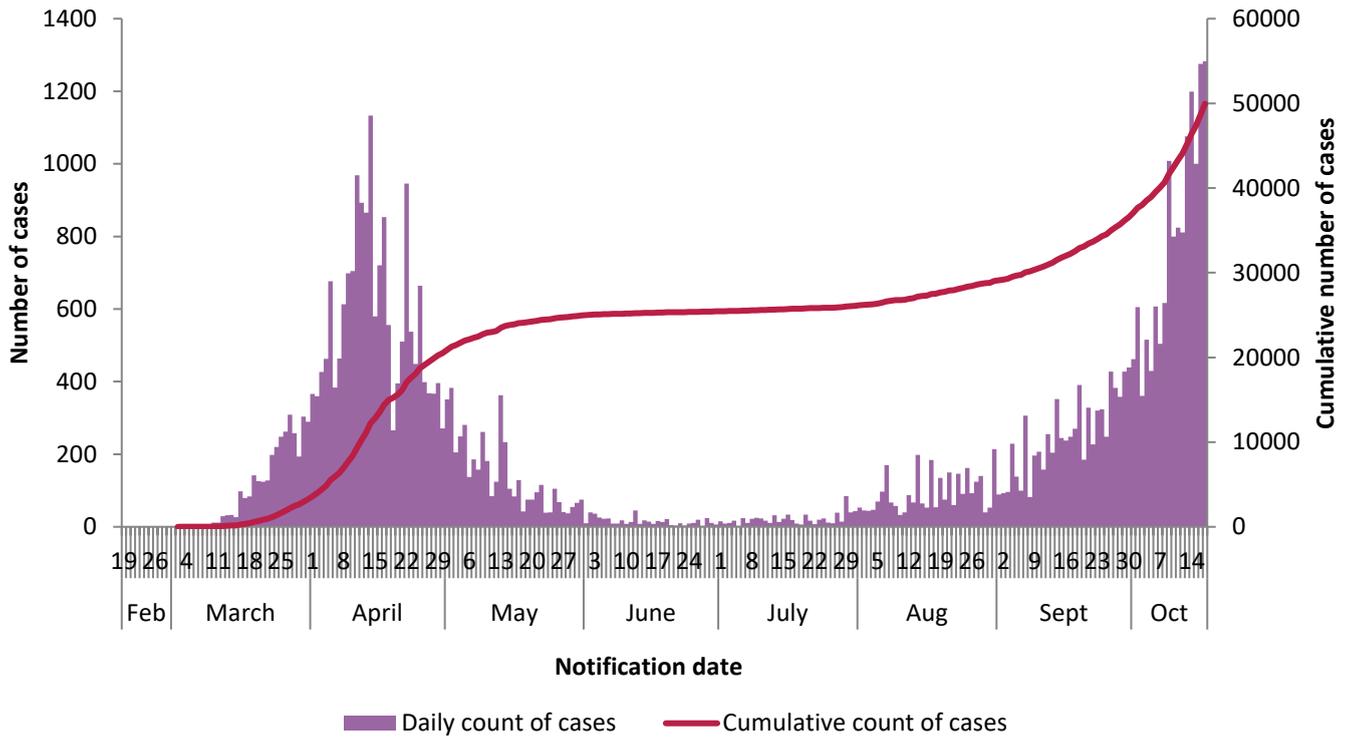# Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 19/10/2020 for National Public Health Emergency Team

Summary characteristics of confirmed COVID-19 cases notified in Ireland up to midnight 17/10/2020
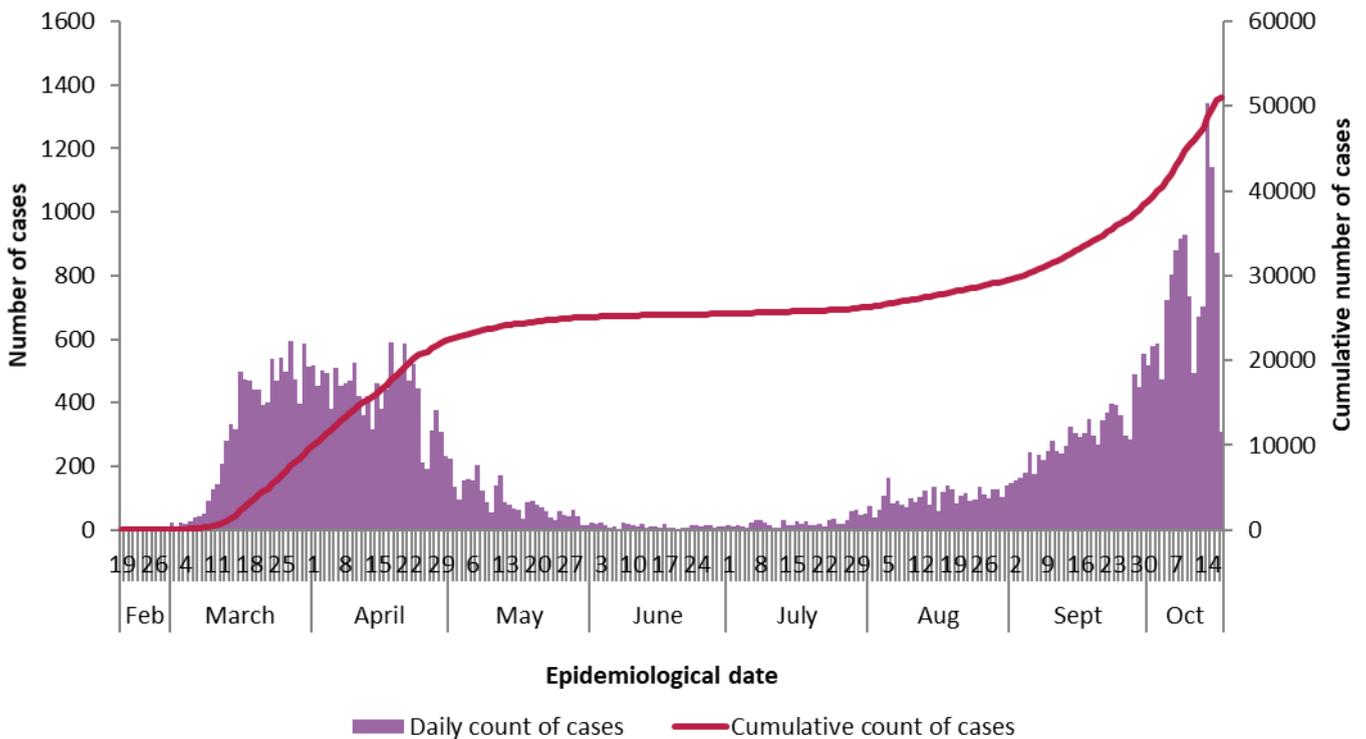
	Number	Percent
Total number of confirmed cases	49,962	
National cumulative incidence of confirmed cases per 100,000 population	1,049.21	
Total number of cases hospitalised	3,997	8
Total number of cases admitted to ICU	513	1.03
Total number of deaths among confirmed cases	1,596	3.19
Case fatality ratio (CFR, %)	3.19	
National cumulative incidence of confirmed deaths per 100,000 population	33.52	
Total number of outbreaks/clusters	5,590	
Total number of cases associated with clusters	25,289	50.62
Total number of imported cases	615	1.23
Number of cases in healthcare workers	9,917	19.85
Males	23,190	46.42
Females	26,724	53.49
M:F ratio	0.87	
Median age (years)	41	
Mean age (years)	43	
Age range (years)	0 - 106	

Note: Data were extracted from Computerised Infectious Disease Reporting (CIDR) system at 09:16 on 19/10/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.
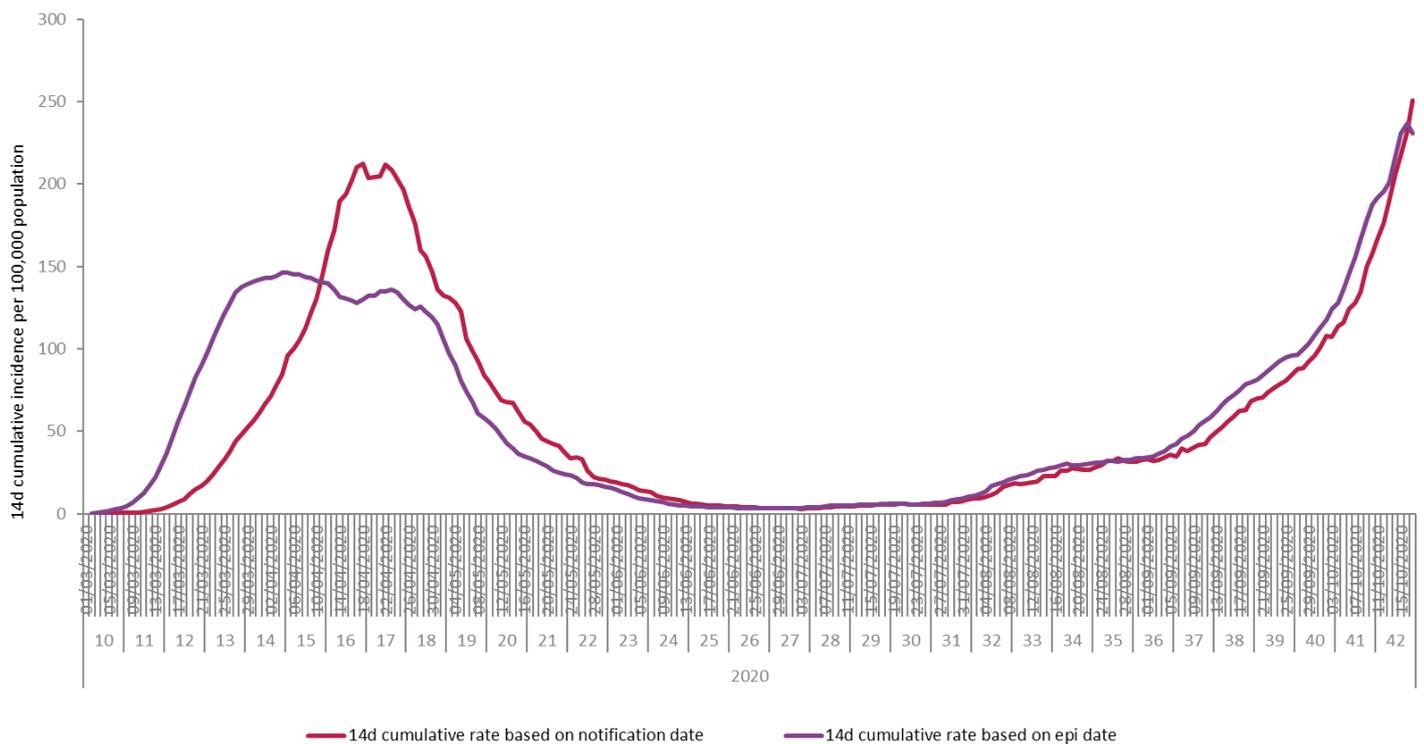
Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 17/10/2020

*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 17/10/2020

**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.
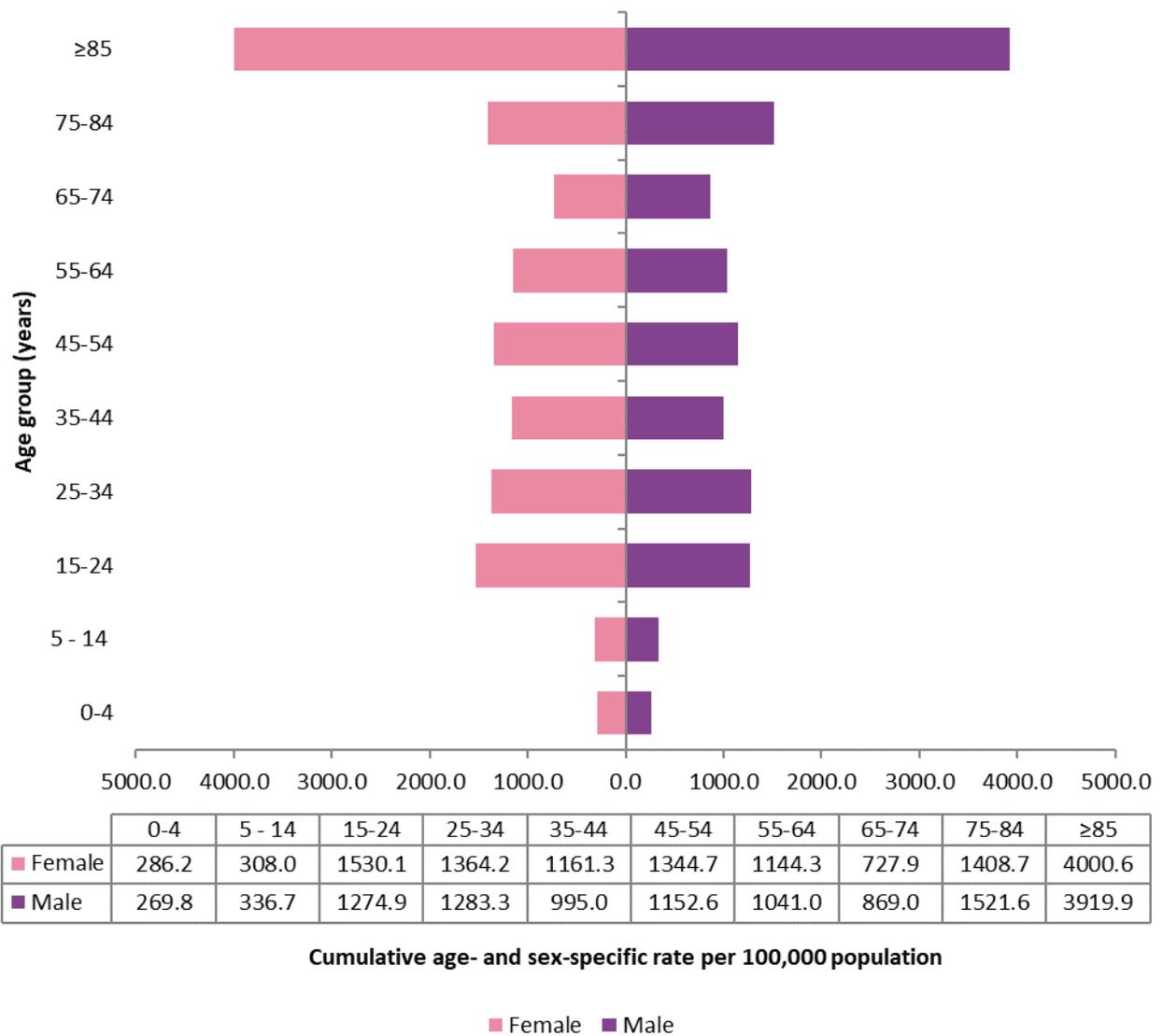
Figure 2: Cumulative 14 day incidence rate of confirmed COVID-19 cases per 100,000 population notified in Ireland by notification* and epidemiological date** to midnight 17/10/2020

* 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 17/10/2020

Characteristic		Number of cases	Percent
Total number of confirmed cases		**49,962**	**100**
Sex	Male:Female ratio	0.87	
	Male	23,190	46.42
	Female	26,724	53.49
	Unknown	48	0.1
Age	Median age (years)	41	
	Mean age (years)	43	
	Age range (years)	0 - 106	
	0-4 yrs	924	1.85
	5-14 yrs	2,181	4.37
	15-24 yrs	8,080	16.17
	25-34 yrs	8,751	17.52
	35-44 yrs	8,072	16.16
	45-54 yrs	7,830	15.67
	55-64 yrs	5,564	11.14
	65-74 yrs	2,979	5.96
	75-84 yrs	2,869	5.74
	85+ yrs	2,685	5.37
	Unknown	27	0.05

	0-4	5 - 14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	≥85
Female	286.2	308.0	1530.1	1364.2	1161.3	1344.7	1144.3	727.9	1408.7	4000.6
Male	269.8	336.7	1274.9	1283.3	995.0	1152.6	1041.0	869.0	1521.6	3919.9

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 17/10/2020 (excluding 26 cases for whom age is unknown and 47 cases for whom sex is unknown and 1 case for whom both are unknown)
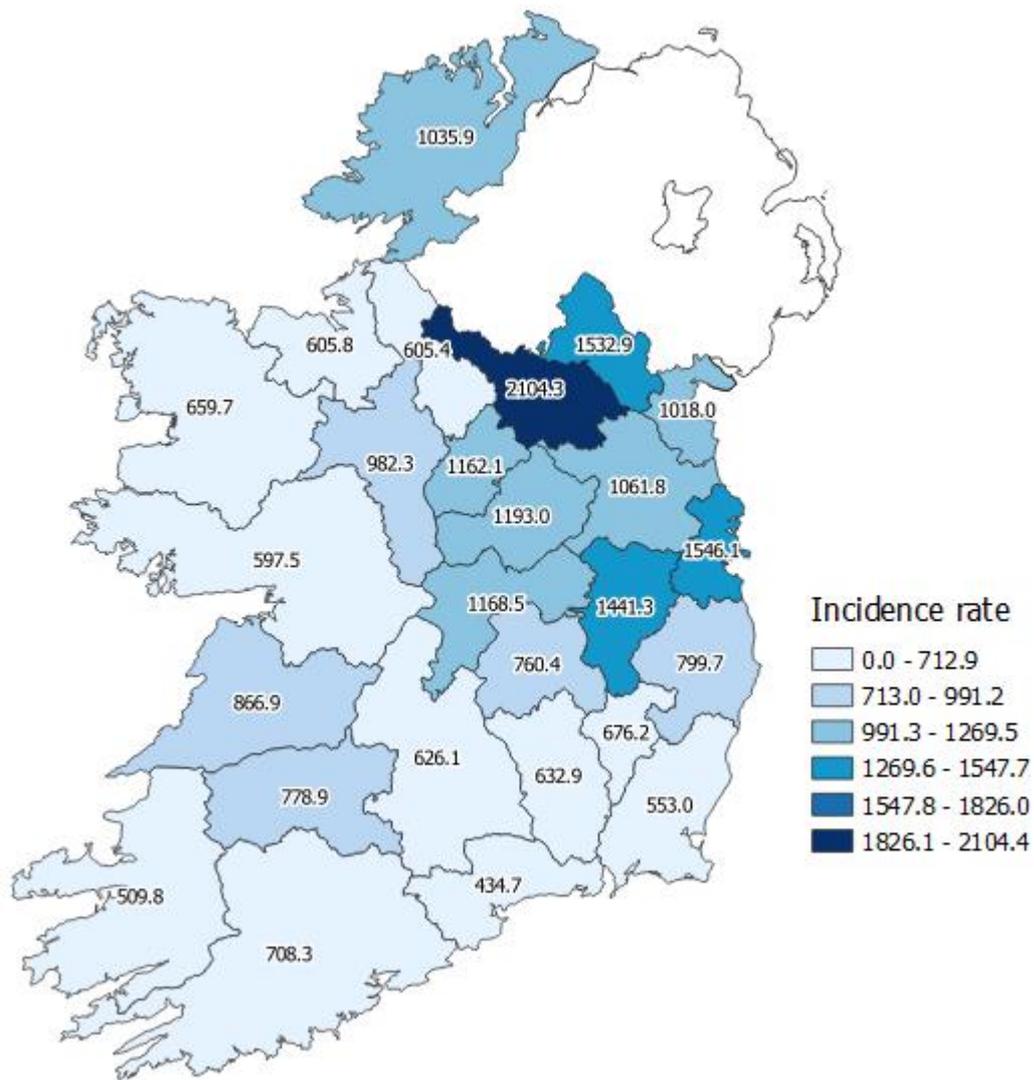
Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 17/10/2020

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 17/10/2020

County Name	Number of cases	Percent
Carlow	385	0.77
Cavan	1,603	3.21
Clare	1,030	2.06
Cork	3,845	7.7
Donegal	1,649	3.3
Dublin	20,832	41.7
Galway	1,542	3.09
Kerry	753	1.51
Kildare	3,207	6.42
Kilkenny	628	1.26
Laois	644	1.29
Leitrim	194	0.39
Limerick	1,518	3.04
Longford	475	0.95
Louth	1,312	2.63
Mayo	861	1.72
Meath	2,071	4.15
Monaghan	941	1.88
Offaly	911	1.82
Roscommon	634	1.27
Sligo	397	0.79
Tipperary	999	2
Waterford	505	1.01
Westmeath	1,059	2.12
Wexford	828	1.66
Wicklow	1,139	2.28
Total	**49,962**	**100**

Table 3: Number of confirmed COVID-19 cases by WHO transmission classification notified to midnight 17/10/2020

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	13,875	27.77%
Local transmission, incl. possible local transmission	31,465	62.98%
Travel abroad, incl. possible travel abroad	897	1.80%
Unknown	3,725	7.46%
Total	**49,962**	**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 17/10/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	924	41	1.03	1	0.19
5-14 yrs	2181	33	0.83	4	0.78
15-24 yrs	8080	120	3	6	1.17
25-34 yrs	8751	255	6.38	17	3.31
35-44 yrs	8072	324	8.11	45	8.77
45-54 yrs	7830	521	13.03	97	18.91
55-64 yrs	5564	596	14.91	144	28.07
65-74 yrs	2979	706	17.66	139	27.1
75-84 yrs	2869	861	21.54	54	10.53
85+ yrs	2685	538	13.46	6	1.17
Unknown	27	2	0.05	0	0
Total	**49,962**	**3,997**	**100**	**513**	**100**

Table 5: Number and proportion of confirmed cases of COVID-19 notified in Ireland by age-group, hospitalisation and ICU admission 17/10/2020
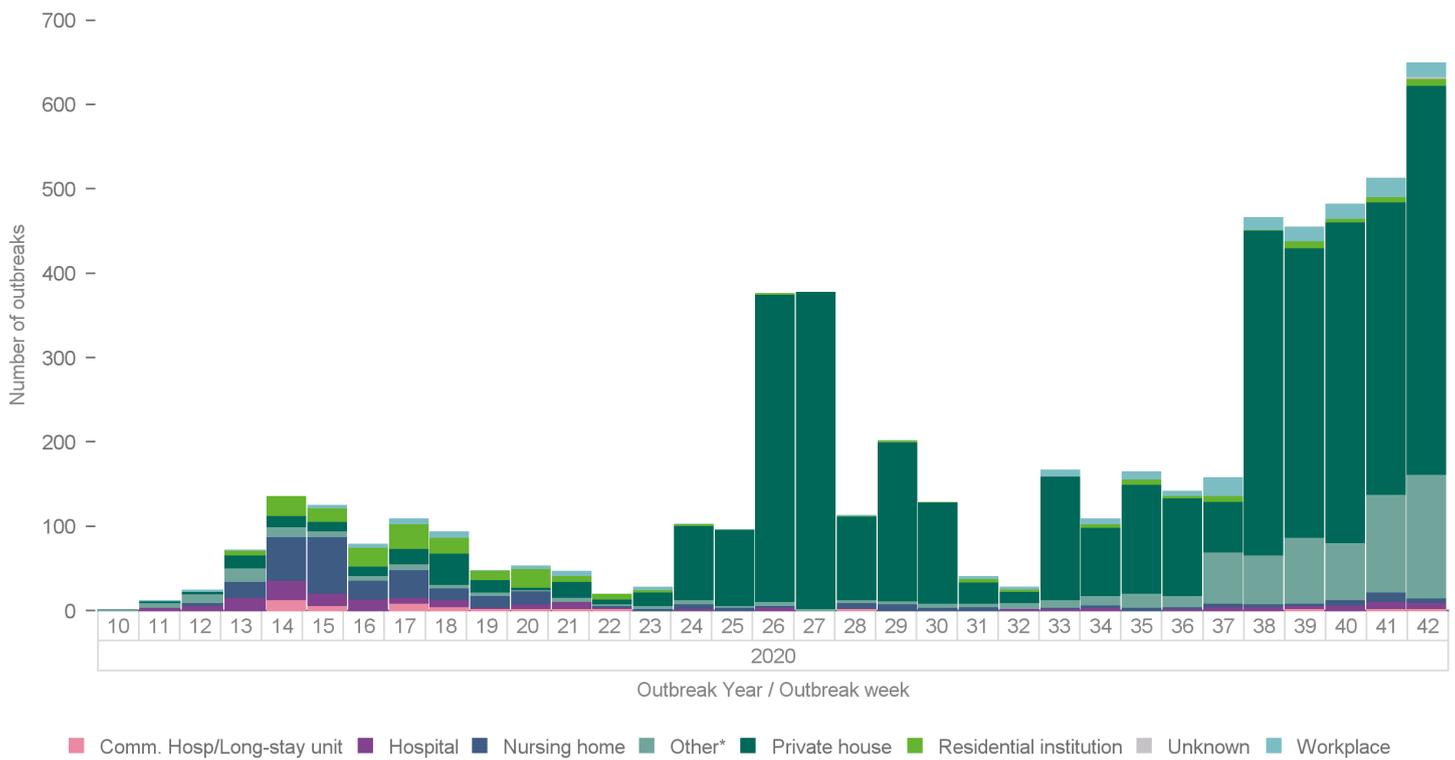
	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75-84 yrs	85+ yrs	Unknown
Number of cases (n)	924	2,181	8,080	8,751	8,072	7,830	5,564	2,979	2,869	2,685	27
Cases hospitalised (n)	41	33	120	255	324	521	596	706	861	538	2
Cases hospitalised (%)	4.44	1.51	1.49	2.91	4.01	6.65	10.71	23.7	30.01	20.04	7.41
Cases admitted to ICU (n)	1	4	6	17	45	97	144	139	54	6	0
Cases admitted to ICU (%)	0.11	0.18	0.07	0.19	0.56	1.24	2.59	4.67	1.88	0.22	0
Deaths (n)	0	0	1	7	12	29	76	239	548	684	0
Case fatality ratio (%)	0	0	0.01	0.08	0.15	0.37	1.37	8.02	19.1	25.47	0

Outbreaks of COVID-19

Table 6: Number of clusters/outbreaks COVID-19 by location and HSE area notified to midnight 17/10/2020

Outbreak Location	E	M	MW	NE	NW	S	SE	W	HPSC	Total
Private house	2478	66	154	337	179	345	208	215		3982
Other*	139	81	126	33	70	134	36	77	2	698
Nursing home	150	14	20	46	8	16	18	39		311
Residential institution	127	12	13	29	6	25	11	6		229
Workplace	69	14	18	31	20	16	14	16		198
Hospital	77	7	5	18	4	15	5	6		137
Comm. Hosp/Long-stay unit	6	4	2		4	7	5	5		33
Unknown					1			1		2
Total	3046	198	338	494	292	558	297	365	2	5590

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

Figure 5: Trend in number of COVID-19 clusters by location and week notified to midnight 17/10/2020

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

Note: 4,752 COVID-19 outbreaks were reported on CIDR between week 24 and week 42 2020 to date (9th June to 17th October). Of these, 3,818 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 42 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, 532 in August, 1,431 in September and 397 in October to date.

Deaths among COVID-19 cases

Table 7: Summary of deaths in all COVID-19 cases notified in Ireland up to midnight 17/10/2020

		Number	Percent
Total number of deaths		1,852	
	Confirmed	1,596	86.18
	Probable	95	5.13
	Possible	161	8.69
Total number of cases hospitalised		799	43.14
	Cases admitted to ICU	104	5.62
	Cases not admitted to ICU	695	37.53
Total number of imported cases		6	0.32
Number of cases in healthcare workers		8	0.43
Number with underlying clinical conditions		1,749	94.44
Total number of male cases		923	49.84
M:F ratio		0.99	
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 17/10/2020

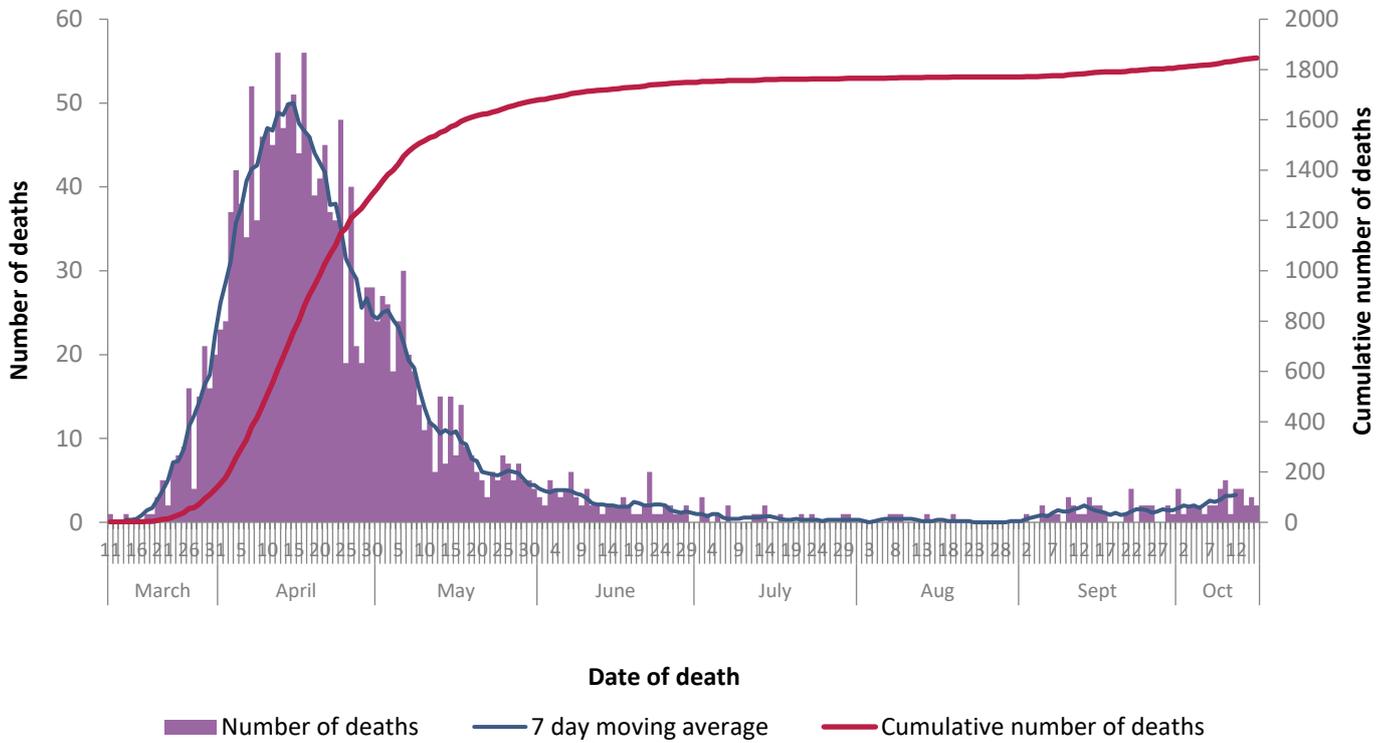| Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	1	0.05
25-34 yrs	<5	5	7	0.38
35-44 yrs	6	7	13	0.7
45-54 yrs	11	20	31	1.67
55-64 yrs	27	55	82	4.43
65-74 yrs	99	166	265	14.31
75-84 yrs	287	342	629	33.96
85+ yrs	494	328	822	44.38
Unknown	<5	<5	2	0.11
Total	**929**	**923**	**1,852**	**100**
Percent	**50.16**	**49.84**		

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 17/10/2020
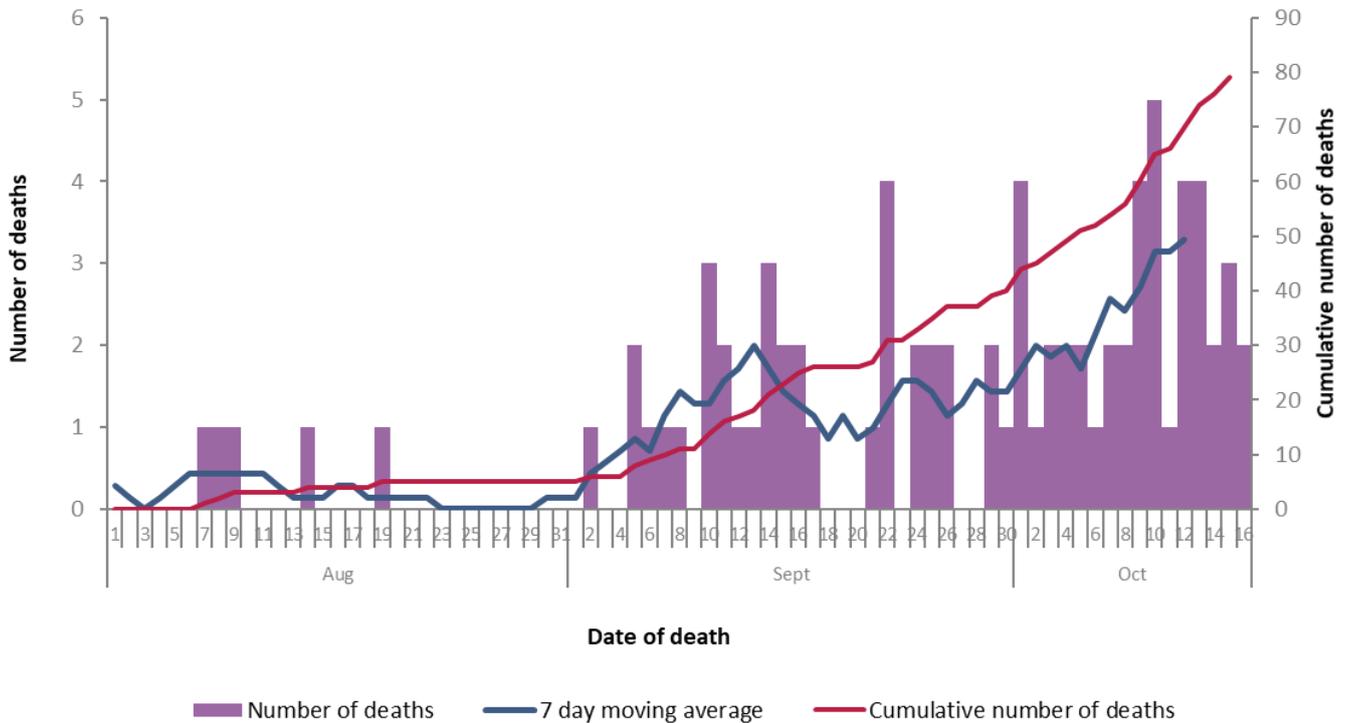

Figure 6b: Daily and 7 day moving average number of deaths among COVID-19 cases notified in Ireland by date of death and cumulative total, 01/08/2020 to midnight 17/10/2020

* Date of death is not yet available for six 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 09:16 on 19/10/2020. 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 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.

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.

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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.