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**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

International epidemiological data in relation to the Omicron (B.1.1.529) variant

Submitted to NPHEA:

19 January 2022

Published: 25 January 2022

About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is an independent statutory authority established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

HIQA's mandate to date extends across a wide range of public, private and voluntary sector services. Reporting to the Minister for Health and engaging with the Minister for Children, Equality, Disability, Integration and Youth, HIQA has responsibility for the following:

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.
- **Regulating social care services** — The Chief Inspector within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children's special care units.
- **Regulating health services** — Regulating medical exposure to ionising radiation.
- **Monitoring services** — Monitoring the safety and quality of health services and children's social services, and investigating as necessary serious concerns about the health and welfare of people who use these services.
- **Health technology assessment** — Evaluating the clinical and cost-effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.
- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland's health and social care services.
- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health services, in conjunction with the Department of Health and the HSE.

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Key points

- A report on international epidemiological data relating to the Omicron variant was requested by NPHET ahead of their meeting due to take place on 20 January 2022. This report accompanies another update report on the scientific evidence in relation to the Omicron variant; previous versions may be found [here](#).
- For the present report on epidemiological data, information was collated on 17 January 2022. In addition to summarising epidemiological reports by the ECDC and WHO, epidemiological metrics, primarily with respect to COVID-19 cases, hospitalisations and deaths, were collated for Denmark, South Africa, and the UK. These countries were selected due to the dominance of the Omicron variant within these countries as of mid-December 2021.

ECDC and WHO

- The ECDC weekly epidemiological update was published on 14 January 2021 and noted that the overall epidemiological situation in the EU/EEA (at the end of week 1, week ending 9 January 2022) was characterised by a high and increasing case notification rate and a high, yet stable, death rate. While the hospital admission rate overall had increased for two weeks, the ICU admission rate had been stable for six weeks; however, increases in ICU admission rates were observed in four countries, including Ireland.
- On 7 January 2021 the WHO noted that **South Africa had observed a marked decline** in reported case numbers, and that new hospitalisations appeared to be decreasing significantly. Modelling results, as reported by the WHO, estimated that daily cases in Europe would exceed 2.75 million by the third week of January, declining sharply thereafter.

United Kingdom

- The most recent week of data for the UK (11-17 January 2022) displayed a decrease of 41.7% in case numbers compared to the previous seven days, and a decrease of 2.0% in hospitalisations with stable, or declining, numbers of patients in ICU. These data are supported by a report from the UK Intensive Care National Audit and Research Centre, which found a decline in critical care

admissions among COVID-19 hospital admissions for the period when Omicron was dominant.

- Notably, there was a three-fold increase in paediatric COVID-19 hospital admissions in the two weeks following 26 December 2021; these admissions involved respiratory infection presentations. With respect to infant admissions, case review of a small number of these admissions found that the infants were not severely unwell.
- Deaths increased by 38.7% between 11 January 2022 and 17 January 2022, compared to the previous seven days.

Denmark

- Between week 52 of 2021 and week 1 of 2022, the number of new COVID-19 cases in Denmark continued to increase (6%), though the test positivity rate was found to decline slightly.
- The number of new hospitalisations with COVID-19 was considered to be stable in week 1, but has since increased again. Of those admitted, a small decrease (data to end week 1) was noted in the proportion of people whose admission was due to COVID-19. The number of new admissions to ICU was reported to be stable.
- The number of COVID-19 related deaths increased from 63 in week 52 of 2021 to 97 in week 1 of 2022. A significant excess mortality was observed in Denmark in the previous weeks, especially among those aged 75 years and older.

South Africa

- COVID-19 case numbers have been falling since approximately 18 December 2021, while hospitalisations have been falling since approximately 25 December 2021. Hospital admissions over the most recent 14 day period (up to 8 January 2022) decreased by an average of 30% compared with the previous 14 day period.
- There has been a rise in the COVID-19 death rate from mid-November 2021 to mid-January 2022.

Cross-country comparisons

- Considering patterns in reported cases across countries, confirmed COVID-19 cases in South Africa appeared to have peaked in mid-December. Cases in Denmark continued to rise in mid-January 2022 while cases in the UK appeared to have passed a peak. Ireland displayed a steeper rise in reported cases than that observed in the UK during December, but, as of data to 16 January 2022, has displayed a plateauing or decline in cases similar to that observed in the UK.
- Weekly new hospital admissions showed a substantial decline in South Africa from late December 2021, following sharply rising admissions in late November and early to mid-December 2021. A similar decline has not as yet been observed in Denmark, the UK or Ireland.
- Since early January 2022, death rates have continued to rise in each of Ireland, Denmark, UK and South Africa.
- Given the differences across countries in testing strategy, healthcare system, age structure, vaccination coverage, social behaviour patterns and implementation of public health guidance and restrictions, caution is urged in the comparison of trends across countries.

Background

HIQA commenced a rolling summary of scientific evidence in relation to the SARS-CoV-2 'Omicron' variant on 6 December 2021 at the request of the Department of Health. The most recent report, based on information available as of 4 January 2022, was submitted to NPHET on 5 January 2022 (see publication available [here](#)). A further update, with additional epidemiological information to be included, was subsequently requested ahead of the NPHET meeting due to take place on 20 January 2022. It was specifically requested that epidemiological information be provided for those countries which had a high burden of cases of the Omicron variant at an earlier stage than Ireland, and with a focus on trends in incidence and hospitalisation. As such, in addition to ongoing updates of public health guidance and assessments by agencies of the scientific evidence in relation to Omicron, a report on epidemiological data was produced, and is described within this document.

Approach to summarising epidemiological data

For the present report, information was collated on 17 January 2022 for submission to NPHET on 19 January 2022.

The approach to summarising epidemiological data involved the following steps:

1. Identify countries of interest as those which experienced a high burden of Omicron cases earlier than Ireland.
2. Identify epidemiological information summaries and data from relevant agencies.
3. Present epidemiological data and summarise information.

1. Identify countries of interest which experienced a high burden of Omicron cases earlier than Ireland.

In considering the epidemiological trajectory of Omicron, it is helpful to consider the experience of other countries in which Omicron became dominant at a similar or earlier time to when this variant became dominant in Ireland (that is, when the variant represented >50% of SARS-CoV-2 cases). Of particular interest are countries with a similar profile to Ireland with respect to measures such as the proportion of the population in whom full vaccination had been achieved.

Due to different approaches to variant surveillance and SARS-CoV-2 testing across countries, it is difficult to establish definitively when countries experienced the dominance of the Omicron variant. However, reports published by public health

agencies indicate patterns of spread of Omicron and confirm the time point at which each country established within their national testing data that the Omicron variant was dominant.

Weekly epidemiological updates published by the ECDC in December 2021 indicated the early spread of the Omicron variant within both EU/EEA and non-EU/EEA countries. The countries reporting the highest numbers of confirmed cases of Omicron during December 2021 were the UK, South Africa and Denmark.

Documents from public health agencies within these countries were examined to identify when Omicron was confirmed to be the dominant strain:

- On 1 December 2021, the South African National Institute for Communicable Diseases noted that Omicron comprised 74% of sequences analysed in November.⁽¹⁾
- On 17 December 2021, the UKHSA published a daily overview which identified that 54.2% of reported cases in England were due to the Omicron variant, based on samples from 14 and 15 December 2021.⁽²⁾
- As of 17 December 2021, the Statens Serum Institut in Denmark identified that 50.7% of confirmed COVID-19 cases (95% CI: 49.4% to 52%) were due to the Omicron variant.⁽³⁾

On 19 December 2021, the National Public Health Emergency Team made a statement regarding the spread of Omicron,⁽⁴⁾ noting that the Health Protection Surveillance Centre estimated approximately 52% of reported cases in Ireland were due to the Omicron variant on this date.

Given that dominance was confirmed in **South Africa, UK (England), and Denmark** prior to this time, epidemiological information for these countries is detailed within this report. Corresponding information, and particularly presentation of trends, is provided in the Appendix for several additional countries, including **Belgium, France, Malta, Sweden, Norway and Israel**. Belgium, France, Malta and Sweden were selected to provide additional information due to a high proportion of Omicron cases ($\geq 80\%$ by week 51/52 of 2021) as noted in ECDC reports on Omicron spread.⁽⁵⁻⁷⁾ Norway was included due to the availability of detailed Omicron assessment reports, as included within previous iterations of this report series. Israel was included due to its relevance as a country with early and high uptake of booster vaccination.⁽⁸⁾ Additionally, summary information from the following international agencies, which consider multiple countries, is provided in the main body of the report:

- European Centre for Disease Prevention and Control (ECDC)
- World Health Organization (WHO).

2. Identify epidemiological information summaries and data from agencies of interest

Information updated between 4 January 2022 and 17 January 2022 was collected from the following agencies and or authorities which previously featured in HIQA's update on international public health agency assessments of the evidence in relation to Omicron (14 January 2022 publication, available [here](#)):

- Statens Serum Institut (SSI) (Denmark)
- South African National Institute for Communicable Diseases (NICD)
- UK agency websites, including UK Health Security Agency (UKHSA)
- Norwegian Institute of Public Health (NIPH)
- European Centre for Disease Prevention and Control (ECDC)
- World Health Organization (WHO).

Information extracted included absolute numbers, rates and trends for COVID-19 cases, hospitalisations (including ICU admissions), vaccination and deaths, and commentary from agencies regarding these. Please note that information on topics such as patterns of transmission of Omicron (for example, secondary attack rates within households), analyses of inherent transmissibility, the clinical presentation of Omicron infection, immune escape capability, and effectiveness of vaccines, treatments and tests, is provided within the companion report to the present document: 'Update on international public health agency assessments of the evidence in relation to the Omicron variant'.

Additionally, and to allow for comparison of trends across countries, including comparison with Ireland, the 'Our World In Data' (OWID) COVID-19 Dataset was used as a source of data.⁽⁹⁾ The entire Our World In Data COVID-19 Dataset was downloaded on 17 January 2021, and the following metrics were selected for presentation:

- daily new confirmed COVID-19 cases, expressed as a 7-day rolling average per million people

- daily number of new COVID-19 deaths, expressed as a 7-day rolling average per million people
- weekly new hospital admissions for COVID-19, expressed per million people
- number of COVID-19 patients in ICU, expressed per million people
- percentage of the population who (i) are fully vaccinated; (ii) received Booster vaccination.

Data sources which are used to inform the OWID dataset for the main countries included within this report are detailed for information in Appendix 1.

3. Present epidemiological data and summarise information.

Information is presented within this report for the agencies ECDC and WHO, and then by individual country for the main countries of interest (Denmark, UK, South Africa). Within the UK, information is summarised for Northern Ireland, given the relevance of such data to Ireland. Overall, emphasis is placed on providing updates of the descriptions of the epidemiological data included in the [HIQA report provided to NPHET on 5 January 2022](#).

Information for Norway, as reported by the NIPH, and epidemiological trends for Belgium, France, Norway, Sweden, Malta and Israel, are presented in the Appendices as supplementary data.

For presentation of epidemiological trends, data for the time period from 1 October 2021 to 17 January 2022 are presented and graphed using MS Excel.

Summary of epidemiological information and analysis

ECDC

- The **ECDC weekly epidemiological update** was published on 14 January 2021.⁽¹⁰⁾ This update included data as of 13 January 2022 and noted that the overall epidemiological situation in the EU/EEA (at the end of week 1, week ending 9 January 2022) was characterised by a high and increasing case notification rate and a high, yet stable, death rate. An **epidemiological situation of high or very high concern** was observed in 28 EU/EEA countries. This situation was largely driven by the increasing spread of the Omicron variant.
 - Case notification rates increased over the three weeks leading up to the report with increasing trends observed in 28 countries. Case notification rates were highest in people aged 15 to 24 years old, followed by those aged 25 to 49 years old, and those younger than 15 years old. **Increasing case notification rates were registered for all age-groups for the two weeks leading up to the report.** The 14-day COVID-19 case notification rate for the EU/EEA for week 1 of 2022 was 2,008 per 100,000 population (country range: 227.6 to 5,572).
 - The **hospital admission rate** for the EU/EEA for week 1 of 2022 had **increased for two weeks** to 15.4 per 100,000 population (country range 2.4 to 37.3). Increasing trends were observed for eight countries: Belgium, Cyprus, France, Greece, Iceland, Ireland, Latvia and Slovenia.⁽¹¹⁾
 - The **ICU admission rate** for the EU/EEA for week 1 of 2022 (data reported by 14 countries) was 1.9 per 100,000 population (country range: 0.5 to 8.4) and has been **stable for six weeks**. Increasing trends were observed in four countries: Ireland, France, Italy and Latvia.
 - The 14-day death rate for the EU/EEA for week 1 of 2022 was 49.2 per million population (country range: 10.2 to 142.7). This **death rate has been stable for seven weeks; however, increasing trends in death rates were observed in nine countries:** Bulgaria, Cyprus, France, Iceland, Italy, Latvia, Liechtenstein, Malta and Portugal. ⁽¹¹⁾

WHO

- The WHO published its most recent technical brief on Omicron on 7 January 2022.⁽¹²⁾ As of 6 January 2022, the number of countries that had reported the Omicron variant had increased to 149. The WHO stated that growth rates had decreased or stabilised in many countries, but still remained significantly higher than for the Delta variant.
 - It was noted that **in South Africa, where Omicron was first reported, there was a marked decline in reported case numbers** of infection caused by the Omicron variant in week 52, with a total of 60,142 COVID-19 cases reported, a 48% decrease compared to the previous week. The WHO also noted that **the incidence of hospitalisation was also reported to be decreasing significantly**, suggesting that the Omicron epidemic may have peaked in South Africa.
 - It was stated that large increases in the weekly incidence of cases of COVID-19 continued to be reported in other countries where Omicron is rapidly becoming the dominant variant. The WHO specifically mentioned the UK and Denmark, but also the US, France, the Philippines, Argentina, Australia and India, where large and rapid increases in case numbers were observed, often exceeding previous record levels.
- As of 10 January, the WHO European Region reported over seven million new cases of COVID-19 in the first week of 2022, with a doubling of cases over a two week period observed.⁽¹³⁾ Twenty-six countries in the region reported that over 1% of their population were becoming infected with SARS-CoV-2 each week. It was noted that mortality rates in the region remained stable and continued to be highest in countries with high COVID-19 incidence combined with lower vaccination uptake.
- On 11 January 2022, the WHO Regional Director for Europe, referring to analysis completed by the Institute for Health Metrics and Evaluation (IHME), estimated that more than 50% of the population in the European Region would be infected with Omicron in the next 6–8 weeks.⁽¹⁴⁾ **The modelling estimated that daily cases in the region would exceed 2.75 million by the third week of January and then would decline sharply.** It was estimated that hospitalisations may increase to a peak that was a third higher than the peak of last winter, though, in some countries, over 50% of these hospitalisations may be incidental. The modelling **did not expect daily**

deaths to increase substantially at the regional level, given the reduced severity of the Omicron variant, though it was acknowledged that this was largely dependent upon the extent to which countries were already in the midst of a winter Delta wave in December 2021.

United Kingdom

Epidemiological parameters

R and growth rate

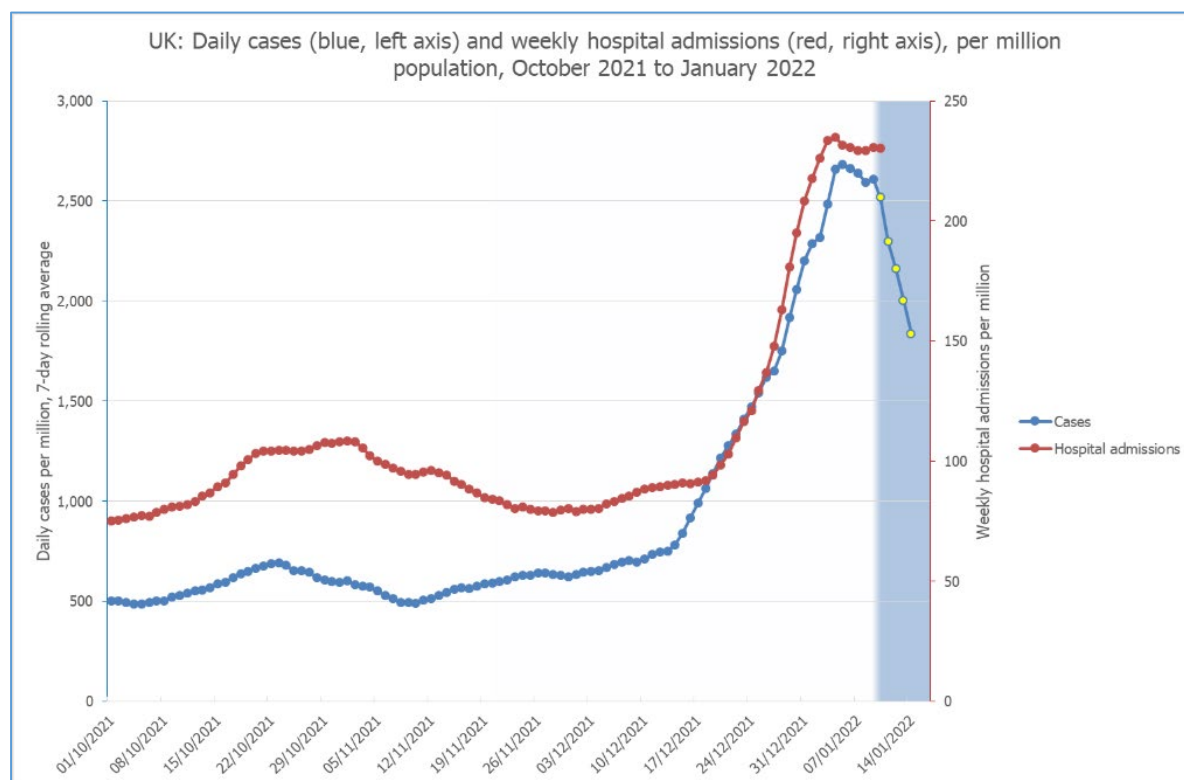
- On 14 January 2022,⁽¹⁵⁾ the UKHSA in collaboration with UK SPI-M-O groups published their most recent estimate of the reproduction number (R value) and growth rates overall.
 - The R range for England was estimated at **between 1.1 and 1.5** (which has reduced from the estimated range of 1.2 to 1.5 on 7 January 2022).
 - The growth rate was estimated at **between +1% and +5% per day** (reduced from +3% to +6% on 7 January 2022).
 - These estimates represented the transmission of COVID-19 overall in England two to three weeks prior to the time of publication (during late December to early January), due to the time delay between infection, symptom development, and seeking of healthcare. There remained increased uncertainty (relative to other reporting times) in both national and regional estimates at the time of reporting, due to changing behaviour around the festive period, which makes trends in data less clear.
- The Northern Ireland Department of Health published an updated report on 11 January 2022 on the R value and other indicators.⁽¹⁶⁾
 - The estimate of R for new positive tests ranged from **0.7 to 0.9**, demonstrating a reduction from estimates reported in the previous seven days (1.5 to 1.9). However, the report noted that the fall in the number of new positive cases in the previous week was primarily due to significantly reduced PCR testing following an alteration in test strategy and behaviours.

Case numbers and rates

- Based on the most recent week of data, between 11 January 2022 and 17 January 2022, there was a **41.7% decrease** in the number of positive test results compared to the previous week.⁽¹⁷⁾
- Daily case rates per million population, based on a seven-day rolling average, are depicted in Figure 1, as sourced from the OWID dataset. These are depicted alongside trends in hospital admissions. These suggest a plateauing, or decrease, in case numbers when considering the most recent two weeks of

data, though data points highlighted in yellow (section of graph shaded blue) represent incomplete data.⁽¹⁷⁾

Figure 1: COVID-19 cases and hospital admission data – UK, October 2021 to January 2022.



Source data: OWID. Shaded area and yellow markers represent data which were incomplete as of 17 January 2022; therefore, it is premature to interpret these data points as a true downward trend.^(9, 17)

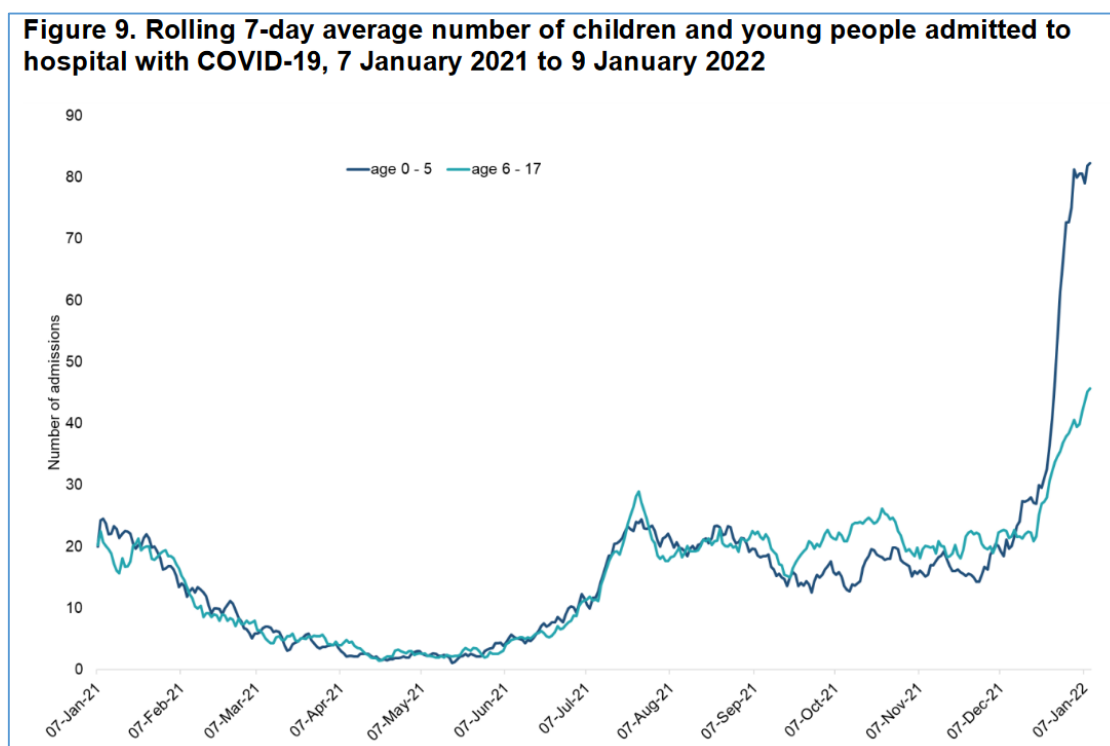
- The Northern Ireland Department of Health report on 11 January 2022 stated the following regarding case numbers and transmission by age group⁽¹⁶⁾:
 - Overall, **prevalence has dropped significantly** across all local government districts in Northern Ireland in the last week. Omicron is the dominant variant; however, **Delta remains** in circulation **and overall prevalence is therefore likely to decline slowly**.
 - There has been a fall in case numbers across the majority of age groups, most significantly in the 18-30 year age group. **In school age children, there has been an expected increase in cases**. It is noted that the true extent of this rise is masked by a recent change in testing strategy.

Hospitalisation rates

Numbers and rates of new admissions

- Based on the most recent week of data, between 5 January 2022 and 11 January 2022, there was a **2.0% decrease in the number of hospital admissions of people with COVID-19 compared to the previous seven days.**⁽¹⁷⁾
- Weekly hospital admission rates per million population, based on a seven-day rolling average, are depicted in Figure 1, as sourced from the OWID dataset; these data are reported by 'NHS England and Improvement' and include people admitted to hospital who either tested positive for COVID-19 during their admission or in the 14 days prior to their admission. These data suggest a **plateauing, or slight decline** in admissions, when considering the past two weeks of data.
- The most recent UKHSA Technical Briefing,⁽¹⁸⁾ published on 14 January 2022, noted that the number of **paediatric admissions** per day rose from 40 on 26 December 2021 to 120, **a three-fold rise within two weeks.** Figure 2 displays overall trends in paediatric hospital admissions for COVID-19 throughout 2021 to 2022.
 - Considering the recent rise in paediatric admissions, further analysis by age-group found that this rise was most rapid among children under five years, and highest in infants aged under one year.⁽¹⁸⁾ Regarding clinical presentation, the UKHSA noted that the top three complaints on hospital attendance records for children under five years were consistent with respiratory infection. Also, a clinical case review of a small number of infant Omicron admissions found that the infants were not severely unwell, and the Royal College of Paediatrics and Child Health issued a statement to confirm that paediatricians have not reported Omicron to be a more serious disease in children and young people in the UK.⁽¹⁸⁾

Figure 2: Figure from UKHSA Technical Briefing depicting trends in paediatric COVID-19 admissions, January 2021 to January 2022⁽¹⁸⁾

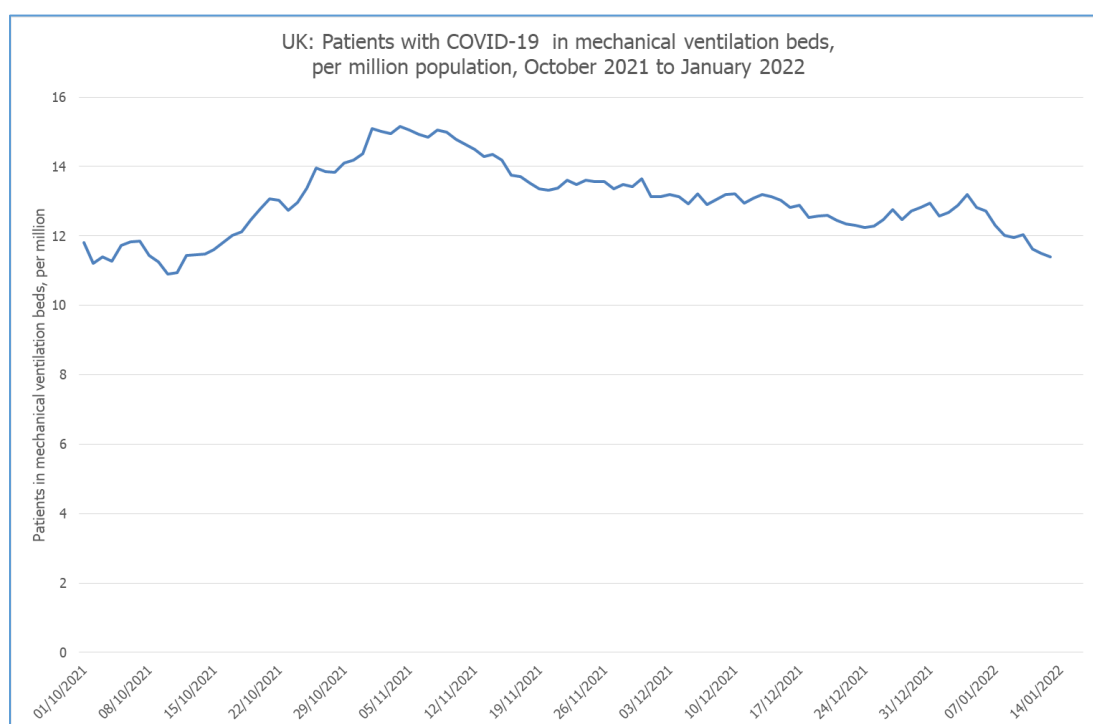


- The Northern Ireland Department of Health report published on 11 January 2022,⁽¹⁶⁾ noted that **hospital admissions and COVID-19 bed occupancy had increased significantly in the previous week, but had shown signs of peaking** in the last few days. It was stated that one further week of data would be required to determine if hospital numbers were at peak.

ICU numbers and rates

- The UK reports, on a daily basis, the number of COVID-19 patients currently occupying 'mechanical ventilation beds', as opposed to the number of COVID-19 patients in ICU. This is depicted, per million population, in Figure 3.⁽¹⁹⁾ This graph suggests **stable, or declining**, use of mechanical ventilation beds since the emergence of the Omicron variant.

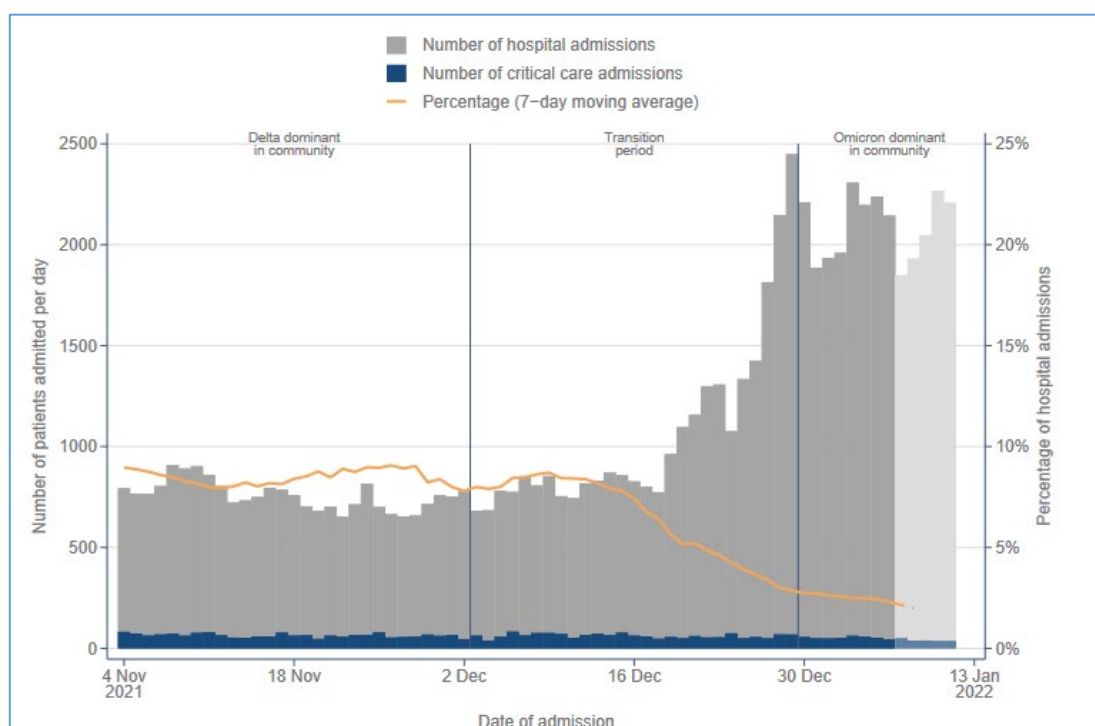
Figure 3: Number of patients with COVID-19 in mechanical ventilation beds, per million, UK, October 2021 to January 2022.



Source data: OWID.⁽⁹⁾

- Daily data on new admissions to ICU were not available. However, on 14 January 2022, the UK Intensive Care National Audit and Research Centre (ICNARC) published a report on COVID-19 in critical care.⁽²⁰⁾ This report included data to 13 January 2022 from critical care units participating in the UK Case MIX Programme (England, Wales and Northern Ireland). This report included a section on the potential impact of the Omicron variant, and reported the following statistics and graphs:
 - Figure 4 depicts, among patients admitted to hospital with COVID-19 since November 2021, the proportion of patients admitted to critical care on a given date. This graph demonstrates a **decline in the proportion of patients admitted to critical care among all COVID-19 hospital admissions.**

Figure 4: Admissions to critical care with confirmed COVID-19 as a percentage of all COVID-19 hospital admissions - figure extracted from UK ICNARC report on COVID-19 in critical care.⁽²⁰⁾



- Among patients admitted to ICU with confirmed COVID-19, this was reported as the primary, rather than secondary, reason for admission in a **lower proportion of admissions during the period when Omicron was dominant** than during the period when Delta was dominant; see Table 1.

Table 1: Patients admitted with confirmed COVID-19 - Reason for admission by date of dominant variants.⁽²⁰⁾

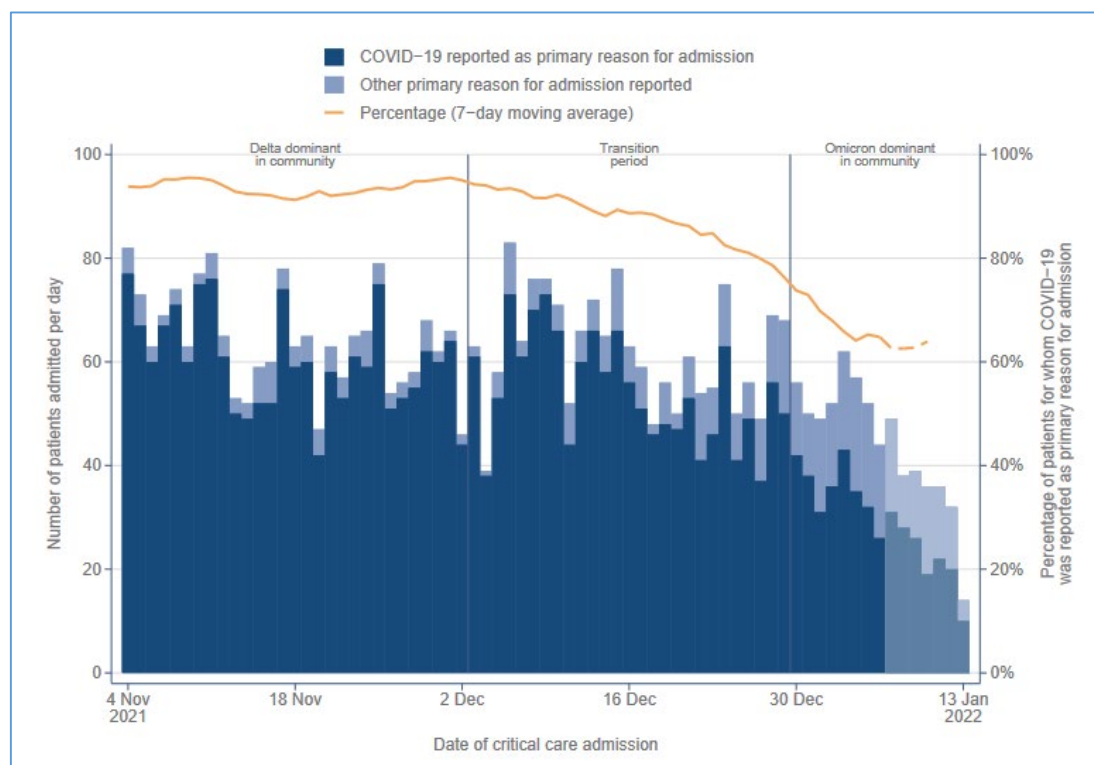
	Admitted 30 Dec 2021 to 13 Jan 2022 (Omicron Dominant)	Admitted 4 Nov 2021 to 2 Dec 2021 (Delta Dominant)
n	666	1,864
COVID-19 primary reason for admission	72.0% (n=439)	93.7% (n=1,747)

Abbreviations: n: number.

- The proportion of patients admitted to critical care with confirmed COVID-19, for whom COVID-19 was reported as the primary, rather than secondary, reason for admission to critical care, is depicted graphically in Figure 5. This figure demonstrates a **decline in the**

proportion of critical care patients for whom COVID-19 was reported as the primary reason for admission.

Figure 5: Admissions to critical care with confirmed COVID-19 as a percentage of hospital admissions, 4 November 2021 to date – figure extracted from UK ICNARC report on COVID-19 in critical care.⁽²⁰⁾

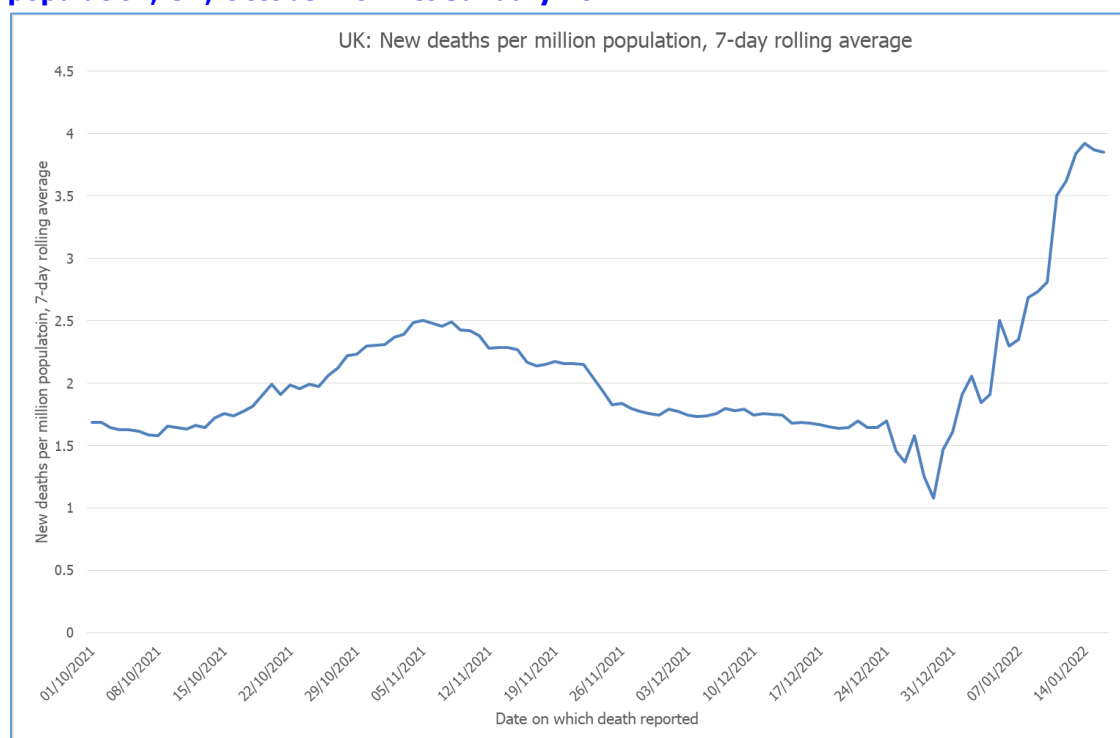


- The Northern Ireland Department of Health (NIDH) report published on 11 January 2022⁽¹⁶⁾ noted that the numbers of patients requiring supplemental oxygen and **ICU occupancy had remained relatively stable**. ICU occupancy was attributed predominantly to the result of Delta infection. Based on available data, the NIDH did not anticipate much rise in ICU occupancy from current levels.

Deaths

- UK deaths per million population, as a seven-day rolling average, are presented in Figure 6. These data show a rise in the death rate in early January 2022. The UKHSA notes that between 11 January 2022 and 17 January 2022,⁽²¹⁾ compared with the previous seven days, there was a 38.7% increase in the number of deaths within 28 days of a positive test.

Figure 6: New deaths within 28 days of positive test, by date reported, per million population, UK, October 2021 to January 2022.



Source data: OWID.⁽⁹⁾ Metric: deaths within 28 days of positive test, by date reported.

- The Northern Ireland Department of Health (NIDH) report published on 11 January 2022⁽²²⁾ noted that the **numbers of hospital deaths had remained relatively stable**. Based on available data, the NIDH did not anticipate much rise in deaths from current levels.

Vaccination profile

For reference, the proportion of the entire UK population considered to be fully vaccinated, and in receipt of booster vaccination, is presented, over time, in Appendix 2.

Agency overall assessment of epidemiological trends

- In the most recent SAGE meeting for which minutes are available, corresponding to the meeting held on 7 January 2022,⁽²³⁾ the following points were noted regarding cases, hospitalisations and severity of disease.
 - With the exception of London, the number of cases had continued to increase nationally as of 7 January 2022, including in older age groups. In London, while there was a continued increase in older age groups, case numbers had decreased in younger age groups. The peak in

cases was expected to appear at different times for different areas and age groups.

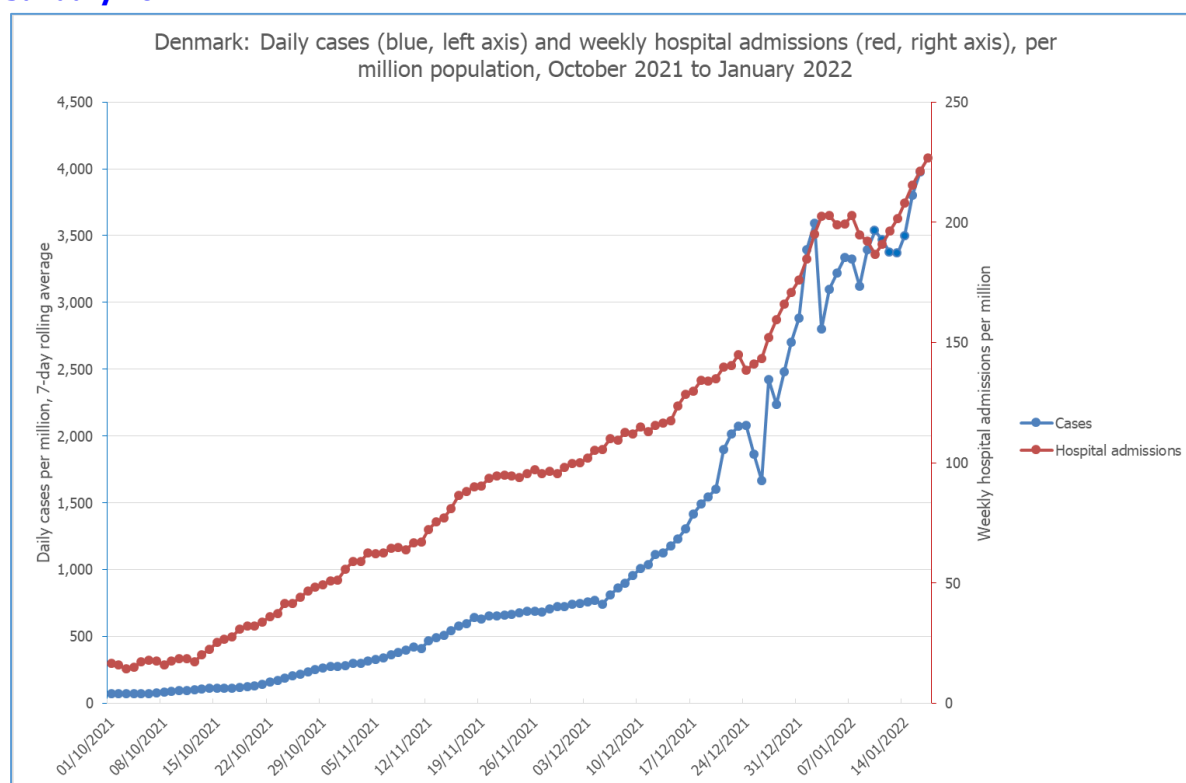
- The SAGE anticipated that the number of cases would peak first, as hospital admissions lag infections. The spread of cases in older age groups, which was lagging behind the spread in younger cohorts, would be a determinant of the number of hospital admissions.
- Unlike in other age groups, there did not appear to be a reduction in hospitalisation risk for Omicron, compared to Delta, in younger children (under 10 years old), though there was no indication of an increase in serious disease. In those under five years old, there appeared to be an increase in the proportion of cases attending hospital compared to past waves, although absolute numbers were small.
- According to early data, the severity of disease being observed in hospital over the preceding three weeks was lower than that observed in early phases of previous waves, with less need for oxygen, fewer admissions to intensive care, better outcomes, and shorter stays. It was noted that the probability of needing admission to ICU was very much higher in the unvaccinated population.
- The severity of disease for children also remained low (high confidence), with shorter lengths of stay in hospital.

Denmark

Case numbers and rates

- Daily COVID-19 case rates for Denmark, per million population, based on a seven-day rolling average, are depicted alongside trends in COVID-19 hospital admissions in Figure 7, as sourced from the OWID dataset.

Figure 7: COVID-19 cases and hospital admission data – Denmark, October 2021 to January 2022.



Source data: OWID⁽⁹⁾

Note: Data presented were downloaded on 18 January 2022, data for the remaining graphs within this report were downloaded on 17 January 2022. This was conducted in order to gather more recent data for Denmark, as the 17 January 2022 download included information to 13 January 2022 only.

- On 13 January 2022, the latest epidemiological trend report was published by the Statens Serum Institut (SSI) of Denmark.⁽²⁴⁾ It was noted that the **number of new COVID-19 cases increased by 6%** between week 52 of 2021 to week 1 of 2022, corresponding to an increase to 2,180 cases per 100,000 inhabitants. The test **positivity rate was found to decline slightly** from 14.4% in week 52 of 2021 to 13.9% in week 1 of 2022.
 - Nationally, the incidence was found to be **significantly higher among 16-19 year-olds and 20-24 year olds** compared with the remaining age groups (5,651 and 4,368 cases per 100,000 inhabitants,

respectively), which corresponds to increases of 75% and 28%, respectively, from week 52 to week 1. The incidence was observed to be above 1,000 confirmed cases per 100,000 for all age groups except those aged 60 years and older.

- The incidence remained at a higher level among the unvaccinated (3,458 per 100,000 inhabitants) compared with those who had completed their primary vaccination schedule (3,134 per 100,000), with substantially reduced incidence observed in individuals who had received their booster dose (1,260 per 100,000 inhabitants).

Hospitalisation rates

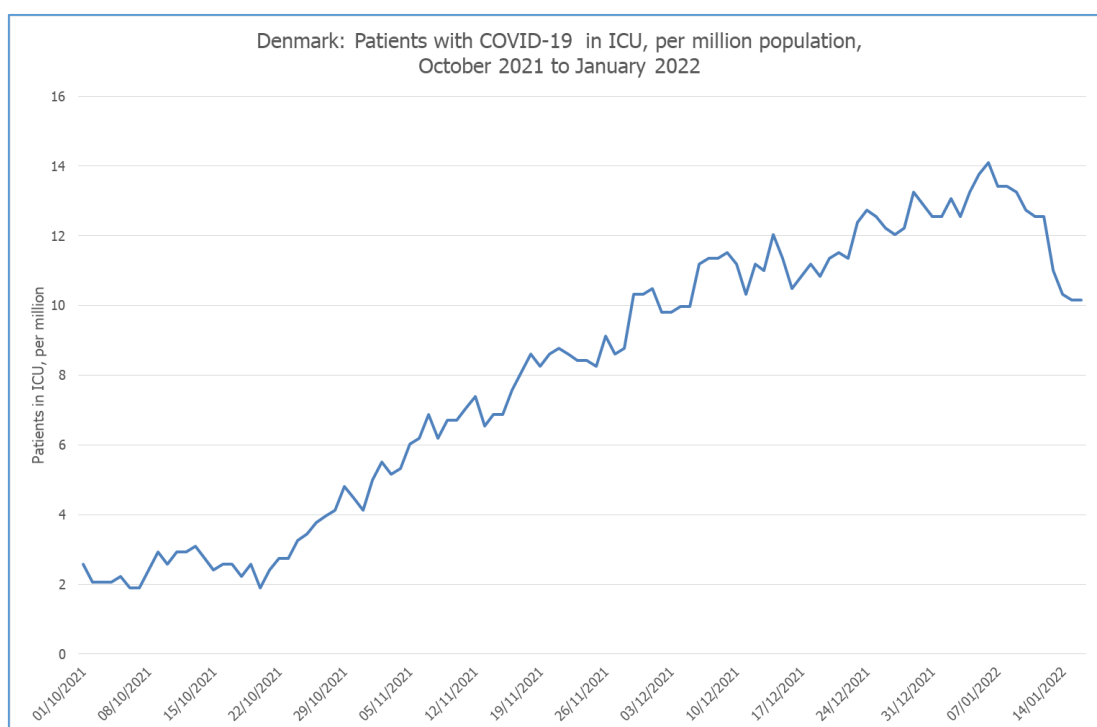
- Weekly hospital admission rates per million population, based on a seven-day rolling average, are depicted in Figure 7, as sourced from the OWID dataset for data to 14 January 2022. These data indicate a continued increase in new hospital admissions as of mid-January 2022.
- On 13 January 2022, the latest epidemiological trend report published by SSI had noted that:⁽²⁴⁾
 - the overall **number of new admissions with SARS-CoV-2 infection was stable**, (1,126 in week 1 compared to 1,140 in week 52). Among those that were SARS-CoV-2 positive on admission, the 70-79-year-old age group comprised the largest number of new admissions in week 1, followed by 20-29-year-olds.
 - while overall numbers of admissions were stable, differences by age group were noted (the number of admissions increased in those aged 10-19 years, 20-29 years, 70-79 years and 90+ years and remained stable or decreased in the other age cohorts). In all individuals aged 12 years and older, the rate of hospital admission with SARS-CoV-2 infection was higher in unvaccinated individuals (60 per 100,000 unvaccinated) compared with those who had completed their primary vaccination schedule (19 per 100,000 primary vaccinated) and those who had received their booster dose (16 per 100,000 boosted).
 - of the patients that were SARS-CoV-2 positive on admission to hospital, there was a **small decrease in the proportion of patients admitted due to COVID-19 versus those admitted for other reasons** reducing to 71% from 75% in November. Differences were observed by age group: for 0-59-year-olds, the proportion hospitalised due to COVID-19 was 61% in week 51 decreasing from 67% in week 50; **for those 60 years and older**, the proportion admitted due to

COVID-19 was 82% in week 51, **representing an increase** from 77% in week 50.

- An updated modelling report published by the SSI on 6 January considered changes to public health measures that were introduced in Denmark since 8 December 2021.⁽²⁵⁾ It was noted that there were still significant uncertainties regarding the Omicron variant and its potential impact. The model estimated that daily infections could range from 25,000 to 55,000 by the end of January, though it was acknowledged that many of these infections would not be detected given the maximum daily testing capacity of 200,000 PCR tests. Under the assumption that the hospitalisation risk associated with Omicron is half that of Delta, **it was estimated that daily admissions would peak in early February** at between 150 to 360. It was noted that surveillance data from SSI reported **an increasing proportion (up to 25%) of inpatients were testing positive for SARS-CoV-2, but were admitted for another condition.**⁽²⁶⁾ Therefore, it was suggested that the burden per COVID-19 hospitalisation may be reduced compared with previous waves. While the proportion of patients with SARS-CoV-2 infection as an incidental finding on admission appears to be increasing, the SSI emphasised that the burden of COVID-19 on hospitalisations was still considerable, with over 70% of SARS-CoV-2 positive patients admitted due to their COVID-19 diagnosis. **Uncertainty regarding the duration of hospitalisation for Omicron cases relative to Delta cases was noted.**

ICU numbers and rates

- The number of patients in ICU with a COVID-19 diagnosis, over time, per million population, is depicted in Figure 8. This shows a **steady rise in ICU occupancy** from late October (Delta dominant) through to early January (Omicron dominant), though a decline was observed after the first week of January.



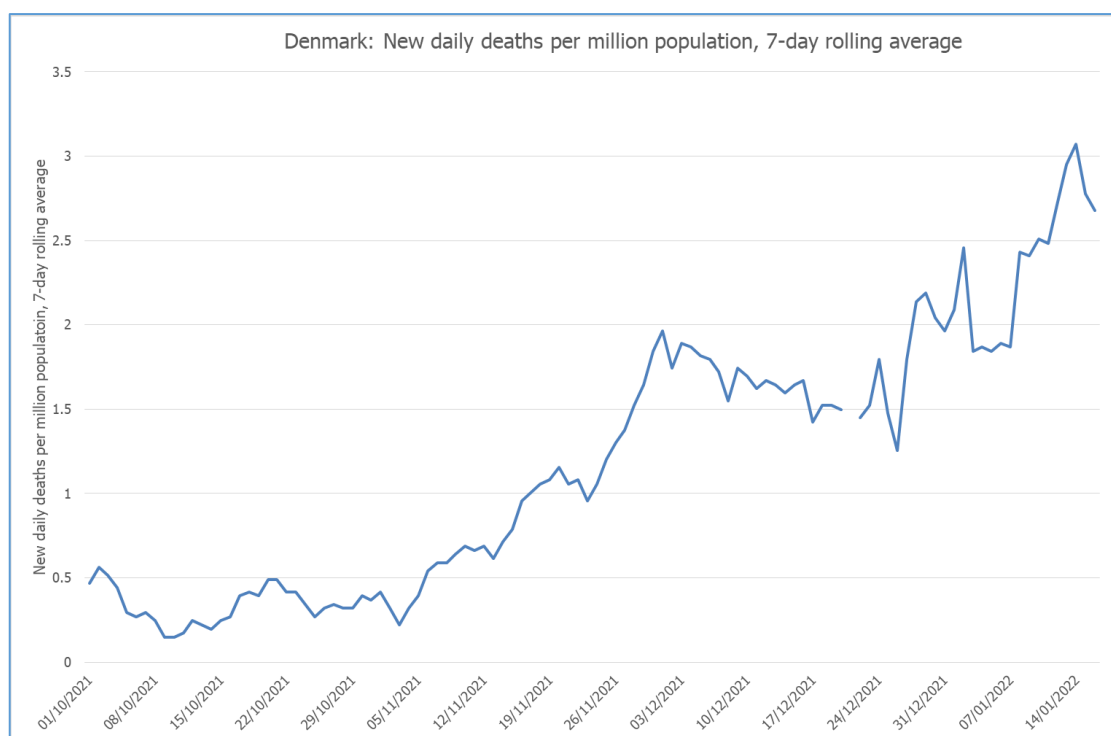
Source data: OWID⁽⁹⁾

- Daily data on new admissions to ICU were not available. However, the SSI, in their 13 January 2022 epidemiological trends report,⁽²⁴⁾ noted that there was a **stabilisation in the number of COVID-19 patients newly admitted to ICU** over the past few weeks (73 in week 52 and 74 in week 1).

Deaths

- Deaths per million population in Denmark, as a seven-day rolling average, are presented in Figure 9. This graph appears to show a rise in the death rate in late November 2021, and a further and more **prolonged rise in the death rate** from late December 2021 to early January 2022.
- The SSI, in their 13 January 2022 epidemiological trends report,⁽²⁴⁾ noted that the number of **COVID-19 related deaths had increased** from 63 in week 52 of 2021 to 97 in week 1 of 2022. Also, a significant excess mortality was observed in Denmark in the previous weeks, especially among those aged 75 years and older.

Figure 9: New deaths within 28 days of positive test, by date reported, per million population, Denmark, October 2021 to January 2022.



Source data: OWID⁽⁹⁾ Note: Gaps in the plot correspond to days where data were unavailable.

Vaccination profile

- For reference, the proportion of the entire Danish population considered to be fully vaccinated, and in receipt of booster vaccination, is presented, over time, in Appendix 2.

Agency overall assessment of epidemiological trends

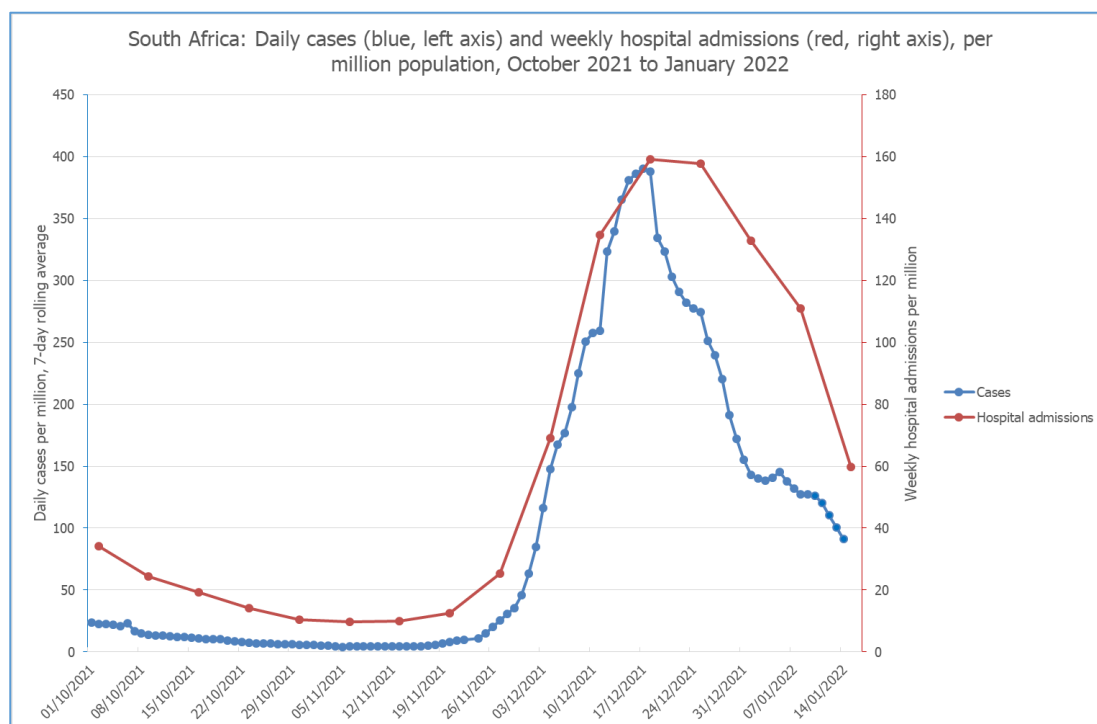
- The SSI, in their 13 January 2022 epidemiological trends report,⁽²⁴⁾ concluded that overall, the epidemic was growing in Denmark, but a decline in test positivity was observed despite rising test activity. **A small decrease in the number of admissions and a stabilisation in the number in intensive care** was noted, despite the high infection rates in recent weeks. It was stated that, at the time of the report, the epidemic was being driven solely by Omicron, and the decrease seen in admissions may be considered to be related to decreasing infections with the Delta variant.

South Africa

Case numbers and rates

- Daily COVID-19 cases for South Africa, per million population, based on a seven-day rolling average, are depicted alongside trends in hospital admissions in Figure 10, as sourced from the OWID dataset. **Cases have been falling** since approximately 18 December 2021.
- The NICD reported a **13.9% decrease in the number of new cases** detected in week 1 of 2022 (46,680) compared with week 52 of 2021 (54,191).⁽²⁷⁾
 - In the week prior to 8 January 2022, a decrease in weekly incidence was observed in all provinces, except the Gauteng (1.4 cases per 100,000 persons, 2.2% increase) and Northern Cape (21.9 cases per 100,000 persons, 18.3% increase).
 - The highest weekly incidence among cases detected in week 1 of 2022 was reported in the over 80-year age group (248.6 cases per 100,000 persons), and the lowest weekly incidence was in the 5 to 9-year age group (20.2 cases per 100,000 persons).

Figure 10: COVID-19 cases and hospital admission data – South Africa, October 2021 to January 2022.



Source data: OWID⁽⁹⁾

Hospitalisation rates

- Weekly hospital admissions per million population, based on a seven-day rolling average, are depicted in Figure 10, as sourced from the OWID dataset. **Hospitalisations for COVID-19 have been falling** since approximately 25 December 2021.
- The NICD noted the following regarding hospital admission data available as of 8 January 2022:⁽²⁸⁾
 - In the fourth COVID-19 wave in South Africa, dominated by the Omicron variant, there was an **increase in admissions since week 45 and a decrease in admissions since week 50**. The weekly admissions during the fourth wave have been lower than at the peak of the second and third waves in both private and public sectors. The incidence of COVID-19 admissions increased with age and was highest amongst individuals aged 65 years and older. **Hospital admissions over the most recent 14 day period decreased by an average of 30%, compared with the previous 14 day period**, across all nine provinces.

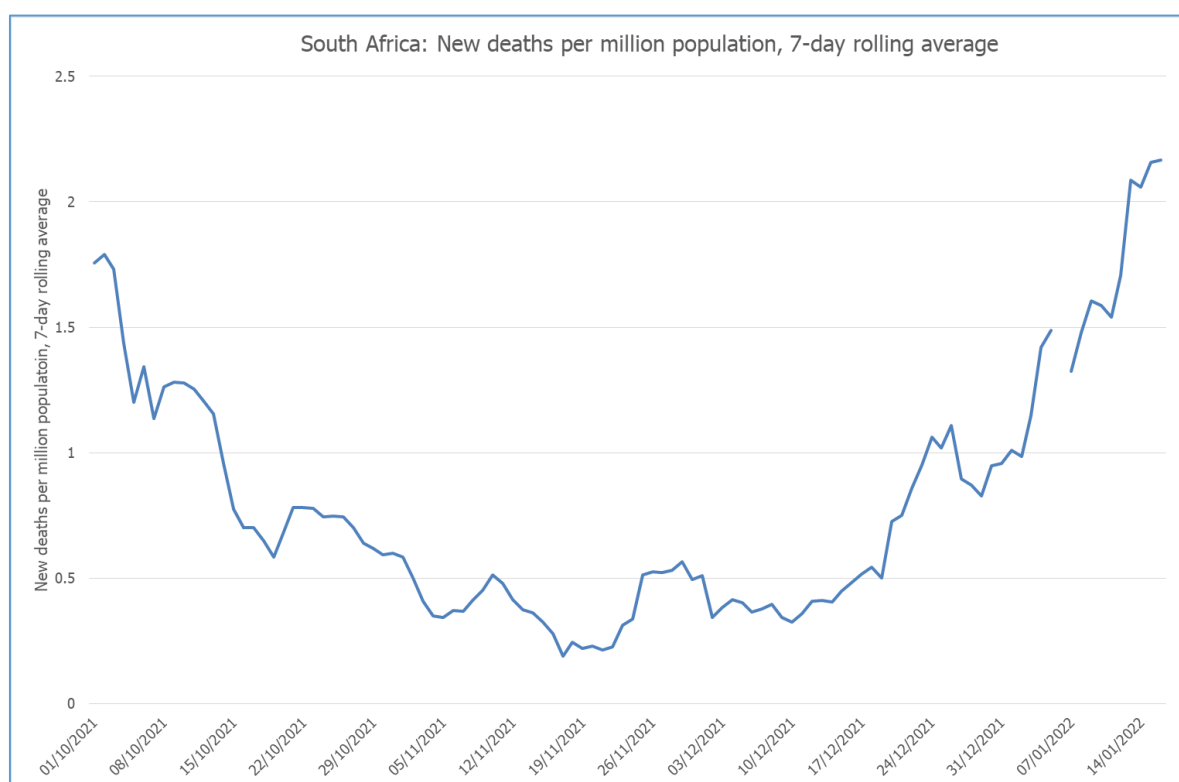
ICU numbers and rates

- Data for the number of patients in ICU over time, including new admissions to ICU, were unavailable.
- As of 17 January 2022, daily national hospital surveillance data from South Africa reported that, of the 7,700 COVID-19 patients in hospitals, 616 (8%) were in an ICU, 553 (7%) were in a “high care” unit and 6,531 (85%) were on a general ward.⁽²⁹⁾ Of the patients hospitalised at the time of the report, 293 (4%) required ventilation and 1,025 (13%) required oxygen.

Deaths

- Deaths per million population in South Africa, as a seven-day rolling average, are presented in Figure 11. This graph depicts a **decline in the death rate until mid-November 2021, followed by a rise in the death rate to mid-January 2022**.

Figure 11: New deaths within 28 days of positive test, by date reported, per million population, South Africa, October 2021 to January 2022.



Source data: OWID⁽⁹⁾ Note: There are gaps in the plot for days where data were unavailable.

- As of 8 January 2022, the NICD reported the following in relation to in-hospital deaths in South Africa.⁽²⁸⁾
 - There has been an increase in in-hospital COVID-19 deaths in both public and private sectors in all provinces since week 48 of 2021. Hospital deaths over the most recent 14 day period increased by an average of 33% compared with the previous 14 day period, across all nine provinces. The weekly deaths during the fourth wave have been lower than at the peak of the prior three waves in both public and private sectors. The risk of COVID-19 death increased with age and was highest amongst individuals aged 65 years and older.

Vaccination profile

- For reference, the proportion of the entire South African population considered to be fully vaccinated, over time, is presented in Appendix 2.

Agency overall assessment of epidemiological trends

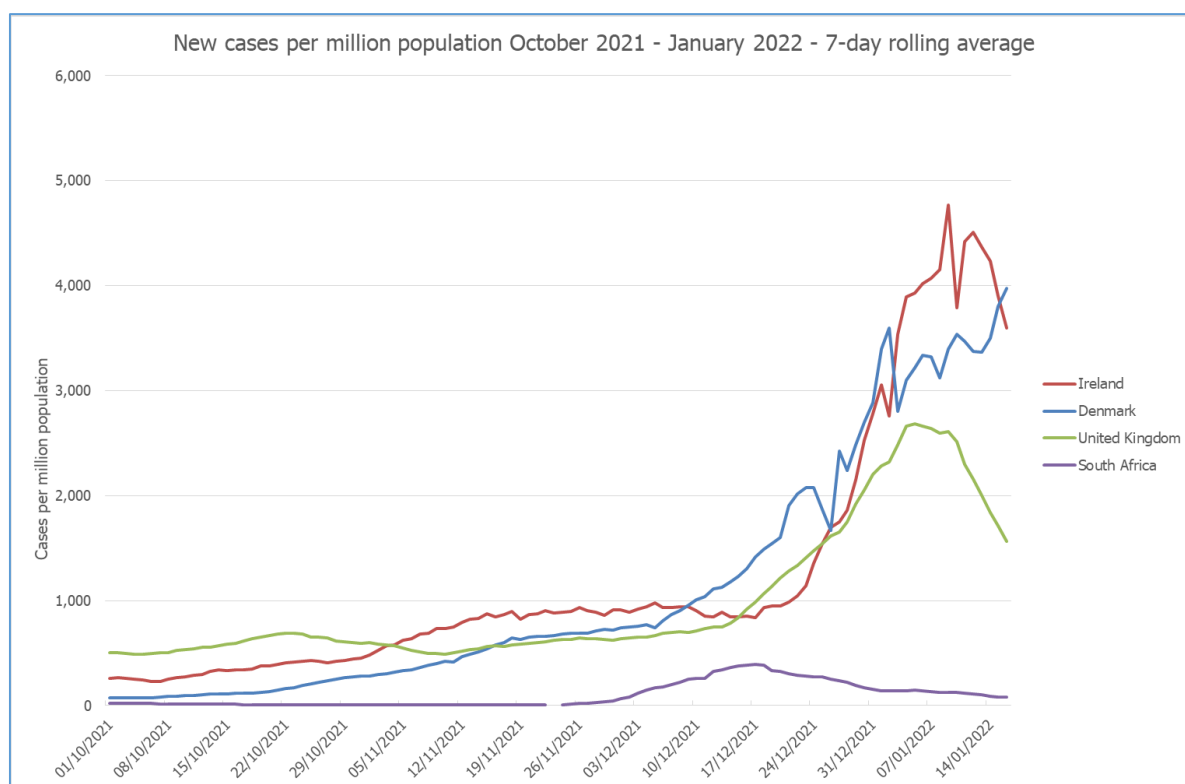
In their most recent COVID-19 weekly epidemiology update,⁽²⁷⁾ the National Institute for Communicable Diseases noted a 13.9% decrease in the number of new cases in

the first week of 2022 (data collected up to 8 January 2022), when compared with week 52 of 2021. The decrease in weekly incidence was observed in all provinces, except Gauteng and Northern Cape provinces, which reported a 2.2% and 18.3% increase, respectively. The weekly incidence was highest in those aged 80 years and older (248.6 cases per 100 000 persons) and the lowest in the 5-9-year age group (20.2 cases per 100 000 persons).

Comparison graphs of data from Ireland, UK, Denmark and South Africa

This section presents collated data for three metrics of interest (case rates (Figure 12), hospital admission rates (Figure 13) and death rates (Figure 14)) from Ireland, UK, Denmark and South Africa to allow for visualisation of trends across countries.

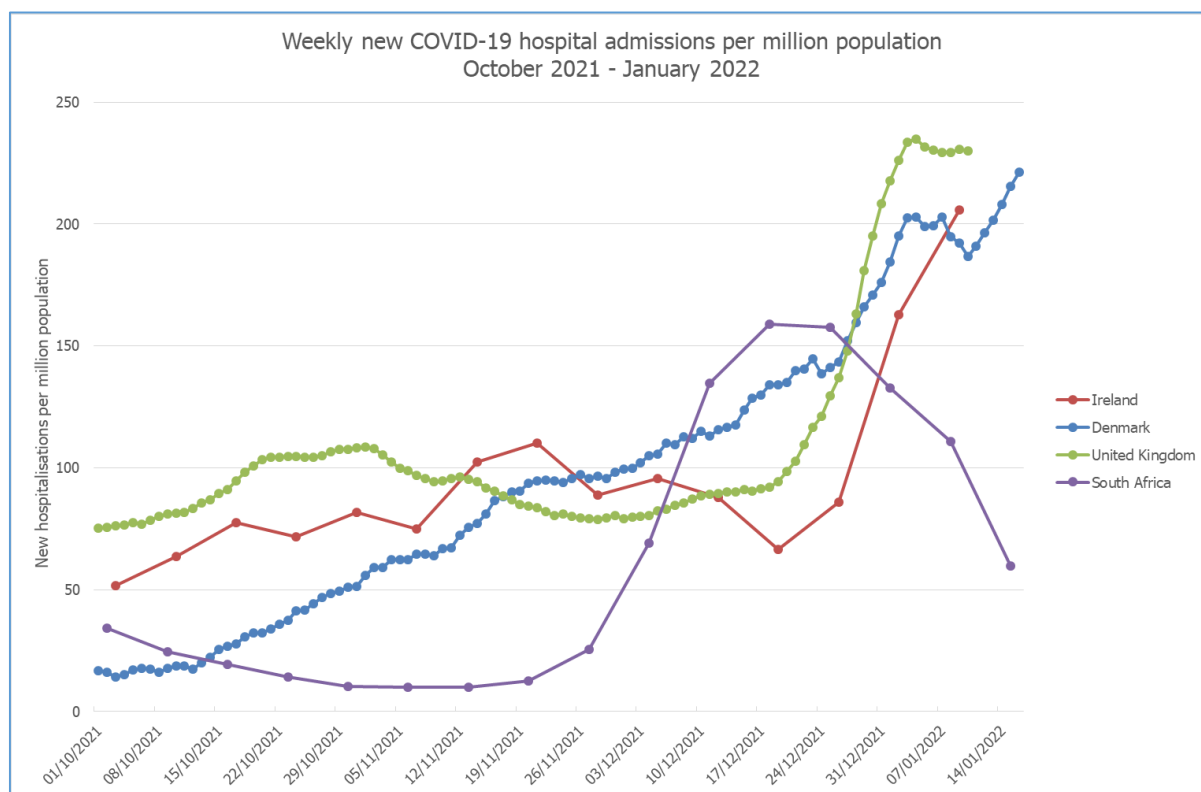
Figure 12: COVID-19 cases per million population, October 2021 to January 2022



Source data: OWID.⁽⁹⁾ Note: There are gaps in the plot for days where data were unavailable. As described in Figure 1, data from the most recent five days in the UK is incomplete. Therefore, it is premature to interpret the latest data points from the UK as a true downward trend.^(9, 17)

- Confirmed COVID-19 cases in Denmark continued to rise in mid-January 2022 while cases in the UK, Ireland and South Africa appeared to have passed a peak.

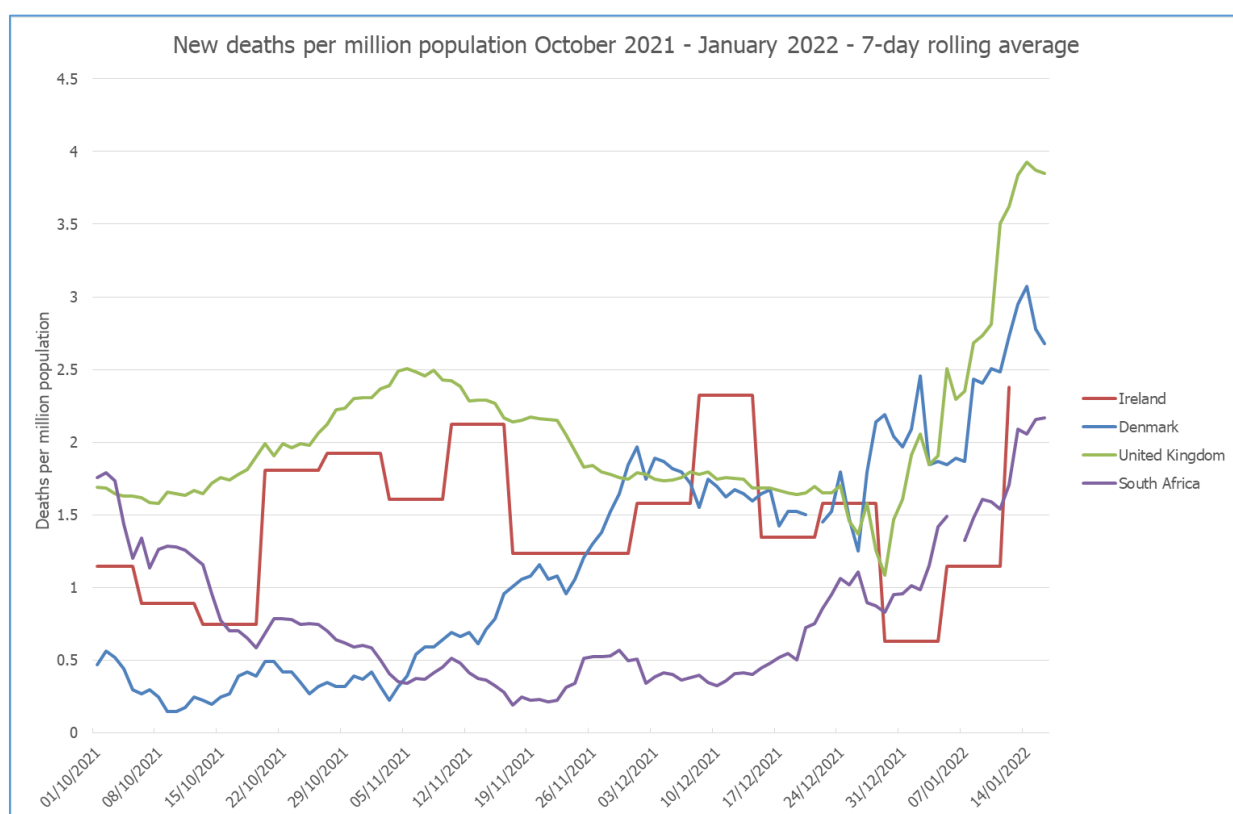
Figure 13: New COVID-19 hospital admissions per million population, October 2021 to January 2022



Source data: OWID.⁽⁹⁾

- Weekly new hospital admissions showed a substantial decline in South Africa from late December 2021, following sharply rising admissions in late November and early to mid-December 2021. A similar decline has not as yet been observed in Denmark, the UK or Ireland.

Figure 14: COVID-19 deaths per million population, October 2021 to January 2022



Source data: OWID.⁽⁹⁾ Note that death figures for Ireland are reported on a weekly basis, in contrast with data for Denmark, UK and South Africa. Gaps in the plot correspond to days where data were unavailable.

- Since early January 2022, death rates have continued to rise in each of Ireland, Denmark, UK and South Africa.

Limitations of the data included within this report

There are important limitations of the data included within this report which need to be considered when interpreting the report contents.

The number of COVID-19 **cases** in any country can be heavily influenced by the testing strategy adopted in that country and case definition used, which can vary over time, causing large and small fluctuations in the number of new cases recorded each day. The number of new cases on a given day can also be affected by the return of awaited or delayed test results, as well as reduced testing on weekends or during holiday periods, or outsourcing of testing. This issue is especially relevant given that the time period of this analysis falls over the Christmas period, which is expected to alter test-seeking behaviour. Furthermore, pressure on testing capacity

due to the high levels of Omicron infection led some countries to alter testing protocols during this period; for example, in the UK, the need for a confirmatory PCR test following a positive rapid antigen test was dropped in Northern Ireland, Scotland and Wales on 6 January 2022 and in England on 11 January 2022, due to high prevalence of infection and the high demand for PCR tests.⁽³⁰⁾ This limits the ability to interpret whether changes in reported cases are due to changes in test protocols or whether these represent true changes in case numbers.

The inclusion of reinfections in case counts differs (and has changed over time) between countries and is important given the ability of Omicron to evade immunity. For example, Denmark commenced including reinfections as part of their daily case numbers as of 15 December 2021.⁽³¹⁾ Within the UK, daily case numbers do not include reinfections for all four nations; figures for Wales do include multiple cases for the same person, provided the positive tests are more than 42 days apart, but this is currently not the case for England, Scotland and Northern Ireland.⁽³²⁾ It is unclear whether South Africa captures reinfections as part of their daily case numbers.

In relation to **hospitalisation** data, the case definition used may differ between countries. For example, within the UK, England, Scotland and Northern Ireland only include confirmed COVID-19 cases in their hospitalisation counts, whereas Wales additionally includes suspected COVID-19 cases.⁽¹⁹⁾ In South Africa and Denmark a positive PCR or antigen test is required for inclusion as a hospitalisation case.^(29, 33) In terms of ICU data, these are not measured in the same way across countries. For example, the UK measures the daily count of COVID-19 patients in mechanical ventilation beds,⁽¹⁹⁾ whereas Denmark⁽³¹⁾ and South Africa measure ICU occupancy for COVID-19 confirmed patients.⁽³⁴⁾

Data on COVID-19 **deaths** differ substantially between countries. It is acknowledged that the actual death toll from COVID-19 globally is likely to be considerably higher than the number of confirmed deaths, due to limited testing and due to different approaches in the attribution of the cause of death in many countries.⁽⁹⁾ As such, the difference between the number of reported confirmed deaths and the number of actual deaths varies substantially by country. It is also important to note that the death figures on a given date do not necessarily show the number of new deaths on that day, but the deaths reported on that day, which is subject to a time lag.

Furthermore, the number of COVID-19 deaths in any country is affected by how these deaths are recorded. Some countries do not record COVID-19 deaths across all sectors (for example, they may only include deaths in hospitals or long term care facilities), while others may only report deaths confirmed due to COVID-19. Other countries may report deaths under multiple definitions. For example, for the UK data

included in this report, deaths are only counted if they occur within 28 days of the patient's first positive SARS-CoV-2 test.⁽³⁵⁾ People who die more than 28 days after their first positive test are not included, whether or not COVID-19 was the cause of death. Daily deaths with COVID-19 on the death certificate by date of death are also reported by the UK, but are not included in the Our World in Data dataset, and were not included in the present report due to the delays in reporting such data. In Denmark, deaths related to COVID-19 are defined as individuals who have died within 30 days of a diagnosis of COVID-19 infection or reinfection.⁽³³⁾

The present report is primarily concerned with considering trends within countries, as opposed to the accurate capture of the full extent of all COVID-19 cases, hospitalisations, deaths, and vaccinations. As such, the exact data definitions used are less important than the consistent application of the method of capturing the data. It is reasonable to expect that changes in data capture over the festive period in late December and early January may have differentially affected different countries, and changes in the data around this time may therefore not be reliable.

Finally, given the differences across countries in testing strategy, healthcare system, age structure, vaccination coverage, social behaviour patterns and implementation of public health guidance and restrictions, caution is urged in comparison of trends between countries and in considering the relevance of observed trajectories for other countries.

References

1. Network for Genomic Surveillance in South Africa. SARS-CoV-2 Sequencing Update 1 December 2021 [Last updated: 01/12/21]. Available from: <https://www.nicd.ac.za/wp-content/uploads/2021/12/Update-of-SA-sequencing-data-from-GISAID-1-Dec-Final.pdf>.
2. UK Health Security Agency. Omicron daily overview: 17 December 2021 [Last updated: 17/12/21]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1042100/20211217_OS_Daily_Omicron_Overview.pdf.
3. Statens Serum Institut. Rapport om omikronvarianten 2021 [Last updated: 23/12/21]. Available from: <https://files.ssi.dk/covid19/omikron/statusrapport/rapport-omikronvarianten-23122021-e4k6>.
4. Department of Health (Ireland). Statement from the National Public Health Emergency Team - Sunday 19 December 2021 [Last updated: 21/12/21]. Available from: <https://www.gov.ie/en/press-release/03d57-statement-from-the-national-public-health-emergency-team-sunday-19-december/>.
5. European Centre for Disease Prevention and Control. Weekly epidemiological update: Omicron variant of concern (VOC) – week 1 (data as of 7 January 2022) EU/EEA 2022 [Last updated: 7/01/22]. Available from: <https://www.ecdc.europa.eu/en/news-events/weekly-epidemiological-update-omicron-variant-concern-voc-week-1-data-7-january-2022>.
6. GISAID. Overview of Variants in Countries 2022 [Last updated: 20/12/21]. Available from: <https://covariants.org/per-country>.
7. European Centre for Disease Prevention and Control. SARS-CoV-2 variants dashboard 2022 [Last updated: 17/01/22]. Available from: <https://www.ecdc.europa.eu/en/covid-19/situation-updates/variants-dashboard>.
8. Burki TK. Fourth dose of COVID-19 vaccines in Israel. *The Lancet Respiratory Medicine*.
9. H Ritchie EM, L Rodés-Guirao, C Appel, C Giattino, E Ortiz-Ospina, J Hasell, B Macdonald, D Beltekian and M Rose. Coronavirus Pandemic (COVID-19). *Our World in Data*. 2020.
10. European Centre for Disease Prevention and Control. Weekly epidemiological update: Omicron variant of concern (VOC) – week 2 (data as of 13 January 2022) EU/EEA 2022 [Last updated: 14/01/22]. Available from: <https://www.ecdc.europa.eu/en/news-events/weekly-epidemiological-update-omicron-variant-concern-voc-week-2-data-13-january-2022>.
11. European Centre for Disease Prevention and Control. Country Overview Report: Week 01, 2022 [Last updated: 13 Jan 2022]. Available from: <https://covid19-country-overviews.ecdc.europa.eu/index.html>.
12. World Health Organization. Enhancing response to Omicron (COVID-19 variant B.1.1.529): Technical brief and priority actions for Member States 2022 [Last updated: 7 January 2022]. Available from:

- [https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-\(b.1.1.529\)-technical-brief-and-priority-actions-for-member-states/](https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-(b.1.1.529)-technical-brief-and-priority-actions-for-member-states/).
13. WHO Europe. Statement – Update on COVID-19: Omicron wave threatening to overcome health workforce 2022 [Last updated: 11/01/22]. Available from: <https://www.euro.who.int/en/media-centre/sections/statements/2022/statement-update-on-covid-19-omicron-wave-threatening-to-overcome-health-workforce>.
 14. Institute for Health Metrics and Evaluation. COVID-19 Results Briefing: The European Region 2022 [Last updated: 8/1/22]. Available from: https://www.healthdata.org/sites/default/files/files/44566_briefing_European_Region_2.pdf.
 15. UK Health Security Agency. The R value and growth rate 2022 [Last updated: 14/01/22]. Available from: <https://www.gov.uk/guidance/the-r-value-and-growth-rate#full-publication-update-history>.
 16. Northern Ireland Department of H. Modelling the COVID-19 epidemic; the Reproduction Number and other indicators 2022 [Last updated: 11/01/22]. Available from: <https://www.health-ni.gov.uk/sites/default/files/publications/health/r-paper-110122.pdf>.
 17. UK Health Security Agency. Cases in United Kingdom 2022 [Last updated: 17/01/22]. Available from: <https://coronavirus.data.gov.uk/details/cases>.
 18. U. K. Health Security Agency. SARS-CoV-2 variants of concern and variants under investigation in England: Technical briefing 34 2022 [Last updated: 14/01/22]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1046623/Technical-Briefing-34-14January2022.pdf.
 19. UK Health Security Agency. Healthcare in United Kingdom 2022 [Last updated: 10/01/22]. Available from: <https://coronavirus.data.gov.uk/details/healthcare>.
 20. Intensive Care National Audit and Research Centre (ICNARC). ICNARC report on COVID-19 in critical care: England, Wales and Northern Ireland 2022 [Last updated: 14/01/22]. Available from: <https://www.icnarc.org/our-audit/audits/cmp/reports>.
 21. UK Health Security Agency. Deaths in United Kingdom 2022 [Last updated: 17/01/22]. Available from: <https://coronavirus.data.gov.uk/details/deaths>.
 22. Northern Ireland Department of Health. Modelling the COVID-19 epidemic; the Reproduction Number and other indicators 2022 [Last updated: 11/01/22]. Available from: <https://www.health-ni.gov.uk/sites/default/files/publications/health/r-paper-040122.pdf>.
 23. Scientific Advisory Group for Emergencies. One-hundred-and-second SAGE meeting on COVID-19, 07 January 2022 [Last updated: 14/01/22]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1046532/S1476_SAGE_102_minutes.pdf.
 24. Statens Serum Institut. The epidemiological development of covid-19 and other respiratory infections in Denmark from week 52, 2021 to week 1, 2022 2022 [Last updated: 13/1/22]. Available from: <https://www.ssi.dk/>

- [/media/cdn/files/covid19/tendensrapport/rapport/ugentlige-tendenser-covid19-andre-luftvejs-uge2-2022-8ej3.pdf?la=da.](#)
25. Statens Serum Institut. Additional note of January 6, 2022 to "Expert report on 17 December - Scenarios for infection rates and new admissions with omikron variant " 2022 [Last updated: 6/1/22]. Available from: <https://covid19.ssi.dk/-/media/cdn/files/tillgsnotat-af-den-6-januar-2022-til-ekspertrapport-af-den-17-december-2021endelig.pdf?la=da>.
 26. Statens Serum Institut. Focus report on COVID-19 related hospitalisations during the SARS-CoV-2 epidemic 2022 [Last updated: 6/1/22]. Available from: https://www.ssi.dk/-/media/cdn/files/fokusrapport-om-covid-19-relaterede-hospitalsindlggelses-undersars-cov-2-epidemien_06012022_1.pdf?la=da.
 27. National Institute for Communicable Diseases. COVID-19 WEEKLY EPIDEMIOLOGY BRIEF: SOUTH AFRICA WEEK 1, 2022 [Last updated: 12/1/22]. Available from: <https://www.nicd.ac.za/wp-content/uploads/2022/01/COVID-19-Weekly-Epidemiology-Brief-week-1-2022.pdf>.
 28. National Institute for Communicable Diseases. COVID-19 HOSPITAL SURVEILLANCE UPDATE: SOUTH AFRICA WEEK 1, 2022 [Last updated: 12/1/22]. Available from: <https://www.nicd.ac.za/wp-content/uploads/2022/01/NICD-COVID-19-Weekly-Sentinel-Hospital-Surveillance-update-Week-1-2022.pdf>.
 29. National Institute for Communicable Diseases. DAILY HOSPITAL SURVEILLANCE (DATCOV) REPORT 2022 [Last updated: 17/01/22]. Available from: <https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/daily-hospital-surveillance-datcov-report/>.
 30. UK Health Security Agency. Changes to rapid lateral flow and PCR testing requirements 2022 [Last updated: 11/01/22]. Available from: <https://coronavirus.data.gov.uk/details/whats-new/record/30fc8a0b-e65b-477c-8bd1-c6517cd6db26>.
 31. Statens Serum Institut. COVID-19 dashboards 2022 [Last updated: 15/01/22].
 32. UK Health Security Agency. New cases by specimen date 2022 [Last updated: 17/01/22]. Available from: <https://coronavirus.data.gov.uk/metrics/doc/newCasesBySpecimenDate>.
 33. Statens Serum Institut. Data sources and definitions 2022 [Last updated: 17/01/22]. Available from: <https://covid19.ssi.dk/datakilder-og-definitioner>.
 34. National Institute for Communicable Diseases. NICD National COVID-19 Hospital Surveillance 2022 [Last updated: 17/01/22]. Available from: <https://www.nicd.ac.za/wp-content/uploads/2022/01/NICD-COVID-19-Daily-Sentinel-Hospital-Surveillance-report-National-20220117.pdf>.
 35. UK Health Security Agency. Metrics documentation 2022 [Last updated: 17/01/22]. Available from: <https://coronavirus.data.gov.uk/metrics/doc/newDeaths28DaysByDeathDate>.
 36. Dong E, Du H, Gardner L. An interactive web-based dashboard to track COVID-19 in real time. *The Lancet Infectious Diseases*. 2020;20(5):533-4.
 37. Norwegian Institute of Public Health. Weekly reports for coronavirus and COVID-19: Norwegian Institute of Public Health; 2022 [Last updated:

- 13/1/22]. Available from: <https://www.fhi.no/en/publ/2020/weekly-reports-for-coronavirus-og-covid-19/>.
38. Norwegian Institute of Public Health. Statistics on reported cases of the omicron virus variant 2022 [Last updated: 12 Jan 2022]. Available from: <https://www.fhi.no/sv/smittsomme-sykdommer/corona/meldte-tilfeller-av-ny-virusvariant/>.
39. Norwegian Institute of Public Health. Risk of covid-19-epidemic by omikron variant in Norway 2022 [Last updated: 12 Jan 2022]. Available from: <https://www.fhi.no/contentassets/c9e459cd7cc24991810a0d28d7803bd0/vedlegg/risikovurdering-12-01-2022.pdf>.

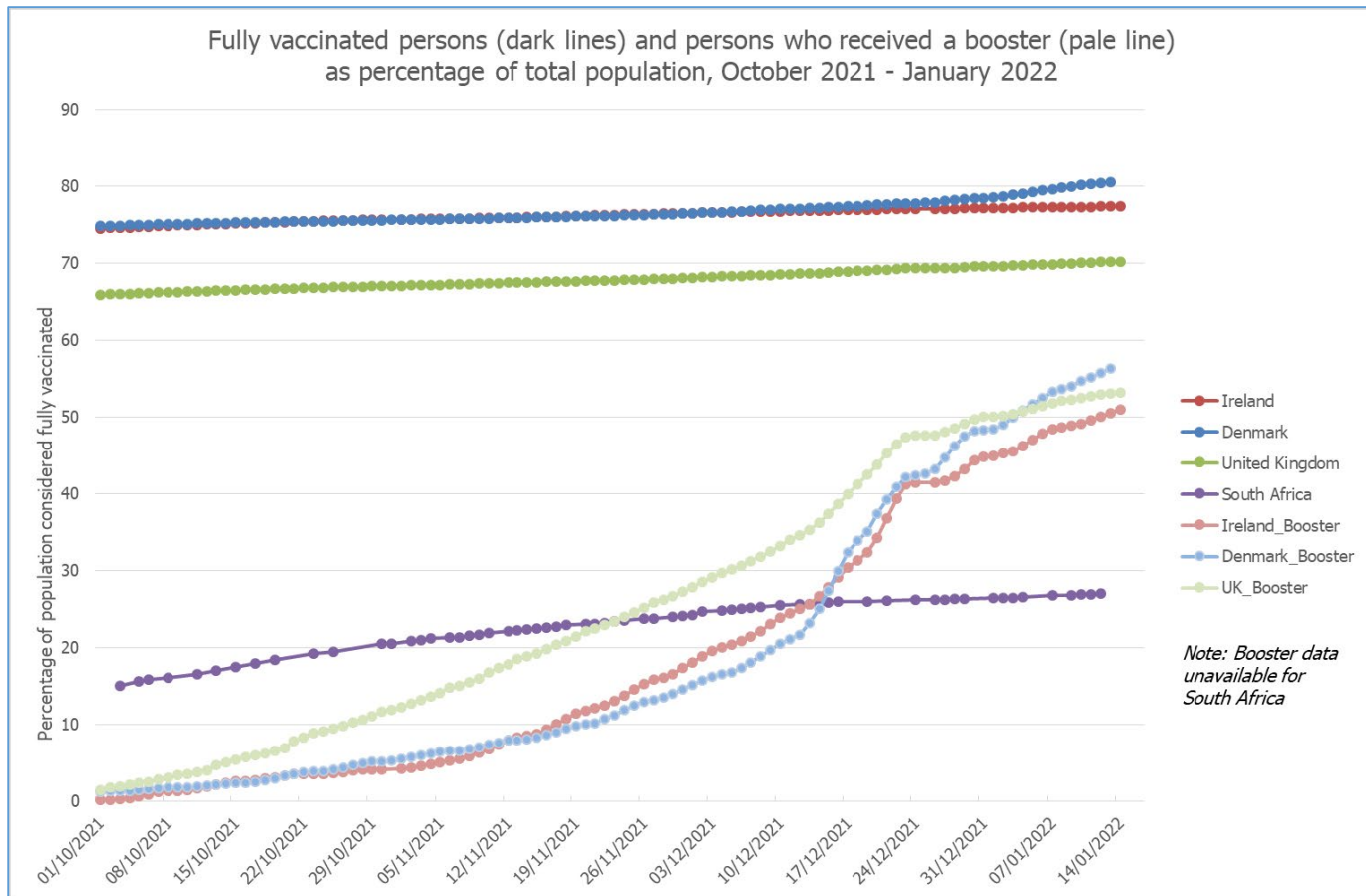
Appendices

Appendix 1: Our World in Data (OWID) data sources:

	Country Sources			
	Ireland	Denmark	South Africa	UK
	Source	Source	Source	Source
<p>OWID cases and deaths data</p> <p>Sourced from Johns Hopkins University Center for Systems Science and Engineering (CSSE) COVID-19 Data Repository ⁽³⁶⁾</p> <p>Frequency: daily</p>	<p>Irish government https://covid19ireland-geohive.hub.arcgis.com/</p>	<p>Statens Serum Institut https://experience.arcgis.com/experience/aa41b29149f24e20a4007a0c4e13db1d</p>	<p>South Africa Department of Health: https://sacoronavirus.co.za/</p>	<p>UK government https://coronavirus.data.gov.uk/#category=nations&map=rate</p> <p>Scottish Government: https://www.gov.scot/publications/coronavirus-covid-19-trends-in-daily-data/</p>
<p>OWID hospitalisation data:</p> <p>Collected from official sources and collated by Our World in Data.</p> <p>Frequency: daily</p> <p>List of sources: https://github.com/owid/covid-19-data/blob/master/public/data/hospitalizations/locations.csv</p>	<p>ECDC https://www.ecdc.europa.eu/en/publications-data/download-data-hospital-and-icu-admission-rates-and-current-occupancy-covid-19</p>	<p>Statens Serum Institut https://covid19.ssi.dk/overvagningsdata/download-fil-med-overvaagningdata</p> <p>https://github.com/mok0/covid19-data-denmark</p>	<p>NICD https://docs.google.com/spreadsheets/d/e/2PACX-1vRGCKIwakQ5rpfXky9FZhDwr3qUgerfhBLSzn9OsA79yQ_2G_y-Ns9JjRjZWXD5kxJ3qicol7bHGjE/pub?gid=1044172863&single=true</p>	<p>UK government https://coronavirus.data.gov.uk/details/healthcare</p>
<p>OWID vaccination data</p>	<p>HSE https://covid19ireland-geohive.hub.arcgis.com/</p>	<p>Statens Serum Institute https://covid19.ssi.dk/overvagningsdata/download-fil-med-vaccinationsdata</p>	<p>Ministry of Health https://sacoronavirus.co.za/latest-vaccine-statistics/</p>	<p>UK government https://coronavirus.data.gov.uk/details/vaccinations</p>

Note: The population estimates used by OWID to calculate per-capita metrics are based on the last revision (2019) of the United Nations World Population Prospects. The exact values can be viewed [here](#).

Appendix 2: Percentage of population fully vaccinated and in receipt of booster vaccination, October 2021 to January 2022



Source data: OWID ⁽⁹⁾

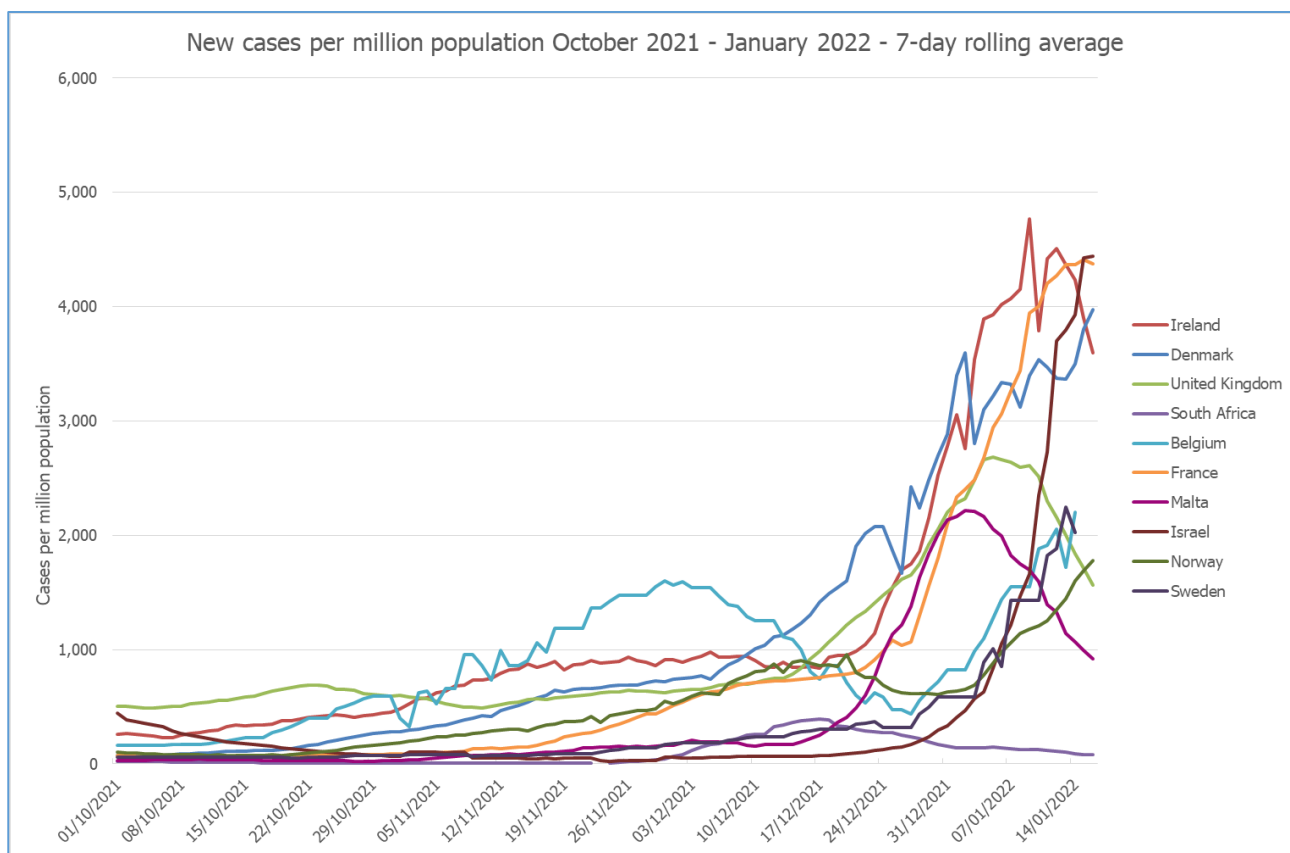
Appendix 3: Epidemiological update for Norway (Norwegian Institute of Public Health)

- In the most recent updated weekly report for COVID-19 published on 12 January 2022, Omicron had become the dominant strain in Norway, and a significant epidemic wave was expected over the next few weeks. The proportion of Omicron cases increased to 86% in the first week of 2022. A subgroup of the Omicron variant (BA.2) has been detected in several cases in Norway after spreading rapidly in Denmark.⁽³⁷⁾
- During week 1 of 2022, 45,233 cases of COVID-19 overall were reported, which represented a 70% increase from week 52 (n=26,598) and the highest number of cases in a week thus far in Norway. In week 1, the trend was stable among the oldest age group, but increased in all other age groups. The largest increase was among those aged 13-19 years (137% increase), which was the group with the most recorded cases in relation to the population during week 1 (1,457 per 100,000).⁽³⁷⁾
- At the time of reporting, the total number of COVID-19 patients admitted to hospital per week has decreased from 262 in week 52 to 234 in week 1 of 2022 (10% reduction).⁽³⁸⁾ The report noted that the week 1 admission numbers may increase due to late notifications.
- At the time of reporting, 59% (138 of 234) of those that were SARS-CoV-2 positive when newly admitted to hospital were admitted due to COVID-19 in week 1, compared with 70% (183 of 262) in week 52. The trend for admission with COVID-19 as the main cause among the age group 18-29 has been stable. In other age groups, a decline has been reported.
- During week 1 of 2022, 72 patients newly admitted to hospitals in Norway had confirmed or probable Omicron infection on admission, accounting for 47.1% of all COVID-19 patients screened for variants.⁽³⁸⁾ Of these 72 patients, COVID-19 was the main cause of admission for 39 (54%).
- The number of new patients admitted to an intensive care unit with a positive SARS-CoV-2 test, at the time of reporting, was 29 in week 1, a decrease from 38 in week 52 and 50 new patients in week 51.⁽³⁷⁾
- Of these 177 new patients admitted to the intensive care unit with a positive test for SARS-CoV-2, from week 51 to week 1, variant screening was conducted for 141.⁽³⁹⁾ Of these 141 patients, five were infected with the Omicron variant. Among the 29 new patients admitted to ICU with a positive SARS-CoV-2 test in week 1 of 2022, 20 had been screened for variants. Two of these 20 patients were infected with the Omicron variant. It was noted that figures for the most recent week may be adjusted upwards given reporting lag times.

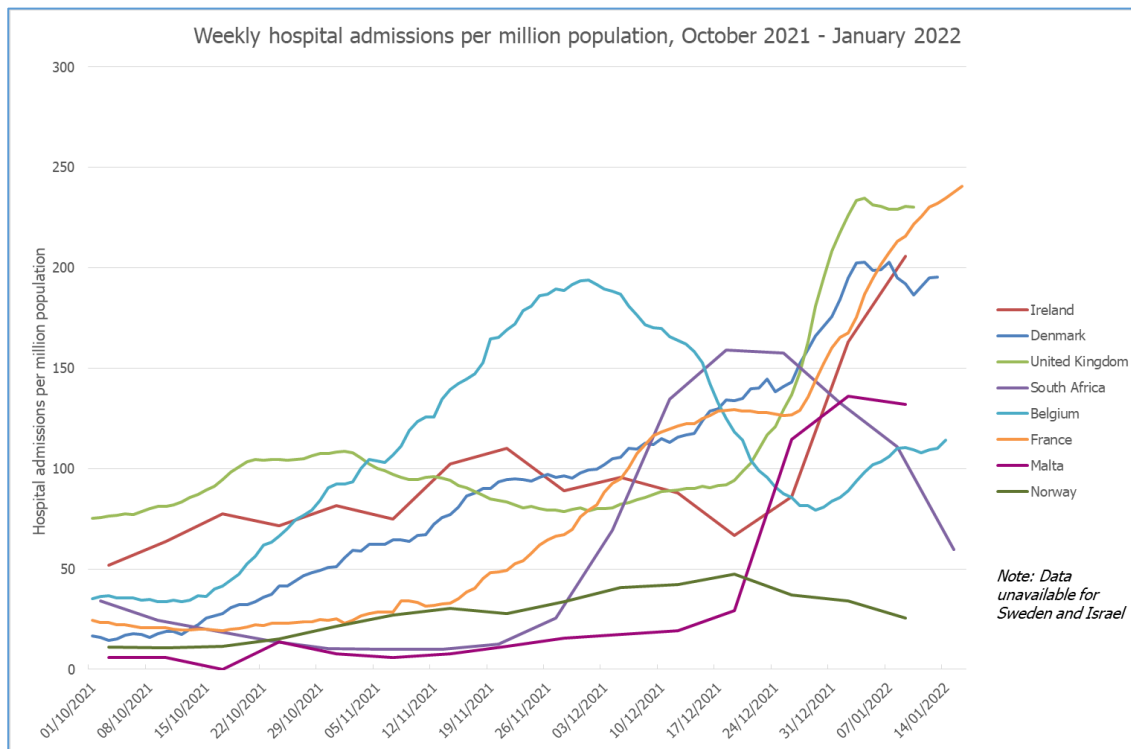
- It was noted that there has been a decline in registered COVID-19 deaths over the previous three weeks. At the time of the report, 19 COVID-19 associated deaths were registered in week 1 of 2022, down from 38 in week 52. In week 1, the median age of those who died was 84 years.⁽³⁷⁾

Appendix 4: Cases, hospital admissions and deaths for ten countries

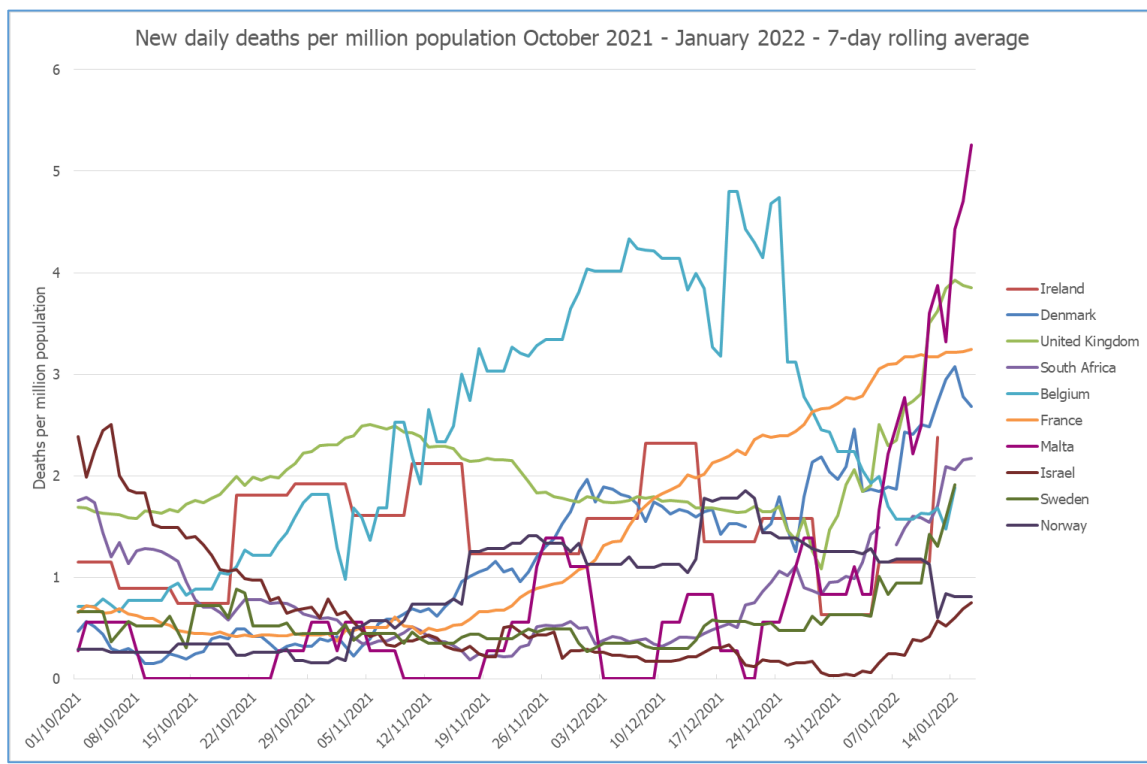
See 'Approach to summarising epidemiological data' for details regarding selection of countries.



Source data: OWID⁽⁹⁾ As described in Figure 1, data from the most recent five days in the UK is incomplete. Therefore, it is premature to interpret the latest data points from the UK as a true downward trend.^(9, 17)



Source data: OWID⁽⁹⁾



Source data: OWID⁽⁹⁾ Note: deaths data for Ireland and Malta are reported on a weekly basis, while data for Norway have been reported irregularly, thereby influencing the shapes of the graphs for these countries. Also, gaps occur in the plot for days where data were not reported (e.g. South Africa, 06/01/2022).

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For further information please contact:

Health Information and Quality Authority

George's Court

George's Lane

Smithfield

Dublin 7

D07 E98Y

+353 (0)1 8147400

info@hiqa.ie

www.hiqa.ie

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