



An Roinn Sláinte
Department of Health

Update for NPHET 22nd October 2020

Total Confirmed	Daily Confirmed
53,422	1,167

Total Deaths	Daily Deaths
1,868	3

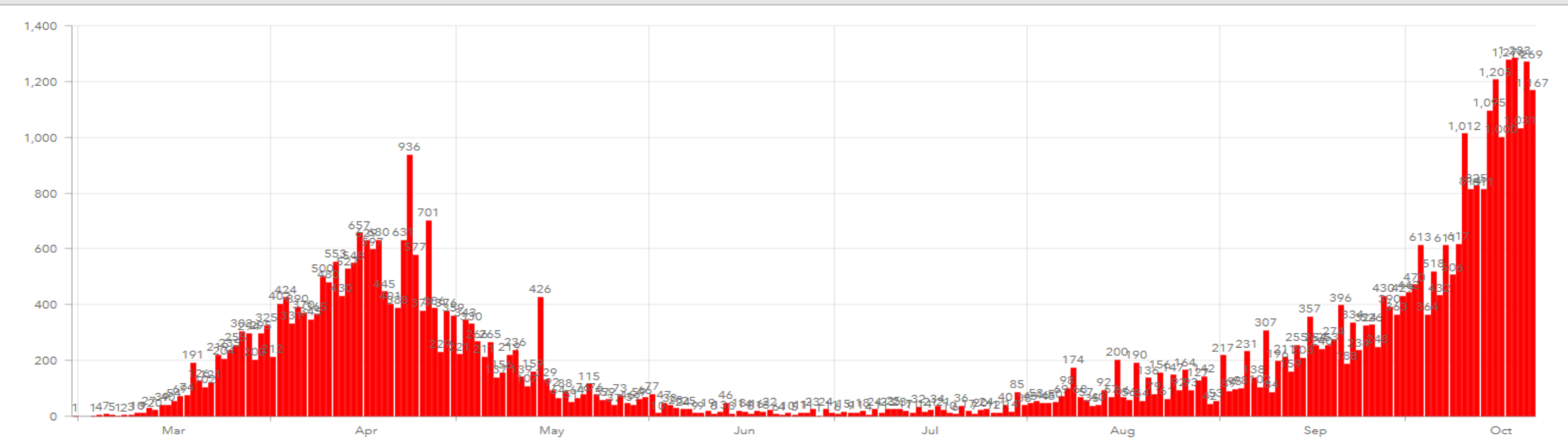
ICU Totals - The following figures update daily at approximately 11.00 and 18.45

ICU Capacity % (% Occ Beds / Max Capacity)	COVID in ICU	Suspected COVID in ICU	New COVID Cases (Last 24hrs)	Susp. COVID Cases (Last 24hrs)	COVID Discharges (Last 24 hrs)	COVID in ICU (Ventilation)
68.8	35	15	3	0	2	22

Acute Hospital Totals - The following figures are counts taken at 8.00, 14.00 and 20.00 daily. The first daily count refresh is at approximately 9.15am

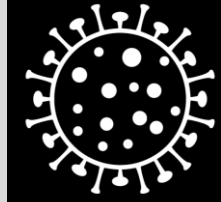
COVID in Hospital	Suspected COVID in Hospital	New Hospital COVID Admissions (Last 24hrs)	COVID in Hospital - Discharges (Last 24 hrs)
305	213	21	36

Confirmed COVID-19 Case Timeline - Event Date

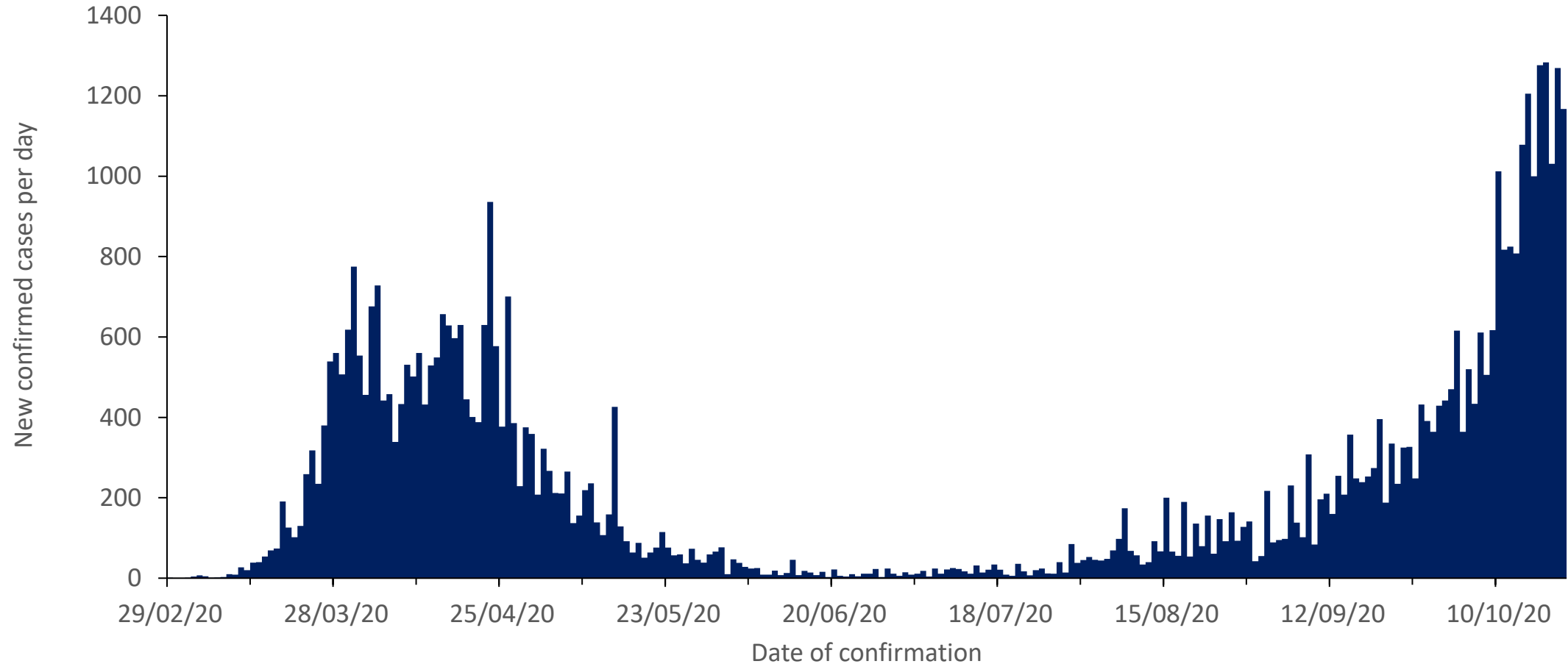


Confirmed cases each day

Daily case count since the beginning of the epidemic



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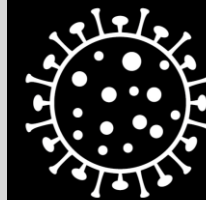
Daily count of the number of laboratory confirmed new cases by date on which they were confirmed by HPSC. Tests outsourced to German laboratory in April backdated, using the specimen collection date, to the date they would have been confirmed if tested in a timely manner



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Cases, numbers in hospital and intensive care

Case numbers have been increasing since late June. Hospitalisations have increased rapidly over the last five weeks, and we have seen increasing admissions to ICU in the last three weeks. The number of deaths is increasing.



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	16 Apr	24 Jun	29 Jul	16 Sept	23 Sept	30 Sept	7 Oct	14 Oct	21 Oct
Cases confirmed per day	551	9	18	233	274	359	493	809	1176
14-day incidence <i>per 100,000 population</i>	157	3.8	5.7	56	75	93	125	192	291
Hospital in-patients	858	42	11	57	84	108	136	204	279
<i>Hospital admissions per day</i>	56	2	2	7	7	10	14	19	23
ICU confirmed cases	147	15	5	10	16	18	22	30	32
<i>ICU admissions per day</i>	8	< 1	< 1	1	1	1	2	3	3
Deaths confirmed per day	32	2	< 1	1	1	2	2	3	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. NPHE 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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Continuing deterioration



	24 Sept	1 Oct	4 Oct	7 Oct	10 Oct	13 Oct	16 Oct
14-day incidence	77	92	108	124	150	177	218
5-day average cases	293	370	462	506	636	816	987
Total weekly cases	1,948*	2,068*	3,063	3,436	4,060	5,199	6,765
7 day average positivity	2.2%	3.0%	3.4%	4.0%	4.7%	5.8%	7.0%
No. in Hospital	90	122	134	156	194	234	260
No. in ICU	17	20	22	25	30	32	30

19 Oct	21 Oct
262	291
1,159	1,205
7,701	8,231
7.2%	7.1%
298	323
34	34

	1 Aug	1 Sept	1 Oct	4 Oct	7 Oct	10 Oct	13 Oct	16 Oct
No. Hospital	8	36	122	134	156	194	234	260
No. ICU	4	6	20	22	25	30	32	30

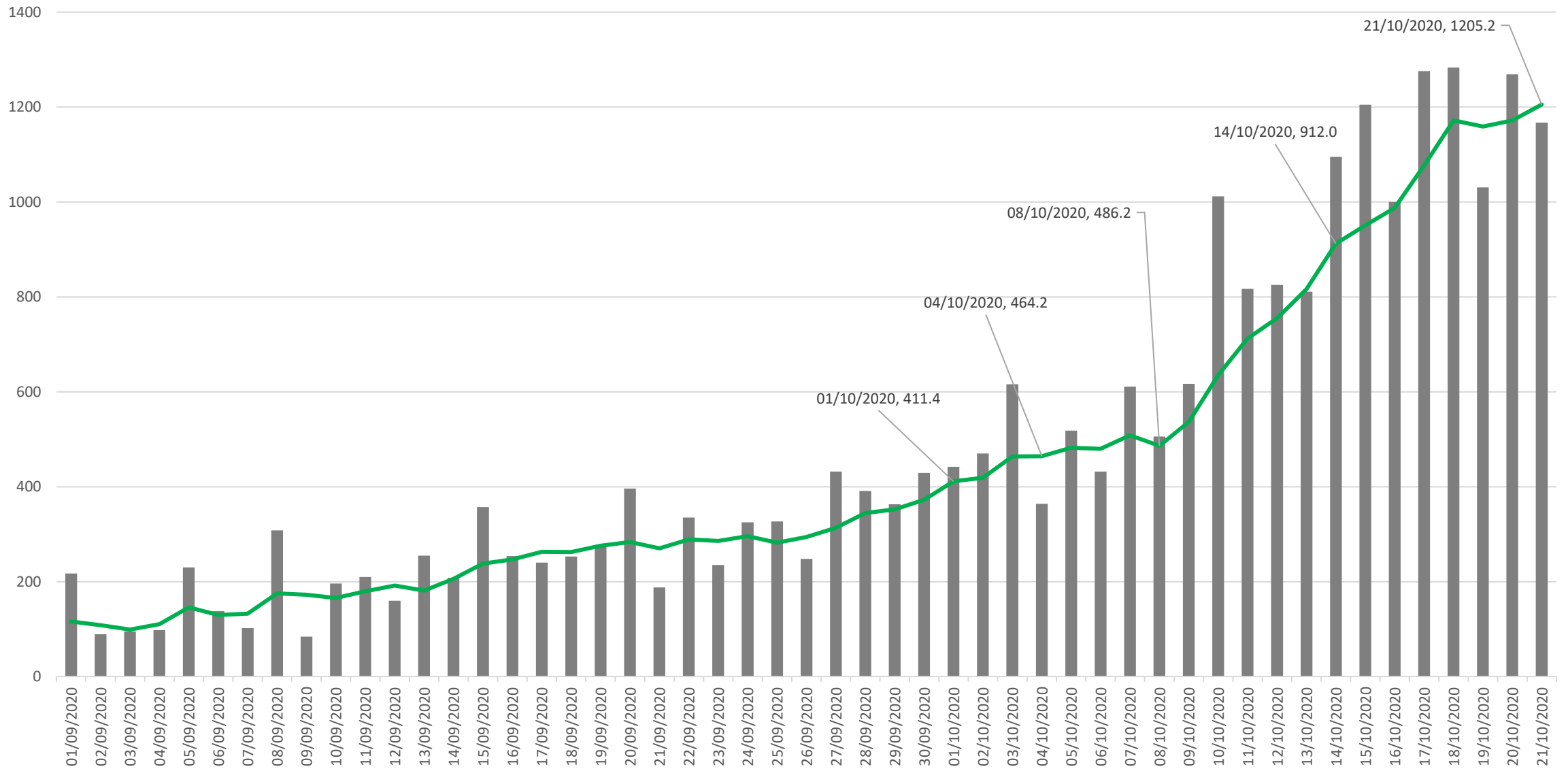
19 Oct	21 Oct	22 Oct
298	323	305
34	34	35

	August	September
Total Deaths	5	35

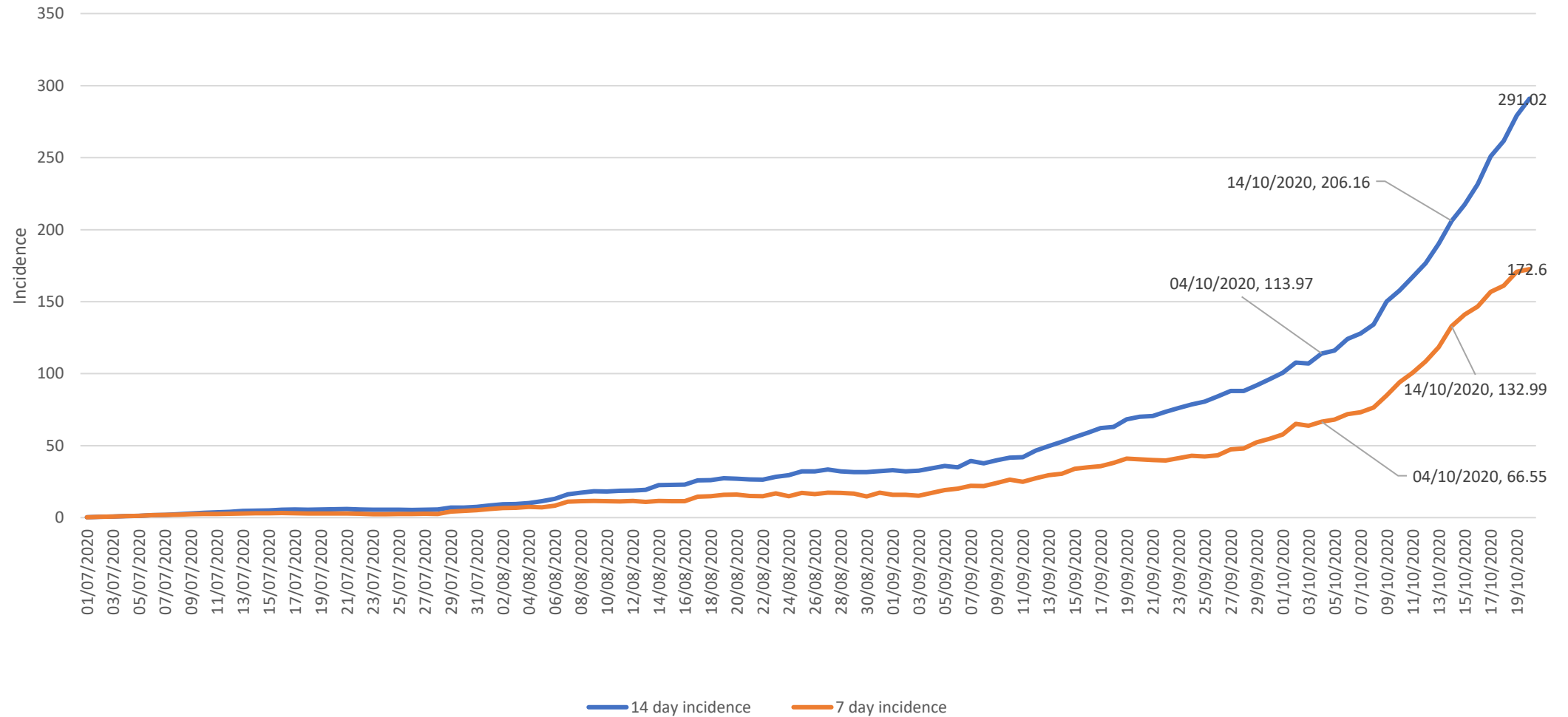
October
57

*To the previous Sunday night

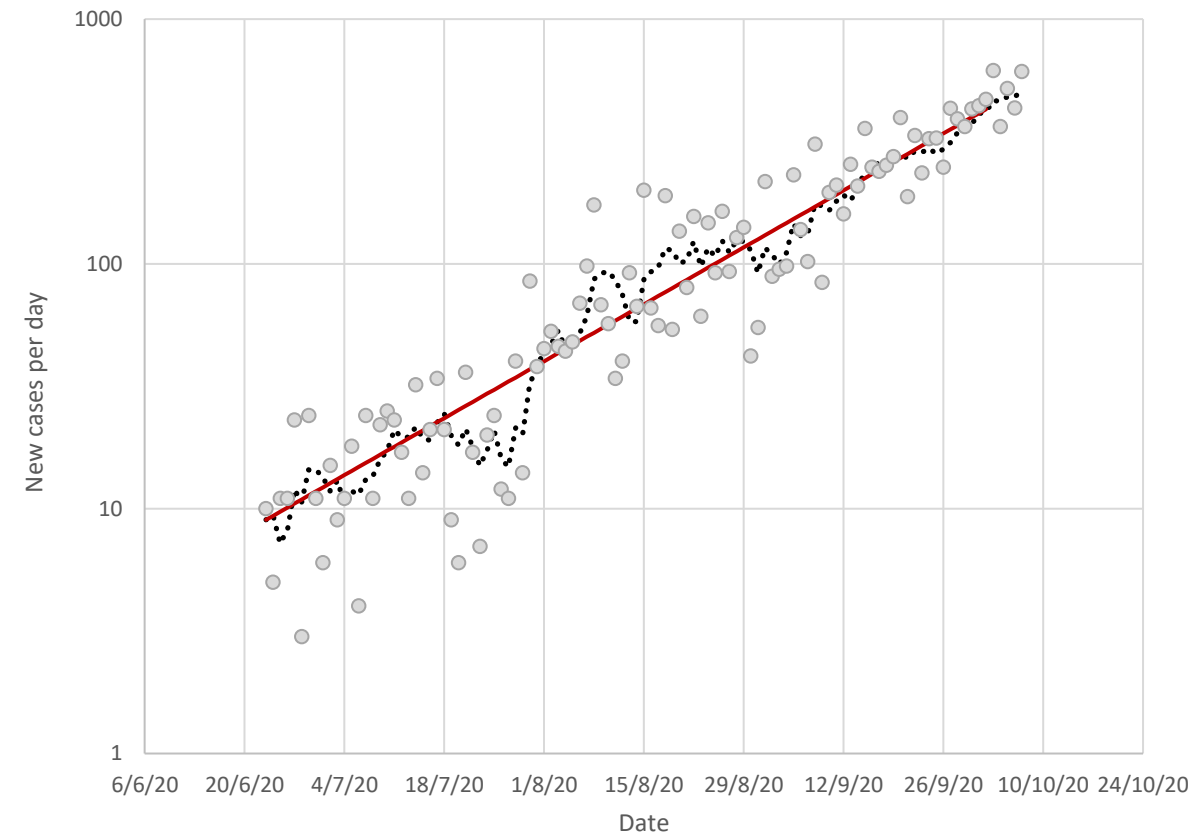
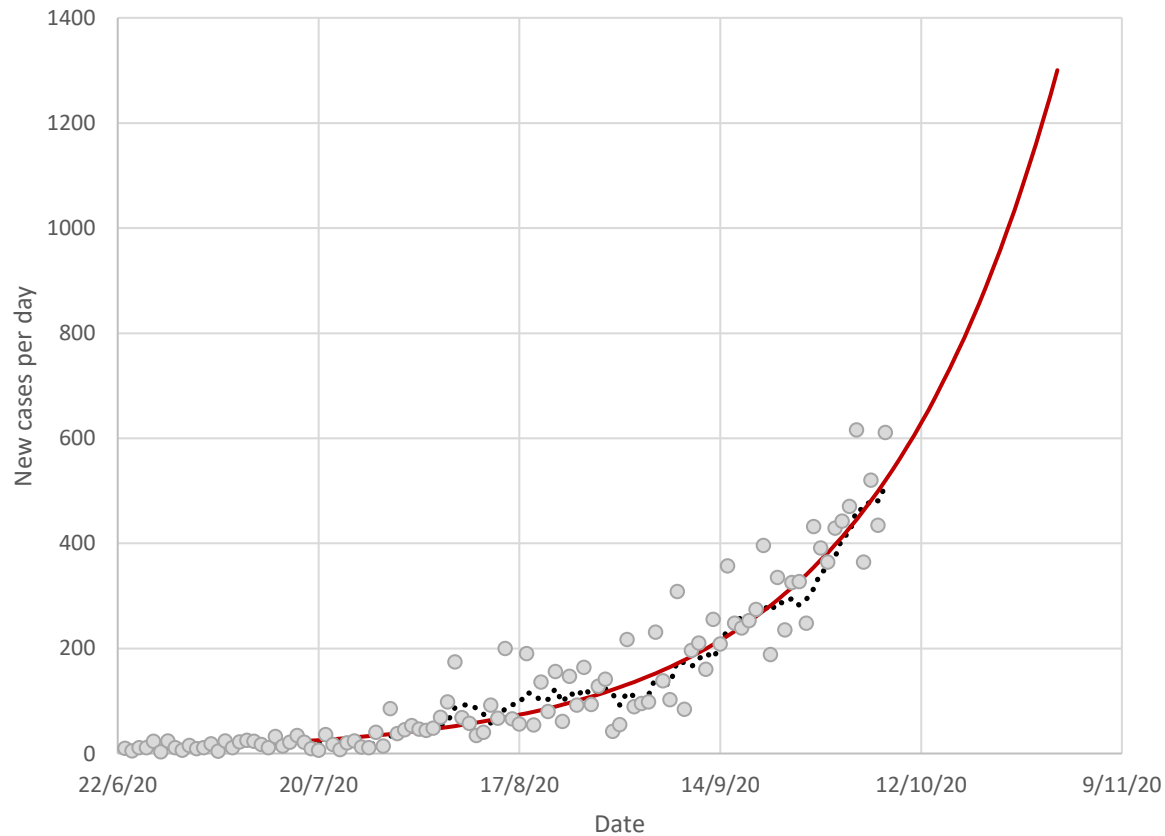
National Case Count and 5 Day Average



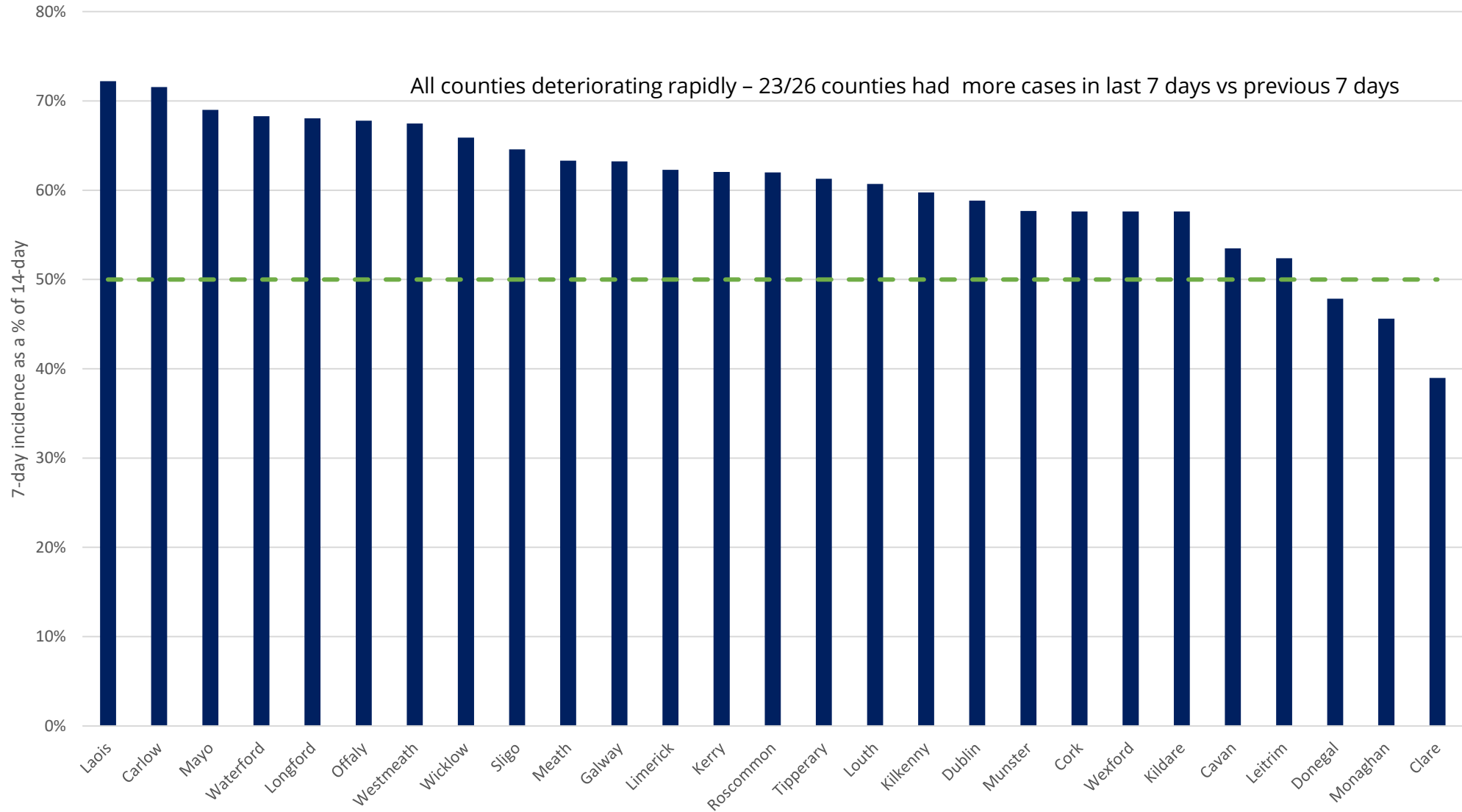
National 7 and 14 day Incidence rates



Cases growing exponentially



7-day incidence rate per 100,000 as % of the 14-day incidence

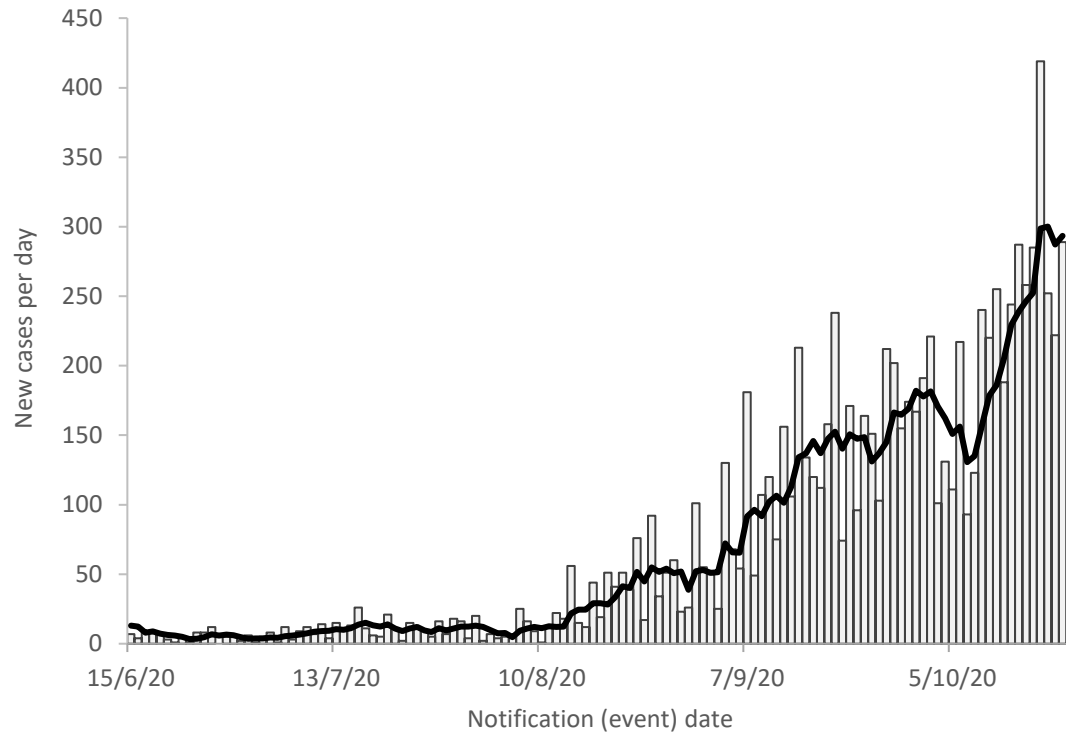


Confirmed cases each day

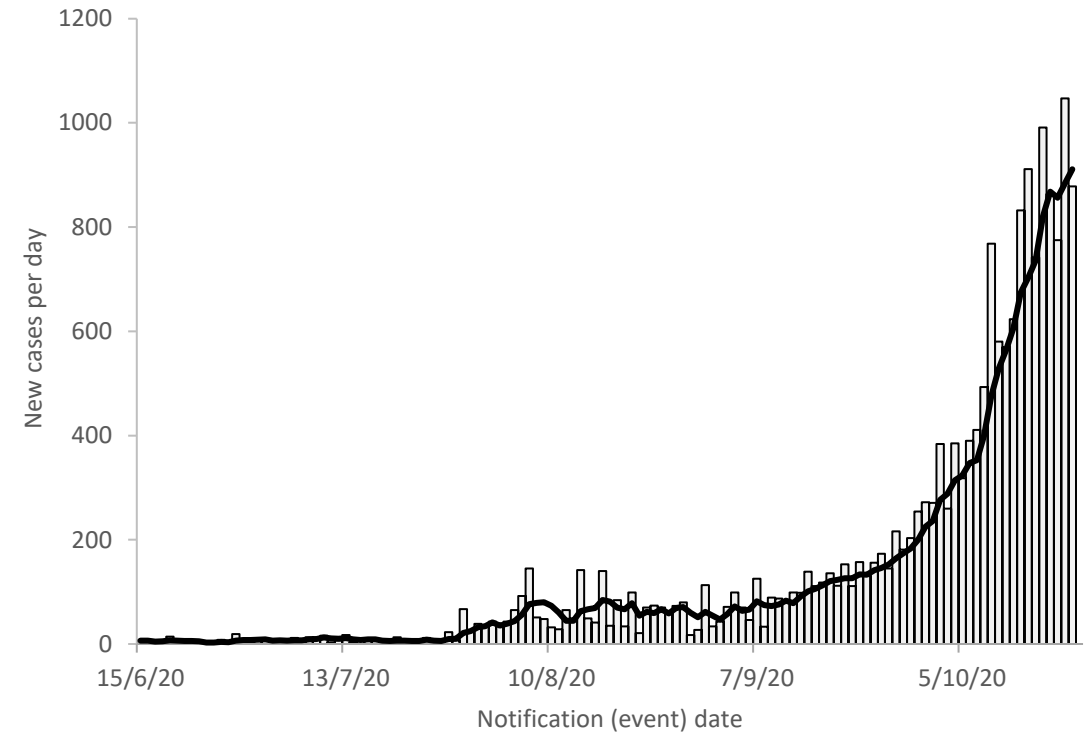
Daily case count and 5-day rolling average for Dublin alone and for the other 25 counties. Case counts appeared to stabilise in Dublin w/b 5/10/20 but recent high case counts a major concern; note also periods of apparent stability 24/8/20-4/9/20 and 17/9/20-27/9/20. Cases are growing exponentially across the rest of the country at a very high growth rate



Dublin

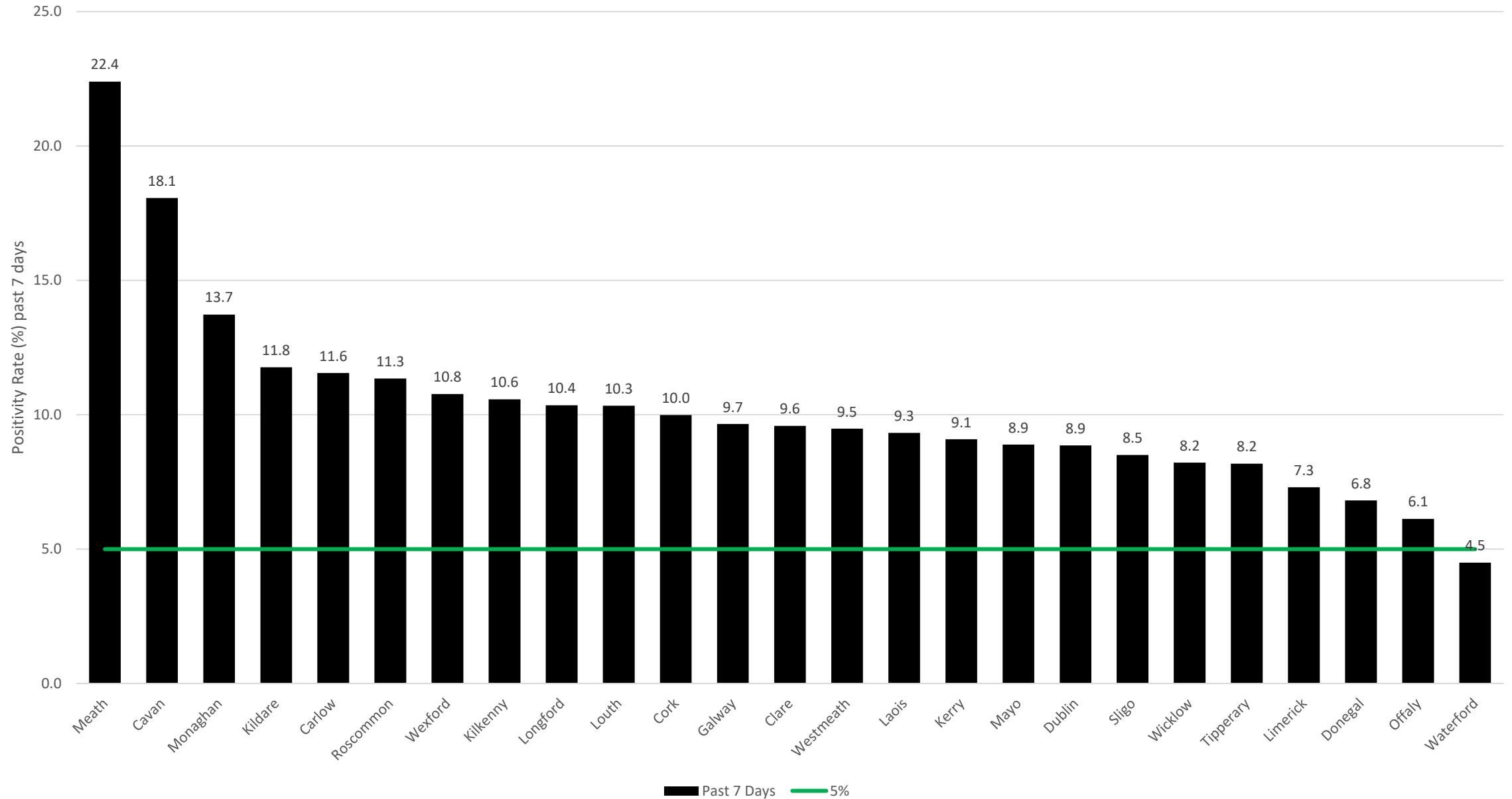


25 counties

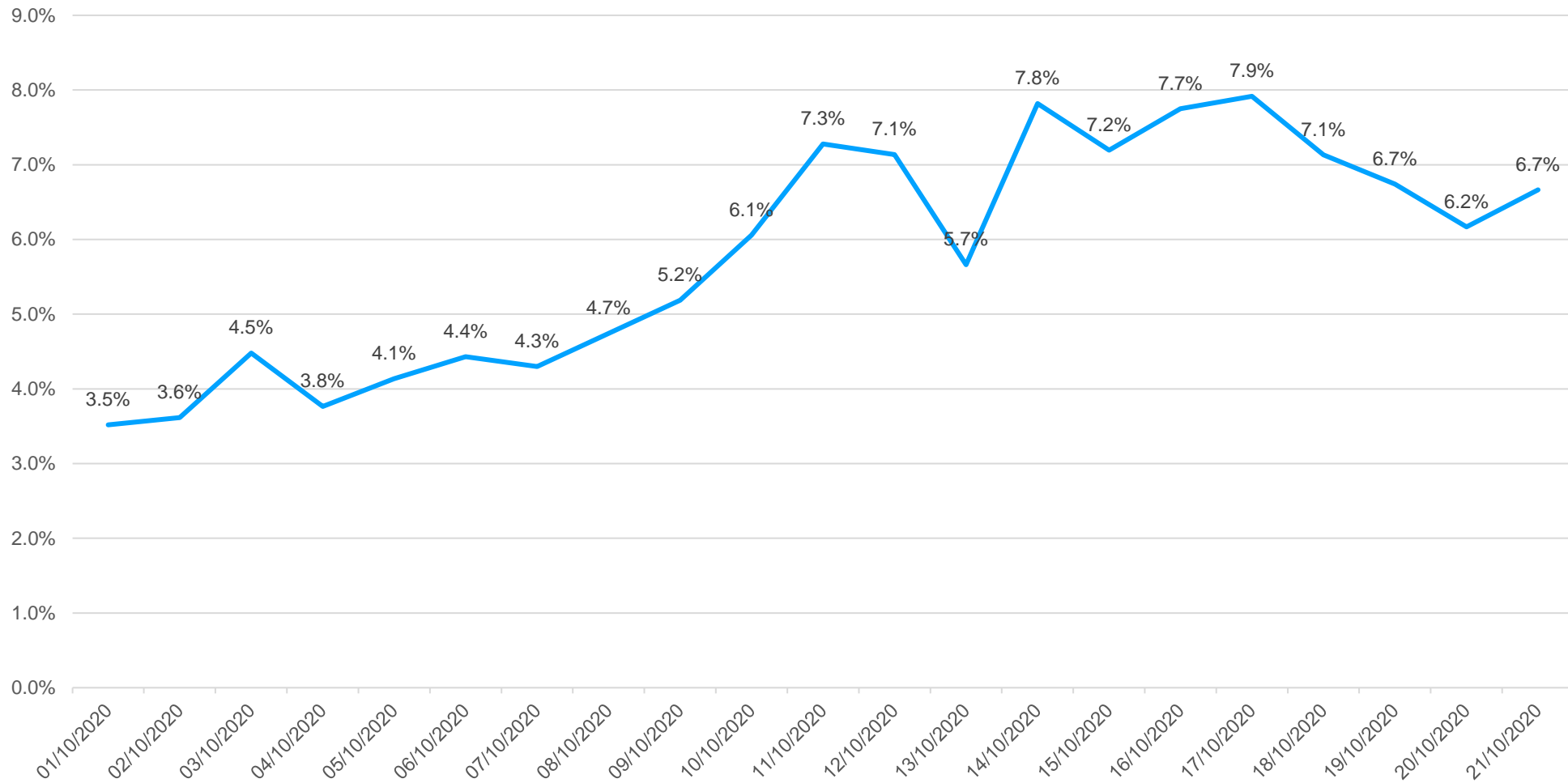


Daily count (bars) 5-day average (line) and weekly counts of the number of laboratory confirmed new cases by date on which they were notified to HPSC and created as an event on the CIDR database

% Positivity Rate (ex. Serial testing) by county past 7 days as at 18/10/20
(data based on county where Test Centre or Acute Hospital is located, not patient's home address)



Positivity rate since start of October



Total Tests

Total Positive

57,624

3.9%

1,484,867



Tests (24hrs)



16,583

Tests (Last 7 days)

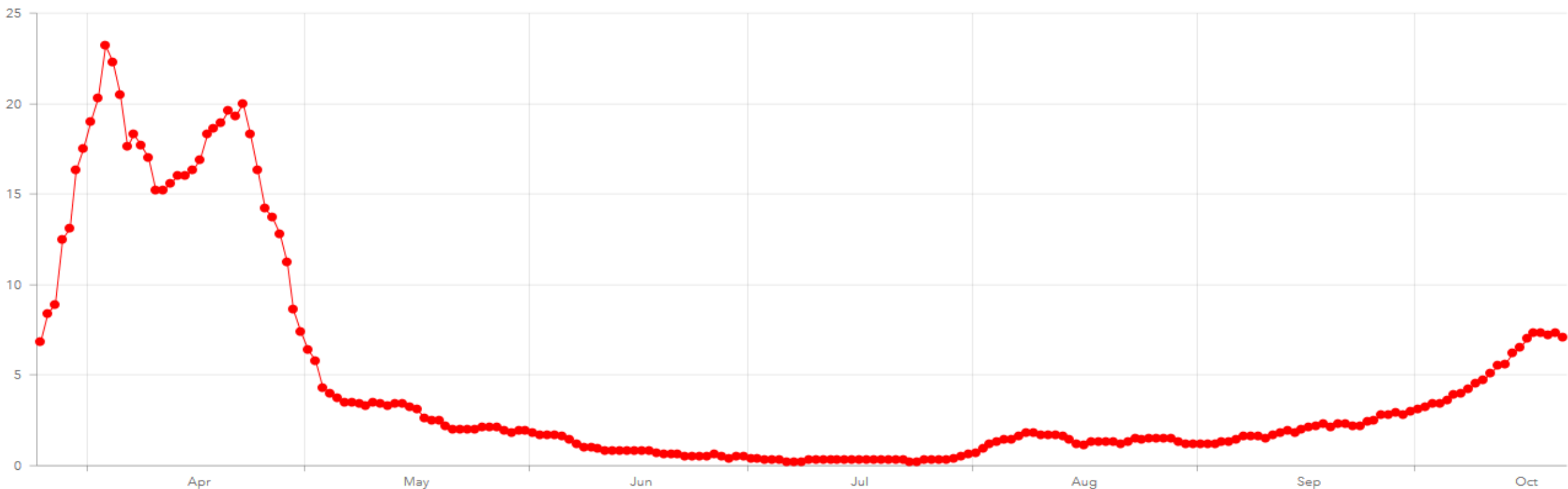


112,016

Positive (Last 7 days)

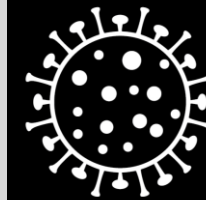
7,980

7.1%

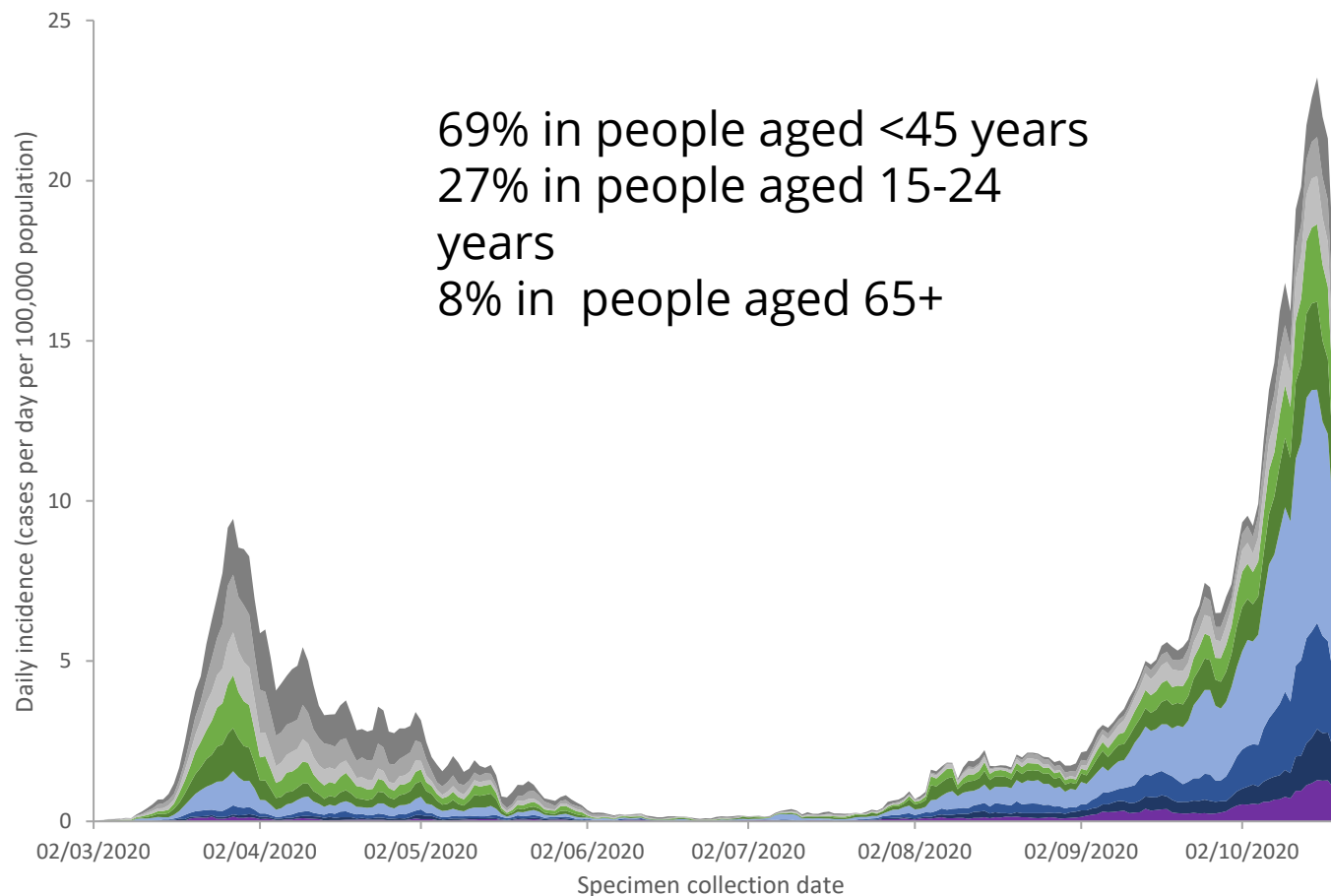


Incidence across different age groups (excl. HCW and LTRC)

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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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+
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	31.2	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	47.7	46.9	71.8	108.1
16	3.0	5.3	10.8	18.7	20.8	32.0	28.4	50.4	69.6
17	3.3	4.2	7.8	21.1	23.7	26.6	21.2	50.4	60.7
18	4.5	6.4	9.4	20.2	26.0	21.0	18.7	37.1	44.4
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	22.3	13.5	11.0	11.7	16.3
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	42.5	33.2	31.0	17.8
40	30.2	29.0	63.2	173.9	69.4	59.6	34.3	28.5	25.2
41	43.7	47.2	136.7	324.9	119.0	94.1	63.5	52.4	60.7
42	62.1	76.7	170.1	379.2	139.5	124.5	77.9	59.0	60.7

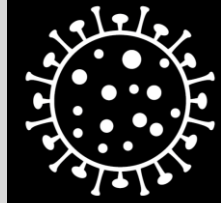
Chart shows 5-day rolling average of total incidence (cases per day per 100,000 population) with coloured bands showing the contribution of each age cohort to the total incidence, having adjusted for the number of people in that age cohort (CSO 2016 census data). Heat map shows age-specific incidence (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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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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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	16.3
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	42.5	33.2	31.0	17.8
40	30.2	29.0	63.2	173.9	69.4	59.6	34.3	28.5	25.2
41	43.7	47.2	136.7	324.9	119.0	94.1	63.5	52.4	60.7
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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.

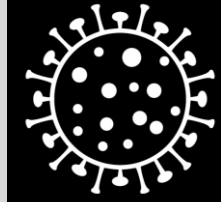


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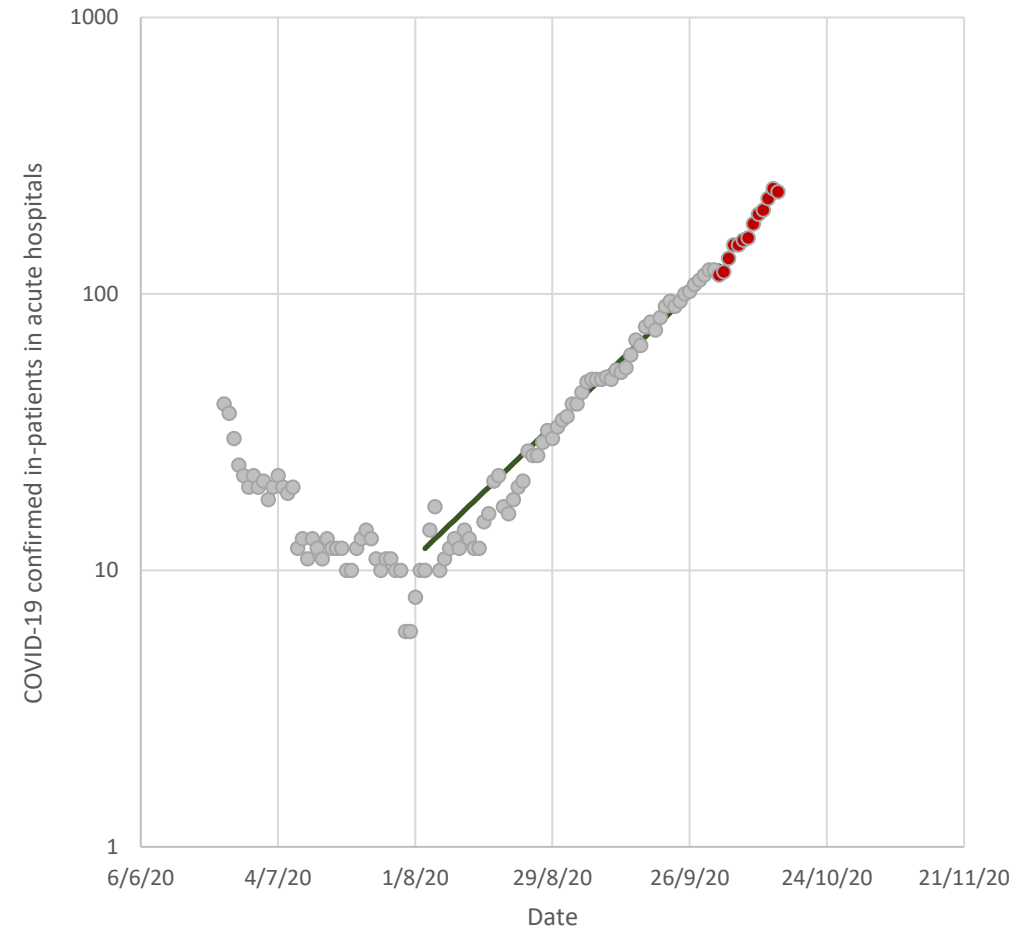
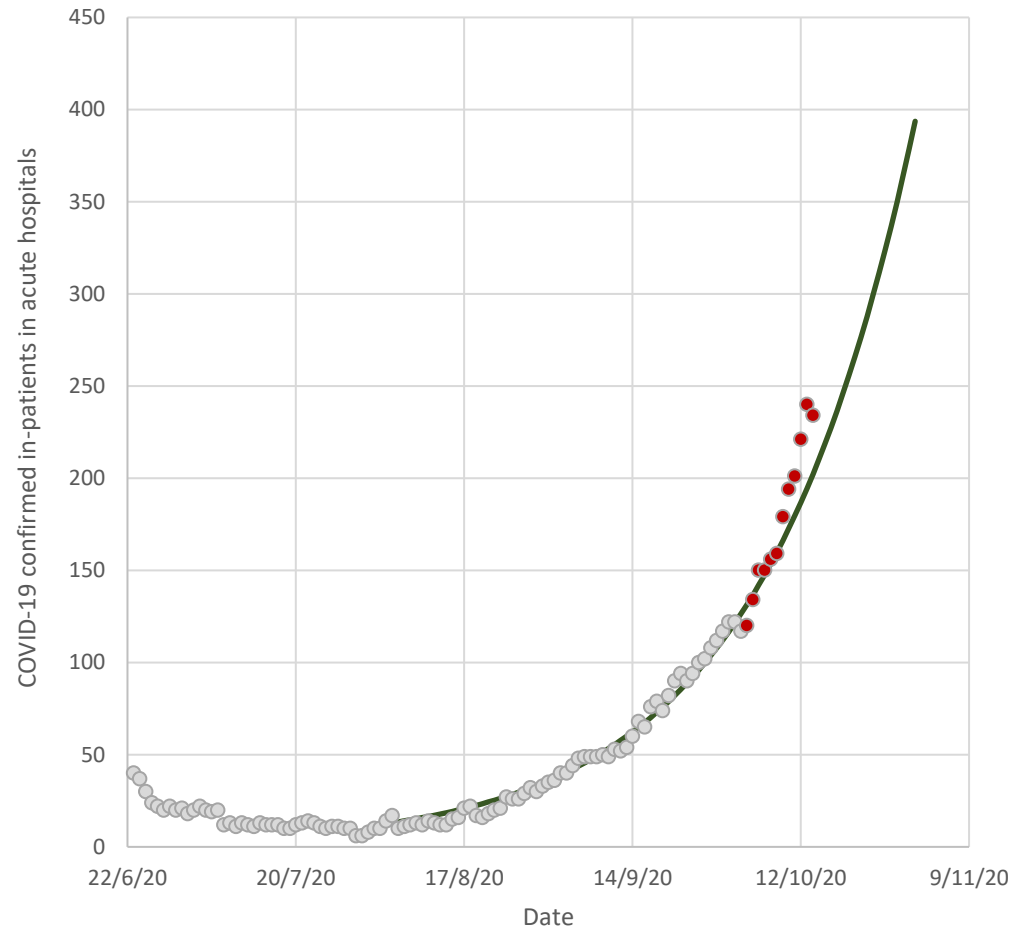
Hospital occupancy growing exponentially

The data to 1 October (grey data points) are fit with an exponential growth curve (green) at 4.0% growth per day from 3 August 2020.

The subsequent numbers of people in hospital (red data points) have grown faster than this projection. If nothing changes, the numbers in hospital will grow to more than 400 by end-October

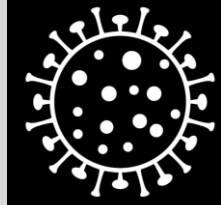


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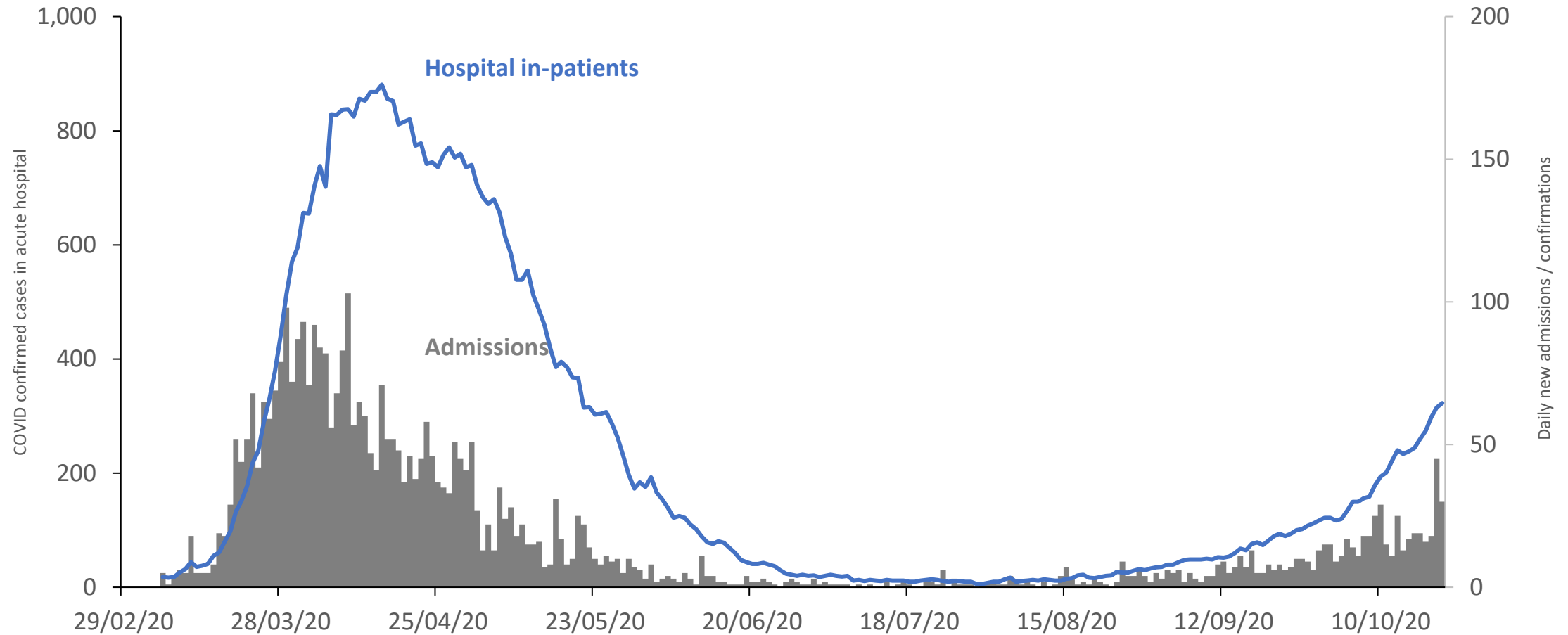


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Confirmed cases in acute hospitals



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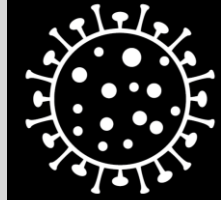


Hospital in-patients: Daily count of number of COVID-19 confirmed cases in acute hospitals. Daily admissions: New COVID-19 confirmed admissions and new laboratory confirmations of suspected cases in preceding 24 hours. Data from HSE PMIU-SDU, 8am census.

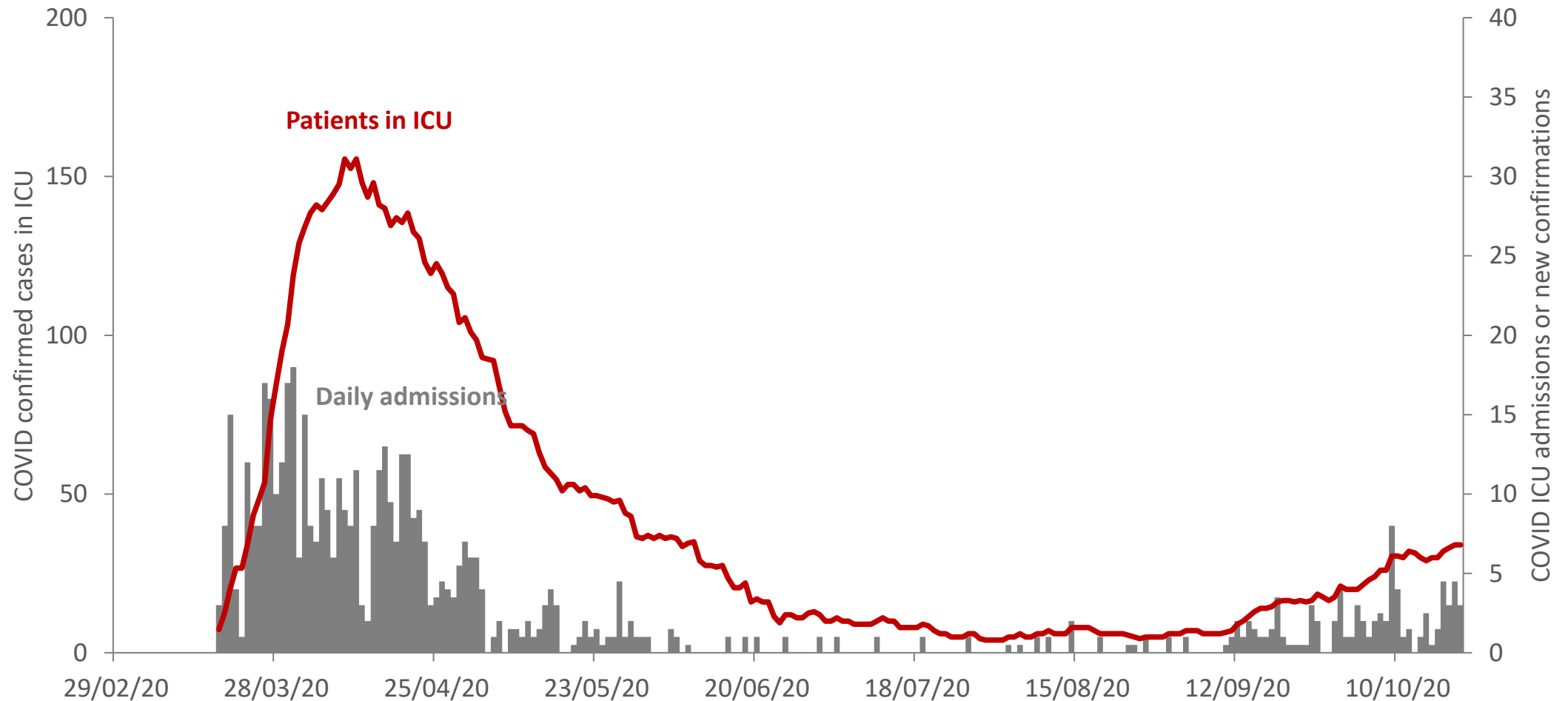


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Confirmed cases in intensive care



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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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8am
305

2pm
No Data

8pm
No Data

8am
21

2pm
No Data

8pm
No Data

8am
213

2pm
No Data

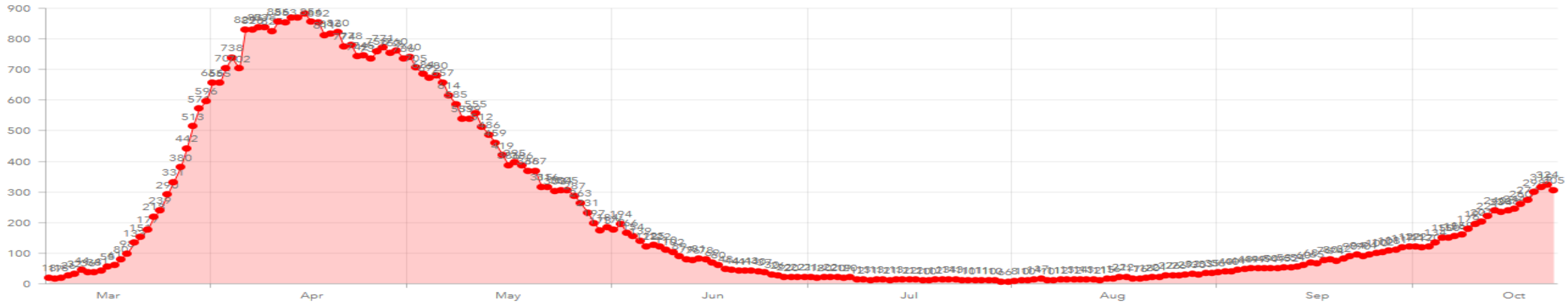
8pm
No Data

New Admissions
26

Discharges
36

Deceased
2

New COVID-19 Cases in Acute Hospitals - Last 24 Hours



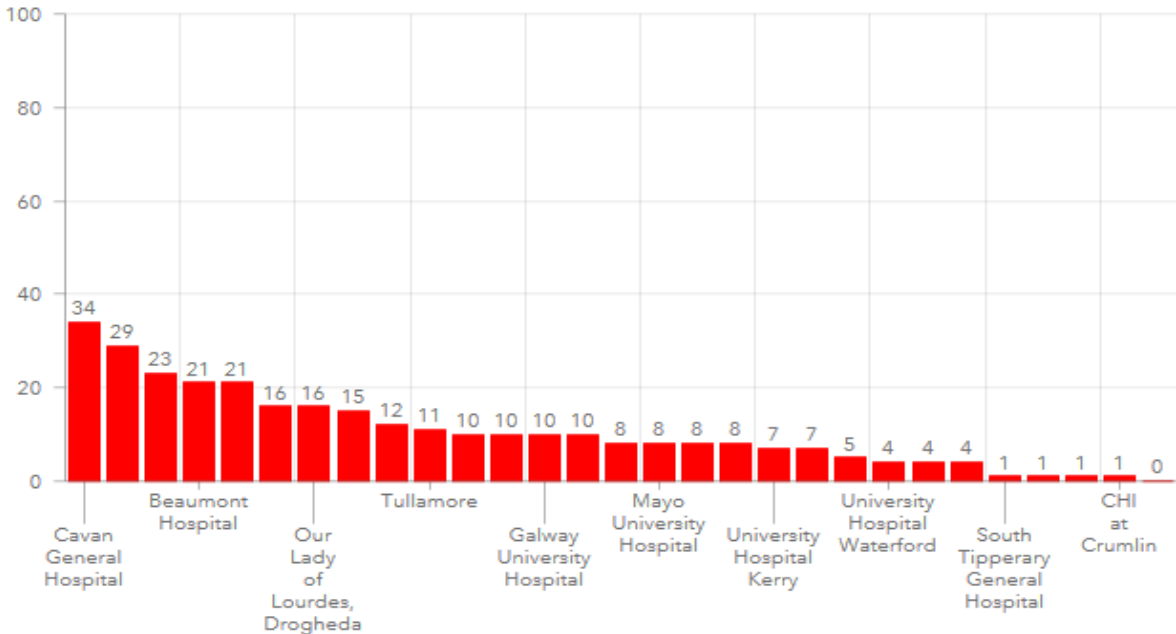
COVID Confirmed Cases Admitted (8am)

COVID Confirmed Cases (last 24 Hours) (8am)

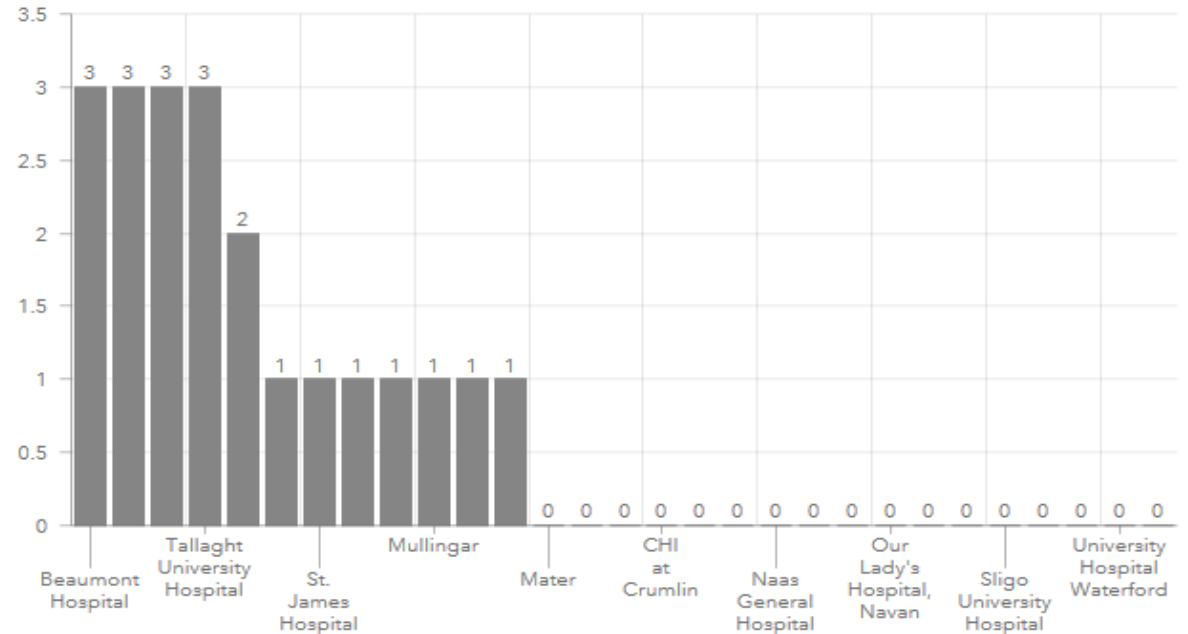
COVID 19 Queries Awaiting Results (8am)

Confirmed Cases by Hosp (8am)

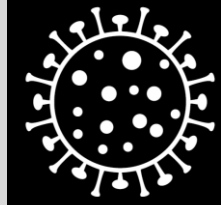
Confirmed Cases in Hospitals (8am)



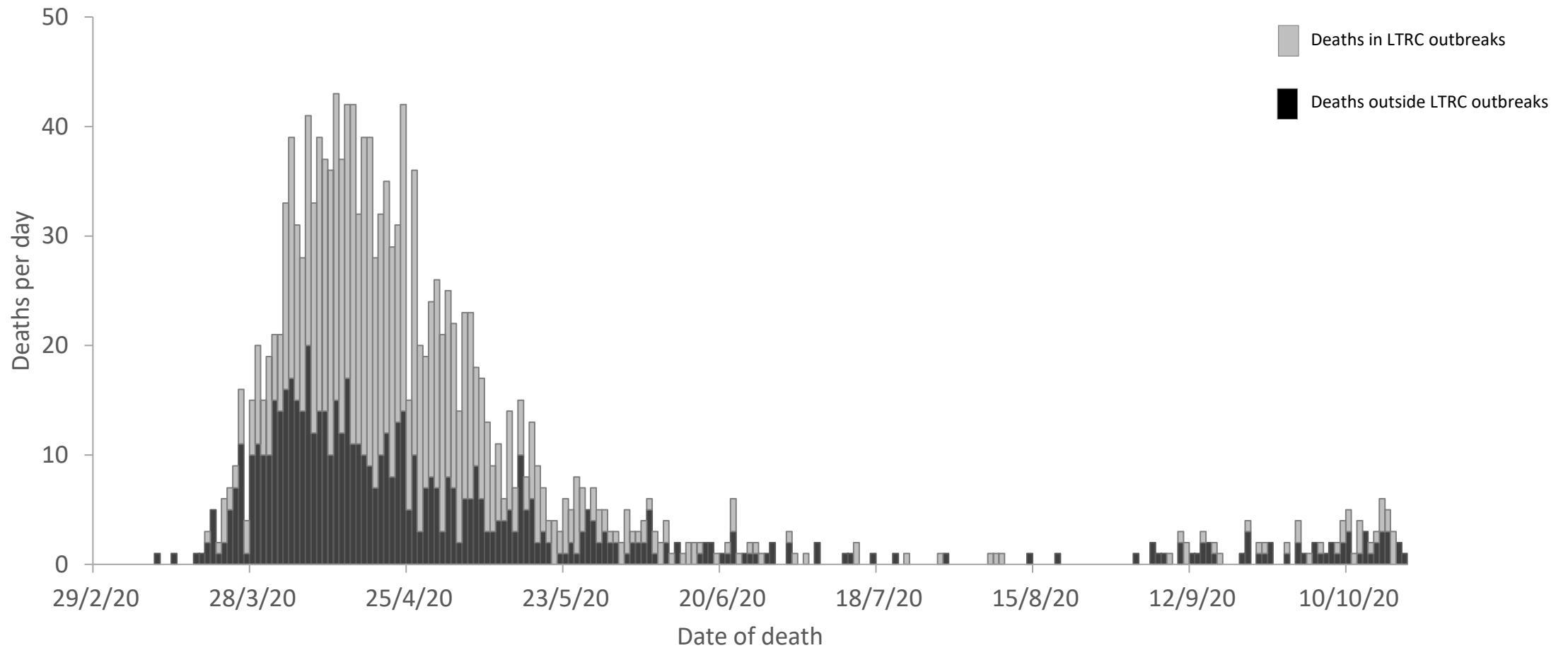
New Cases in Last 24 Hours (8am)



Deaths per day



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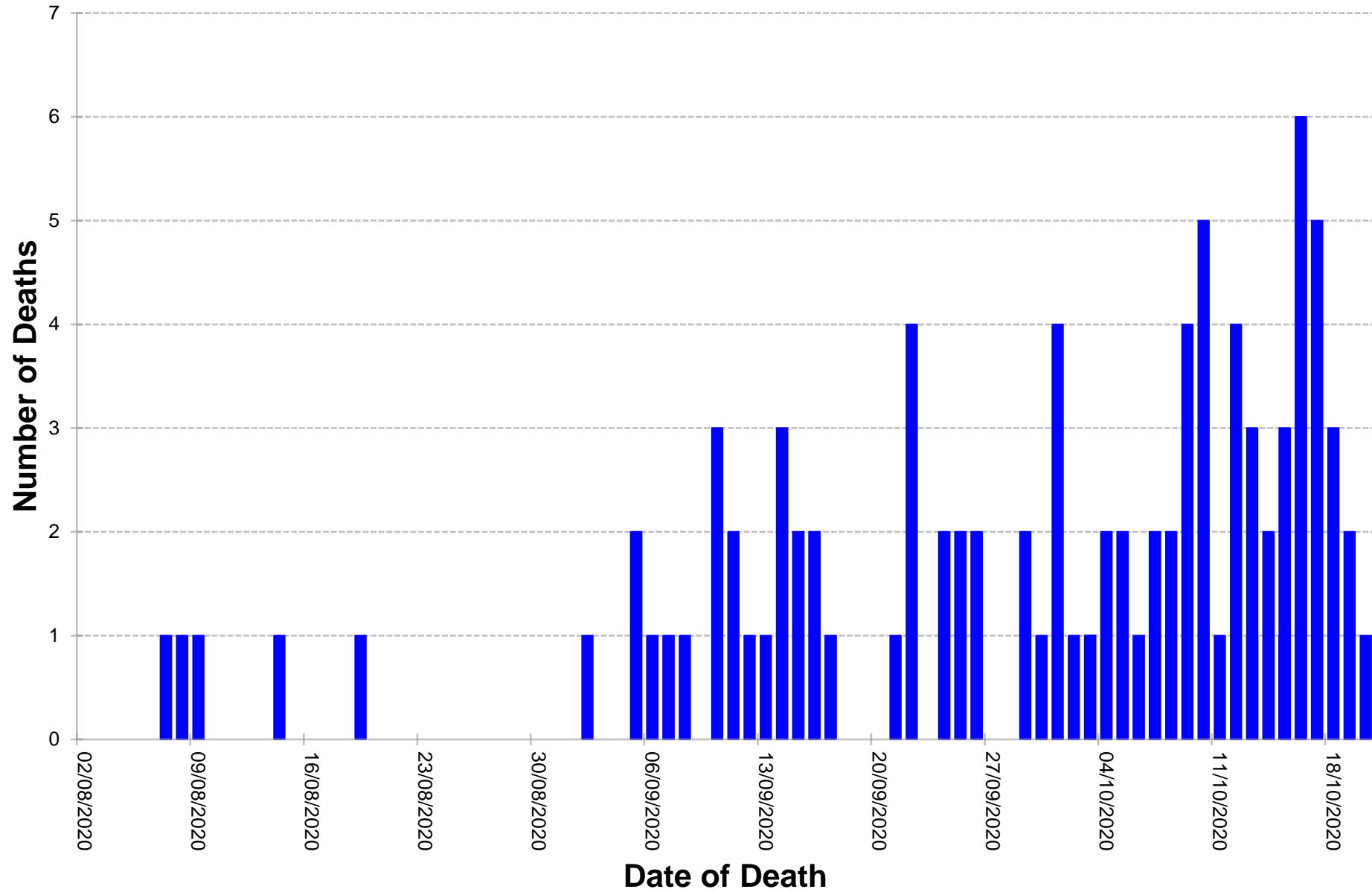


Deaths per day, separated into those associated with outbreaks in long-term residential care and those not associated with such outbreaks. Deaths with laboratory confirmed SARS-CoV-2 only



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Recent deaths by date of death

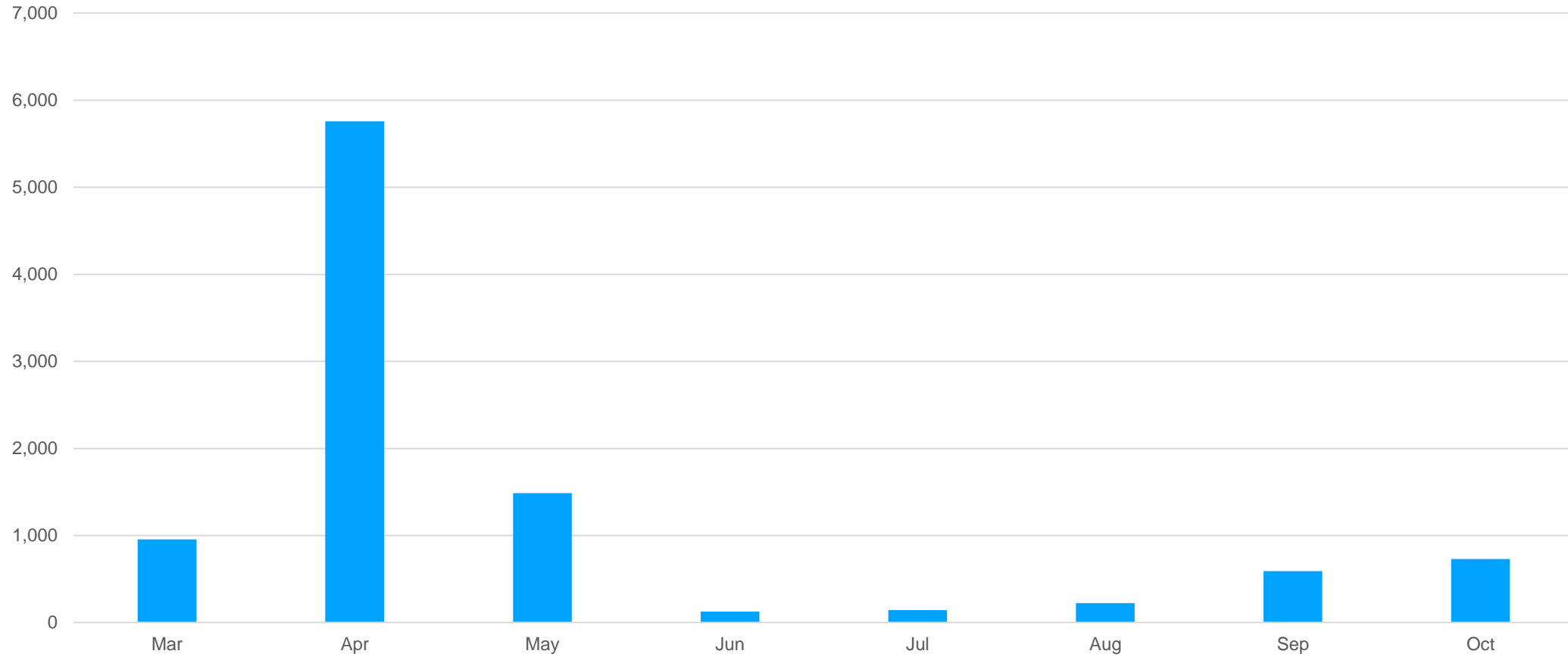


- 5 deaths in August
- 35 deaths in September
- 57 deaths in October to date
- 23 deaths (22 in confirmed cases) in past 7 days to midnight 20/10/20
- A death related to COVID-19 has occurred every day this month

Healthcare workers

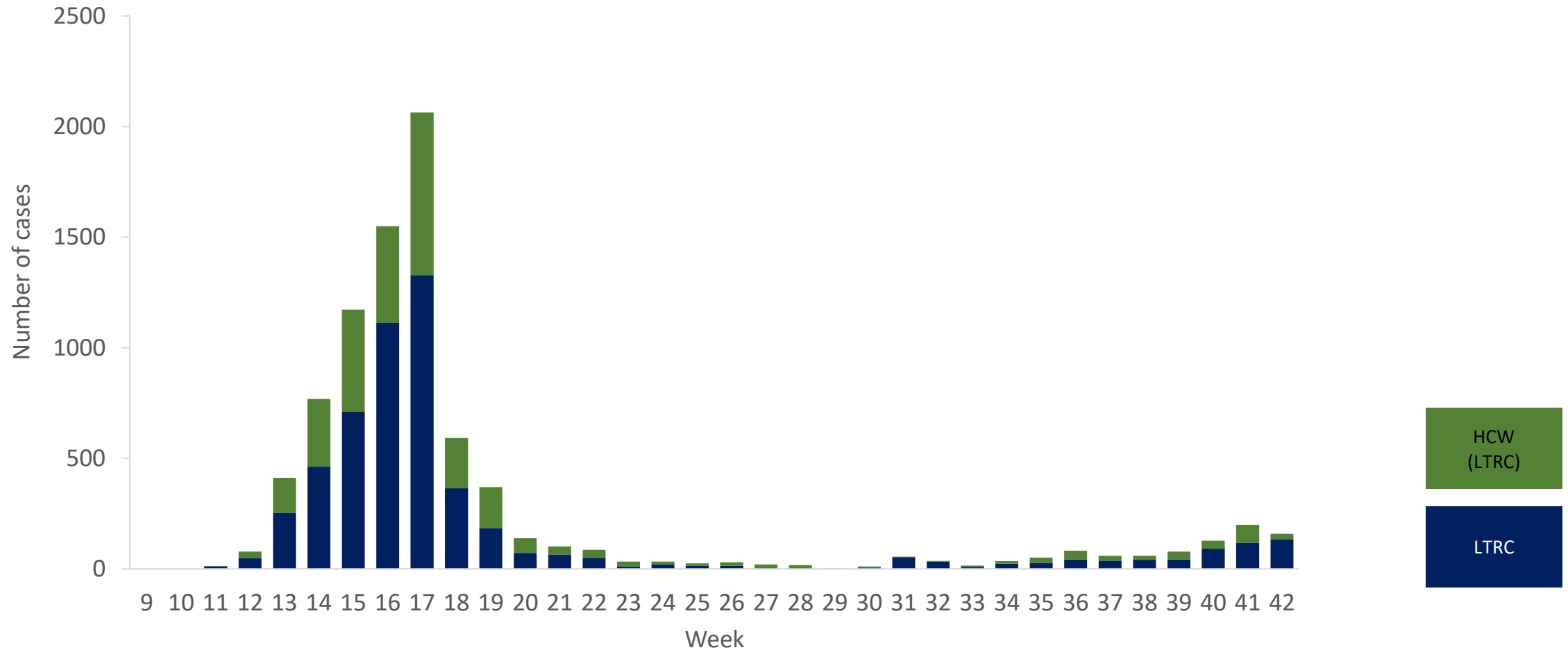


Cases related to healthcare workers



511 cases in last 14 days (3.7% cases)

Cases in long-term residential settings



Weekly cases by setting. LTRC: cases amongst residents of long-term residential settings where outbreaks have occurred.
HCW (LTRC): Cases in healthcare workers associated with outbreaks in LTRC.

COVID-19 outbreaks by key outbreak locations, week 42 and overall, 2020 Ireland



- Since March 1st 2020, 5,590 outbreaks have been notified to CIDR
- In week 42, 649 outbreaks were notified; 461 in private houses, 188 in other locations

Key outbreak locations	Week 42	Weeks 10-42
Workplace	18	198
Direct Provision Centre	0	31
Vulnerable groups*	19	60
Nursing Home/Community Hospital	6	344
Acute hospitals	7	137
School [^]	46	118
Childcare facility	7	36

*Includes Irish Travellers, Roma and homeless population

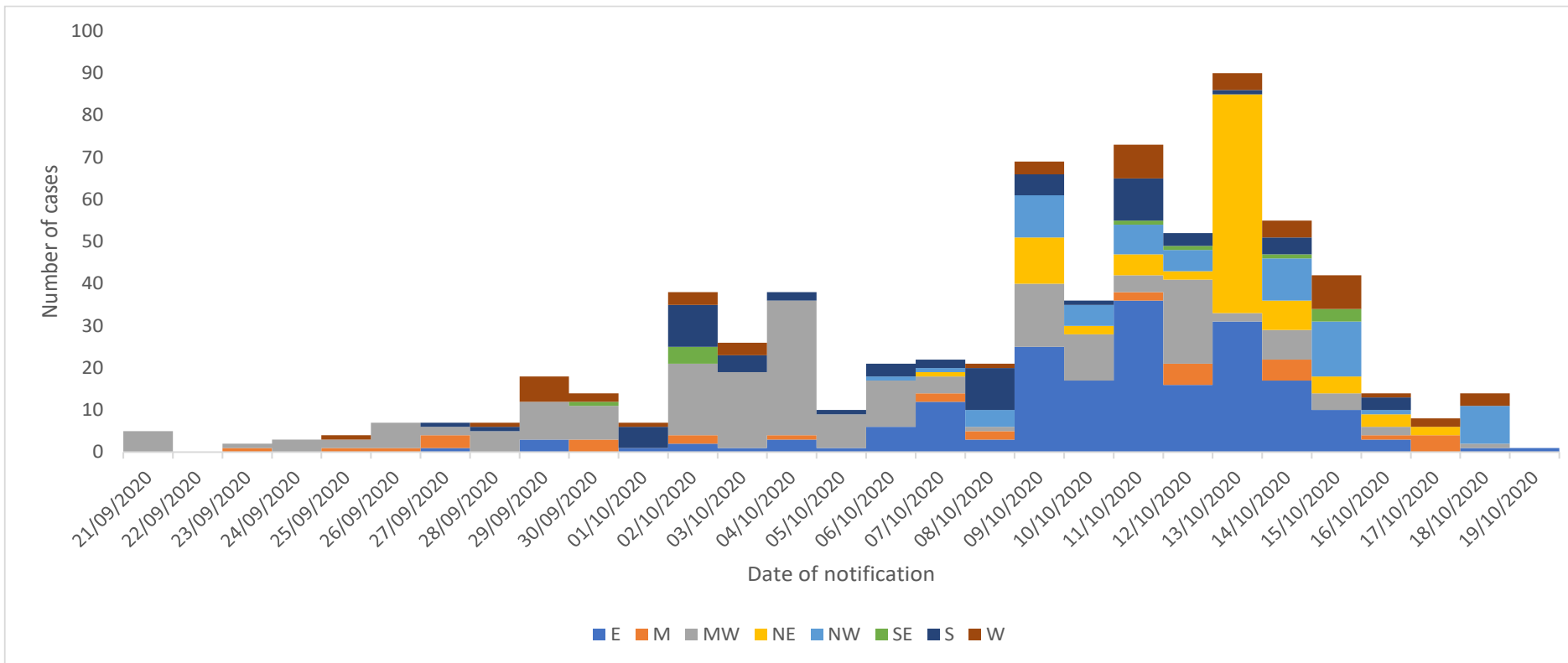
[^]These outbreaks are associated with school children +/- school staff. Transmission of COVID-19 within the school has not necessarily been established in these outbreaks

Weekly Summary



- Significantly more outbreaks in week 42 n=649, week 41 n=522
- Vulnerable groups
 - Irish Traveller outbreaks
 - 31 'open' outbreaks (17 in week 42)
 - 704 cases in Irish Travellers since 20th September
 - No new outbreaks in DPCs, Roma or homeless populations
- Workplace & construction sector outbreaks
 - Three new outbreaks in food production since 12/10/2020 with 12 linked cases
 - Two new construction sector outbreaks with 8 linked cases
 - Three other workplace outbreaks, with 26, 12 and 6 linked cases
- Nursing Homes & Community Hospitals
 - 33/344 outbreaks remain open with 451 linked cases
 - Five largest outbreaks: 47-51 cases linked
 - Since September 1st, 33 deaths have occurred in cases linked to NH outbreaks
- Acute hospitals
 - Two new outbreaks since 12/10/2020 with three linked cases
- Schools
 - 38 new outbreaks since 12/10/2020 with 69 linked cases
 - 17 outbreaks \geq 2 linked cases (range 2-10)
- Childcare facilities
 - Five new outbreaks since 12/10/2020 with 16 linked cases
 - Four outbreaks \geq 2 linked cases (range 2- 9)
- Hospitality and social settings (30/08/2020 -17/10/2020)
 - 1271 cases linked to 205 outbreaks
 - Majority of outbreaks <7 linked cases
 - 6 outbreaks >25 linked cases each

COVID-19 infections among Irish Travellers - September 20th-October 20th 2020



Since 20/09/2020

- 704 confirmed cases
- 190 in HSE-E (27%) and 198 in HSE-MW (28%)
- Among 31 associated outbreaks, 8 had >20 linked cases
- 17 new outbreaks in week 42

Inclusion criteria

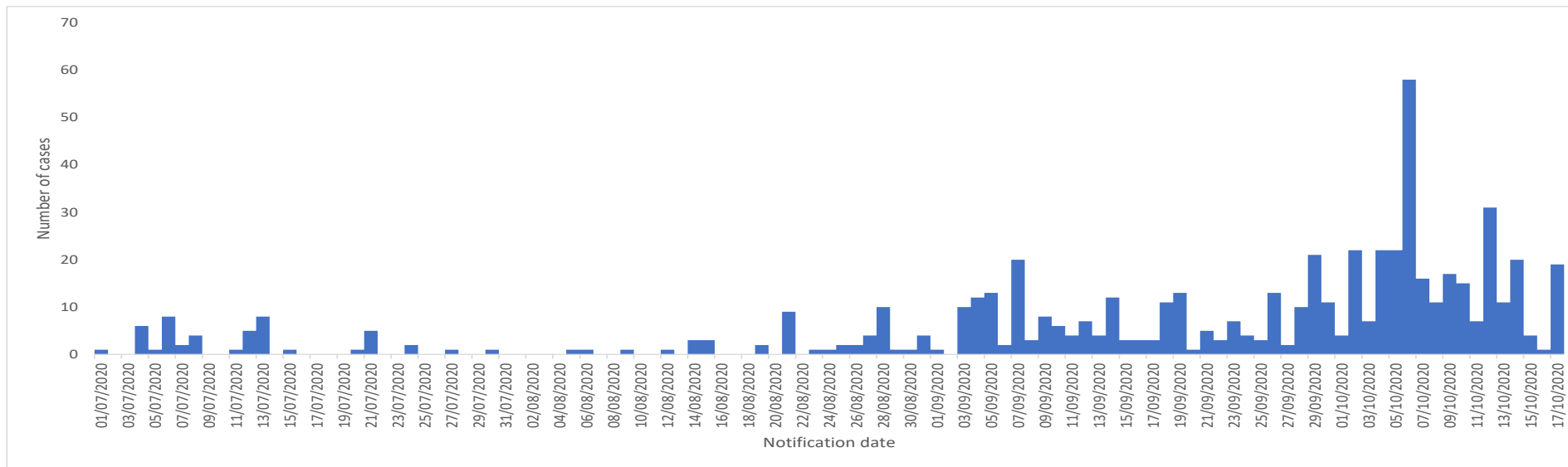
Cases linked to outbreaks reported as affecting Irish Travellers OR whose ethnicity is reported as Irish Traveller, September 20th 2020 to October 20th 2020 7-30 am

Nursing Homes and Community Hospital/Long Stay Units –to midnight October 17th 2020



Outbreaks location	Outbreak	Linked confirmed cases				
	Number of outbreaks	Number of cases	Number hospitalised	Number admitted to ICU -	Number hospitalised and died	Number who died
Comm. Hosp/Long-stay unit	33	519	33	1	10	69
Nursing home	311	6427	465	14	188	845
Total	344	6946	498	15	198	914

Data source: CIDR October 19th

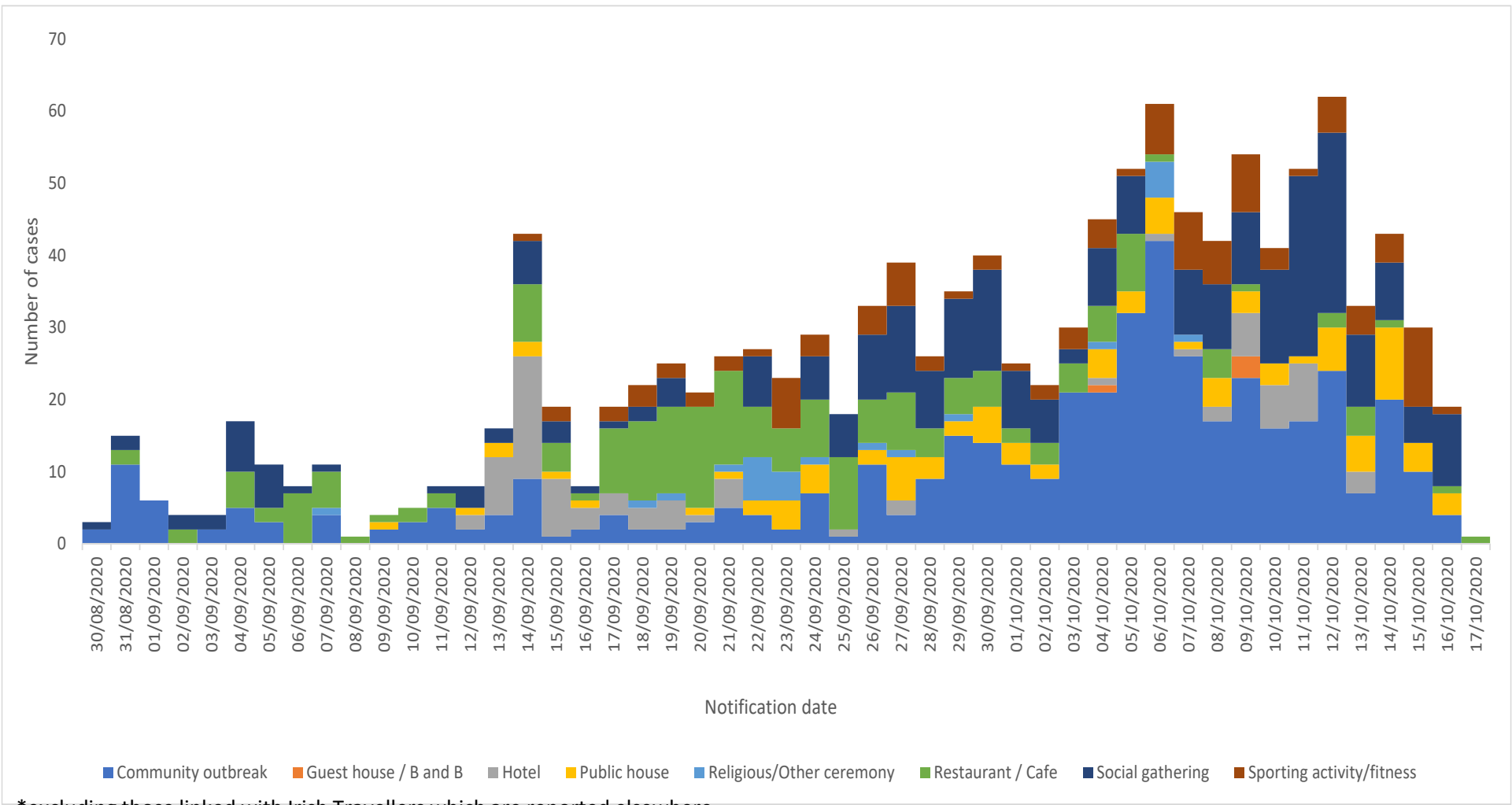


Data source: CIDR October 19th 2020 - data to midnight 17/10/2020

Overview

- 344 outbreaks in Community Hospital/Long Stay Units between March & October 17th 2020
- 58 outbreaks notified since 1st July 2020 have 590 linked confirmed cases (Figure shows distribution of linked cases since July 1st 2020)

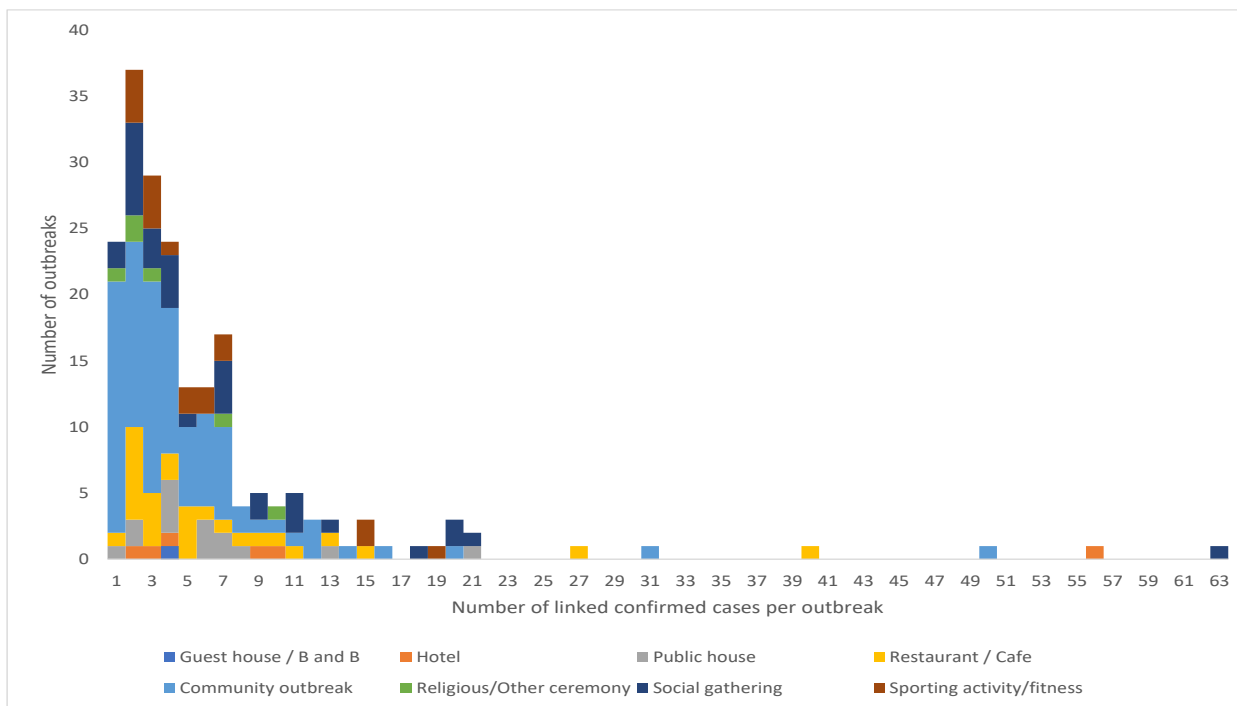
Outbreaks linked with hospitality and social settings: August 30th -October 17th 2020



- 1271 cases linked to 205 outbreaks linked with hospitality and social settings - August 30th - October 17th 2020
- 471 confirmed cases (37%) linked with 'community' outbreaks

*excluding those linked with Irish Travellers which are reported elsewhere

Characteristics of outbreaks linked with hospitality and social settings: August 30th - October 17th 2020



The majority of outbreaks linked with hospitality and social settings have 7 or fewer cases; six outbreaks had >25 linked confirmed cases

Location	Outbreaks	Linked confirmed cases			
		Number of confirmed cases	Number of confirmed cases hospitalised	Number of confirmed cases admitted to ICU	Number of confirmed cases who died
Guest house / B and B	1	4			
Hotel	6	84	5	2	1
Public house	16	95			
Restaurant / Cafe	28	201	5	1	
Community outbreak	94	473	9	2	
Religious/Other ceremony	6	25	2		
Social gathering	35	280	7	1	
Sporting activity/fitness	19	109	3		
Total	205	1271	31	6	1

Data source: CIDR October 19th 2020 - data to midnight 17/10/2020

Laboratory Completed Tests during Last 7 Days (14 Oct - 20 Oct 2020) by LGD

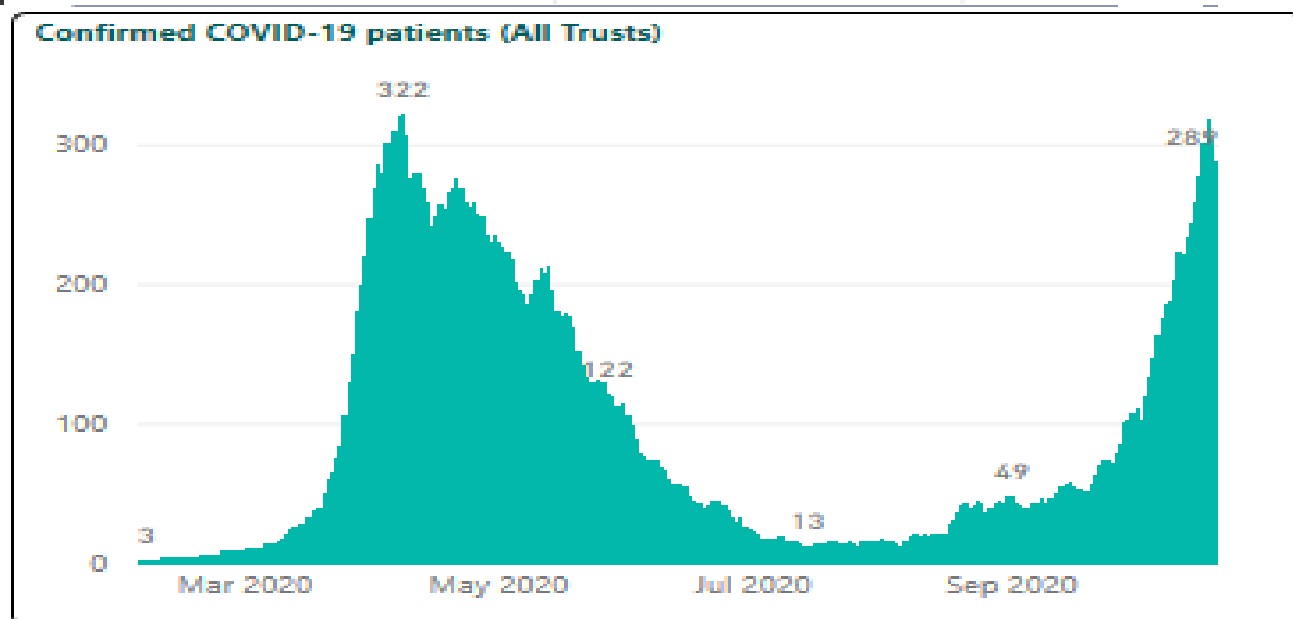
Local Government District	+ve Cases Last 7 Days	Last 7 Day Rate per 100K	Individuals Tested Last 7 Days
Antrim and Newtownabbey	448	314.0	3,543
Ards and North Down	279	173.4	2,885
Armagh City, Banbridge and Crai...	589	275.6	4,644
Belfast	1,740	509.9	10,779
Causeway Coast and Glens	401	278.0	3,113
Derry City and Strabane	1,009	669.7	5,477
Fermanagh and Omagh	262	224.3	2,570
Lisburn and Castlereagh	455	313.4	3,552
Mid and East Antrim	261	188.3	2,351
Mid Ulster	672	455.5	4,085
Newry, Mourne and Down	525	291.4	4,338
Not Known	150		1,163
Total	6,791	360.9	48,500

Monaghan 178/100,000

Donegal 153/100,000

Louth 158/100,000

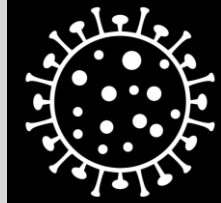
Ireland = 173/100,000



108 ICU Beds - 32 (30%) COVID
 2,965 Total Beds - 2,762 (93%) Occupied - 327 COVID

Estimates of effective reproduction (R)

Reproduction number and growth rate appear to be increasing, especially outside Dublin. Our best estimate at this time is that R for the country as a whole is approximately 1.3-1.4. It is possible that reproduction number for Dublin is lower, about 1.2-1.3, but that reproduction number for the rest of the country is higher, perhaps as high as 1.4-1.6



Coronavirus
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Method	Estimate	95% confidence interval
SEIR model-inferred	1.81	1.58 – 2.11
Bayesian model	1.49	0.54 – 3.17
Time-dependent R	1.42	1.31 – 1.52
GAM estimate 13 Oct 2020	1.32	1.07 – 1.55
GAM estimate 20 Oct 2020	1.33	0.96 – 1.71

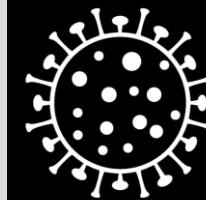
Estimates generated 13 October 2020, refer to IEMAG technical notes for methodology. Estimates are unreliable when case numbers are low or variable. Time-dependent R estimates relate to infectious events approximately two weeks ago. GAM is best estimate for current R. The estimate of R is influenced by different patterns of transmission in large outbreaks, smaller clusters, and individual transmission.



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Expected severity and mortality by age cohort

Given the hospital admission and mortality rates experienced from July to September 2020, we can project likely hospitalisation and mortality rates for every 1000 cases by age cohort. Given the current age mix, for every 1000 cases confirmed at present we should expect 35-45 hospital admissions, 5-7 ICU admissions, and 4-6 deaths.



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Age cohort	for every 1000 cases		
	Hospital admissions	ICU admissions	Deaths
< 45	12	1	rare*
45-64	50	10	3
≥ 65**	180	30	30

* We have had 11 deaths in 26,661 cases (excl HCW and LTRC) to midnight 15 October in this cohort; we are likely to see 1 death for every 5000-7000 cases. We have, thus far in October, had 7105 cases notified in this age cohort, of whom 90 were admitted to hospital, 4 to ICU and one died

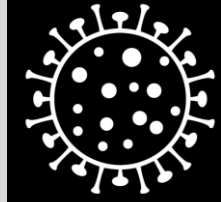
** There were 605 cases notified in September in this cohort, with 112 admitted to hospital, 20 to ICU and 19 deaths; there have been 756 cases aged 65 and older notified thus far in October

The percentage of those with confirmed SARS-CoV-2 infection who are likely to be admitted to hospital, admitted to intensive care, and who died. This analysis excludes healthcare workers and those cases associated with outbreaks in long-term residential care, in order to be representative of the wider population.



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Situation analysis 21 October 20



Coronavirus
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- Case numbers have been growing exponentially
 - Growth rate approximately 5-8% per day
 - Doubling time 9-14 days
 - R estimated at 1.3-1.4
- Hospitalisations also increasing exponentially (growth rate 5% per day)
- Intensive care admissions increasing (growth rate 3% per day)
- A countrywide concern
 - Growth rate in Dublin has increased in the last week (3% per day) but still below national average
 - Growth rate outside Dublin significantly higher, at close to 10% per day
 - R closer to 1.2-1.3 in Dublin and may be increasing
 - R could be as high as 1.4-1.6 across the rest of the country
- Disease concentrated in 19-24 y.o. cohort but incidence rising in those aged 65 and older; increasing case numbers in nursing homes



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Notes for preparing Epi slides



- Start on Wednesday – attend the Epi Huddle in room 631 Wed evening, listen to PN’s interpretation of the data
- Finish on Tue am with latest updates to GeoHive dashboard
- Data sources for the slides:
 1. GeoHive
 2. HPSC Reports (7-day, 14-day, HCW, Outbreak)
 3. CIDR update/projections for the day (Pauline White)
 4. Ronan O’K
 5. Philip Nolan
 6. NI dashboard and HPSC 7 day report
 7. ECDC report/website
- Add slides as required – e.g. big outbreaks/ areas of concern
- Slide 11 (pos rates) – graph in top right hand corner, increase size – what are the dates
- Share screen, slide show, presenter view
- After, clear slides with Tony for distribution and email to NPHET secretariat
- NPHET letter

- Press conferences Mon and Wed – ask ROK re pack of reports – 7 day, 14 day, outbreaks etc.