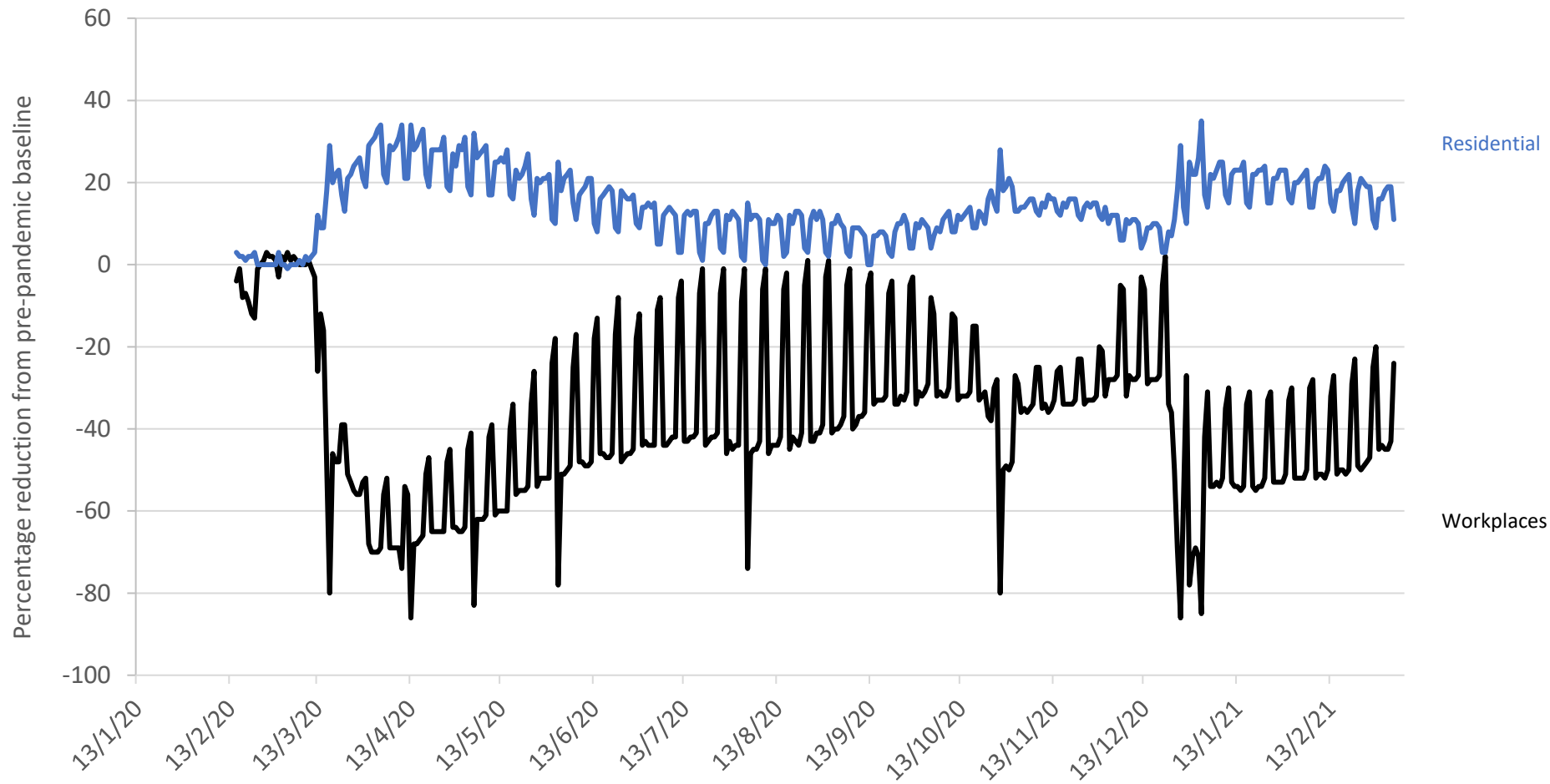
Number of cases per week recorded in CIDR as 'healthcare setting acquired' (bars) compared to the total number of cases per week (dotted line, referred to the secondary y-axis). Cases dated by event date. Tests outsourced to German laboratory in April backdated, using the specimen collection date, to the date they would have been confirmed if tested in a timely manner.

Google community mobility

These data show time spent in residential areas and attendance at workplaces for those who enable location sharing on their Google account; each day of the week is compared with the average for that day of the week over January and February 2020. The attendance at workplaces has increased significantly since 1 March 2021



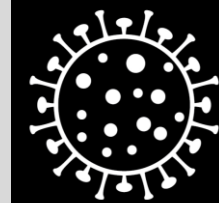
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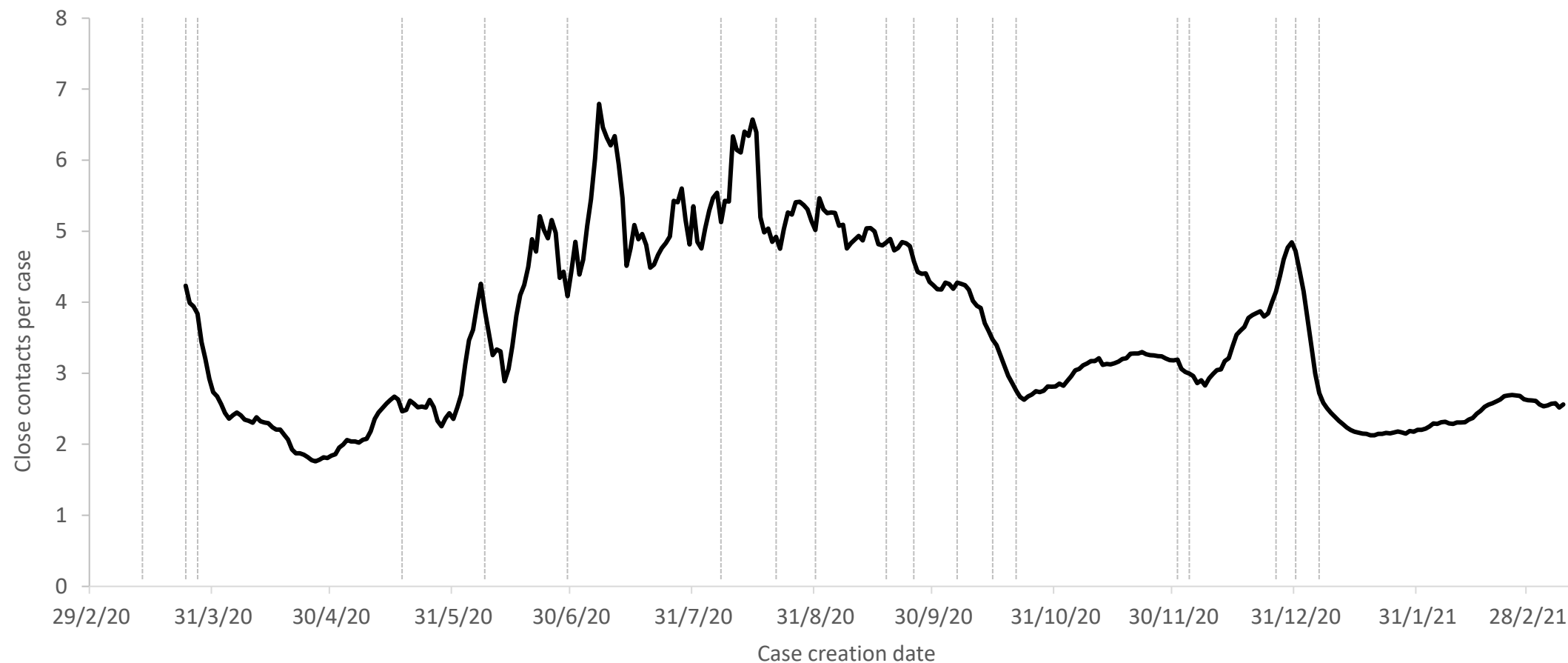
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Close contacts of adult confirmed cases

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 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, fell to 2.1 in January, and while there has been some recent increase, remains stable at ≈ 2.6



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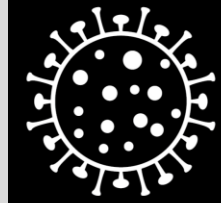
The average number of close contacts per confirmed case. Data from COVID-19 Care Tracker (CCT). Cases dated by case creation date. Cases (but not contacts) aged 18 and younger are excluded. Data are 7-day trailing averages except for the months of June – August where a 21-day trailing average is used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



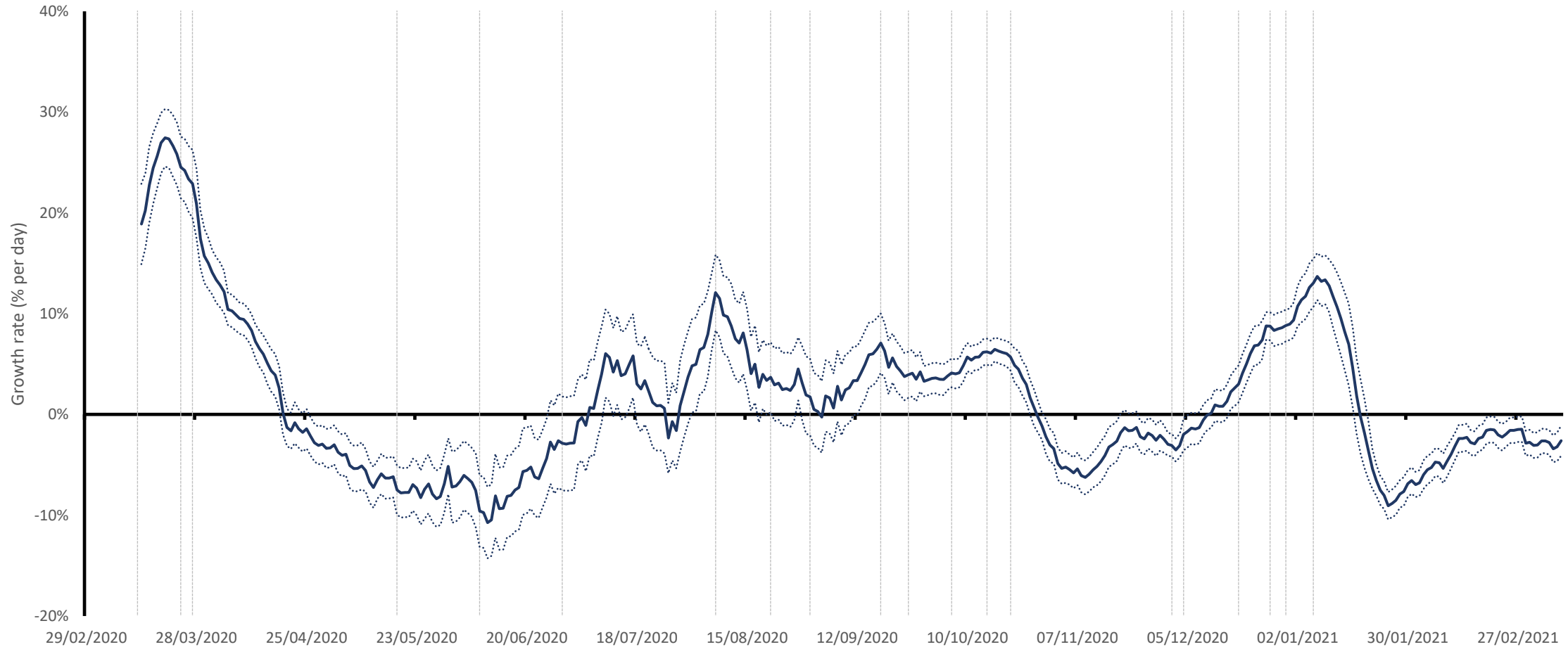
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Growth rate for case numbers

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 0% to -5% per day; this rate of decline has been stable for four weeks



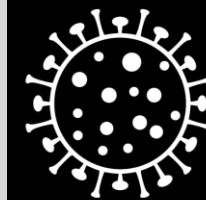
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Growth rate calculated as the average growth rate over a 21-day trailing window, with 95% credible interval; cases dated by notification (event) date.

Estimates of effective reproduction number (R)

Reproduction number is below 1.0 with high levels of uncertainty in its estimation; it is currently estimated at 0.6 – 1.0



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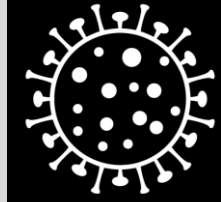
Method	Estimate	95% confidence interval
SEIR model-inferred	0.72	0.46 – 1.02
Bayesian model	0.75	0.38 – 1.21
Time-dependent R	0.82	0.76 – 0.89
GAM estimate 2 Mar 2021	0.88	0.73 – 1.03
GAM estimate 9 Mar 2021	0.93	0.70 – 1.14

Estimates generated 10 March 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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Situation analysis 10 March 2021



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- We are seeing **continued slow progress** against **all indicators of disease**
- **Incidence remains high**
- Cases (5-day average) **499 cases per day**; 14-day incidence **162 per 100,000**
 - Incidence decreasing across all age groups
 - Recent increase in young adults aged 19-24 has reversed
 - Incidence in children has continued to decrease
 - Numbers on hospital and ICU decreasing
 - Test positivity below 4%
- **Concern** that **increased mobility** and workplace attendance may be associated with increasing transmission and **increased infection** in the coming weeks
- We are **maintaining suppression** of transmission but this is **precarious**
 - R and rate of decline uncertain and difficult to estimate
 - Rate of decline could be between 0 to -5%
 - **R is uncertain and estimated at 0.6 – 1.0**
- While evidence of protective effect of vaccination in LTRC and HCW the population is not protected and we remain at **high risk**