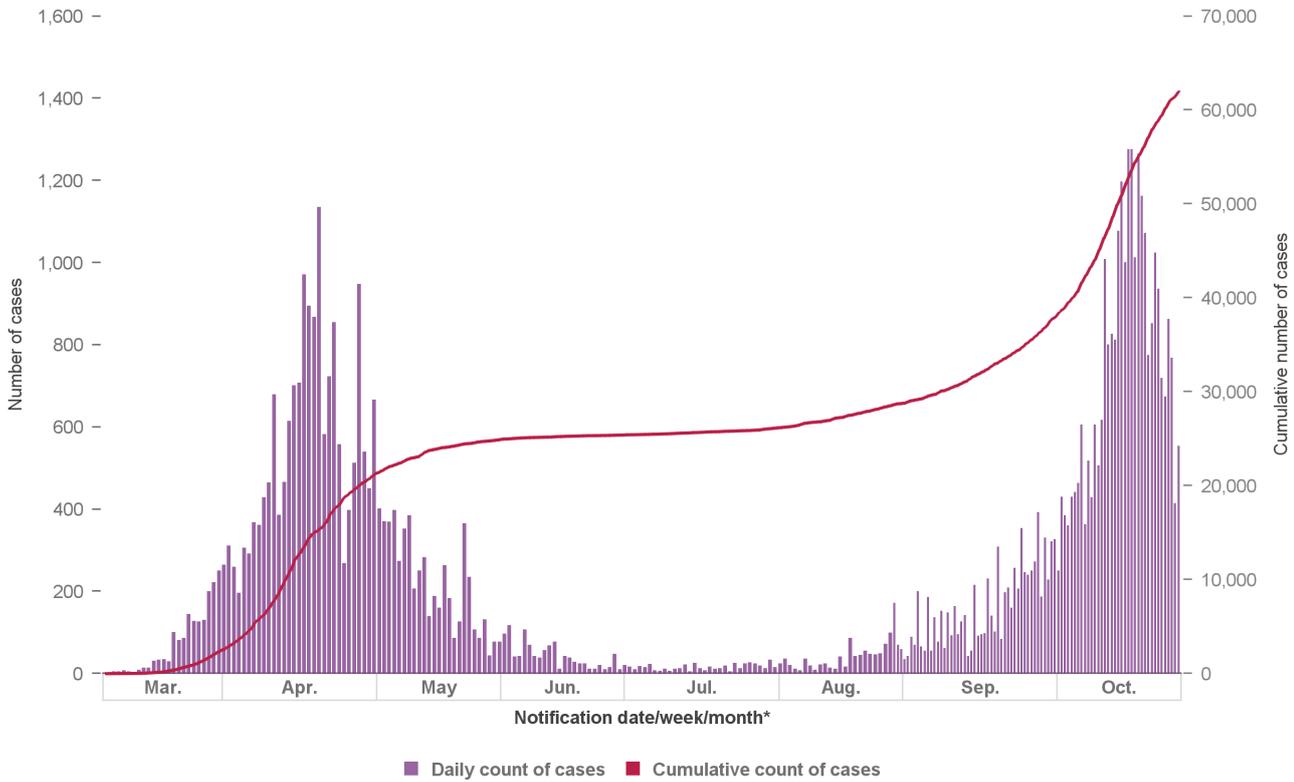# Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 02/11/2020 for National Public Health Emergency Team

Summary characteristics of confirmed COVID-19 cases notified in Ireland up to midnight 31/10/2020

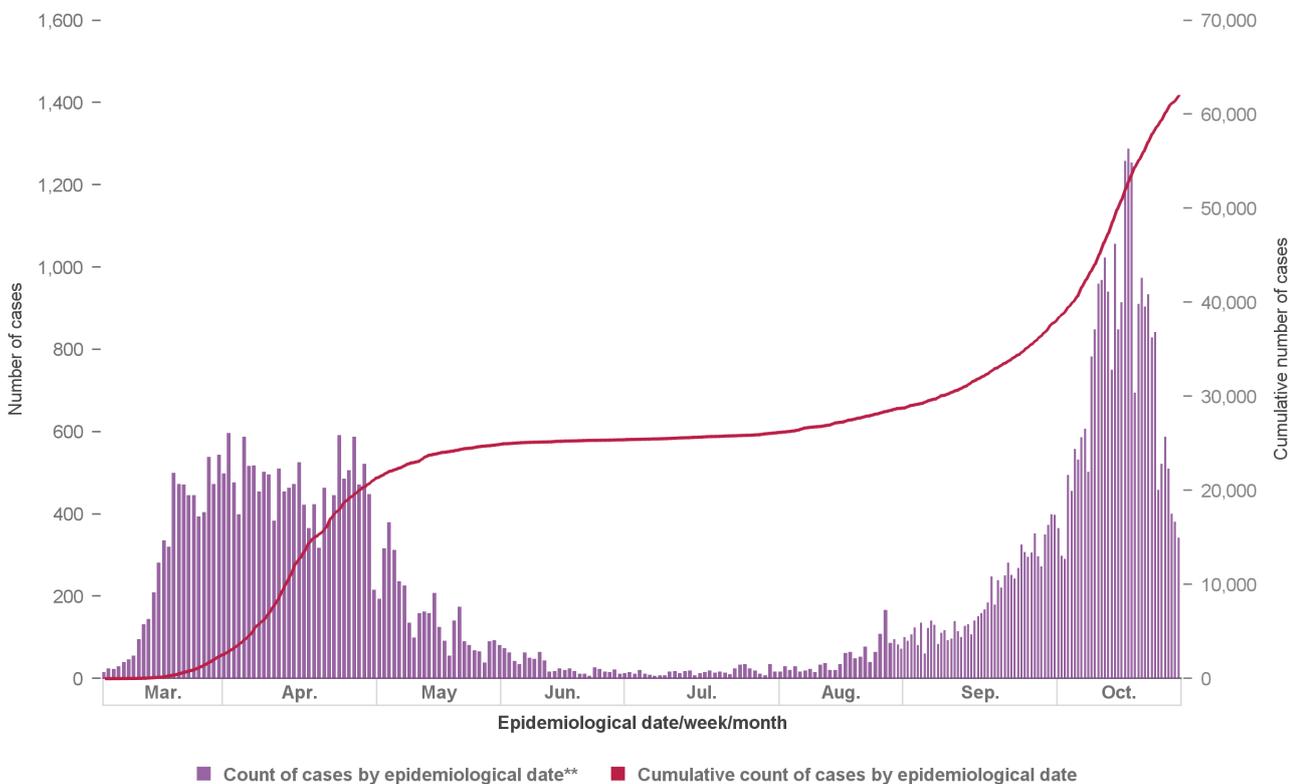|	Number	Percent
Total number of confirmed cases	61,996	
National cumulative incidence of confirmed cases per 100,000 population	1,301.93	
Total number of cases hospitalised	4,411	7.11
Total number of cases admitted to ICU	549	0.89
Total number of deaths among confirmed cases	1,657	2.67
Case fatality ratio (CFR, %)	2.67	
National cumulative incidence of confirmed deaths per 100,000 population	34.8	
Total number of outbreaks/clusters	6,703	
Total number of cases associated with clusters	29,590	47.73
Total number of imported cases*	626	1.01
Number of cases in healthcare workers*	10,519	16.97
Males	29,065	46.88
Females	32,894	53.06
M:F ratio	0.88	
Median age (years)	39	
Mean age (years)	42	
Age range (years)	0 - 106	

*Data are incomplete for these variables

Note: Data were extracted from Computerised Infectious Disease Reporting (CIDR) system at 09:17 on 02/11/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.
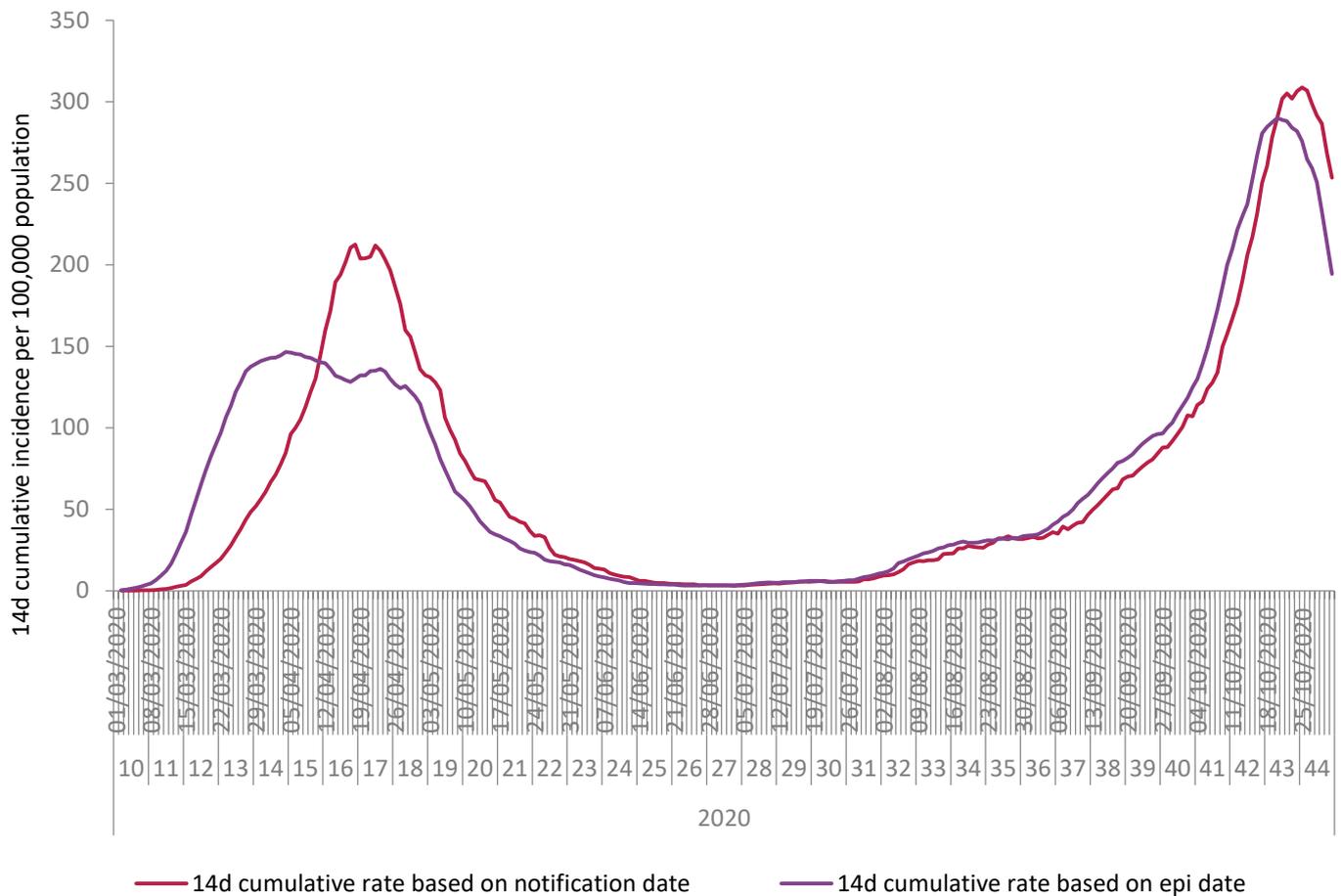
Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 31/10/2020

*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 31/10/2020**

**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.
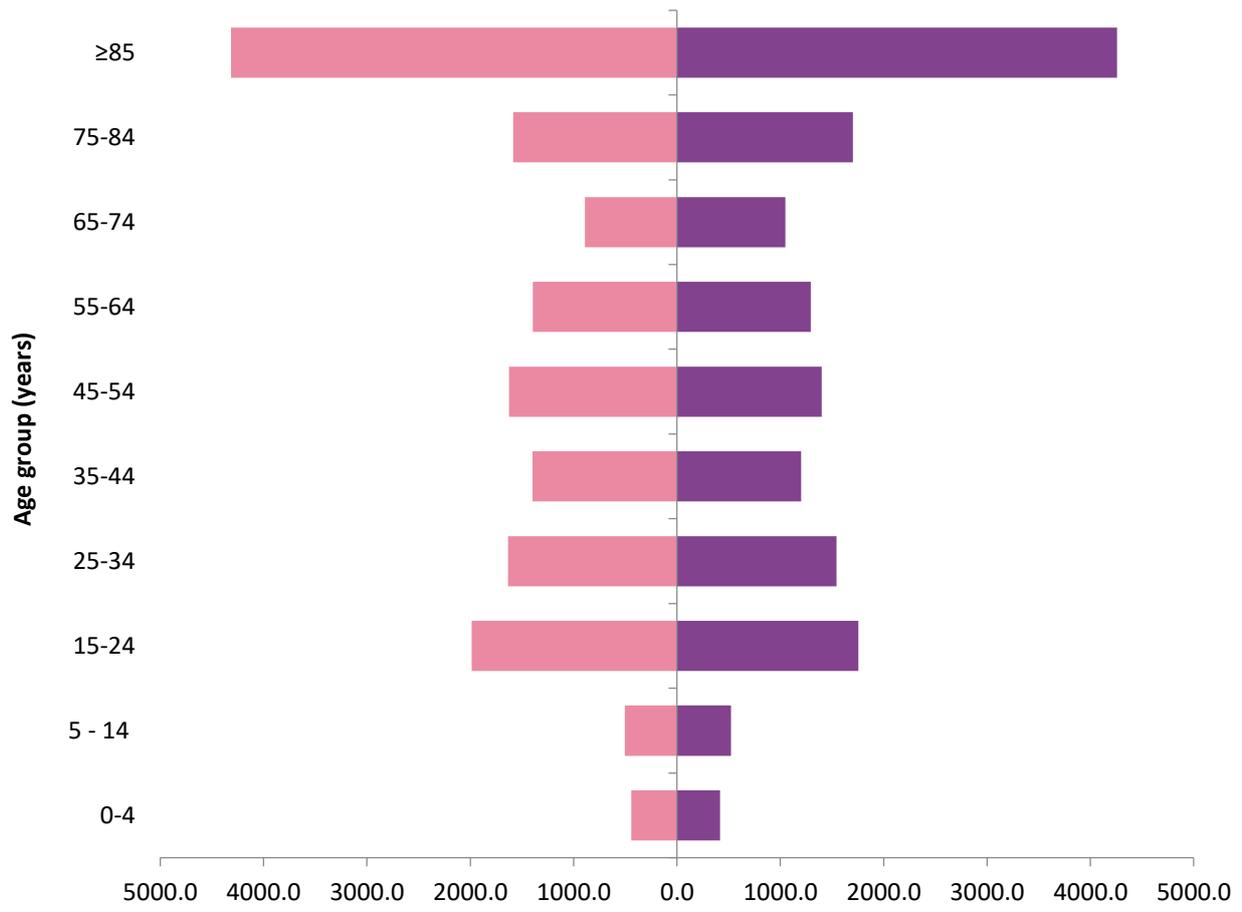
Figure 2: Cumulative 14 day incidence rate of confirmed COVID-19 cases per 100,000 population notified in Ireland by notification* and epidemiological date** to midnight 31/10/2020

* 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 31/10/2020

Characteristic		Number of cases	Percent
Total number of confirmed cases		**61,996**	**100**
Sex	Male:Female ratio	0.88	
	Male	29,065	46.88
	Female	32,894	53.06
	Unknown	37	0.06
Age	Median age (years)	39	
	Mean age (years)	42	
	Age range (years)	0 - 106	
	0-4 yrs	1,427	2.3
	5-14 yrs	3,464	5.59
	15-24 yrs	10,777	17.38
	25-34 yrs	10,500	16.94
	35-44 yrs	9,726	15.69
	45-54 yrs	9,487	15.3
	55-64 yrs	6,843	11.04
	65-74 yrs	3,618	5.84
	75-84 yrs	3,221	5.2
	85+ yrs	2,903	4.68
	Unknown	30	0.05

	0-4	5 - 14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	≥85
■ Female	441.9	503.0	1984.8	1634.3	1397.4	1626.3	1394.3	890.8	1586.0	4315.3
■ Male	418.3	522.0	1756.6	1544.9	1201.8	1400.8	1293.2	1048.5	1703.0	4258.1

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 31/10/2020 (excluding 29 cases for whom age is unknown and 36 cases for whom sex is unknown and 1 case for whom both are unknown)
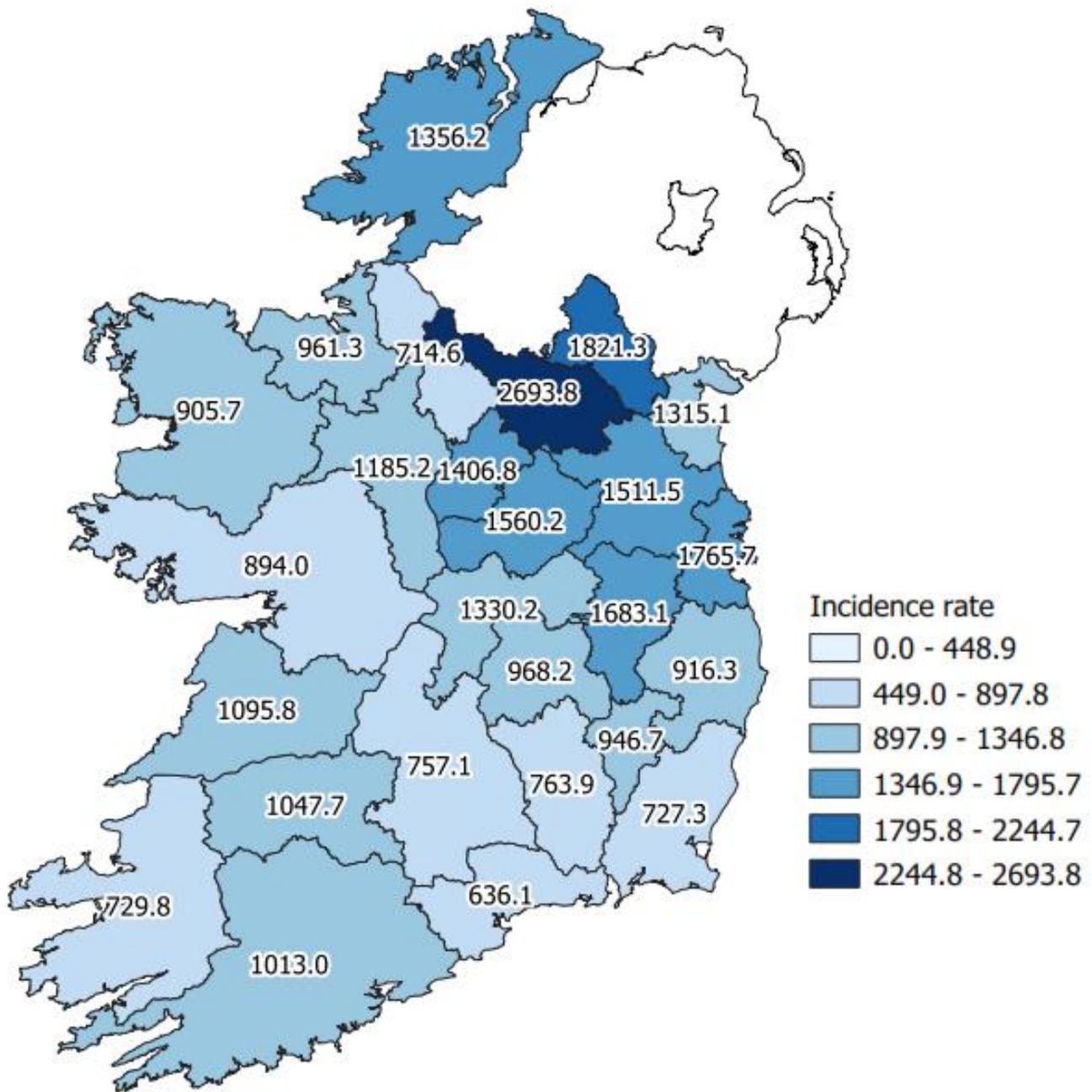
Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 31/10/2020

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 31/10/2020

County Name	Number of cases	Percent
Carlow	539	0.87
Cavan	2,052	3.31
Clare	1,302	2.1
Cork	5,499	8.87
Donegal	2,159	3.48
Dublin	23,790	38.37
Galway	2,307	3.72
Kerry	1,078	1.74
Kildare	3,745	6.04
Kilkenny	758	1.22
Laois	820	1.32
Leitrim	229	0.37
Limerick	2,042	3.29
Longford	575	0.93
Louth	1,695	2.73
Mayo	1,182	1.91
Meath	2,948	4.76
Monaghan	1,118	1.8
Offaly	1,037	1.67
Roscommon	765	1.23
Sligo	630	1.02
Tipperary	1,208	1.95
Waterford	739	1.19
Westmeath	1,385	2.23
Wexford	1,089	1.76
Wicklow	1,305	2.1
Total	**61,996**	**100**

Table 3: Number of confirmed COVID-19 cases by WHO transmission classification notified to midnight 31/10/2020

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	19,446	31.37%
Local transmission, incl. possible local transmission	37,334	60.22%
Travel abroad, incl. possible travel abroad	922	1.49%
Unknown	4,294	6.93%
Total	**61,996**	**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 and ICU admission status as of midnight 31/10/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	1427	45	1.02	1	0.18
5-14 yrs	3464	42	0.95	4	0.73
15-24 yrs	10777	132	2.99	6	1.09
25-34 yrs	10500	276	6.26	17	3.1
35-44 yrs	9726	353	8	46	8.38
45-54 yrs	9487	570	12.92	100	18.21
55-64 yrs	6843	660	14.96	150	27.32
65-74 yrs	3618	790	17.91	156	28.42
75-84 yrs	3221	952	21.58	62	11.29
85+ yrs	2903	589	13.35	7	1.28
Unknown	30	2	0.05	0	0
Total	**61,996**	**4,411**	**100**	**549**	**100**

Table 5: Number and proportion of confirmed cases of COVID-19 notified in Ireland by age-group, hospitalisation and ICU admission and vital status as of midnight 31/10/2020
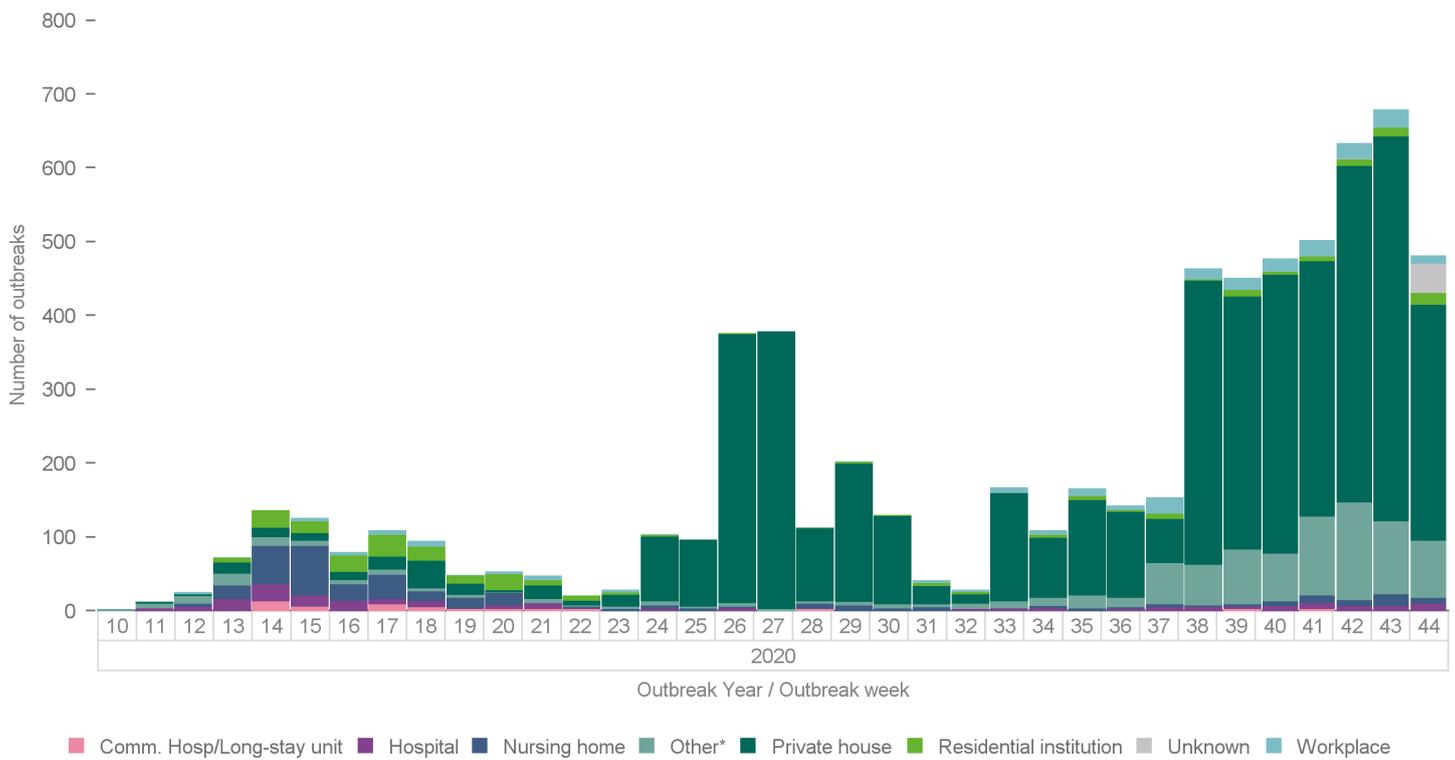
	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75-84 yrs	85+ yrs	Unknown
Number of cases (n)	1,427	3,464	10,777	10,500	9,726	9,487	6,843	3,618	3,221	2,903	30
Cases hospitalised (n)	45	42	132	276	353	570	660	790	952	589	2
Cases hospitalised (%)	3.15	1.21	1.22	2.63	3.63	6.01	9.64	21.84	29.56	20.29	6.67
Cases admitted to ICU (n)	1	4	6	17	46	100	150	156	62	7	0
Cases admitted to ICU (%)	0.07	0.12	0.06	0.16	0.47	1.05	2.19	4.31	1.92	0.24	0
Deaths (n)	0	0	1	7	12	29	78	251	568	711	0
Case fatality ratio (%)	0	0	0.01	0.07	0.12	0.31	1.14	6.94	17.63	24.49	0

Outbreaks of COVID-19

Table 6: Number of clusters/outbreaks COVID-19 by location and HSE area notified to midnight 31/10/2020

Outbreak Location	E	M	MW	NE	NW	S	SE	W	HPSC	Total
Private house	2843	67	165	338	267	355	371	409		**4815**
Other*	187	56	138	54	87	170	48	93	2	**835**
Nursing home	162	15	20	50	8	20	19	43		**337**
Residential institution	135	15	15	32	10	29	14	8		**258**
Workplace	79	15	20	39	27	20	17	20		**237**
Hospital	82	7	6	20	5	16	5	7		**148**
Unknown	39				2					**41**
Comm. Hosp/Long-stay unit	6	4	2		4	6	5	5		**32**
Total	**3533**	**179**	**366**	**533**	**410**	**616**	**479**	**585**	**2**	**6703**

*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 31/10/2020

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

Note: 5,867 COVID-19 outbreaks were reported on CIDR between week 24 and week 44 2020 (9th June to 31st October). Of these, 4,618 were family outbreaks. Based on the earliest date associated with each outbreak, a large proportion of these family outbreaks occurred earlier and were reported between weeks 24 and 44 as a result of data validation: 1 occurred in February, 636 in March, 474 in April, 94 in May, 126 in June, 127 in July, 533 in August, 1,498 in September and 1129 in October.

Deaths among COVID-19 cases

Table 7: Summary of deaths in all COVID-19 cases notified in Ireland up to midnight 31/10/2020

		Number	Percent
Total number of deaths		1,916	
	Confirmed	1,657	86.48
	Probable	95	4.96
	Possible	164	8.56
Total number of cases hospitalised		835	43.58
	Cases admitted to ICU	109	5.69
	Cases not admitted to ICU	726	37.89
Total number of imported cases		7	0.37
Number of cases in healthcare workers		8	0.42
Number with underlying clinical conditions		1,788	93.32
Total number of male cases		960	50.1
M:F ratio		1	
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 31/10/2020

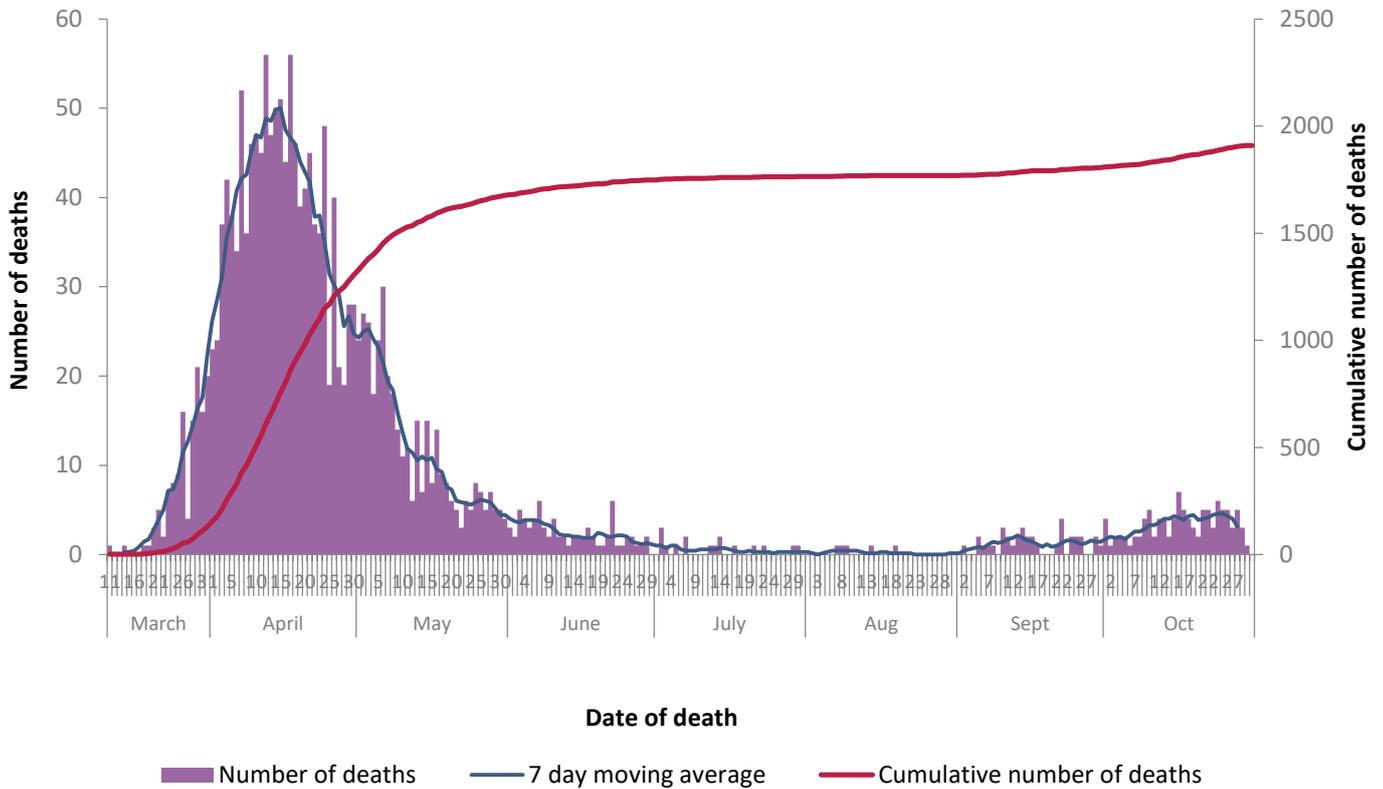| Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	1	0.05
25-34 yrs	<5	5	7	0.37
35-44 yrs	6	7	13	0.68
45-54 yrs	11	20	31	1.62
55-64 yrs	27	57	84	4.38
65-74 yrs	103	176	279	14.56
75-84 yrs	296	354	650	33.92
85+ yrs	508	341	849	44.31
Unknown	<5	<5	2	0.1
Total	**956**	**960**	**1,916**	**100**
Percent	**49.9**	**50.1**		

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 31/10/2020
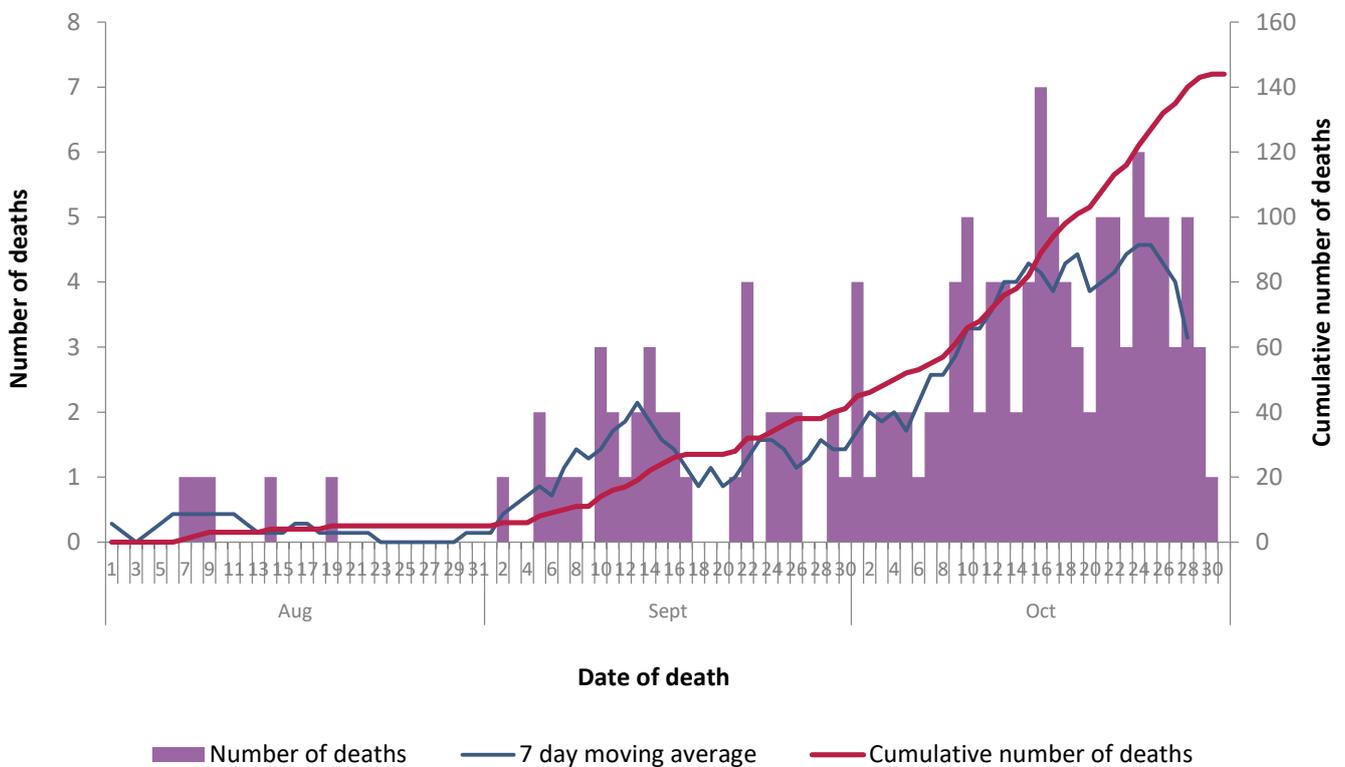

Figure 6b: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total, 01/08/2020 to midnight 31/10/2020

* Date of death is not yet available for seven 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 09:17 on 02/11/2020. 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.