



Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 30/12/2020 for National Public Health Emergency Team

Summary characteristics of confirmed COVID-19 cases notified in Ireland up to midnight 28/12/2020

	Number	Percent
Total number of confirmed cases	88,439	
National cumulative incidence of confirmed cases per 100,000 population	1,857.23	
Total number of cases hospitalised	5,932	6.71
Total number of cases admitted to ICU	671	0.76
Total number of deaths among confirmed cases	1,965	2.22
Case fatality ratio (CFR, %)	2.22	
National cumulative incidence of confirmed deaths per 100,000 population	41.27	
Total number of outbreaks/clusters	10,623	
Total number of cases associated with clusters	44,605	50.44
Total number of imported cases	704	0.8
Number of cases in healthcare workers	13,316	15.06
Males	41,998	47.49
Females	46,373	52.44
M:F ratio	0.91	
Median age (years)	38	
Mean age (years)	40	
Age range (years)	0 - 108	

Note: Data were extracted from Computerised Infectious Disease Reporting (CIDR) system at 09:18 on 30/12/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.

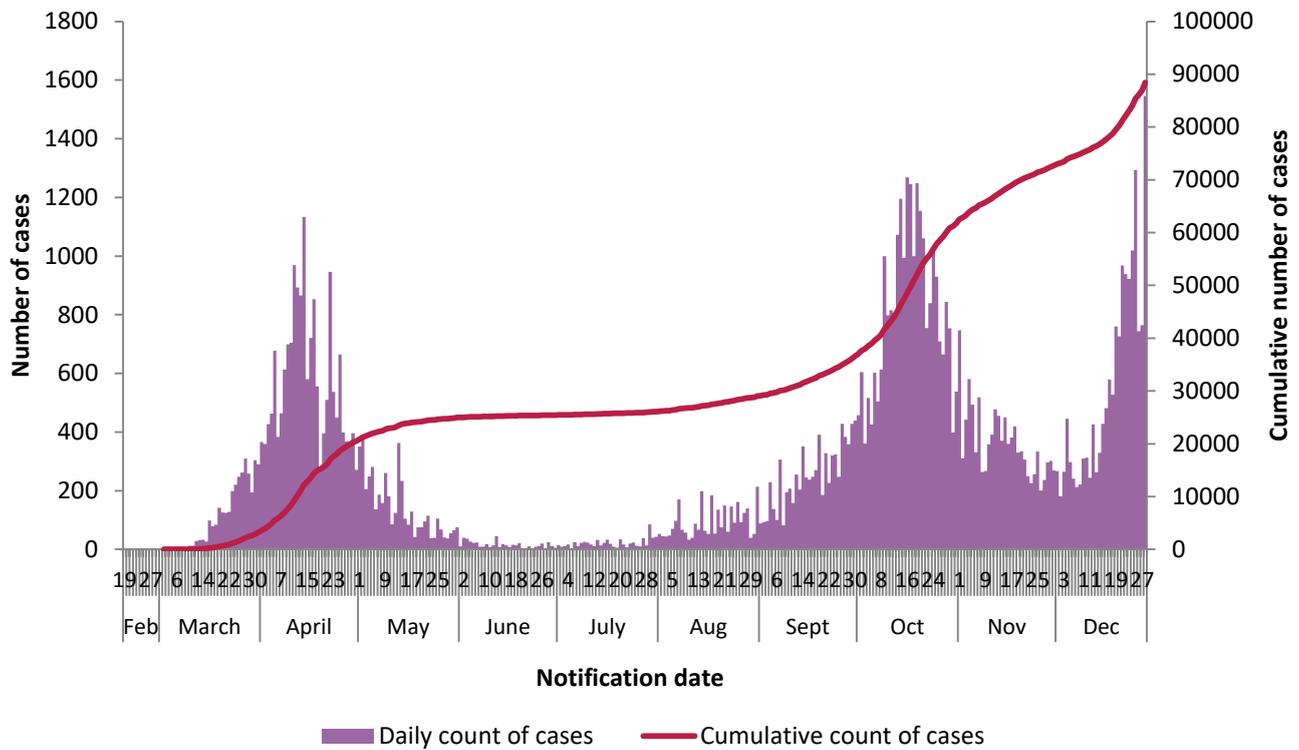


Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 28/12/2020

*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

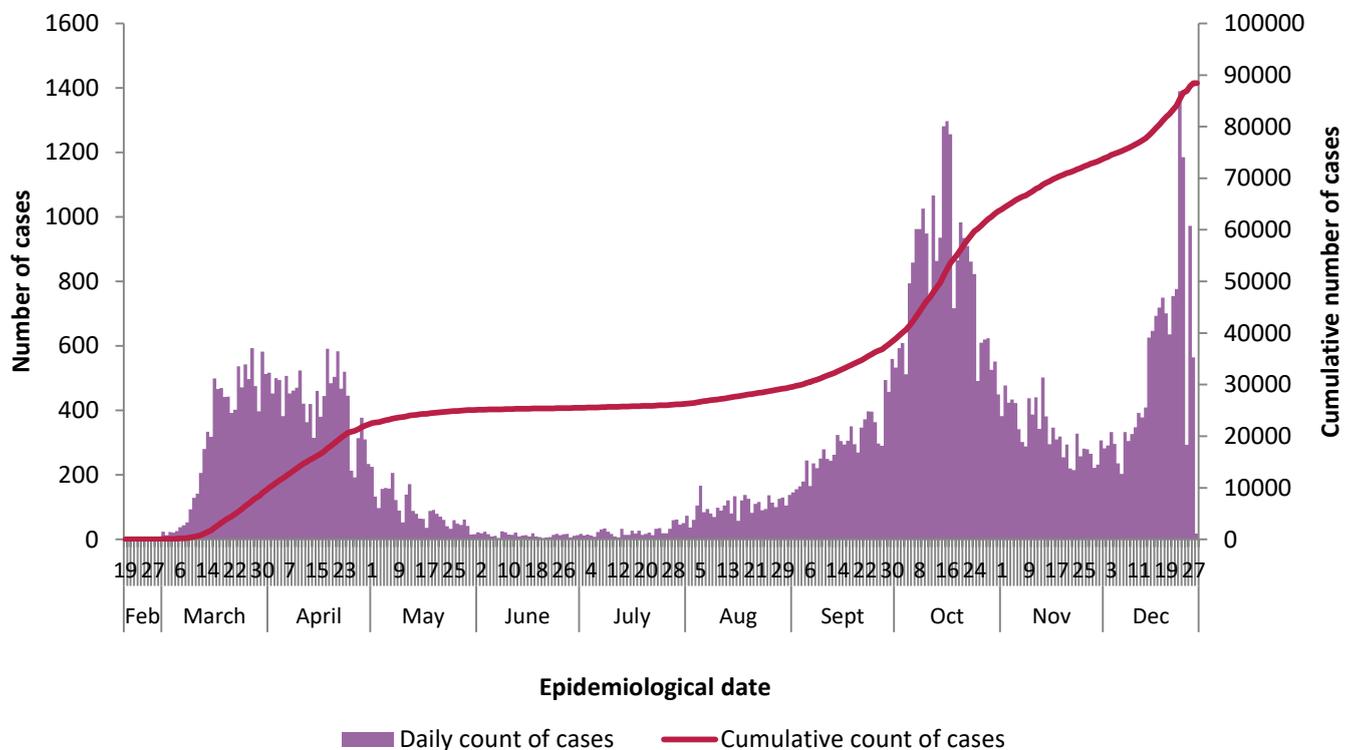


Figure 1b: Number and cumulative number of confirmed COVID-19 cases notified in Ireland by epidemiological date to midnight 28/12/2020**

**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.

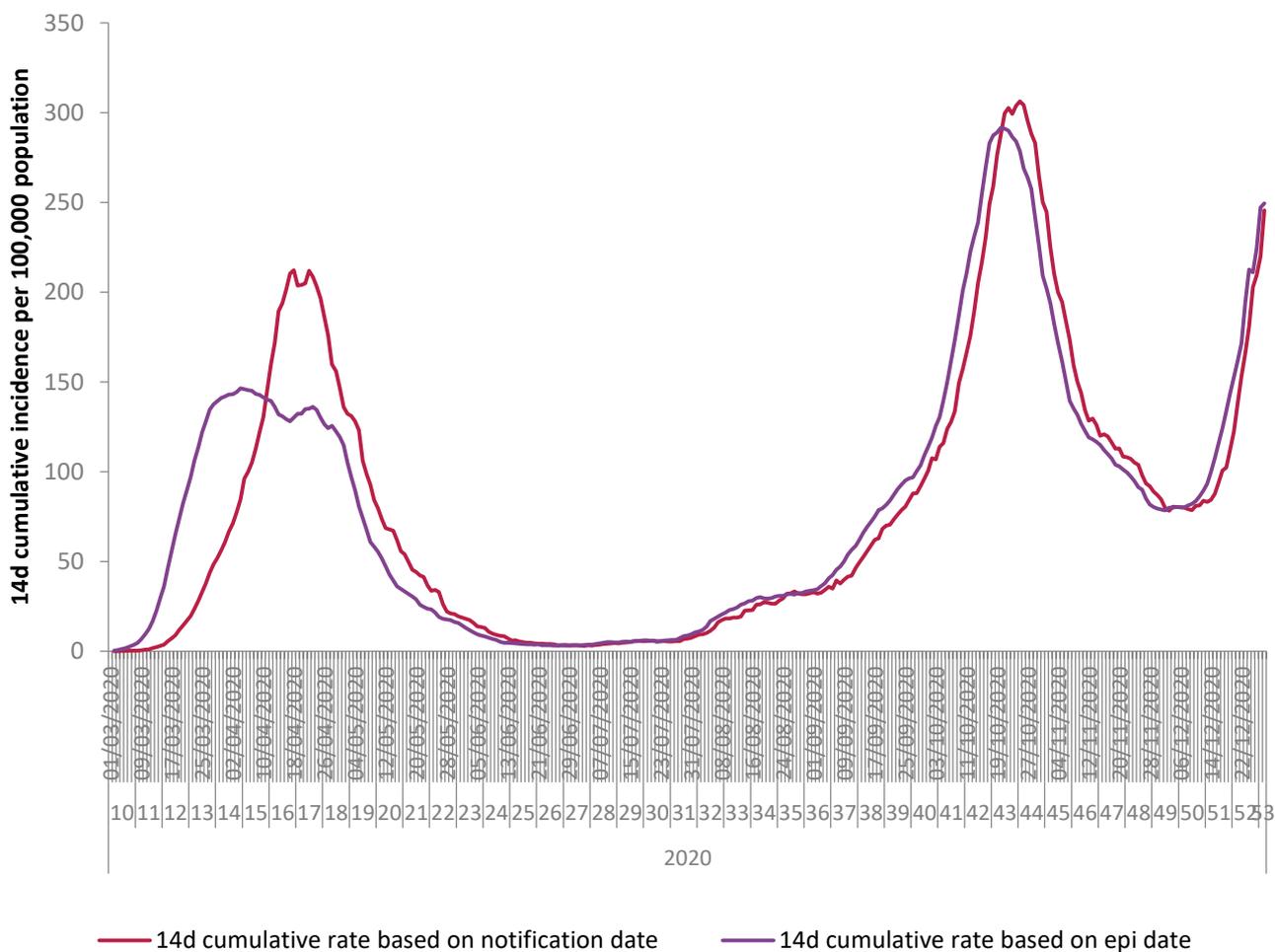


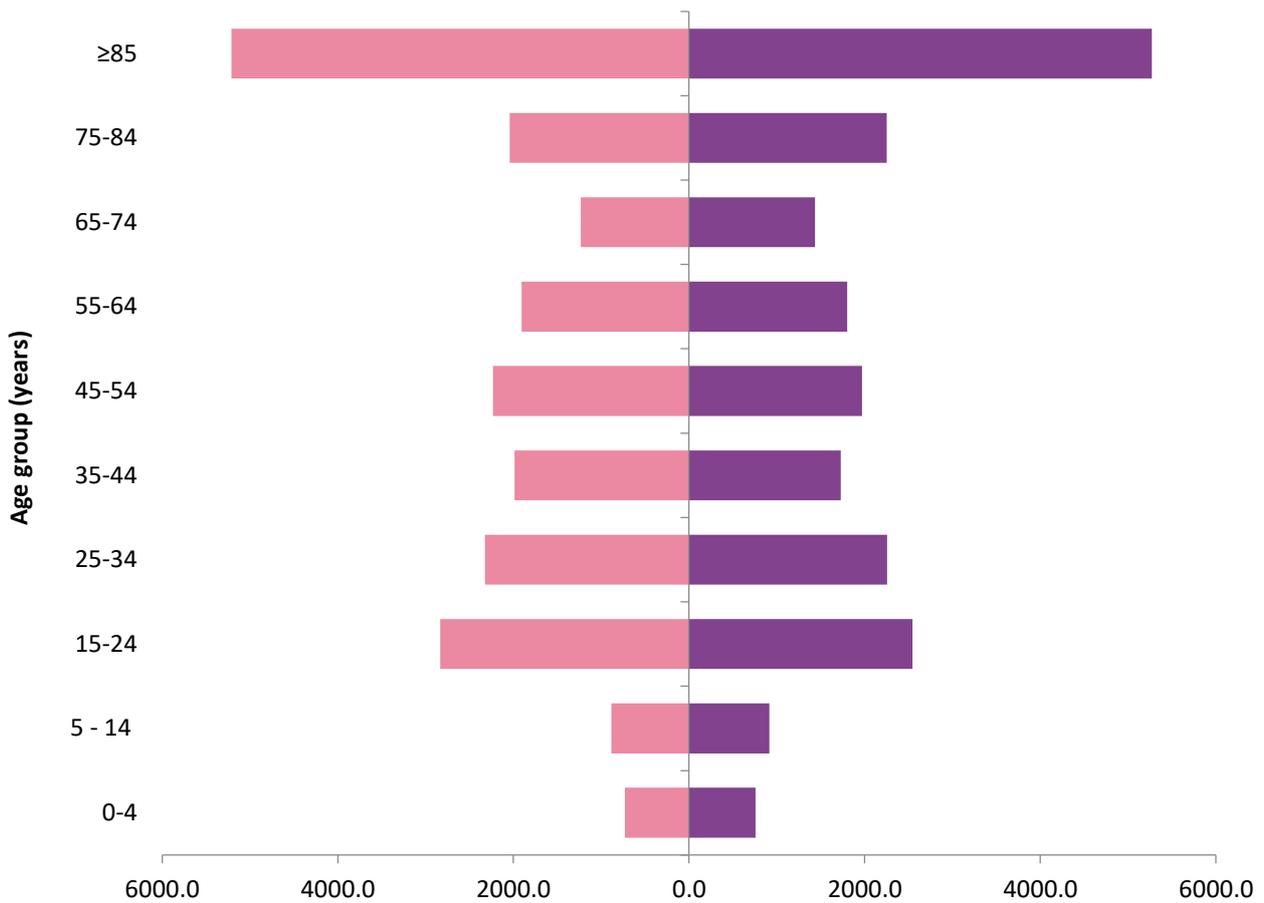
Figure 2: Cumulative 14 day incidence rate of confirmed COVID-19 cases per 100,000 population notified in Ireland by notification* and epidemiological date to midnight 28/12/2020**

* 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 28/12/2020

Characteristic		Number of cases	Percent
Total number of confirmed cases		88,439	100
Sex	Male:Female ratio	0.91	
	Male	41,998	47.49
	Female	46,373	52.44
	Unknown	68	0.08
Age	Median age (years)	38	
	Mean age (years)	40	
	Age range (years)	0 - 108	
	0-4 yrs	2,468	2.79
	5-14 yrs	6,084	6.88
	15-24 yrs	15,505	17.53
	25-34 yrs	15,120	17.1
	35-44 yrs	13,900	15.72
	45-54 yrs	13,176	14.9
	55-64 yrs	9,445	10.68
	65-74 yrs	4,977	5.63
	75-84 yrs	4,199	4.75
	85+ yrs	3,535	4
	Unknown	30	0.03



	0-4	5 - 14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	≥85
Female	730.6	884.0	2835.3	2323.4	1986.8	2233.3	1907.9	1232.5	2040.3	5212.1
Male	756.5	916.1	2546.1	2254.1	1728.5	1970.8	1801.2	1433.9	2250.5	5272.7

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 28/12/2020 (excluding 29 cases for whom age is unknown, 67 cases for whom sex is unknown and 1 case for whom both are unknown)

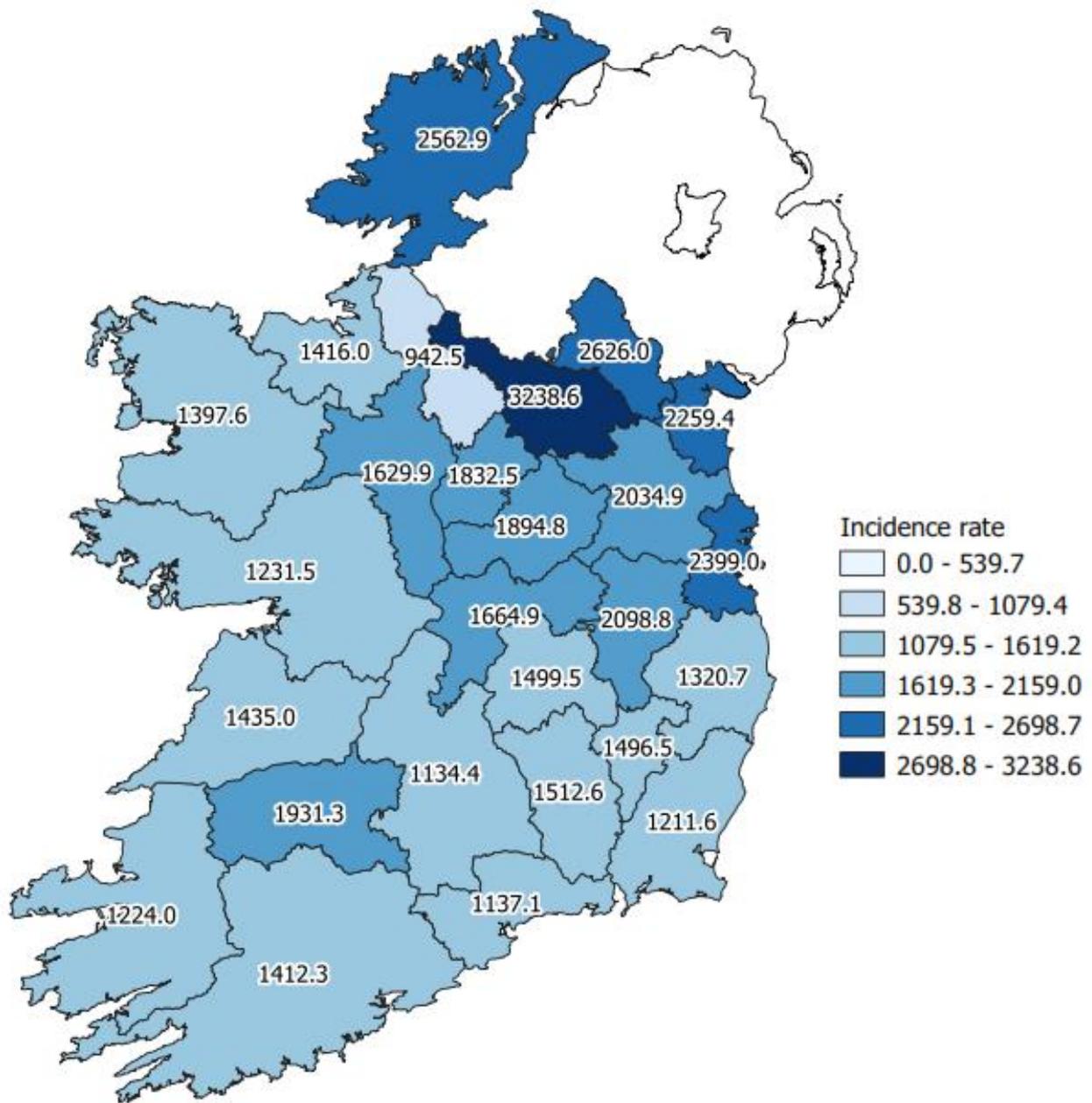


Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 28/12/2020

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 28/12/2020

County Name	Number of cases	Percent
Carlow	852	0.96
Cavan	2,467	2.79
Clare	1,705	1.93
Cork	7,667	8.67
Donegal	4,080	4.61
Dublin	32,323	36.55
Galway	3,178	3.59
Kerry	1,808	2.04
Kildare	4,670	5.28
Kilkenny	1,501	1.7
Laois	1,270	1.44
Leitrim	302	0.34
Limerick	3,764	4.26
Longford	749	0.85
Louth	2,912	3.29
Mayo	1,824	2.06
Meath	3,969	4.49
Monaghan	1,612	1.82
Offaly	1,298	1.47
Roscommon	1,052	1.19
Sligo	928	1.05
Tipperary	1,810	2.05
Waterford	1,321	1.49
Westmeath	1,682	1.9
Wexford	1,814	2.05
Wicklow	1,881	2.13
Total	88,439	100

Table 3: Number of confirmed COVID-19 cases by WHO transmission classification notified to midnight 28/12/2020

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	28,437	32.15%
Local transmission, incl. possible local transmission	56,045	63.37%
Travel abroad, incl. possible travel abroad	1,152	1.30%
Unknown	2,805	3.17%
Total	88,439	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 28/12/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	2468	60	1.01	2	0.3
5-14 yrs	6084	63	1.06	4	0.6
15-24 yrs	15505	217	3.66	8	1.19
25-34 yrs	15120	375	6.32	19	2.83
35-44 yrs	13900	468	7.89	57	8.49
45-54 yrs	13176	739	12.46	119	17.73
55-64 yrs	9445	846	14.26	176	26.23
65-74 yrs	4977	1,056	17.8	192	28.61
75-84 yrs	4199	1,305	22	85	12.67
85+ yrs	3535	801	13.5	9	1.34
Unknown	30	2	0.03	0	0
Total	88,439	5,932	100	671	100

Table 5: Number and proportion of confirmed cases of COVID-19 notified in Ireland by age-group, hospitalisation, ICU admission and vital status 28/12/2020

	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)	2,468	6,084	15,505	15,120	13,900	13,176	9,445	4,977	4,199	3,535	30
Cases hospitalised (n)	60	63	217	375	468	739	846	1,056	1,305	801	2
Cases hospitalised (%)	2.43	1.04	1.4	2.48	3.37	5.61	8.96	21.22	31.08	22.66	6.67
Cases admitted to ICU (n)	2	4	8	19	57	119	176	192	85	9	0
Cases admitted to ICU (%)	0.08	0.07	0.05	0.13	0.41	0.9	1.86	3.86	2.02	0.25	0
Deaths (n)	0	0	2	6	13	36	88	304	671	845	0
Case fatality ratio (%)	0	0	0.01	0.04	0.09	0.27	0.93	6.11	15.98	23.9	0

Outbreaks of COVID-19

Table 6: Number of clusters/outbreaks COVID-19 by location and HSE area notified to midnight 28/12/2020

Outbreak Location	E	M	MW	NE	NW	S	SE	W	HPSC**	Total
Private house	4,585	181	209	543	492	643	709	640		8,002
Other*	281	81	168	94	174	282	75	169	2	1,326
Nursing home	182	18	21	50	12	27	27	48		385
Workplace	114	20	23	55	42	28	35	27		344
Residential institution	155	16	18	40	9	34	18	10		300
Hospital	128	8	10	24	17	17	8	12		224
Comm. Hosp/Long-stay unit	8	4	3		5	8	6	5		39
Unknown				1	2					3
Total	5,453	328	452	807	753	1,039	878	911	2	10,623

*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.

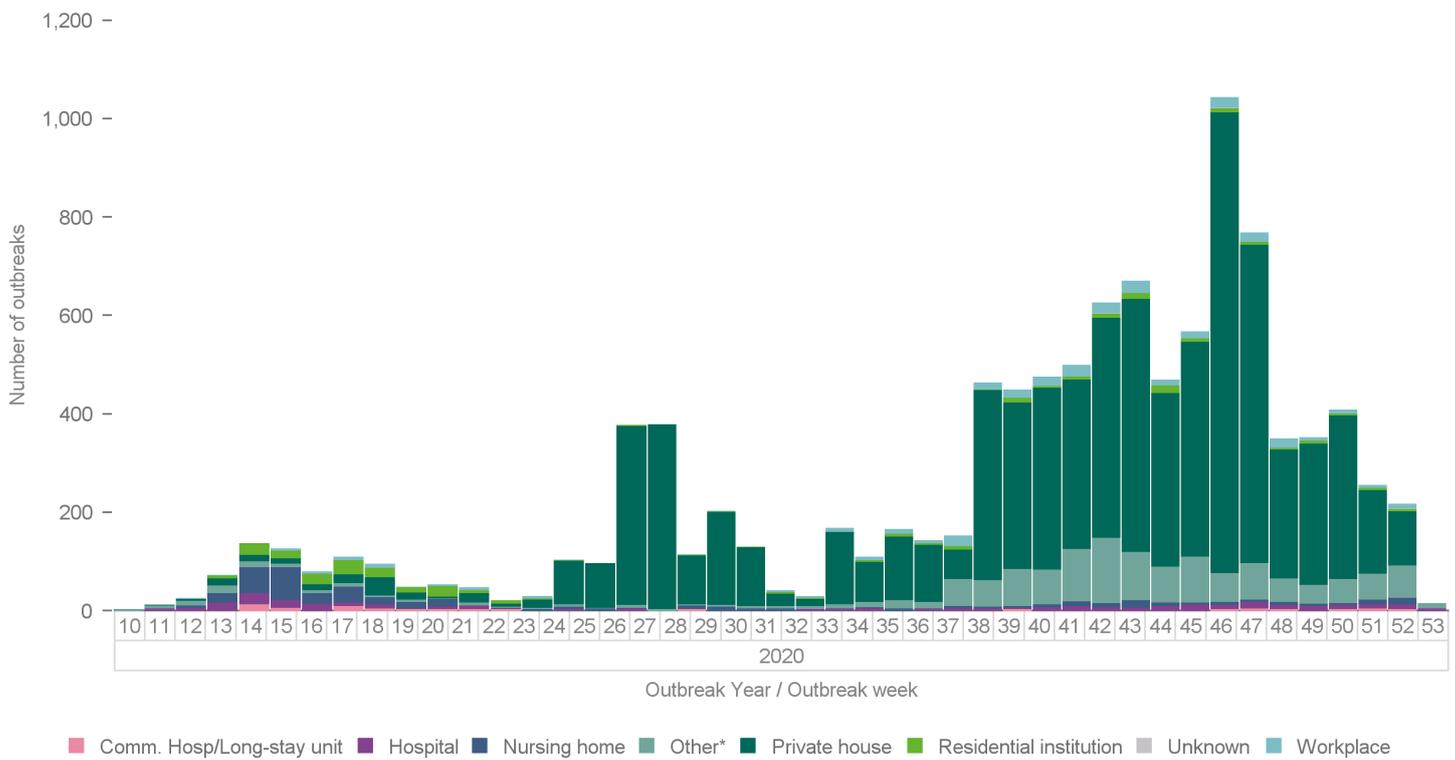


Figure 5: Trend in number of COVID-19 clusters by location and week notified to midnight 28/12/2020

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

Note: 9,787 COVID-19 outbreaks were reported on CIDR between week 24 and week 53 2020 (9th June to 28th December). Of these, 7,740 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, 2,635 in October, 1,247 in November and 354 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 28/12/2020

	Number	Percent
Total number of deaths	2,224	
Confirmed	1,965	88.35
Probable	95	4.27
Possible	164	7.37
Total number of cases hospitalised	1,021	45.91
Cases admitted to ICU	158	7.1
Cases not admitted to ICU	863	38.8
Total number of imported cases	5	0.22
Number of cases in healthcare workers	8	0.36
Number with underlying clinical conditions	2,061	92.67
Total number of male cases	1,137	51.12
M:F ratio	1.05	
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 28/12/2020

Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	<5	0.09
25-34 yrs	<5	<5	6	0.27
35-44 yrs	6	8	14	0.63
45-54 yrs	16	22	38	1.71
55-64 yrs	31	63	94	4.23
65-74 yrs	114	218	332	14.93
75-84 yrs	339	413	752	33.81
85+ yrs	575	409	984	44.24
Unknown	<5	<5	<5	0.09
Total	1,087	1,137	2,224	100
Percent	48.88	51.12		

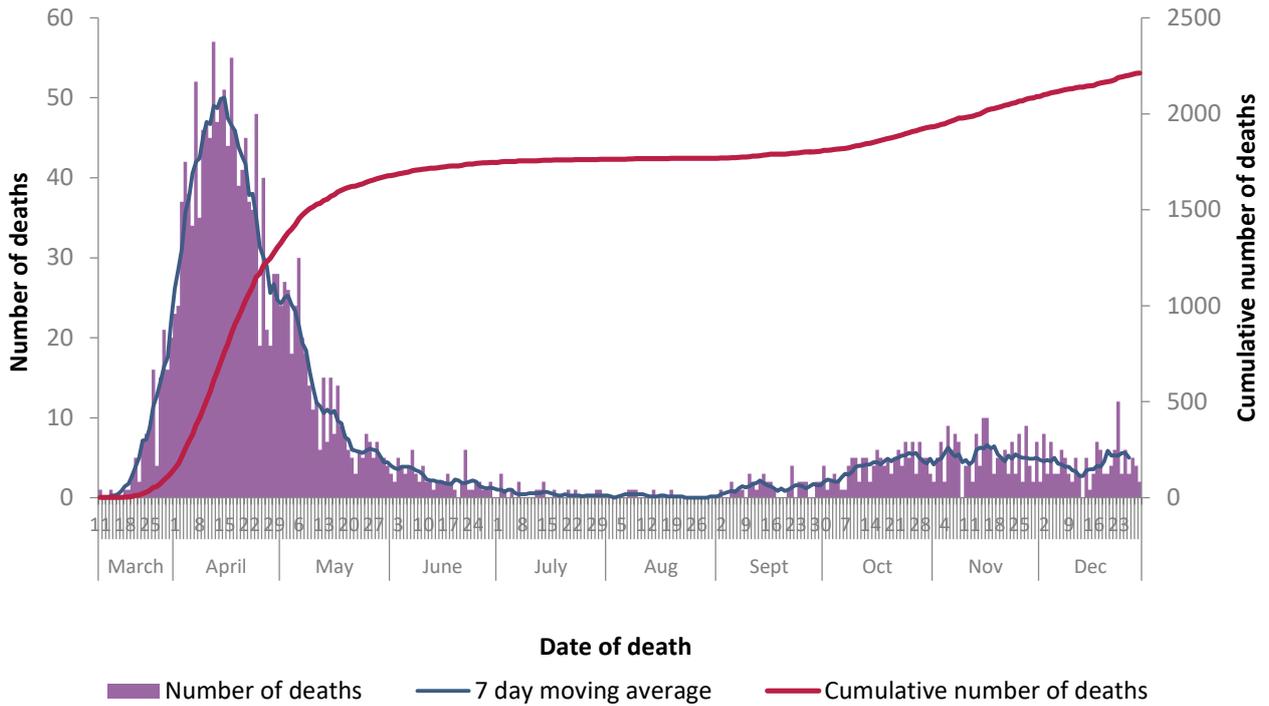


Figure 6a: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total to midnight 28/12/2020

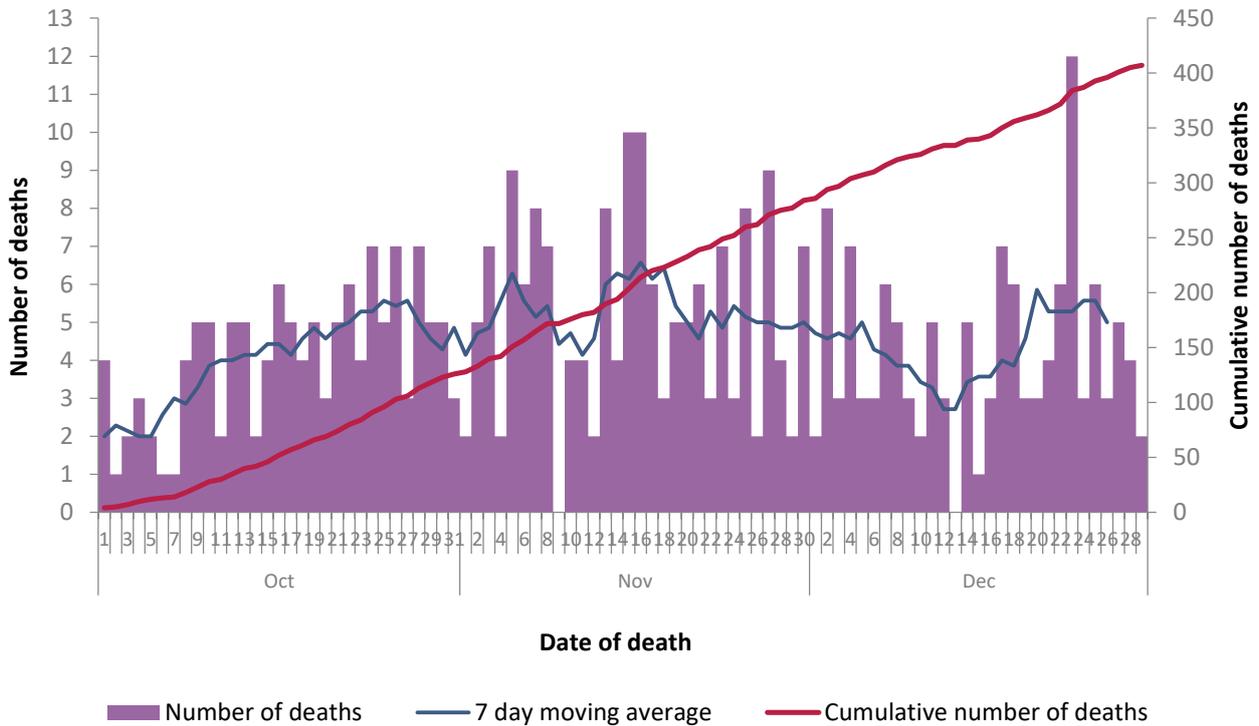


Figure 6b: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total from 01/10/2020 to midnight 28/12/2020

* 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 09:18 on 30/12/2020. 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.