IEMAG briefing

5 November 2020

Coronavirus COVID-19 Public Health Advice

Cases, numbers in hospital and intensive care

Case numbers had been increasing since late June, and have decreased for the first time over the last two weeks. Hospitalisations and admissions to ICU have increased over the last six weeks, as have the number of deaths. These may now be starting to stabilise. Hospitalisations and deaths are delayed relative to changes in case numbers.

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	16 Apr	24 Jun	29 Jul	30 Sept	7 Oct	14 Oct	21 Oct	28 Oct	4 Nov
Cases confirmed per day	551	9	18	359	493	809	1176	865	591
14-day incidence *per 100,000 population*	157	3.8	5.7	93	125	192	291	299	213
Hospital in-patients	858	42	11	108	136	204	279	325	322
Hospital admissions per day	*56*	*2*	*2*	*10*	*14*	*19*	*23*	*20*	*19*
ICU confirmed cases	147	15	5	18	22	30	32	38	43
ICU admissions per day	*8*	*< 1*	*< 1*	*1*	*2*	*3*	*3*	*3*	*3*
Deaths confirmed per day	32	2	< 1	2	2	3	5	4	5

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.

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Testing

The numbers of tests remains high, the positivity rate is now decreasing.

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7-day average	15 Apr	23 Jun	28 Jul	29 Sept	6 Oct	13 Oct	20 Oct	27 Oct	3 Nov
Tests done per day	5579	2610	6494	12624	12924	14486	16002	15161	12650
% tests positive	18%	0.5%	0.4%	3.0%	4.0%	6.3%	7.1%	5.5%	4.6%

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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Confirmed cases each day

Daily and weekly count and 5-day rolling average – case counts have been decreasing since 23 October; the 5-day average peaked at 1205 on 21 October and is now 530.

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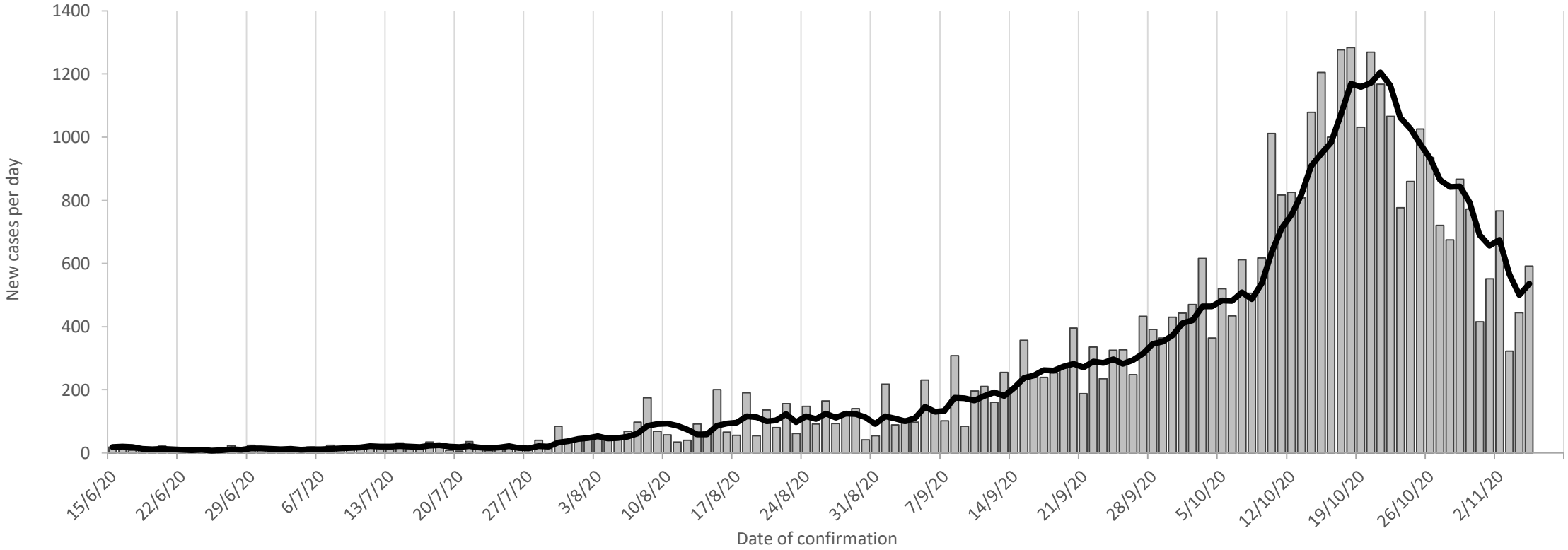
Cases confirmed each week	95	61	93	125	140	119	284	540	546	711	796	912	1304	1948	2060	3035	4468	7446	7137	4894



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.

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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 310 per 100,000, and is now 202 per 100,000

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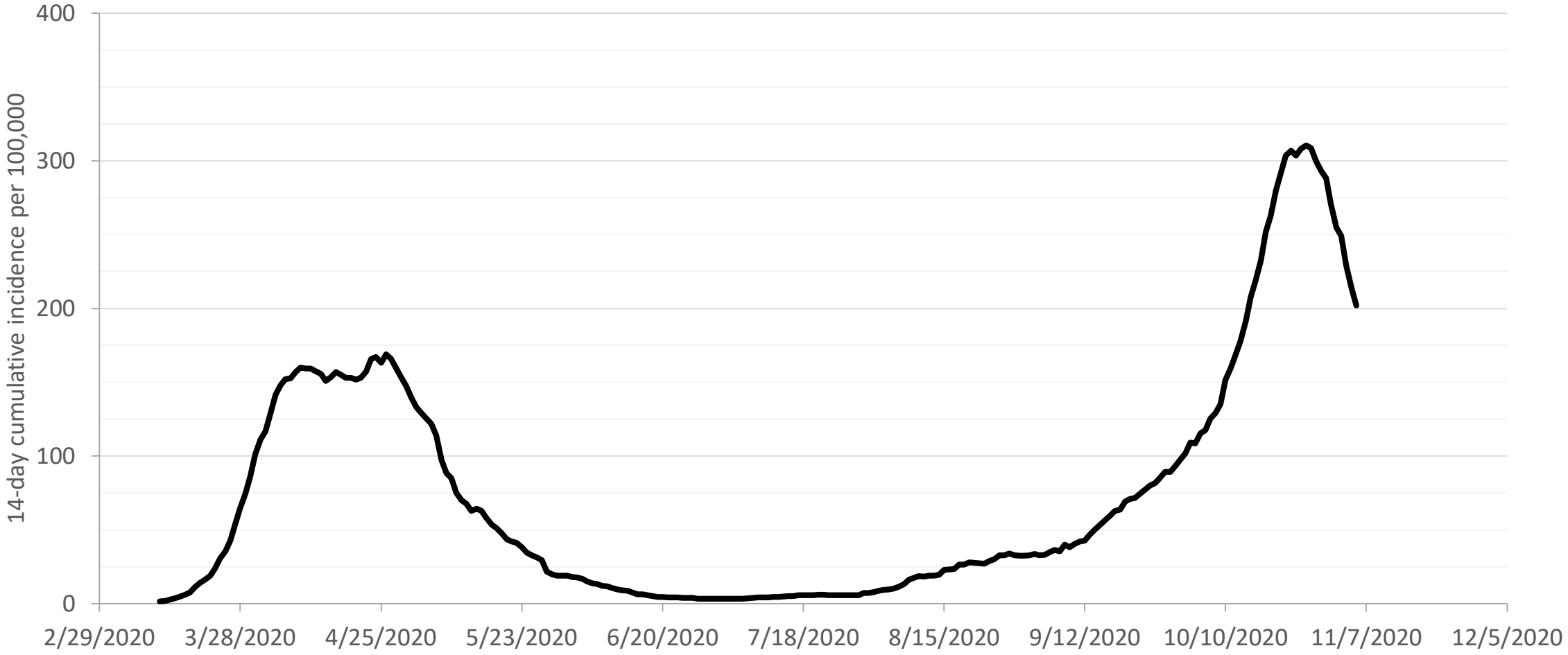

14-day cumulative incidence by date of confirmation. Tests outsourced to German laboratory in April backdated, using the specimen collection date, to the date they would have been confirmed if tested in a timely manner.

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Confirmed cases each day

Daily case count and 5-day rolling average for Dublin alone and for the other 25 counties. While case numbers in Dublin are falling, the 5-day average is higher than the point at which Level 3 measures were introduced for Dublin. Case numbers across the rest of the country have declined rapidly since 19 October, most likely due to the cumulative impact of Level 3 measures, Level 4 measures in border Counties, the restriction on visiting other households, and in recent days, Level 5 measures.

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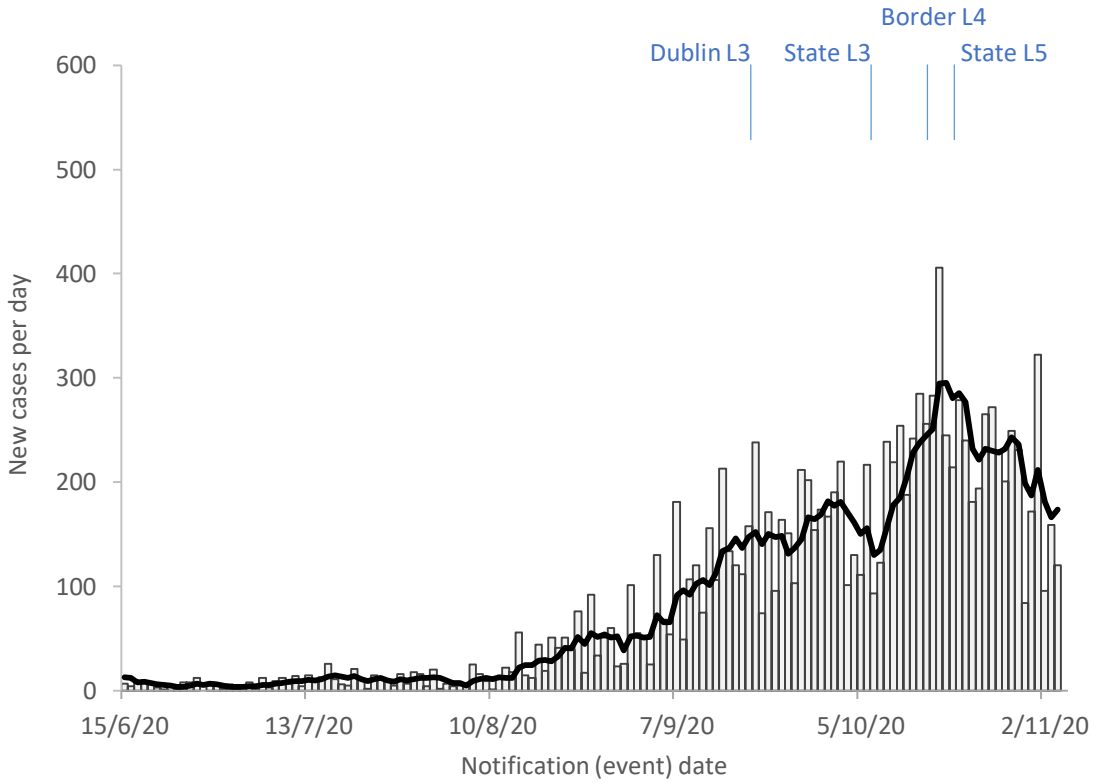
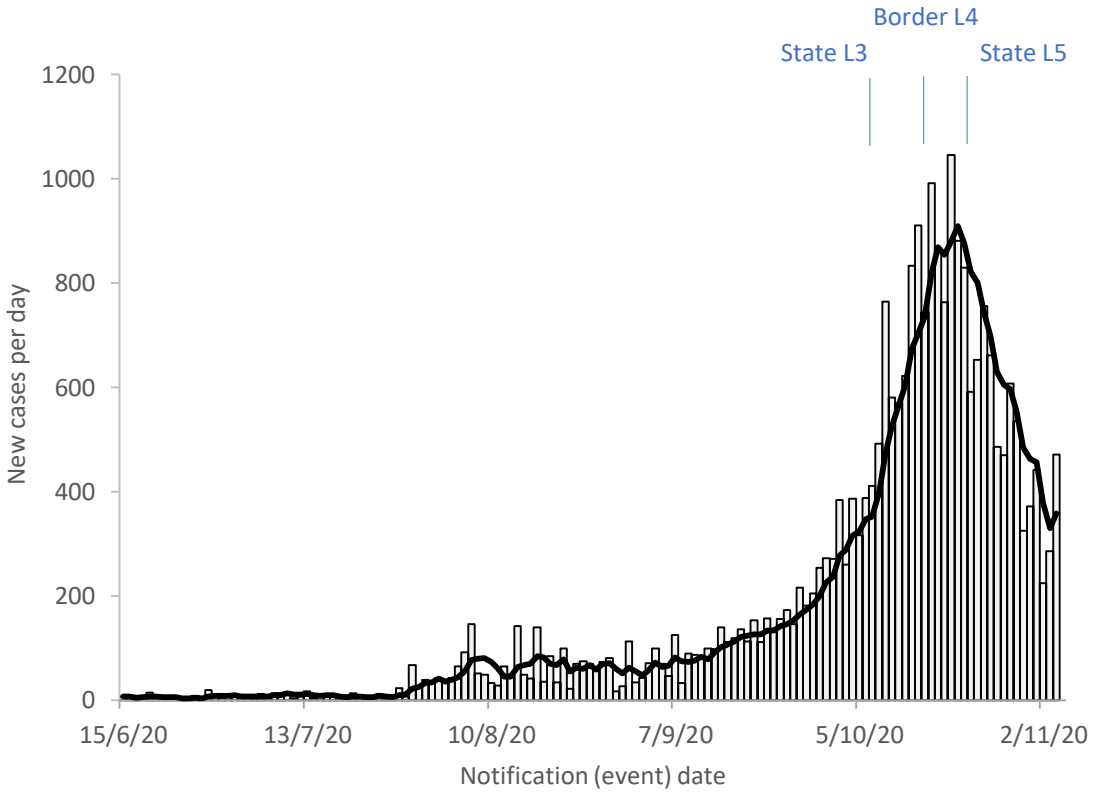
Dublin



25 counties



Daily count (bars) 5-day average (line) new cases by date on which they were notified to HPSC and created as an event on the CIDR database

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Confirmed cases in acute hospitals

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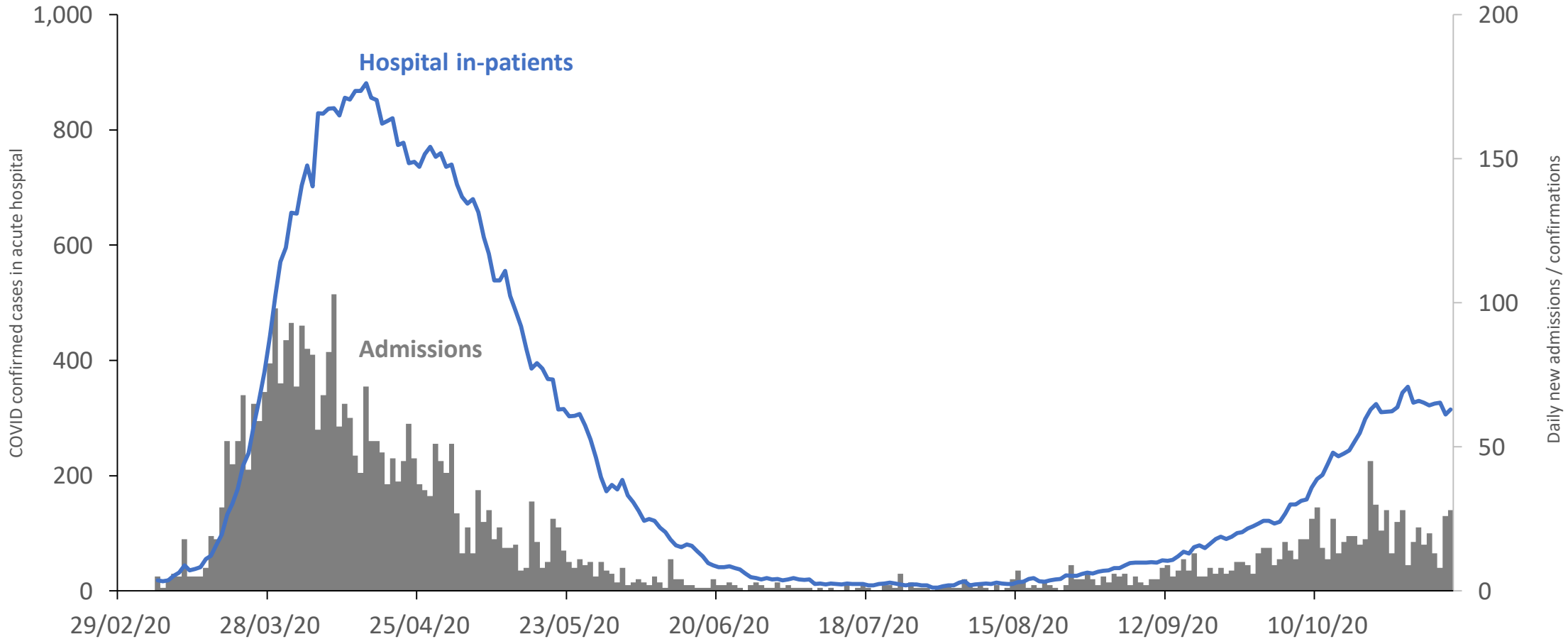

Hospital in-patients: Daily count of number of COVID-19 confirmed cases in acute hospitals. Daily admissions: New COVID-19 confirmed admissions and new laboratory confirmations of suspected cases in preceding 24 hours. Data from HSE PMIU-SDU, 8am census.

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Confirmed cases in intensive care

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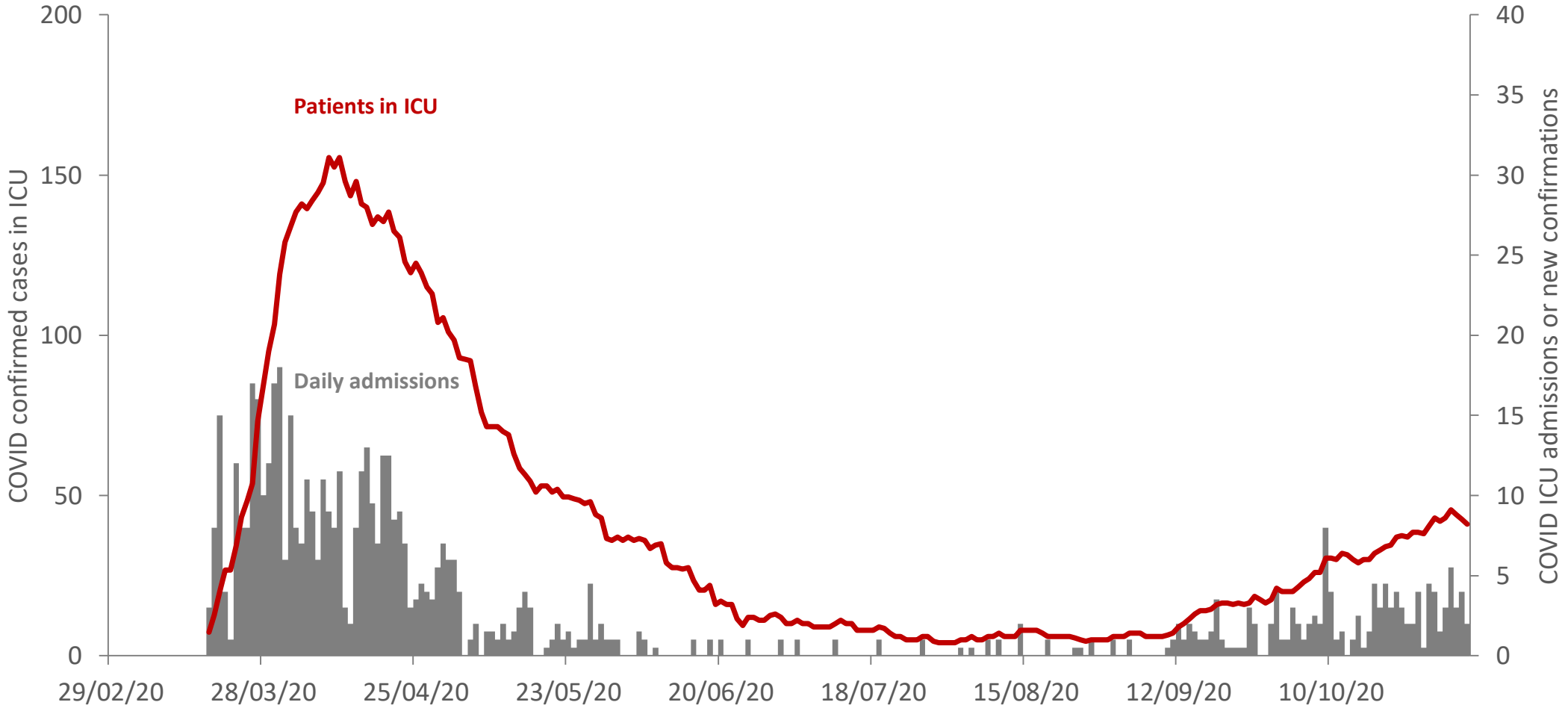

Patients in ICU: Daily count of number of COVID-19 confirmed cases in ICU. Daily admissions: new COVID-19 confirmed admissions to ICU and new laboratory confirmations of suspected cases in ICU. Average of morning and evening census from NOCA

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Deaths per day

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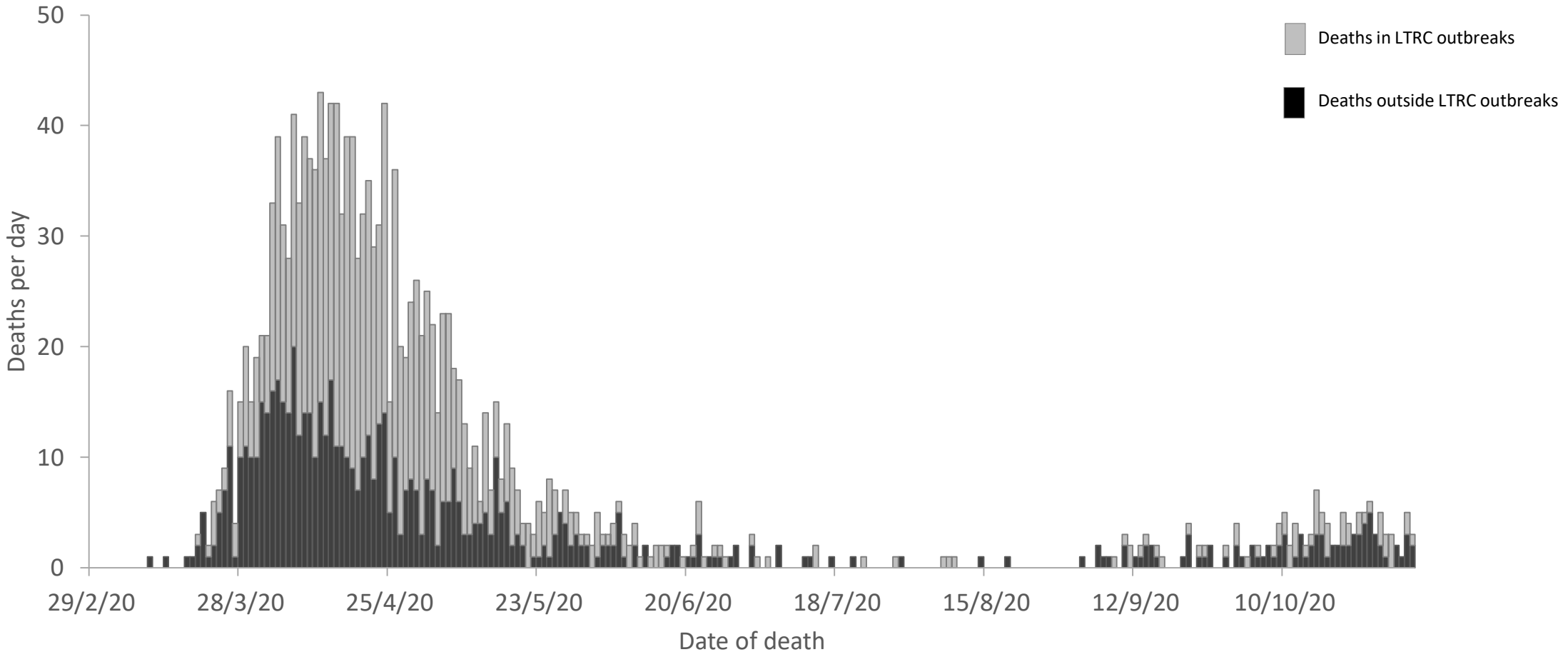

Deaths per day, separated into those associated with outbreaks in long-term residential care and those not associated with such outbreaks. Deaths with laboratory confirmed SARS-CoV-2 only

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Incidence across different age groups

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. There has been a very significant decrease in incidence in younger adults over the last two weeks, and incidence has now started to decrease in those aged 65 and older.

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Heat map of 7-day incidence by age

Week	Age band								
	0-4	5-12	13-18	19-24	25-39	40-64	65-74	75-84	85+
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	10.9	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	11.0	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	34.7	15.3	10.5	5.6	5.1	1.5
35	6.3	9.7	13.5	37.4	18.6	11.2	4.8	9.2	5.9
36	13.0	13.5	17.5	47.7	22.3	13.5	11.0	11.7	14.8
37	17.5	17.5	29.9	64.0	28.4	24.9	22.8	8.7	7.4
38	21.4	26.2	44.1	90.6	44.3	34.9	32.9	19.8	14.8
39	12.4	22.8	42.8	148.2	50.7	42.3	33.2	31.0	17.8
40	30.2	29.0	63.2	172.7	69.0	59.0	34.3	27.0	19.2
41	43.7	47.0	135.9	321.2	117.3	92.2	62.9	52.9	56.3
42	84.5	96.2	205.9	449.3	163.1	150.8	97.7	69.7	60.7
43	77.5	87.5	167.4	295.0	118.3	117.6	82.2	82.4	78.5
44	54.6	66.0	94.2	153.1	76.1	78.3	56.0	58.0	53.3

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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Growth rate for case numbers

The pandemic in Ireland grew very rapidly in early March, at over 30% per day. The national restrictions introduced in late March suppressed transmission, with daily incidence decreasing at -5% to -10% per day. This was sustained until the end of June, after which case numbers started to grow, on average at 4% to 5% per day. A period of very rapid growth can be seen in early August associated with the outbreaks in Kildare-Laois-Offaly. Level 3 measures in Dublin reduced growth rate to zero for a period (data not shown). Incidence is now decreasing at -5% to -7% per day, most likely due to the cumulative effects of the escalating restrictions imposed since 6 October 2020

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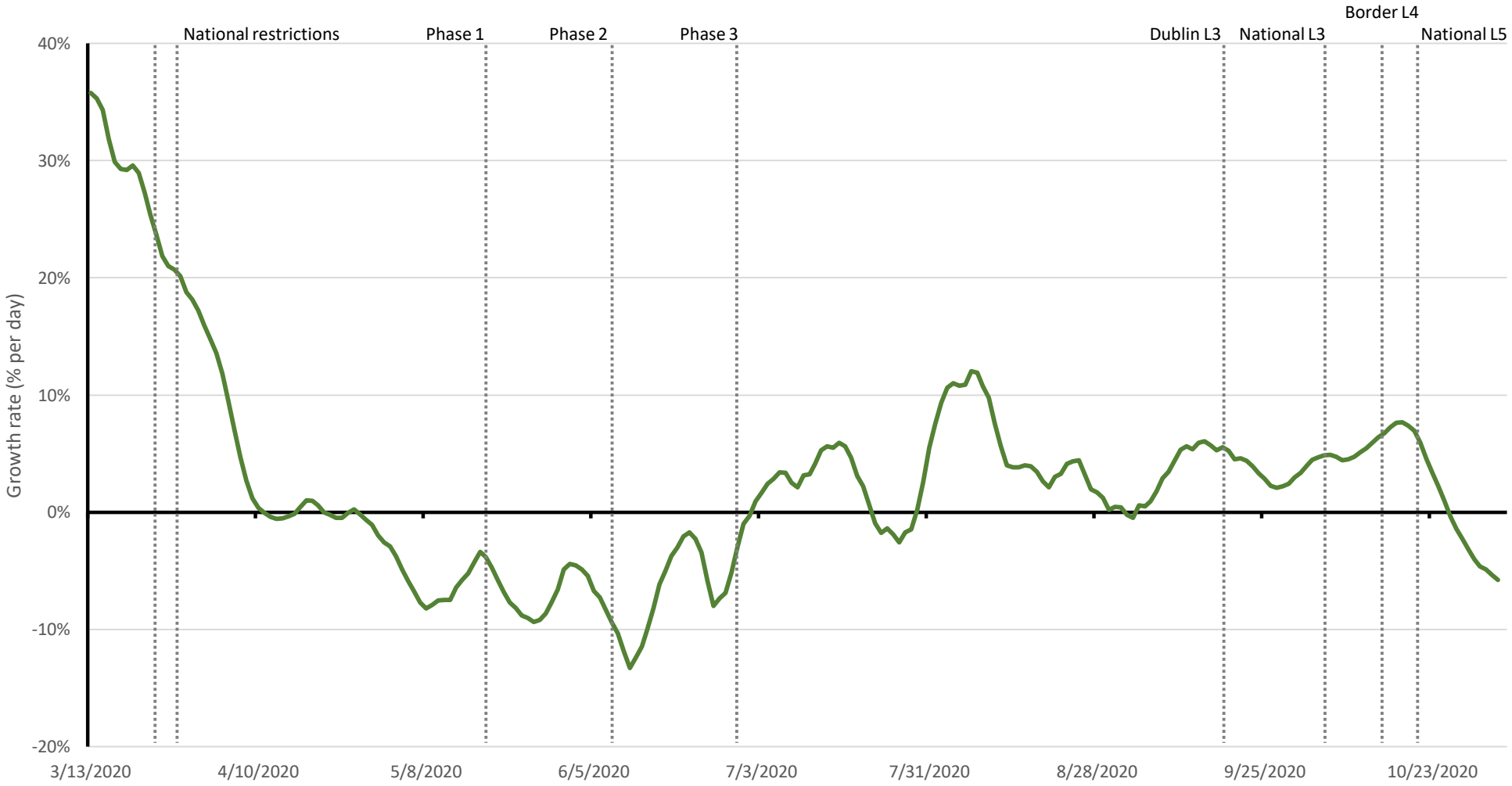

Growth rate calculated as the average growth rate over a 14-day trailing window; cases dated by notification (event) date.

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Estimates of effective reproduction (R)

Reproduction number has decreased since the last estimate, and is currently estimated at 0.7 to 0.9. It is similar or slightly higher in Dublin compared to the rest of the country. It is important to remember that any estimate of R relates to viral transmission events at least 7-10 days ago.

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Method	Estimate	95% confidence interval
SEIR model-inferred	0.98	0.94 – 1.04
Bayesian model	0.65	0.26 – 1.32
Time-dependent R	0.82	0.76 – 0.88
GAM estimate 27 Oct 2020	0.90	0.73 – 1.07
GAM estimate 3 Nov 2020	0.71	0.51 – 0.91

Estimates generated 3 November 2020, refer to IEMAG technical notes for methodology. Estimates are unreliable when case numbers are low or variable. Time-dependent R estimates relate to infectious events approximately two weeks ago. GAM is best estimate for current R. The estimate of R is influenced by different patterns of transmission in large outbreaks, smaller clusters, and individual transmission.

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Average number of close contacts for confirmed cases

The average number of close contacts per confirmed case over the course of the pandemic to date. The number of contacts started to decrease in anticipation of formal public health restrictions, and seems to have stabilised at just under 3 close contacts per case

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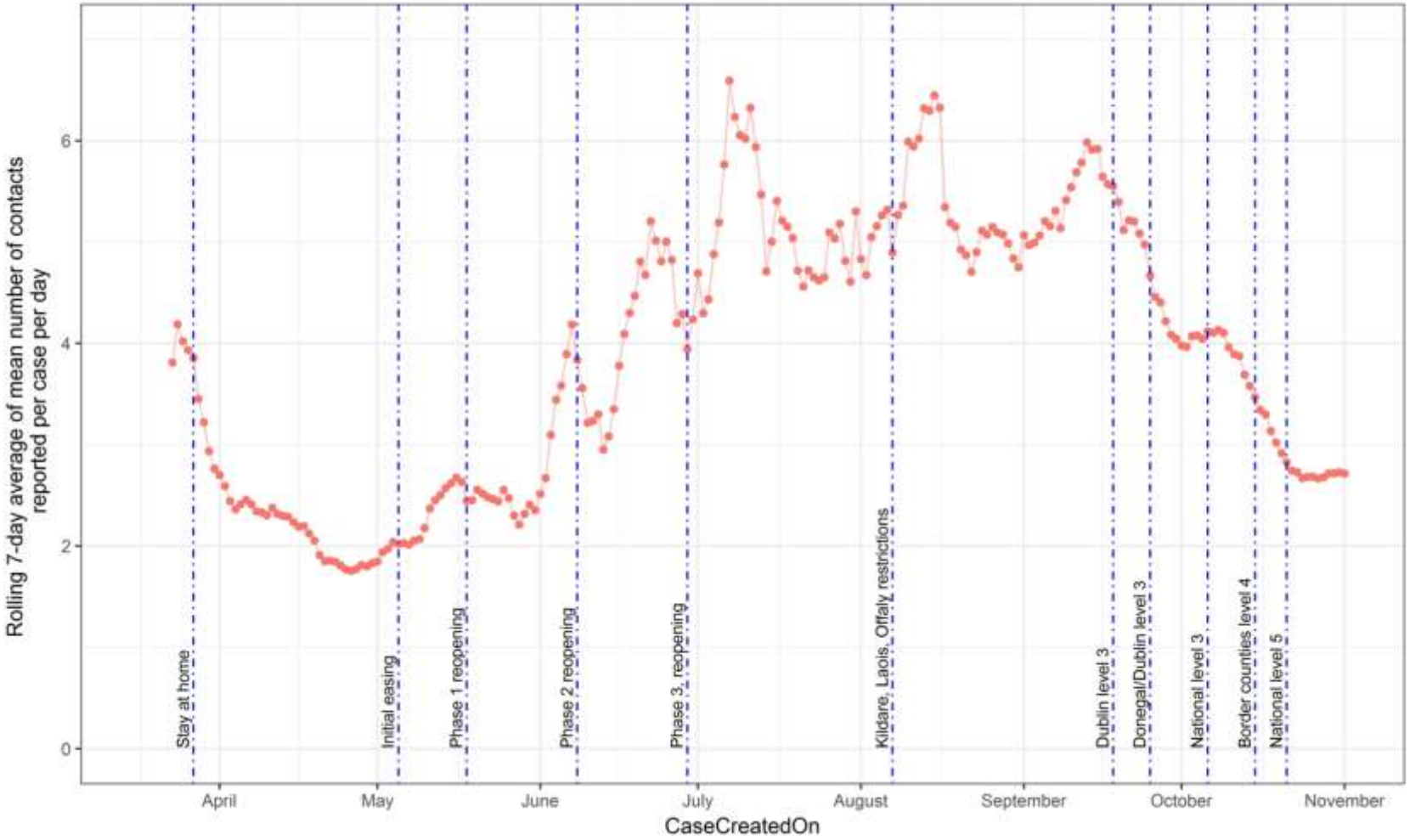

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Situation analysis 4 November 2020

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- Case numbers decreasing with significant suppression of viral transmission
  - Day on day reduction in case numbers
    - *negative growth: -3% to -4 % per day over last 21 days, -5% to -6% per day over last 14 days)*
  - R estimated at 0.7-0.9
    - caution in interpreting R number – it's an *estimate* that *lags* changes in viral transmission
- Numbers in hospital and intensive care may have stabilised
- There has been a very significant decrease in incidence in younger adults, and incidence in those aged 65 and older is now decreasing
- Incidence in Dublin starting to decrease but more slowly than the rest of the country
- The need now is to sustain our efforts to further reduce transmission and bring the number of cases and force of infection to very low levels
- We want to see case numbers declining at -6 to -8% per day or better