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

Epidemiological report
16th December 2022

Executive 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 number of newly confirmed cases in hospital have increased.
- The total number of confirmed cases in critical care remain broadly stable.
- The number of notified outbreaks has been broadly stable across most 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 emerging 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 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. BQ.1 variant (including its lineages) represents in excess of 50% of reported sequenced cases with a specimen collection date in recent epidemiological weeks. The increase in circulation of BQ.1 (and its sub-lineages) in Ireland may contribute to an increase in COVID-19 cases and hospitalisations in the coming weeks and months.
- The number of confirmed cases of influenza, and the total number of hospitalised influenza cases have continued to increase significantly, while levels of respiratory syncytial virus (RSV) infection and hospitalisations remain at very 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 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.

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- 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 2,309 confirmed PCR cases have been reported in the 7 days to 13th December 2022 (cases notified to midnight 12th December 2022), which is a 23% increase from last week when 1,873 PCR positive cases were reported in the 7 days to 6th December.
- There were 5,200 positive antigen test results reported in the 7 days to 13th December 2022 (results uploaded to HSE portal in the week to 12th December), which is a 32% increase from last week when 3,954 positive antigen test results were reported in the 7 days to 6th December 2022.
- As of 13th December 2022, the 14-day incidence rate (PCR) per 100,000 population is 88 which is 16% higher than a week previously (76). 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 55%, demonstrating that there were more confirmed cases identified through PCR testing in laboratories in the 7 days to 13th December, compared with the preceding 7 days.
- The 5-day rolling average of daily reported cases (PCR) is 322 as of 13th December, which is 29% higher than that reported on 6th December (250).
- 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 was relatively stable overall, noting variation across several catchment areas in recent weeks to week 49.
- There were 515 confirmed COVID-19 cases in hospital this morning (16 December 2022), compared with 351 last week on 09 December. There have been 103 newly confirmed cases in hospital in the 24 hours preceding this morning. On average, there have been 82.4 new COVID-19 hospitalisations per day observed in the seven days to 16 December.
- As of 13th December, 36% (N=182) of hospitalised cases were categorised as hospitalised for COVID-19, with the remaining 64% (N=323) categorised as asymptomatic COVID-19 cases and potentially infectious.
- The age breakdown of cases hospitalised for COVID-19 (N=182) as of 13th December: 129 (71%) aged 65 years and older, 21 (12%) aged 50-64, 22 (12%) aged 15-49 and 10 (6%) aged 0-14 years old.
- The vaccination profile of cases aged 15 years and older hospitalised for COVID-19 (N=172) was:
    - Of those aged 65 years and older (N=129): 45% had received a second booster; 24% had received a first booster; 5% had completed a primary vaccination course; and 26% had not completed a primary vaccination course.
    - Of those aged 50-64 (N=21): 33% had received a second booster; 19% had received a first booster; and 48% had not completed a primary vaccination course.
    - Of those aged 15-49 (N=22): 23% had received a first booster; 27% had completed primary vaccination; and 45% had not completed a primary vaccination course.
- There were 9 confirmed cases in critical care as of this morning (16 December 2022), compared with 10 a week ago (09 December). There were no new admissions to critical care in the 24 hours preceding this morning. On average, there has been 1.1 new COVID-19 admissions per day observed in the seven days to 16 December. Of the 9 cases in critical care this morning, 5 were invasively ventilated.

- The number of COVID-19 cases in ICU whose primary reason for admission to ICU was COVID-19 was 5 on 13th December, the same as a week previously on 6th December. The proportion of COVID-19 cases in ICU for whom the primary reason for admission to ICU was COVID-19 decreased from 50% on 6th December to 45% on 13th December.
- According to National Office of Clinical Audit (NOCA) data, as of 13th December 2022, where vaccination status was known (N=10), 1 COVID-19 case in ICU was unvaccinated. Of those COVID-19 cases in ICU who had completed their primary course of vaccination (N=9), 78% were recorded as having received a booster/additional dose.
- As of 12th December, 176 patients were in receipt of non-invasive ventilation/Continuous Positive Airway Pressure (CPAP) or High-Flow Oxygen in non-critical care settings, of whom 21 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 4th December 2022). There were 168 hospital acquired COVID-19 infections reported in the week ending 4th December, compared to 149 in the week ending 27th November, and 124 in the week ending 20th October.
- As of 13th December 2022, there have been 8,270 COVID-19 related deaths reported in Ireland since the outset of the pandemic. As of midnight 12th December 2022, there have been 15 COVID-19 related deaths notified which occurred in December 2022, 99 which occurred in November 2022, and 129 which occurred in October 2022.
- Based on sequencing results to 27th November 2022, the HPSC has reported that 1,444 cases of BQ.1 and its sub-lineages have been detected in Ireland through whole genome sequencing. The proportion of BQ.1 variant (and its sub-lineages) identified amongst cases sequenced in Ireland has increased. BQ.1 variant (including its lineages) represents in excess of 50% of reported sequenced cases with a specimen collection date in recent epidemiological weeks in Ireland. In addition, based on sequencing results to 27th November, 55 cases of Omicron recombinant XBB (and its sub-lineages) and 432 cases of BA.2.75 (or BA.2.75 sub-lineages) have been identified in Ireland.
- As of 14 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 13th December, approximately 39% 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 42% have received a third booster dose.
- The HPSC has reported that influenza activity continued to increase in Ireland during week 49 2022 (week ending 11th December 2022). Influenza A viruses are predominating this season, with circulation of both influenza A(H1)pdm09 and A(H3). HPSC considers that influenza viruses are widely circulating in Ireland. The number of notified laboratory confirmed influenza cases increased substantially during week 49 to 670, compared to 370 during week 48 (week ending 4th December). Age specific rates were highest in those aged 65 years and older and in the 0-4 year age group. During week 49 2022, 213 laboratory confirmed influenza cases were reported as hospital inpatients, an increase compared to 127 laboratory confirmed influenza notifications reported as hospital inpatients during week 48 2022. Five laboratory confirmed influenza cases were admitted to critical care and notified to HPSC during week 49 2022. During weeks 40-49, 21 laboratory confirmed influenza cases have been admitted to critical care and notified to HPSC.

- Respiratory syncytial virus (RSV) activity remains at very high levels in Ireland. In total, 665 RSV cases were notified during week 49 2022, remaining high and stable compared to 678 cases notified during week 48 2022. There were 248 RSV cases reported as hospital inpatients during week 49 2022, compared to 265 in week 48. Age specific rates in notified laboratory confirmed hospitalised RSV cases were highest in those aged 0-4 years

Outbreaks for week 49 (4th December to 10th December) are based on those reported up to midnight on 10th December 2022.

There was a total of 61 COVID-19 outbreaks notified in week 49. 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 26 new nursing home and 5 new community hospital/long-stay unit outbreaks reported in week 49. The case range of these outbreaks was 0-31 cases.
- There were 16 new acute hospital outbreaks reported in week 49, with a range of 2-13 cases.
- There were 7 new outbreaks reported in a residential institution setting (4 in centres for disabilities, 1 in a centre for older people, 1 in a mental health facility and 1 in 'other' facility) in week 49, with 2-15 cases.
- There were 6 new outbreaks reported in 'other healthcare settings' (4 in services for people with disabilities and 2 among clients of mental health facilities) in week 49, with 2-13 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. 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 recently increased and continues to be monitored (515 as of 16th December). The daily average number of newly confirmed cases in hospital has also increased, particularly in recent days (82.4 per day observed in the seven days to 16th December). Data for COVID-19 cases in hospital as of 13th December show that 36% were hospitalised for COVID-19 disease, with the remainder categorised as asymptomatic infectious cases.

The total number of confirmed cases in critical care (9 as of 16th December) has been broadly stable. The number of ICU COVID-19 cases requiring mechanical ventilation has been stable. The proportion of cases whose primary reason for admission to ICU was COVID-19 was 45% as of 13th December. The number of COVID-19 patients in receipt of advanced respiratory support in hospital settings outside of ICU has been stable.

The number of notified outbreaks has been broadly stable across most 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 (515 COVID-19 inpatients on 16th 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 (14th December 2022), that based on sequences submitted to GISAID (genomic sequencing database), BA.5 descendent lineages remain predominant globally, with a prevalence of 74% as of epidemiological week 46 (14th to 20th November 2022), followed by BA.2 descendent lineages, with a prevalence of 10%. WHO has further indicated that the evolution of Omicron descendent variants continues to show genetic diversification and has resulted in more than 540 descendent lineages, and more than 61 recombinants. However, only some of these descendent lineages continue to increase in prevalence, while others remain at only a few sequence detections. Among the more relevant variant lineages, WHO has reported that specific substitutions are accumulating, a genetic pattern referred to as convergent evolution. WHO is monitoring five Omicron subvariants (including BQ.1, BA.2.75 and XBB) due to relevant genetic variation, rise in prevalence, and/or an observed and continued impact on case incidence in more than one country. As of week 46, these Omicron subvariants under monitoring have replaced previous BA.5 descendent lineages and account for 63.5% of prevalence at a global level. The replacement pattern of these subvariants points to a potential role of specific mutations in growth advantage, probably by immune escape properties.

The circulation of SARS-CoV-2 variants in Ireland continues to be closely monitored. Based on sequencing results to 27th November 2022, the HPSC has reported that 1,444 cases of BQ.1 and its sub-lineages have been detected in Ireland through whole genome sequencing. The proportion of BQ.1 variant (and its sub-lineages) identified amongst cases sequenced in Ireland has increased. BQ.1 variant (including its lineages) represents in excess of 50% of reported sequenced cases with a specimen collection date in recent epidemiological weeks in Ireland. In addition, based on sequencing results to 27th November, 55 cases of Omicron recombinant XBB (and its sub-lineages) and 432 cases of BA.2.75 (or BA.2.75 sub-lineages) have been identified in Ireland.

In regard to the epidemiological situation in the European Union (EU)/European Economic Area (EEA), the ECDC has reported (15th December 2022) that, at the end of week 49 2022 (week ending 11th December), European Union (EU)/European Economic Area (EEA)-level COVID-19 case rates increased by 6%, both in those aged 65 years and older and overall (all ages), compared to the previous week. At the EU/EEA-level, hospital occupancy has increased since the previous week, while hospital and ICU admissions and ICU occupancy indicators remained stable. Overall, the EU/EEA death rate also continued to decrease and is at low levels compared to the pandemic maximum. Given the current reversal of trends for some epidemiological indicators and the evolving variant scenarios, the ECDC has highlighted that it remains important to continue monitoring the epidemiological situation.

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 increased. The total number of confirmed cases in critical care remains broadly stable. 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 have recently increased. BQ.1 variant (including its lineages) represents in excess of 50% of reported sequenced cases with a specimen collection date in recent epidemiological weeks. The increase in circulation of BQ.1 (and its sub-lineages) in Ireland may contribute to an increase in COVID-19 cases and hospitalisations in the coming weeks and months.