IEMAG briefing

4 January 2021

Coronavirus COVID-19 Public Health Advice

Confirmed cases each day

Daily case count since the beginning of the epidemic

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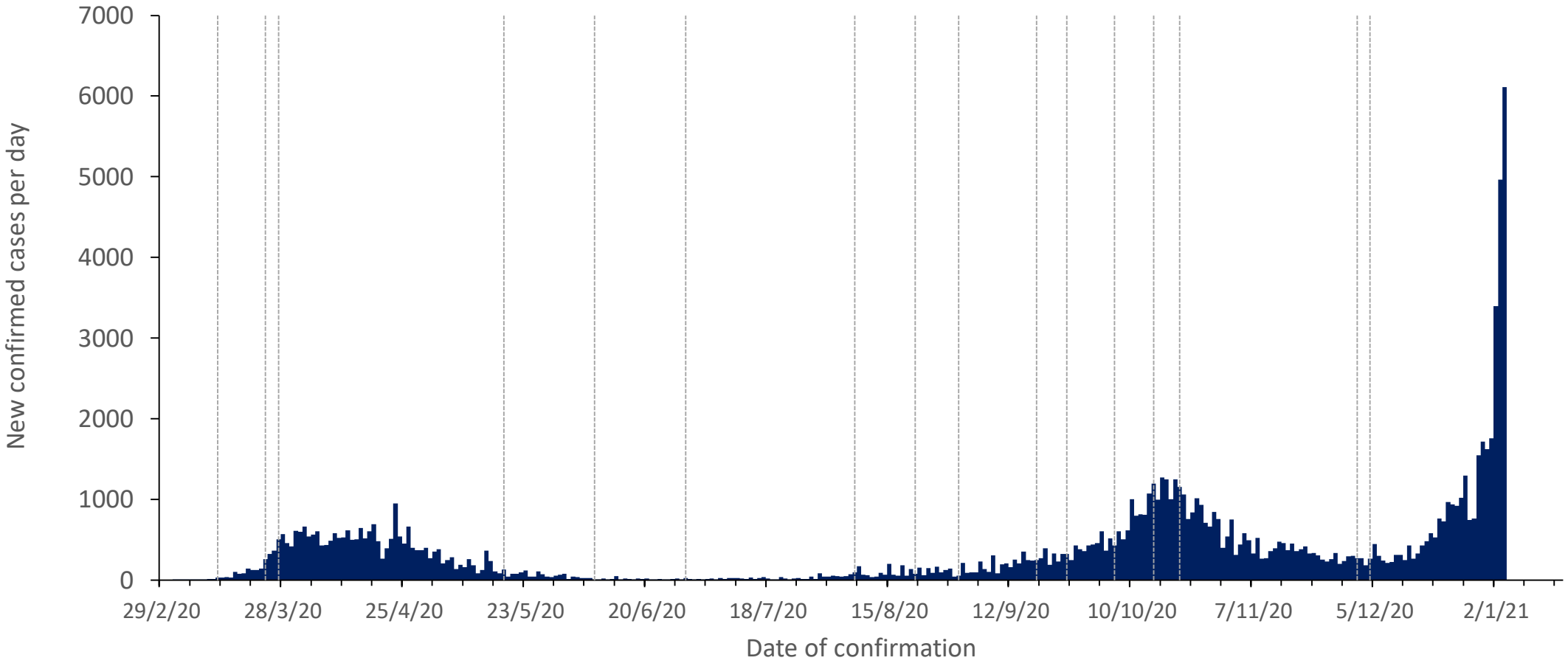

Daily count of the number of laboratory confirmed new cases by date on which they were confirmed by HPSC. Tests outsourced to German laboratory in April backdated, using the specimen collection date, to the date they would have been confirmed if tested in a timely manner. The vertical dashed lines indicate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

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Cases, numbers in hospital and intensive care

Case numbers have risen very rapidly. The number of people in hospital and ICU, and the number of admissions per day, is also increasing very quickly . The number of deaths per day is increasing.

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	16 Apr	24 Jun	29 Jul	26 Aug	30 Sept	21 Oct	16 Dec	23 Dec	31 Dec	4 Jan	Daily count 4 Jan
Cases confirmed per day	547	10	18	117	356	1160	330	713	1243	3015	
14-day incidence *per 100,000 population*	157	4.0	5.6	32	92	288	88	153	297	583	
Hospital in-patients	858	42	11	22	108	279	198	222	365	551	744
Hospital admissions per day	*56*	*2*	*2*	*3*	*10*	*23*	*14*	*22*	*43*	*77*	*105*
ICU confirmed cases	147	15	5	6	18	32	33	29	31	40	70
ICU admissions per day	*8*	*< 1*	*< 1*	*< 1*	*2*	*3*	*1*	*2*	*5*	*8*	*11*
Deaths confirmed per day	32	< 1	< 1	< 1	1	5	5	6	7	9	

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. NPHET monitors 5-day moving average and 14-day cumulative incidence on a day-by-day basis, as indicators of rate of change of incidence and overall burden of infection. 7-day averages are used here to limit day-of-week effects. The historic incidence data may change due to denotification of cases.

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Testing

The demand for tests is increasing, and positivity rate is increasing rapidly.

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7-day average	15 Apr	23 Jun	28 Jul	25 Aug	29 Sept	20 Oct	8 Dec	15 Dec	22 Dec	29 Dec	3 Jan
Tests done per day	5579	2607	6494	7742	12624	16030	11003	11870	14483	14814	22050
% tests positive	18%	0.5%	0.4%	1.7%	3.0%	7.1%	2.5%	2.8%	5.1%	10.9%	19.7%

Data are 7-day averages (the indicated day and the preceding 6 days). 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 increased rapidly, and are now approaching the very high positivity rates seen with the constrained testing regimen of the first wave

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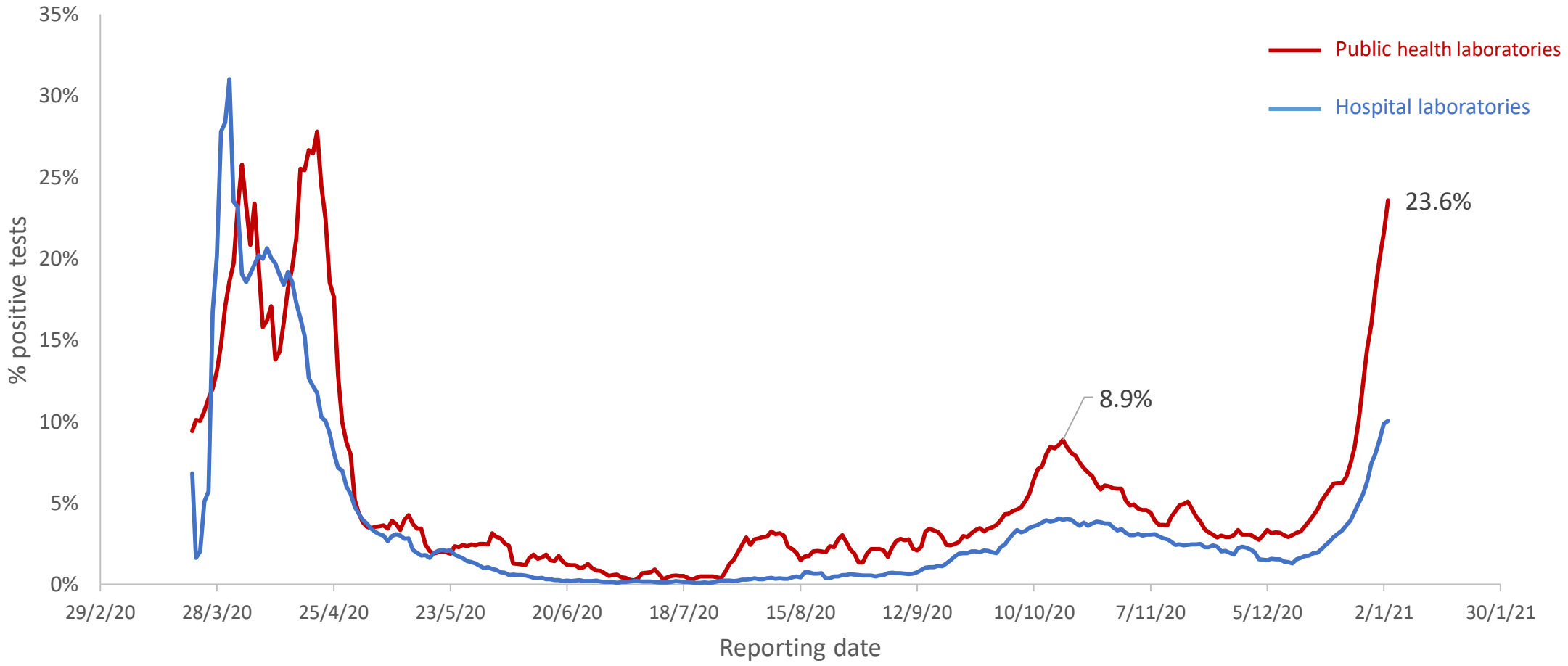

Data 5-day rolling averages of percentage of tests reported positive per day. NVRL+ is NVRL and associated laboratories, plus Cherry Orchard
Backlog tests outsourced to German laboratory in April are not backdated and are assigned to date reported

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Confirmed cases each day

Daily and weekly count and 5-day rolling average. Case counts are much lower than in late October. The 5-day average peaked at 1186 on 21 October, reached a low of 251 on 28 November, and is now 3568

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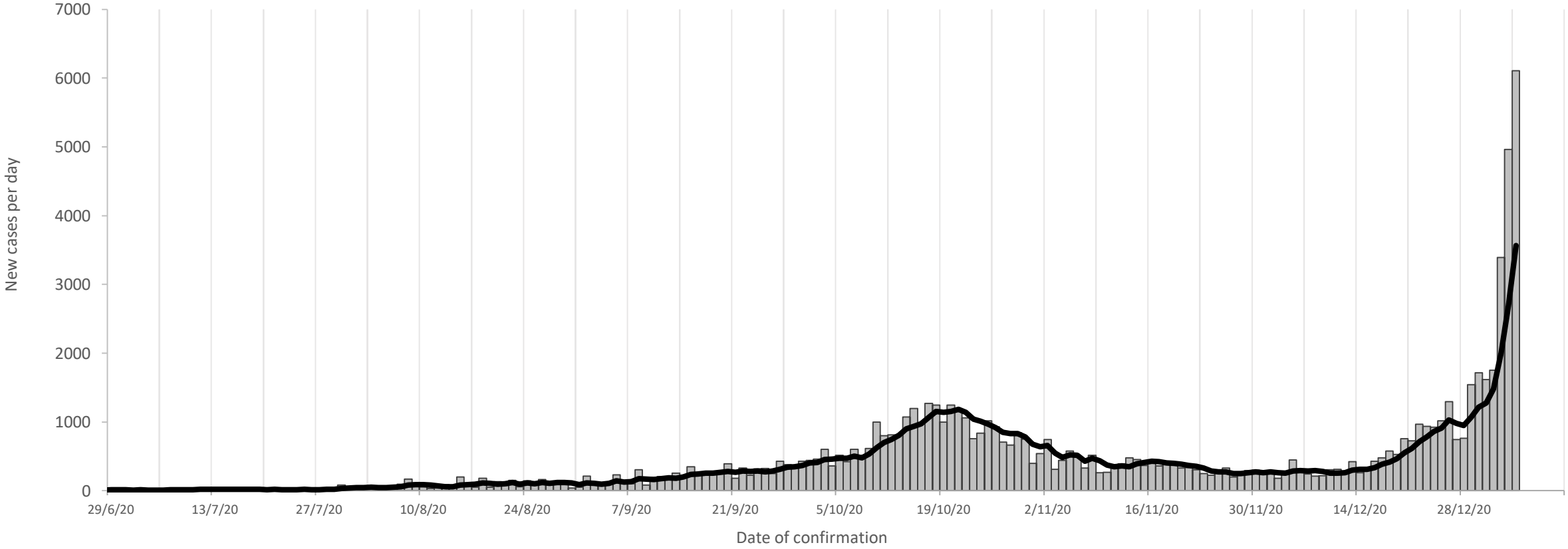
Cases per week	93	125	139	119	284	540	546	711	796	912	1303	1947	2060	3031	4458	7397	7073	4838	3424	2583	2580	1799	2028	1966	3368	6609	8355



Daily count (bars) 5-day average (line) and weekly counts of the number of laboratory confirmed new cases by date on which theywere confirmed by HPSC. Case counts may change due to denotification of cases. Weekly case counts are by event date from midnight Saturday to midnight Saturday.

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14-day cumulative incidence

14-day cumulative incidence peaked at 170 per 100,000 in late April, declined to 3 per 100,000 in late June, peaked again on 26 October at 307 per 100,000, reached a low of 78 per 100,000 on 4 December, and is now 583 per 100,000

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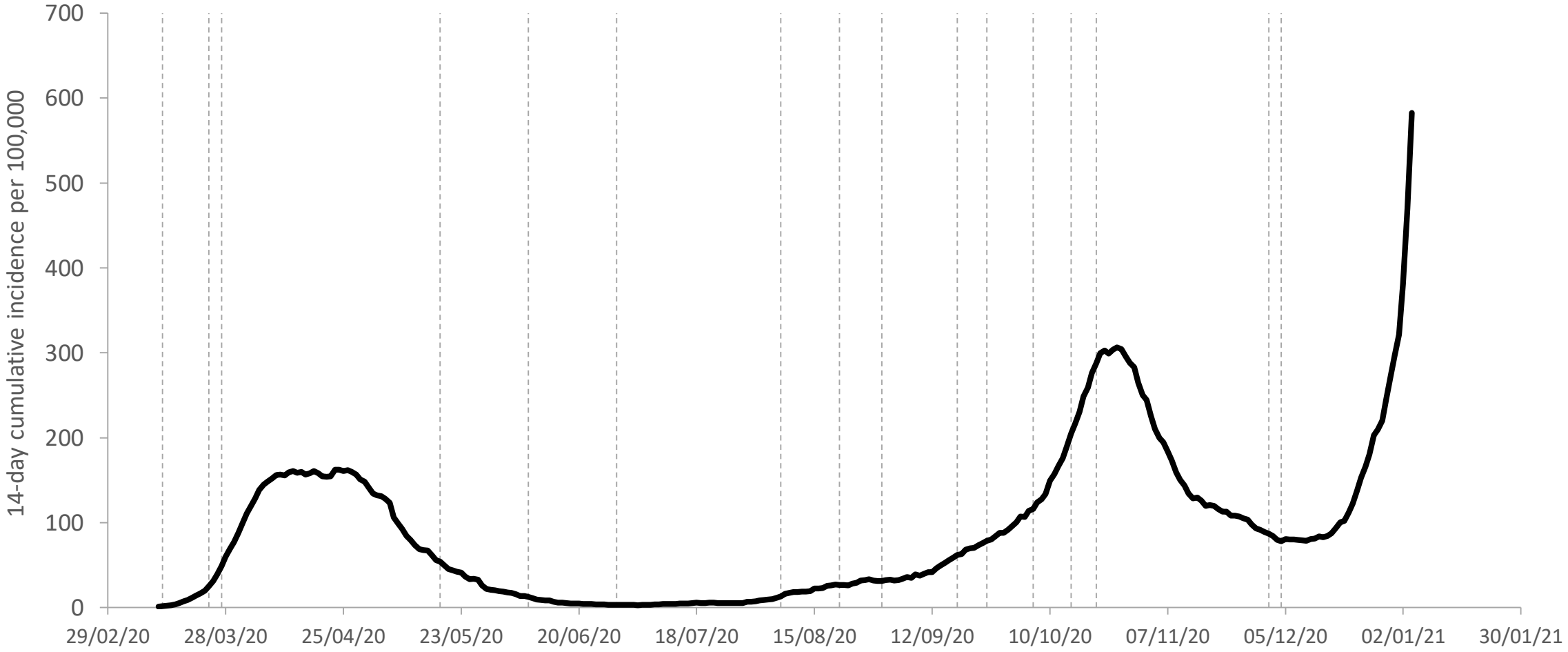

14-day cumulative incidence by date of confirmation. Tests outsourced to German laboratory in April backdated, using the specimen collection date, to the date they would have been confirmed if tested in a timely manner. The vertical dashed lines indicate the dates of escalation and de-escalation of public health restrictions

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A large number of positive tests in recent days

Positive tests detected in laboratories require validation (to remove duplicates and other tests that do not create new cases) and transfer to the HPSC database before confirmation and reporting. A very large volume of positive tests in the days immediately after Christmas means there was a delay in formal reporting. The reporting delay does not affect case management or contact tracing, or our overall monitoring and modelling of the pandemic. The blue dotted line is an estimate of the underlying trend.

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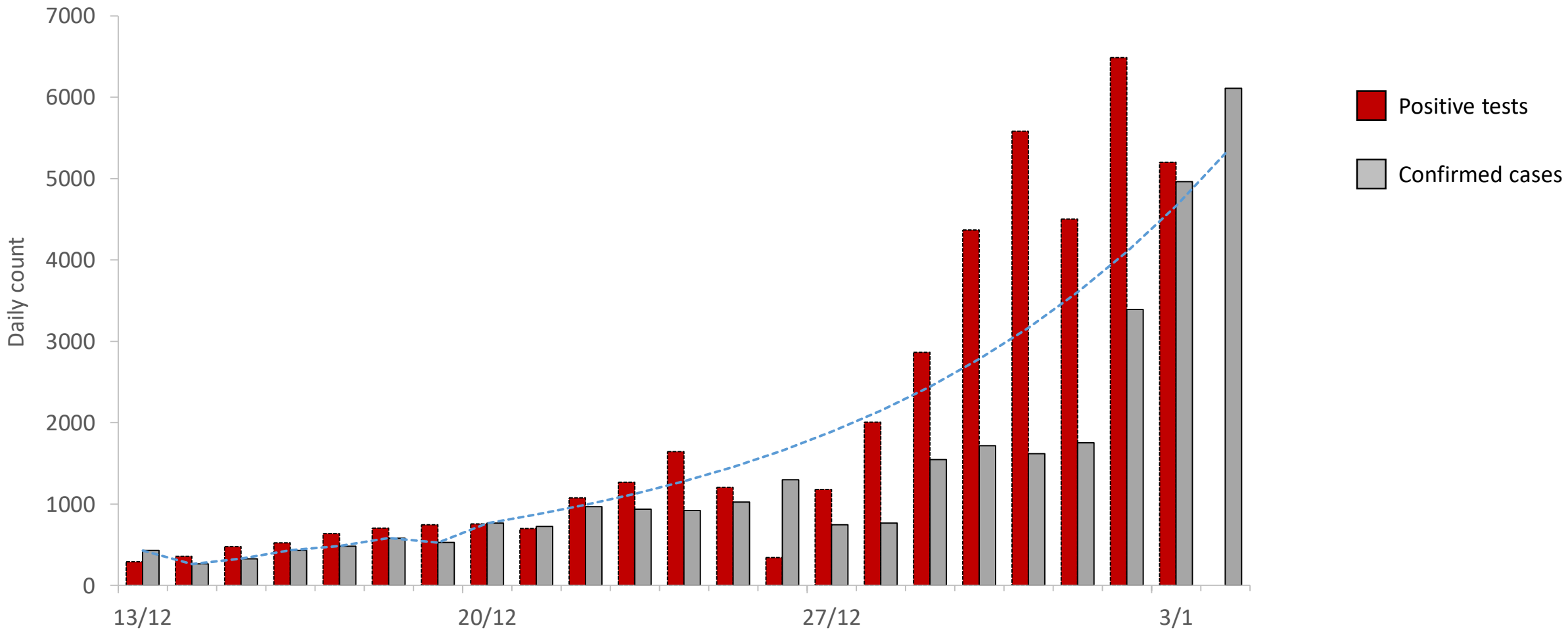

Positive tests: Total positive tests reported to HSE from all laboratories each day.
Confirmed cases: Cases confirmed by HPSC on each day .

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Cases by specimen collection date

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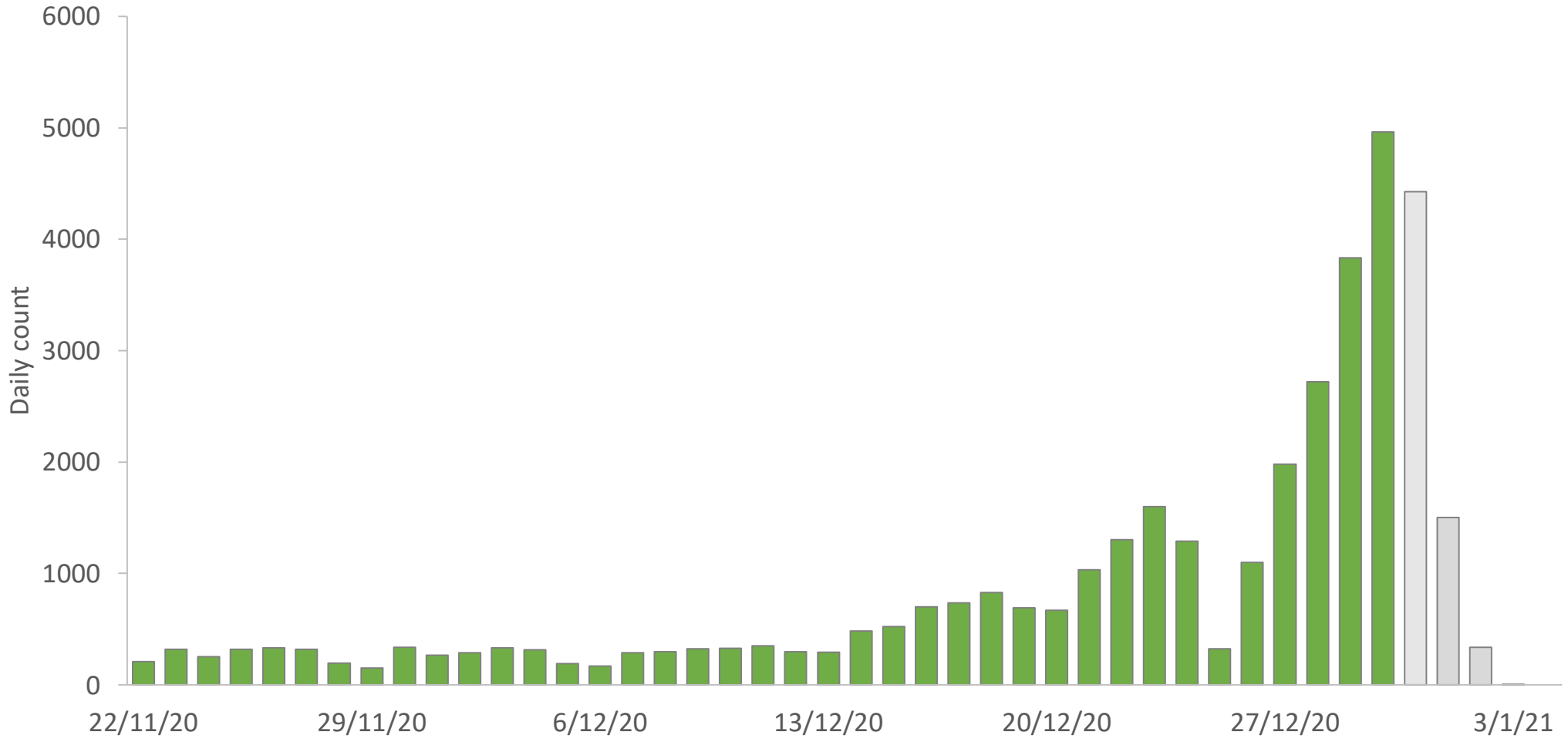

Cases by specimen collection date. Note the reduction in detection over the Christmas period. Not all the specimens from recent days will have been processed, so counts for these days are not complete.

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Incidence across different age groups (excluding HCW and LTRC)

When incidence started to rise again in July, cases increased first in younger age groups, especially in the 19-24 age group, with a delayed increase in incidence in older (65+) adults. The current increase in levels of infection is different, with rising incidence across all age groups, especially young adults, and a concerning increase in those aged 65 and older. 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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Week	Age band								
	0-4	5-12	13-18	19-24	25-39	40-64	65-74	75-84	85+
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	10.9	2.0	1.1	1.9	1.0	3.0
29	1.2	0.4	0.8	3.0	3.3	1.9	2.4	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	8.6	4.6	2.1	2.5	1.5
32	4.5	3.8	6.7	19.9	16.7	10.9	4.8	2.5	3.0
33	6.6	10.4	12.9	28.7	20.5	12.5	8.6	2.5	5.9
34	6.6	6.9	16.7	34.4	15.3	10.5	5.6	5.1	1.5
35	6.0	9.5	13.2	36.2	17.9	10.7	4.8	8.7	5.9
36	13.3	13.7	17.8	48.6	22.6	13.9	11.0	12.2	14.8
37	17.5	17.5	29.9	64.3	28.3	24.5	22.5	8.7	7.4
38	21.4	26.2	44.1	90.3	44.3	34.8	32.9	19.8	14.8
39	12.4	22.8	42.8	148.2	50.1	42.0	33.2	31.0	17.8
40	29.9	28.6	63.2	167.3	67.8	57.7	34.3	26.0	19.2
41	44.0	47.4	134.8	322.2	116.6	91.6	62.1	51.9	53.3
42	78.1	90.9	196.7	430.8	155.1	142.7	91.8	67.7	57.7
43	82.7	93.5	175.5	304.9	122.7	121.6	84.6	82.9	69.6
44	54.0	67.1	93.9	152.8	74.4	76.5	54.3	54.5	45.9
45	34.4	39.7	58.1	83.9	58.0	46.1	42.8	44.3	41.4
46	41.9	37.2	65.9	89.7	45.5	45.2	32.7	43.3	57.7
47	22.0	34.1	59.5	79.7	34.8	33.2	28.6	39.2	54.8
48	23.2	31.5	45.5	66.7	33.9	29.8	22.2	36.1	31.1
49	28.4	36.6	37.7	40.5	33.2	30.0	25.4	30.0	34.0
50	21.4	39.7	44.1	57.4	40.1	35.2	22.5	31.6	19.2
51	51.6	58.5	74.5	128.6	88.7	82.0	54.9	55.5	45.9
52	76.9	75.6	118.1	331.2	182.0	141.2	98.3	100.3	103.6
53	125.2	142.0	284.2	893.1	469.6	403.4	262.4	217.8	330.1

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 date of specimen collection.

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Incidence by age group (excl. HCW and LTRC)

This analysis compares incidence in young adults (aged 19-24 and 25-39) with the population average and the incidence in those aged 65 and older. While in the second wave there is a delay of several weeks between increasing incidence in young people and an attenuated increase in older persons, in the third wave incidence is rising early and rapidly in those aged 65 and older

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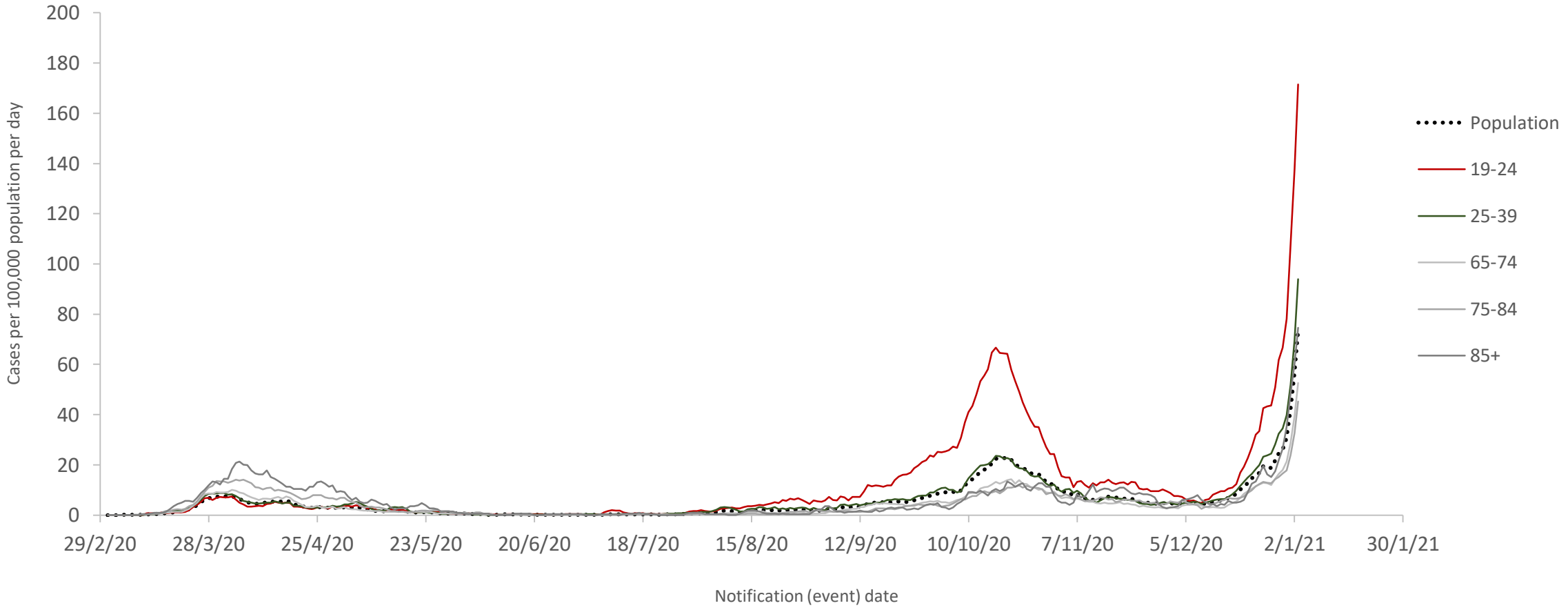

Age-specific incidence (cases per day per 100,000 population within each age cohort, population from CSO 2016 census data). Healthcare workers and cases associated with outbreaks in long-term residential care are excluded, so that the analysis reflects the pattern of cases in the community. Cases dated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

Age-specific incidence for those aged under 25, compared with the overall population. The incidence in those aged 18 and under remains at or below the population average

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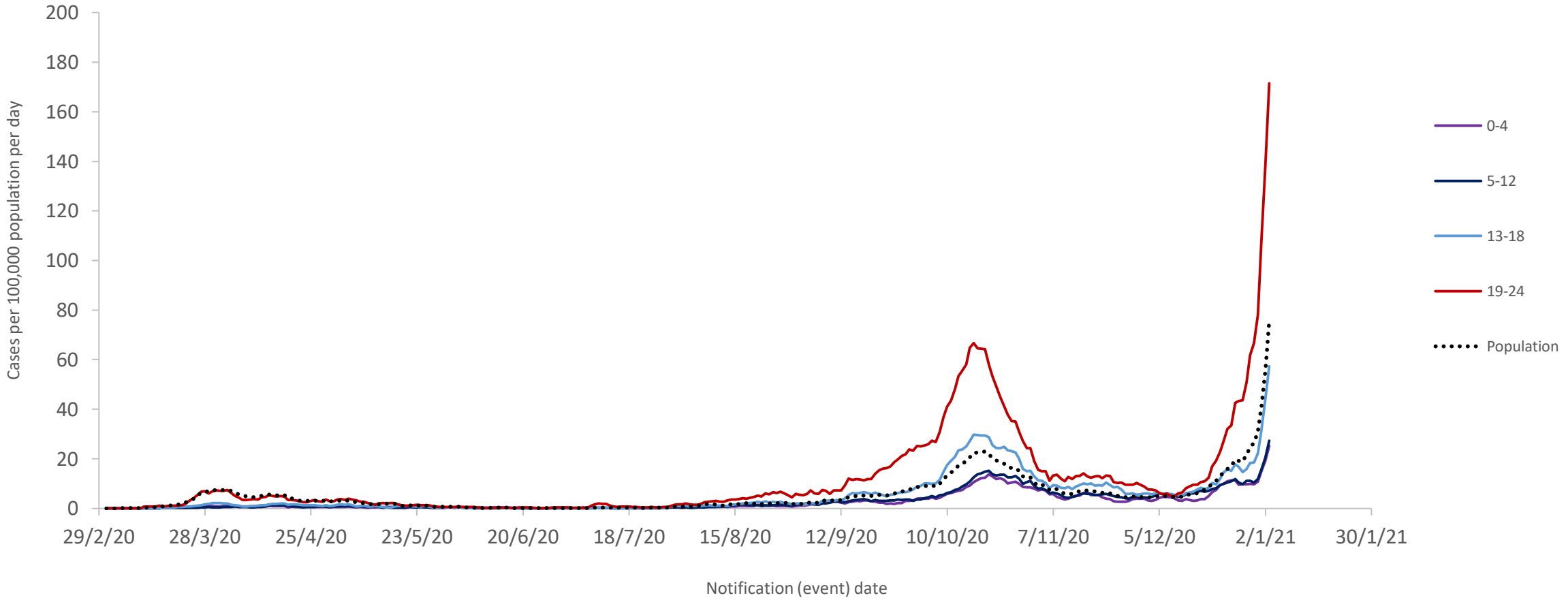

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Confirmed cases in acute hospitals

The number of people in hospital with confirmed SARS-CoV-2 infection is now increasing rapidly

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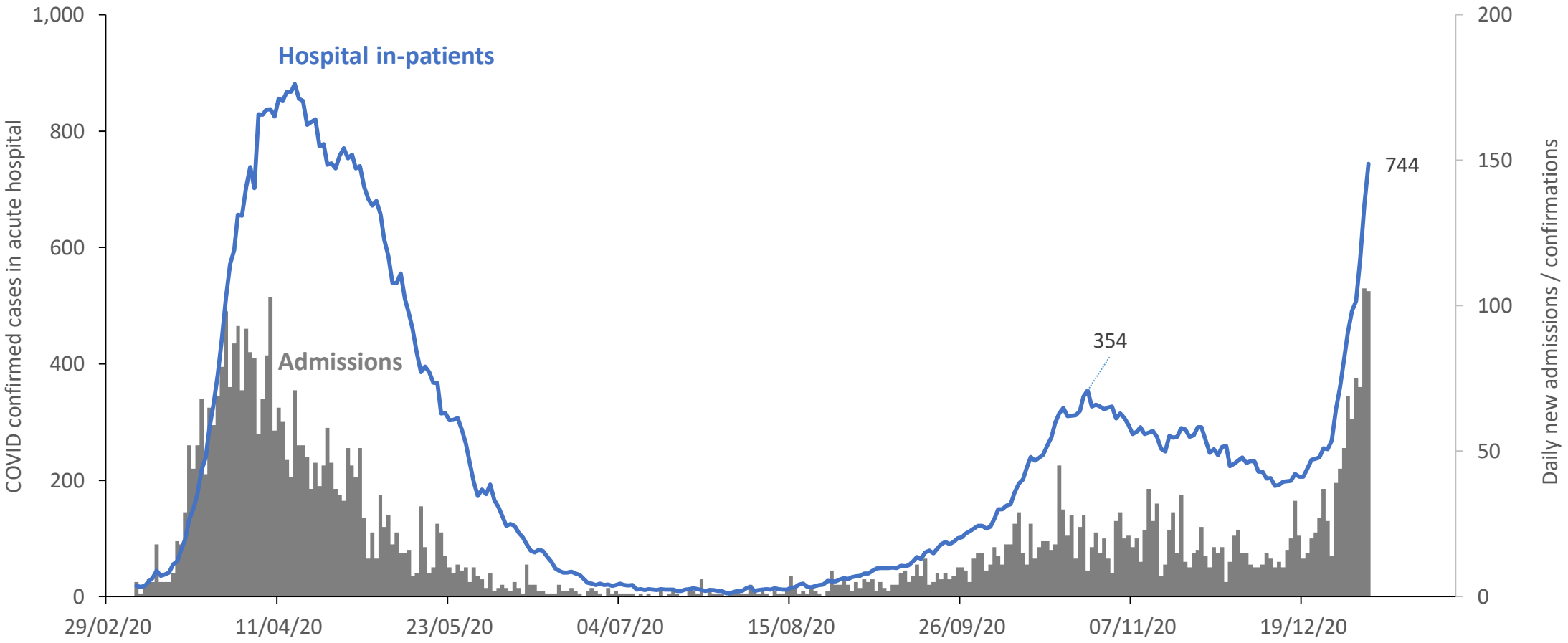

Hospital in-patients: Daily count of number of COVID-19 confirmed cases in acute hospitals. Daily admissions: New COVID-19 confirmed admissions and new laboratory confirmations of suspected cases in preceding 24 hours. Data from HSE PMIU-SDU, 8am census.

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Confirmed cases in intensive care

The number of people in ICU with confirmed SARS-CoV-2 infection is now increasing rapidly.

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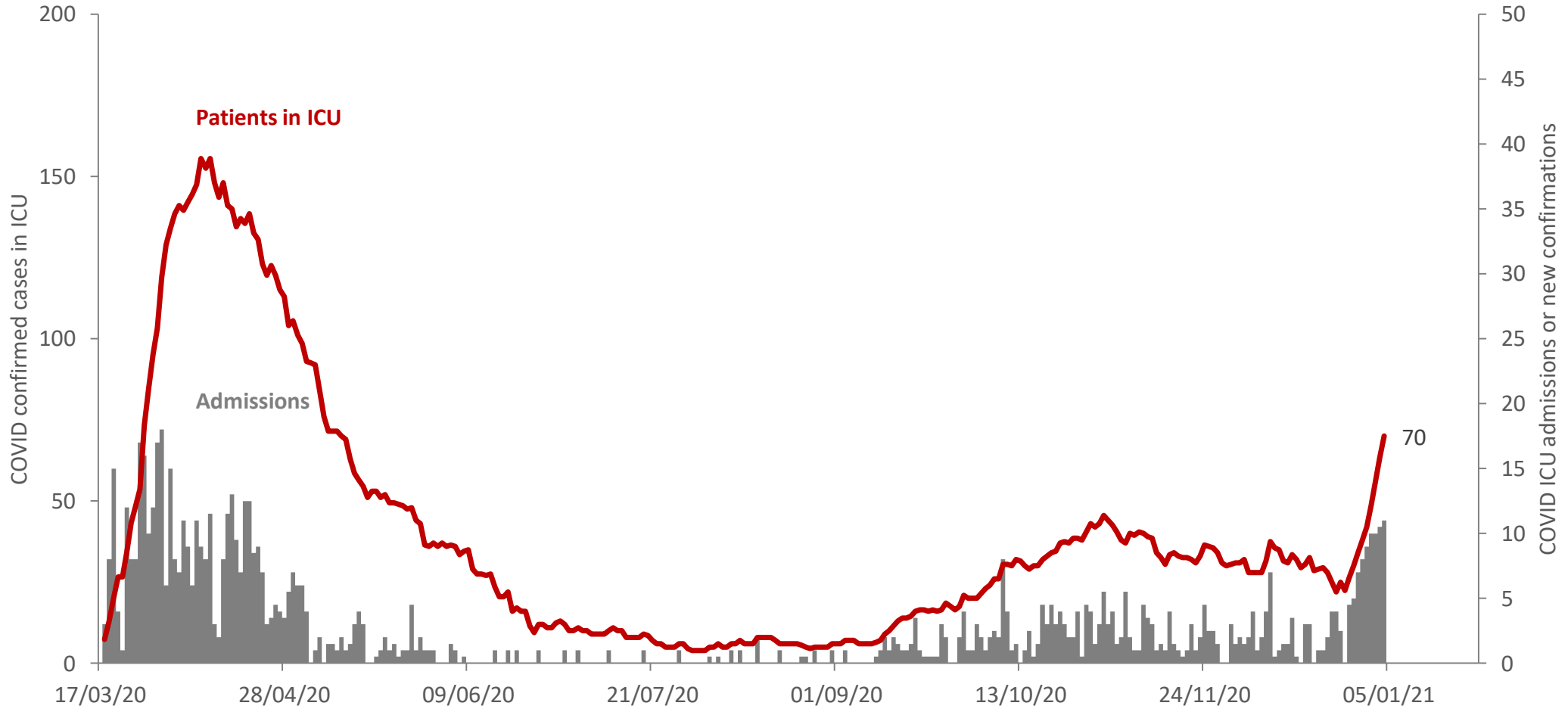

Patients in ICU: Daily count of number of COVID-19 confirmed cases in ICU. Daily admissions: new COVID-19 confirmed admissions to ICU and new laboratory confirmations of suspected cases in ICU. Average of morning and evening census from NOCA

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Cases, numbers in hospital and intensive care

There was a long delay in the second wave between the increase in cases and the increase in the numbers of people in hospital because there was a long period in September and October where the disease was largely confined to younger adults. However, numbers in hospital are now rising sharply, as the recent rapid increase in incidence was more evenly distributed across age cohorts

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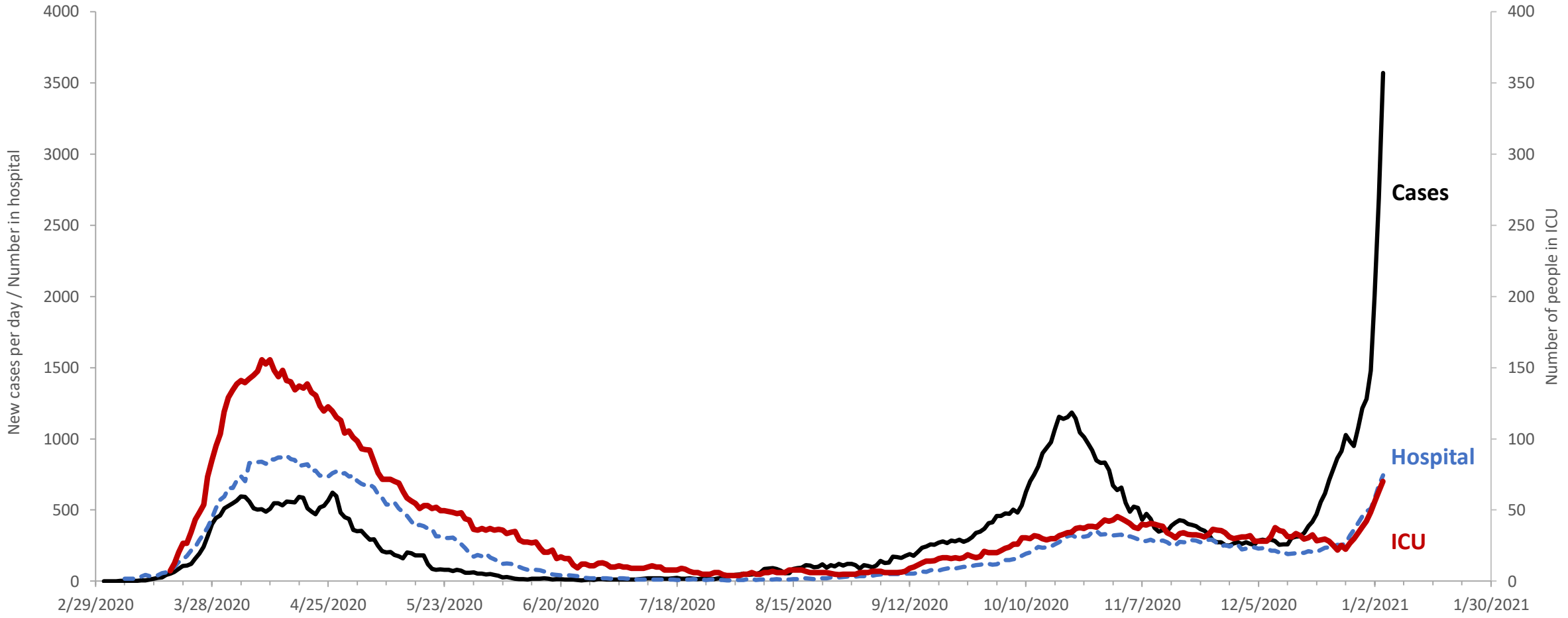

Cases: Number of new cases confirmed per day, cases assigned to date confirmed by HPSC. Tests outsourced to German laboratory in April backdated, using the specimen collection date, to the date they would have been confirmed if tested in a timely manner. Hospital: number of COVID-19 confirmed patients in acute hospitals. ICU: number of COVID-19 confirmed patients in ICU. 5-day averages.

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Model projections of hospital in-patient numbers

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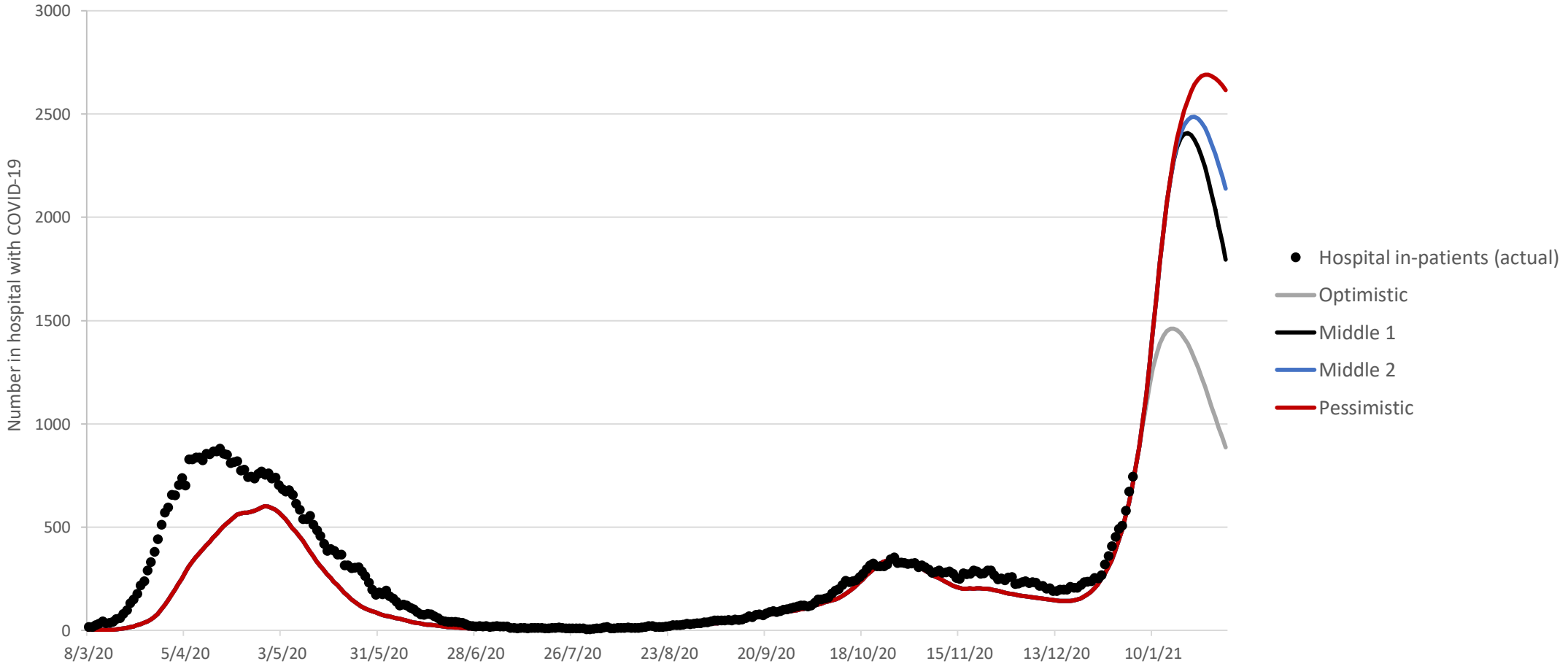

Model outputs and actual numbers in hospital with COVID-19. The model is calibrated using the age-stratified risk of hospitalisation and length of stay for the period July-November 2020. The model inputs are actual case numbers up to 21 December 2020 and age profile to 29 December 2020, and simple exponential growth/reduction model thereafter; it is assumed the age profile from 29 December remains as it was for the 14 days up to 29 December.

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Model projections of ICU numbers

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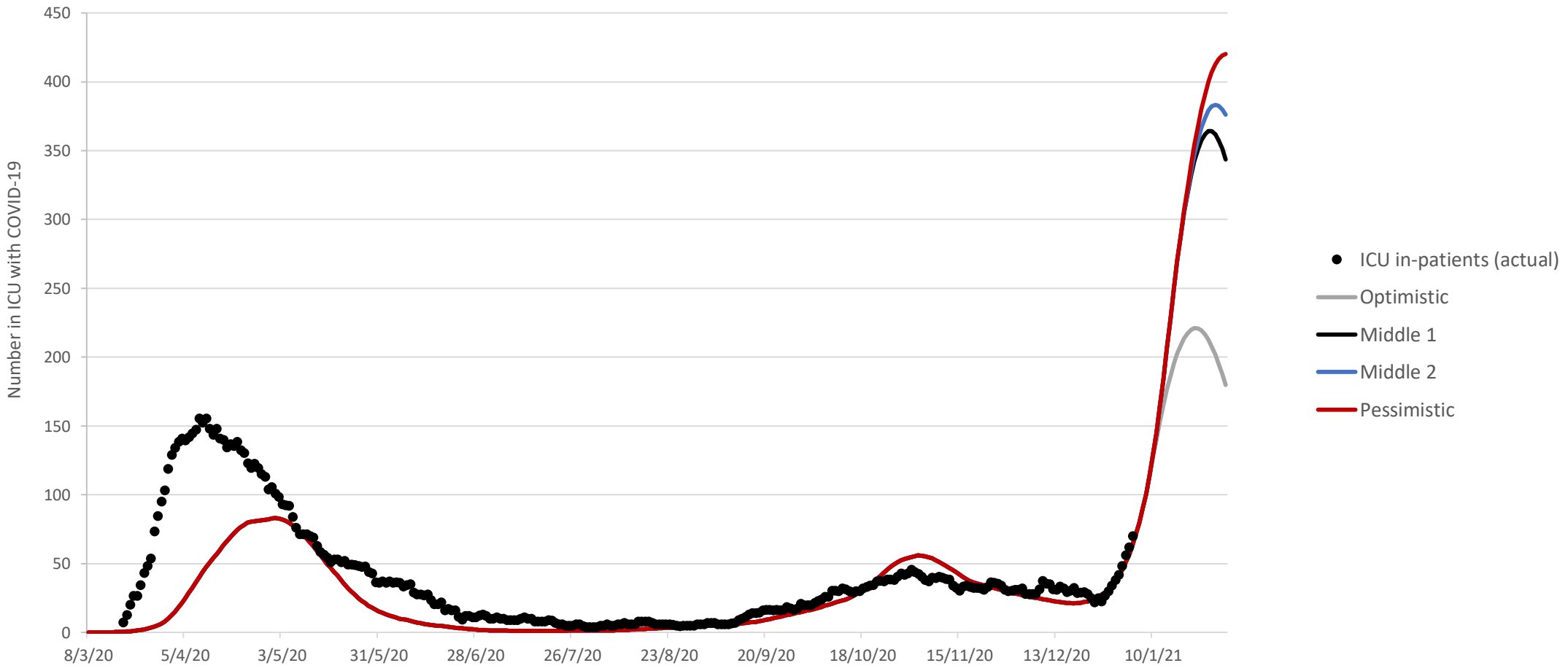

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Situation analysis 4 January 2021

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- The level of infection continues to increase rapidly
  - Cases (5-day average) 3568 cases per day; 14-day incidence 583 per 100,000
  - When delayed cases are reported, actual incidence will be close 4000-5000 cases per day and 14 day incidence of 700-800 per 100,000
  - Growth rate at least 10% per day over last 14 days
  - Incidence very high across all age groups, especially young adults
    - Incidence in those 65 and older remains high and a cause for concern
    - Incidence in those aged 18 and younger remains at or below population average
- Numbers in hospital and ICU increasing rapidly
- Scenario models raise the possibility of 1500-2500 people in hospital, and 200-400 people in ICU by mid-January, if we do not act to radically reduce transmission and incidence
- We must suppress transmission to protect each other from serious illness, and to protect our health services and healthcare workers
- Stay home and carefully observe public health guidance and restrictions
  - We need society-wide support for and adherence to the current public health message to suppress disease

European Data

EU/UK ranked by 14 day percentage change (3rd January)

EU/EEA and the UK	14 day incidence	Previous 14 day incidence	% change in 14 day incidence
Ireland	**452.53**	**107.25**	**322%**
United Kingdom	908.2	469.04	94%
Czechia	1086.39	721.89	50%
Latvia	612.71	510.39	20%
Cyprus	717.66	597.9	20%
Spain	280.25	240.81	16%
Malta	309.83	270.42	15%
Estonia	553.09	513.82	8%
Slovakia	661.71	633.83	4%
Portugal	521.08	506.51	3%
France	280.69	279.07	1%
Netherlands	772.58	780.25	-1%
Slovenia	922.93	966.55	-5%
Lithuania	1259.16	1385.23	-9%
Italy	334.53	370.99	-10%
Germany	320.99	382.43	-16%
Poland	306.14	367.94	-17%
Sweden	695.68	873.41	-20%
Denmark	593.19	757.36	-22%
Austria	298.83	393.32	-24%
Belgium	207.78	294.87	-30%
Finland	65.15	99.82	-35%
Romania	255.41	403.99	-37%
Greece	86.61	149.68	-42%
Hungary	258.85	545.64	-53%
Croatia	438.36	1086.63	-60%
Luxembourg	429.25	1072.09	-60%
Bulgaria	170.63	428.5	-60%

- As of 16th Dec, this daily data is now sourced from Our World In Data (OWID) instead of ECDC as they have switched to weekly reporting (Thursday evenings).
- OWID source their confirmed cases and deaths data from the COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU). https://github.com/owid/covid-19-data/tree/master/public/data

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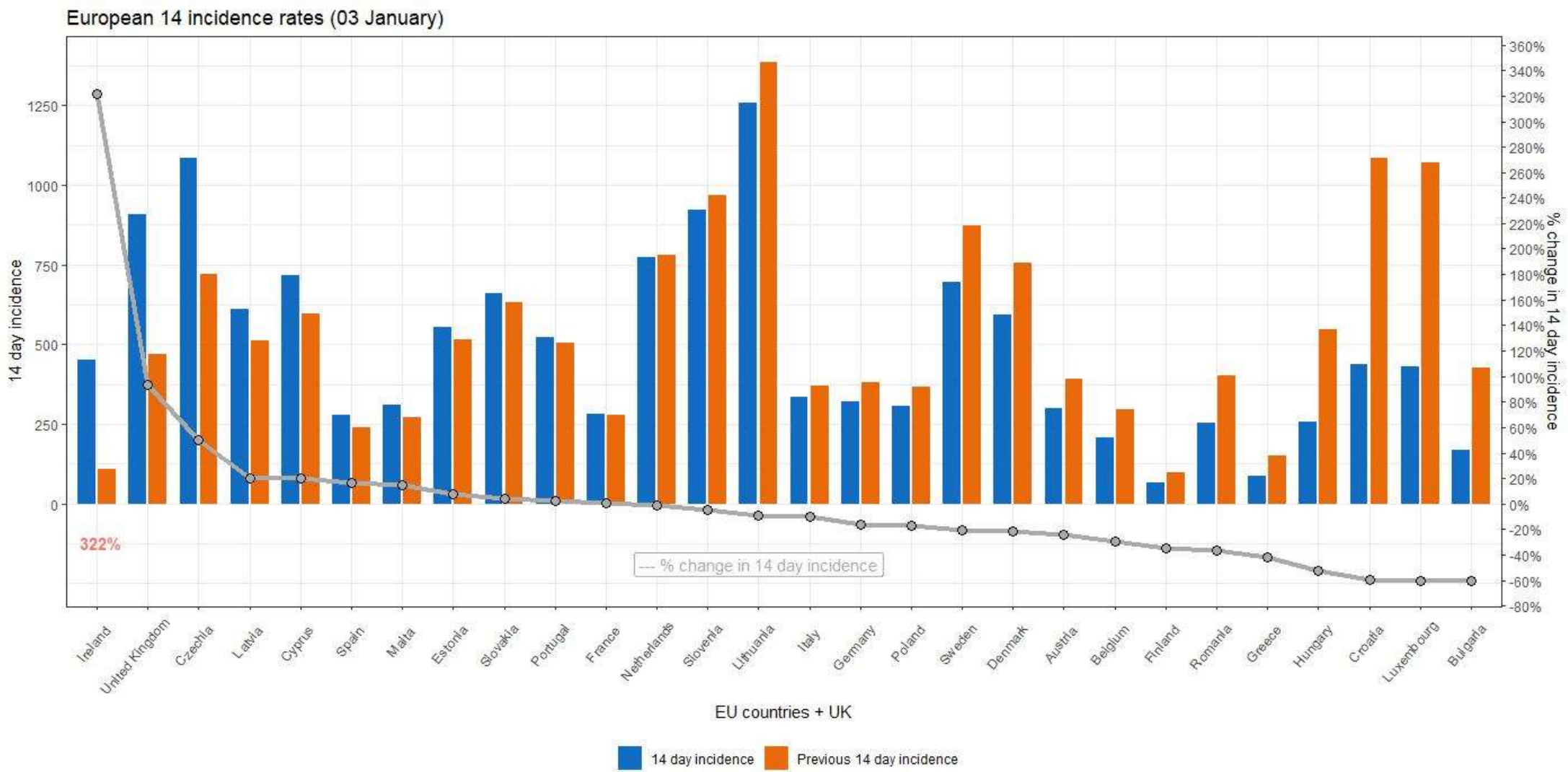

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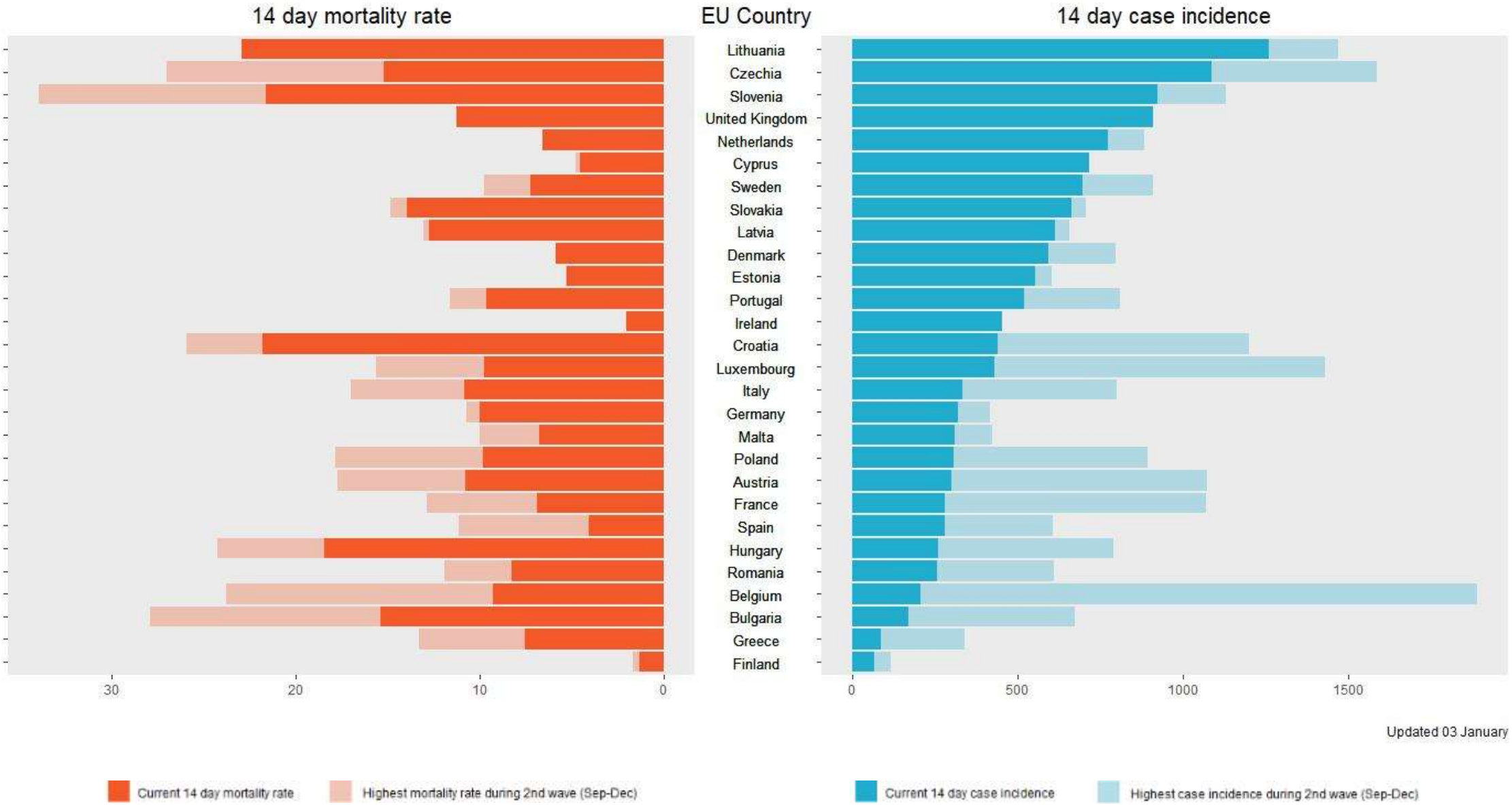

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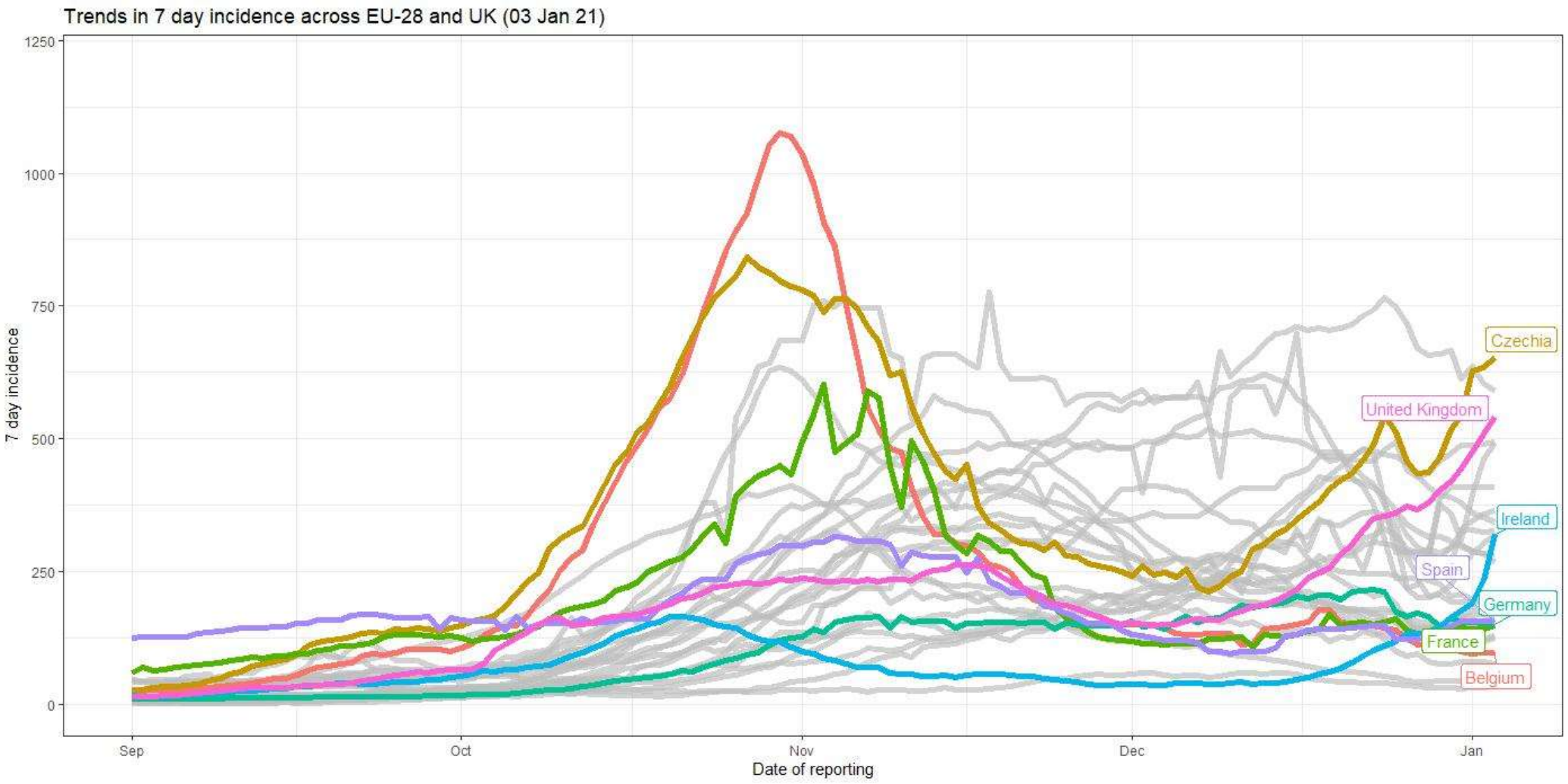
European trends since start September (7 day incidence)



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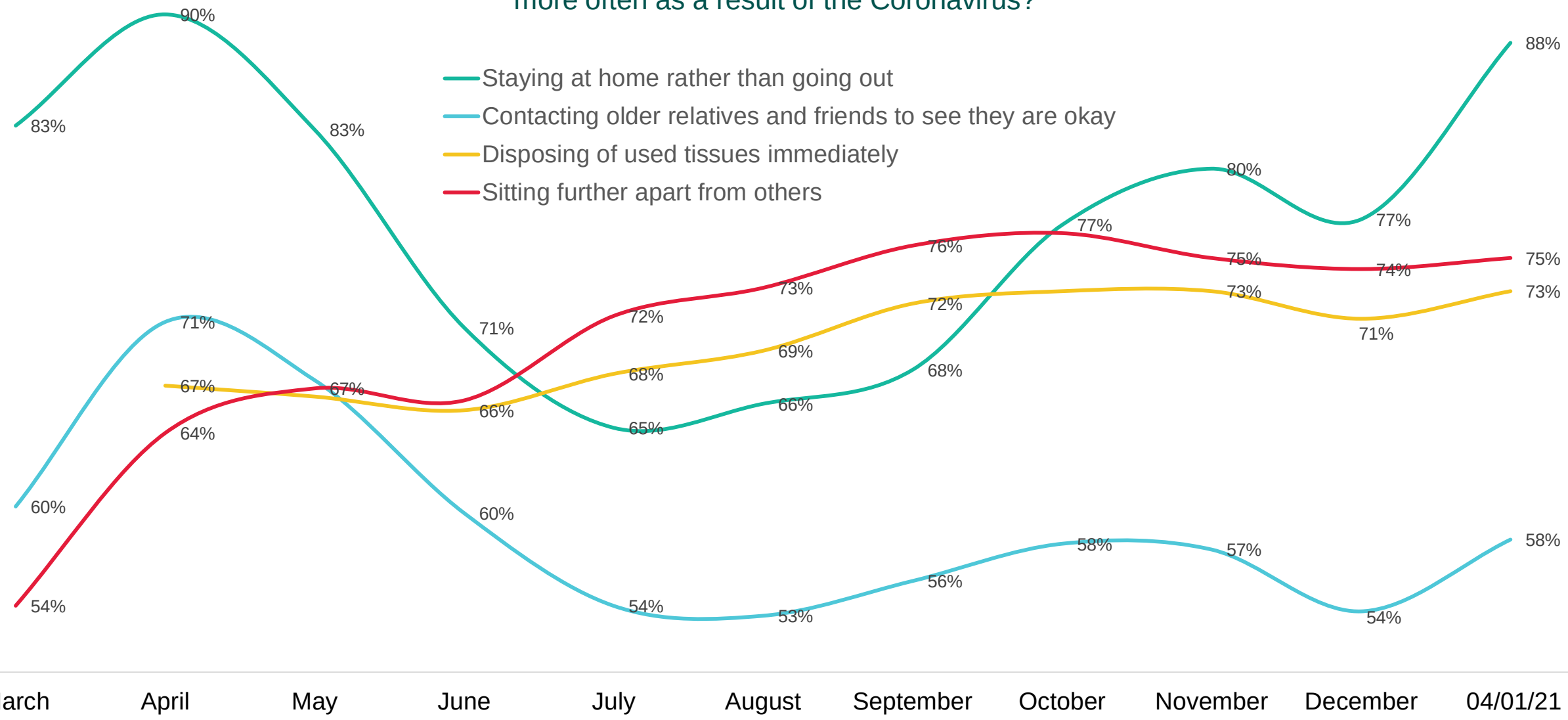
Safe Behaviours – II

Which of the following are you doing more often as a result of the Coronavirus?



Source: Amárach Public Opinion Tracker for Department of Health

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