Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 25/09/2020 for National Public Health Emergency Team

Summary characteristics of confirmed COVID-19 cases notified in Ireland up to midnight 23/09/2020

	Number	Percent
Total number of confirmed cases	33,988	
National cumulative incidence of confirmed cases per 100,000 population	713.75	
Total number of cases hospitalised	3,560	10.47
Total number of cases admitted to ICU	468	1.38
Total number of deaths among confirmed cases	1,540	4.53
Case fatality ratio (CFR, %)	4.53	
National cumulative incidence of confirmed deaths per 100,000 population	32.34	
Total number of outbreaks/clusters	3,795	
Total number of cases associated with clusters	19,064	56.09
Total number of imported cases	588	1.73
Number of cases in healthcare workers	9,091	26.75
Males	15,182	44.67
Females	18,777	55.25
M:F ratio	0.81	
Median age (years)	44	
Mean age (years)	47	
Age range (years)	0 - 106	

Note: Data were extracted from Computerised Infectious Disease Reporting (CIDR) system at 09:15 on 25/09/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.
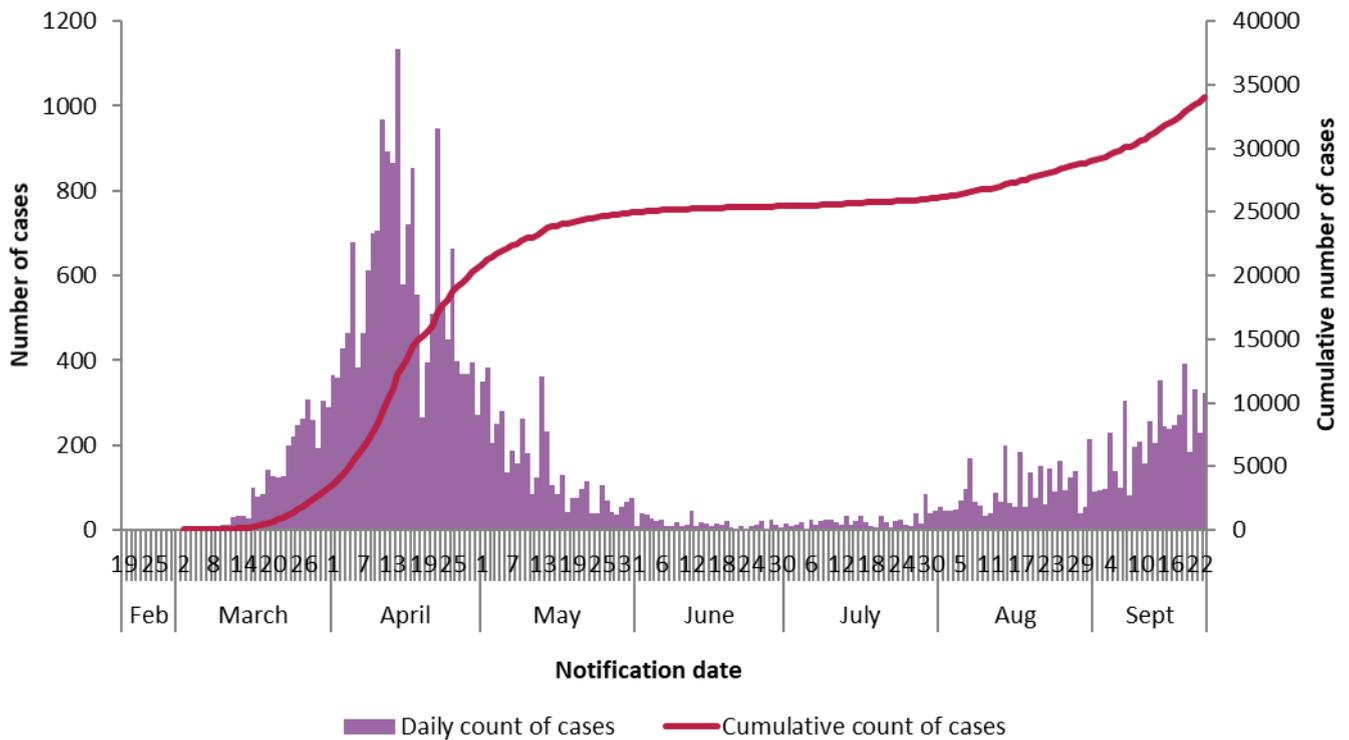
Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 23/09/2020

*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
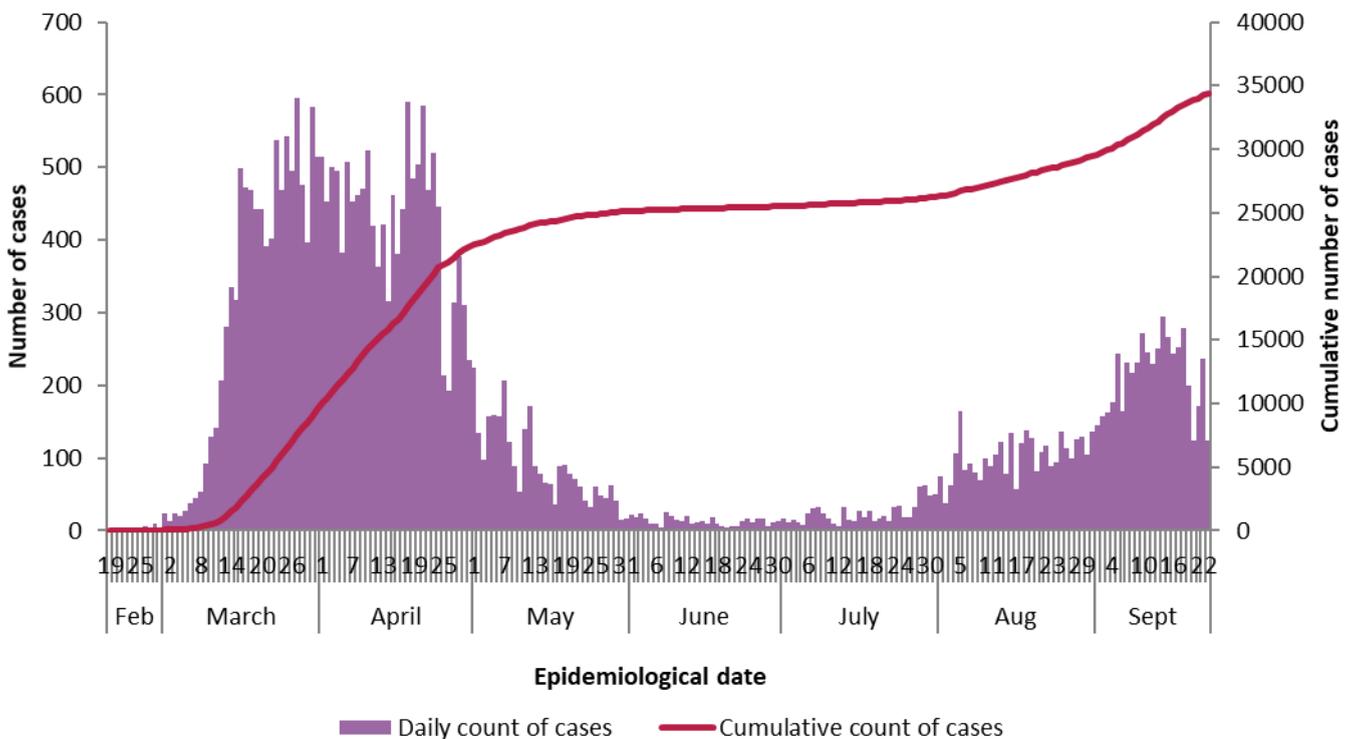

Figure 1b: Number and cumulative number of confirmed COVID-19 cases notified in Ireland by epidemiological date to midnight 23/09/2020**

**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 23/09/2020

* 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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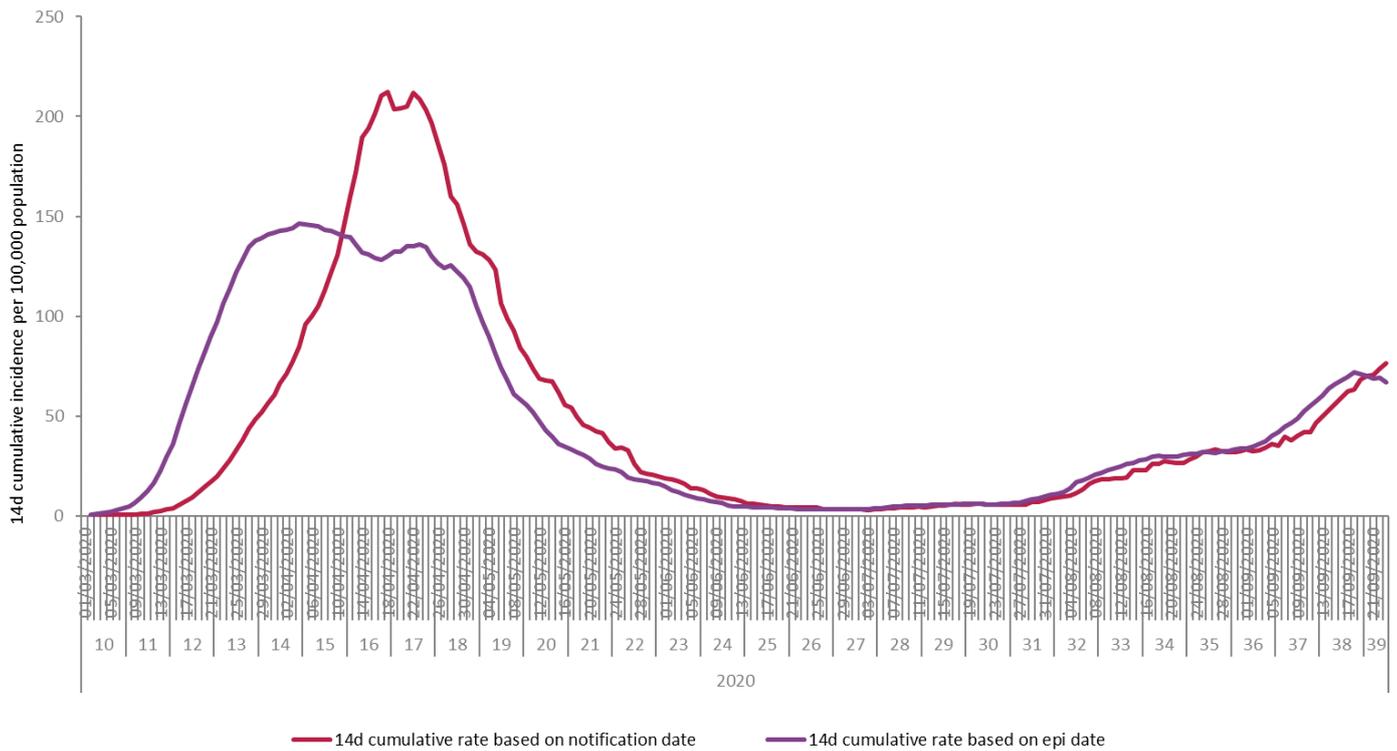
Table 1: Characteristics of confirmed COVID-19 cases notified in Ireland up to midnight on 23/09/2020

Characteristic		Number of cases	Percent
Total number of confirmed cases		**33,988**	**100**
Sex	Male:Female ratio	0.81	
	Male	15,182	44.67
	Female	18,777	55.25
	Unknown	29	0.09
Age	Median age (years)	44	
	Mean age (years)	47	
	Age range (years)	0 - 106	
	0-4 yrs	479	1.41
	5-14 yrs	1,020	3
	15-24 yrs	3,767	11.08
	25-34 yrs	5,950	17.51
	35-44 yrs	5,829	17.15
	45-54 yrs	5,734	16.87
	55-64 yrs	3,993	11.75
	65-74 yrs	2,230	6.56
	75-84 yrs	2,492	7.33
	85+ yrs	2,469	7.26
	Unknown	25	0.07

	0-4	5 - 14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	≥85
■ Female	151.4	144.8	769.8	963.6	861.4	1008.9	842.8	541.7	1221.2	3677.0
■ Male	137.9	157.2	540.2	833.5	694.9	819.5	725.4	653.8	1324.6	3607.7

Cumulative age- and sex-specific rate per 100,000 population
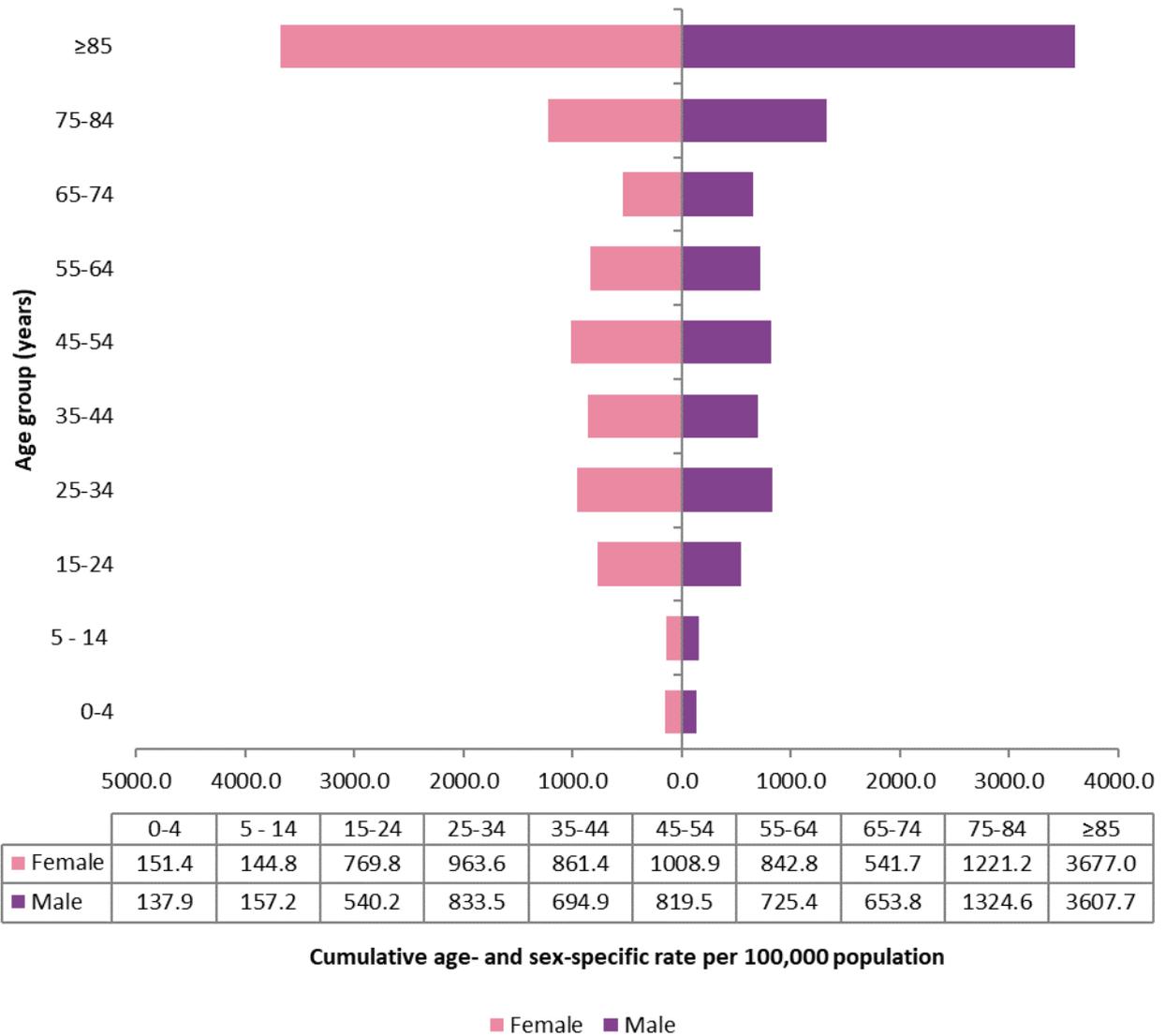
■ Female   ■ Male

Figure 3: Cumulative age- and sex-specific incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 23/09/2020 (excluding 24 cases for whom age is unknown and 28 cases for whom sex is unknown and 1 case for whom both are unknown)
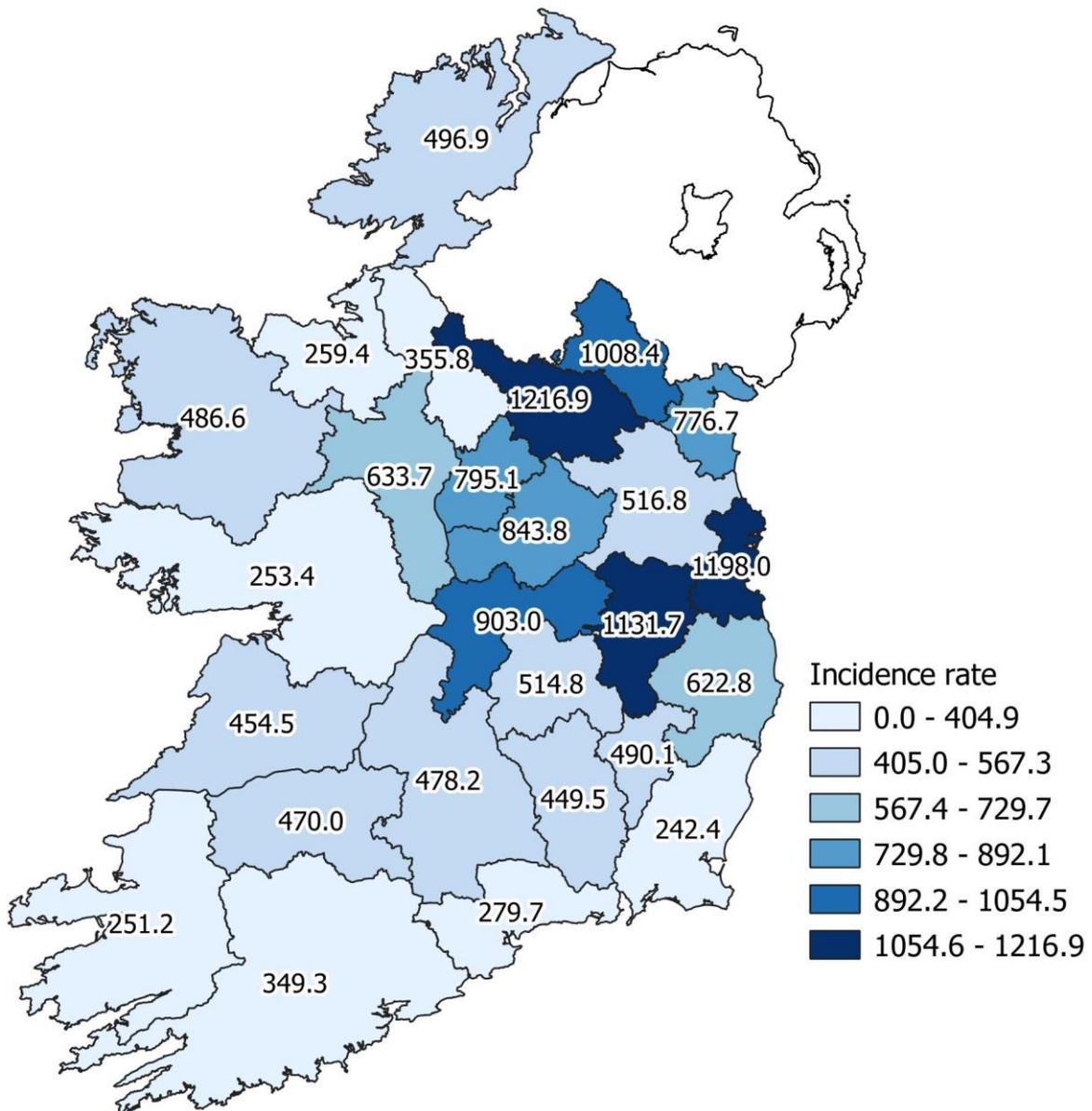
Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 23/09/2020

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 23/09/2020

County Name	Number of cases	Percent
Carlow	279	0.82
Cavan	927	2.73
Clare	540	1.59
Cork	1,896	5.58
Donegal	791	2.33
Dublin	16,142	47.49
Galway	654	1.92
Kerry	371	1.09
Kildare	2,518	7.41
Kilkenny	446	1.31
Laois	436	1.28
Leitrim	114	0.34
Limerick	916	2.7
Longford	325	0.96
Louth	1,001	2.95
Mayo	635	1.87
Meath	1,008	2.97
Monaghan	619	1.82
Offaly	704	2.07
Roscommon	409	1.2
Sligo	170	0.5
Tipperary	763	2.24
Waterford	325	0.96
Westmeath	749	2.2
Wexford	363	1.07
Wicklow	887	2.61
Total	**33,988**	**100**

Table 3: Number of confirmed COVID-19 cases by WHO transmission classification notified to midnight 23/09/2020

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	9,792	28.81%
Local transmission, incl. possible local transmission	23,035	67.77%
Travel abroad, incl. possible travel abroad	807	2.37%
Unknown	354	1.04%
Total	**33,988**	**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 23/09/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	479	28	0.79	1	0.21
5-14 yrs	1020	18	0.51	2	0.43
15-24 yrs	3767	91	2.56	5	1.07
25-34 yrs	5950	214	6.01	17	3.63
35-44 yrs	5829	288	8.09	41	8.76
45-54 yrs	5734	481	13.51	97	20.73
55-64 yrs	3993	530	14.89	136	29.06
65-74 yrs	2230	633	17.78	115	24.57
75-84 yrs	2492	781	21.94	48	10.26
85+ yrs	2469	495	13.9	6	1.28
Unknown	25	1	0.03	0	0
Total	**33,988**	**3,560**	**100**	**468**	**100**

Table 5: Number and proportion of confirmed cases of COVID-19 notified in Ireland by age-group, hospitalisation and ICU admission 23/09/2020

	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)	479	1,020	3,767	5,950	5,829	5,734	3,993	2,230	2,492	2,469	25
Cases hospitalised (n)	28	18	91	214	288	481	530	633	781	495	1
Cases hospitalised (%)	5.85	1.76	2.42	3.6	4.94	8.39	13.27	28.39	31.34	20.05	4
Cases admitted to ICU (n)	1	2	5	17	41	97	136	115	48	6	0
Cases admitted to ICU (%)	0.21	0.2	0.13	0.29	0.7	1.69	3.41	5.16	1.93	0.24	0
Deaths (n)	0	0	1	6	12	26	72	230	528	665	0
Case fatality ratio (%)	0	0	0.03	0.1	0.21	0.45	1.8	10.31	21.19	26.93	0

Outbreaks of COVID-19

Table 6: Number of clusters/outbreaks COVID-19 by location and HSE area notified to midnight 23/09/2020

Outbreak Location	E	HPSC	M	MW	NE	NW	S	SE	W	Total
Private house	1,872		48	139	194	79	145	155	56	**2,688**
Other*	60	2	30	91	16	23	56	21	27	**326**
Nursing home	142		11	19	44	5	15	17	37	**290**
Residential institution	124		11	11	24	4	22	10	4	**210**
Workplace	43		11	17	20	11	10	11	10	**133**
Hospital	68		4	4	14	2	11	5	6	**114**
Comm. Hosp/Long-stay unit	6		4	2		4	6	5	5	**32**
Unknown	2									**2**
Total	**2,317**	**2**	**119**	**283**	**312**	**128**	**265**	**224**	**145**	**3,795**

*Other outbreak location includes community, extended family, hotel, public house, retail outlet, travel related and all other locations.
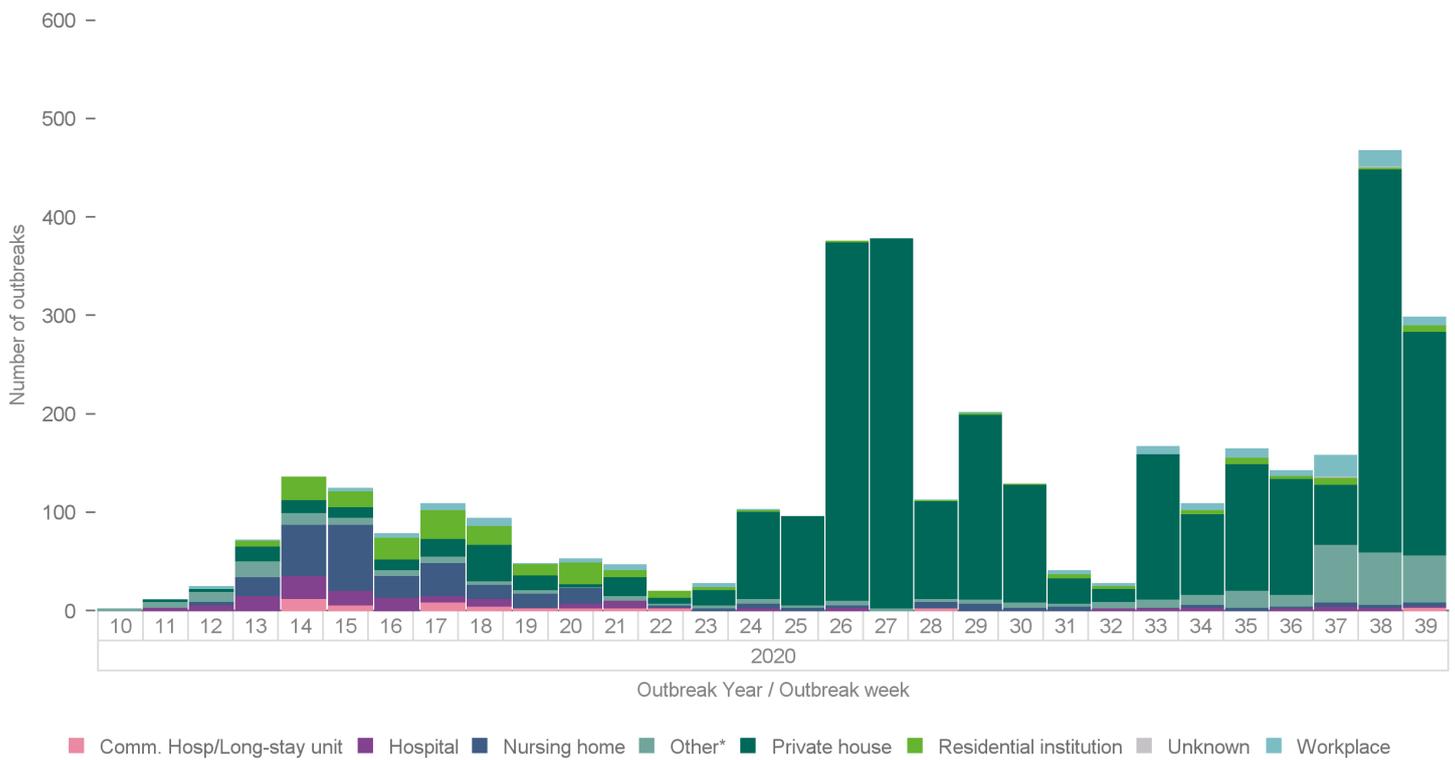
Figure 5: Trend in number of COVID-19 clusters by location and week notified to midnight 23/09/2020

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

Note: 2,959 COVID-19 outbreaks were reported on CIDR between week 24 and week 39 2020 to date (9th June to 23rd September). Of these, 2,578 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 39 as a result of data validation: 1 occurred in February, 636 in March, 473 in April, 94 in May, 126 in June, 127 in July, 526 in August and 595 in September to date.

Deaths among COVID-19 cases

Table 7: Summary of deaths in all COVID-19 cases notified in Ireland up to midnight 23/09/2020

		Number	Percent
Total number of deaths		1,797	
	Confirmed	1,540	85.7
	Probable	99	5.51
	Possible	158	8.79
Total number of cases hospitalised		767	42.68
	Cases admitted to ICU	97	5.4
	Cases not admitted to ICU	670	37.28
Total number of imported cases		6	0.33
Number of cases in healthcare workers		8	0.45
Number with underlying clinical conditions		1,701	94.66
Total number of male cases		890	49.53
M:F ratio		0.98	
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 23/09/2020

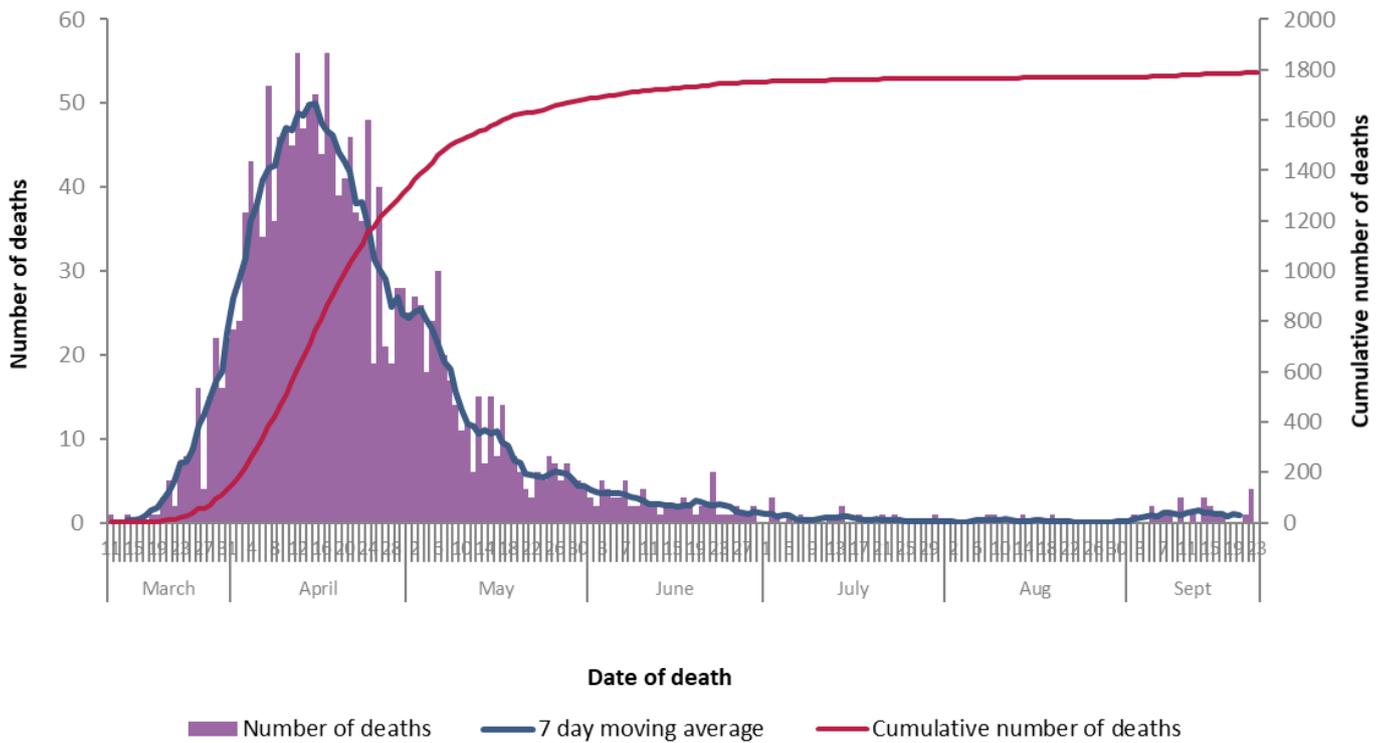| Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	1	0.06
25-34 yrs	<5	<5	6	0.33
35-44 yrs	6	7	13	0.72
45-54 yrs	10	18	28	1.56
55-64 yrs	26	51	77	4.28
65-74 yrs	96	159	255	14.19
75-84 yrs	279	333	612	34.06
85+ yrs	485	318	803	44.69
Unknown	<5	<5	2	0.11
Total	**907**	**890**	**1,797**	**100**
Percent	**50.47**	**49.53**		

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 23/09/2020

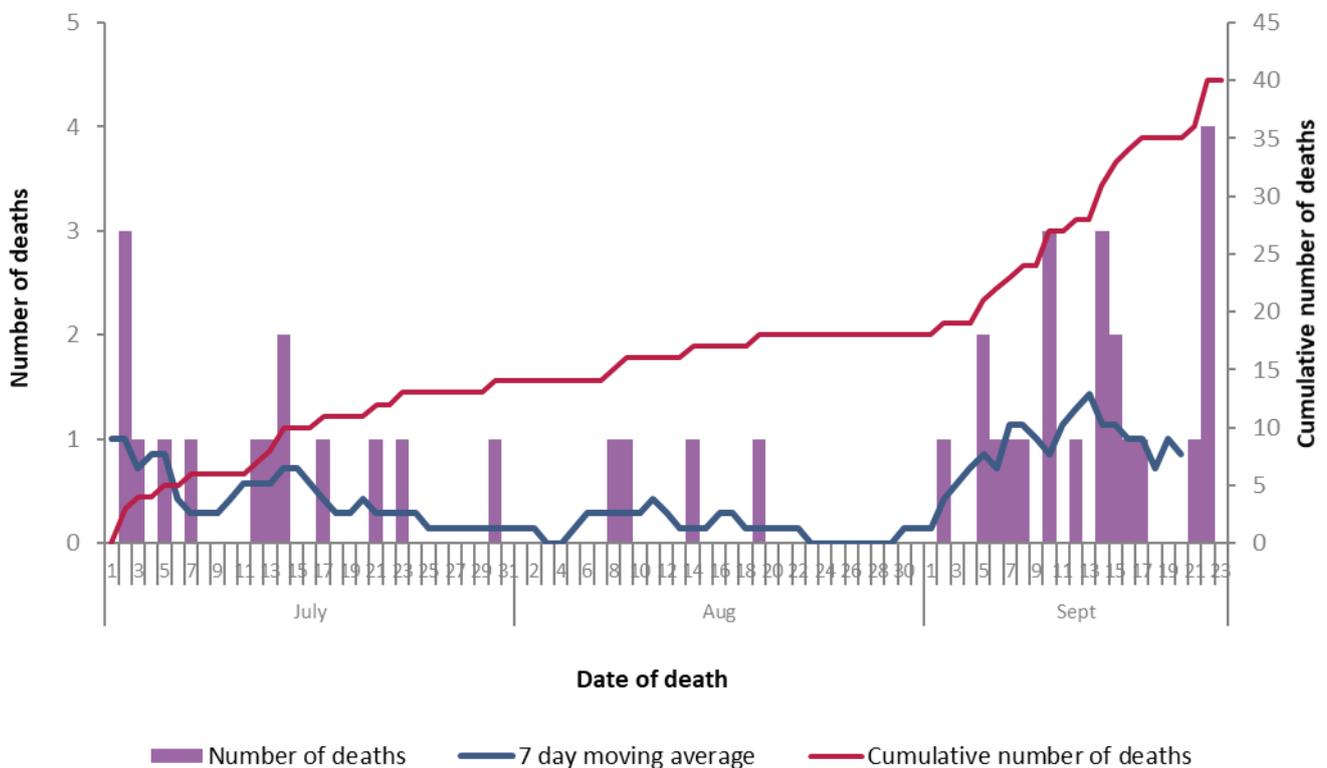* Date of death is not yet available for six cases

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, 01/07/2020 to midnight 23/09/2020

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 09:15 on 25/09/2020. 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.