



Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 21/12/2020 for National Public Health Emergency Team

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

	Number	Percent
Total number of confirmed cases	79,540	
National cumulative incidence of confirmed cases per 100,000 population	1,670.35	
Total number of cases hospitalised	5,615	7.06
Total number of cases admitted to ICU	654	0.82
Total number of deaths among confirmed cases	1,898	2.39
Case fatality ratio (CFR, %)	2.39	
National cumulative incidence of confirmed deaths per 100,000 population	39.86	
Total number of outbreaks/clusters	10,397	
Total number of cases associated with clusters	43,501	54.69
Total number of imported cases	693	0.87
Number of cases in healthcare workers	12,862	16.17
Males	37,609	47.28
Females	41,884	52.66
M:F ratio	0.9	
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 09:27 on 21/12/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.

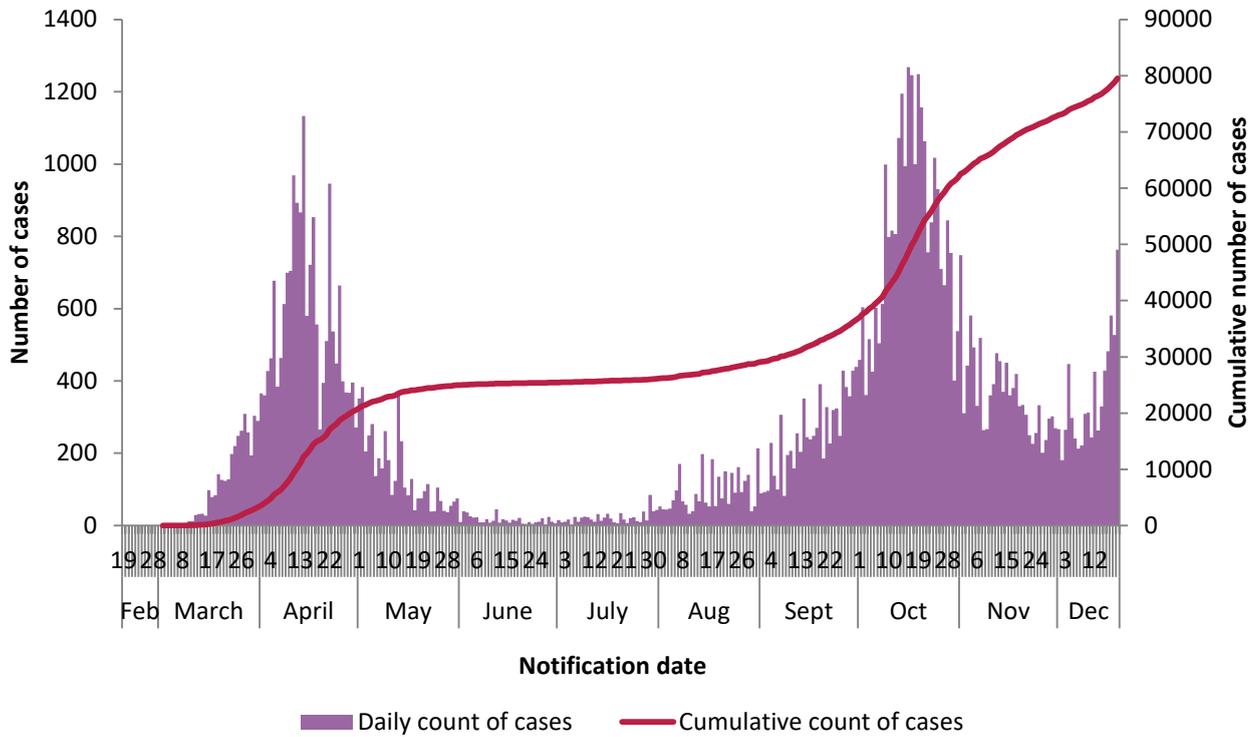


Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 19/12/2020

*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

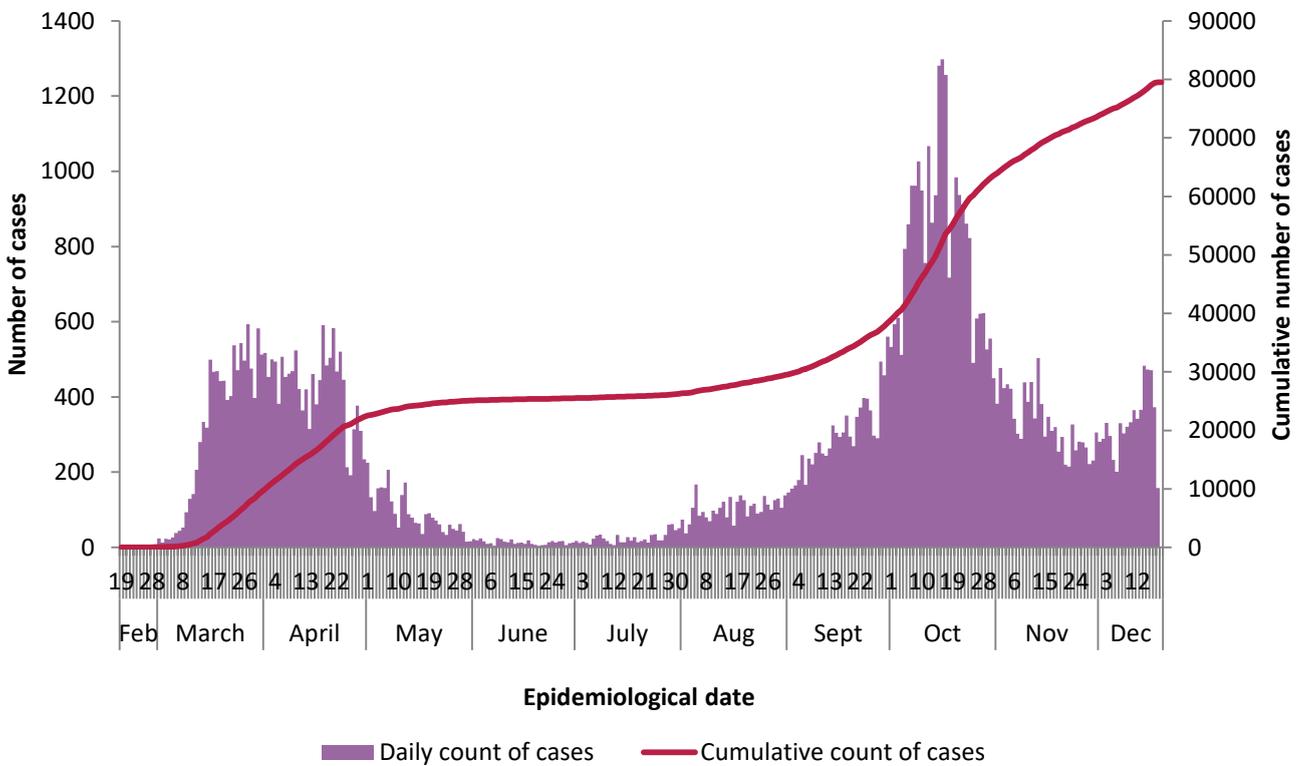


Figure 1b: Number and cumulative number of confirmed COVID-19 cases notified in Ireland by epidemiological date to midnight 19/12/2020**

**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.

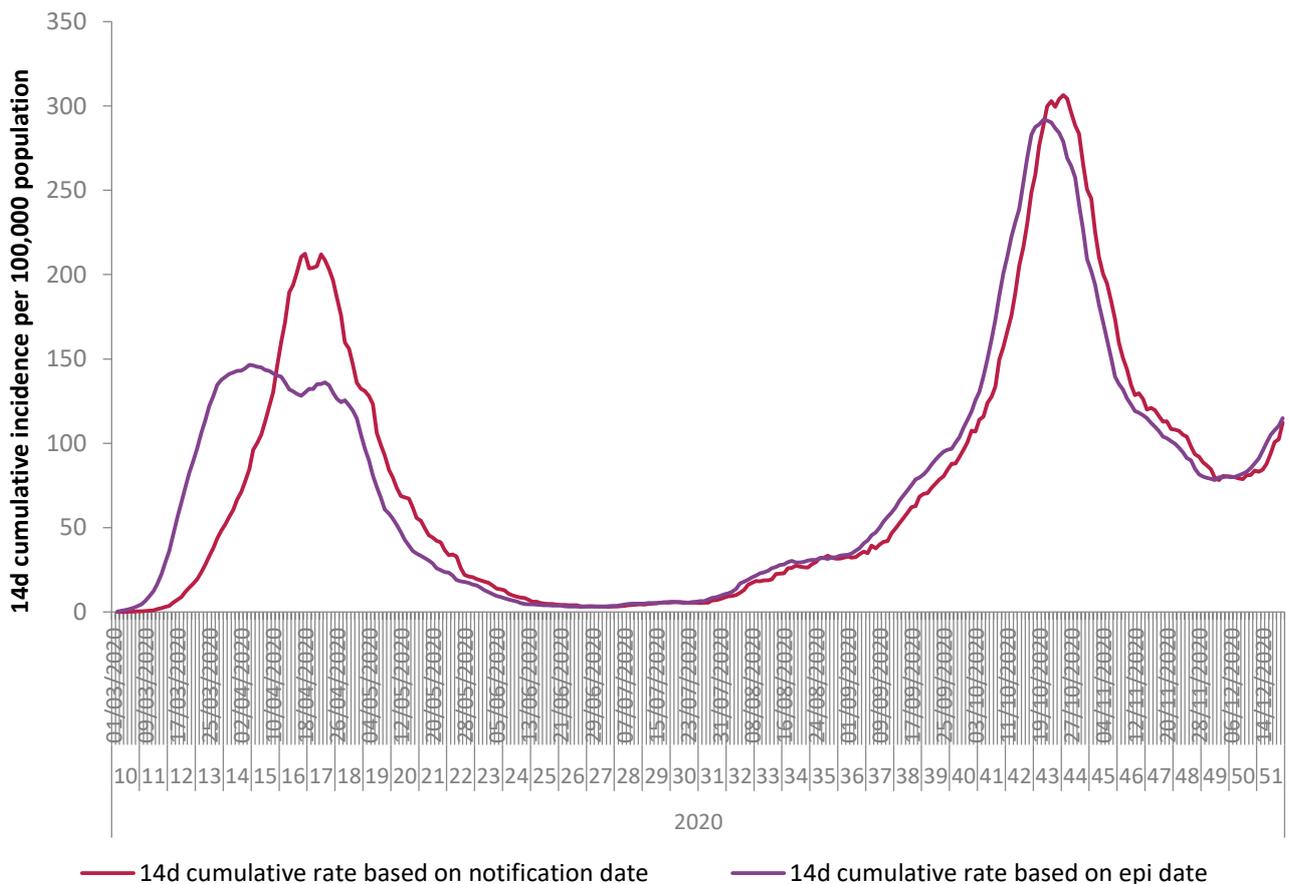


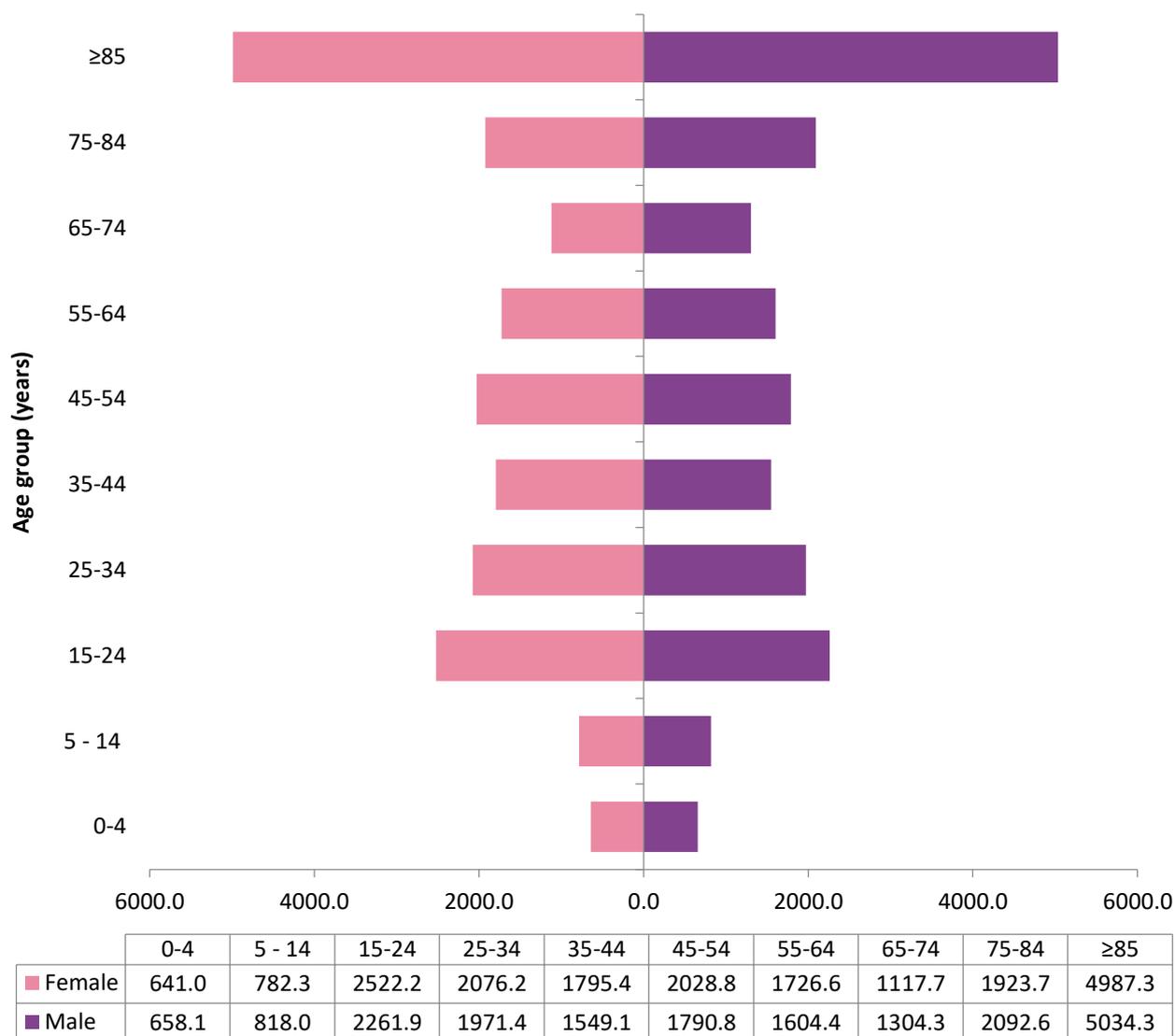
Figure 2: Cumulative 14 day incidence rate of confirmed COVID-19 cases per 100,000 population notified in Ireland by notification* and epidemiological date to midnight 19/12/2020**

* 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

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

Characteristic		Number of cases	Percent
Total number of confirmed cases		79,540	100
Sex	Male:Female ratio	0.9	
	Male	37,609	47.28
	Female	41,884	52.66
	Unknown	47	0.06
Age	Median age (years)	39	
	Mean age (years)	41	
	Age range (years)	0 - 108	
	0-4 yrs	2,157	2.71
	5-14 yrs	5,410	6.8
	15-24 yrs	13,782	17.33
	25-34 yrs	13,373	16.81
	35-44 yrs	12,508	15.73
	45-54 yrs	11,968	15.05
	55-64 yrs	8,483	10.67
	65-74 yrs	4,519	5.68
	75-84 yrs	3,931	4.94
	85+ yrs	3,380	4.25
	Unknown	29	0.04



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 19/12/2020 (excluding 28 cases for whom age is unknown, 46 cases for whom sex is unknown and 1 case for whom both are unknown)

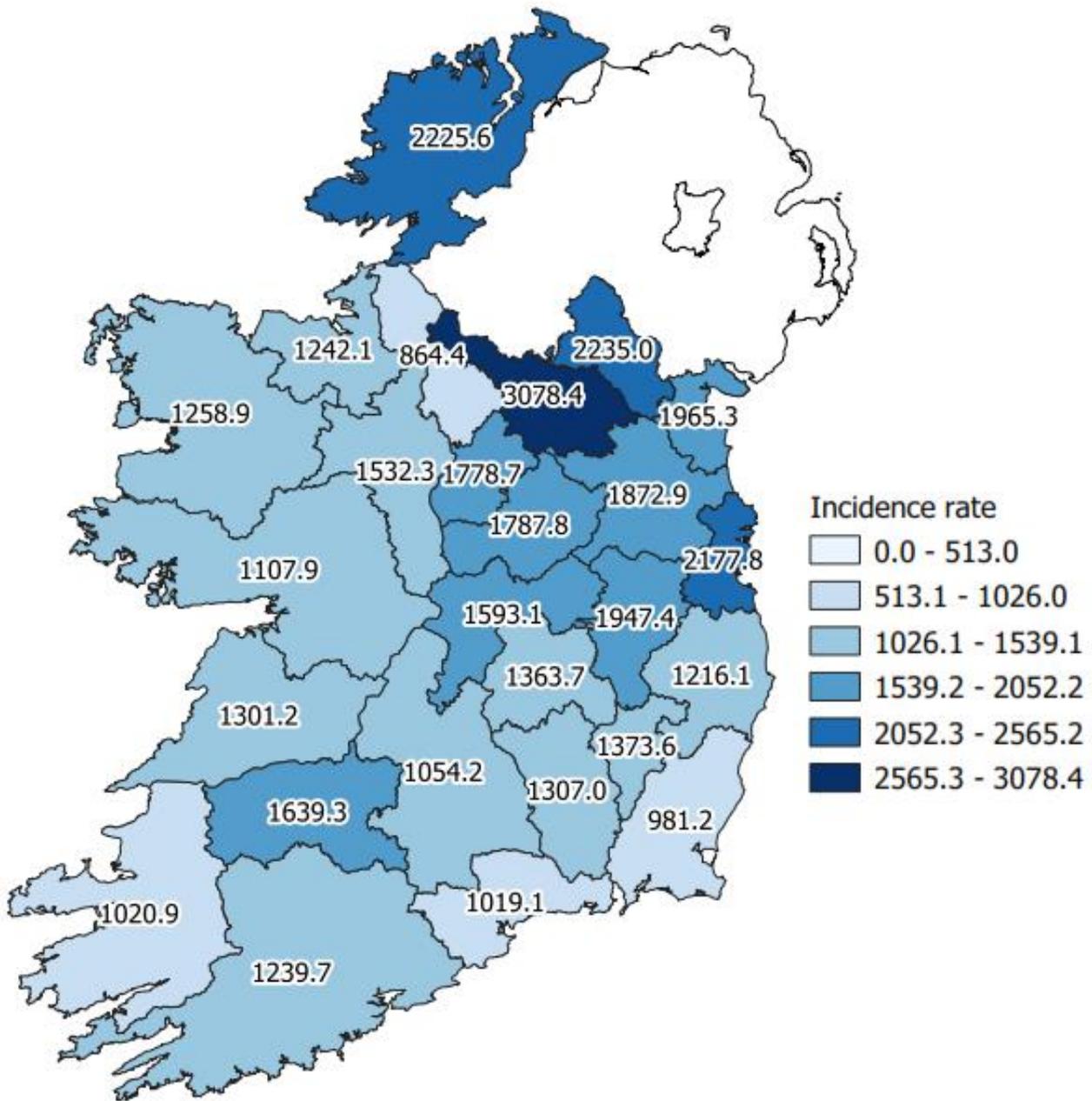


Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 19/12/2020

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 19/12/2020

County Name	Number of cases	Percent
Carlow	782	0.98
Cavan	2,345	2.95
Clare	1,546	1.94
Cork	6,730	8.46
Donegal	3,543	4.45
Dublin	29,343	36.89
Galway	2,859	3.59
Kerry	1,508	1.9
Kildare	4,333	5.45
Kilkenny	1,297	1.63
Laois	1,155	1.45
Leitrim	277	0.35
Limerick	3,195	4.02
Longford	727	0.91
Louth	2,533	3.18
Mayo	1,643	2.07
Meath	3,653	4.59
Monaghan	1,372	1.72
Offaly	1,242	1.56
Roscommon	989	1.24
Sligo	814	1.02
Tipperary	1,682	2.11
Waterford	1,184	1.49
Westmeath	1,587	2
Wexford	1,469	1.85
Wicklow	1,732	2.18
Total	79,540	100

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

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	23,889	30.03%
Local transmission, incl. possible local transmission	53,396	67.13%
Travel abroad, incl. possible travel abroad	1,072	1.35%
Unknown	1,183	1.49%
Total	79,540	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 19/12/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	2157	58	1.03	2	0.31
5-14 yrs	5410	56	1	4	0.61
15-24 yrs	13782	188	3.35	8	1.22
25-34 yrs	13373	350	6.23	18	2.75
35-44 yrs	12508	440	7.84	56	8.56
45-54 yrs	11968	699	12.45	117	17.89
55-64 yrs	8483	803	14.3	169	25.84
65-74 yrs	4519	1,014	18.06	188	28.75
75-84 yrs	3931	1,249	22.24	83	12.69
85+ yrs	3380	756	13.46	9	1.38
Unknown	29	2	0.04	0	0
Total	79,540	5,615	100	654	100

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

	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)	2,157	5,410	13,782	13,373	12,508	11,968	8,483	4,519	3,931	3,380	29
Cases hospitalised (n)	58	56	188	350	440	699	803	1,014	1,249	756	2
Cases hospitalised (%)	2.69	1.04	1.36	2.62	3.52	5.84	9.47	22.44	31.77	22.37	6.9
Cases admitted to ICU (n)	2	4	8	18	56	117	169	188	83	9	0
Cases admitted to ICU (%)	0.09	0.07	0.06	0.13	0.45	0.98	1.99	4.16	2.11	0.27	0
Deaths (n)	0	0	2	6	12	35	83	290	654	816	0
Case fatality ratio (%)	0	0	0.01	0.04	0.1	0.29	0.98	6.42	16.64	24.14	0

Outbreaks of COVID-19

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

Outbreak Location	E	M	MW	NE	NW	S	SE	W	HPSC**	Total
Private house	4,585	181	200	535	466	638	673	617		7,895
Other*	267	80	163	89	154	265	69	158	2	1,247
Nursing home	175	18	21	50	12	24	26	46		372
Workplace	113	20	23	55	38	27	32	27		335
Residential institution	155	16	18	39	9	31	17	10		295
Hospital	123	8	10	23	15	17	8	8		212
Comm. Hosp/Long-stay unit	8	4	3		5	7	6	5		38
Unknown					2			1		3
Total	5,426	327	438	791	701	1,009	831	872	2	10,397

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

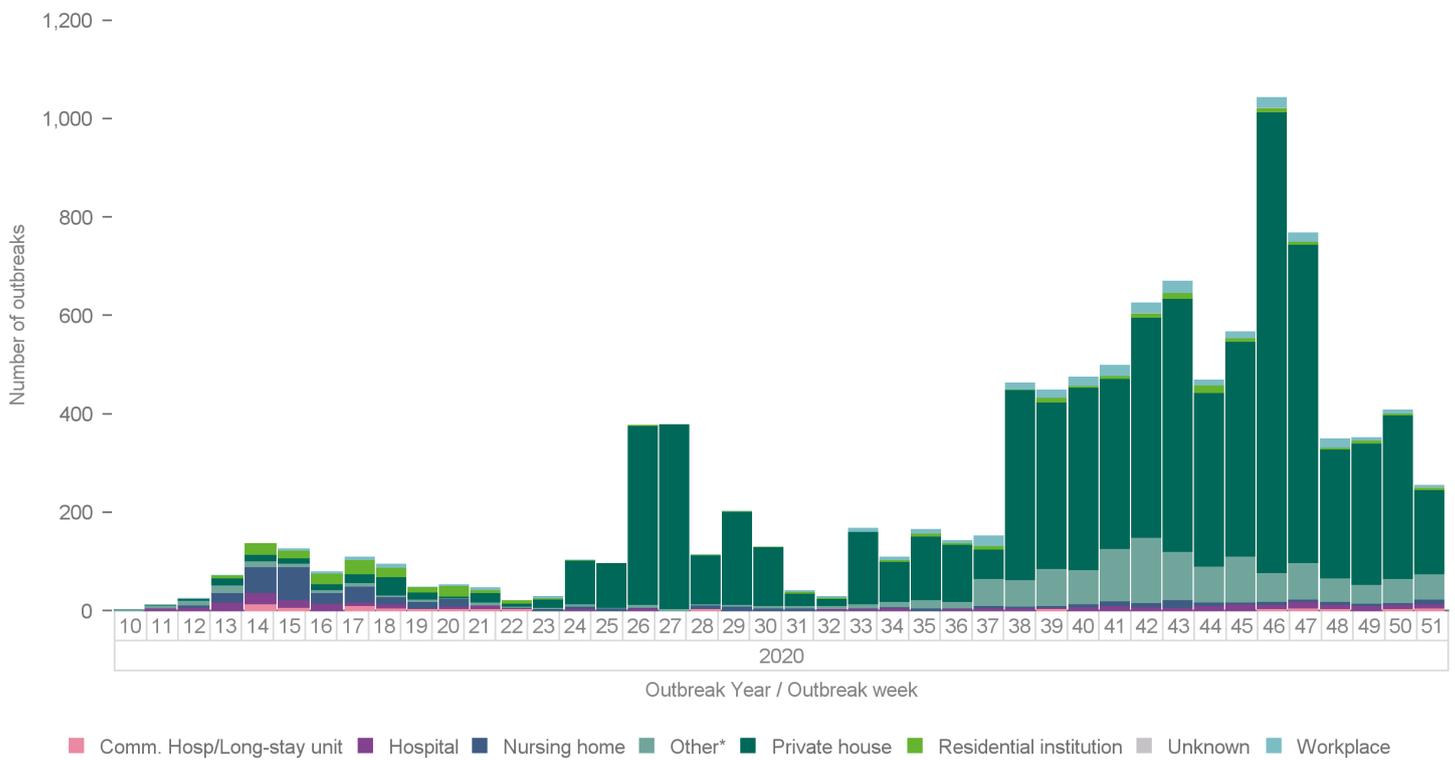


Figure 5: Trend in number of COVID-19 clusters by location and week notified to midnight 19/12/2020

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

Note: 9,561 COVID-19 outbreaks were reported on CIDR between week 24 and week 51 2020 (9th June to 19th December). Of these, 7,622 were family outbreaks. Based on the earliest date associated with each outbreak, some of these family outbreaks occurred earlier and were reported in subsequent weeks 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, 1,511 in September, 2,631 in October, 1,229 in November and 258 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 19/12/2020

	Number	Percent
Total number of deaths	2,158	
Confirmed	1,898	87.95
Probable	95	4.4
Possible	165	7.65
Total number of cases hospitalised	990	45.88
Cases admitted to ICU	152	7.04
Cases not admitted to ICU	838	38.83
Total number of imported cases	5	0.23
Number of cases in healthcare workers	8	0.37
Number with underlying clinical conditions	2,007	93
Total number of male cases	1,098	50.88
M:F ratio	1.04	
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 19/12/2020

Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	<5	0.09
25-34 yrs	<5	<5	6	0.28
35-44 yrs	6	7	13	0.6
45-54 yrs	15	22	37	1.71
55-64 yrs	30	59	89	4.12
65-74 yrs	111	207	318	14.74
75-84 yrs	331	405	736	34.11
85+ yrs	561	394	955	44.25
Unknown	<5	<5	<5	0.09
Total	1,060	1,098	2,158	100
Percent	49.12	50.88		

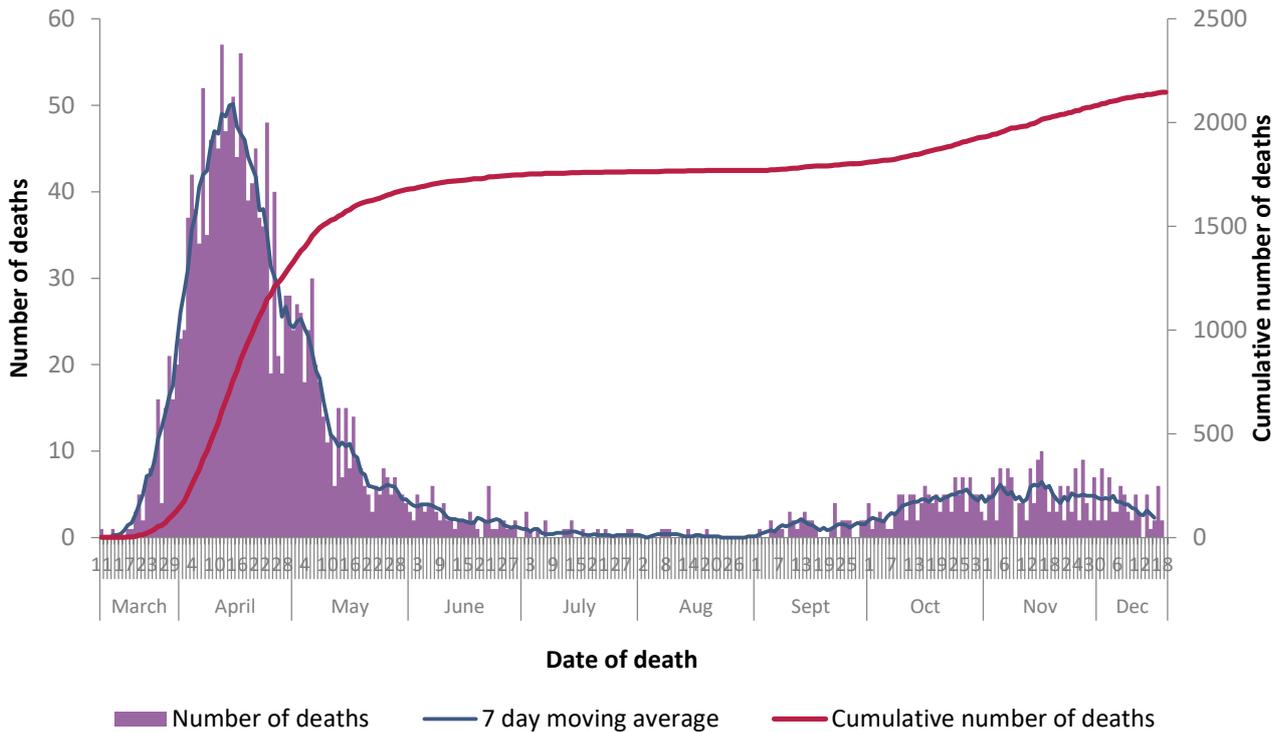


Figure 6a: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total to midnight 19/12/2020

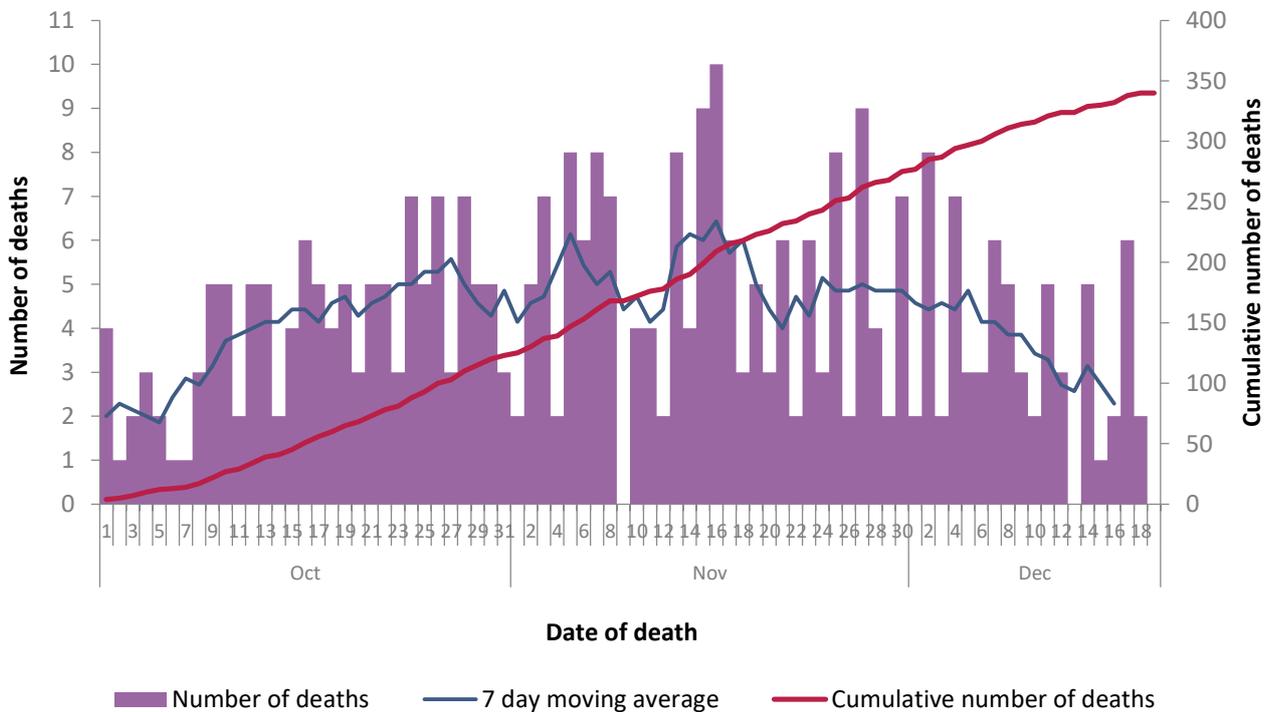


Figure 6b: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total from 01/10/2020 to midnight 19/12/2020

* Date of death is not yet available for twelve cases

Please note: a lag in time between reporting of deaths and data extraction is expected and as such the 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 09:27 on 21/12/2020. 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.