IEMAG briefing

18 March 2021

Coronavirus
COVID-19
Public Health
Advice

Cases, numbers in hospital and intensive care

There is progress against all indicators of disease, though cases and the 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.

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	Apr 2020	Summer 2020	Oct 2020	Dec 2020	Jan 2021	17 Feb	24 Feb	3 Mar	10 Mar	17 Mar	Daily count 18 Mar
Cases confirmed per day	859 18-04	8.7 25-06	1158 21-10	262 12-12	6520 10-01	816	737	620	487	520	582
14-day incidence *per 100,000 population*	212 19-04	3.0 04-07	306 26-10	79 09-12	1532 15-01	261	231	199	163	148	151
Hospital in-patients	862 17-04	9 02-08	333 01-11	198 16-12	1949 24-01	907	723	542	415	351	345
Hospital admissions per day	*85* *04-04*	*<1* *10-07*	*27* *26-10*	*11* *13-12*	*158* *15-01*	*45*	*40*	*23*	*24*	*23*	*24*
ICU confirmed cases	150 14-04	4 04-08	43 04-11	26 27-12	217 28-01	163	149	127	100	86	83
ICU admissions per day	*14* *31-03*	*<1* *03-06*	*4* *03-11*	*1* *16-12*	*20* *17-01*	*8*	*6*	*4*	*4*	*3*	*7*
Deaths confirmed per day	46 22-04	<1 30-07	7 01-12	4 17-12	57 03-02	35	29	18	20	10	*0*

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.

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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 plateaued at 489

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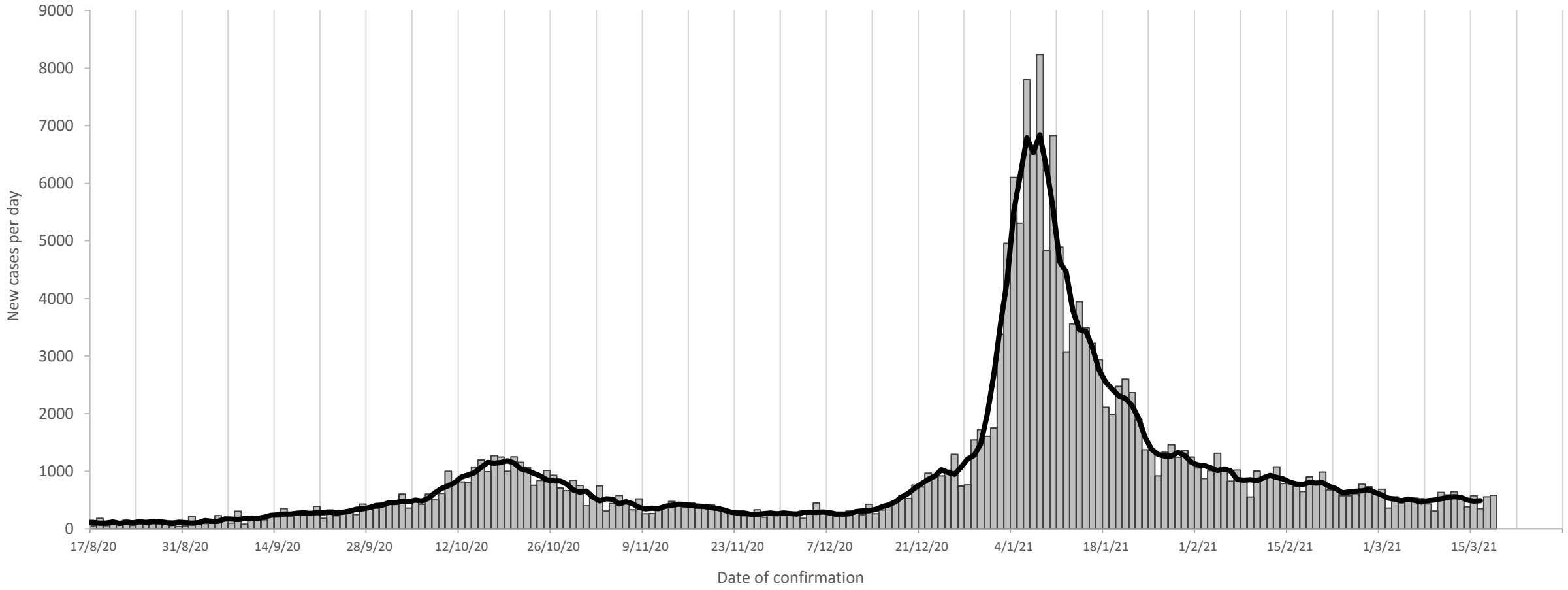
Cases per week	711	796	912	1303	1947	2059	3031	4457	7398	7073	4838	3424	2583	2580	1798	2028	1964	3368	6597	15729	45621	25123	14815	8931	7147	6031	5530	4554	3632	3538



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.

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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 is plateaued at ≈ 4%.

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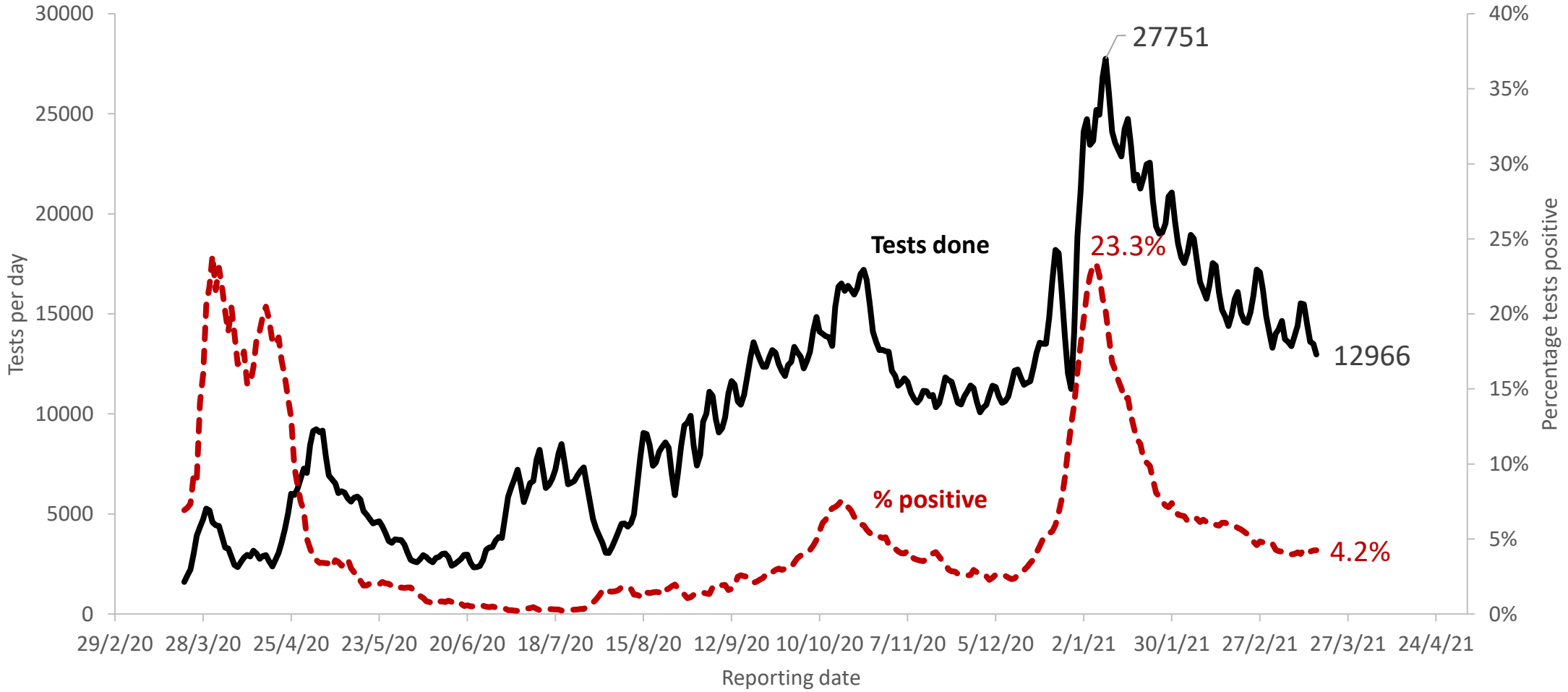

Data 5-day rolling averages, tests outsourced to German laboratory in April backdated using specimen collection date. The aggregate positivity rate should be interpreted with caution, as it includes community referrals, close contacts, mass and serial testing, and hospital testing, and changes in numbers 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. Positivity rates in public health laboratories have decreased from a peak 5-day average positivity of 27.4% on 6 January but are plateaued at ≈ 6%.

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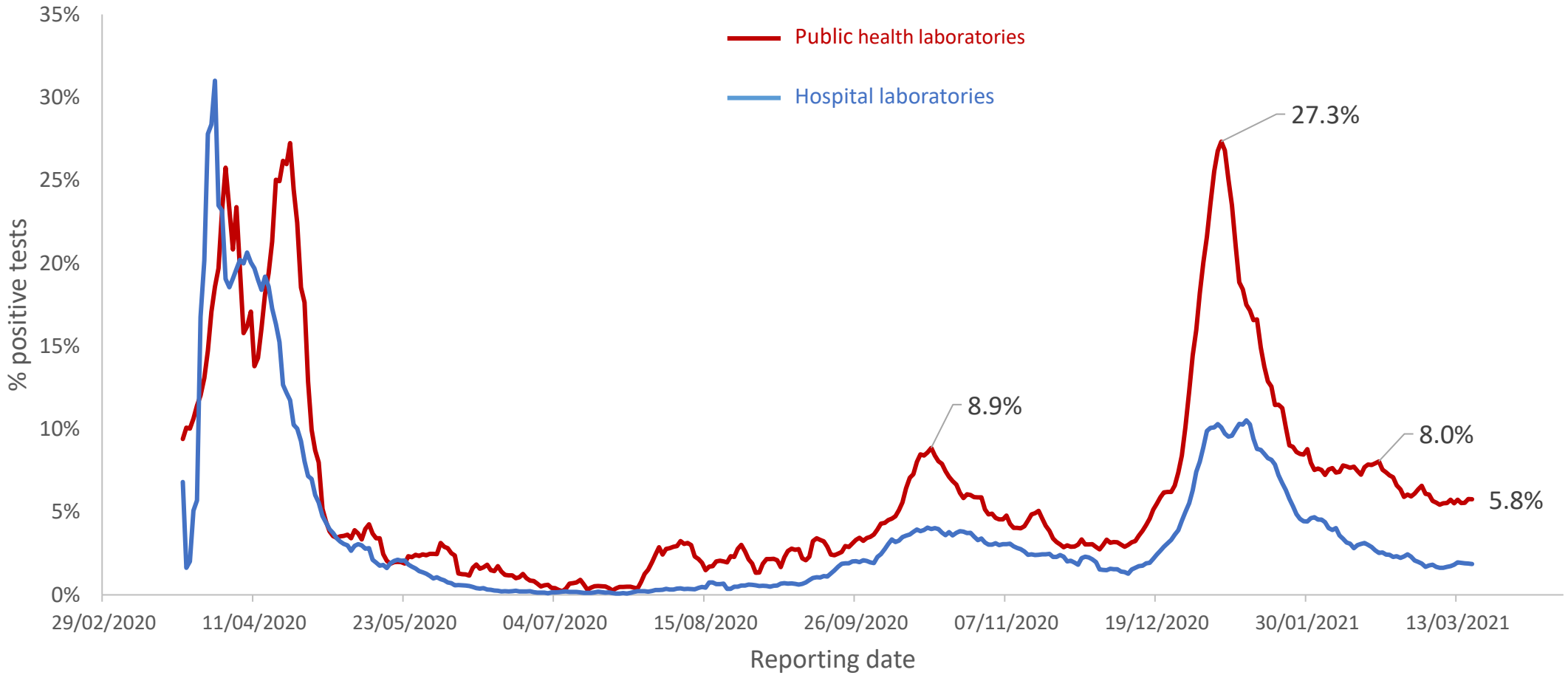

Data 5-day rolling averages of percentage of tests reported positive per day. Public health laboratories are NVRL and associated laboratories, plus Cherry Orchard
Backlog tests outsourced to German laboratory in April are not backdated and are assigned to date reported

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Daily incidence

Daily incidence is currently twice what it was in early December, and approximately 50 times what it was in late June 2020. Incidence is plateaued at approximately 500 cases per day.

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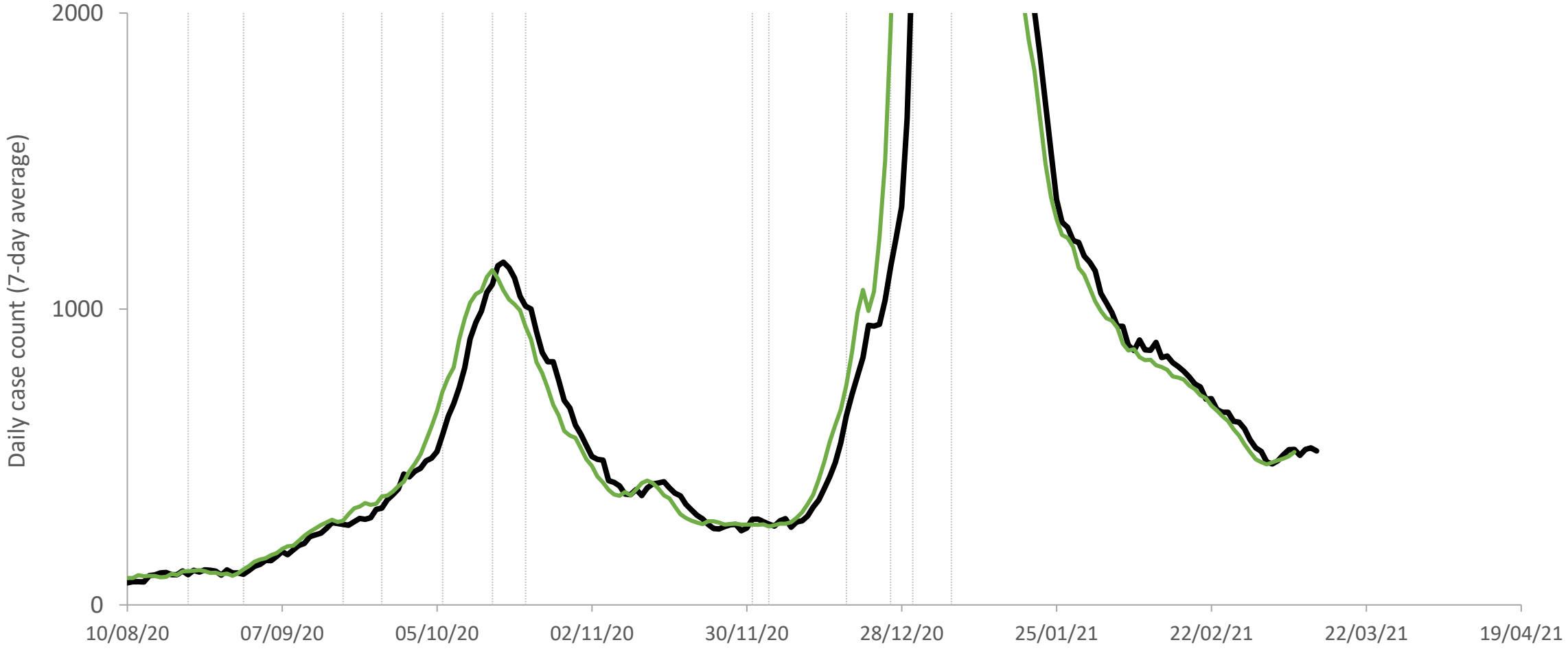

Daily cases by notification (event) date (black, the date the case was entered on the CIDR database) and specimen collection date (green). The vertical dashed lines indicate the dates of escalation and de-escalation of public health restrictions. Data are 7-day moving averages.

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Confirmed cases in acute hospitals

The number of people in hospital with confirmed SARS-CoV-2 infection. The number of people in hospital is decreasing, but the number of admissions and newly confirmed cases in hospital per day is plateaued at 20-25 per day.

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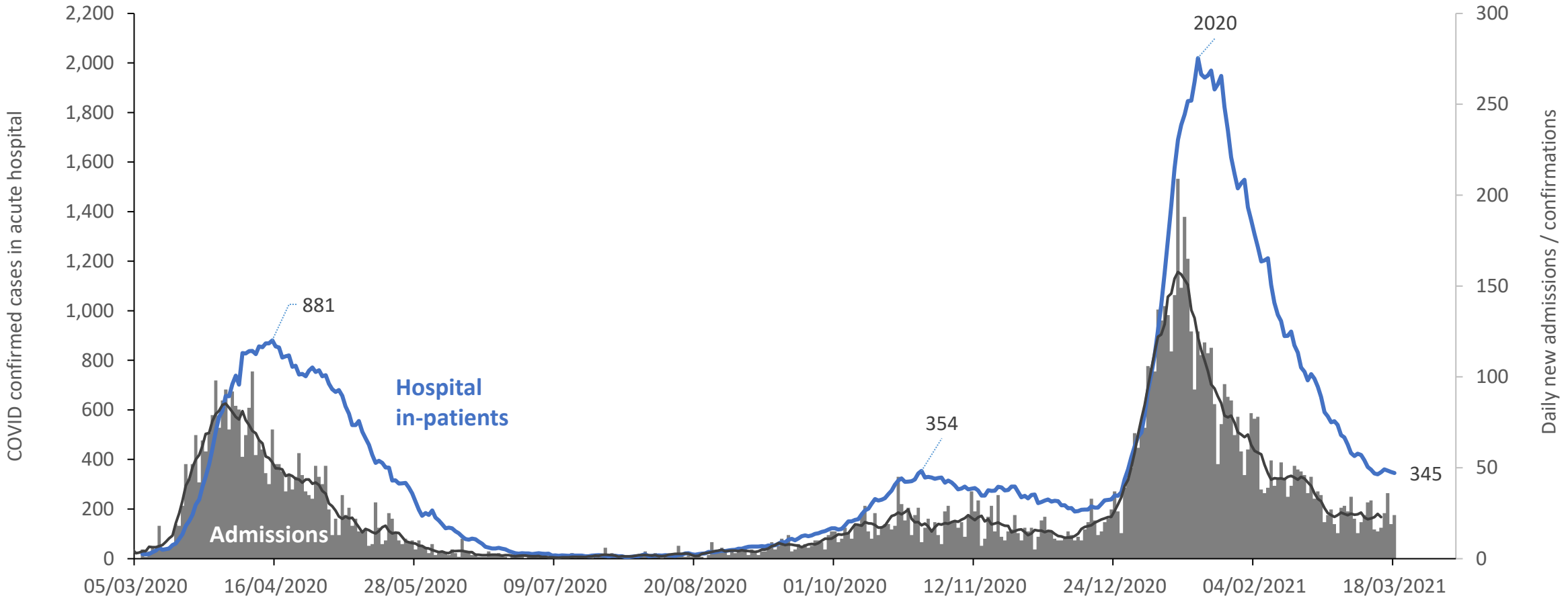

Hospital in-patients: Daily count of number of COVID-19 confirmed cases in acute hospitals. Admissions: New COVID-19 confirmed admissions and new laboratory confirmations of suspected cases in preceding 24 hours (7-day moving average also shown). Data from HSE PMIU-SDU, 8am census.

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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 slowly.

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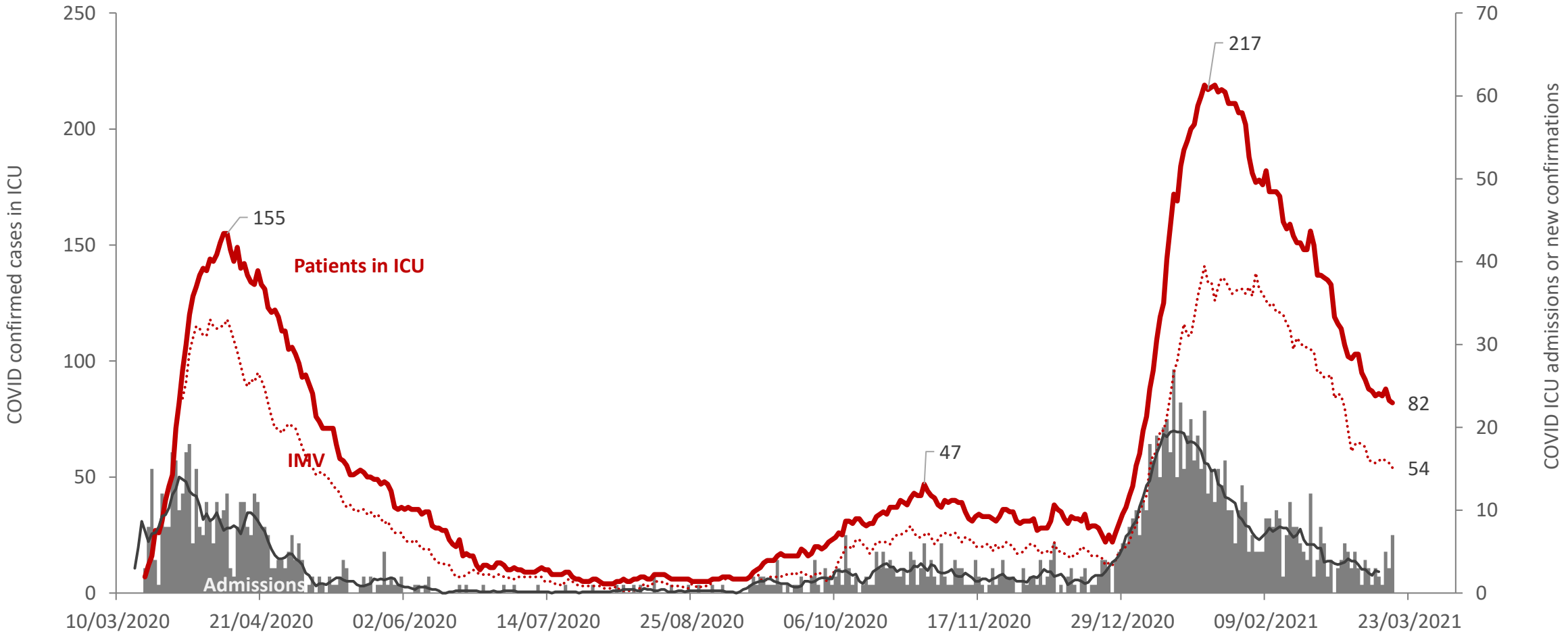

Patients in ICU: Daily count of number of COVID-19 confirmed cases in ICU. IMV: Daily count of number of COVID-19 patients requiring invasive mechanical ventilation. Admissions: daily new COVID-19 confirmed admissions to ICU and new laboratory confirmations of suspected cases in ICU (7-day average also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

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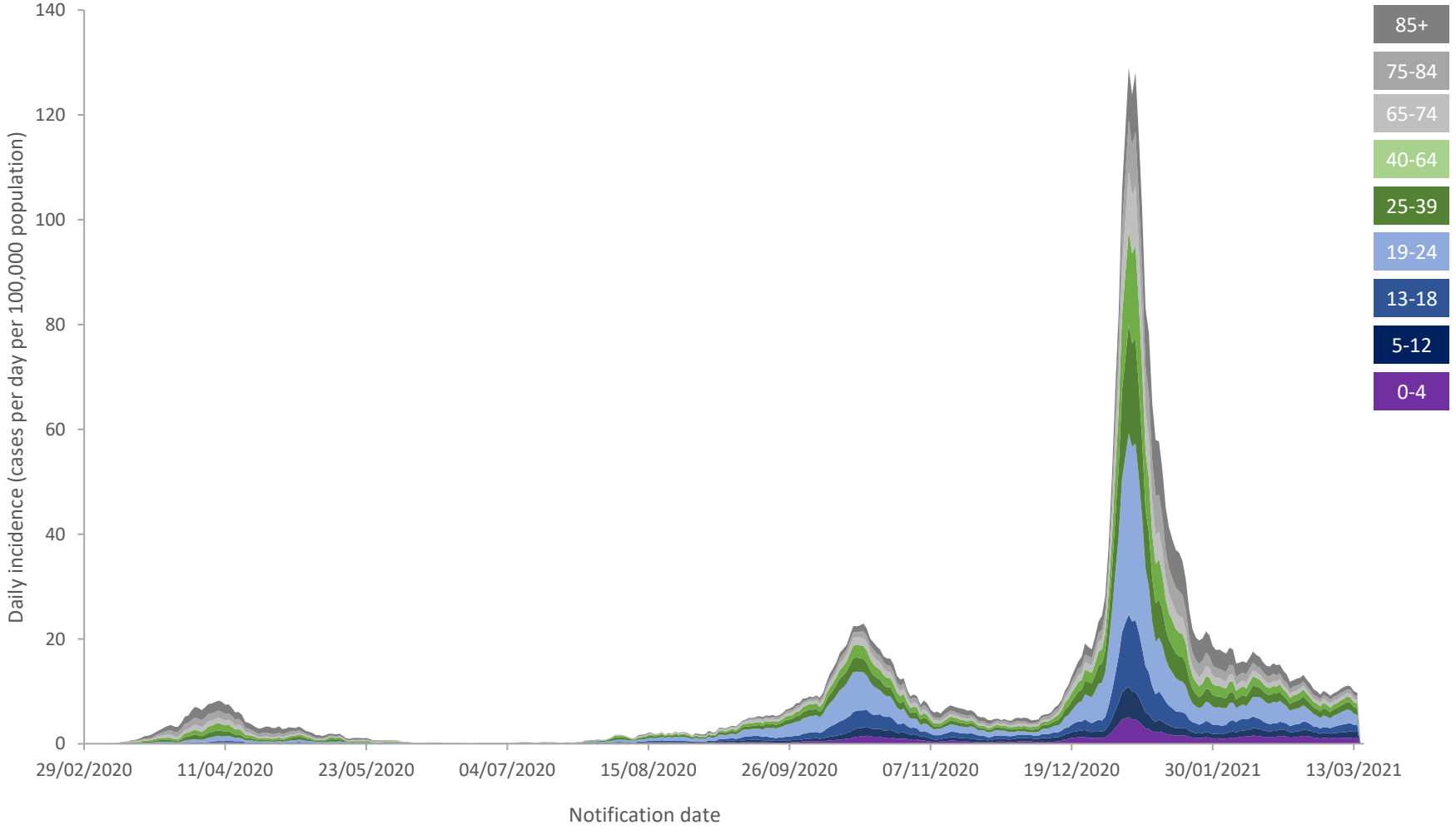
Incidence across different age groups (excluding HCW and LTRC)

Incidence increased in those aged 5 - 64 years between week 9 and week 10, most prominently in those aged 19-24 years, 13-18 years, 5-12 years and 25-39 years.



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	47.7	72.8	119.9
16	3.0	5.3	10.8	19.3	20.8	32.1	29.5	50.9	79.9
17	3.3	4.2	7.8	21.7	23.6	26.7	21.4	56.5	97.7
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	10.2	19.3	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	1.1	1.0	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	18.4	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	146.7	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	301.9	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	41.4
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	175.6	134.9	96.1	95.2	119.9
53	218.1	236.6	513.7	1402.1	761.4	636.2	424.4	350.1	361.2
1	183.7	208.9	569.2	1330.0	791.4	722.1	498.0	446.3	556.6
2	130.6	126.5	303.0	582.4	415.8	419.8	302.0	410.7	578.8
3	93.5	81.3	168.2	329.4	254.1	245.6	170.8	253.4	413.0
4	74.2	60.9	127.8	230.1	154.9	146.8	119.9	161.8	269.4
5	78.1	72.9	126.8	208.3	127.0	124.0	85.9	116.5	214.6
6	91.7	85.3	124.6	223.7	117.7	101.5	68.5	90.1	125.8
7	87.5	76.4	96.6	253.3	106.4	88.6	59.2	79.9	119.9
8	87.5	69.8	89.9	186.6	94.2	77.1	43.4	56.0	90.3
9	67.0	57.0	65.4	125.3	76.1	58.6	45.2	45.3	41.4
10	68.2	68.0	90.2	146.4	80.3	59.1	39.6	41.7	42.9

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.

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Incidence across different age groups (excluding HCW and LTRC)

Incidence increased in those aged 5 - 64 years between week 9 and week 10, most prominently in those aged 19-24 years, 13-18 years, 5-12 years and 25-39 years.

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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	41.4
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	175.6	134.9	96.1	95.2	119.9
53	218.1	236.6	513.7	1402.1	761.4	636.2	424.4	350.1	361.2
1	183.7	208.9	569.2	1330.0	791.4	722.1	498.0	446.3	556.6
2	130.6	126.5	303.0	582.4	415.8	419.8	302.0	410.7	578.8
3	93.5	81.3	168.2	329.4	254.1	245.6	170.8	253.4	413.0
4	74.2	60.9	127.8	230.1	154.9	146.8	119.9	161.8	269.4
5	78.1	72.9	126.8	208.3	127.0	124.0	85.9	116.5	214.6
6	91.7	85.3	124.6	223.7	117.7	101.5	68.5	90.1	125.8
7	87.5	76.4	96.6	253.3	106.4	88.6	59.2	79.9	119.9
8	87.5	69.8	89.9	186.6	94.2	77.1	43.4	56.0	90.3
9	67.0	57.0	65.4	125.3	76.1	58.6	45.2	45.3	41.4
10	68.2	68.0	90.2	146.4	80.3	59.1	39.6	41.7	42.9

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 by age group (excl. HCW and LTRC)

The incidence per 100,000 population is shown for different age cohorts, excluding healthcare workers and cases associated with outbreaks in long-term residential care. The most striking feature is that recent fluctuations in incidence are confined to those aged under 65 years and most marked in those under 40.

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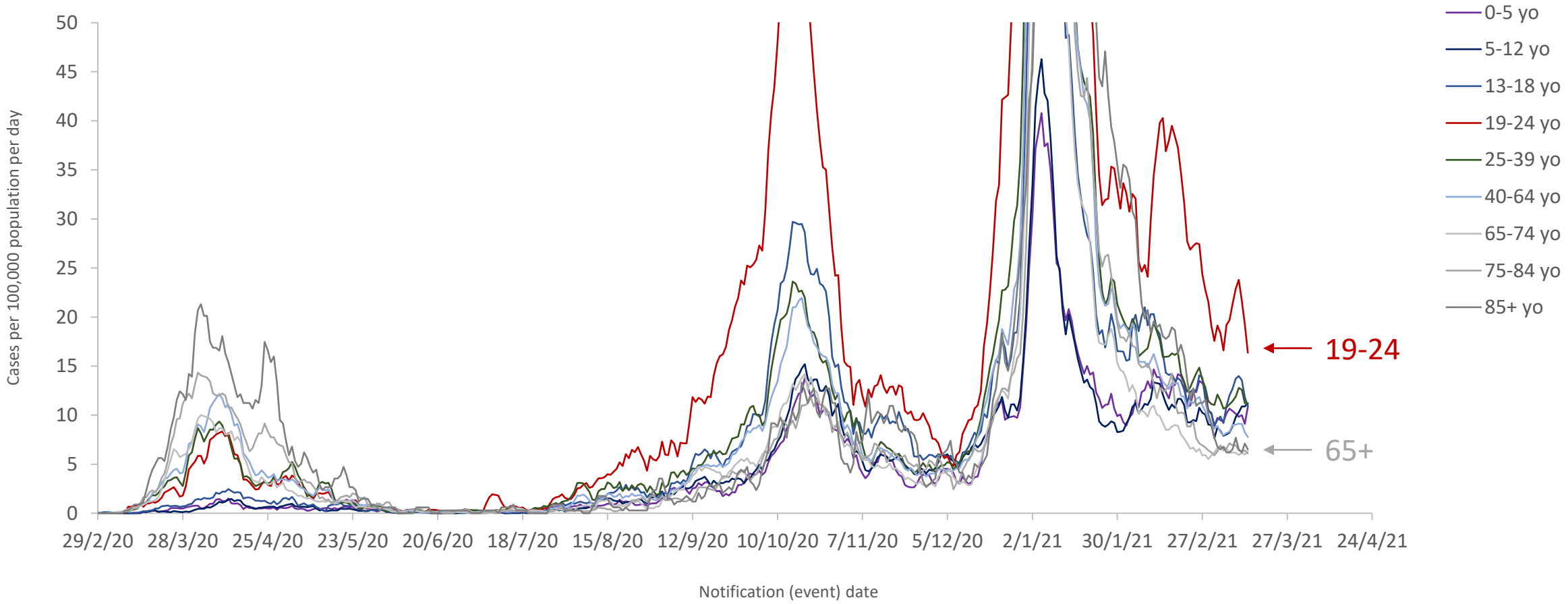

Age-specific incidence (cases per day per 100,000 population within each age cohort, population from CSO 2016 census data). Healthcare workers and cases associated with outbreaks in long-term residential care are excluded, so that the analysis reflects the pattern of cases in the community. Cases dated 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 if tested in a timely manner.

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Age-specific incidence in recent weeks

There is no clear trend across age groups over the last 14 days, with each age group making a similar contribution to any changes in the overall population incidence in those aged under 65 years

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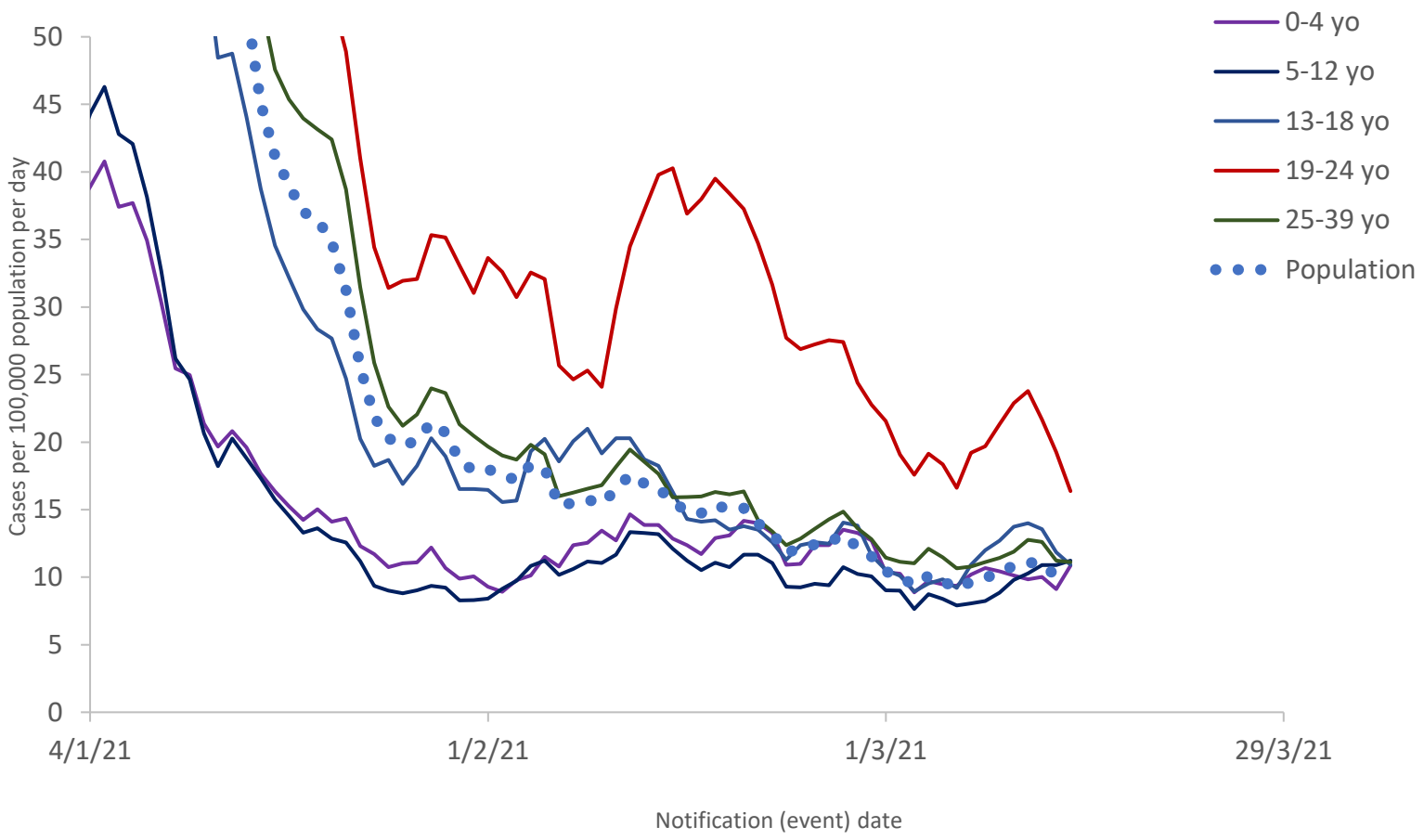

Age-specific incidence (cases per day per 100,000 population within each age cohort, population from CSO 2016 census data). Healthcare workers and cases associated with outbreaks in long-term residential care are excluded, so that the analysis reflects the pattern of cases in the community. Cases dated 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 if tested in a timely manner.

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Cases in childcare facilities and schools

The number of cases in school outbreaks is a small fraction of the total number of cases in children of school-going age, whereas outbreaks are a greater contributor to the number of cases detected in children under 5 years of age

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Week	0-4 years		5-12 years		13-18 years	
	Total cases aged 0-4 years	Cases in children in childcare facility outbreaks	Total cases aged 5-12 years	Cases aged 5-12 in school outbreaks	Total cases aged 13-18 years	Cases aged 13-18 in school outbreaks
6	251	29	534	< 5	494	< 10
7	230	48	507	< 5	374	0
8	225	49	436	0	321	< 5
9	177	43	390	< 5	276	0
10	165	29	403	18	311	10

Cases per week in those aged 18 and under, giving total cases, and cases linked to outbreaks in childcare facilities and schools. Cases dated by notification (event) date. The numbers for recent weeks may change slightly in future reports, due to delayed linkage of cases to outbreaks .

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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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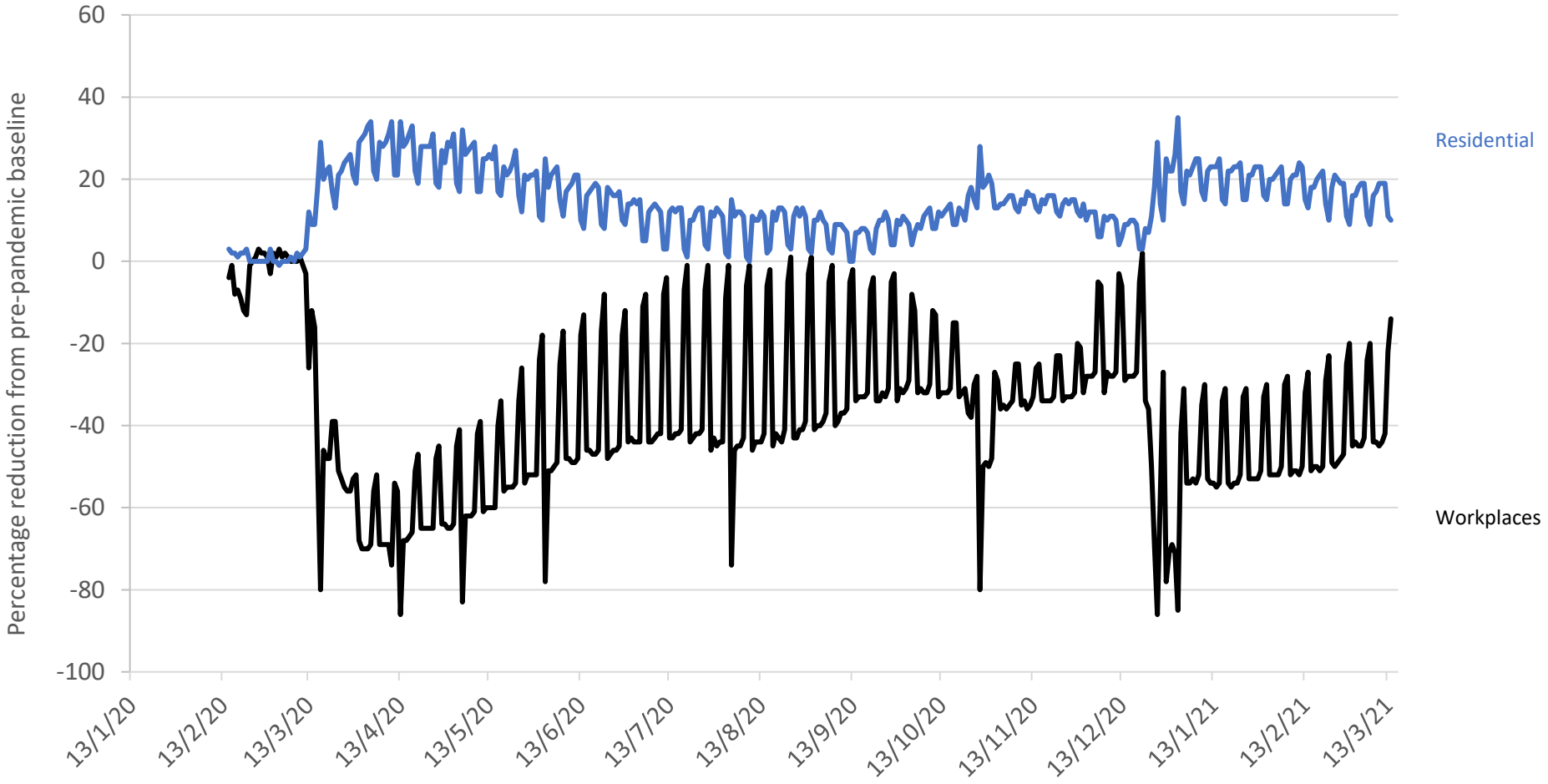

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Close contacts of adult confirmed cases

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 ahdbfell to 2.1 in January. It has increased in recent weeks to ≈ 2.6

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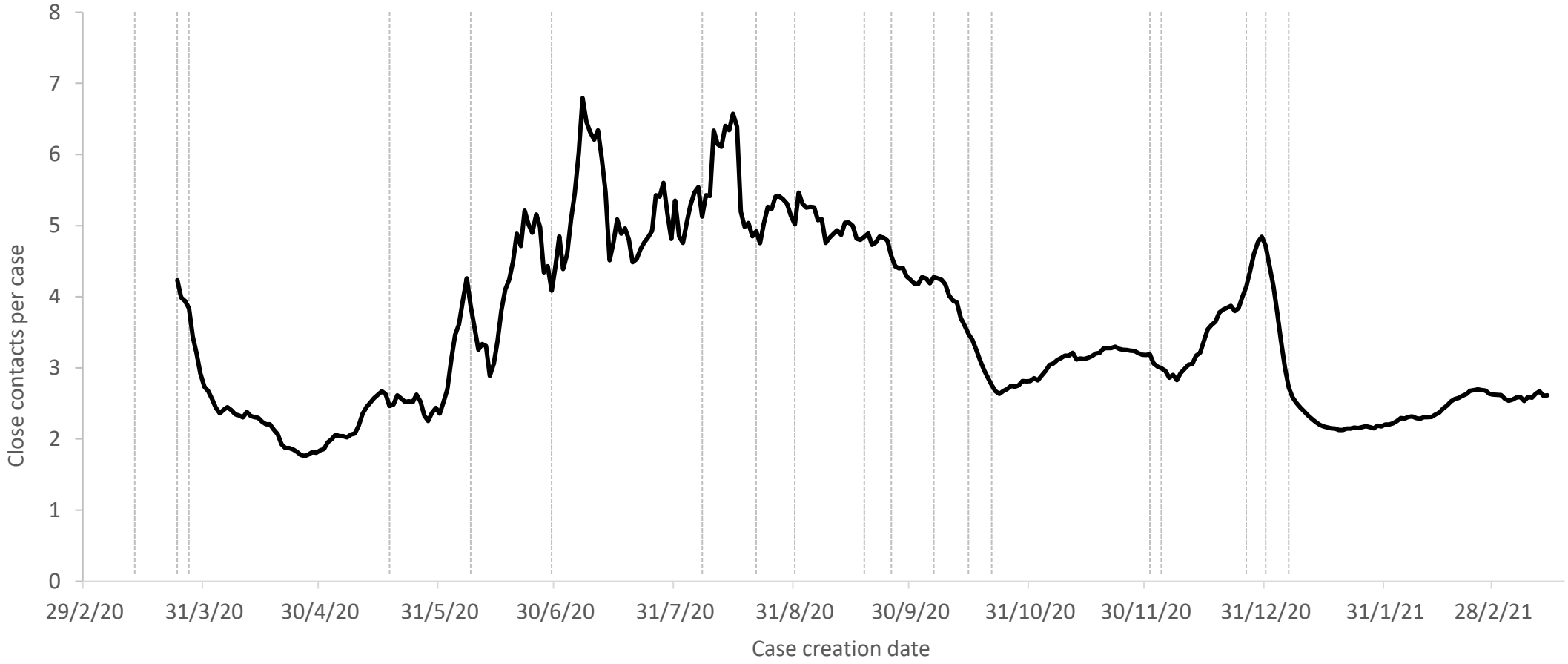

The average number of close contacts per confirmed case. Data from COVID-19 Care Tracker (CCT). Cases dated by case creation date. Cases (but not contacts) aged 18 and younger are excluded. Data are 7-day trailing averages except for the months of June – August where a 21-day trailing average is used 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 have been decreasing more slowly. The growth/decline rate is currently estimated at 0% to -3% per day.

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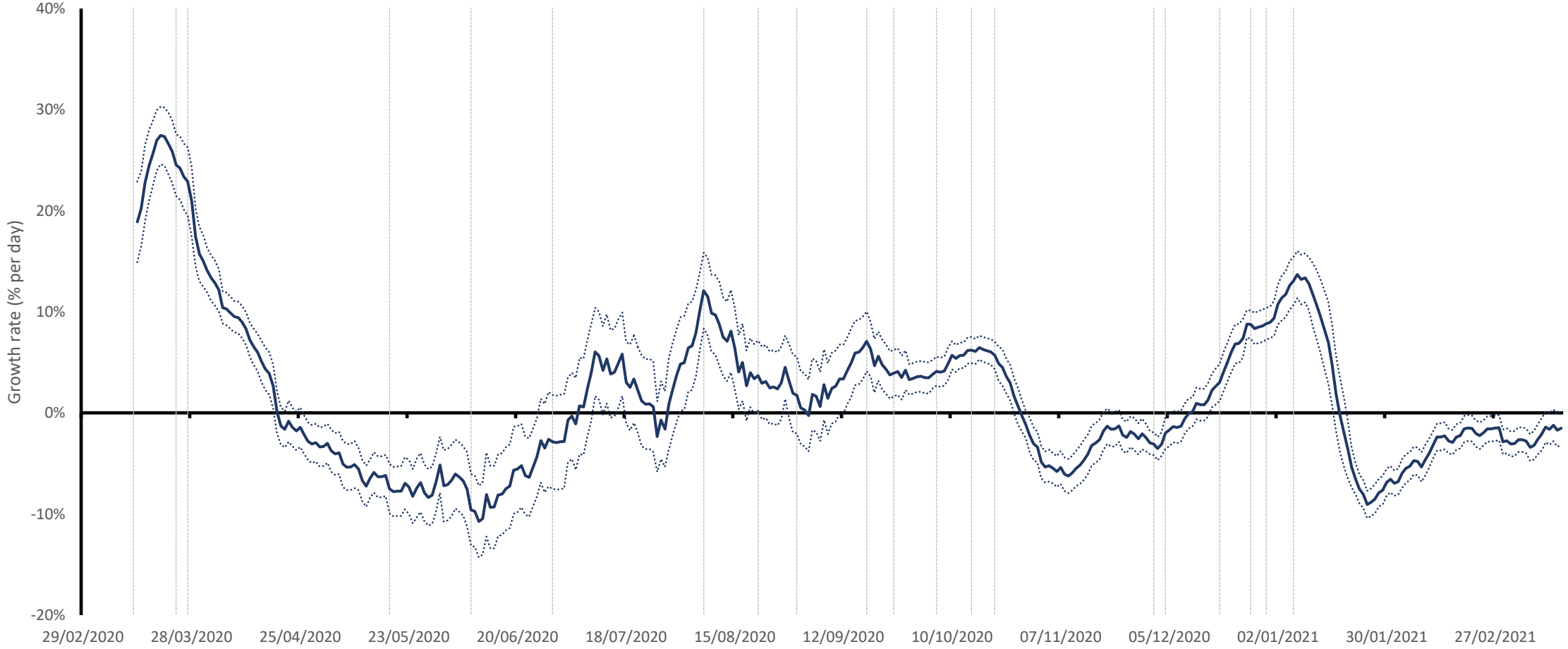

Growth rate calculated as the average growth rate over a 21-day trailing window,with 95% credible interval; cases dated by notification (event) date.

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Estimates of effective reproduction number (R)

Reproduction number is close to 1.0 with high levels of uncertainty in its estimation; it is currently estimated at 0.8 – 1.1

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Method	Estimate	95% confidence interval
SEIR model-inferred	0.86	0.59 – 1.20
Bayesian model	0.85	0.46 – 1.61
Time-dependent R	0.85	0.76 – 0.94
GAM estimate 9 Mar 2021	0.98	0.81 – 1.15
GAM estimate 15 Mar 2021	1.06	0.70 – 1.14

Estimates generated 16 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 18 March 2021

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- Incidence has plateaued and remains high
  - Cases (5-day average) 489 cases per day; 14-day incidence 151 per 100,000
  - No clear pattern by age group, greater fluctuations in incidence in those aged under 40
  - Reproduction number (R) is uncertain and estimated at 0.8 – 1.1, rate of decline in case numbers 0 to -3% per day
  - Close contacts and workplace attendance increased in early March
- Number of cases detected, positivity rates, and numbers of cases associated with outbreaks in schools remain low
- While evidence of protective effect of vaccination in LTRC and HCW, the population is not protected, and we remain at high risk