IEMAG briefing

30 September 2020

Coronavirus
COVID-19
Public Health
Advice

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Government of Ireland

Cases, numbers in hospital and intensive care

Case numbers have been increasing since late June. Hospitalisations have increased considerably over the last four weeks, and we have seen increasing admissions to ICU in the last two weeks starting to increase. The number of deaths is increasing.

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	15 Apr	23 Jun	28 Jul	25 Aug	1 Sept	8 Sept	15 Sept	22 Sept	29 Sept
Cases confirmed per day	537	10	19	104	120	151	210	276	332
14-day cumulative incidence *per 100,000 population*	155	4.2	5.6	30.6	33.6	40.5	53.9	70.8	88.5
Hospital in-patients	856	45	11	21	32	46	55	80	103
Hospital admissions per day	*63*	*2*	*2*	*3*	*4*	*4*	*7*	*7*	*9*
ICU confirmed cases	149	17	6	6	5	6	9	15	17
ICU admissions per day	*8*	*< 1*	*< 1*	*< 1*	*< 1*	*< 1*	*1*	*1*	*1*
Deaths confirmed per day	30	2	< 1	< 1	0	< 1	1	1	2

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 average number of deaths confirmed per day w/e 22 Sept was 1.6

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Testing

The numbers of tests remains high, the positivity rate is increasing slowly

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7-day average	14 Apr	22 Jun	27 Jul	24 Aug	31 Aug	7 Sept	14 Sept	21 Sept	28 Sept
Tests done per day	5842	2634	6477	7534	8865	9780	10891	12922	12533
% tests positive	17%	0.5%	0.3%	1.7%	1.3%	1.7%	2.1%	2.2%	2.8%

Data are 7-day averages (the indicated day and the preceding 6 days)

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Confirmed cases each day

Daily and weekly count and 5-day rolling average – daily average confirmed cases had been stable at 20 per day up to 29 July
Case counts have been increasing; the 5-day average is now 373

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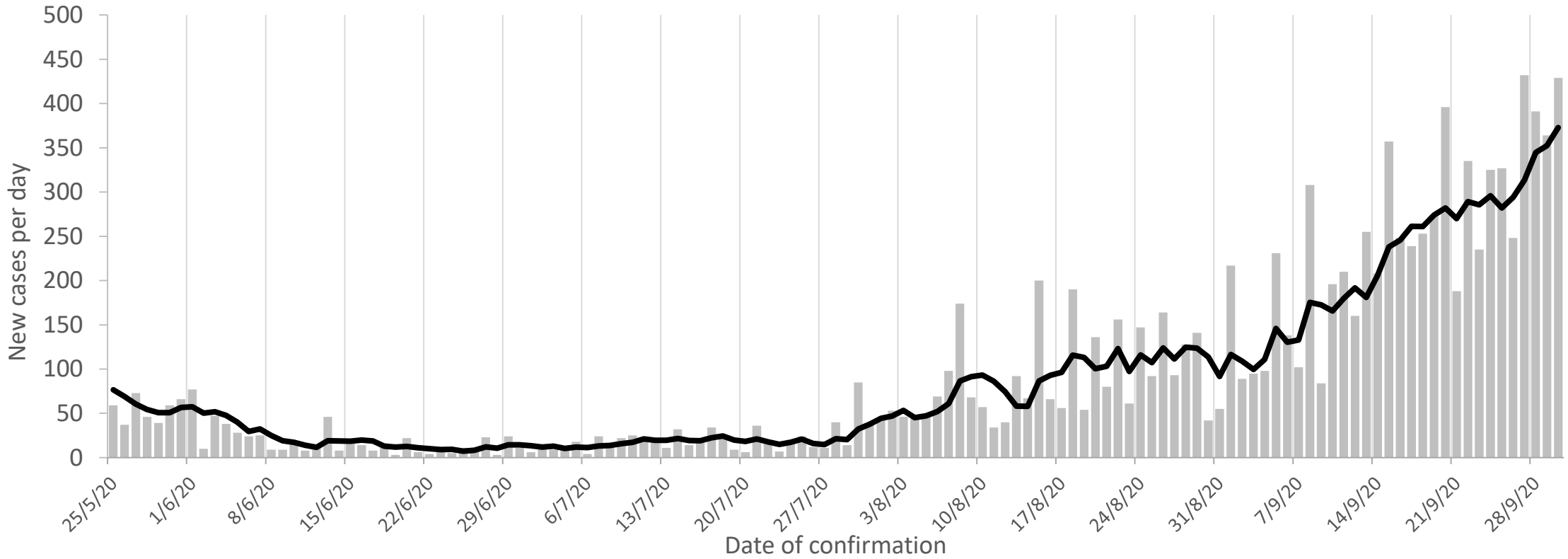
Cases confirmed each week	412	232	110	95	61	93	125	140	119	285	540	546	711	796	913	1304	1948	2068
Sporadic cases	59	48	29	24	25	37	37	64	36	52	44	143	124	152	180	297	379	605
	14%	21%	27%	25%	41%	40%	29%	46%	30%	18%	8%	26%	17%	19%	20%	23%	19%	29%



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. The number and percentage of cases defined as 'sporadic' is given: sporadic cases are those not associated with an outbreak, nor identified as close contacts of a confirmed case, nor acquired in a healthcare setting. A number of recent cases classified as sporadic will, on further investigation and data validation, be linked to outbreaks

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Deaths per day

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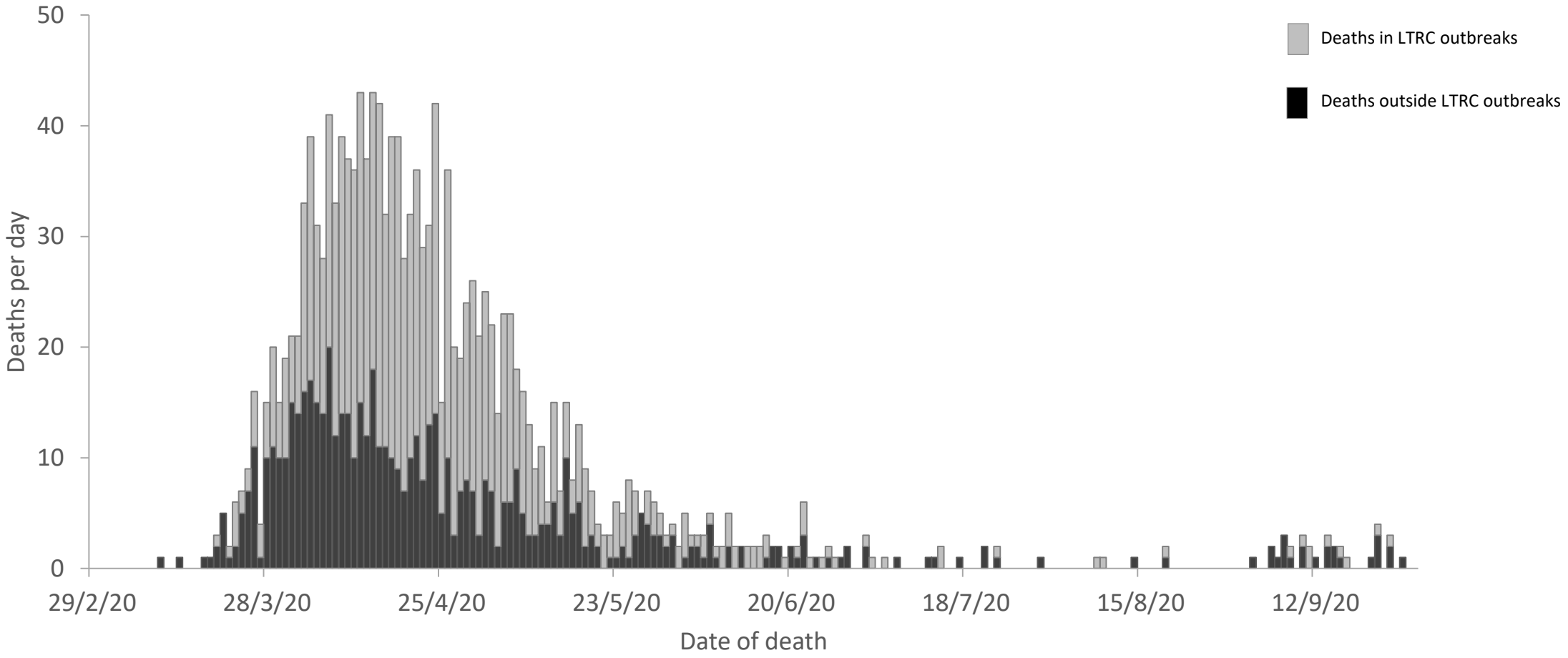

Deaths per day, separated into those associated with outbreaks in long-term residential care and those not associated with such outbreaks. Deaths with laboratory confirmed SARS-CoV-2 only

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Daily incidence: Dublin

The incidence in Dublin is considerably higher than the rest of the country, and almost three times the incidence in the other 25 counties

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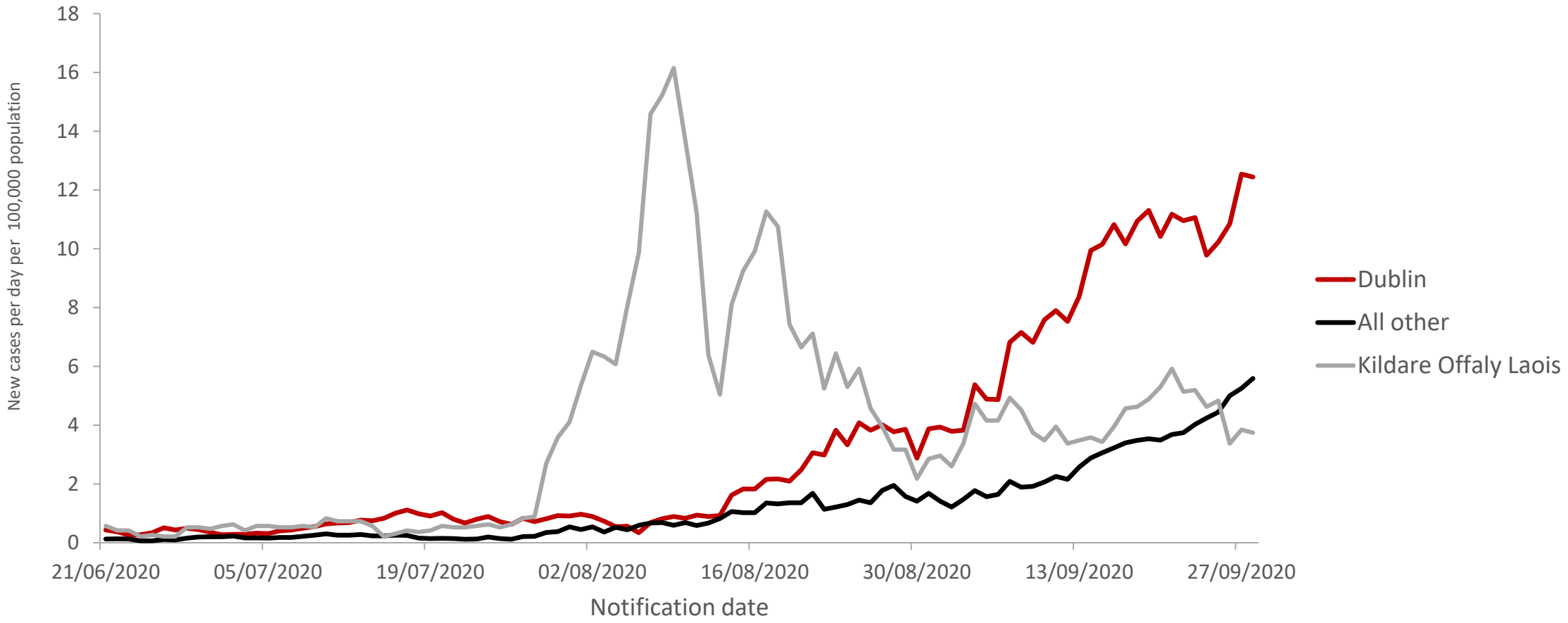

New cases per day per 100,000 population (5-day moving average) by notification (event) date.

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14-day cumulative incidence by county

A heat map of 14-day cumulative incidence by county.

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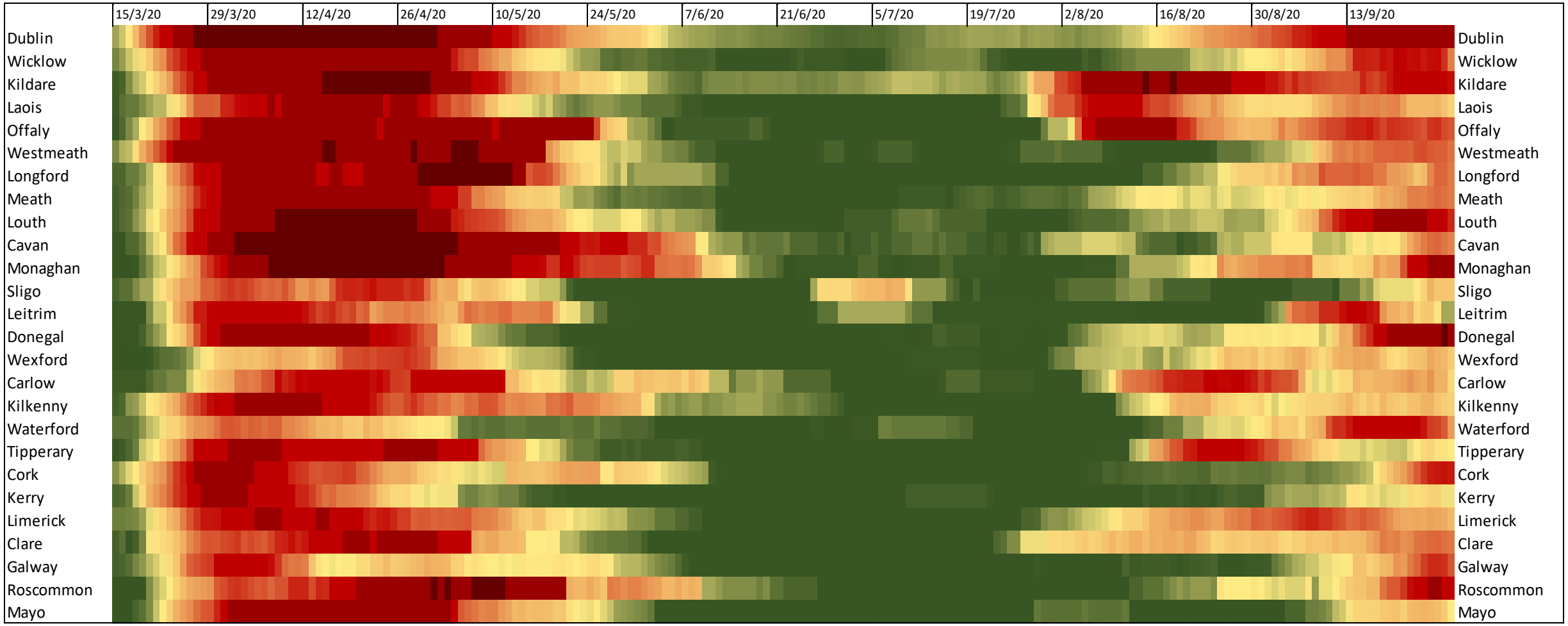

3	5	10	20	30	40	50	75	100	200

Scale: 14-day cumulative incidence per 100,000 population, cases dated by date of specimen collection.

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Incidence across different age groups (excl. HCW and LTRC)

When incidence started to rise again July, cases increased first in the 0-19 and 20-39 age group; the former relates to increased detection in children in household outbreaks, the latter due to younger workers in workplace outbreaks. There has been a major increase in incidence in recent weeks. Incidence in older age groups has started to rise and there has been a marked increase in incidence in the 19-24 age group. The incidence in the 0-18 age group, as a proportion of the overall incidence, is stable or decreasing

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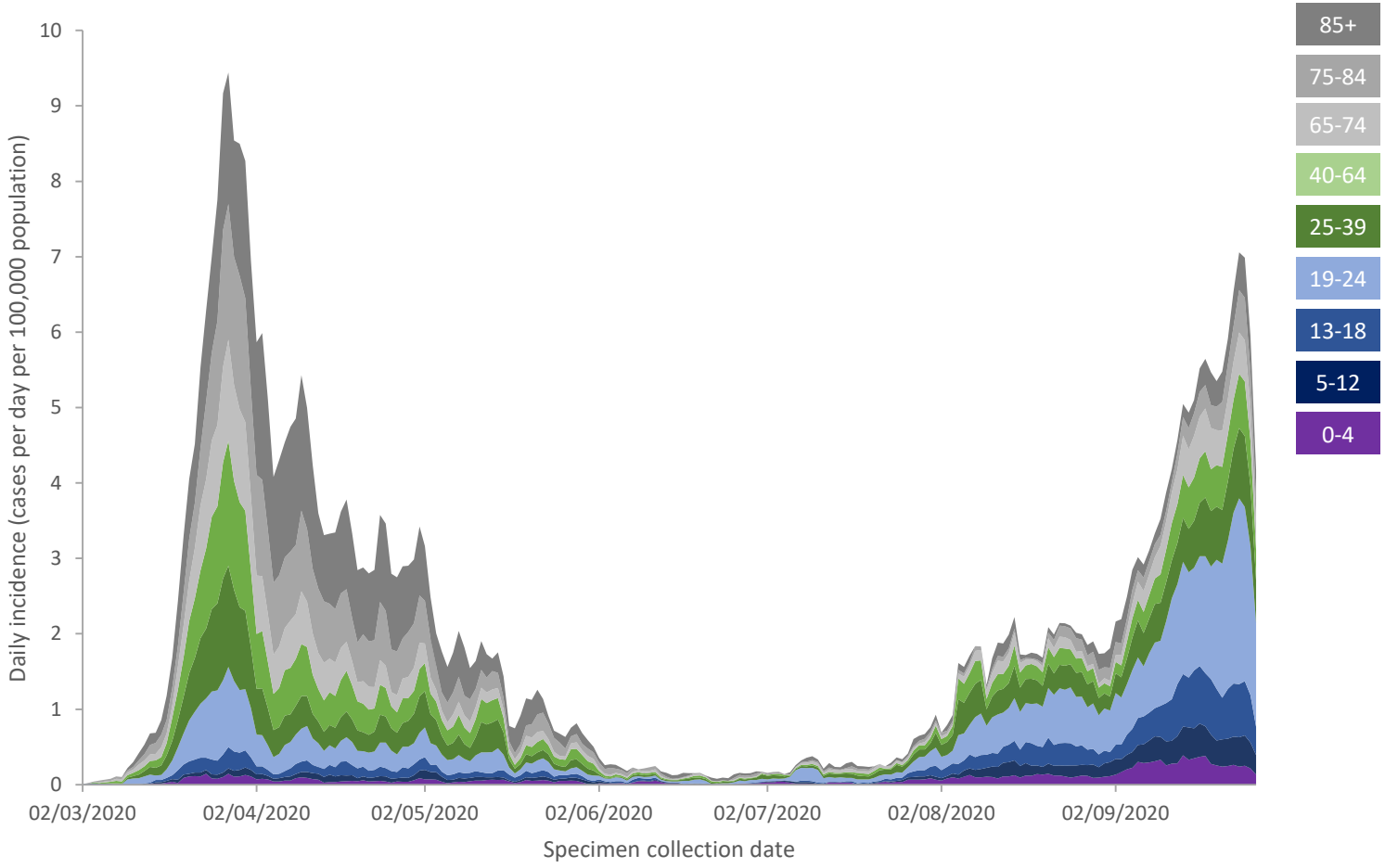

Week	Age band								
	0-4	5-12	13-18	19-24	25-39	40-64	65-74	75-84	85+
9	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.0
10	0.0	0.2	0.3	0.0	0.2	0.7	0.5	1.0	0.0
11	0.6	0.2	0.5	5.4	5.0	4.4	4.6	6.6	5.9
12	4.5	2.4	7.5	23.6	27.8	31.1	25.4	25.4	28.1
13	6.9	4.2	14.5	58.0	73.4	86.6	72.6	88.5	84.4
14	4.5	4.4	6.7	28.1	40.3	50.9	51.1	92.1	109.5
15	5.7	5.6	9.1	32.0	29.3	47.6	46.9	71.8	108.1
16	3.0	5.3	10.8	18.7	20.7	32.1	28.4	50.4	69.6
17	3.3	4.2	7.8	21.1	23.7	26.6	21.2	49.9	60.7
18	4.5	6.4	9.4	20.2	26.1	21.0	18.7	37.1	45.9
19	2.1	2.7	4.8	13.3	15.3	14.6	10.4	18.8	31.1
20	3.6	1.6	4.8	12.1	16.4	11.9	6.7	9.2	10.4
21	3.3	2.7	4.6	8.5	6.3	8.2	7.5	15.3	20.7
22	2.1	2.4	2.2	4.2	5.1	6.8	4.0	4.6	4.4
23	1.2	0.5	1.3	3.0	0.7	1.9	1.6	5.6	3.0
24	2.7	0.7	1.3	1.5	1.4	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	10.9	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	22.4	13.5	11.0	11.7	17.8
37	17.5	17.5	29.9	64.3	28.6	25.0	22.8	8.7	7.4
38	21.4	26.2	44.1	90.9	44.7	35.3	32.9	19.8	17.8
39	11.5	20.0	34.4	119.9	45.6	35.9	27.0	29.0	19.2

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). 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 across different age groups (excl. HCW and LTRC)

When incidence started to rise again July, cases increased first in the 0-19 and 20-39 age group; the former relates to increased detection in children in household outbreaks, the latter due to younger workers in workplace outbreaks. There has been a major increase in incidence in recent weeks. Incidence in older age groups has started to rise and there has been a marked increase in incidence in the 19-24 age group. The incidence in the 0-18 age group, as a proportion of the overall incidence, is stable or decreasing

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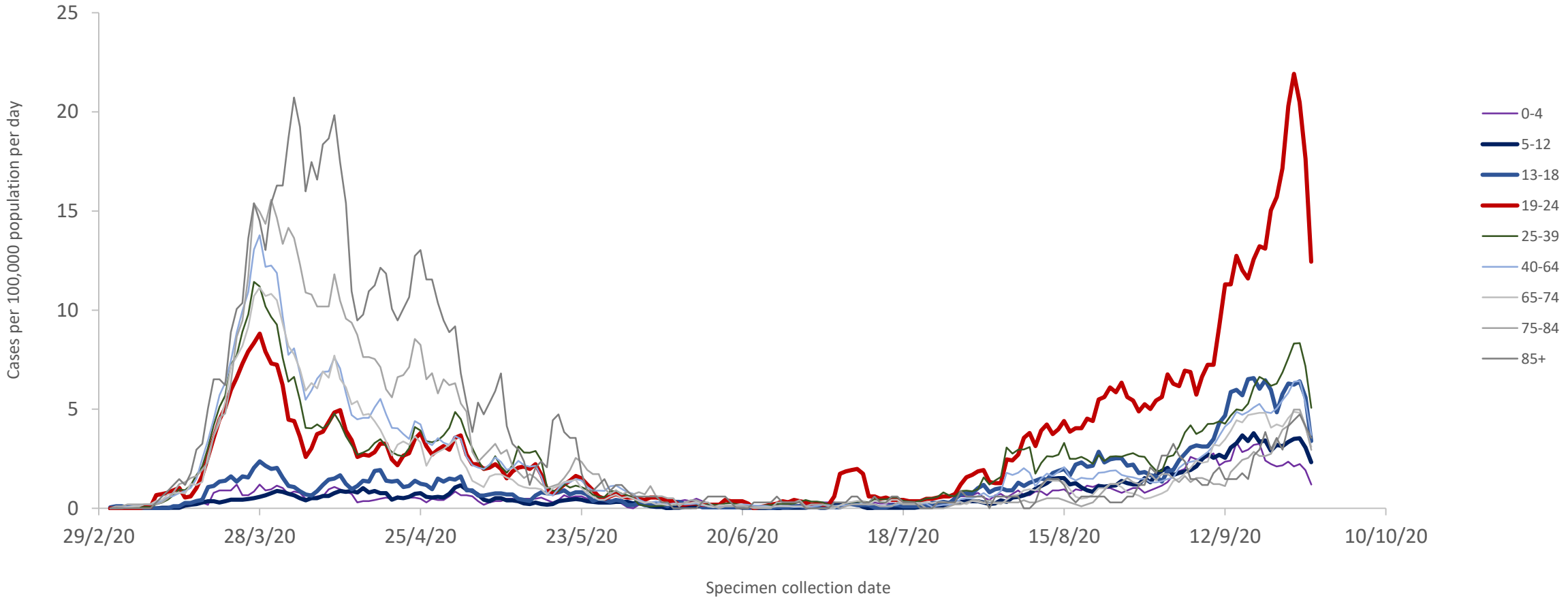

Age-specific incidence (cases per day per 100,000 population within each age cohort, population from CSO 2016 census data). Healthcare workers and cases associated with outbreaks in long-term residential care are excluded, so that the analysis reflects the pattern of cases in the community. Cases dated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

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Severity and age

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- 9632 cases notified from 1 August to 28 September 2020
  - 269 admitted to hospital
    - 153 (57%) under 65
    - 56 (21%) under 40
  - 30 admitted to ICU
    - 22 (73%) under 65
    - 4 (13%) under 40
  - 28 deaths notified to date
    - 7 (25%) under 65
    - crude case fatality rate 5% for those 75 and older

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Situation analysis 30 Sept 20

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- Incidence growing
  - Growth rate at 4 - 5% per day
  - Doubling time 14 - 18 days
  - R between 1.2 and 1.4
- Hospitalisations, intensive care admissions and deaths increasing
- While growth rate in Dublin may be starting to decrease
  - the trend is not yet clear
  - incidence in Dublin remains 3 times greater than the rest of the country
- Incidence is growing across the entire country
  - but pattern is very different in different counties
  - outbreaks on a background of increasing community prevalence

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Estimates of effective reproduction (R)

R is difficult to estimate. Our best estimate at this time for the country as a whole is that it is between 1.2 and 1.4. It is possible that reproduction number for Dublin is at the lower end of this range, and reproduction number for the remainder of the country is at the higher end of this range.

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Method	Estimate	95% confidence interval
SEIR model-inferred	1.61	1.45 – 1.82
Bayesian model	1.41	0.62 – 2.76
Time-dependent R	1.43	1.26 – 1.60
GAM estimate 22 Sept 2020	1.26	0.92 – 1.61
GAM estimate 29 Sept 2020	1.29	0.79 – 1.79

Estimates generated 29 September 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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