



Epidemiology of COVID-19 in Ireland

Report prepared by HPSC on 06/11/2020 for National Public Health Emergency Team

Summary characteristics of confirmed COVID-19 cases notified in Ireland up to midnight 04/11/2020

	Number	Percent
Total number of confirmed cases	64,038	
National cumulative incidence of confirmed cases per 100,000 population	1,344.81	
Total number of cases hospitalised	4,580	7.15
Total number of cases admitted to ICU	569	0.89
Total number of deaths among confirmed cases	1,677	2.62
Case fatality ratio (CFR, %)	2.62	
National cumulative incidence of confirmed deaths per 100,000 population	35.22	
Total number of outbreaks/clusters	7,071	
Total number of cases associated with clusters	31,055	48.49
Total number of imported cases	629	0.98
Number of cases in healthcare workers	10,757	16.8
Males	30,028	46.89
Females	33,976	53.06
M:F ratio	0.88	
Median age (years)	39	
Mean age (years)	42	
Age range (years)	0 - 106	

Note: Data were extracted from Computerised Infectious Disease Reporting (CIDR) system at 09:15 on 06/11/2020 and are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.

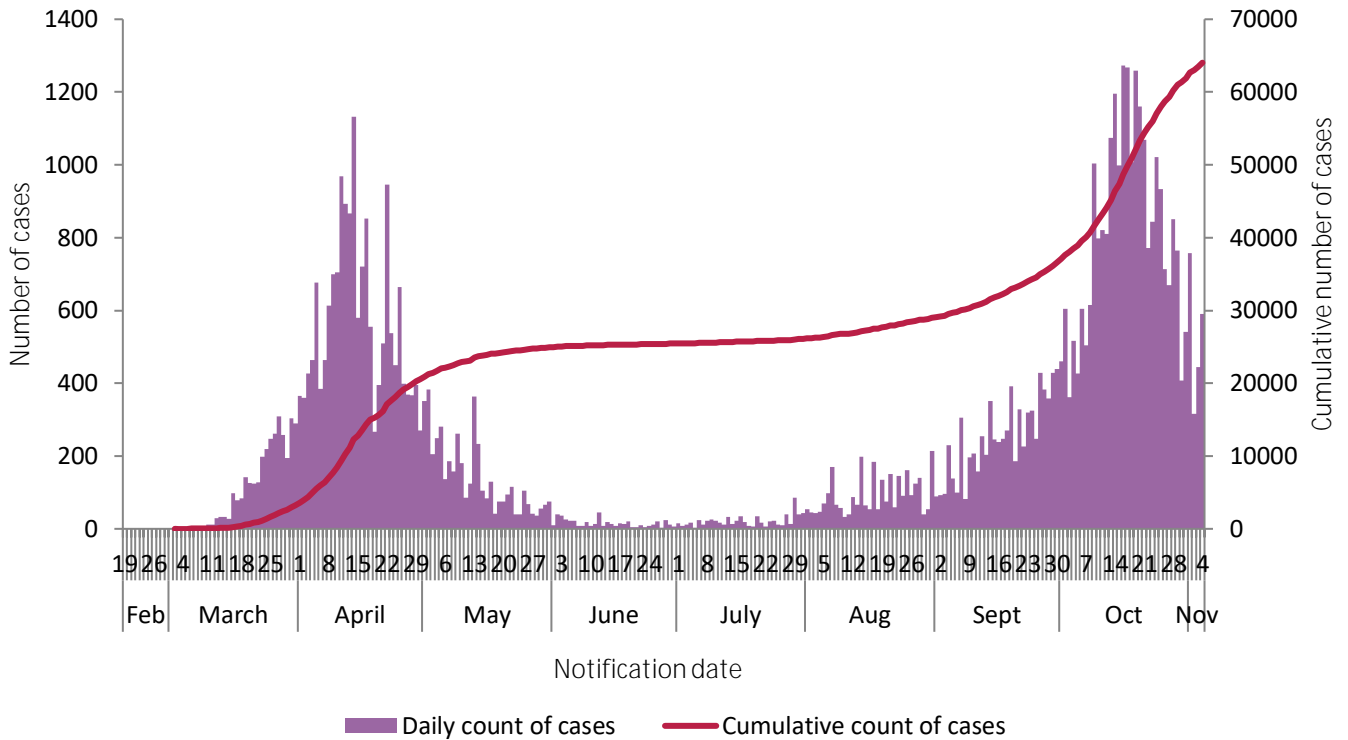


Figure 1a: Number* and cumulative number of confirmed COVID-19 cases notified in Ireland by notification date* to midnight 04/11/2020

*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

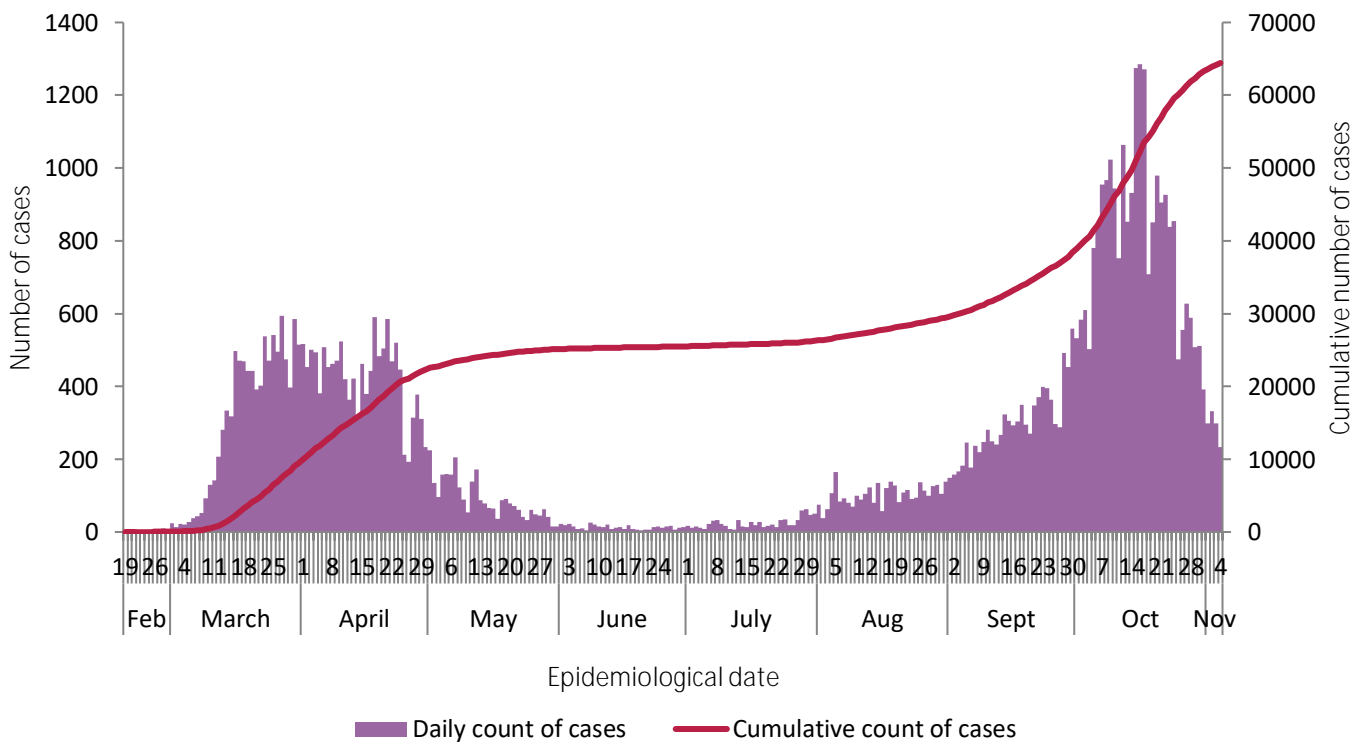


Figure 1b: Number and cumulative number of confirmed COVID-19 cases notified in Ireland by epidemiological date to midnight 04/11/2020**

**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.

Table 1: Characteristics of confirmed COVID-19 cases notified in Ireland up to midnight on 04/11/2020

Characteristic		Number of cases	Percent
Total number of confirmed cases		64,038	100
Sex	Male:Female ratio	0.88	
	Male	30,028	46.89
	Female	33,976	53.06
	Unknown	34	0.05
Age	Median age (years)	39	
	Mean age (years)	42	
	Age range (years)	0 - 106	
	0-4 yrs	1,522	2.38
	5-14 yrs	3,670	5.73
	15-24 yrs	11,101	17.34
	25-34 yrs	10,850	16.94
	35-44 yrs	10,048	15.69
	45-54 yrs	9,781	15.27
	55-64 yrs	7,034	10.98
	65-74 yrs	3,733	5.83
	75-84 yrs	3,310	5.17
	85+ yrs	2,957	4.62
	Unknown	32	0.05

Figure 3: Age- and sex-specific incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 04/11/2020

Figure 4: Cumulative incidence rates of confirmed cases of COVID-19 per 100,000 population notified in Ireland to midnight 04/11/2020

Table 2: Number of confirmed COVID-19 cases by county notified to midnight 04/11/2020

County Name	Number of cases	Percent
Carlow	562	0.88
Cavan	2,083	3.25
Clare	1,334	2.08
Cork	5,692	8.89
Donegal	2,286	3.57
Dublin	24,459	38.19
Galway	2,391	3.73
Kerry	1,164	1.82
Kildare	3,811	5.95
Kilkenny	806	1.26
Laois	857	1.34
Leitrim	230	0.36
Limerick	2,151	3.36
Longford	588	0.92
Louth	1,737	2.71
Mayo	1,226	1.91
Meath	3,063	4.78
Monaghan	1,131	1.77
Offaly	1,044	1.63
Roscommon	810	1.26
Sligo	669	1.04
Tipperary	1,258	1.96
Waterford	790	1.23
Westmeath	1,444	2.25
Wexford	1,122	1.75
Wicklow	1,330	2.08
Total	64,038	100

Table 3: Number of confirmed COVID-19 cases by WHO transmission classification notified to midnight 04/11/2020

Transmission classification*	Count of Events	%
Community transmission, incl. possible community transmission	20,596	32.16%
Local transmission, incl. possible local transmission	39,416	61.55%
Travel abroad, incl. possible travel abroad	928	1.45%
Unknown	3,098	4.84%
Total	64,038	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 04/11/2020

Age Group (years)	Number of cases (n)	Cases hospitalised (n)	Cases hospitalised (%)	Cases admitted to ICU (n)	Cases admitted to ICU (%)
0-4 yrs	1522	48	1.05	1	0.18
5-14 yrs	3670	46	1	4	0.7
15-24 yrs	11101	140	3.06	7	1.23
25-34 yrs	10850	287	6.27	17	2.99
35-44 yrs	10048	366	7.99	47	8.26
45-54 yrs	9781	594	12.97	105	18.45
55-64 yrs	7034	680	14.85	153	26.89
65-74 yrs	3733	823	17.97	163	28.65
75-84 yrs	3310	991	21.64	64	11.25
85+ yrs	2957	603	13.17	8	1.41
Unknown	32	2	0.04	0	0
Total	64,038	4,580	100	569	100

Table 5: Number and proportion of confirmed cases of COVID-19 notified in Ireland by age-group, hospitalisation and ICU admission 04/11/2020

	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)	1,522	3,670	11,101	10,850	10,048	9,781	7,034	3,733	3,310	2,957	32
Cases hospitalised (n)	48	46	140	287	366	594	680	823	991	603	2
Cases hospitalised (%)	3.15	1.25	1.26	2.65	3.64	6.07	9.67	22.05	29.94	20.39	6.25
Cases admitted to ICU (n)	1	4	7	17	47	105	153	163	64	8	0
Cases admitted to ICU (%)	0.07	0.11	0.06	0.16	0.47	1.07	2.18	4.37	1.93	0.27	0
Deaths (n)	0	0	1	7	12	29	79	257	572	720	0
Case fatality ratio (%)	0	0	0.01	0.06	0.12	0.3	1.12	6.88	17.28	24.35	0

Outbreaks of COVID-19

Table 6: Number of clusters/outbreaks COVID-19 by location and HSE area notified to midnight 04/11/2020

Outbreak Location	E	HPSC	M	MW	NE	NW	S	SE	W	Total
Private house	2,900		67	171	349	288	394	500	462	5,131
Other*	202	2	56	143	57	92	184	51	108	895
Nursing home	163		15	20	50	8	22	19	43	340
Residential institution	138		15	16	33	10	29	14	9	264
Workplace	84		16	20	40	28	21	17	22	248
Hospital	85		7	7	20	6	16	5	7	153
Comm. Hosp/Long-stay unit	6		4	2		4	6	5	5	32
Unknown	7					1				8
Total	3,585	2	180	379	549	437	672	611	656	7,071

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

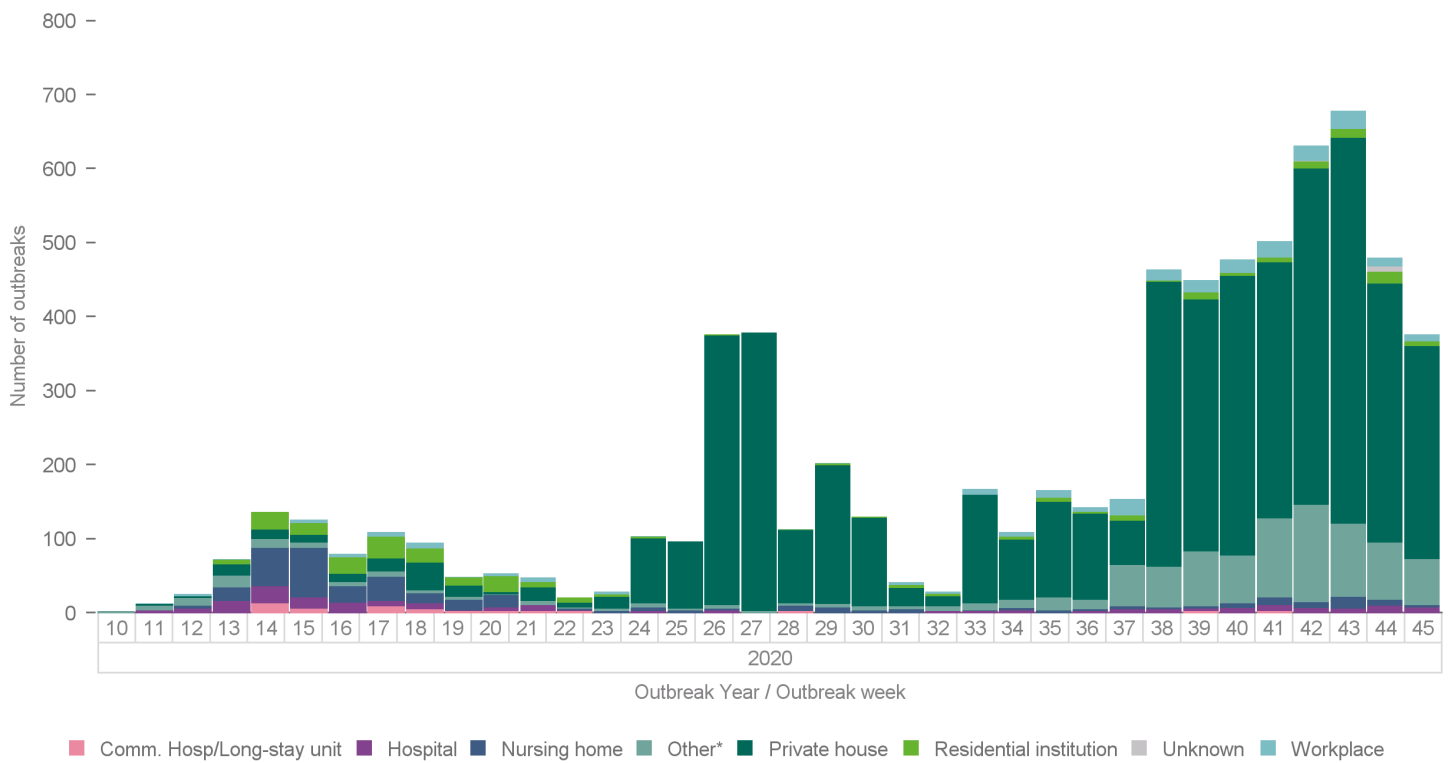


Figure 5: Trend in number of COVID-19 clusters by location and week notified to midnight 04/11/2020

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

Table 7: Number of OPEN clusters/outbreaks of COVID-19 by location and HSE area notified to midnight 04/11/2020

Outbreak Location	E	M	MW	NE	NW	S	SE	W	Total
Comm. Hosp/Long-stay unit	1								1
Hospital	13	4	3	6	4	5		1	36
Nursing home	19	4	5	6	3	8	2	6	53
Other*	110	43	67	45	71	139	33	59	567
Private house	1,853	47	40	201	216	268	402	334	3,361
Residential institution	18	4	7	9	6	7	4	4	59
Unknown	7				1				8
Workplace	30	5	9	20	17	11	8	9	109
Total	2,051	107	131	287	318	438	449	413	4,194

Table 8: Number of CLOSED clusters/outbreaks of COVID-19 by location and HSE area notified to midnight 04/11/2020

Outbreak Location	E	HPSC	M	MW	NE	NW	S	SE	W	Total
Comm. Hosp/Long-stay unit	5		4	2		4	6	5	5	31
Hospital	72		3	4	14	2	11	5	6	117
Nursing home	144		11	15	44	5	14	17	37	287
Other*	92	2	13	76	12	21	45	18	49	328
Private house	1,047		20	131	148	72	126	98	128	1,770
Residential institution	120		11	9	24	4	22	10	5	205
Workplace	54		11	11	20	11	10	9	13	139
Total	1,534	2	73	248	262	119	234	162	243	2,877

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

Table 9: Number and percentage of COVID-19 outbreaks/clusters in acute hospital settings and residential facilities* by HSE area notified in Ireland to midnight 04/11/2020

HSE area	Residential Facilities (RF)					Hospital			RFs and acute hospital settings	
	Comm. Hosp/Long-stay unit	Nursing home	Residential institution	Total (n)	Total (%)	Hospital	Total (n)	Total (%)	Total (n)	Total (%)
E	6	163	138	307	48.27	85	85	55.56	392	49.68
M	4	15	15	34	5.35	7	7	4.58	41	5.2
MW	2	20	16	38	5.97	7	7	4.58	45	5.7
NE		50	33	83	13.05	20	20	13.07	103	13.05
NW	4	8	10	22	3.46	6	6	3.92	28	3.55
S	6	22	29	57	8.96	16	16	10.46	73	9.25
SE	5	19	14	38	5.97	5	5	3.27	43	5.45
W	5	43	9	57	8.96	7	7	4.58	64	8.11
Total	32	340	264	636	100	153	153	100	789	100

*Residential facilities (RF) include nursing homes, community hospitals, long-stay units and residential institutions including mental health facilities, prisons and direct provision centres.

Table 10: Number of OPEN COVID-19 outbreaks in residential facilities* and the number of cases, hospitalised and deaths linked to those outbreaks by HSE area notified in Ireland to midnight on 04/11/2020

HSE area	Number of RF outbreaks	Total number ill	Cases linked RF outbreaks:		
			Number of cases	Number hospitalised	Total number who died
E	38	198	367	25	19
M	8	6	120	5	6
MW	12	84	233	28	26
NE	15	39	130	11	2
NW	9		72	6	3
S	15	103	138	8	1
SE	6	38	92	4	8
W	10		198	3	5
Total	113	468	1,350	90	70

Table 11: Number of CLOSED COVID-19 outbreaks in residential facilities* and the number of cases, hospitalised and deaths linked to those outbreaks by HSE area notified in Ireland to midnight on 04/11/2020

HSE area	Number of RF outbreaks	Total number ill	Cases linked RF outbreaks:		
			Number of cases	Number hospitalised	Total number who died
E	269	4,438	4,925	275	713
M	26	189	403	23	35
MW	26	365	274	39	34
NE	68	736	1,197	107	182
NW	13	74	242	32	36
S	42	546	372	25	28
SE	32	491	222	19	31
W	47	802	367	36	50
Total	523	7,641	8,002	556	1,109

*Residential facilities (RF) include nursing homes, community hospitals, long-stay units and residential institutions including mental health facilities, prisons and direct provision centres.

Table 12: Number of OPEN COVID-19 outbreaks in nursing homes (NH) and the total number ill, number of cases, hospitalised and deaths linked to those outbreaks by HSE area notified in Ireland to midnight on 04/11/2020

HSE area	Number of NH outbreaks	Total Number ill	Cases linked to NH outbreaks:		
			Number of cases	Number hospitalised	Total number who died
E	19	142	273	24	19
M	4	4	97	5	6
MW	5	29	143	27	26
NE	6	19	87	8	2
NW	3		56	1	2
S	8	87	105	8	1
SE	2	35	65	0	7
W	6		182	3	5
Total	53	316	1,008	76	68

Table 13: Number of CLOSED COVID-19 outbreaks in nursing homes (NH) and the total number ill, number of cases, hospitalised and deaths linked to those outbreaks by HSE area notified in Ireland to midnight on 04/11/2020

HSE area	Number of NH outbreaks	Total Number ill	Cases linked to NH outbreaks:		
			Number of cases	Number hospitalised	Total number who died
E	144	3,427	3,896	205	644
M	11	104	232	18	22
MW	15	304	235	36	33
NE	44	634	1,091	98	180
NW	5	44	129	22	22
S	14	232	139	11	14
SE	17	265	158	16	27
W	37	617	282	25	44
Total	287	5,627	6,162	431	986

Table 14: Number of OPEN COVID-19 outbreaks in acute hospitals and the total number ill, number of cases, hospitalised and deaths linked to those outbreaks by HSE area notified in Ireland to midnight on 04/11/2020

HSE area	Number of hospital outbreaks	Total number ill	Cases linked to outbreaks in hospitals:		
			Number of cases	Number hospitalised	Total number who died
E	13	40	78	26	5
M	4		69	18	6
MW	3		19	11	0
NE	6	22	46	22	5
NW	4		32	18	1
S	5	21	24	9	3
W	1		4	0	0
Total	36	83	272	104	20

Table 15: Number of CLOSED COVID-19 outbreaks in acute hospitals and the total number ill, number of cases, hospitalised and deaths linked to those outbreaks by HSE area notified in Ireland to midnight on 04/11/2020

HSE area	Number of acute hospital outbreaks	Total number ill	Cases linked to outbreaks in hospitals:		
			Number of cases	Number hospitalised	Total number who died
E	72	559	302	107	39
M	3	100	187	55	15
MW	4	52	55	19	8
NE	14	132	141	35	10
NW	2	7	16	7	1
S	11	175	171	47	9
SE	5	205	209	55	21
W	6	46	111	42	12
Total	117	1,276	1,192	367	115

Deaths among COVID-19 cases

Table 16: Summary of deaths in all COVID-19 cases notified in Ireland up to midnight 04/11/2020

	Number	Percent
Total number of deaths	1,936	
Confirmed	1,677	86.62
Probable	95	4.91
Possible	164	8.47
Total number of cases hospitalised	847	43.75
Cases admitted to ICU	117	6.04
Cases not admitted to ICU	730	37.71
Total number of imported cases	7	0.36
Number of cases in healthcare workers	8	0.41
Number with underlying clinical conditions	1,800	92.98
Total number of male cases	976	50.41
M:F ratio	1.02	
Median age (years)	83	
Mean age (years)	81	
Age range (years)	17 - 105	

Table 17: Number of deaths in all COVID-19 cases by sex and age group notified in Ireland up to midnight 04/11/2020

Age group (years)	Female	Male	Total	Percent
15-24 yrs	<5	<5	1	0.05
25-34 yrs	<5	5	7	0.36
35-44 yrs	6	7	13	0.67
45-54 yrs	11	20	31	1.6
55-64 yrs	27	58	85	4.39
65-74 yrs	103	182	285	14.72
75-84 yrs	296	358	654	33.78
85+ yrs	512	346	858	44.32
Unknown	<5	<5	2	0.1
Total	960	976	1,936	100
Percent	49.59	50.41		

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 04/11/2020

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 06/11/2020. 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.

Appendix 1: Trends in confirmed COVID-19 cases notified in Ireland by HSE area

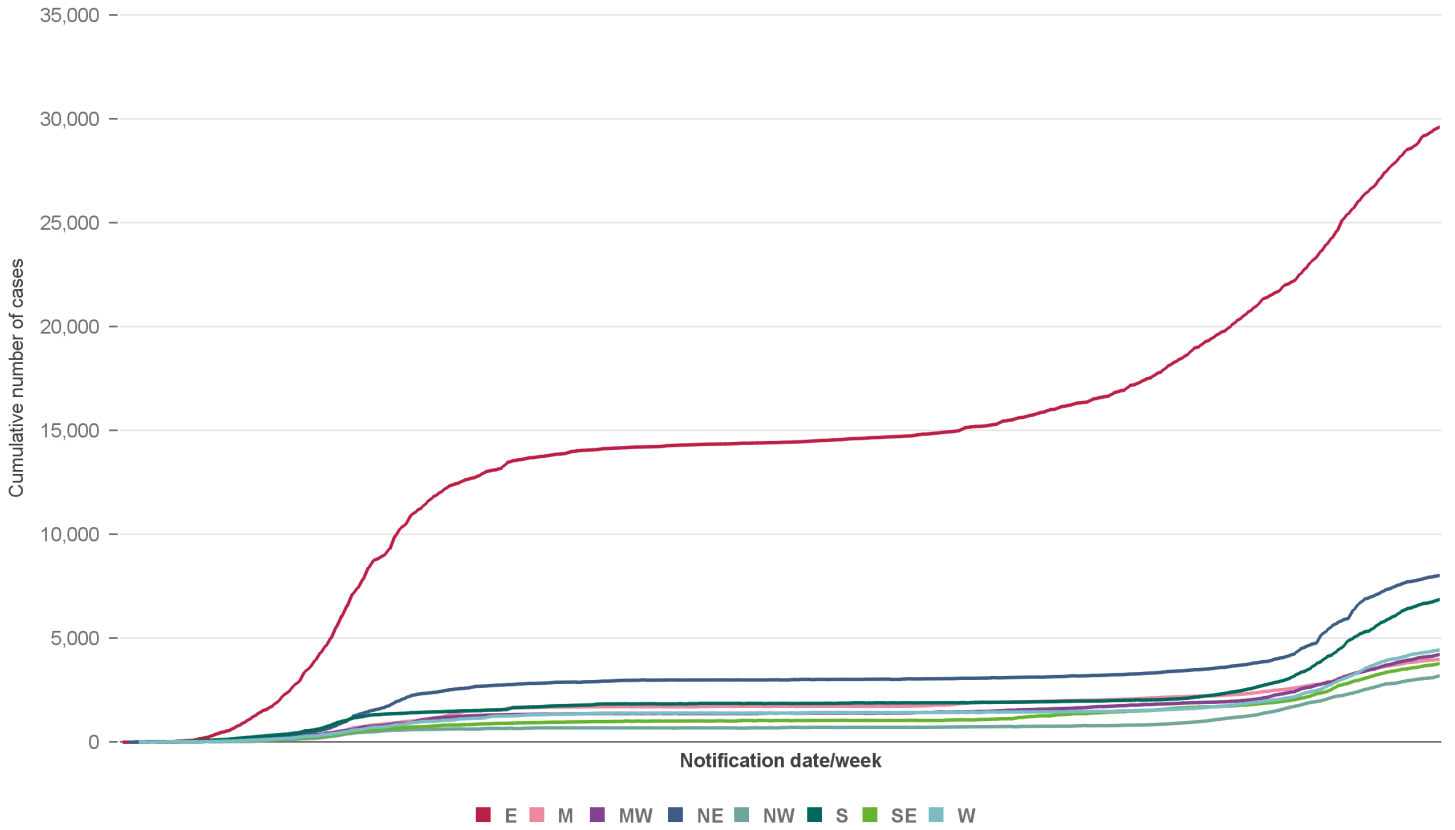


Figure A: Cumulative number of confirmed COVID-19 cases notified in Ireland by date/week of notification and HSE area to midnight 04/11/2020

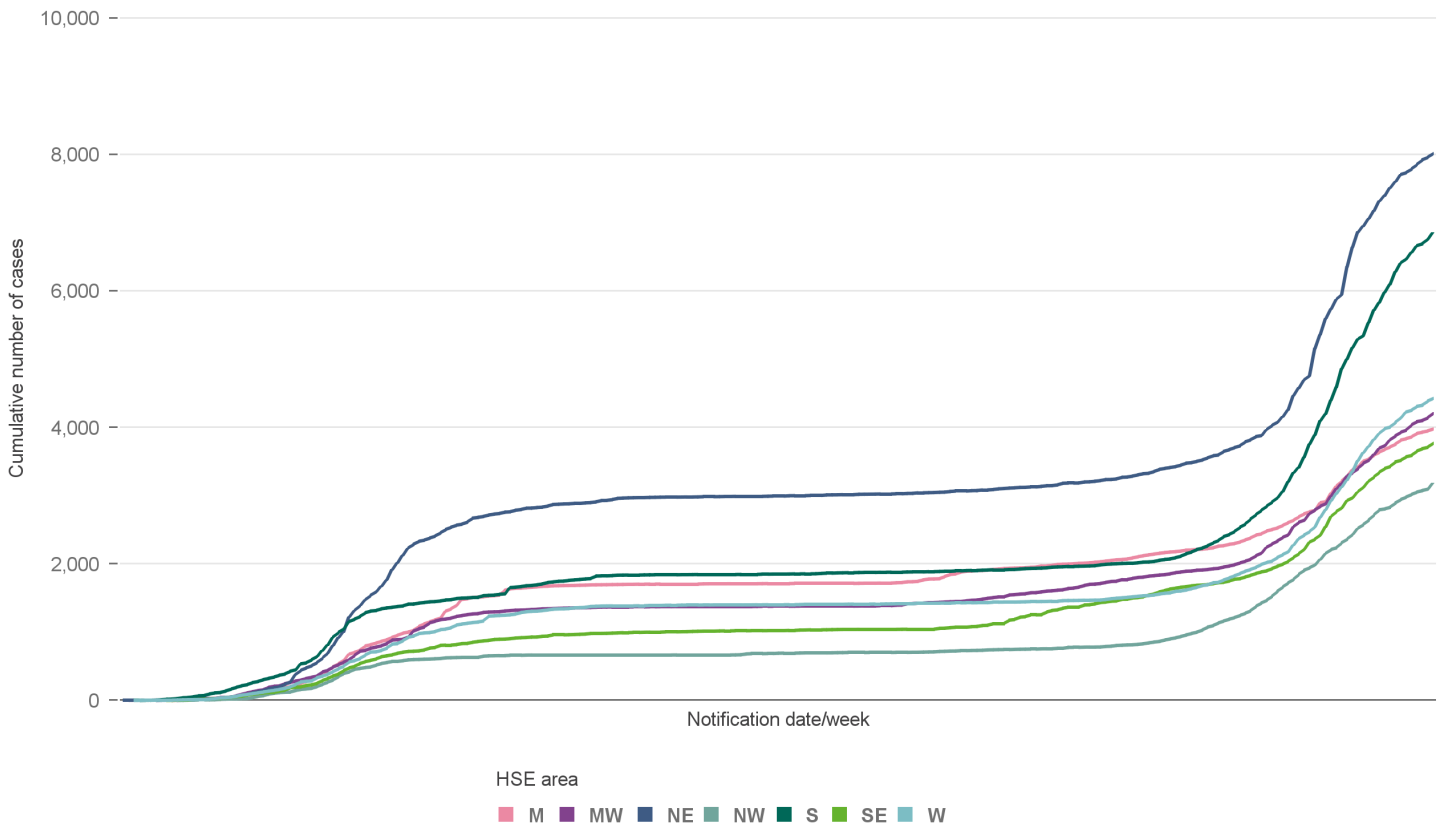


Figure B: Cumulative number of confirmed COVID-19 cases notified in Ireland by date/week of notification and HSE area (excluding HSE East) to midnight 04/11/2020

Appendix 1: Trends in confirmed COVID-19 cases notified in Ireland by HSE area

Table A: Cumulative number of confirmed COVID-19 cases notified in Ireland by week of notification and HSE area to midnight 04/11/2020

Week	E	M	MW	NE	NW	S	SE	W	Total
10	5		4	1		3		3	16
11	62	5	12	6	2	40	6	10	143
12	503	39	43	33	17	117	33	38	823
13	1,493	129	145	127	61	278	101	112	2,446
14	2,941	221	284	377	147	451	195	234	4,850
15	5,567	492	489	806	300	927	358	422	9,361
16	8,744	817	765	1,539	491	1,310	587	710	14,963
17	10,914	1,002	931	2,232	595	1,412	719	926	18,731
18	12,305	1,308	1,194	2,505	625	1,472	811	1,046	21,266
19	13,014	1,520	1,290	2,696	649	1,536	873	1,165	22,743
20	13,609	1,647	1,325	2,798	662	1,669	920	1,288	23,918
21	13,863	1,682	1,350	2,876	666	1,747	962	1,342	24,488
22	14,077	1,695	1,366	2,910	666	1,823	983	1,380	24,900
23	14,200	1,702	1,372	2,971	666	1,838	997	1,386	25,132
24	14,271	1,706	1,375	2,980	666	1,842	1,006	1,396	25,242
25	14,336	1,710	1,377	2,986	667	1,846	1,016	1,399	25,337
26	14,380	1,711	1,377	2,991	670	1,847	1,022	1,400	25,398
27	14,430	1,713	1,381	2,995	693	1,852	1,024	1,403	25,491
28	14,514	1,715	1,383	3,004	698	1,857	1,036	1,409	25,616
29	14,613	1,715	1,383	3,016	703	1,873	1,041	1,412	25,756
30	14,701	1,720	1,389	3,026	704	1,879	1,042	1,414	25,875
31	14,858	1,767	1,427	3,043	709	1,884	1,044	1,427	26,159
32	15,165	1,882	1,450	3,069	730	1,899	1,073	1,431	26,699
33	15,476	1,925	1,517	3,101	745	1,915	1,125	1,441	27,245
34	15,898	1,955	1,580	3,129	753	1,937	1,255	1,449	27,956
35	16,339	2,003	1,647	3,186	779	1,965	1,368	1,465	28,752
36	16,890	2,051	1,744	3,238	795	2,000	1,455	1,491	29,664
37	17,726	2,134	1,822	3,329	844	2,030	1,545	1,538	30,968
38	18,945	2,203	1,894	3,477	960	2,150	1,668	1,619	32,916
39	20,041	2,268	1,956	3,649	1,164	2,401	1,732	1,765	34,976
40	21,440	2,441	2,161	3,882	1,427	2,784	1,883	1,992	38,010
41	22,806	2,691	2,611	4,582	1,849	3,419	2,150	2,369	42,477
42	25,163	3,141	3,104	5,876	2,238	4,593	2,768	3,035	49,918
43	27,128	3,594	3,607	7,177	2,719	5,722	3,275	3,829	57,051
44	28,811	3,863	4,038	7,787	3,019	6,567	3,591	4,253	61,929
45	29,600	3,979	4,208	8,014	3,185	6,856	3,769	4,427	64,038

Appendix 2: Epidemiological weeks, 2020-2021

Table B: List of epidemiological weeks, start and end dates, 2020

Year	Week	Start date	End date
2020	1	29/12/2019	04/01/2020
2020	2	05/01/2020	11/01/2020
2020	3	12/01/2020	18/01/2020
2020	4	19/01/2020	25/01/2020
2020	5	26/01/2020	01/02/2020
2020	6	02/02/2020	08/02/2020
2020	7	09/02/2020	15/02/2020
2020	8	16/02/2020	22/02/2020
2020	9	23/02/2020	29/02/2020
2020	10	01/03/2020	07/03/2020
2020	11	08/03/2020	14/03/2020
2020	12	15/03/2020	21/03/2020
2020	13	22/03/2020	28/03/2020
2020	14	29/03/2020	04/04/2020
2020	15	05/04/2020	11/04/2020
2020	16	12/04/2020	18/04/2020
2020	17	19/04/2020	25/04/2020
2020	18	26/04/2020	02/05/2020
2020	19	03/05/2020	09/05/2020
2020	20	10/05/2020	16/05/2020
2020	21	17/05/2020	23/05/2020
2020	22	24/05/2020	30/05/2020
2020	23	31/05/2020	06/06/2020
2020	24	07/06/2020	13/06/2020
2020	25	14/06/2020	20/06/2020
2020	26	21/06/2020	27/06/2020
2020	27	28/06/2020	04/07/2020
2020	28	05/07/2020	11/07/2020
2020	29	12/07/2020	18/07/2020
2020	30	19/07/2020	25/07/2020
2020	31	26/07/2020	01/08/2020
2020	32	02/08/2020	08/08/2020
2020	33	09/08/2020	15/08/2020
2020	34	16/08/2020	22/08/2020
2020	35	23/08/2020	29/08/2020
2020	36	30/08/2020	05/09/2020
2020	37	06/09/2020	12/09/2020
2020	38	13/09/2020	19/09/2020

2020	39	20/09/2020	26/09/2020
2020	40	27/09/2020	03/10/2020
2020	41	04/10/2020	10/10/2020
2020	42	11/10/2020	17/10/2020
2020	43	18/10/2020	24/10/2020
2020	44	25/10/2020	31/10/2020
2020	45	01/11/2020	07/11/2020
2020	46	08/11/2020	14/11/2020
2020	47	15/11/2020	21/11/2020
2020	48	22/11/2020	28/11/2020
2020	49	29/11/2020	05/12/2020
2020	50	06/12/2020	12/12/2020
2020	51	13/12/2020	19/12/2020
2020	52	20/12/2020	26/12/2020
2020	53	27/12/2020	02/01/2021