



National Immunisation Advisory Committee

UPDATED RECOMMENDATIONS FOR COVID-19 VACCINATION FOR SPRING 2025

NIAC | 30.01.2025

About NIAC

NIAC membership includes nominees from the Royal College of Physicians in Ireland, its Faculties and Institutes, the Royal College of Surgeons in Ireland, the Irish College of General Practitioners, the National Immunisation Office, the Nursing and Midwifery Board of Ireland, the Infectious Diseases Society of Ireland, the Travel Medicine Society, the National Virus Reference Laboratory and lay members. Meetings are attended by representatives from the Department of Health and the HSE. Representatives of the Health Products Regulatory Agency attend to provide regulatory advice in relation to vaccines.

[NIAC](#) considers the evidence about vaccines and provides advice to the Chief Medical Officer and the Department of Health. The Department and the Minister for Health make policy decisions on vaccines which are implemented by the Health Service Executive.

2025 SPRING COVID-19 VACCINE RECOMMENDATIONS

1. A Spring COVID-19 booster vaccine is **recommended** for:
 - those aged **80 years and above**
 - those aged **70-79 years** who did not receive a COVID-19 vaccine in the preceding 12 months
 - those in **long term care facilities** for older adults
 - those **aged 6 months and older with [immunocompromise](#)** associated with a suboptimal response to vaccination.
2. COVID-19 vaccines may be given to the above-mentioned risk groups irrespective of the number of previous doses or types of COVID-19 vaccines, with an interval of six-months recommended following any previous COVID-19 vaccine dose or infection.
3. A minimum interval of three months is permissible in exceptional circumstances e.g., planned immunosuppressive therapy or operational reasons.
4. Antigenically updated mRNA COVID-19 vaccines are the preferred vaccines for use. Protein based vaccines may be used as alternatives for those in whom mRNA vaccine is contraindicated or declined. Nuvaxovid (antigenically updated) is the preferred alternate.

Recommendations may be updated when more information becomes available.

1. EXECUTIVE SUMMARY

- SARS-CoV-2 continues to lack seasonality. In 2024 Ireland experienced a peak in cases and hospitalisations during the summer months and for the first time did not experience a significant increase in cases in the autumn and winter months.
- Those of advanced age, especially those aged 80 years and older, and those with medical co-morbidities continue to be at increased risk of hospitalisation and severe disease.
- In 2024, hospitalised COVID-19 cases were noted to have a shorter median time since last vaccination with increasing age.
- The median age of the 30 ICU admissions reported from week 40 2024 to week 2 2025 was 70 years, the majority of which (83%) had underlying medical conditions.
- Seroprevalence surveillance shows that levels of natural immunity are gradually increasing in older age groups with 82% of those age 80 years and older now having evidence of prior infection.
- KP.3 and sublineages were the most recently dominant variants of SARS-CoV-2 both in Ireland and internationally in 2024. A newer variant XEC is beginning to take prominence, and accounting the majority of cases sequenced in Ireland in week 52 2024.
- During the 2024/2025 Autumn/Winter campaign 61% of those aged 80 years, 46% of those aged 70-79 years, 27% of those aged 60-69 years, and 99.9% of those in long term care facilities received a COVID-19 vaccine.
- COVID-19 vaccines are safe and the risk of adverse events with vaccination remains considerably less than the risk of adverse outcome with COVID-19 infection and severe disease.
- Vaccination provides some protection against infection which likely wanes within 4-6 months, whereas protection against severe disease wanes more slowly, over 9-12 months.
- Those of advanced age and those with immunocompromise experience more rapid waning of protection against infection and severe disease.
- Preclinical data on JN.1 and KP.2 variant vaccines report an improved immune response to targeted variants; clinical data is awaited.
- European data estimated the vaccine efficacy of the XBB.1.5 targeting mRNA vaccines against hospitalisation to be 47% in those aged 65-79 years and 39% in those aged 80 and above at 3-6 months post vaccination.
- International practice regarding age cut offs and revaccination intervals varies. The World Health Organization (WHO) continues to recommend more frequent revaccination such as 6-12 monthly in those aged over 75 or 80 years and those with co-morbidities, and annual vaccination in those aged over 50 or 60 years and in those with co-morbidities.

2. INTRODUCTION

COVID-19 continues to pose a significant public health challenge due to its unpredictable epidemiological patterns and lack of clear seasonality. For certain high-risk groups, including older adults and those with underlying medical conditions and immunocompromise, biannual vaccination has emerged as a useful strategy to mitigate severe disease and address the faster waning of vaccine-induced immunity in these populations.

The Spring vaccination campaigns in Ireland serves as an opportunity to implement targeted biannual (twice yearly) vaccination efforts aimed at maintaining robust protection against severe outcomes in the highest risk groups. Here we summarise the recent epidemiology and the scientific evidence that was reviewed by NIAC to inform this year's spring vaccination recommendations.

3. EPIDEMIOLOGY IN IRELAND

SARS-CoV-2 associated hospitalisations, ICU admissions and deaths have been reducing each year since the beginning of the pandemic. In 2023 and 2024, SARS-CoV-2 associated ICU admissions and deaths have been lower than previous years. Seasonality of SARS-CoV-2 has not yet been established and there has been no winter surge in COVID-19 cases or associated hospitalisations to date this winter 2024/2025 season.¹

During the wave of SARS-CoV-2 which occurred in summer 2024, the age distribution of hospitalised COVID-19 cases per 100,000 population was similar to that of the 2023/24 winter and 2023 summer waves. (Figure 1)² SARS-CoV-2 associated hospitalisations remain the highest among older adults, especially those aged 80 years and above. (Figure 2)^{1 2}

Figure 1. Hospitalised cases of confirmed COVID-19 notified from week 21, 2023 to week 39, 2024 by age. Source: Provided directly to NIAC by HPSC.²

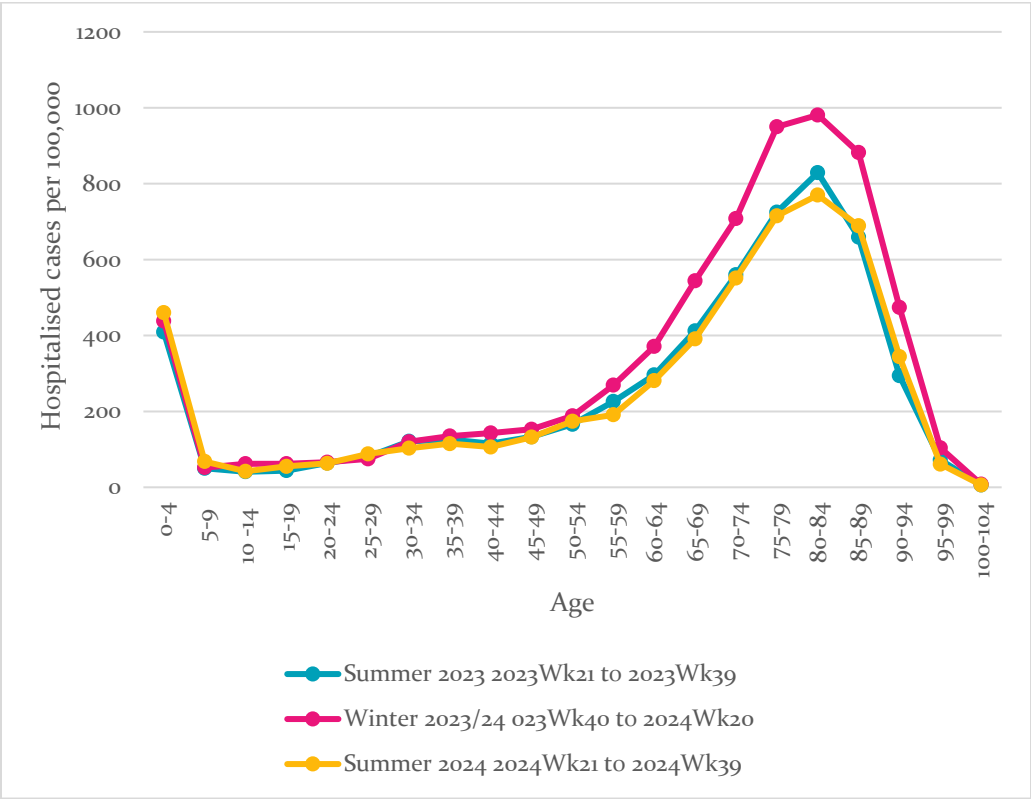
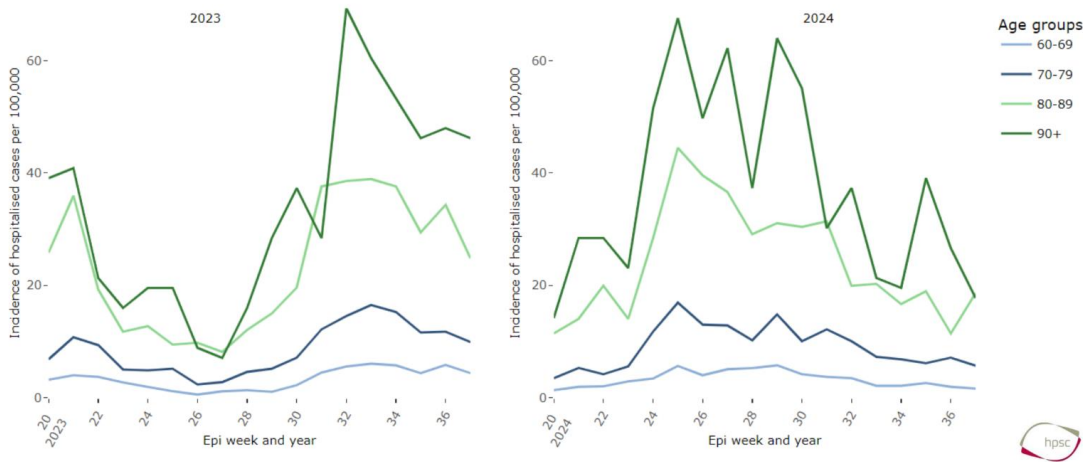


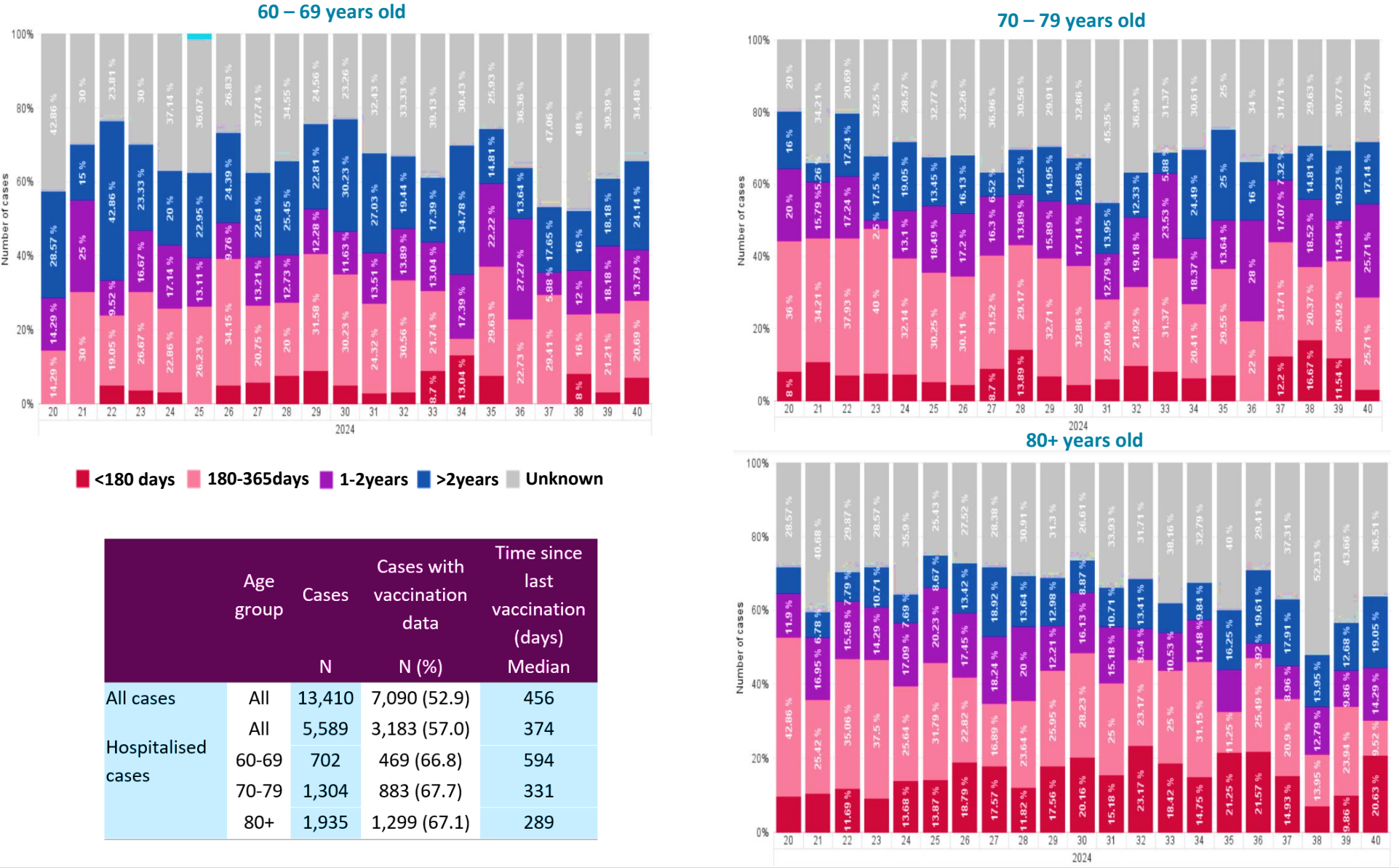
Figure 2. Incidence of hospitalised COVID-19 cases for summer waves of 2023 and 2024 for age groups 60 years and older. Source: Provided directly to NIAC by HPSC.²



From week 40 of 2024 to week 1 of 2025 there were 30 COVID-19 related admissions to intensive care units (ICU) in Ireland. Vaccination status was unknown for the majority of cases (87%). Underlying medical conditions were present in most individuals (83%). The median age of those admitted was 70 years (IQR: 51–76 years). Notably, no pregnant individuals were admitted to ICU due to COVID-19 during this period.²

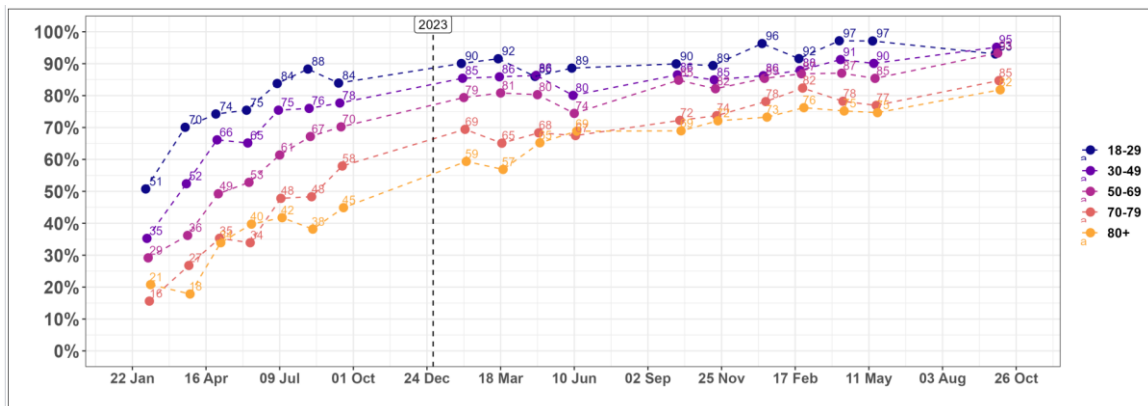
An analysis of hospitalisations due to COVID-19 among older adults in Ireland during the 2023 summer wave (week 20 to week 40, 2023) reports that the time elapsed since vaccination tends to decrease with increasing age among hospitalised cases. The median time since vaccination for hospitalised individuals was 594 days for those aged 60–69 years, 331 days for those aged 70–79 years, and 289 days for those aged 80 years and older. While this analysis does not account for the influence of co-morbidities, the findings are consistent with research that suggests that the duration of vaccine-induced protection against severe disease and hospitalisation diminishes with advancing age. (Figure 3)^{2 3}

Figure 3. Weekly percentage hospitalised COVID-19 cases grouped by time since last vaccination of <180 days, 180-365 days, 1-2 years, > 2 years and unknown, week 20 to week 40 2024 for those ages 60-69, 70-79 and 80+ years old. Source: Provided directly to NIAC by HPSC.²



Over the past two years, seroprevalence rates for SARS-CoV-2 natural infection have remained relatively stable among younger age groups, while a gradual increase has been observed in older age groups. Notably, levels of natural immunity tend to decline with advancing age. As of October 2024, 95% of individuals aged 18-29 years exhibited evidence of prior natural infection, compared to 82% of individuals aged 80 years and older. (Figure 4)

Figure 4. Percentage of people with prior SARS-CoV-2 infection (S+ N+) on residual sample testing by the Lab Surveillance Network. Source: Provided directly to NIAC by the Seroepidemiology Unit.⁴



4. VACCINATION UPTAKE

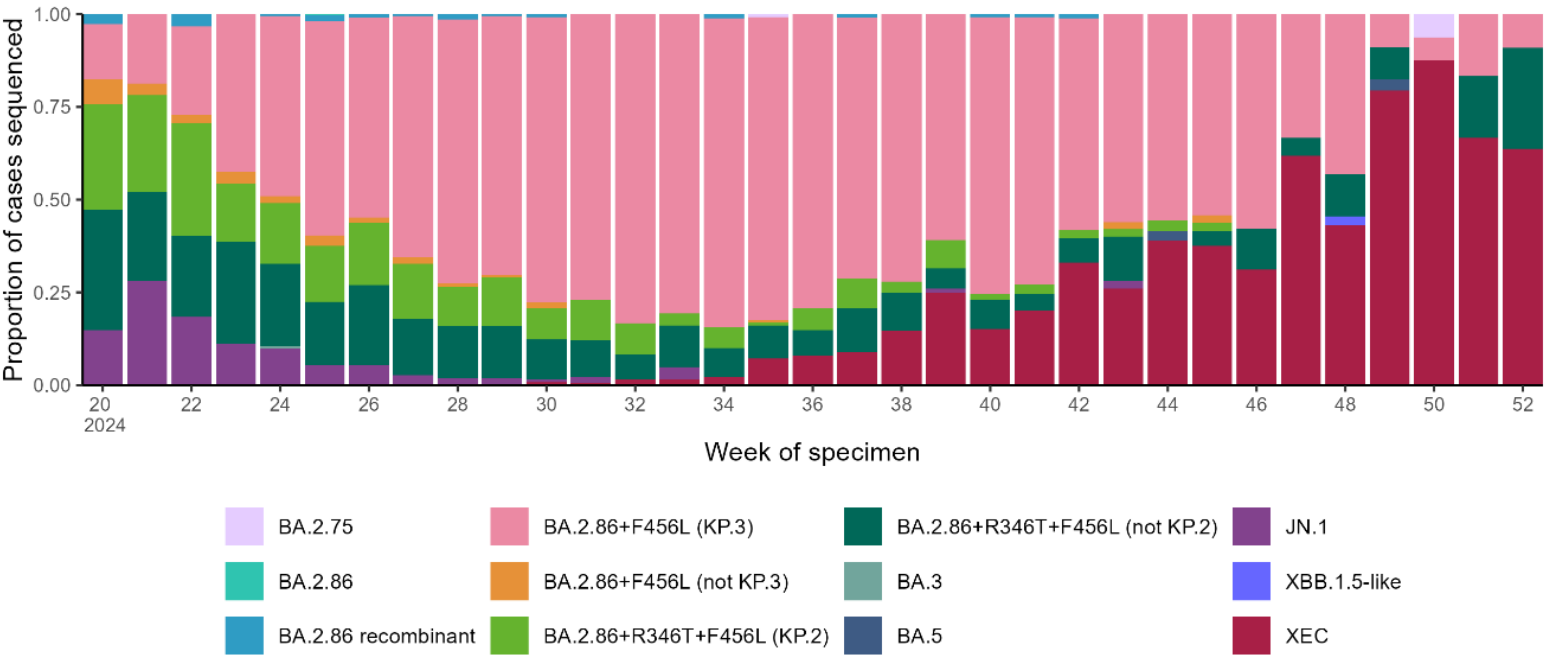
Uptake of COVID-19 vaccinations in Spring 2024 was estimated to be 44% in those aged 80 years and above, 15% in those aged 70-79 years and 80% in those living in long term care facilities. In autumn/winter 2024, as of 15 Dec 2024 uptake was higher than in the Spring campaign, and again uptake increased with advancing age. In those aged 80 and above uptake was 59%, in those aged 70-79 years it was 45% and in those aged 60-69 years it was 26%. Uptake in long term care residents was 99.9%.²

5. VARIANTS

Since December 2023, the JN.1 sublineages have been the dominant SARS-CoV-2 variants circulating globally. Several JN.1 sublineages have emerged, featuring different combinations of mutations, such as F456L and R346T, that provide a competitive advantage. The KP.3 variant, which is classified as a Variant of Interest (VOI) by both the WHO and ECDC, along with its sublineages, is currently the dominant variant worldwide and in Ireland. Additionally, the XEC variant (a recombinant of KS.1.1 and KP.3.3, also a WHO and ECDC VOI) has been steadily increasing in prevalence in Ireland and globally since week 35 of 2024. (Figure 5) Currently, there

is no evidence suggesting an increase in clinical severity or a reduction in vaccine effectiveness against severe disease among the circulating variants.⁵

Figure 5. Proportion of sequenced SARS-CoV-2 specimens by variant, specimen collection dates week 20 2024 to week 52 2024, Ireland. Source: Provided directly to NIAC by HPSC.²



6. VACCINE SAFETY

The safety profile of COVID-19 vaccinations is closely monitored. Two safety signals from the Vaccine Safety Datalink (VSD) in the US were reported in June 2024.⁶ These were detected during the 2023-2024 season where over 2.5 million doses of XBB.1.5 vaccines were administered. In those aged 65 years and older, seven cases of Guillian Barre Syndrome (GBS) were noted in the vaccine group compared to three cases in the comparator group. This results in an estimated rate of 4.1 cases per 1 million vaccine doses. This signal was only detected in those who had received a Pfizer Comirnaty XBB.1.5 vaccine. There were insufficient doses of Moderna and Novovax vaccines administered in the VSD to assess the rate of GBS with these vaccines. It also should be noted that VSD had not identified any signals for GBS with previous mRNA COVID-19 vaccine formulations. It has been highlighted by VSD that this may or may not represent a true increased

risk and could possibly have been detected by chance alone. Further monitoring and surveillance is planned.⁶

The second safety signal which was highlighted from the 2023-2024 season was for ischaemic stroke in those aged 50 years and above. Both Moderna and Pfizer vaccines were reported to be associated with increased rates of ischaemic stroke, however the findings were not consistent across age groups or risk intervals. At this time the evidence from the US is inconclusive as to whether there is a true increased risk of ischaemic stroke with mRNA COVID-19 vaccines and further evaluation is required and ongoing.⁶

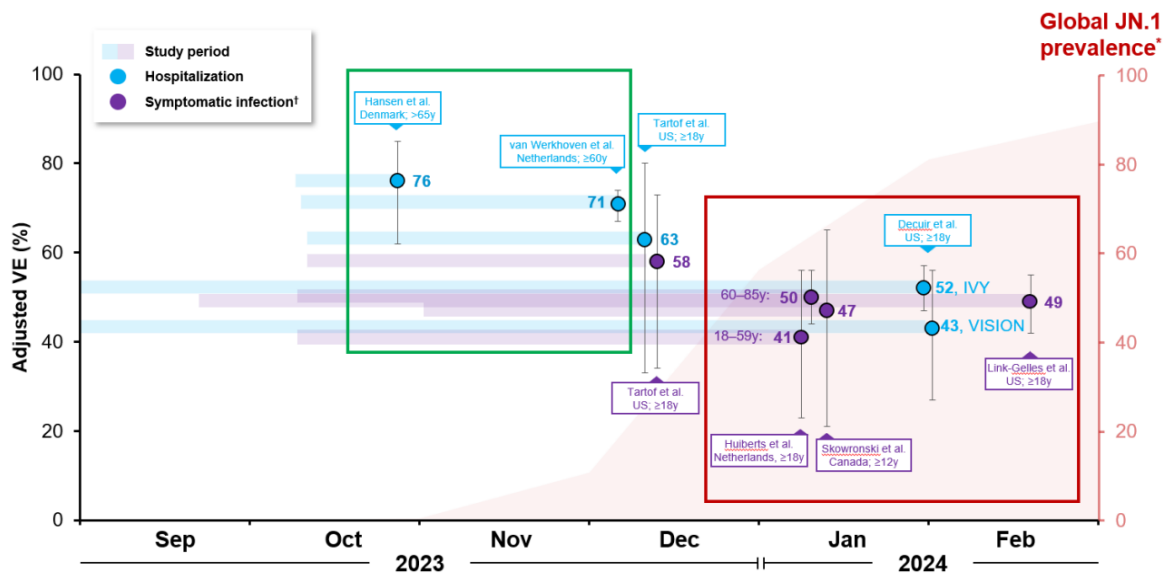
A 2024 Danish population study of all those aged 65 years and above who received a monovalent XBB.1.5 containing vaccine, including over 900,000 recipients, did not find any increased rate of hospital contact for any of the 28 adverse events of interest included in the study. This included both GBS and ischaemic stroke.⁷

While the safety signals from the US have been noted, it should be highlighted that causality has not been determined and these signals have not warranted a change to the product label at this time.⁸⁻¹⁰

7. VACCINE EFFECTIVENESS

Studies on the effectiveness of the 2023/24 winter COVID-19 vaccines which are antigenically updated to target XBB.1.5 indicate reduced but continued, protection against severe COVID-19 disease caused by 2024 strains; JN.1, and KP.2. (Figure 6)^{11 12}

Figure 6. XBB.1.5 vaccine effectiveness over the 2023/2024 season. Source: Pfizer BioNTech presentation to Vaccines and Related Product Advisory Committee 2024.¹³



In a retrospective cohort study drawing on linked electronic health records in seven European countries (Belgium, Denmark, Italy, Navarre (Spain), Norway, Portugal and Sweden) vaccine effectiveness against hospitalisations of the XBB.1.5 targeting mRNA vaccines during the Omicron BA.2.86/JN.1 period in adults aged 65 to 79 years old was estimated to be 50% at 14 days post vaccination and 47% at 3 to 6 months post vaccination, and in adults aged ≥80 years it was 41% at 14 days post vaccination and 39% at 3 to 6 months post vaccination.¹²

No real-world effectiveness data exists for the 2024/25 season antigenically updated vaccines targeting JN.1 and KP.2. One small (n=53) phase 2/3 clinical trial conducted by the manufacturer demonstrated that JN.1-adapted BNT162b2 induced neutralising titers against Omicron JN.1, KP.2, and KP.3 that were higher than those induced by XBB.1.5-adapted BNT162b2.¹⁴

8. DURATION OF PROTECTION

The duration of protection provided by newer COVID-19 mRNA vaccines, including those targeting XBB or JN1 variants, remains uncertain due to the absence of long-term follow-up studies. Consequently, our understanding relies on data from earlier original and bivalent vaccines. A 2023 ECDC report emphasised that the time since the last vaccination is more important than the total number of doses received.¹⁵ While the duration of protection varies depending on the vaccine and circulating SARS-CoV-2 variants, a consistent trend has emerged: protection against infection wanes within 4-6 months, whereas protection against severe disease lasts longer, estimated at 9-

12 months.^{16 17} Protection wanes more rapidly in immunocompromised individuals and older adults, requiring more frequent vaccination to maintain adequate immunity.^{3 18} Those with hybrid immunity - achieved through both vaccination and natural infection experience the most robust and durable protection.¹⁹

9. INTERNATIONAL POSITIONS

Table 1. International recommendations for COVID-19 vaccination in 2025 and 2026.

| Country | Spring 2025 | Autumn 2025 | Spring 2026 | Seasonal, annual or standing recommendations |
|--|--|---|--|--|
| UK, JCVI ²⁰ | Age 75+, LTC residents, Age 6 months + with immunosuppression | Age 75+, LTC residents, Age 6 months + with immunosuppression | Age 75+, LTC residents, Age 6 months + with immunosuppression | Recommendations not issued beyond spring 2026. |
| US, ACIP (CDC) ²¹ | One dose of a 2024-2025 vaccine for everyone aged 6months+. Two doses 6months apart, of 2024-2025 vaccine for adults 65+, and those 6 month+ with immunocompromise. Three+ doses for immunocompromised with shared clinical decision making. | | Not available | Issue seasonal interim recommendations |
| Germany (STIKO) ²² | Annual vaccination recommended for those age 60+, and those aged 6months + with underlying disease/immunocompromise, LTC residents, and HCWs. Can consider shorter interval in those with immunocompromise. This is an ongoing recommendation no end date. | | | Updated 2023. Integrated into standing STIKO annual standing recommendations |
| Canada, NACI ²³ | One dose per year is recommended for those aged 6months+ who are: LTC residents, underlying medical conditions, pregnant women, first nations, Inuit and Metis communities, and HCWs. One dose per year may be given to all others aged 6months+. Two doses per year are recommended for: Those aged 80+, residents of LTC for older adults, and those aged 6months+ with moderate to severe immunocompromise. | | | Recommendations now for either 1 dose or 2 doses per year, the timing of which to be decided by local provinces. Recommendations for 2025 and summer 2026. |
| Australia, ATAGI ²⁴ | 6 monthly vaccination for those age 75+ and consider vaccination in those age 18+ with immunocompromise. | 12 monthly vaccination for those age 65+, those age 18+ with severe immunocompromise, and consider in healthy age18+, and in immunocompromise age 5-17 years. | | Annual standing recommendations issued in February (2024) |

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|-------------------------|--|--|--|
| WHO, SAGE ²⁵ | High priority: Adults age over 75 or 80 years and those age over 50/60 with comorbidities for 6-12 monthly revaccination. Special consideration group: any immunocompromised individual 6-12 monthly revaccination | High priority: Adults age over 50/60 and adults with comorbidities 12 monthly revaccination Special consideration groups: HCWs 12 monthly revaccination | Standing recommendations. In September 2024 reaffirmed recommendations from 2023 roadmap |
|-------------------------|--|--|--|

LTC: Long Term Care
HCW: Health Care Worker

10. DISCUSSION

The aim of COVID-19 vaccination is to prevent hospitalisation, severe disease and death. While thankfully, the overall mortality rate associated with COVID-19 has diminished, the demographic profile of those experiencing severe disease has remained relatively consistent. Vaccination induced protection against severe disease wanes over 9-12 months in most people, but wanes faster in older age groups, particularly those over 80 years and those with immunocompromise. SARS-CoV-2 has not yet demonstrated seasonality. In 2024, Ireland experienced a peak in cases and hospitalisations during the summer months and for the first time did not experience a significant increase in cases in the autumn and winter months. This uncertainty around seasonality and predicted numbers of peaks throughout the year means that effective vaccination strategies must aim to provide year-round protection against severe disease to those most at risk. Twice yearly vaccination aims to achieve year-round protection for those in whom vaccine induced immunity wanes faster.

Thus, NIAC continues to recommend twice yearly vaccination for a subset of the population at highest risk. NIAC recommends COVID-19 vaccination in spring 2025 for those aged 80 years or older, those with immunocompromising conditions and those living in long term care facilities for older adults. For those aged 70-79, it is important that they continue to receive annual COVID-19 vaccination to remain protected against severe disease. The uptake in this age group during the autumn campaign was less than 50%. NIAC recommends a COVID-19 vaccine in spring for all those aged 70-79 who did not receive a COVID-19 vaccine in the preceding 12 months.

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