



Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 03/12/2020 for National Public Health Emergency Team

Summary characteristics of confirmed COVID-19 cases notified in Ireland up to midnight 01/12/2020

	Number	Percent
Total number of confirmed cases	73,045	
National cumulative incidence of confirmed cases per 100,000 population	1,533.96	
Total number of cases hospitalised	5,255	7.19
Total number of cases admitted to ICU	624	0.85
Total number of deaths among confirmed cases	1,821	2.49
Case fatality ratio (CFR, %)	2.49	
National cumulative incidence of confirmed deaths per 100,000 population	38.24	
Total number of outbreaks/clusters	9,606	
Total number of cases associated with clusters	40,410	55.32
Total number of imported cases	663	0.91
Number of cases in healthcare workers	12,110	16.58
Males	34,432	47.14
Females	38,582	52.82
M:F ratio	0.89	
Median age (years)	39	
Mean age (years)	41	
Age range (years)	0 - 108	

Note: Data were extracted from Computerised Infectious Disease Reporting (CIDR) system at 11:28 on 03/12/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.

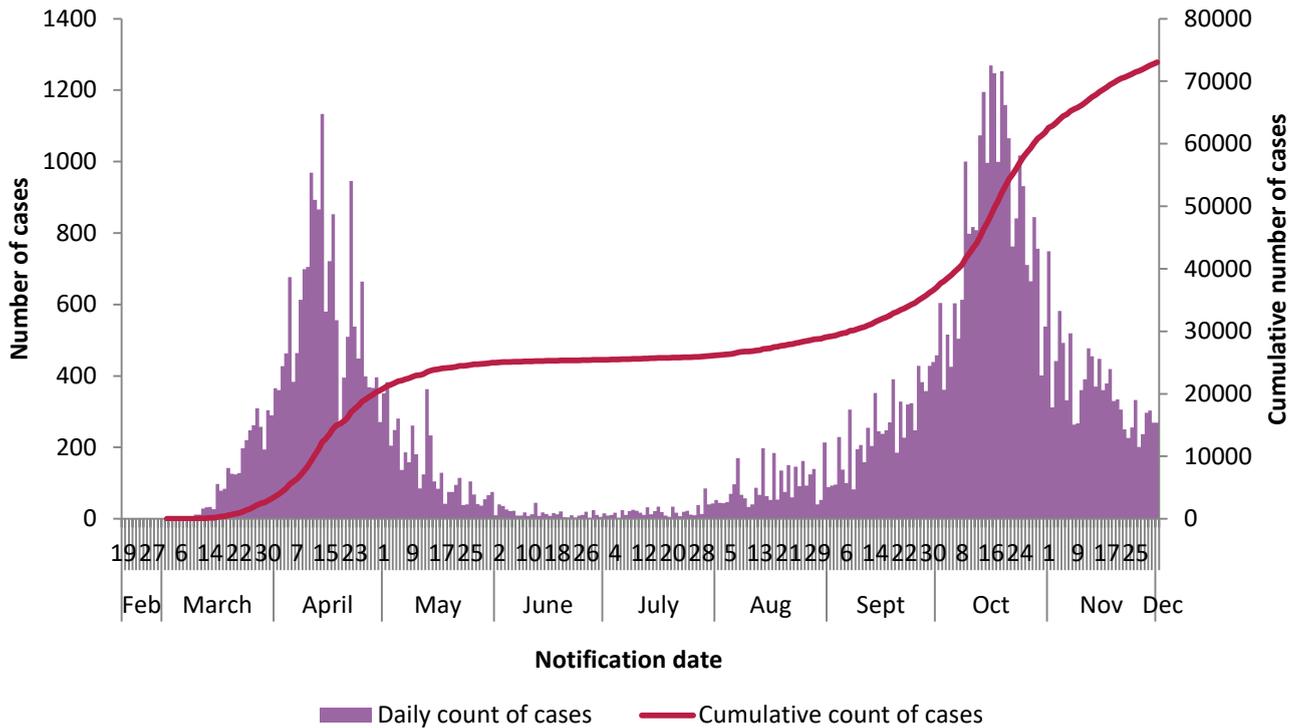


Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 01/12/2020

*Between 05/04/2020 – 19/04/2020, the daily number of COVID-19 events notified in Ireland is inflated due to batch reporting of cases with specimen dates between from 19/03/2020 – 01/04/2020 in addition to real-time reporting of cases with contemporaneous specimen dates

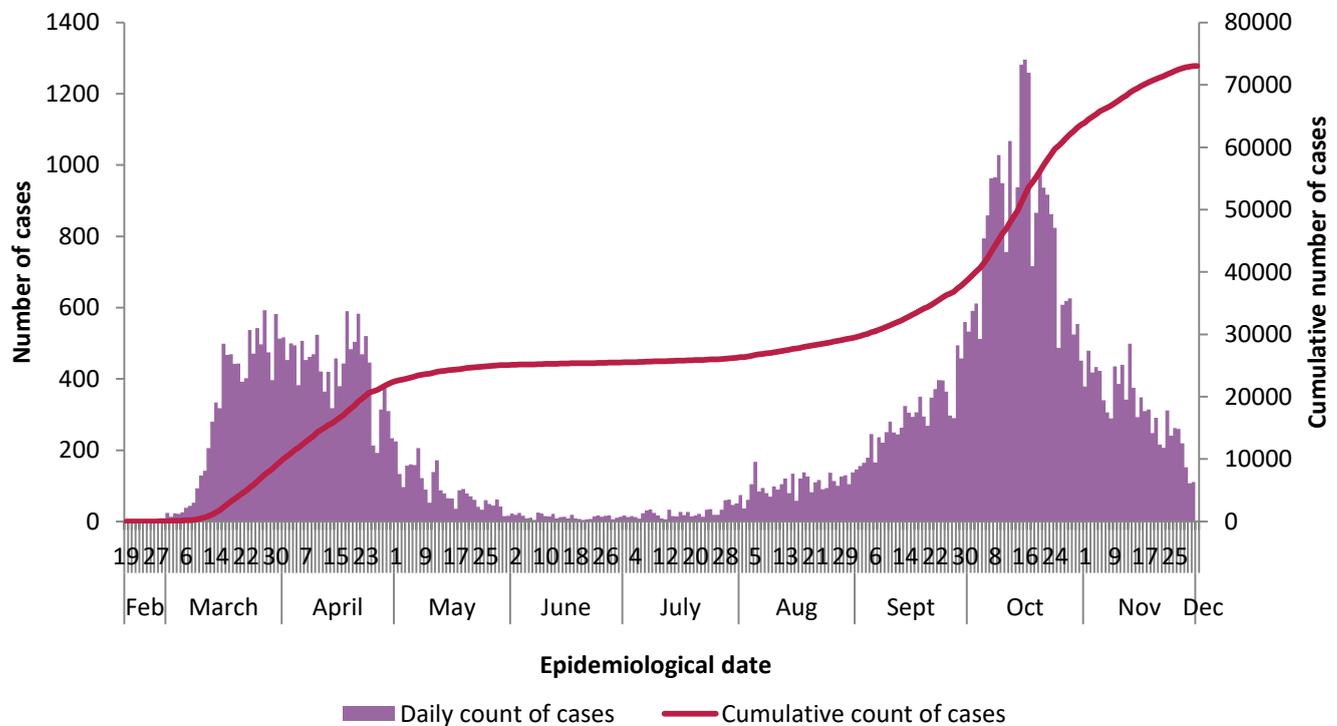


Figure 1b: Number and cumulative number of confirmed COVID-19 cases notified in Ireland by epidemiological date to midnight 01/12/2020**

**Epidemiological date is derived from epidemiological date, which is the earliest of onset date, date of diagnosis, laboratory specimen collection date, laboratory received date, laboratory reported date, event creation/notification date.

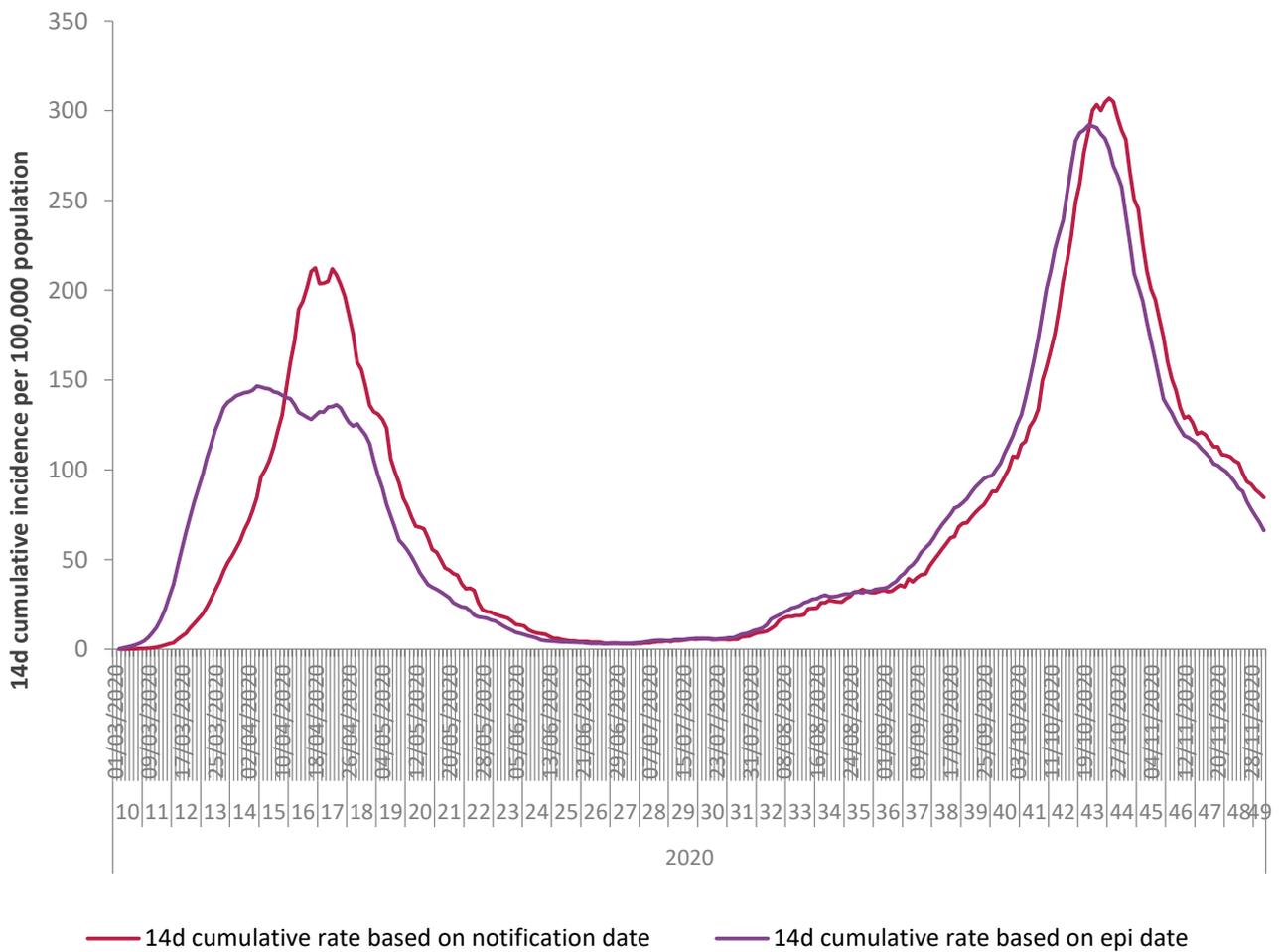


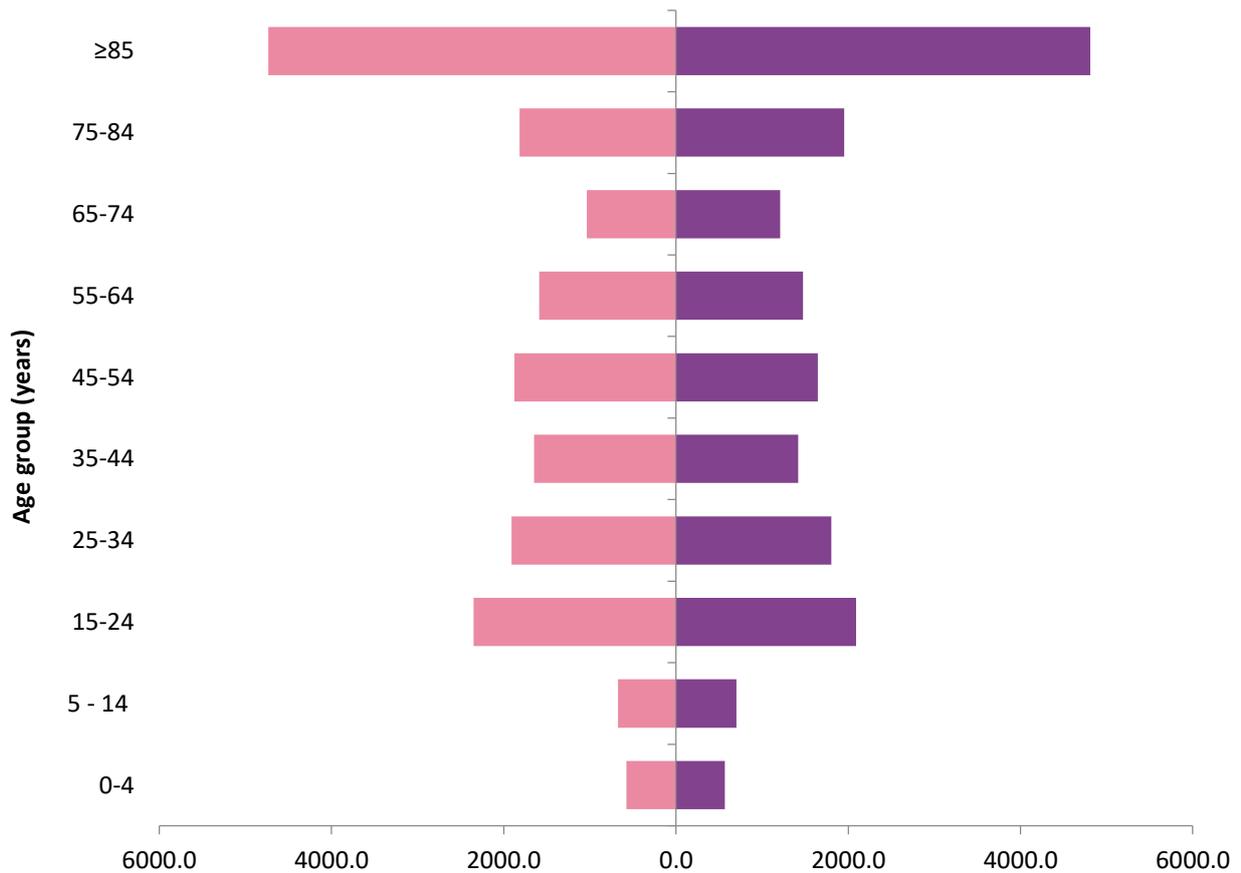
Figure 2: Cumulative 14 day incidence rate of confirmed COVID-19 cases per 100,000 population notified in Ireland by notification* and epidemiological date to midnight 01/12/2020**

* Between 05/04/2020 – 19/04/2020, the daily number of COVID-19 events notified in Ireland is inflated due to batch reporting of cases with specimen dates between from 19/03/2020 – 01/04/2020 in addition to real-time reporting of cases with contemporaneous specimen dates

**Epidemiological date is derived from epidemiological date, which is the earliest of onset date, date of diagnosis, laboratory specimen collection date, laboratory received date, laboratory reported date, event creation/notification date.

Table 1: Characteristics of confirmed COVID-19 cases notified in Ireland up to midnight on 01/12/2020

Characteristic		Number of cases	Percent
Total number of confirmed cases		73,045	100
Sex	Male:Female ratio	0.89	
	Male	34,432	47.14
	Female	38,582	52.82
	Unknown	31	0.04
Age	Median age (years)	39	
	Mean age (years)	41	
	Age range (years)	0 - 108	
	0-4 yrs	1,898	2.6
	5-14 yrs	4,650	6.37
	15-24 yrs	12,792	17.51
	25-34 yrs	12,260	16.78
	35-44 yrs	11,476	15.71
	45-54 yrs	11,039	15.11
	55-64 yrs	7,802	10.68
	65-74 yrs	4,194	5.74
	75-84 yrs	3,692	5.05
	85+ yrs	3,214	4.4
	Unknown	28	0.04



	0-4	5 - 14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	≥85
Female	574.8	672.9	2349.6	1908.2	1649.2	1877.1	1587.4	1036.3	1817.3	4731.1
Male	568.5	702.3	2091.3	1803.7	1420.2	1646.8	1476.9	1211.6	1952.7	4808.8

Cumulative age- and sex-specific rate per 100,000 population

Female Male

Figure 3: Cumulative age- and sex-specific incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 01/12/2020 (excluding 27 cases for whom age is unknown, 30 cases for whom sex is unknown and 1 case for whom both are unknown)

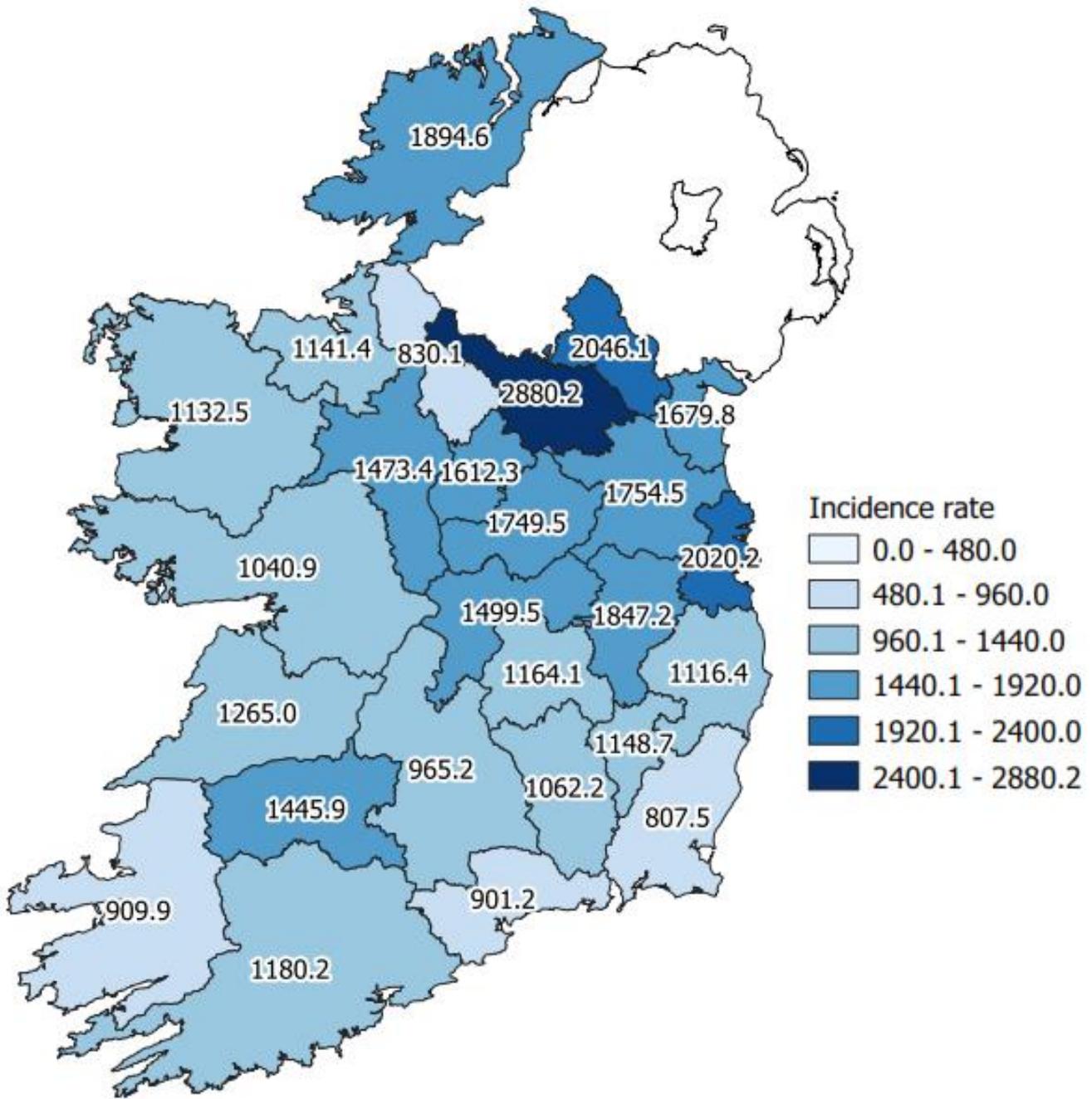


Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 01/12/2020

Please do not directly compare county shades to previous maps. The numbers of cases by county are increasing and as such the categories listed will broaden which may result in changes to the map shading.

Table 2: Number of confirmed COVID-19 cases by county notified to midnight 01/12/2020

County Name	Number of cases	Percent
Carlow	654	0.9
Cavan	2,194	3
Clare	1,503	2.06
Cork	6,407	8.77
Donegal	3,016	4.13
Dublin	27,220	37.26
Galway	2,686	3.68
Kerry	1,344	1.84
Kildare	4,110	5.63
Kilkenny	1,054	1.44
Laois	986	1.35
Leitrim	266	0.36
Limerick	2,818	3.86
Longford	659	0.9
Louth	2,165	2.96
Mayo	1,478	2.02
Meath	3,422	4.68
Monaghan	1,256	1.72
Offaly	1,169	1.6
Roscommon	951	1.3
Sligo	748	1.02
Tipperary	1,540	2.11
Waterford	1,047	1.43
Westmeath	1,553	2.13
Wexford	1,209	1.66
Wicklow	1,590	2.18
Total	73,045	100

Table 3: Number of confirmed COVID-19 cases by WHO transmission classification notified to midnight 01/12/2020

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	22,063	30.20%
Local transmission, incl. possible local transmission	49,193	67.35%
Travel abroad, incl. possible travel abroad	997	1.36%
Unknown	792	1.08%
Total	73,045	100.00%

*See technical note 3 for definition of WHO transmission classification

Cases which were notified more than 2 weeks ago and have not yet been reported as imported or linked to an outbreak are classified as possible community transmission.

Table 4: Cumulative number of confirmed cases of COVID-19 notified in Ireland by age group, hospitalisation and ICU admission as of midnight 01/12/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	1898	56	1.07	2	0.32
5-14 yrs	4650	49	0.93	4	0.64
15-24 yrs	12792	169	3.22	8	1.28
25-34 yrs	12260	326	6.2	17	2.72
35-44 yrs	11476	420	7.99	52	8.33
45-54 yrs	11039	665	12.65	111	17.79
55-64 yrs	7802	753	14.33	166	26.6
65-74 yrs	4194	940	17.89	179	28.69
75-84 yrs	3692	1,165	22.17	77	12.34
85+ yrs	3214	710	13.51	8	1.28
Unknown	28	2	0.04	0	0
Total	73,045	5,255	100	624	100

Table 5: Number and proportion of confirmed cases of COVID-19 notified in Ireland by age-group, hospitalisation, ICU admission and vital status 01/12/2020

	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75-84 yrs	85+ yrs	Unknown
Number of cases (n)	1,898	4,650	12,792	12,260	11,476	11,039	7,802	4,194	3,692	3,214	28
Cases hospitalised (n)	56	49	169	326	420	665	753	940	1,165	710	2
Cases hospitalised (%)	2.95	1.05	1.32	2.66	3.66	6.02	9.65	22.41	31.55	22.09	7.14
Cases admitted to ICU (n)	2	4	8	17	52	111	166	179	77	8	0
Cases admitted to ICU (%)	0.11	0.09	0.06	0.14	0.45	1.01	2.13	4.27	2.09	0.25	0
Deaths (n)	0	0	1	6	11	31	83	281	632	776	0
Case fatality ratio (%)	0	0	0.01	0.05	0.1	0.28	1.06	6.7	17.12	24.14	0

Outbreaks of COVID-19

Table 6: Number of clusters/outbreaks COVID-19 by location and HSE area notified to midnight 01/12/2020

Outbreak Location	E	M	MW	NE	NW	S	SE	W	HPSC**	Total
Private house	4265	172	190	476	402	610	615	556	0	7286
Other*	252	72	160	78	124	242	60	142	2	1132
Nursing home	169	17	20	50	11	22	22	45	0	356
Workplace	106	19	22	50	37	27	30	26	0	317
Residential institution	151	16	17	35	10	30	17	10	0	286
Hospital	108	7	10	22	13	16	8	7	0	191
Comm. Hosp/Long-stay unit	6	4	3	0	5	7	5	5	0	35
Unknown	0	0	0	1	2	0	0	0	0	3
Total	5057	307	422	712	604	954	757	791	2	9606

*Other outbreak location includes community, extended family, hotel, public house, retail outlet, travel related and all other locations.

**Outbreaks/clusters notified with a location of 'HPSC' are those with cases in three or more HSE areas. These are considered national outbreaks.

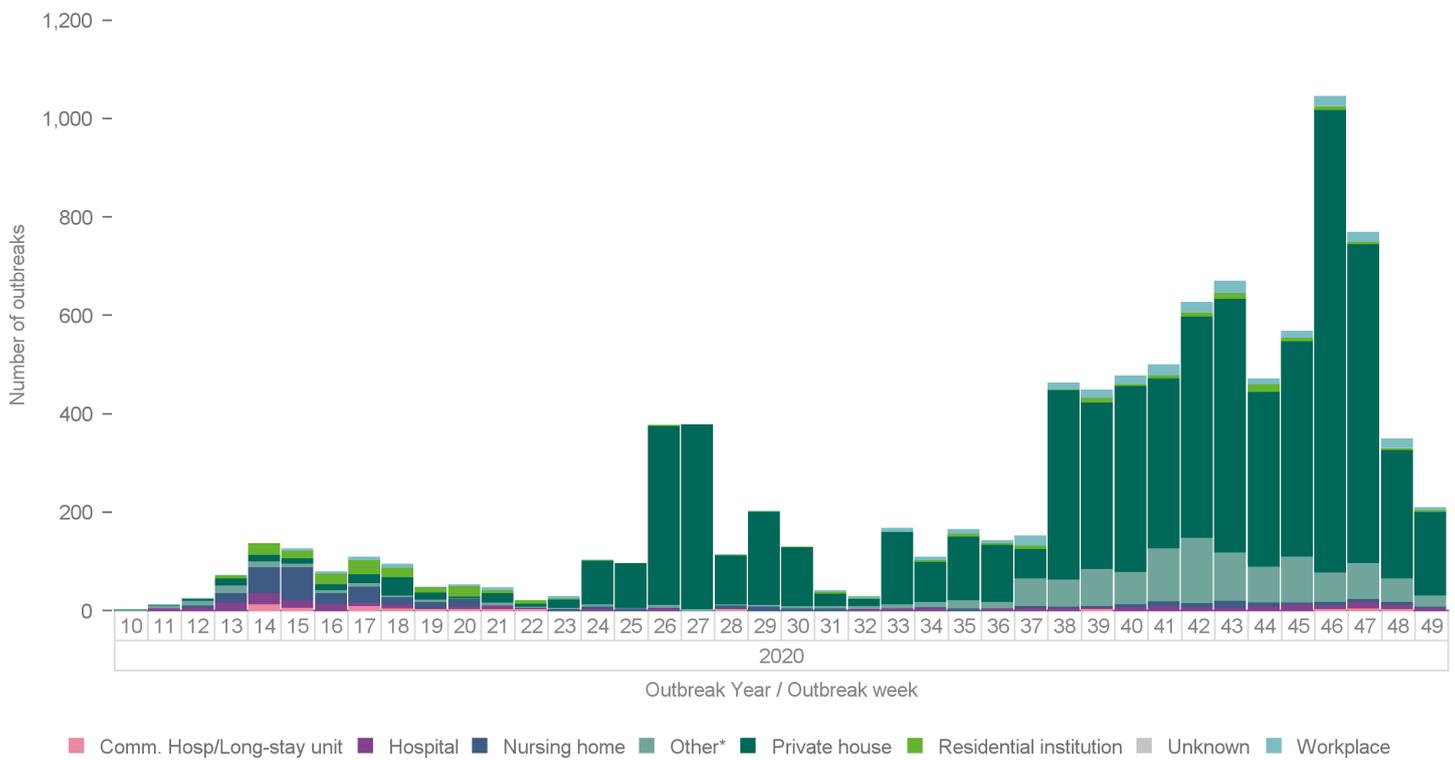


Figure 5: Trend in number of COVID-19 clusters by location and week notified to midnight 01/12/2020

*Other outbreak location includes community, extended family, hotel, public house, retail outlet, travel related and all other locations.

Note: 8,770 COVID-19 outbreaks were reported on CIDR between week 24 and week 49 2020 (9th June to 1st December). Of these, 6,963 were family outbreaks. Based on the earliest date associated with each outbreak, some of these family outbreaks occurred earlier and were reported between weeks 24 and 49 as a result of data validation: 1 occurred in February, 636 in March, 475 in April, 94 in May, 126 in June, 128 in July, 533 in August, 1,513 in September, 2,569 in October, 882 in November and 6 to date in December.

Deaths among COVID-19 cases

Table 7: Summary of deaths in all COVID-19 cases notified in Ireland up to midnight 01/12/2020

	Number	Percent
Total number of deaths	2,080	
Confirmed	1,821	87.55
Probable	95	4.57
Possible	164	7.88
Total number of cases hospitalised	948	45.58
Cases admitted to ICU	140	6.73
Cases not admitted to ICU	808	38.85
Total number of imported cases	5	0.24
Number of cases in healthcare workers	8	0.38
Number with underlying clinical conditions	1,932	92.88
Total number of male cases	1,057	50.82
M:F ratio	1.03	
Median age (years)	83	
Mean age (years)	81	
Age range (years)	17 - 105	

Table 8: Number of deaths in all COVID-19 cases by sex and age group notified in Ireland up to midnight 01/12/2020

Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	1	0.05
25-34 yrs	<5	<5	6	0.29
35-44 yrs	5	7	12	0.58
45-54 yrs	13	20	33	1.59
55-64 yrs	30	59	89	4.28
65-74 yrs	109	200	309	14.86
75-84 yrs	324	390	714	34.33
85+ yrs	537	377	914	43.94
Unknown	<5	<5	2	0.1
Total	1,023	1,057	2,080	100
Percent	49.18	50.82		

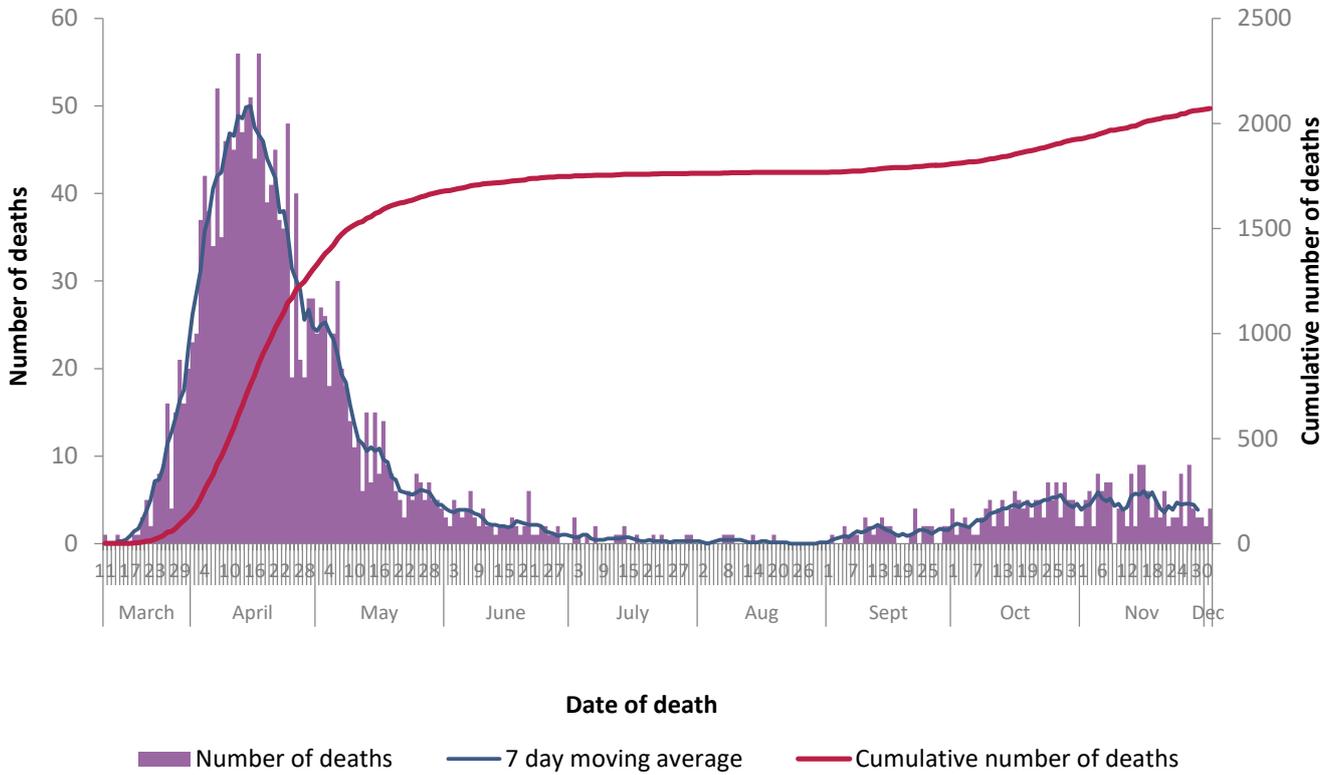


Figure 6a: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total to midnight 01/12/2020

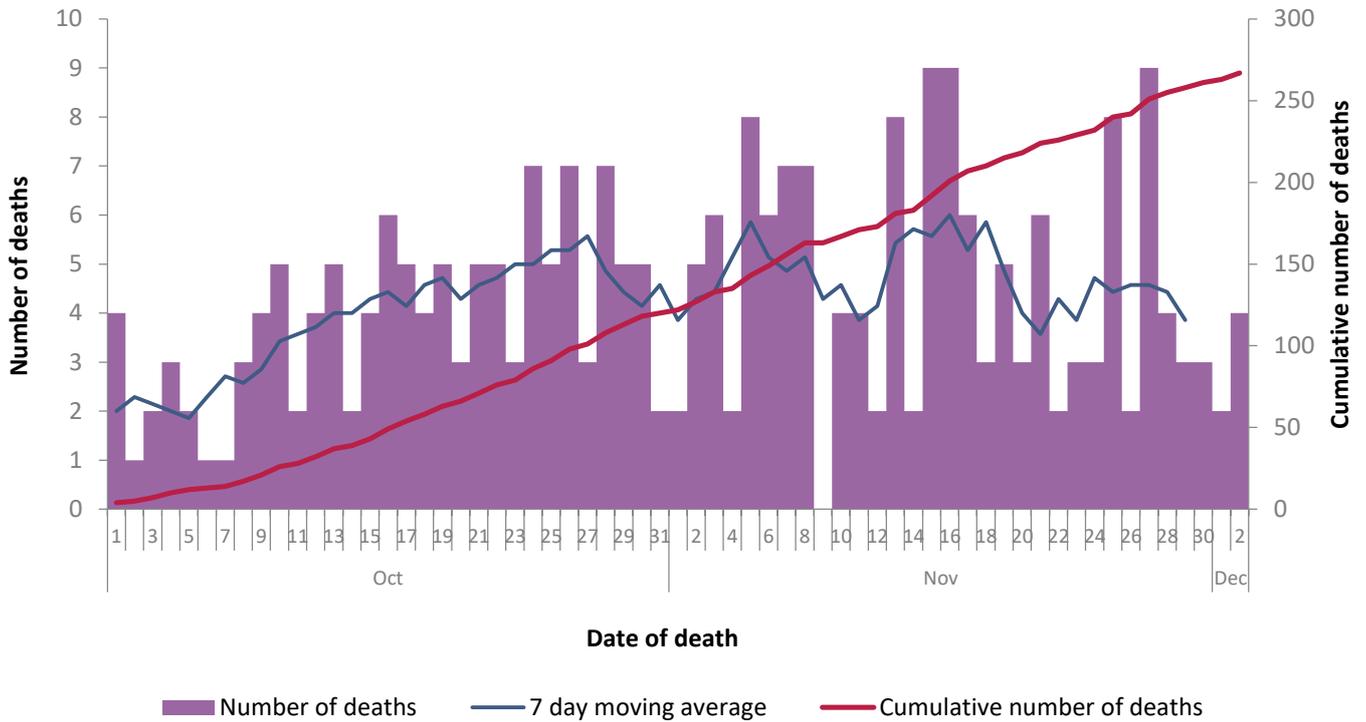


Figure 6b: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total from 01/10/2020 to midnight 01/12/2020

* Date of death is not yet available for eight cases

Please note: a lag in time between reporting of deaths and data extraction is expected and as such most recent dates will not yet reflect all deaths on that date

Acknowledgements

Sincere thanks are extended to all those who are participating in the collection of data and reporting of data used in these reports. This includes the HSE COVID-19 Contact Management Programme (CMP), staff in ICU units, notifying clinicians, laboratory staff, public health doctors, nurses, surveillance scientists, microbiologists and administrative staff.

Report prepared by COVID-19 Epidemiology Team, HPSC

Technical Notes

1. Data Source

Data are based on statutory notifications and were extracted from Computerised Infectious Disease Reporting (CIDR) system at 11:28 on 03/12/2020. Data are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.

2. Epidemiological date

Epidemiological date is derived from the earliest of onset date, date of diagnosis, laboratory specimen collection date, laboratory received date, laboratory reported date, event creation/notification date.

3. Population data

Population data were taken from Census 2016. Data were aggregated into the following age groups for the analysis: 0-4 years, 5-14 years, 15-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, 65-74 years, 75-84 years and ≥ 85 years.

3. Transmission classification

Transmission classification is based on country of infection as well as enhanced exposure data (international travel; close contact of a case) recorded in CIDR. Transmission is classified as 'unknown' due to incomplete data on CIDR.

WHO definition of transmission classification is specified below:

- Community transmission is evidenced by the inability to relate confirmed cases through chains of transmission for a large number of cases, or by increasing positive tests through routine screening of sentinel samples.
- Local transmission indicates locations where the source of infection is within the reporting location.
- Imported cases only indicates locations where all cases have been acquired outside the location of reporting.

4. HSE areas

The counties covered by each HSE area are as follows:

- HSE East (E): Dublin, Kildare & Wicklow;
- HSE Midlands (M): Laois, Longford, Offaly & Westmeath;
- HSE Midwest (MW): Clare, Limerick & N. Tipperary;
- HSE Northeast (NE): Cavan, Louth, Meath & Monaghan;
- HSE Northwest (NW): Donegal, Leitrim & Sligo;
- HSE South (S): Kerry & Cork;
- HSE Southeast (SE): Carlow, Kilkenny, S. Tipperary, Waterford & Wexford;
- HSE West (W): Galway, Mayo & Roscommon.

5. Outbreak location

Where an outbreak location is reported as a residential facility (RF) this includes nursing homes, community hospitals, long-stay units and residential institutions including mental health facilities, prisons and direct provision centres.

Other outbreak location includes community, extended family, hotel, public house, retail outlet, travel related and all other locations.