An Roinn Sláinte
Department of Health
Office of the Chief Medical Officer

Epidemiological report
23rd December 2022

Executive Summary

- The overall COVID-19 epidemiological situation in Ireland indicates that the number of reported and detected infections, the total number of hospitalised COVID-19 cases and the daily average number of newly confirmed cases in hospital have continued to increase.
- The total number of confirmed cases in critical care has also recently increased.
- The number of notified outbreaks has increased across key vulnerable settings.
- COVID-19 mortality has remained broadly stable, although it is noted that there can be a lag in reporting of deaths.
- SARS-CoV-2 variants continue to be closely monitored and assessed for any potential threat to population health. The World Health Organization (WHO) and the European Centre for Disease Prevention and Control (ECDC) continue to monitor a number of SARS-CoV-2 variants including BQ.1 (and its sub-lineages) and XBB (a recombinant variant).
- The circulation of SARS-CoV-2 variants (including BQ.1 and BQ.1.1) in Ireland continues to be closely monitored. As in other European countries, the proportion of BQ.1 variant (and its sub-lineages) identified amongst cases sequenced in Ireland has recently increased. The HPSC has reported that BQ.1 (and its sub-lineages) is the dominant variant amongst reported sequenced cases with a specimen collection date in recent epidemiological weeks in Ireland.
- The European Centre for Disease Prevention and Control (ECDC) has reported (22nd December 2022) that, as of week 50 (week ending 18th December 2022), the overall European Union (EU)/European Economic Area (EEA) pooled notification rate of COVID-19 cases among people aged 65 years and older increased by 7% compared with the previous week. ECDC has reported that the impact of the increased transmission of SARS-CoV-2 in the EU/EEA is being seen in hospitals, with 11 of the 21 countries with data on hospital or ICU admissions/occupancy reporting an increasing trend in at least one of these indicators compared with the previous week. ECDC has indicated that this situation, together with an early influenza season and the co-circulation of respiratory syncytial virus (RSV), is likely to place considerable burden on hospitals in many EU/EEA countries in the coming weeks. ECDC has further highlighted that increased social activity and inter-generation mixing during the year-end holiday season is likely to increase the exposure of vulnerable groups to respiratory viruses.
- In Ireland, the number of confirmed cases of influenza and the total number of hospitalised influenza cases have continued to increase. The Health Protection Surveillance Centre (HPSC) considers that influenza viruses are widely circulating in Ireland, while levels of RSV case notifications and hospitalisations have reduced but remain at high levels.

It remains important to provide clear guidance and communication with the public on the evolving disease profile and a cultural shift towards embedding individual and collective personal behaviours to mitigate against COVID-19 and other respiratory infections. It is important that the existing key public health advice continues to be communicated to the general public so that individuals may optimally protect themselves from severe health outcomes associated with COVID-19. It is

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particularly important that eligible groups for primary and booster doses (first, second and third) continue to be encouraged to avail of vaccination in order to confer optimal protection against the risk of severe disease as well as against other potential long-term consequences of infection.

The current key public health advice is as follows:

- Anyone who has symptoms of COVID-19 should self-isolate until 48 hours after symptoms have substantially or fully resolved – please do not attend any social events, work, school or college if you have symptoms.

- Anyone diagnosed with COVID-19 should self-isolate for 7 days from date of onset of symptoms, or if asymptomatic, date of first positive test. Anyone exiting self-isolation at day seven should continue to adhere to other public health protective measures.

- Mask wearing is advised on public transport and in healthcare settings. Mask wearing is also advised based on individual risk assessment. Anyone who wishes to wear a mask should not be discouraged from doing so. Individuals who are vulnerable to COVID-19 are further advised to be aware of the risk associated with activities they may choose to engage in and to take measures to optimally protect themselves. Vulnerable individuals are advised to consider wearing masks in crowded indoor settings, such as may relate, for example, to social gatherings or other activities and events.

- Continue to practise good hand and respiratory hygiene by washing and sanitising hands regularly and coughing/sneezing into your elbow. Maintain a physical distance where possible.

- Meet up outdoors if possible. When meeting indoors, avoid poorly ventilated spaces and keep windows open if possible.

- Many people who were infected with COVID-19 in late 2021 and earlier in 2022 will now be eligible for a booster dose of COVID-19 vaccine. People aged 12 years or older and children aged 5 to 11 years with a weak immune system are eligible for a first booster dose. People aged 50 years to 64 years, pregnant women (from 16 weeks), healthcare workers, and people aged 12 or older with a condition that puts them at high risk of serious illness from COVID-19 (for example, diabetes or heart disease) are now eligible to register for their second COVID-19 booster vaccine. People aged 65 years or older and people aged 12 or older who have a weak immune system are now eligible to register for their third booster dose. It is not too late to receive a primary course of COVID-19 vaccine. Vaccines remain the most effective way of protecting ourselves from the worst effects of COVID-19.

Epidemiological update

- A total of 2,951 confirmed PCR cases have been reported in the 7 days to 20th December 2022 (cases notified to midnight 19th December 2022), which is a 28% increase from last week when 2,309 PCR positive cases were reported in the 7 days to 13th December.
- There were 6,663 positive antigen test results reported in the 7 days to 20th December 2022 (results uploaded to HSE portal in the week to 19th December), which is a 28% increase from last week when 5,200 positive antigen test results were reported in the 7 days to 13th December 2022.
- As of 20th December 2022, the 14-day incidence rate (PCR) per 100,000 population is 110 which is 26% higher than a week previously (88). Incidence rates are likely to be underestimates.
- Nationally, the 7-day incidence (PCR) per 100,000 population as a proportion of 14-day incidence (PCR) per 100,000 population is 56%, demonstrating that there were more confirmed cases identified through PCR testing in laboratories in the 7 days to 20th December, compared with the preceding 7 days.
- The 5-day rolling average of daily reported cases (PCR) is 395 as of 20th December, which is 23% higher than that reported on 13th December (322).
- Regarding national SARS-CoV-2 wastewater surveillance, in week 49 (to 10th December), of the 64 catchment areas for which a change from the previous week could be calculated, the viral load remained stable (within +/- 10%) in 48 of them, while 9 experienced decreases of 10% or more, and 7 saw increases from 10 to 50%. When data across catchments areas was pooled and normalised for the population, the weekly distribution of SARS-CoV-2 viral load overall was relatively stable but variation was seen across catchment areas.
- There were 657 confirmed COVID-19 cases in hospital this morning (23rd December 2022), compared with 515 last week on 16th December. There have been 124 newly confirmed cases in hospital in the 24 hours preceding this morning. On average, there have been 106 new COVID-19 hospitalisations per day observed in the seven days to 23rd December.
- As of 20th December, 33% (N=247) of hospitalised cases were categorised as hospitalised for COVID-19, with the remaining 67% (N=502) categorised as asymptomatic COVID-19 cases and potentially infectious.
- The age breakdown of cases hospitalised for COVID-19 (N=247) as of 20th December: 177 (72%) aged 65 years and older, 32 (13%) aged 50-64, 26 (11%) aged 15-49 and 12 (5%) aged 0-14 years old.
- The vaccination profile of cases aged 15 years and older hospitalised for COVID-19 (N=233) was:
    - Of those aged 65 years and older (N=164): 1% had received a second booster; 45% had received a first booster; 21% had completed a primary vaccination course; and 34% had not completed a primary vaccination course.
    - Of those aged 50-64 (N=36): 3% had received a second booster; 53% had received a first booster; 14% had completed a primary vaccination course; and 31% had not completed a primary vaccination course.
    - Of those aged 15-49 (N=33): 3% had received a second booster; 27% had received a first booster; 24% had completed primary vaccination; and 45% had not completed a primary vaccination course.
- There were 26 confirmed cases in critical care as of yesterday morning (22nd December 2022), compared with 11 a week previously (15th December). There were 5 new admissions to critical

care in the 24 hours preceding yesterday morning. On average, there have been 3 new COVID-19 admissions per day observed in the seven days to 22nd December. Of the 26 cases in critical care yesterday morning, 5 were invasively ventilated.

- The number of COVID-19 cases in ICU whose primary reason for admission to ICU was COVID-19 was 6 on 20th December, up from 5 a week previously on 13th December. The proportion of COVID-19 cases in ICU for whom the primary reason for admission to ICU was COVID-19 decreased from 45% on 13th December to 35% on 20th December.
- According to National Office of Clinical Audit (NOCA) data, as of 20th December 2022, where vaccination status was known (N=13), 2 COVID-19 cases in ICU were unvaccinated. Of those COVID-19 cases in ICU who had completed their primary course of vaccination (N=11), 91% were recorded as having received a booster/additional dose.
- As of 22nd December, 203 patients were in receipt of non-invasive ventilation/Continuous Positive Airway Pressure (CPAP) or High-Flow Oxygen in non-critical care settings, of whom 37 patients were COVID-19 cases.
- There continues to be a significant number of cases of hospital acquired infection (note this is based on data to the week ending 11th December 2022). There were 145 hospital acquired COVID-19 infections reported in the week ending 11th December, compared to 174 in the week ending 4th December, and 149 in the week ending 27th November.
- As of 20th December 2022, there have been 8,293 COVID-19 related deaths reported in Ireland since the outset of the pandemic. As of midnight 19th December 2022, there have been 27 COVID-19 related deaths notified which occurred in December 2022, 106 which occurred in November 2022, and 129 which occurred in October 2022.
- Based on whole genome sequencing (WGS) results to 10th December 2022, the HPSC has reported that BQ.1 (and its sub-lineages) is the dominant variant amongst reported sequenced cases with a specimen collection date in recent epidemiological weeks in Ireland. The proportion of BA.2.75 variant (and its sub-lineages) detected amongst recently sequenced cases has also increased. The HPSC continues to monitor a number of other circulating variants, including XBB (and its sub-lineages), of which 56 cases have been identified in Ireland as of 10th December 2022.
- As of 21st December 2022, 63% of children aged 12-15 years have received their primary course of vaccination. Of those aged 5-11 years, 23% have received one dose of their primary course of vaccination.
- As of 21st December, approximately 40% of the population aged 50-64 years have received a second booster dose. For those aged 65 years and older, 80% have received a second booster dose and 44% have received a third booster dose.
- The HPSC has reported that influenza activity continued to increase in Ireland during week 50 2022 (week ending 18th December 2022). Influenza A viruses are predominating this season, with circulation of both influenza A(H1)pdm09 and A(H3). Respiratory syncytial virus (RSV) activity remains at high levels in Ireland. HPSC considers that influenza viruses are widely circulating in Ireland. The number of notified laboratory confirmed influenza cases increased during week 50 to 1,174, compared to 669 during week 49 (week ending 11th December). Age specific rates were highest in those aged 65 years and older. During week 50 2022, 294 laboratory confirmed influenza cases were reported as hospital inpatients, an increase compared to 218 laboratory confirmed influenza notifications reported as hospital inpatients during week 49 2022. No laboratory confirmed influenza cases were admitted to critical care and

notified to HPSC during week 50 2022. During weeks 40-50, 25 laboratory confirmed influenza cases have been admitted to critical care and notified to HPSC. In total, 502 RSV cases were notified during week 50 2022, a 24% decrease compared to 664 cases notified during week 49 2022. There were 187 RSV cases reported as hospital inpatients during week 50 2022, a 25% decrease compared to 248 in week 49. In week 50 2022, age specific rates in notified laboratory confirmed hospitalised RSV cases were highest in those aged less than one year.

Outbreaks for week 50 (11th December to 17th December) are based on those reported up to midnight on 17th December 2022.

There was a total of 84 COVID-19 outbreaks notified in week 50. Regional departments of public health are currently prioritising the reporting of outbreak investigations in settings that would benefit most from public health and clinical intervention.

Healthcare setting outbreaks:

- There were 36 new nursing home and 9 new community hospital/long-stay unit outbreaks reported in week 50. The case range of these outbreaks was 0-25 cases.
- There were 32 new acute hospital outbreaks reported in week 50, with a range of 0-10 cases.
- There were 14 new outbreaks reported in a residential institution setting (10 in centres for disabilities, 3 in a mental health facility and 1 in 'other' facility) in week 50, with 0-12 cases.

Noting that the national SARS-CoV-2 testing guidance may influence trends, the number of infections detected and reported daily (based on PCR and self-reported antigen tests) has increased over the last week. PCR testing volumes have been broadly stable while test positivity has increased substantially. A significant proportion of detected infections continues to be identified in older age groups.

The COVID-19 burden on acute hospital care remains significant. The total number of hospitalised COVID-19 cases has increased (657 as of 23rd December). The daily average number of newly confirmed cases in hospital has also continued to increase (106 per day observed in the seven days to 23rd December). Data for COVID-19 cases in hospital as of 20th December show that 33% were hospitalised for COVID-19 disease, with the remainder categorised as asymptomatic infectious cases.

The total number of confirmed cases in critical care (26 as of 22nd December) has increased in recent days and continues to be monitored. The proportion of cases whose primary reason for admission to ICU was COVID-19 was 35% as of 20th December. The number of COVID-19 patients in receipt of advanced respiratory support in hospital settings outside of ICU has also increased in recent days.

The number of notified outbreaks has recently increased across key vulnerable settings. COVID-19 mortality has remained broadly stable, although it is noted that there can be a lag in reporting of deaths.

You will be aware from colleagues in the Department that the acute hospital system remains under considerable pressure, with COVID-19 continuing to impact on acute capacity (657 COVID-19 inpatients on 23rd December).

We continue to closely monitor emerging SARS-CoV-2 variants and assess any potential threat to population health. The World Health Organization (WHO) is currently monitoring the global circulation of a number of Omicron variants including BQ.1 and its sublineages and XBB. WHO has reported (21st December 2022) that BA.5 and its descendent lineages remain dominant globally, accounting for 68% of sequences submitted to GISAID (genomic sequencing database) as of week 48 (28th November to 4th December 2022), although their prevalence is decreasing. The prevalence of BA.2 and its descendent lineages is increasing, primarily due to BA.2.75 and its descendent lineages; which accounted for 13% of sequences submitted. BA.4 and its descendent lineages are declining with a prevalence of approximately 1% as of week 48. At the global level, six variants currently under monitoring (including BQ.1, BA.2.75 and XBB) account for 73% of prevalence as of week 48, and have replaced the former BA.5 descendent lineages. Based on current evidence, WHO has reported that there is no indication of increased severity associated with these variants under monitoring compared to the former Omicron lineages.

The European Centre for Disease Prevention and Control (ECDC) has reported that the current situation with SARS-CoV-2 variants continues to present a complex landscape of continuous evolution of numerous sub-lineages and accumulation of multiple immune escape mutations. Some of these are better at escaping natural or vaccine-induced immunity and thus have a relative growth advantage, but others continue to evolve as well. These emerging sub-lineages in the European Union (EU)/European Economic Area (EEA) are occurring mostly within BA.5 and BA.2 lineages, along with recombinants among variants, of which XBB has reached the highest proportions in the EU/EEA. ECDC has indicated that BQ.1 (including BQ.1.1) is dominant in most countries in the EU/EEA. While BQ.1 continues to increase in many countries in the EU/EEA according to available sequencing data, fluctuating trends observed in several countries suggest that BQ.1 does not have a clear growth advantage over other circulating lineages. ECDC has also reported that the BA.2.75 descendant lineages BN.1 and CH.1.1 were added to the ECDC list of variants under monitoring as of 21st December 2022. Both lineages were introduced in the European Union (EU)/European Economic Area (EEA) in early autumn 2022 and are currently circulating at low proportions. BN.1 and CH.1.1 have acquired several of the immune escape mutations present in the current complex variant landscape and have shown an increase in growth rate in recent weeks. ECDC has further indicated that, as in previous weeks, there appears to be no clear association between the prevalence of circulating SARS-CoV-2 virus variants and the epidemiological situation in EU/EEA countries.

The circulation of SARS-CoV-2 variants in Ireland continues to be closely monitored. Based on whole genome sequencing (WGS) results to 10th December 2022, the HPSC has reported that BQ.1 (and its sub-lineages) is the dominant variant amongst reported sequenced cases with a specimen collection date in recent epidemiological weeks in Ireland. The proportion of BA.2.75 variant (and its sub-lineages) detected amongst recently sequenced cases has also increased. The HPSC continues to monitor a number of other circulating variants, including XBB (and its sub-lineages), of which 56 cases have been identified in Ireland as of 10th December 2022.

In regard to the epidemiological situation in the EU/EEA, the ECDC has reported (22nd December 2022) that, at the end of week 50 2022 (week ending 18th December), the pooled EU/EEA notification rate of COVID-19 cases among people aged 65 years and older increased by 7% compared with the previous week. This trend is driven by 15 of the 24 countries that reported data on this indicator, many of which have observed sharp increases compared with the previous week.

The impact of this increased transmission is being seen in hospitals: 11 of the 21 countries with data on hospital or ICU admissions/occupancy up to week 50 reported an increasing trend in at least one of these indicators compared to the previous week. ECDC has indicated that this situation, together with an early influenza season and the co-circulation of RSV, is likely to place considerable burden on hospitals in many EU/EEA countries in the coming weeks. ECDC has further highlighted that increased social activity and inter-generation mixing during the year-end holiday season is likely to increase the exposure of vulnerable groups to respiratory viruses.

In summary, the overall epidemiological situation in Ireland indicates that the number of reported and detected infections, the total number of hospitalised COVID-19 cases and the daily average of newly confirmed cases in hospital have continued to increase. The total number of confirmed cases in critical care has also recently increased. SARS-CoV-2 variants (including BQ.1) continue to be closely monitored. As in a number of other European countries, the proportion of BQ.1 variant (and its sub-lineages) identified amongst cases sequenced in Ireland has recently increased. The HPSC has reported that BQ.1 (and its sub-lineages) is the dominant variant amongst reported sequenced cases with a specimen collection date in recent epidemiological weeks in Ireland.