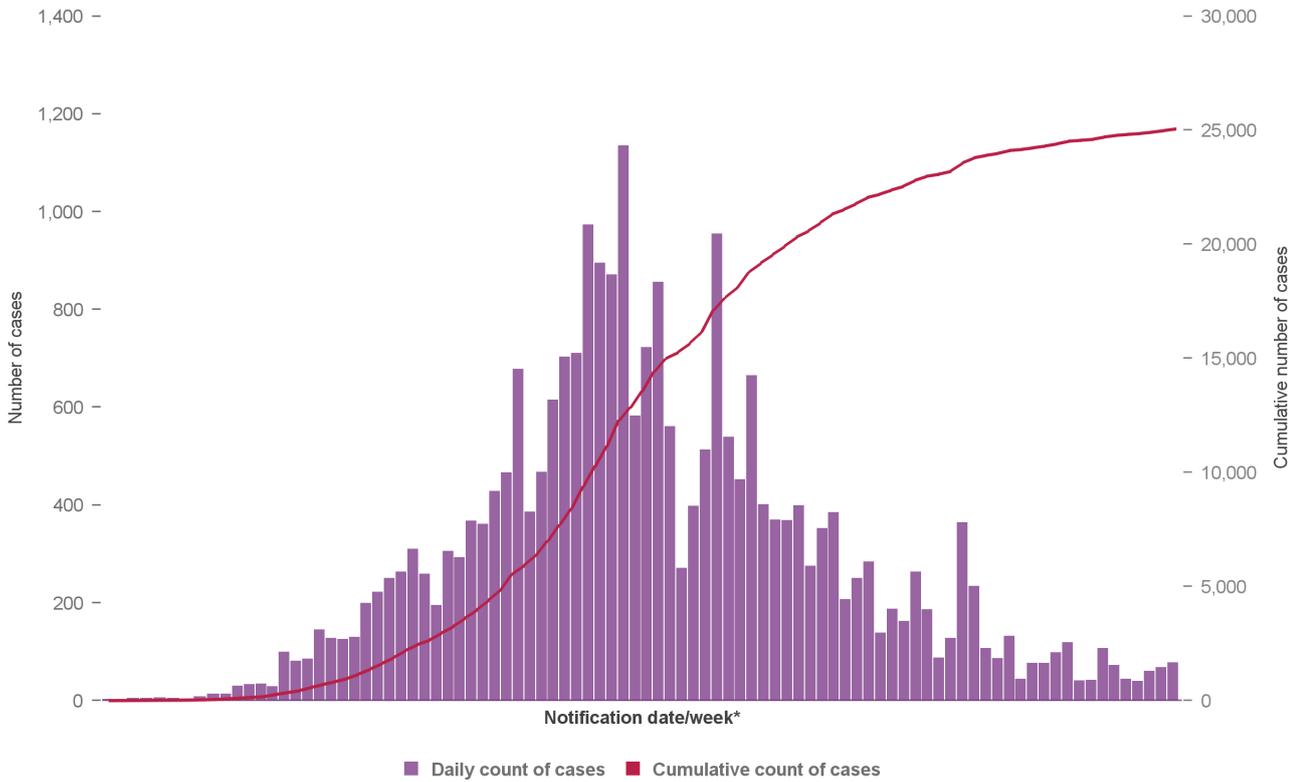# Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 02/06/2020 for National Public Health Emergency Team

Summary characteristics of confirmed COVID-19 cases notified in Ireland up to midnight 31/05/2020
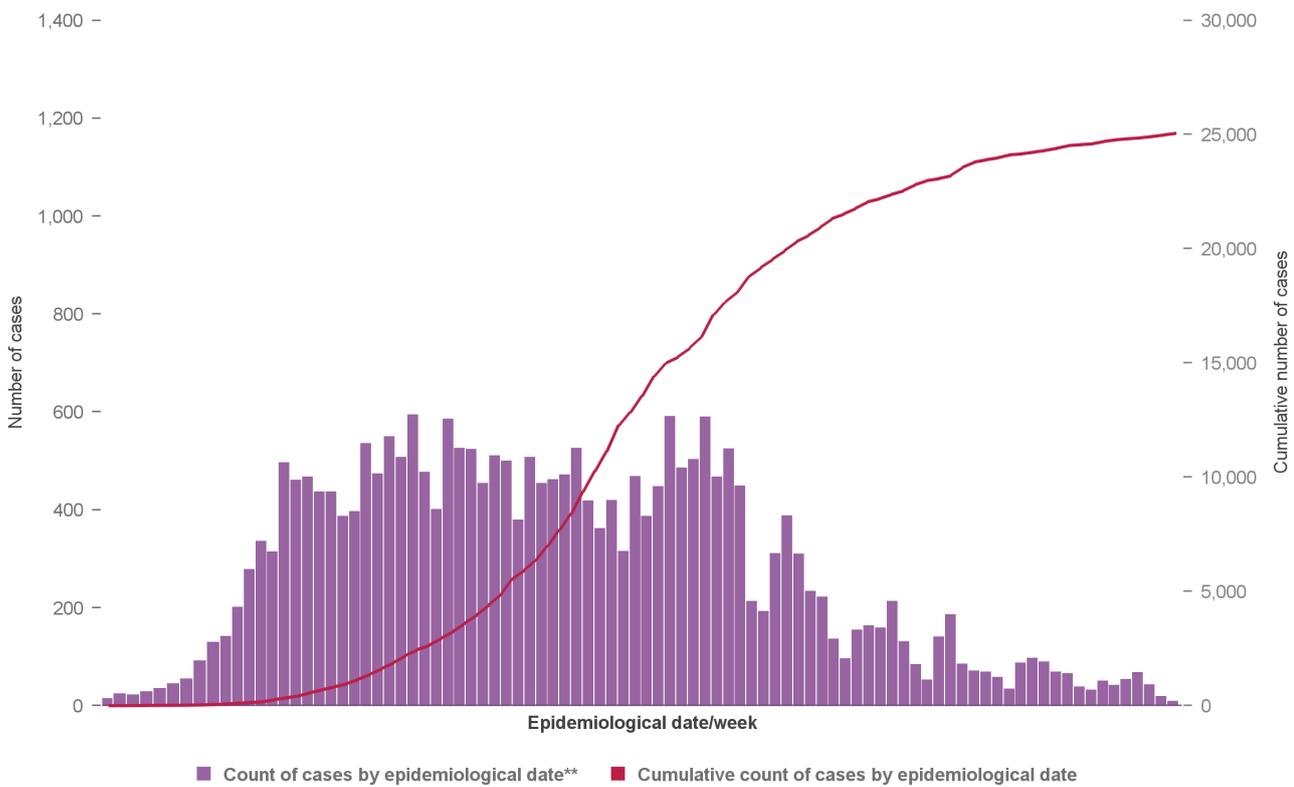
	Number	Percent
Total number of confirmed cases	25,056	
National cumulative incidence of confirmed cases per 100,000 population	526.18	
Total number of cases hospitalised	3,292	13.14
Total number of cases admitted to ICU	408	1.63
Total number of deaths among confirmed cases	1,394	5.56
Case fatality ratio (CFR, %)	5.56	
National cumulative incidence of confirmed deaths per 100,000 population	29.27	
Total number of outbreaks/clusters	867	
Total number of cases associated with clusters	10,018	39.98
Total number of imported cases	361	1.44
Number of cases in healthcare workers	7,986	31.87
Males	10,693	42.68
Females	14,332	57.2
M:F ratio	0.75	
Median age (years)	48	
Mean age (years)	51	
Age range (years)	0 - 106	

Note: Data were extracted from Computerised Infectious Disease Reporting (CIDR) system at 09:18 on 02/06/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.
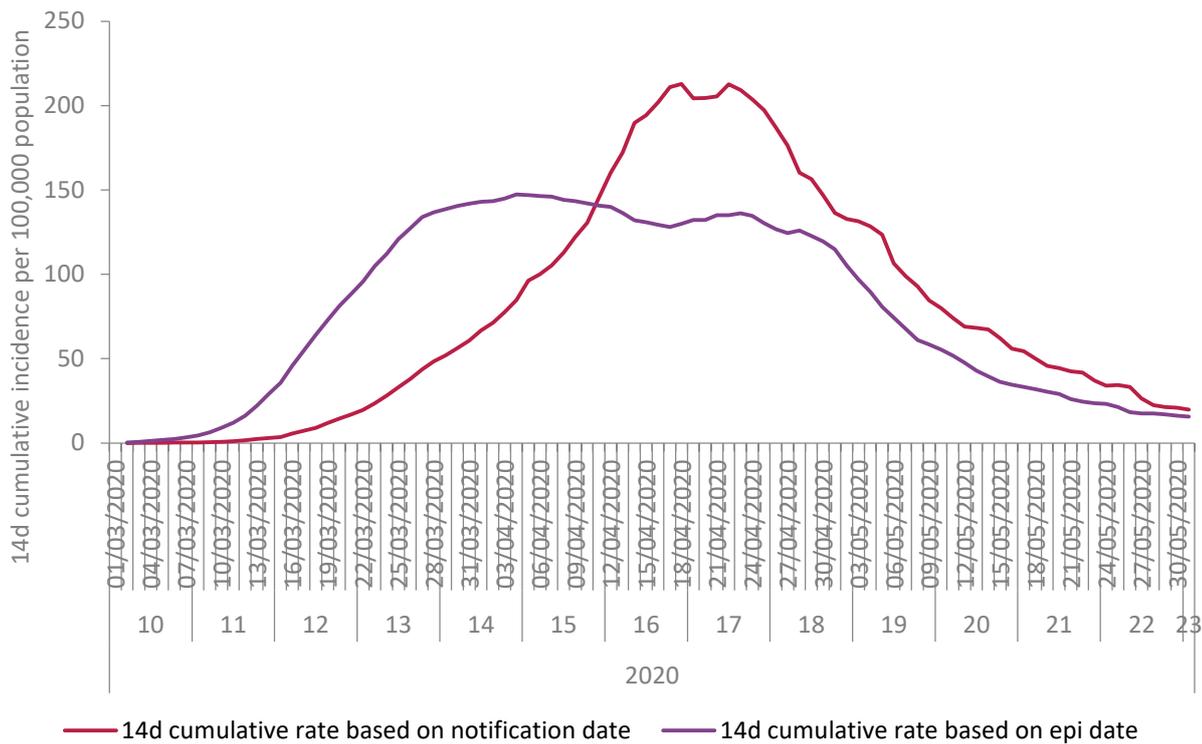
Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 31/05/2020

*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 31/05/2020**

**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.
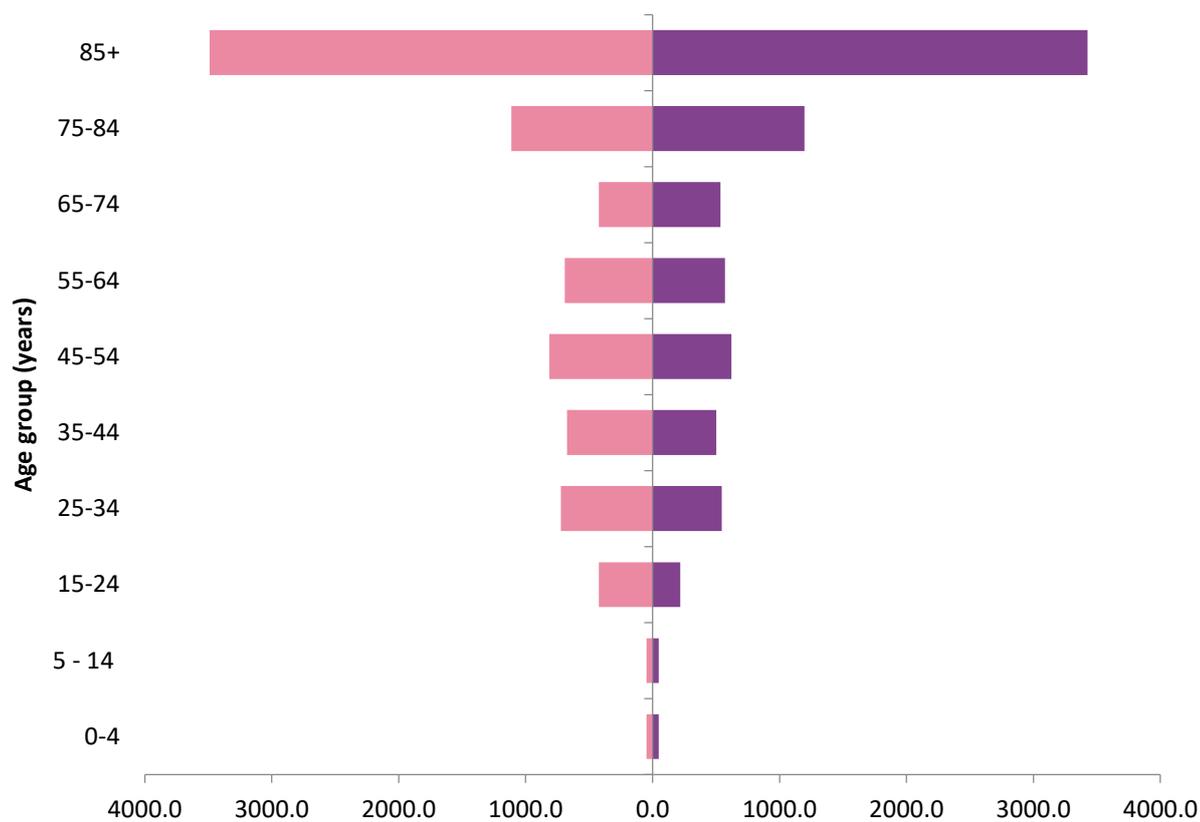
Figure 2: Cumulative 14 day incidence rate of confirmed COVID-19 cases per 100,000 population notified in Ireland by notification* and epidemiological date** to midnight 31/05/2020

* 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 31/05/2020

Characteristic		Number of cases	Percent
Total number of confirmed cases		**25,056**	**100**
Sex	Male:Female ratio	0.75	
	Male	10,693	42.68
	Female	14,332	57.2
	Unknown	31	0.12
Age	Median age (years)	48	
	Mean age (years)	51	
	Age range (years)	0 - 106	
	0-4 yrs	156	0.62
	5-14 yrs	318	1.27
	15-24 yrs	1,841	7.35
	25-34 yrs	4,205	16.78
	35-44 yrs	4,407	17.59
	45-54 yrs	4,502	17.97
	55-64 yrs	3,213	12.82
	65-74 yrs	1,785	7.12
	75-84 yrs	2,262	9.03
	85+ yrs	2,344	9.36
	Unknown	23	0.09

	0-4	5 - 14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
■ Female	47.0	47.2	422.9	721.1	673.4	812.7	691.9	422.1	1113.0	3490.4
■ Male	47.1	47.0	218.1	545.9	501.7	621.5	569.8	535.1	1196.9	3425.5

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 31/05/2020 (excluding 23 cases for whom age is unknown, 30 cases for whom sex is unknown and 1 case for whom both are unknown)
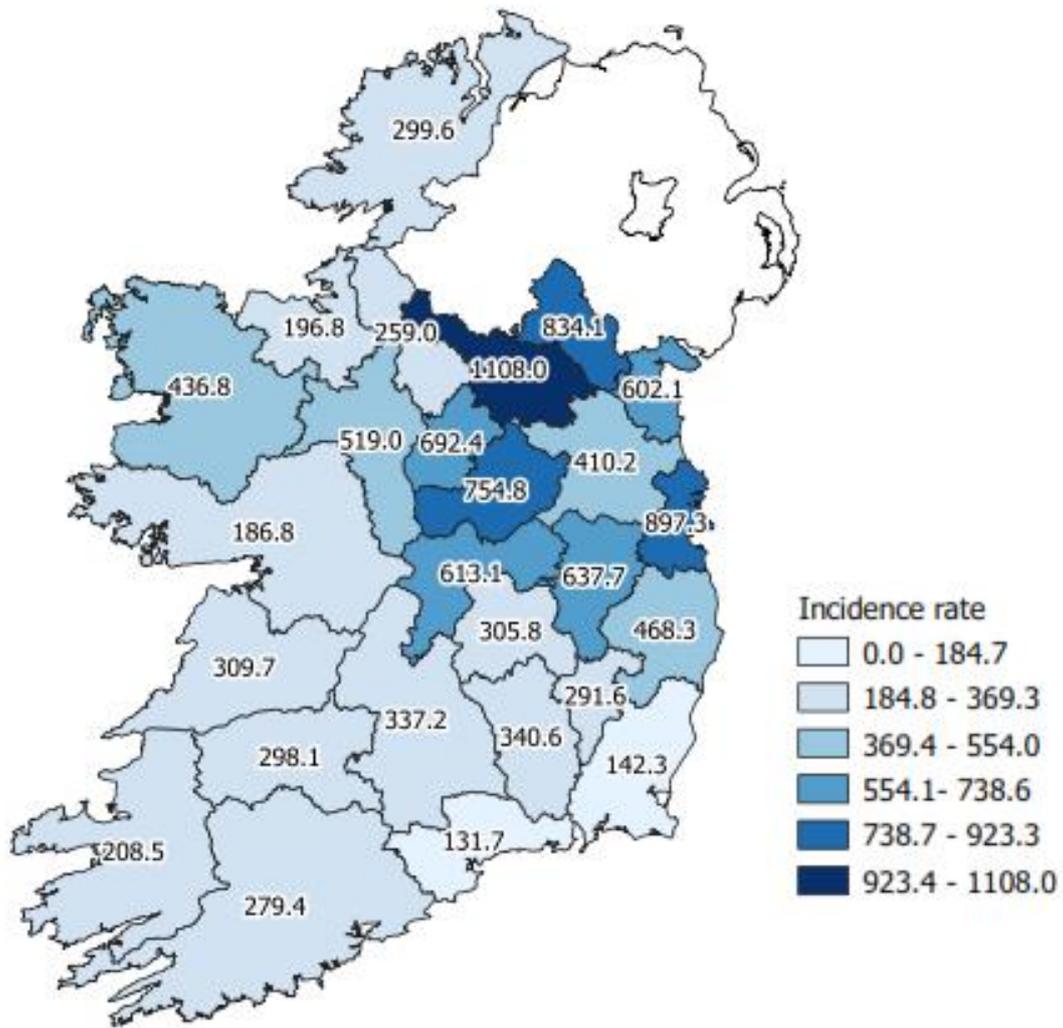
Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 31/05/2020

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 31/05/2020

County Name	Number of cases	Percent
Carlow	166	0.66
Cavan	844	3.37
Clare	368	1.47
Cork	1,517	6.05
Donegal	477	1.9
Dublin	12,090	48.25
Galway	482	1.92
Kerry	308	1.23
Kildare	1,419	5.66
Kilkenny	338	1.35
Laois	259	1.03
Leitrim	83	0.33
Limerick	581	2.32
Longford	283	1.13
Louth	776	3.1
Mayo	570	2.27
Meath	800	3.19
Monaghan	512	2.04
Offaly	478	1.91
Roscommon	335	1.34
Sligo	129	0.51
Tipperary	538	2.15
Waterford	153	0.61
Westmeath	670	2.67
Wexford	213	0.85
Wicklow	667	2.66
Total	**25,056**	**100**

Table 3: Number of confirmed COVID-19 cases by WHO transmission classification notified to midnight 31/05/2020

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	9,791	39.08%
Local transmission, incl. possible local transmission	14,623	58.36%
Travel abroad, incl. possible travel abroad	574	2.29%
Unknown	68	0.27%
Total	**25,056**	**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 31/05/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	156	19	0.58	0	0
5-14 yrs	318	17	0.52	2	0.49
15-24 yrs	1841	72	2.19	5	1.23
25-34 yrs	4205	198	6.01	15	3.68
35-44 yrs	4407	254	7.72	34	8.33
45-54 yrs	4502	443	13.46	83	20.34
55-64 yrs	3213	482	14.64	119	29.17
65-74 yrs	1785	577	17.53	105	25.74
75-84 yrs	2262	748	22.72	39	9.56
85+ yrs	2344	479	14.55	6	1.47
Unknown	23	3	0.09	0	0
Total	**25,056**	**3,292**	**100**	**408**	**100**

Table 5: Number and proportion of confirmed cases of COVID-19 notified in Ireland by age-group, hospitalisation and ICU admission 31/05/2020
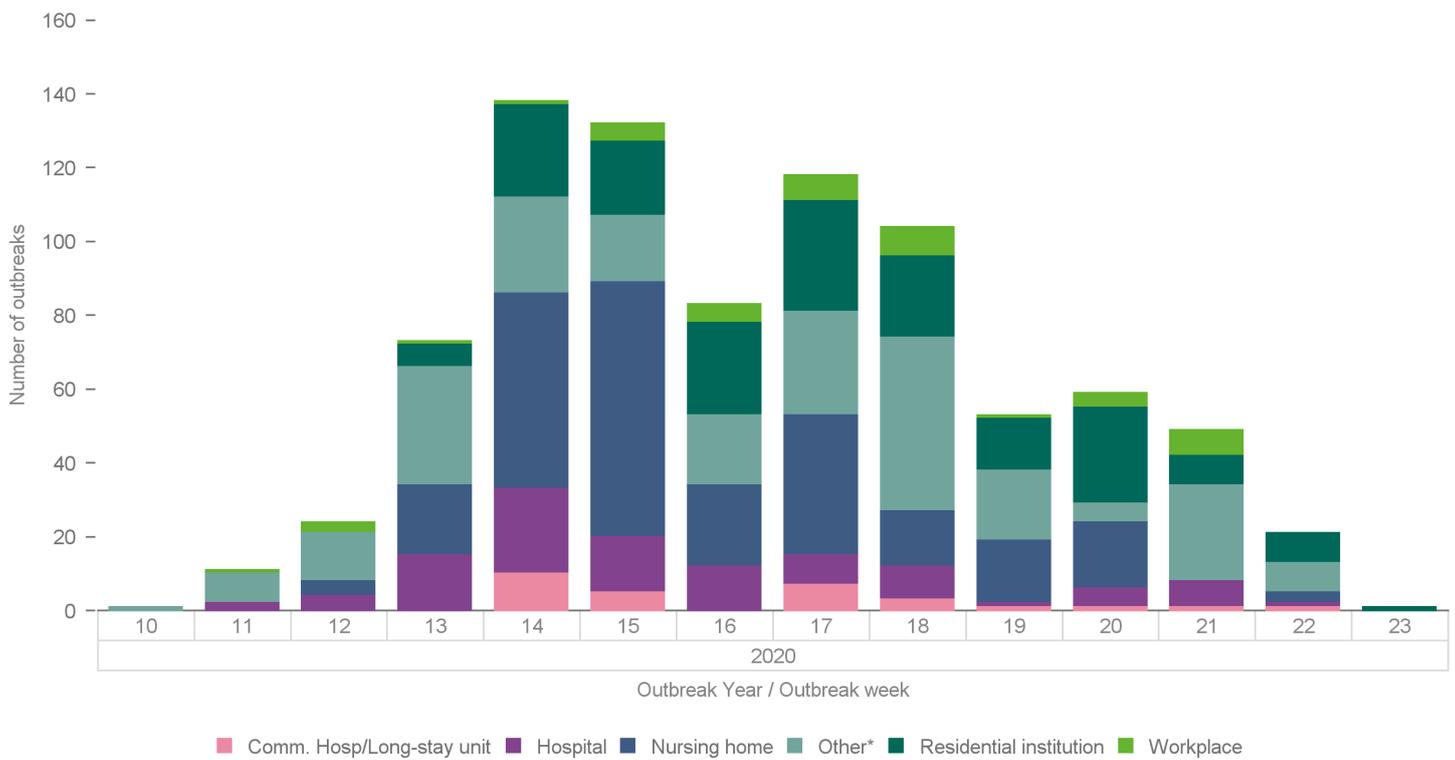
	0-4 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75-84 yrs	85+ yrs	Unknown
Number of cases (n)	156	318	1,841	4,205	4,407	4,502	3,213	1,785	2,262	2,344	23
Cases hospitalised (n)	19	17	72	198	254	443	482	577	748	479	3
Cases hospitalised (%)	12.18	5.35	3.91	4.71	5.76	9.84	15	32.32	33.07	20.44	13.04
Cases admitted to ICU (n)	0	2	5	15	34	83	119	105	39	6	0
Cases admitted to ICU (%)	0	0.63	0.27	0.36	0.77	1.84	3.7	5.88	1.72	0.26	0
Deaths (n)	0	0	2	5	10	23	59	202	476	617	0
Case fatality ratio (%)	0	0	0.11	0.12	0.23	0.51	1.84	11.32	21.04	26.32	0

Outbreaks of COVID-19

Table 6: Number of clusters/outbreaks COVID-19 by location and HSE area notified to midnight 31/05/2020

Outbreak Location	E	M	MW	NE	NW	S	SE	W	Total
Nursing home	123	16	13	38	6	10	16	36	**258**
Other*	19	14	45	21	9	80	31	31	**250**
Residential institution	113	12	6	16	4	19	10	5	**185**
Hospital	60	3	2	14	2	12	3	6	**102**
Workplace	8	5	4	12	1	8	3	2	**43**
Comm. Hosp/Long-stay unit	4	4	2		4	6	5	4	**29**
Total	**327**	**54**	**72**	**101**	**26**	**135**	**68**	**84**	**867**

*Other outbreak location includes all outbreaks locations other than residential facilities, acute hospitals and workplaces. This includes community, extended family, hotel, private house, 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 31/05/2020

*Other outbreak location includes all outbreaks locations other than residential facilities, acute hospitals and workplaces. This includes community, extended family, hotel, private house, public house, retail outlet, travel related and all other locations.
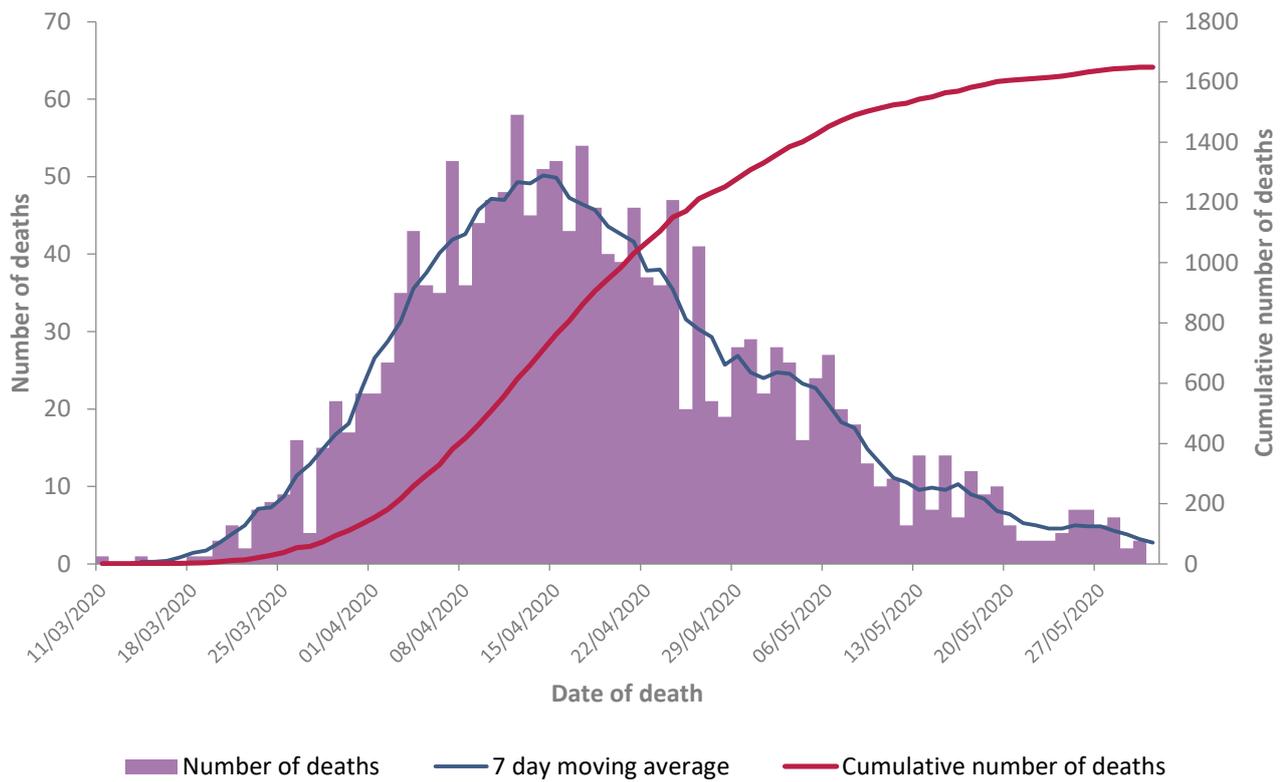
Deaths among COVID-19 cases

Table 7: Summary of deaths in all COVID-19 cases notified in Ireland up to midnight 31/05/2020

		Number	Percent
Total number of deaths		1,654	
	Confirmed	1,394	84.28
	Probable	95	5.74
	Possible	165	9.98
Total number of cases hospitalised		692	41.84
	Cases admitted to ICU	83	5.02
	Cases not admitted to ICU	609	36.82
Total number of imported cases		6	0.36
Number of cases in healthcare workers		7	0.42
Number with underlying clinical conditions		1,490	90.08
Total number of male cases		817	49.40
M:F ratio		0.98	
Median age (years)		84	
Mean age (years)		82	
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 31/05/2020

Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	**2**	**0.12**
25-34 yrs	<5	<5	**5**	**0.30**
35-44 yrs	5	6	**11**	**0.67**
45-54 yrs	10	15	**25**	**1.51**
55-64 yrs	22	42	**64**	**3.87**
65-74 yrs	80	146	**226**	**13.66**
75-84 yrs	255	305	**560**	**33.86**
85+ yrs	459	300	**759**	**45.89**
Unknown	<5	<5	**2**	**0.12**
Total	**837**	**817**	**1,654**	**100**
Percent	**50.6**	**49.4**		

Figure 6: 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 31/05/2020

* Date of death is not yet available for five 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 this report. This includes 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 02/06/2020. 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.

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 all outbreaks locations other than residential facilities and acute hospitals. This includes community, extended family, hotel, private house, public house, retail outlet, travel related and all other locations.