



Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 23/12/2020 for National Public Health Emergency Team

Summary characteristics of confirmed COVID-19 cases notified in Ireland up to midnight 21/12/2020

	Number	Percent
Total number of confirmed cases	81,217	
National cumulative incidence of confirmed cases per 100,000 population	1,705.57	
Total number of cases hospitalised	5,687	7
Total number of cases admitted to ICU	660	0.81
Total number of deaths among confirmed cases	1,924	2.37
Case fatality ratio (CFR, %)	2.37	
National cumulative incidence of confirmed deaths per 100,000 population	40.4	
Total number of outbreaks/clusters	10,471	
Total number of cases associated with clusters	43,979	54.15
Total number of imported cases	698	0.86
Number of cases in healthcare workers	13,055	16.07
Males	38,428	47.32
Females	42,745	52.63
M:F ratio	0.9	
Median age (years)	38	
Mean age (years)	41	
Age range (years)	0 - 108	

Note: Data were extracted from Computerised Infectious Disease Reporting (CIDR) system at 09:11 on 23/12/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.

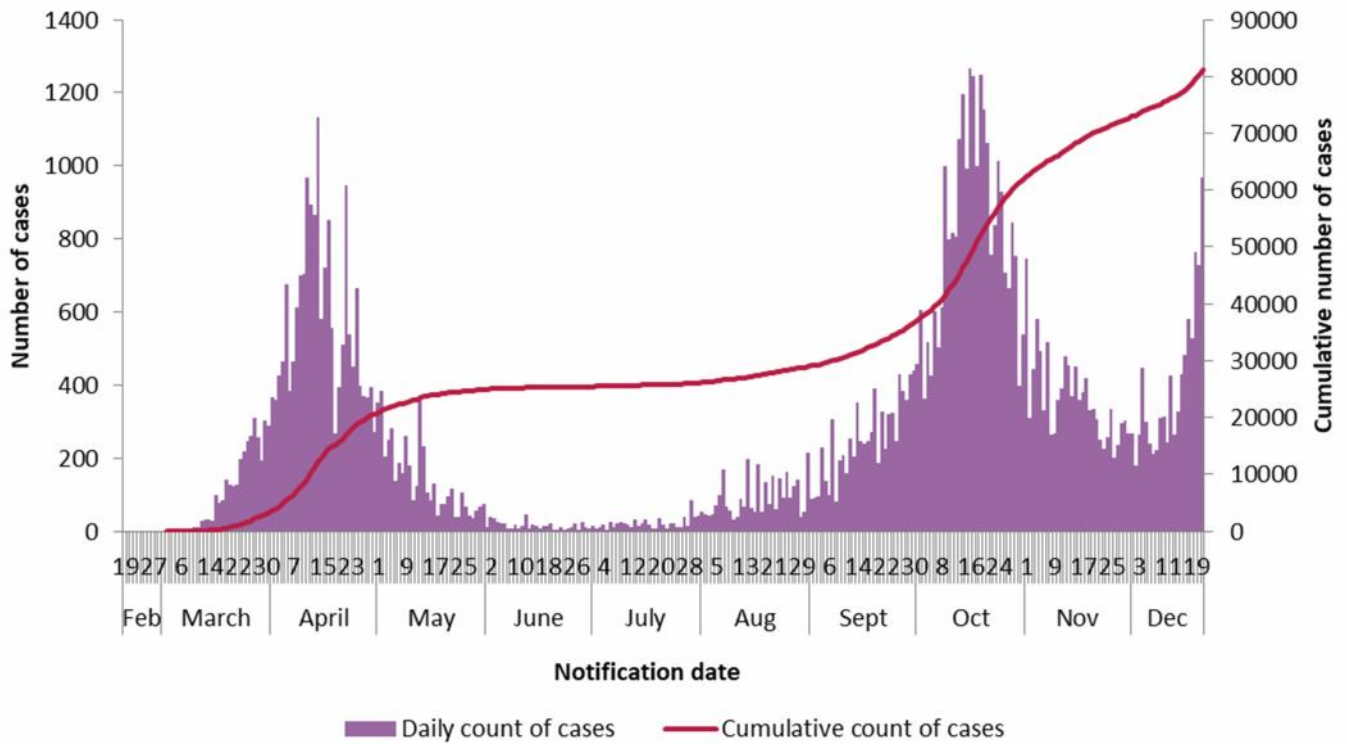


Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 21/12/2020

*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

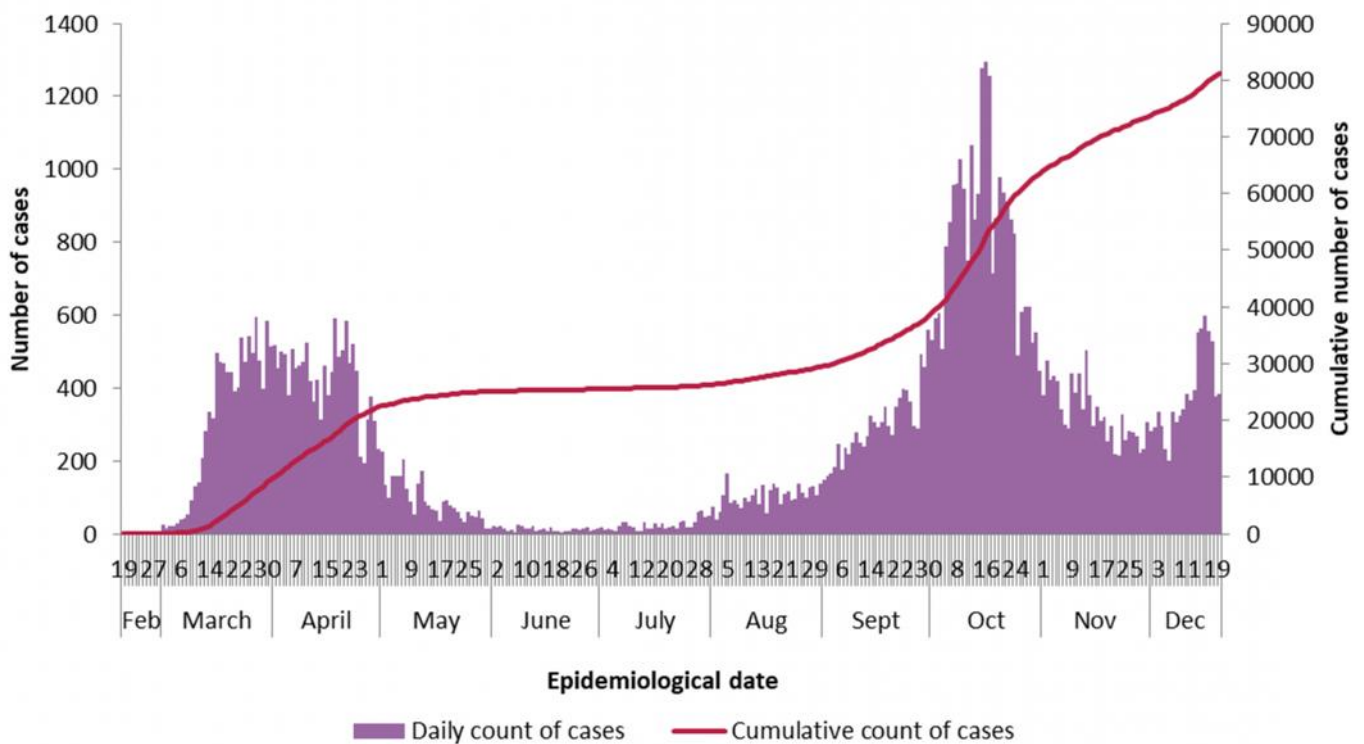


Figure 1b: Number and cumulative number of confirmed COVID-19 cases notified in Ireland by epidemiological date to midnight 21/12/2020**

**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.

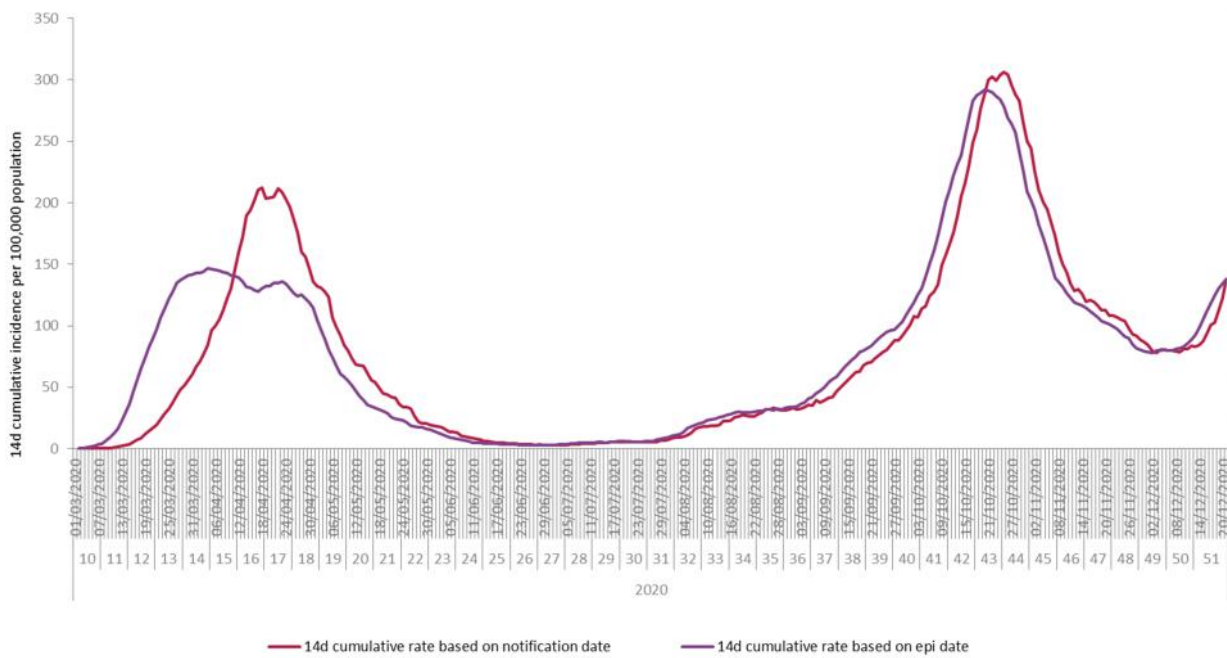


Figure 2: Cumulative 14 day incidence rate of confirmed COVID-19 cases per 100,000 population notified in Ireland by notification* and epidemiological date to midnight 21/12/2020**

* 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 21/12/2020

Characteristic		Number of cases	Percent
Total number of confirmed cases		81,217	100
Sex	Male:Female ratio	0.9	
	Male	38,428	47.32
	Female	42,745	52.63
	Unknown	44	0.05
Age	Median age (years)	38	
	Mean age (years)	41	
	Age range (years)	0 - 108	
	0-4 yrs	2,239	2.76
	5-14 yrs	5,569	6.86
	15-24 yrs	14,022	17.26
	25-34 yrs	13,666	16.83
	35-44 yrs	12,790	15.75
	45-54 yrs	12,213	15.04
	55-64 yrs	8,668	10.67
	65-74 yrs	4,608	5.67
	75-84 yrs	3,990	4.91
	85+ yrs	3,423	4.21
	Unknown	29	0.04

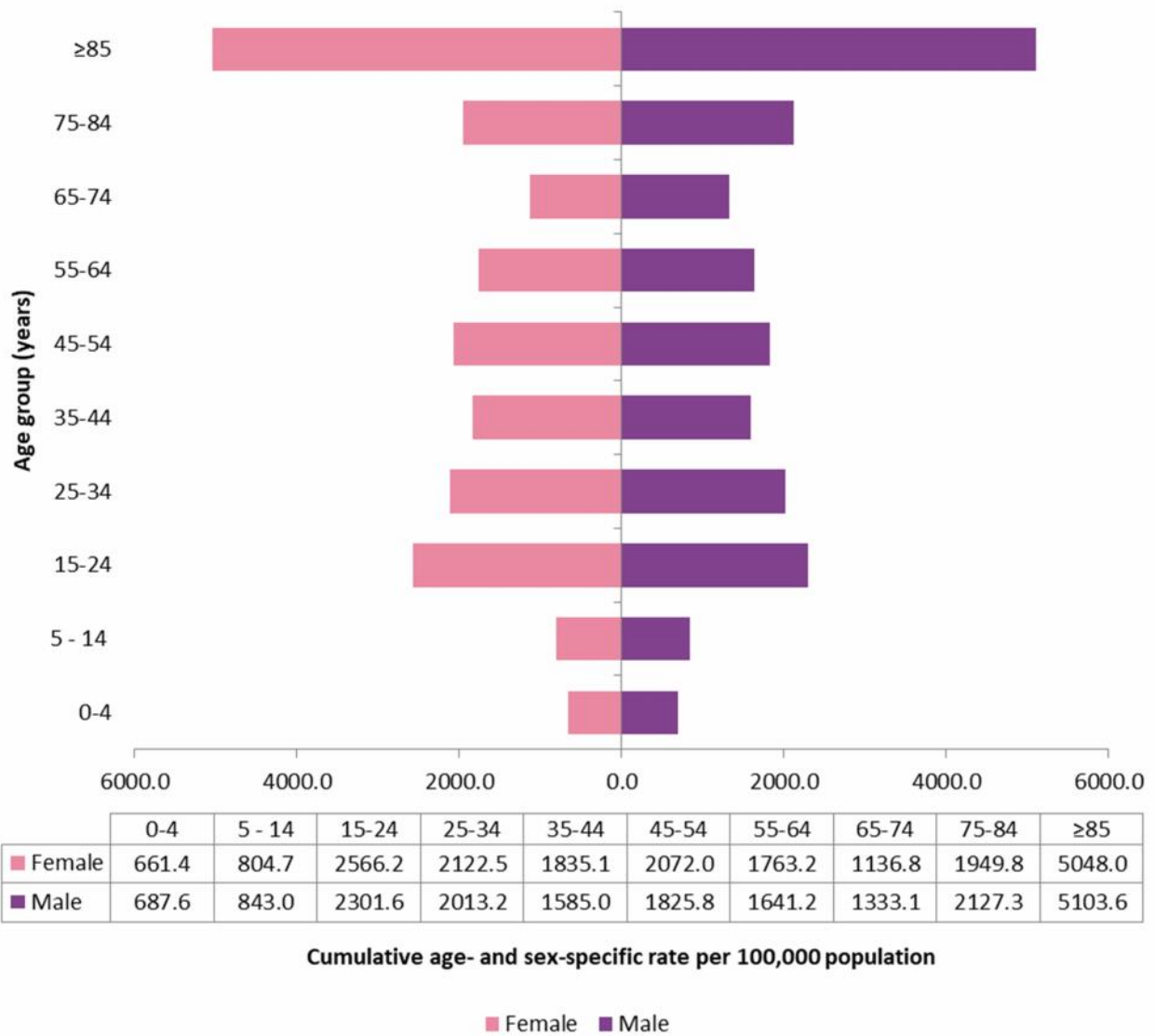


Figure 3: Cumulative age- and sex-specific incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 20/12/2020 (excluding 28 cases for whom age is unknown, 46 cases for whom sex is unknown and 1 case for whom both are unknown)

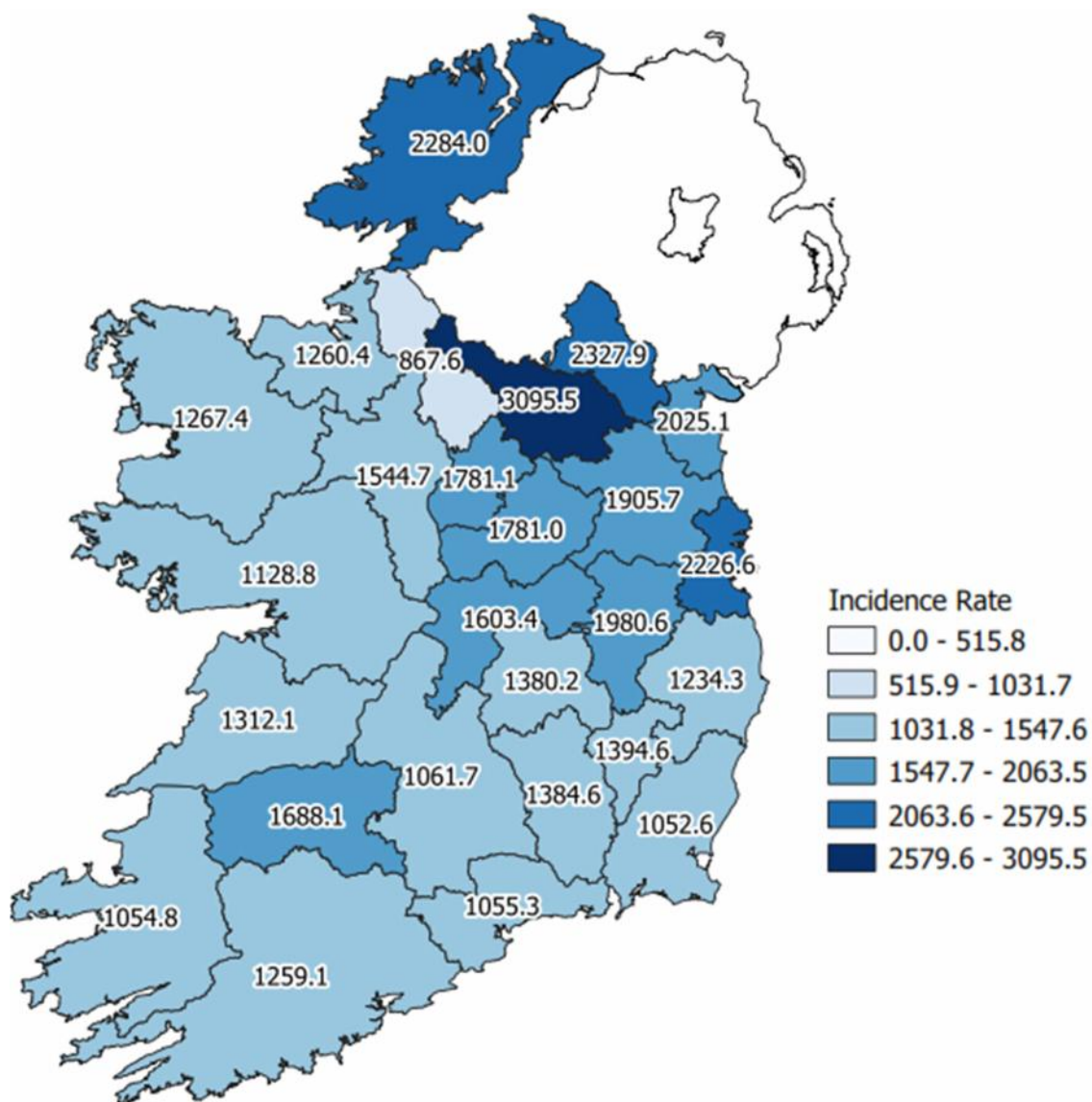


Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 21/12/2020

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 21/12/2020

County Name	Number of cases	Percent
Carlow	794	0.98
Cavan	2,358	2.9
Clare	1,559	1.92
Cork	6,835	8.42
Donegal	3,636	4.48
Dublin	30,000	36.94
Galway	2,913	3.59
Kerry	1,558	1.92
Kildare	4,407	5.43
Kilkenny	1,374	1.69
Laois	1,169	1.44
Leitrim	278	0.34
Limerick	3,290	4.05
Longford	728	0.9
Louth	2,610	3.21
Mayo	1,654	2.04
Meath	3,717	4.58
Monaghan	1,429	1.76
Offaly	1,250	1.54
Roscommon	997	1.23
Sligo	826	1.02
Tipperary	1,694	2.09
Waterford	1,226	1.51
Westmeath	1,581	1.95
Wexford	1,576	1.94
Wicklow	1,758	2.16
Total	81,217	100

Table 3: Number of confirmed COVID-19 cases by WHO transmission classification notified to midnight 21/12/2020

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	24,320	29.94%
Local transmission, incl. possible local transmission	54,458	67.05%
Travel abroad, incl. possible travel abroad	1,083	1.33%
Unknown	1,356	1.67%
Total	81,217	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 and hospital, ICU and vital status as of midnight 21/12/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	2239	58	1.02	2	0.3
5-14 yrs	5569	56	0.98	4	0.61
15-24 yrs	14022	195	3.43	8	1.21
25-34 yrs	13666	352	6.19	18	2.73
35-44 yrs	12790	445	7.82	56	8.48
45-54 yrs	12213	706	12.41	119	18.03
55-64 yrs	8668	817	14.37	172	26.06
65-74 yrs	4608	1,025	18.02	188	28.48
75-84 yrs	3990	1,264	22.23	84	12.73
85+ yrs	3423	767	13.49	9	1.36
Unknown	29	2	0.04	0	0
Total	81,217	5,687	100	660	100

Table 5: Number and proportion of confirmed cases of COVID-19 notified in Ireland by age-group, hospitalisation and ICU admission 21/12/2020

	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)	2,239	5,569	14,022	13,666	12,790	12,213	8,668	4,608	3,990	3,423	29
Cases hospitalised (n)	58	56	195	352	445	706	817	1,025	1,264	767	2
Cases hospitalised (%)	2.59	1.01	1.39	2.58	3.48	5.78	9.43	22.24	31.68	22.41	6.9
Cases admitted to ICU (n)	2	4	8	18	56	119	172	188	84	9	0
Cases admitted to ICU (%)	0.09	0.07	0.06	0.13	0.44	0.97	1.98	4.08	2.11	0.26	0
Deaths (n)	0	0	2	6	13	36	85	295	662	825	0
Case fatality ratio (%)	0	0	0.01	0.04	0.1	0.29	0.98	6.4	16.59	24.1	0

Outbreaks of COVID-19

Table 6: Number of clusters/outbreaks COVID-19 by location and HSE area notified to midnight 21/12/2020

Outbreak Location	E	M	MW	NE	NW	S	SE	W	HPSC	Total
Private house	4,585	181	200	543	472	636	693	622		7,932
Other*	273	81	165	89	160	270	70	163	2	1,273
Nursing home	179	18	21	50	12	25	27	47		379
Workplace	113	20	23	55	38	27	32	27		335
Residential institution	155	16	18	39	9	33	17	10		297
Hospital	124	8	10	23	15	17	8	9		214
Comm. Hosp/Long-stay unit	8	4	3		5	7	6	5		38
Unknown				1	2					3
Total	5,437	328	440	800	713	1,015	853	883	2	10,471

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

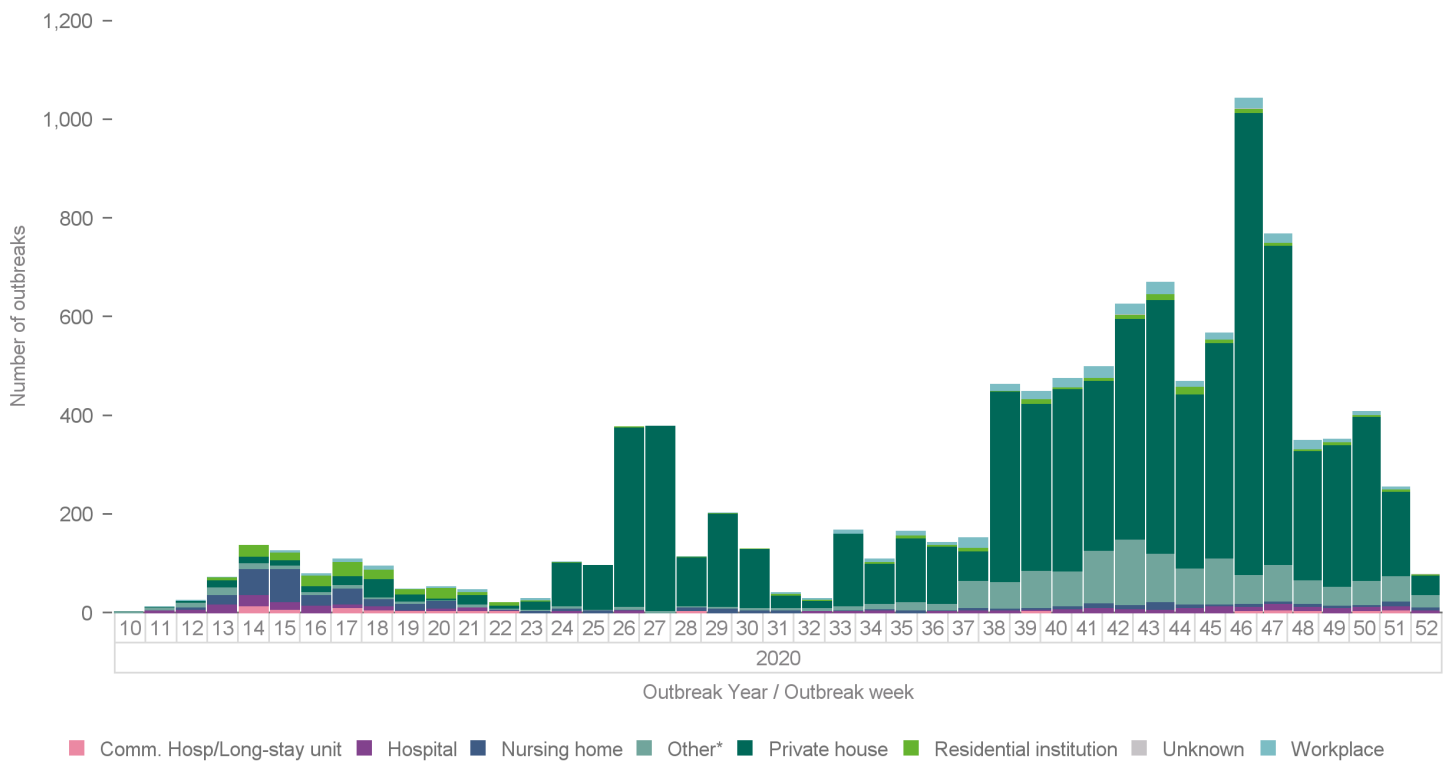


Figure 5: Trend in number of COVID-19 clusters by location and week notified to midnight 21/12/2020

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

Note: 9,665 COVID-19 outbreaks were reported on CIDR between week 24 and week 51 2020 (9th June to 20th December). Of these, 7,682 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, 2,633 in October, 1,243 in November and 301 to date in December.

Deaths among COVID-19 cases

Table 16: Summary of deaths in all COVID-19 cases notified in Ireland up to midnight 21/12/2020

	Number	Percent
Total number of deaths	2,184	
Confirmed	1,924	88.1
Probable	95	4.35
Possible	165	7.55
Total number of cases hospitalised	1,000	45.79
Cases admitted to ICU	155	7.1
Cases not admitted to ICU	845	38.69
Total number of imported cases	5	0.23
Number of cases in healthcare workers	8	0.37
Number with underlying clinical conditions	2,029	92.9
Total number of male cases	1,113	50.96
M:F ratio	1.04	
Median age (years)	83	
Mean age (years)	81	
Age range (years)	17 - 105	

Table 17: Number of deaths in all COVID-19 cases by sex and age group notified in Ireland up to midnight 21/12/2020

Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	2	0.09
25-34 yrs	<5	<5	6	0.27
35-44 yrs	6	8	14	0.64
45-54 yrs	16	22	38	1.74
55-64 yrs	30	61	91	4.17
65-74 yrs	111	212	323	14.79
75-84 yrs	335	409	744	34.07
85+ yrs	567	397	964	44.14
Unknown	<5	<5	2	0.09
Total	1,071	1,113	2,184	100
Percent	49.04	50.96		

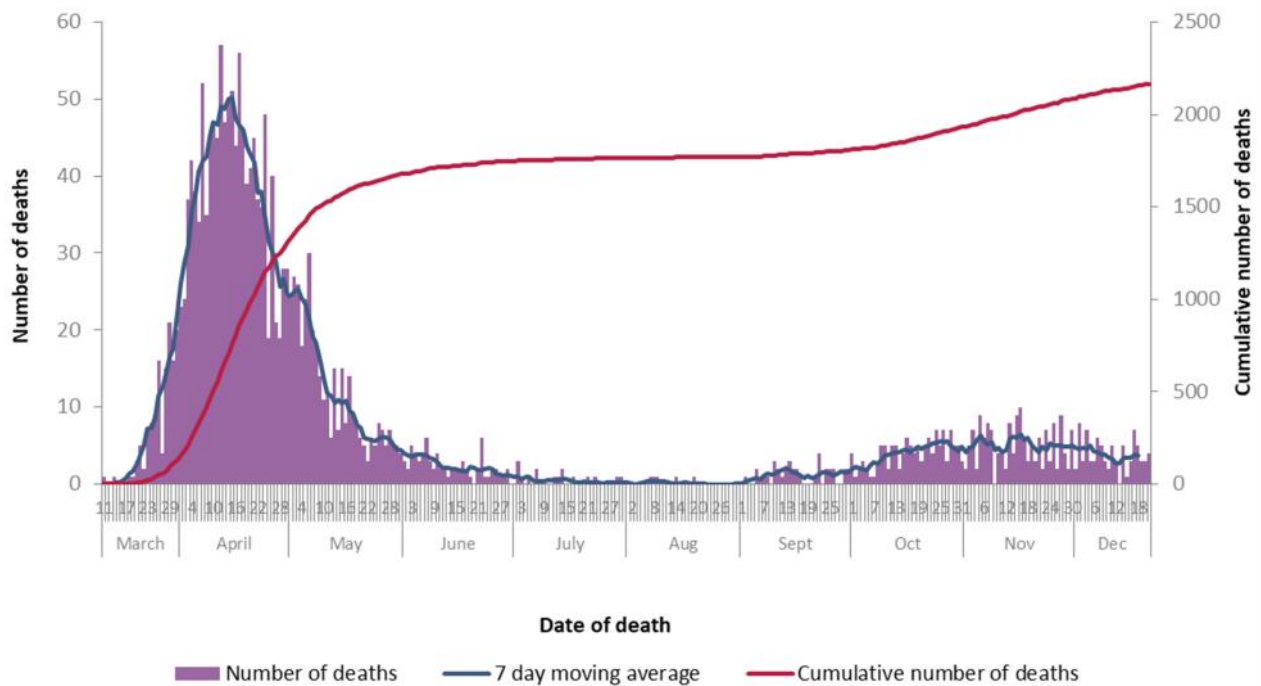


Figure 6a: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total to midnight 21/12/2020

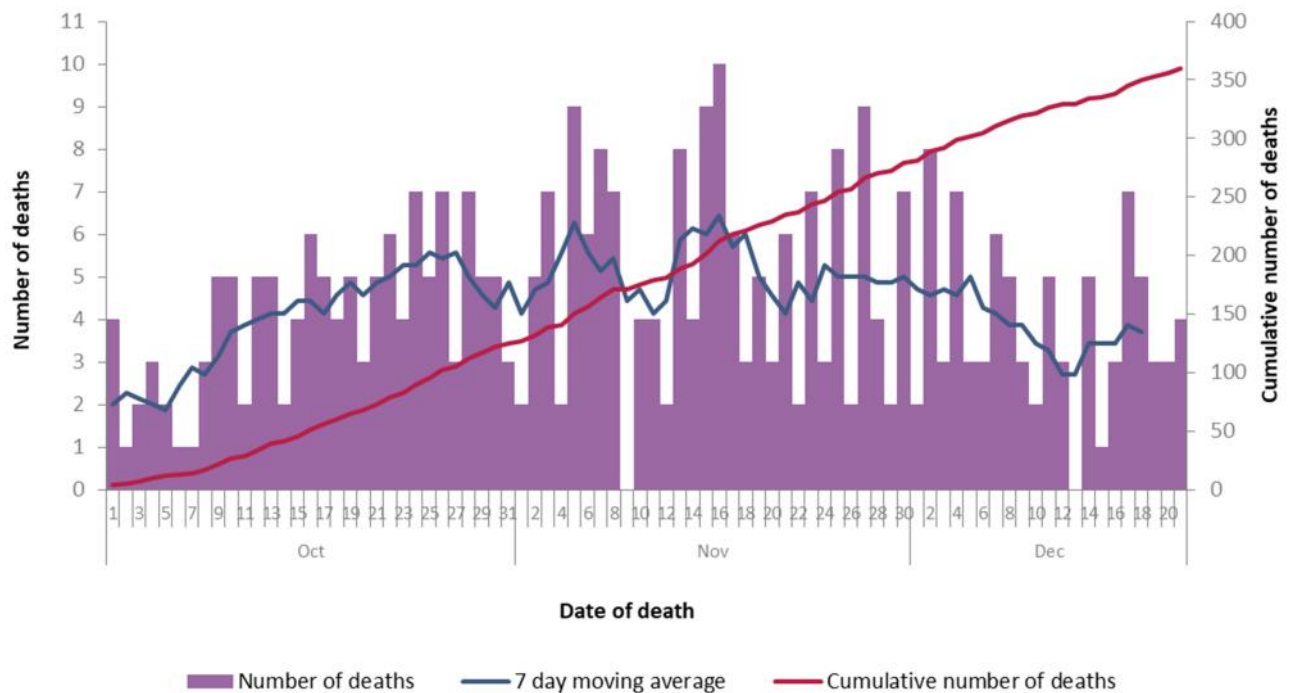


Figure 6b: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total from 01/10/2020 to midnight 21/12/2020

* 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 09:11 on 23/12/2020. 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.