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

Epidemiological report
6th January 2023

Executive Summary

- The overall epidemiological situation in Ireland indicates that COVID-19 continues to circulate at significant levels.
- As in other countries, recent trends in epidemiological indicators should be interpreted with caution due to the impact of the recent Christmas holiday period on surveillance and health-seeking behaviour.
- The COVID-19 burden on acute hospital care remains substantial with 619 confirmed COVID-19 cases in hospital this morning (6th January 2023), of which 36 were in critical care.
- The daily average number of newly confirmed cases in hospital remains elevated at 94 per day observed in the seven days to 6th January.
- 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), including sub-lineage XBB.1.5. WHO and ECDC are monitoring the rapidly increasing proportion of XBB.1.5 in the United States and other countries. Based on available data, this variant appears to have a growth advantage over previously circulating lineages. ECDC has further indicated that there is currently insufficient information available to assess any change in infection severity associated with the variant. ECDC has reported that there is a possibility that this variant could have an increasing effect on the number of COVID-19 cases in the European Union (EU)/European Economic Area (EEA), but not within the coming month as the variant is currently only present in the EU/EEA at very low levels.
- In addition, WHO and ECDC continue to monitor available data relating to the COVID-19 epidemiological situation in China where the number of COVID-19 cases has reached record levels. Given the higher population immunity in the EU/EEA, and the available information that the variants currently circulating in China have already been circulating in the EU/EEA, ECDC has assessed that the current surge in cases of these variants in China is not expected to have any significant impact on the COVID-19 epidemiological situation in the EU/EEA. There is currently no data suggesting the emergence of new variants of concern in China. ECDC has indicated that it will review its assessments as new information becomes available.
- The circulation of SARS-CoV-2 variants in Ireland continues to be closely monitored. The HPSC has reported that BQ.1 (and its sub-lineages) remains the dominant variant amongst reported sequenced cases with a specimen collection date in recent epidemiological weeks in Ireland. Based on whole genome sequencing (WGS) results available to 19th December 2022, one case of XBB.1.5 has been identified in Ireland and reported by the HPSC.
- Noting that recent trends in epidemiological indicators should be interpreted with caution due to the impact of the recent Christmas period and public holidays on surveillance and health-

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seeking behaviour, levels of influenza circulation in Ireland remain very high. While respiratory syncytial virus (RSV) continues to circulate, notifications of RSV cases and hospitalisations have declined compared to previous weeks.

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.

- 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 18 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 2,794 confirmed PCR cases have been reported in the 7 days to 3rd January 2023 (cases notified to midnight 2nd January 2023), which is an 18% decrease from last week when 3,392 PCR positive cases were reported in the 7 days to 27th December.
- There were 5,249 positive antigen test results reported in the 7 days to 3rd January 2023 (results uploaded to HSE portal in the week to 2nd January), which is a 6% increase from last week when 4,958 positive antigen test results were reported in the 7 days to 27th December 2022.
- As of 3rd January 2023, the 14-day incidence rate (PCR) per 100,000 population is 130 which is 2.5% lower than a week previously (133). 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 45%, demonstrating that there were fewer confirmed cases identified through PCR testing in laboratories in the 7 days to 3rd January, compared with the preceding 7 days.
- The 5-day rolling average of daily reported cases (PCR) is 340 as of 3rd January, which is 11% lower than that reported on 27th December (381).
- Regarding national SARS-CoV-2 wastewater surveillance, in week 51 (to 24th December), of the 59 catchment areas for which a change from the previous week could be calculated, the viral load remained stable (within +/- 10%) in 30 of them, while 3 experienced decreases of 10% or more, and 26 saw increases of at least 10%. Of these, 26 had an increase from 10 to 50%, and 0 had an increase of more than 50%. When data across catchments areas was pooled and normalised for the population, the number of catchment areas for which the population-normalised viral load is increasing has risen.
- There were 619 confirmed COVID-19 cases in hospital this morning (6th January 2023), compared with 670 last week on 30th December 2022, and 667 on 23rd December 2022. There have been 93 newly confirmed cases in hospital in the 24 hours preceding this morning. On average, there have been 94 new COVID-19 hospitalisations per day observed in the seven days to 6th January.
- As of 3rd January, 36% (N=303) of hospitalised cases were categorised as hospitalised for COVID-19, with the remaining 64% (N=530) categorised as asymptomatic COVID-19 cases and potentially infectious.
- The age breakdown of cases hospitalised for COVID-19 (N=303) as of 3rd January: 240 (79%) aged 65 years and older, 21 (7%) aged 50-64, 20 (7%) aged 15-49 and 22 (7%) aged 0-14 years old.
- The vaccination profile of cases aged 15 years and older hospitalised for COVID-19 (N=303) was:
    - Of those aged 65 years and older (N=240): 27% had received a second booster; 16% had received a first booster; 28% had completed a primary vaccination course; and 27% 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; 43% had completed a primary vaccination course; and 24% had not completed a primary vaccination course.
    - Of those aged 15-49 (N=20): 20% had received a first booster; 40% had completed primary vaccination; and 25% had not completed a primary vaccination course.
- There were 36 confirmed cases in critical care as of yesterday morning (6th January 2023), compared with 29 a week previously (30th December 2022), and 32 two weeks ago on 23rd December 2022. There were 3 new admissions to critical care in the 24 hours preceding this

morning. On average, there have been 3.7 new COVID-19 admissions per day observed in the seven days to 6th January. Of the 36 cases in critical care yesterday morning, 20 were invasively ventilated.

- The number of COVID-19 cases in ICU whose primary reason for admission to ICU was COVID-19 was 12 on 3rd January, down from 17 a week previously on 27th December but higher than two weeks previously (6 on 20th December). The proportion of COVID-19 cases in ICU for whom the primary reason for admission to ICU was COVID-19 decreased from 53% on 27th December to 43% on 3rd January 2023.
- According to National Office of Clinical Audit (NOCA) data, as of 3rd January 2023, where vaccination status was known (N=21), 2 COVID-19 cases in ICU were unvaccinated and 1 was partly vaccinated. Of those COVID-19 cases in ICU who had completed their primary course of vaccination (N=18), 83% were recorded as having received a booster/additional dose.
- As of 4th January 2023, 232 patients were in receipt of non-invasive ventilation/Continuous Positive Airway Pressure (CPAP) or High-Flow Oxygen in non-critical care settings, of whom 50 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 25th December 2022). There were 228 hospital acquired COVID-19 infections reported in the week ending 25th December, compared to 283 in the week ending 18th December, 146 in the week ending 11th December and 174 in week ending 4th December.
- As of 3rd January 2022, there have been 8,339 COVID-19 related deaths reported in Ireland since the outset of the pandemic. As of midnight 2nd January 2023, there have been 65 COVID-19 related deaths notified which occurred in December 2022, 112 which occurred in November 2022, and 129 which occurred in October 2022.
- The circulation of SARS-CoV-2 variants in Ireland continues to be closely monitored. Based on whole genome sequencing (WGS) results to 19th December 2022, the HPSC has reported that BQ.1 (and its sub-lineages) remains 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 in recent weeks. HPSC continues to monitor a number of other circulating variants, including XBB (and its sub-lineages). Based on WGS results available to 19th December 2022, one case of XBB.1.5 has been identified in Ireland and reported by the HPSC.
- As of 3rd January 2023, 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 3rd January, 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 weeks 51 and 52 2022 (week ending 31st December 2022). Influenza A viruses are predominating this season, with circulation of both influenza A(H1)pdm09 and A(H3). Respiratory syncytial virus (RSV) continues to circulate in Ireland although activity declined during weeks 51 and 52 2022. HPSC considers that influenza viruses are widely circulating in Ireland. The number of notified laboratory confirmed influenza cases was high during weeks 51 and 52 at 2,328 and 2,261, respectively, reflecting an increase from 1,174 during week 50 and 669 during week 49 (week

ending 11th December). Age specific rates were highest in those aged 65 years and older. During weeks 51 and 52 2022, 638 and 595 laboratory confirmed influenza cases were reported as hospital inpatients, respectively, an increase compared to 300 laboratory confirmed influenza cases reported as hospital inpatients during week 50 2022. During weeks 40-52, 58 laboratory confirmed influenza cases have been admitted to critical care and notified to HPSC. In total, 286 RSV cases were notified during week 52 2022, a 46% decrease compared to 532 cases notified during week 51 2022. There were 115 RSV cases reported as hospital inpatients during week 52 2022, a 39% decrease compared to 189 in week 51. In week 52 2022, age specific rates in notified laboratory confirmed hospitalised RSV cases were highest in those aged less than one year.

Outbreaks for week 51 (18th – 24th December) and week 52 (25th - 31st December) are based on those reported up to midnight on 31st December 2022. Please note due to the Christmas period and public holidays there may be delays in notification of outbreaks to CIDR. Therefore, data for week 52 should be reviewed with caution. Further data from subsequent weeks will give a clearer indication of trends.

There was a total of 115 COVID-19 outbreaks notified in week 51 and 72 notified in week 52. 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 51, with 35 nursing home and 7 community hospital outbreaks notified in week 52.
- There were 46 new acute hospital outbreaks reported in week 51 and 10 in week 52.
- There were 23 new outbreaks reported in a residential institution in week 51 and 19 (9 in centres for disabilities, 7 in mental health facilities, 2 in centres for older people and 1 in other centre) notified in week 52.

As in other countries, recent trends in epidemiological indicators should be interpreted with caution due to the impact of the recent Christmas period and public holidays on surveillance and health-seeking behaviour. PCR testing volumes have varied while test positivity has remained substantially elevated. A significant proportion of detected infections continues to be identified in older age groups.

The COVID-19 burden on acute hospital care remains significant. There were 619 confirmed COVID-19 cases in hospital this morning (6th January 2023), compared with 670 last week on 30th December 2022, and 667 two weeks ago on 23rd December 2022. The daily average number of newly confirmed cases in hospital remains elevated at 94 per day observed in the seven days to 6th January. Data for COVID-19 cases in hospital as of 3rd January 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 (36 as of 6th January) remains higher than the levels observed in mid-December 2022 and continues to be monitored. The proportion of cases whose primary reason for admission to ICU was COVID-19 was 43% as of 3rd January.

The number of notified outbreaks across key vulnerable settings was reduced for week 52 (week ending 31st December) compared to the previous week. Due to the Christmas period and public holidays there may be delays in notification of outbreaks to the Computerised Infectious Disease Reporting (CIDR) system. For this reason data for week 52 2022 should be reviewed with caution, noting that further data over subsequent weeks will give a clearer indication of trends. 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 (619 COVID-19 inpatients on 6th January).

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 and its sublineages, including XBB.1.5. BA.5 and its descendent lineages remain dominant globally, accounting for 64% of sequences submitted to GISAID (genomic sequencing database) as of week 50 (12th to 18th December 2022), even though their prevalence is decreasing. The prevalence of BA.2 and its descendent lineages is rising, mainly due to BA.2.75 and its descendant lineages; together accounting for 15% of sequences submitted. At the global level, six variants currently under monitoring (including BQ.1, BA.2.75 and XBB) account for 74% of prevalence as of week 50, and have replaced the former BA.5 descendent lineages. Based on current evidence, there is no indication of increased severity associated with these variants under monitoring compared to the former Omicron lineages.

The WHO Technical Advisory Group on Virus Evolution (TAG-VE) meets regularly to review the latest scientific evidence on circulating SARS-CoV-2 variants and advises WHO on whether a change in public health strategies is warranted. The TAG-VE met on 3rd January 2023 to discuss the COVID-19 situation in mainland China. During the meeting, the WHO reported that scientists from the China CDC presented genomic data from what they described as imported as well as locally-acquired cases of SARS-CoV-2 infections. For locally-acquired infections, data presented were based on more than 2,000 genomes collected and sequenced from 1st December 2022. The China CDC analysis showed a predominance of Omicron lineages BA.5.2 and BF.7 among locally-acquired infections. BA.5.2 and BF.7 together accounted for 97.5% of all local infections as per genomic sequencing. A few other known Omicron sublineages were also detected albeit in low percentages. The TAG-VE reported that these variants are known and have been circulating in other countries, and at the present time no new variant has been reported by the China CDC.

As of 3rd January, the TAG-VE reported that 773 sequences from mainland China have been submitted to the GISAID EpiCoV database, with the majority (564 sequences) collected after 1st December 2022. Of those, only 95 are labelled as locally-acquired cases, 187 as imported cases and 261 do not have this information provided. Of the locally-acquired cases, 95% belong to BA.5.2 or BF.7 lineages. This is in line with genomes from travellers from China submitted to the GISAID EpiCoV database by other countries. The TAG-VE indicated that no new variant or mutation of known significance is noted in the publicly available sequence data. Acknowledging the information

shared so far, the TAG-VE reiterated the critical need for and importance of additional analysis as well as sharing of sequence data to understand the evolution of SARS-CoV-2 and the emergence of concerning mutations or variants. WHO reported that it will continue to closely monitor the situation in the People's Republic of China and globally and urges all countries to continue to be vigilant. The WHO further reported that the TAG-VE is also evaluating the rapidly increasing proportion of XBB.1.5 in the United States and other countries and an updated risk-assessment of XBB.1.5 is in progress.

As per its Communicable Disease Threats Report Week 1, 2nd–8th January 2023, ECDC has indicated that the number of COVID-19 cases reached record levels in mainland China. There continues to be limited data on COVID-19 cases, hospital admissions, deaths as well as ICU capacity and occupancy in China. High levels of SARS-CoV-2 infections and increased pressure on healthcare services in China are anticipated due to low population immunity and the relaxation of non-pharmaceutical interventions. ECDC has highlighted that projection models published by the Institute for Health Metrics and Evaluation at the University of Washington anticipate steep increases in infections, hospitalisations, and deaths through April 2023. However, in the absence of more detailed and timely data from official sources on epidemiological indicators and sequencing, the public health impact, and the size and severity of the current surge of COVID-19 cases in China are difficult to assess. Given the higher population immunity in the EU/EEA, and the available information that the variants currently circulating in China have already been circulating in the EU/EEA, ECDC has assessed that the current surge in cases of these variants in China is not expected to have any significant impact on the COVID-19 epidemiological situation in the EU/EEA. There is currently no data suggesting the emergence of new variants of concern in China. ECDC has indicated that it will review its assessments as new information becomes available.

ECDC has provided an assessment (5th January 2023) of XBB.1.5 which is a sub-lineage of XBB with an additional spike RBD mutation S486P. This lineage was first detected in United States in samples collected from 22nd October 2022 onwards, and detections of this lineage have been increasing since then. As of 3rd January 2023, 3,456 sequences had been deposited in GISAID EpiCoV belonging to XBB.1.5 with a specific mutational profile in the Spike region. Most of these submissions are from the United States (3,080 sequences), and the United Kingdom (106 sequences), and the variant has also been detected in a number of other countries including European Union (EU)/European Economic Area (EEA) countries – Denmark, France, Austria, Netherlands, Germany, Italy, Spain, Sweden, Iceland, Belgium, Czechia, Portugal, and Ireland.

ECDC has indicated that this lineage is currently estimated to have a large growth advantage over previously circulating lineages in North America (139%) and Europe (137%), although these estimates are associated with significant uncertainty. The US Centers for Disease Prevention and Control (US CDC) report a doubling time of nine days for the proportion of XBB.1.5 and the US-CDC nowcast system estimates the current proportion of the variant to be around 40% in the USA, with the variant likely to become dominant within a week. The US CDC also presented growth data comparing XBB.1.5 to previously successful variants, indicating that XBB 1.5 exhibits the second highest growth advantage to date, second only to BA.1 (the original Omicron lineage). ECDC has assessed that this does not necessarily mean that the variant will become dominant in the EU/EEA, since major differences in variant circulation have been observed between North America and Europe several times before during the pandemic. The most likely explanation for the growth

advantage is the already high level of immune escape demonstrated by XBB, combined with the effect of the spike change S486P which could provide either a transmissibility advantage, additional immune escape, or both. This mutation has previously been rare during the pandemic, noting that other variants with this change have emerged before without becoming successful. ECDC has reported that further laboratory and epidemiological investigations are required to examine the mechanism of the growth advantage conferred by this change in the XBB variant specifically. ECDC has further highlighted that there is currently insufficient information available to assess any change in infection severity associated with the variant. ECDC has indicated that there is a possibility that this variant could have an increasing effect on the number of COVID-19 cases in the EU/EEA, but not within the coming month as the variant is currently only present in the EU/EEA at very low levels.

The circulation of SARS-CoV-2 variants in Ireland continues to be closely monitored. Based on whole genome sequencing (WGS) results to 19th December 2022, the HPSC has reported that BQ.1 (and its sub-lineages) remains 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 in recent weeks. HPSC continues to monitor a number of other circulating variants, including XBB (and its sub-lineages). Based on WGS results available to 19th December 2022, one case of XBB.1.5 has been identified in Ireland and reported by the HPSC.

In summary, and noting that recent trends in epidemiological indicators should be interpreted with caution due to the impact of the recent Christmas holiday period on surveillance and health-seeking behaviour, the overall epidemiological situation in Ireland indicates that COVID-19 continues to circulate at significant levels. The COVID-19 burden on acute hospital care remains significant with 619 confirmed COVID-19 cases in hospital this morning (6th January 2023), of which 36 were in critical care. The daily average number of newly confirmed cases in hospital remains elevated at 94 per day observed in the seven days to 6th January. SARS-CoV-2 variants (including BQ.1, XBB and its sublineage XBB.1.5) continue to be closely monitored. 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.