

# Overview of the implementation of COVID-19 vaccination strategies and vaccine deployment plans in the EU/EEA

29 March 2021

## Key messages

This report provides an updated overview of the progress of national COVID-19 vaccination strategies in EU/EEA countries, including updates on:

- vaccine uptake overall and by target group;
- current vaccination phases and priority groups, including adjustments made to priority groups during the rollout;
- vaccination strategies and policies; and
- systems to monitor vaccinations and the use of vaccination certificates.

## Vaccine COVID-19 rollout overview

- As of 26 March 2021, a total of 75 252 407 COVID-19 vaccine doses have been distributed by manufacturers to European Union/European Economic Area (EU/EEA) countries. Comirnaty represents 68.5% of all doses distributed to EU/EEA countries via the European Commission's Vaccine Strategy, followed by AstraZeneca (24.6%) and Moderna (6.8%).
- A total of 61 481 829 vaccine doses have been administered, which represents 81.7% of the doses distributed. Overall, the proportion of vaccine doses administered from those distributed to EU/EEA countries by vaccine product is 92.1% for Comirnaty, 64.3% for Moderna and 58.9% for AstraZeneca.
- Since the start of the deployment of COVID-19 vaccines in the EU/EEA in December 2020, the cumulative vaccine uptake in the adult population in the EU/EEA (aged 18 years and older) has progressed, reaching 11.6% for the first dose (range: 5.4-21.6%) and 5% for the full vaccination (range: 1.2-9.5%).

## Priority groups defined for vaccination

- Vaccinations continue to be rolled out in phases through various prioritisation groups. As of March 2021, six countries are still in their first phase, while 18 countries have already progressed to groups included in subsequent ones.
- Countries have primarily prioritised elderly people (with various lower age cut-offs across countries) and are currently progressing to younger age groups, residents and personnel of long-term care facilities, healthcare workers, social care personnel, and people with certain comorbidities.
- Seventeen countries have further adapted the prioritised groups to be vaccinated, including additional age groups, healthcare workers in different settings, educational workers, and other groups with high risk of severe disease.

## Vaccination strategies and policies during rollout

- Ten countries have extended the timing between vaccine doses in order to provide the first dose to as many people in the priority groups as possible. The timing between the first and second dose varies by country and by vaccine product.
- Regarding the number of vaccine doses recommended for those individuals previously infected with SARS-CoV-2, seven countries are currently recommending only one dose (for vaccines that have a two-dose schedule), and two countries do not recommend vaccination for those previously infected for 90 days after infection (response on timing provided from one country).
- Thirteen countries are recommending specific COVID-19 vaccine products for specific population groups. Vaccines based on mRNA technology are being recommended and used primarily in older age groups, while using AstraZeneca's vaccine in healthcare workers or younger age groups.
- Six countries reported that they have adapted their COVID-19 vaccination strategy in light of the circulation of the new variants of concern. Adjustments included providing more vaccine doses to areas of high incidence or a redefinition of the priority groups based on the epidemiological situation.
- Seven countries have changed their vaccination guidelines in regard to suspected adverse events following immunisation. As of 17 March 2021, several EU/EEA countries had paused the administration of AstraZeneca vaccine as a precautionary measure and were awaiting more information from the European Medicines Agency (EMA) on whether there is a link between the vaccine and rare thromboembolic events. On 18 March 2021, EMA's Pharmacovigilance Risk Assessment Committee (PRAC) concluded that the benefits of using AstraZeneca's vaccine still outweigh the risks. Many countries have resumed the use of the vaccine.

## Systems to monitor COVID-19 vaccinations and vaccination certificates

- All responding countries have a system in place to monitor vaccinations, with the majority using an already existing electronic immunisation information system.
- The majority of responding countries are issuing COVID-19 vaccination certificates, and many have started discussions regarding the possible use of these certificates in future, for example for travel, tourism, the easing of non-pharmaceutical interventions, or access to specific places/events.

As countries continue with the rollout of their national vaccination campaigns, strategies and plans will continue to be adapted. This is a rapidly moving process, and this report provides a snapshot of the progress to date.

## Scope of this document

On 19 January 2020, the European Commission set out actions to step up the response against the pandemic and accelerate the rollout of vaccination campaigns, with the targets of vaccinating at least 80% of people over the age of 80, and 80% of health and social care professionals in every Member State by March 2021. In addition, a minimum of 70% of the adult population should be vaccinated by summer 2021 [1].

ECDC has previously published technical reports on vaccination strategies and vaccine deployment across EU/EEA countries, on 2 December 2020 [2] and 1 February 2021 [3]. This technical report provides an updated overview of the progress of national COVID-19 vaccination strategies in EU/EEA countries, including updates on: vaccine uptake overall and by target group; current vaccination phases and priority groups, as well as any adjustments made to priority groups during the rollout; vaccination strategies and policies in place; and vaccination monitoring systems in place, including the use of vaccination certificates and the coordination between health authorities and civil protection authorities with vaccination rollout.

## Target audience

Target audiences for this document are the European Commission, the Health Security Committee (HSC), the EU/EEA collaboration with National Immunisation Technical Advisory Groups (NITAGs) and national public health institutes and ministries of health in the EU/EEA, as well as public health experts and decision-makers at subnational level in charge of implementing vaccine deployment plans.

## Methods

The information provided in this report was collected from the following sources:

### The Integrated Situational Awareness and Analysis report

Questions on vaccines sent by the European Commission to EU/EEA countries via the Integrated Situational Awareness and Analysis (ISAA) report. The ISAA report is prepared under the Integrated Political Crisis Response Mechanism (IPCR) of the Council of the European Union [4,5].

- Since 9 December 2020, a weekly set of questions has been sent via the ISAA report to representatives of countries, as validating authorities of the IPCR, to gather regular information on various topics around COVID-19. One section of these questions covers vaccination strategies and deployment. The representatives of countries gather the responses to the questions from different agencies and ministries in their countries.
- The specific questions covering vaccines were updated in March to capture relevant information on the implementation of the rollout, including further questions on vaccination policies and the use of vaccination certificates. Questions on challenges countries are facing with the rollout of vaccinations were also included, and these responses will be provided in a separate ECDC report dedicated specifically to this topic.
- This report is based on the responses from countries to the vaccine-related questions received on 8 February 2021, 15 February 2021, 22 February 2021, 1 March 2021, 8 March 2021, 15 March 2021 and 22 March 2021. Where relevant, data are included from responses provided before February. The response rate from countries to each question is specified in the sections below.

### Data from The European Surveillance System

Since mid-January 2021, ECDC, in conjunction with the World Health Organization's Regional Office for Europe (WHO EURO), has implemented a monitoring system to collect information on vaccine rollout (the number of doses distributed to EU/EEA countries and administered, including by age groups and other prioritised populations). EU/EEA countries have been reporting data on the COVID-19 vaccine rollout through The European Surveillance System (TESSy), and these can be viewed on a COVID-19 vaccine tracker [6] on ECDC's website as well as the weekly report on the COVID-19 vaccine rollout overview [7].

### Health Security Committee Meeting

On 18 March 2021, a draft version of this report was sent to the Health Security Committee Members for verification and validation, and to complement any missing information.

On March 24 2021, a structured discussion around the vaccination rollout took place in a meeting with the Health Security Committee Members. Any additional comments countries made during this meeting were incorporated into this report.

## Results

### COVID-19 vaccine rollout overview

As of 26 March 2021, four COVID-19 vaccines have received conditional marketing authorisation in the EU, following evaluation by EMA, and are part of the EU Coronavirus Vaccines Strategy Portfolio: Comirnaty (BNT162b2) developed by BioNTech/Pfizer, COVID-19 Vaccine Moderna (mRNA-1273), COVID-19 Vaccine AstraZeneca (AZD1222), and COVID-19 Vaccine Janssen (Ad26.COV 2.5) [8-11]. The Commission has also signed contracts with two further developers of COVID-19 vaccines: Curevac and Sanofi-GSK. Furthermore, EMA has initiated rolling reviews for the following COVID-19 vaccines: NVX-CoV2373 developed by Novavax (03 February 2021), CVnCoV by Curevac (12 February 2021), and Sputnik V (Gam-COVID-Vac) by Gamaleya (4 March 2021) [12-14].

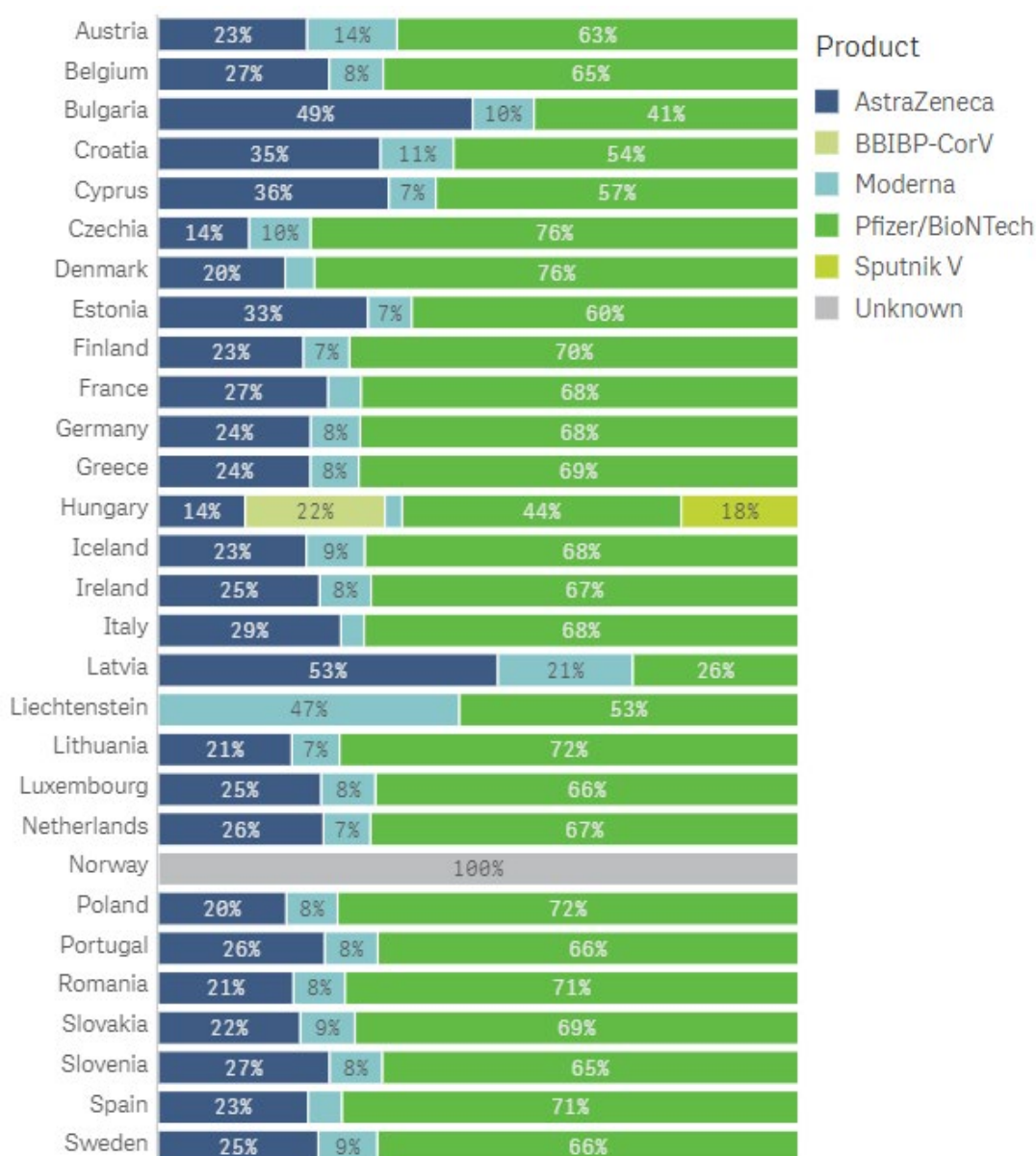
All EU/EEA countries have developed national COVID-19 vaccination strategies or plans and initiated their campaigns [3]. In addition, all countries have received supplies and have been using Comirnaty, COVID-19 Vaccine Moderna and COVID-19 Vaccine AstraZeneca, with the exception of Liechtenstein, where only the first two products are being used. In addition, Hungary has received supplies of Sputnik V (Gamaleya) and BBIBP-CorV (Sinopharm) from bilateral negotiations with the manufacturers. See the Annex for an overview of COVID-19

vaccines currently being rolled out in EU/EEA countries and the dates of their first administration. In March 2021, following the notification of thromboembolic events in people who received COVID-19 Vaccine AstraZeneca, EMA’s safety committee initiated an investigation, while national vaccine campaigns in several EU countries temporarily paused vaccination with AstraZeneca’s vaccine as a precautionary measure [15]. On 18 March 2021, the Pharmacovigilance Risk Assessment Committee (PRAC) of EMA concluded that the benefits of using the COVID-19 Vaccine AstraZeneca still outweigh the risks [16] and many countries have resumed the use of the vaccine.

As of 26 March 2021, all 30 EU/EEA countries reported complete or partial data on the vaccine rollout to TESSy.

As of 26 March 2021, a total of 75 252 407 vaccine doses have been distributed by manufacturers to EU/EEA countries (29 countries reporting; data for Malta not reported to TESSy). Overall, Comirnaty represents 68.5% of all doses distributed to EU/EEA countries via the European Commission’s Vaccine Strategy, followed by COVID-19 AstraZeneca (24.6%) and COVID-19 Moderna (6.8%); 915 015 vaccine doses distributed to Norway are reported to TESSy as unspecified product (1.3%). Doses of Sputnik V and BBIBP-CorV were only supplied to Hungary. Figure 1 shows the proportion of vaccines distributed by manufacturers to each EU/EEA countries by vaccine product as of 26 March 2021.

**Figure 1. Proportions of COVID-19 vaccine doses distributed by the manufacturers to EU/EEA countries by product\***

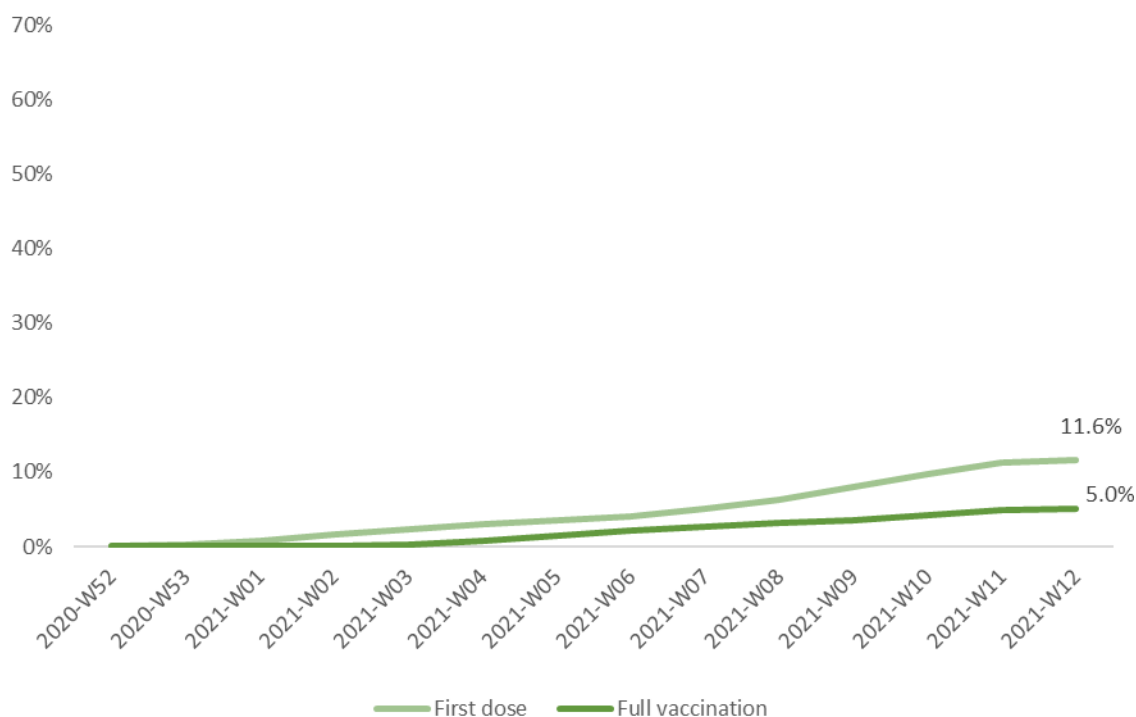


\*Source: TESSy; data reported by 29 countries as of 26 March 2021.

As of 26 March 2021, a total of 61 481 829 vaccine doses have been administered in EU/EEA countries (all 30 EU/EEA countries reporting), which represents 81.7% of the doses distributed to countries. Overall, the proportion of vaccine doses administered of those distributed to EU/EEA countries by vaccine product is 92.1% for Comirnaty, 64.3% for COVID-19 Vaccine Moderna, and 58.9% for COVID-19 Vaccine AstraZeneca.

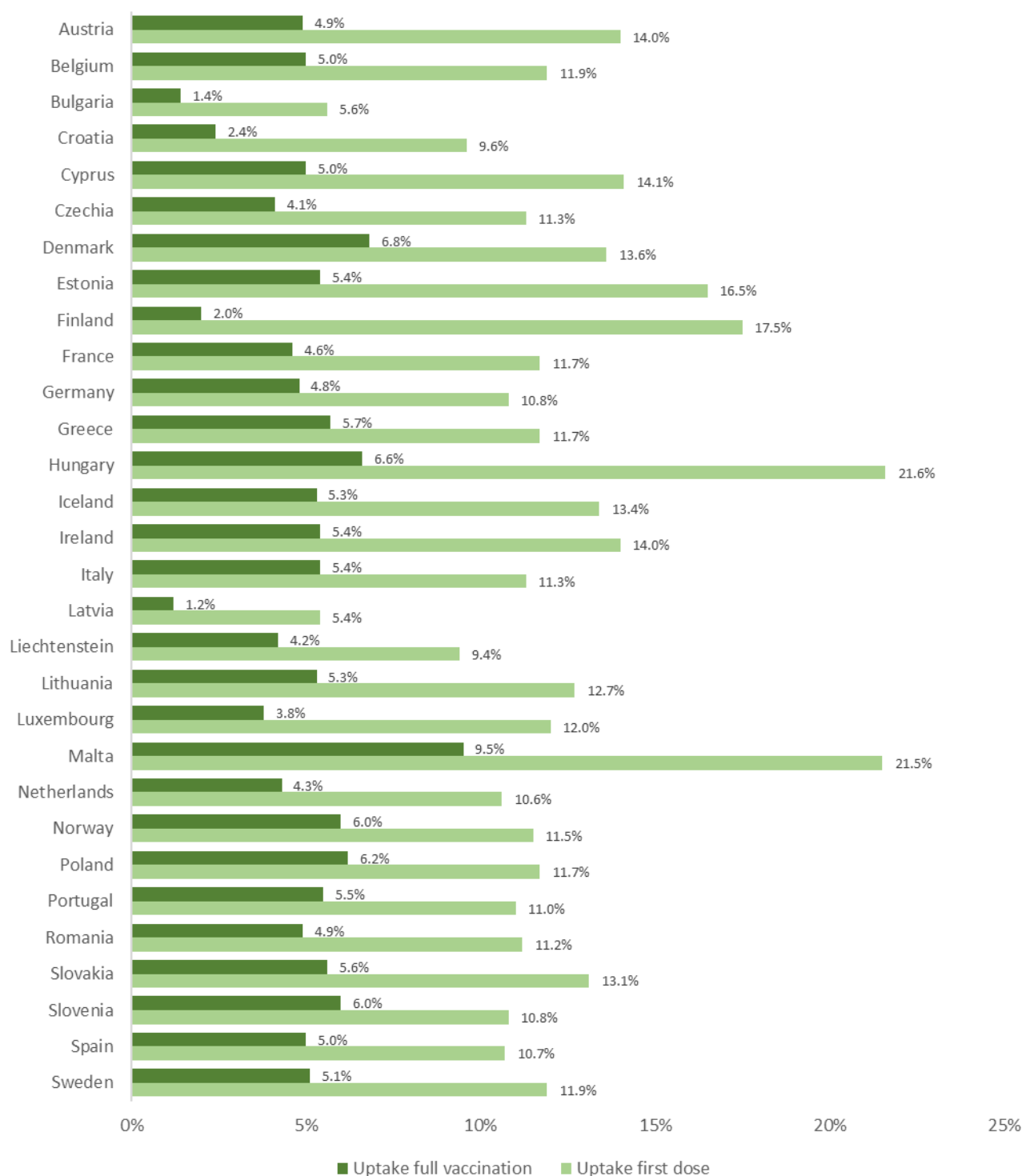
Since the start of the deployment of COVID-19 vaccines in the EU/EEA in December 2020, the cumulative vaccine uptake in the adult population (aged 18 years and older) has progressed, reaching 11.6% for the first dose (range: 5.4-21.6%) and 5% for the full vaccination (range: 1.2-9.5%) as of 26 March 2021 (**Figure 2**). The cumulative uptake of the first vaccine dose and full vaccination in the adult population in each EU/EEA country as of 26 March 2021 is shown in **Figure 3**.

**Figure 2. Cumulative uptake of the first vaccine dose and full vaccination among adults aged 18 years and above in the EU/EEA by reporting week\***



\*Source: TESSy; data reported by 30 countries as of 26 March 2021. Data for week 12, 2021 are preliminary.

**Figure 3. Cumulative uptake of the first vaccine dose and full vaccination among adults aged 18 years and above by EU/EEA country\***



\*Source: TESSy; data reported by 30 countries as of 26 March 2021.

Table 1 shows a summary of the cumulative uptake of the first vaccine dose and full vaccination in adults, people aged 80 years and above, and healthcare workers (EU/EEA median and range). As of 26 March 2021, four countries (Finland, Iceland, Ireland, and Malta) administered the first vaccine dose to more than 80% of the population aged 80 years and above, while three countries (Hungary, Romania, and Spain) administered the first vaccine dose to more than 80% of healthcare workers. More information on the COVID-19 vaccine rollout in EU/EEA countries can be found on the ECDC Vaccine Tracker [6] and in the weekly COVID-19 vaccine rollout overview [7].

**Table 1. Summary table of vaccine uptake by target populations**

| Vaccine uptake                            | Median (range)                     | Reporting countries  |
|---|------------------------------------|--|
| First dose among adults (18+ years)       | 11.7% (range: 5.4–21.6%)           | All 30 EU/EEA countries  |
| Full vaccination among adults (18+ years) | 5.1% (range: 1.2–9.5%)             | All 30 EU/EEA countries  |
| First dose among people 80+ years         | 58.8% (range: 4.3–97.7%)           | 24 (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Norway, Poland, Portugal, Slovenia, Sweden) |
| Full vaccination among people 80+ years   | 28.7% (range: 0.1%–68.8%)          | 24 (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Norway, Poland, Portugal, Slovenia, Sweden) |
| First dose among healthcare workers (HCW) | median of 61.2% (range: 16.7–100%) | 10 (Bulgaria, Croatia, Czechia, France, Greece, Hungary, Luxembourg, Romania, Slovenia, Spain)   |
| Full vaccination among HCW                | 47.5% (range: 13–99.4%)            | 10 (Bulgaria, Croatia, Czechia, France, Greece, Hungary, Luxembourg, Romania, Slovenia, Spain)   |

\*Source: TESSy; data reported by 30 countries as of 26 March 2021.

## Priority groups defined for vaccination

Due to the limited availability of COVID-19 vaccines at the start of vaccination campaigns, most countries opted to prioritise vaccination for those individuals most at risk of severe disease (e.g. the elderly and residents in long-term care facilities (LTCFs)), as well as healthcare workers. Vaccination phases differ by country, with a range of two to 16 different phases (Table 2), depending on their specific prioritisation strategies and vaccine availability.

This section of the report focuses on population groups that are being offered vaccination in the current stage of the rollout. As more vaccines become available, countries start vaccinating additional groups, such as adults with chronic diseases, younger individuals, or workers of essential public services other than health.

**Table 2. Number of phases to vaccinate prioritised groups in EU/EEA countries (n=29)\*\***

| Number of phases to vaccinate prioritised target groups | Countries  |
|---|--|
| 2   | Italy  |
| 3   | Austria, Belgium, Croatia, Czechia, Greece, Poland, Portugal, Romania, Spain   |
| 4   | Estonia, Finland, Germany, Latvia, Malta, the Netherlands, Sweden  |
| 5   | France, Slovenia   |
| 6   | Cyprus, Luxembourg   |
| Other   | Denmark (12 phases), Hungary (7 phases), Iceland (10 phases), Ireland (15 phases), Latvia (8 phases), Lithuania (16 phases), Norway (9 phases), Slovakia (11 phases) |

\* Information gathered from ISAA reports on 9, 15, and 22 February 2021 and 1, 8, 15 and 22 March 2021; information received from HSC and NITAG members on 28 January 2021

# Several countries provided detailed information on the description of different vaccination phases:

**Belgium:** Phase 1A: started on 5 January 2021, involves residents and staff in nursing homes and has been completed by all healthcare workers. Phase 1B: begins in March and will address people aged 65 years and older, people aged 45 years and older at risk, and those fulfilling so-called "essential" social or economic functions. Phase 2 will take place in May or June and will involve the adult population 18 years and older.

**Croatia:** Phase 1: elderly and staff in long-term care facilities, healthcare workers, primarily those working with COVID-19 patients (ICU, testing-sites). Phase 2: elderly age range > 65 years and adults with chronic diseases, age range < 65. Phase 3: others.

**Czechia:** 3 phases (Phase IA, IB, and II). In Phase II, vaccines should already be available to the general public.

**Cyprus:** Phase 1: since 27 December 2020, residents and staff of LTCFs and healthcare workers. Phase 2: since 26 January 2021, people > 80 years old (priority in vulnerable groups); the age limit is lowered at regular intervals. Phase 3: since 16 February 2021, people > 75 years old (priority in vulnerable groups). Phase 4: since the end of February 2021, people ≥ 16 years

with high risk for severe disease. Phase 5: since the end of February 2021, people working in primary healthcare centres, followed by other health professionals/personnel, and residents in other closed structures, such as prisons and hosting centres for refugees and migrants. Phase 6: the rest of the population according to age.

**Germany:** Three phases with priority groups (very high, high, moderate), followed by the remaining population not in those groups.

**Italy:** Phase 1: healthcare workers and socio-healthcare workers, residents and staff of long-term facilities for the elderly; elderly > 80. Phase 2 (with six categories of prioritisation): extremely vulnerable people; people aged between 75 and 79 years; people aged between 70 and 74 years; people with increased clinical risk if infected by SARS-CoV-2 aged 16-69 years; people aged 55-69 years; people aged 18-54 years. AstraZeneca's vaccine can be administered to school and university staff, to members of the army and police, in at-risk settings such as prisons, specific communities, and to people working in essential services.

**Iceland:** The population is divided into 10 priority groups. For information on priority groups see: <https://www.covid.is/covid-19-vaccine/#w-tabs-0-data-w-pane-1>

**The Netherlands:** Phase 1: elderly healthcare staff and people living in elderly care, people with mental disabilities in institutions and their staff; people 60 years of age and older; nurses delivering home-based care. Phase 2: people between 18 and 60 years with certain underlying medical conditions. Phase 3: other healthcare staff. Phase 4: people between 18 and 60 years.

Twenty-six countries replied to the question about indicating their current priority phase (Table 3). As of 15 March 2021, six countries (23%) are in vaccination phase 1 compared to 15 of 27 countries (55%) that were in phase 1 in January 2021. Seven countries (27%) are in phase 2 and six countries (23%) are in phase 3, respectively, compared to eight countries (30%) and one country (4%) in January 2021.

**Table 3. Current vaccination phases in EU/EEA countries (n=26)\*\***

| Current vaccination phase | Countries   |
|---------------------------|---|
| Phase 1                   | Belgium (phase 1B), Czechia (phase 1B), France, the Netherlands, Poland, Portugal   |
| Phase 2                   | Austria, Croatia, Germany, Italy, Romania, Spain, Sweden  |
| Phase 3                   | Finland, Latvia, Luxembourg, Malta, Norway, Romania   |
| Other                     | Cyprus (phase 6)<br>Denmark (phase 1-7)<br>Estonia (phase 4)<br>Iceland<br>Ireland (phase 4)<br>Lithuania<br>Slovakia (phase 5) |

\* Information gathered from ISAA reports on 09, 15, and 22 February 2021 and 01, 08, 15 and 22 March 2021. To consider the current vaccination phase latest information available is displayed in the table.

# Several countries provided detailed information on the description of different vaccination phases:

**Austria:** Phase 1 is ongoing, while phase 2 has started.

**Cyprus:** Phases are running in parallel.

**Estonia:** Phase 3 is ongoing, while phase 4 has started.

**France:** Update on the vaccination campaign (5 March 2021): Since 25 February 2021, new steps have been taken with AstraZeneca's vaccine. General Practitioners are involved in the vaccination campaign (more than 22 000 volunteered to start) and people aged between 50 and 64 years with comorbidities are now eligible for vaccination. The objective is to guarantee that all people 75 years or older will have been invited for a vaccine before the end of April and at least 15 million people vaccinated before the end of June. All adults should have been invited for a vaccine before the end of the summer.

**Germany:** Phase 1 is still ongoing, while phase 2 has already started (as of 3 March 2021)

**Iceland:** Priority groups 1, 2, 3 and 4 have received both dose 1 and dose 2, while the vaccination of priority groups 5 and 6 has started.

**Italy:** Phase 1 is still ongoing, while phase 2 has started.

**Lithuania:** Healthcare workers and patients/staff of long-term care facilities have been vaccinated with the first dose, and some have received the second dose. Vaccination of other priority groups is in process. Municipalities started the vaccination of elderly groups.

**Luxembourg:** Phase 1 is still ongoing, while phases 2 and 3 have started. Phase 1 (dose 2) will be finalised by end of March

**Romania:** Phase 1 was started on 27 December 2020 and is ongoing (application of dose 2), while phase 2 started on 15 January 2021.

**Spain:** Phase 1 is ongoing, while phase 2 has started.

**Sweden:** Phase 1 is ongoing, while phase 2 has started.

The most common priority groups currently vaccinated by countries are the same groups as those reported in January 2021 (Table 4). All 25 reporting countries are prioritising the elderly (with various lower age cut-offs across countries). However, as the highest age groups have been vaccinated in some countries, younger age groups are now also being vaccinated, e.g. Iceland and Slovakia are now vaccinating people 60 years and older, and Austria, Belgium, Lithuania, Romania, and Sweden have extended vaccination to people 65 years and older. Twenty-four countries (96%) are prioritising residents in LTCFs. Healthcare workers, personnel in LTCFs, and social care personnel are considered as priority groups in 24 (96%), 23 (92%) and 11 (44%) countries, respectively.



Adults with comorbidities are currently being vaccinated in 15 countries (60%). In 22 countries (88%) other groups, including workers of essential public services other than health (response and rescue units, police, firefighters, coast guard, border guard), people with mental or physical disabilities, and staff in schools, kindergartens, and other childcare facilities are also prioritised for vaccination.

**Table 4. Overview of priority groups currently being vaccinated in EU/EEA countries (n=25)\***

| Countries | Priority groups currently being vaccinated |                  |                            |                    |                    |                       |   |
|-----------|--|------------------|----------------------------|--------------------|--------------------|-----------------------|---|
|           | Elderly                                    | Elderly in LTCFs | Adults with co-morbidities | Healthcare workers | Personnel in LTCFs | Social care personnel | Other risk groups (i.e. workers of essential public services other than health; others)   |
| Austria   | Yes (65+)                                  | Yes              | Yes (regardless of age)    | Yes                | Yes                | Yes                   | Trisomy 21; People with intellectual or physical disabilities in care institutions. People with special cognitive and physical needs living in the community. Other essential workers critical to societal infrastructure: Staff in schools, kindergartens, crèches, and childcare facilities.  |
| Belgium   | Yes (65+)                                  | Yes              | Yes                        | Yes                | Yes                |                       | Phase 1A started on 5 January 2021 and involves nursing homes (residents and staff) and is completed by all healthcare staff and healthcare collectivities.   |
| Croatia   | Yes  | Yes              | Yes                        | Yes                | Yes                |                       | Elderly based on age range, in order: 1. people aged 80 and over, 2. people 75 -79 years, 3. people 70-74 years, 4. people 65 - 69 years, Adults with underlying health conditions - age range < 65, with chronic diseases. Emergency services (Red Cross, mountain service, police, firefighters) and citizens in the area affected by the earthquake. |
| Cyprus    | Yes (67+)                                  | Yes              | Yes                        | Yes                | Yes                |                       | People aged 16+ with high risk of severe disease.   |
| Czechia   | Yes  | Yes              | Yes (from 24 March 2021)   | Yes                | Yes                | Yes                   | Other essential workers critical to societal infrastructure.  |
| Denmark   | Yes  | Yes              | Yes                        | Yes                | Yes                |                       | Socially vulnerable groups.   |
| Estonia   | Yes  | Yes              | Yes                        | Yes                | Yes                | Yes                   | Teachers, police officers, rescue workers, municipal social workers, and other frontline and essential services providers.  |
| Finland   | Yes (70+)                                  | Yes              | Yes                        | Yes                | Yes                | Yes                   | Adults under 70 years of age with serious underlying health conditions (e.g. organ or bone marrow transplant recipients, patients in active cancer treatment, patients with serous chronic kidney failure).   |

| Countries       | Priority groups currently being vaccinated |                  |                            |                                   |                    |                       |  |
|-----------------|--|------------------|----------------------------|-----------------------------------|--------------------|-----------------------|--|
|                 | Elderly                                    | Elderly in LTCFs | Adults with co-morbidities | Healthcare workers                | Personnel in LTCFs | Social care personnel | Other risk groups (i.e. workers of essential public services other than health; others)  |
| France          | Yes (75+)                                  | Yes              | Yes                        | Yes (HCW at risk are prioritised) | Yes                |                       | People between 50 and 64 years old with comorbidities are now eligible for vaccination.  |
| Germany         | Yes  | Yes              |                            | Yes                               | Yes                |                       |  |
| Iceland         | Yes (60+)                                  |                  |                            | Yes                               |                    |                       | People over 60 years living at home (working downwards from the oldest, 90% of those over 90 years have been vaccinated), healthcare workers, staff in care homes.   |
| Ireland         | Yes (70+)                                  | Yes              | Yes                        | Yes                               | Yes                |                       | People 16-69 years at very high risk of severe COVID-19 disease - conditions: cancer, chronic kidney disease, chronic neurological disease or condition, chronic respiratory disease, uncontrolled diabetes, severe immunocompromised, inherited metabolic diseases, Down syndrome, obesity BMI >40 Kg/m <sup>2</sup> , sickle cell disease. |
| Italy           | Yes (80+)                                  | Yes              | Yes                        | Yes                               | Yes                | Yes                   | School and university staff, army.   |
| Latvia          | Yes (70+)                                  | Yes              |                            | Yes                               | Yes                |                       | Other staff working in medical treatment institutions who are involved in COVID-19 patients care and key government officials.   |
| Lithuania       | Yes (65+)                                  | Yes              | Yes                        | Yes                               | Yes                | Yes                   | Educational institutions workers.  |
| Luxembourg      | Yes (75+)                                  | Yes              | Yes                        | Yes                               | Yes                |                       |  |
| Malta           | Yes (80-84)                                | Yes              |                            |                                   | Yes                |                       | Essential workers critical to societal infrastructure (AFM, police, civil protection and teachers).  |
| The Netherlands | Yes  | Yes              | Yes                        | Yes                               |                    |                       | Down syndrome age 18-60, morbid obesity (BMI>40) age 18-60, inpatients in mental health facilities   |
| Norway          | Yes (75+)                                  | Yes              |                            | Yes                               | Yes                |                       | Certain groups of healthcare workers.  |
| Poland          | Yes  | Yes              |                            | Yes                               | Yes                | Yes                   | Essential workers critical to societal infrastructure.   |
| Portugal        | Yes  | Yes              |                            | Yes                               | Yes                |                       | Teachers and education personnel.  |
| Romania         | Yes (65+)                                  | Yes              | Yes (regardless of age)    | Yes                               | yes                | Yes                   | Socially vulnerable groups.  |

| Countries | Priority groups currently being vaccinated |                  |                            |                    |                    |                       |  |
|-----------|--|------------------|----------------------------|--------------------|--------------------|-----------------------|--|
|           | Elderly                                    | Elderly in LTCFs | Adults with co-morbidities | Healthcare workers | Personnel in LTCFs | Social care personnel | Other risk groups (i.e. workers of essential public services other than health; others)  |
| Slovakia  | Yes (60+)                                  | Yes              |                            | Yes                | Yes                | Yes                   | People with severe or moderate chronic disease but only as substitute.   |
| Spain     | Yes (80+)                                  | Yes              |                            | Yes                | Yes                | Yes                   | Essential workers critical to societal infrastructure. Dependent people with high disability (not institutionalised), Prisons' civil servants. Adults over 80 years old (then 70-79 years and then 60-69 years). Armed forces, public security bodies, and emergencies bodies. Teachers (primary, secondary education, and special needs). |
| Sweden    | Yes (65+, starting with the oldest)        | Yes              |                            | Yes                | Yes                | Yes                   | Essential workers critical to societal infrastructure.   |

\* Information gathered from ISAA reports on 1, 8, 15, and 22 March 2021.

Note: In Germany, all healthcare workers and personnel working in long-term care facilities are eligible for vaccination even if they live outside Germany.

As of 22 March 2021, 17 of 24 countries have adjusted their original plans to efficiently administer COVID-19 vaccines to the target groups (Austria, Croatia, Czechia, Denmark, France, Germany, Ireland, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden) while one country (Luxembourg) is currently discussing such adjustments (Table 5). Adjustments were made to prioritise additional age groups (Austria, Malta, Spain), healthcare workers and staff in long-term care facilities (Austria, Czechia, the Netherlands), people working in the educational system (Germany, Malta, Portugal, Romania), and other groups with high risk of severe disease (Austria, Croatia, France, Norway, Sweden).

**Table 5. Adjustments made to the original priority groups during the rollout (n=24)\*\***

| Countries | Adjustments to original priority groups  | Reason for adjustment  |
|-----------|--|--|
| Austria   | Prioritisation of people of 80 years and older, people with additional severe underlying health conditions, people with special cognitive and physical needs (living in the community), staff in mobile (nursing) care, people with disabilities and with personal assistance, people in LTCFs | Slow initial uptake in elderly care homes, more specific definitions of risk groups            |
| Croatia   | Prioritisation of people in the area affected by the earthquake (volunteers, citizens, emergency services)   | Natural disaster (earthquake)  |
| Czechia   | Prioritisation of healthcare workers, social care workers and elderly in long-term care facilities over the originally envisaged people aged 65+ and people with comorbidities   |  |
| Denmark   | Adjusted so age is the primary prioritisation factor   |  |
| Estonia   | Yes  | The last version was published on 19 January 2021. A third adjustment is currently being done. |
| France    | Inclusion of home care workers, firefighters, people with serious comorbidities  |  |
| Germany   | Inclusion of kindergarten and primary school teachers and teachers at schools for children with special needs (as of 24 February 2021)   |  |
| Ireland   | Yes, people aged 16-69 years at very high risk of severe COVID-19 disease  |  |

| Countries   | Adjustments to original priority groups   | Reason for adjustment  |
|-------------|---|--|
| Malta       | Prioritisation of workers in the educational system in the third cohort and prioritisation of people aged 80-84 years   |  |
| Netherlands | Prioritisation of acute COVID-19 care staff in hospitals and general practitioners  |  |
| Norway      | More vaccine doses will go to particularly infected areas   | A new distribution key for vaccines to the municipalities based on the number of people aged 18 years or older is introduced   |
| Poland      | Yes (no further information available)  |  |
| Portugal    | Teachers, education personnel, and other priority workers were added to the priority groups   |  |
| Romania     | Inclusion of workers in the educational system in the category of essential workers   |  |
| Slovakia    | Yes (no further information available)  |  |
| Spain       | Prioritisation of people over 80 years of age   | Given the current epidemiological situation, in which the hospitalisation and death of the elderly and the limitation in the number of doses of available vaccines, the vaccination of healthcare workers with low-risk exposure (group 3 in the strategy) has been restricted. The limitation in the use of the AstraZeneca vaccine in people between 18 and 55 years has also led to adaptations in the strategy and its implementation. |
| Sweden      | Larger emphasis on prioritisation by age. The prioritisation is also updated to include socioeconomic factors and specification of other risk factors/groups. |  |

\* Information gathered from ISAA reports on 09, 15, and 22 February 2021 and 01, 08, 15, and 22 March 2021. To consider the most recent adjustments of the priority groups the latest information available is displayed in the table.

\* **Countries with no adjustments to original priority groups:** Belgium, Cyprus, Denmark, Finland, Iceland, Lithuania, Luxembourg.

**Countries currently discussing adjustments to original priority groups:** Latvia.

## Vaccination strategies and policies during rollout

Countries continue to adapt vaccination strategies and policies based primarily on the changing epidemiological situation at country and subnational level, vaccine supply, new information regarding different COVID-19 vaccines efficacy, safety, effectiveness and new evidence about the virus and its impact on human health. The vaccination policies captured in this section include the timing of COVID-19 vaccine doses; vaccination of individuals previously infected with SARS-CoV-2; extraction of additional doses of vaccine; recommendations of vaccine products for age or target groups; changes in vaccination strategy due to variants of concern; changes in vaccination guidelines related to suspected adverse events following immunisation and mandatory vaccination.

### Extension of timing between the first and second dose of COVID-19 vaccines

Ten countries have extended the timing between vaccine doses to provide the first dose to as many people in the priority groups as possible.

Regarding the timing between first and second dose, policies vary by country and product as follows:

- Comirnaty: at least 21 days (Italy), 28 days (Ireland, Portugal), six weeks (Estonia, Norway), 42 days (Croatia, the Netherlands, Poland, Germany under discussion), and 12 weeks (Finland).
- COVID-19 Vaccine Moderna: 28 days (Italy), 42 days (Germany under discussion), and 12 weeks (Finland), six weeks (Norway).
- COVID-19 Vaccine AstraZeneca: 12 weeks (Croatia, Czechia, Estonia, Finland, Ireland, Lithuania, Poland), at least 10 weeks (Italy), 9-12 weeks (Sweden), minimum nine weeks (Norway).

**Table 6. Extension of timing between the first and second dose of COVID-19 vaccines (n=25)**

| Has the timing between the first and second dose of vaccine been extended? | Countries  |
|--|--|
| Yes  | Croatia, Estonia, Finland, Ireland, Lithuania, , the Netherlands, Norway, Poland, Portugal, Sweden |
| No   | Austria, Belgium, Cyprus, France, Iceland, Italy, Latvia, Malta, Romania, Slovakia, Spain          |
| Currently under discussion   | Czechia, Denmark, Germany Luxembourg   |

### Recommendation of COVID-19 vaccination in individuals previously infected with SARS-CoV-2

There is some evidence that for those individuals who have already been previously infected with SARS-CoV-2, for currently available vaccines that require a two-dose schedule, a single dose may provide sufficient immunity [17,18]. The majority of countries (n=15) currently recommend the full vaccination schedule to those individuals who were previously infected. Seven countries recommend only one dose of vaccine (for vaccines that have a two-dose schedule). One country (Iceland) does not recommend vaccination for those previously infected. In Latvia vaccination is not recommended to those previously infected for 90 days after infection while there is a shortage of vaccines in the country. This topic is under discussion in Portugal.

Some countries provided the timing for administering a single dose of vaccine in individuals after previous SARS-CoV-2 infection:

- Austria: one dose after six to eight months following infection (for all vaccines currently in use)
- Estonia: one dose from one week up to six months after recovery
- Italy: one dose at least three months after infection, and preferably within six months of documented infection (not valid for immunocompromised people).
- Slovakia: one dose after three months following infection (for all vaccines available, but the decision is up to the doctor and patient)
- Spain: one dose after six months in people under 55 years previously infected (with the recommended vaccine according to each population group)
- Norway: one dose three months after recovery (for all vaccines currently in use). They must have a laboratory test that confirms the infection. Norway has a national registry for all positive laboratory tests.

**Table 7. Recommendations of COVID-19 vaccination in individuals previously infected with SARS-CoV-2 (n=24)**

| COVID-19 Vaccine recommendations for those previously infected                       | Countries  |
|--|--|
| The full vaccine schedule is given   | Belgium, Croatia, Cyprus, Czechia, Denmark, Finland, Germany, Ireland, Latvia, Lithuania, Luxembourg, Malta, Poland, Romania, Sweden |
| Only one dose of vaccine is recommended (for vaccines that have a two-dose schedule) | Austria, Estonia, France, Italy, Spain, Slovakia, Norway   |
| No vaccine is recommended  | Iceland  |
| Currently under discussion   | Portugal   |

### Extraction of additional COVID-19 vaccine doses

As of March 2021, a total of 27 countries extract additional doses from vaccine vials (e.g., a sixth dose from the five-dose vial of Comirnaty), (Austria, Belgium, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden). No further information on the number of does extracted for each vaccine product is available.

### Recommendations of specific COVID-19 vaccine products to any particular target group/age group

Thirteen countries have recommended specific COVID-19 products to specific population groups.

**Table 8. Countries providing COVID-19 vaccine recommendations to any particular age or target group (n=24)**

| Recommendations of COVID-19 vaccine products to any particular target group/age group | Countries  |
|---|--|
| Yes   | Denmark, Estonia, Finland, France, Iceland, Ireland, Italy, Malta, Norway, Poland, Portugal, Slovakia, Spain |
| No  | Austria, Belgium, Croatia, Cyprus, Czechia, Germany, Latvia, Lithuania, Luxembourg, Romania                  |
| Currently under discussion  | Sweden   |

The recommendations vary by country and by vaccine product detailed in Table 9 below.

**Table 9. Details of country recommendations of specific COVID-19 vaccine products for particular age or target groups**

| Country  | Comirnaty   | COVID-19 vaccine Moderna  | COVID-19 Vaccine AstraZeneca  |
|----------|---|---|---|
| Denmark  |   |   | The Committee of Experts recommends that in the coming weeks AstraZeneca be used in particular to vaccinate people 60+ years of age |
| Estonia  |   |   | >60 years   |
| Finland  | Recommended primarily for 70+ years   | Recommended primarily for 70+ years   |   |
| France   | 75+ years   | 75+ years   | 55-74 years   |
| Iceland  |   |   | <65 years   |
| Ireland  | Recommended primarily for 70+ years   | Recommended primarily for 70+ years   |   |
| Italy    | Recommended to health- and socio healthcare workers, staff and residents in LTCFs, elderly >80 years; extremely vulnerable people, people aged 75 to 79 years; people aged 70 to 74 years; people with increased clinical risk if infected by SARS-CoV-2 aged 16-69 years | Recommended to health- and socio-healthcare workers, staff and residents in LTCFs, elderly >80; extremely vulnerable people, people aged 75 to 79 years; people aged 70 to 74 years; people with increased clinical risk if infected by SARS-CoV-2 aged 16-69 years | People aged 55 to 69 years without further increased clinical risk  |
| Malta    |   |   | 18-70 years   |
| Norway   |   |   | Previously in 18+ years and healthcare workers*   |
| Portugal | Elderly (no age group provided)   |   | Healthcare professionals, critical workers, teachers, adults with underlying illnesses between 50 and 79 years                      |
| Slovakia |   |   | <70 years   |
| Spain    | 60+ years and in 55+ years with high risk conditions for severe COVID-19  |   | 18-55 years and health and social workers and essential workers 45-55 years   |

\* Health authorities decided on 11 March to suspend vaccination with the AstraZeneca vaccine.

### **Change in vaccination strategy in light of the circulation of new variants of concern**

The introduction and increased spread of new SARS-CoV-2 variants of concern first identified in the United Kingdom (B.1.1.7), South Africa (B.1.351), and Brazil (P.1) has raised concerns of increased transmissibility, and possibly more severe disease. Such an increased transmissibility is likely to lead to an increased number of infections. This, in turn, is likely to lead to higher hospitalisation and death rates across all age groups, but particularly for those in older age groups or with co-morbidities.

Six countries reported that they have adapted their COVID-19 vaccination strategies in light of the circulation of the new variants of concern (Austria, Germany, Malta, Norway, Poland, Spain). Austria said that, due to a high circulation of B.1.351 in the Tyrolian district of Schwaz, the Austrian government in collaboration with the EU and BioNTech/Pfizer agreed to provide an additional 100 000 Comirnaty doses to this area. The outcome of this is being evaluated. In Germany, the Coronavirus Vaccination Ordinance of March 10, 2021 (CoronaImpfV) introduced the possibility of deviating from the order of eligibility specified therein in order to prevent dynamic spread of SARS-CoV-2 from highly contaminated border regions and in or from high-incidence areas in Germany. Norway reported that on 9 March 2021, NIPH announced that more vaccine doses will go to particularly infected areas.

Spain responded that the appearance of new variants may have impacted the current (or it may impact in the future) epidemiological situation in which the hospitalisation and death of the elderly and the limitation of the number of doses of available vaccines have led to adjustments to the priority groups for vaccination. France commented that there has not been a change in strategy, but that additional doses were sent to regions most exposed to the virus circulation. Italy provided a comment that a number of vaccine doses are being reserved for areas of increased transmission of new variants of concern.

**Table 10. Change in COVID-19 vaccination strategy in light of the circulation of new variants of concern (n=24)**

| Change in COVID-19 vaccination strategy in light of the circulation of new variants of concern | Countries  |
|--|--|
| Yes  | Austria, Germany, Malta, Norway, Poland, Spain   |
| No   | Belgium, Croatia, Cyprus, Czechia, Denmark, Finland, France, Iceland, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Romania, Slovakia, Sweden |

### *Changes in vaccination guidelines related to suspected adverse events following immunisation*

Seven countries reported that they have changed vaccination guidelines in relation to any suspected adverse events following immunisation (Table 11).

In Austria, during the pre-vaccination consultation the possible post-vaccination reactions are clearly explained, as well as the use of a prophylactic administration of paracetamol (taking into account general contraindications) about six hours after vaccination and, if necessary, a continuation of the administration every six hours for 24-48 hours. In addition, the risk-benefit ratio of vaccination is taken into account based on an individual's age and/or underlying conditions. For the COVID-19 Vaccine AstraZeneca, in women under 55 years of age, there is a signal of a very small risk of a rare form of clotting disorder with blood clots after vaccination, and this should be pointed out before vaccination.

From 18 March 2021, Estonia had recommended the AstraZeneca vaccine to people 60 years old and above.

Latvia and Norway reported the necessity of taking into account risk-benefit balance among very frail patients (terminally ill, the elderly). Iceland advised that on 11 March 2021 the Directorate of Health, the Chief Epidemiologist, and the Icelandic Medicines Agency halted vaccinations with the AstraZeneca vaccine temporarily, awaiting clarifications of side effects.

**Table 11. Change in COVID-19 vaccination guidelines related to suspected adverse events following immunisation (AEFI) (n=23)**

| Change in COVID-19 vaccination guidelines following suspected AEFI | Countries   |
|--|---|
| Yes  | Austria, Estonia, Finland, Iceland, Latvia, Norway, Sweden  |
| No   | Belgium, Cyprus, Czechia, France, Germany, Ireland, Lithuania, Malta, Poland, Portugal, Romania, Spain, |
| Under discussion   | Denmark, Croatia, Luxembourg, Slovakia  |

As of 17 March 2021, several other EU/EEA countries (Bulgaria, Cyprus, Denmark, France, Germany, Iceland, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden) also paused the administration of the COVID-19 Vaccine AstraZeneca as a precautionary measure while they waited for more information from EMA on whether there is a link between the vaccine and thromboembolic events. Austria, Estonia, Lithuania, and Romania suspended the use of a single batch of AstraZeneca's vaccine. On 18 March 2021, EMA's safety committee, PRAC, concluded that the benefits still outweigh the risks despite a possible link to rare blood clots with low blood platelets [16].

The majority of countries have now resumed with the use of the AstraZeneca vaccine. Finland and Sweden will resume vaccinations with the AstraZeneca vaccine in people over 65 years, and people over 55 years are recommended the vaccine in France. Denmark and Norway will continue to pause the use of the AstraZeneca vaccine at this stage while they continue their review [19-24].

### *Mandatory COVID-19 vaccination*

EU/EEA countries were asked about COVID-19 vaccination being mandatory in their national policies. None of the 24 countries that responded to this question has mandatory vaccination for the general population or for any

particular target groups (Austria, Belgium, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovakia, Spain, Sweden).

## Systems to monitor COVID-19 vaccination

A total of 28 countries have a system in place to monitor COVID-19 vaccinations. Twenty-one countries are using an already existing immunisation system, and seven countries are using an ad hoc system built specifically for monitoring COVID-19 vaccinations (Latvia and Portugal responded that they have both an existing electronic immunisation system and an ad-hoc system in place), as outlined in Table 12 below.

**Table 12. Types of systems in place to monitor individual COVID-19 vaccination status (n=28)#**

| Type of system in place to monitor individual COVID-19 vaccination status | Countries   |
|---|---|
| Existing electronic immunisation system                                   | Austria, Belgium, Croatia, Czechia, Denmark, Estonia, Finland, Greece, Iceland, Italy, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, |
| Ad-hoc electronic system  | Cyprus, France, Germany, Ireland, Latvia, Portugal, Slovakia  |

# Several countries provided additional information:

**Germany:** the ad hoc electronic system in place built for the COVID-19 vaccination monitoring is unable to retrieve individual vaccination status.

**Croatia:** is currently implementing an electronic immunisation registry.

**Latvia** has an existing electronic immunisation system and an ad hoc electronic system in place.

**Belgium** is currently improving their existing system to monitor COVID-19 vaccinations.

**Ireland** has developed a new immunisation information system, COVAX IIS.

**Italy:** the existing electronic system is supplemented by others in some regions.

**Lithuania** is monitoring vaccinations through their existing E Health system, in which individual vaccination data are included.

## COVID-19 vaccination certificates

All 21 countries that responded to this question are issuing COVID-19 vaccination certificates for medical use (Austria, Belgium, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Latvia, Lithuania, Malta, Norway, Poland, Portugal, Romania, Slovakia, Spain, and Sweden), and many have started discussions regarding the possible future use of the certificates such as for travel, tourism, easing of non-pharmaceutical interventions, access to specific places/events, etc.

Several countries provided additional information:

- Czechia currently issues the certificate as a proof of vaccination for medical purposes.
- A digital vaccination certificate is under development in Estonia.
- In Finland, the discussion on the possible expanded use of vaccination certificates is on hold and waiting for more scientific evidence on the effect of the vaccines on preventing infection and transmission.
- Germany is discussing digital vaccination certificates.
- In Portugal, the certificate *will also be used* for travel and tourism.
- The Norwegian health authorities are in the process of mapping the need for and possible solutions for establishing an international vaccine passport. If this becomes relevant, the government will consider whether it should be introduced in Norway. In that case, they will return with information on how the certificates are to be issued, and what rights they give.
- Belgium, Croatia, Latvia, Lithuania, and Spain are still discussing the future *extended* use of vaccination certificates.

## Coordination of the COVID-19 vaccination rollout

The vaccination rollout is a complex undertaking, especially in geographically larger countries and with the scale-up for mass vaccination of the population. For the majority of countries who responded to this question, health authorities and civil protection authorities are coordinating with the deployment of COVID-19 vaccinations (Table 13). Latvia responded that its Ministry of Defence and Ministry of Health have set up a special vaccination office that organises all necessary measures to ensure a smooth vaccination process. Norway replied that the vaccine programme is fully managed by the health sector, which has sufficient resources to deploy the vaccines.



**Table 13. Coordination between health authorities and civil protection authorities to deploy COVID-19 vaccines (n=26)<sup>#</sup>**

| Are health authorities and civil protection authorities coordinating in the country to deploy COVID-19 vaccines? | Countries   |
|--|---|
| Yes  | Austria, Croatia, Czechia, Denmark, France, Germany, Greece, Iceland, Italy, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Spain |
| No   | Belgium, Cyprus, Estonia, Finland, Ireland, the Netherlands, Norway   |
| Possibly   | Latvia, Sweden  |

<sup>#</sup> Several countries provided additional information:

**Austria:** Federal Ministry of Defence

**Lithuania:** The police are involved in ensuring protection of the vaccines once they are transported. The military is being consulted regarding logistical aspects.

**Luxembourg:** The army and the customs administration are also supporting.

**Portugal:** Armed forces and security forces

**Spain:** State Security Forces and Bodies are involved.

## Limitations of the information collected in this report

The information presented in this report is not exhaustive. There were different response rates from countries to the vaccine questions collected via the ISAA report from week to week. Countries will continue to adapt strategies and plans as the rollout continues, and this report provides an overview of the progress at a particular point of time.

## Conclusions

The COVID-19 vaccine rollout is progressing in the EU/EEA, but at a different pace across countries, and an acceleration is needed across the board to bring countries fully on track towards the targets set forth by the European Commission. Since very few countries have exceeded a cumulative uptake of 80% for the first vaccine dose in people aged 80 years and older and healthcare workers, reaching this target for the full vaccination in these prioritised population by the end of March 2021 will be a challenge. Countries should continue scaling up their vaccination plans in both of these priority groups until sufficient uptake is reached and a decline in the epidemiological indicators is observed, as well as protecting and sustaining the health workforce and their health systems' capacity to respond to the pandemic.

Due to limited vaccine supplies, most countries adapted their policies and protocols to vaccinate as many people as possible in a short period of time with available stocks, and took measures such as the extraction of additional vaccine doses per vial, the vaccination with one single dose in people with a history of SARS CoV-2 infection, and longer timing between the first and second dose.

Data show that countries are using most of the doses they are receiving, but this varies by country and by vaccine product. The recent paused administration of the COVID-19 Vaccine AstraZeneca following reports of severe thrombotic adverse events potentially associated with this product, in addition to a decrease in acceptance, may explain the lower use of supplies for this vaccine. In general, it is of utmost importance to maintain an efficient communication strategy towards healthcare workers and the target groups to ensure high vaccine acceptance.

As countries progress with the rollout of COVID-19 vaccines, vaccination strategies continue to be adapted based on the changing epidemiological situation, including the spread of new variants of concern, new evidence on the safety and effectiveness of vaccines, and new vaccine products becoming available. As more COVID-19 vaccine supplies become available over time, it is clearly of paramount importance to all EU/EEA countries that they accelerate the rollout of their vaccination programmes and start preparing for the delivery of mass vaccination services.

Finally, in order to improve the performance of the vaccination deployment it is important to understand what challenges countries are facing with the rollout. Based on countries' feedback, ECDC will publish a report outlining the main challenges countries are facing, and the mitigation measures and good practices that could be implemented in order to overcome some of these challenges.

As countries progress in the rollout of COVID-19 vaccines, there are still many unknowns in relation to their characteristics of effectiveness, safety and acceptability, as well as which deployment mechanisms are the most effective and efficient. Non-pharmaceutical interventions should therefore continue to be applied, as recommended by public health authorities, along with the introduction of COVID-19 vaccination.

## Contributing ECDC experts (in alphabetical order)

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## Disclaimer

All data published in this report is correct to the best of our knowledge at the time of publication.

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## Annex

**Table 14. Overview of COVID-19 vaccines in use in EU/EEA countries and date of first administration (n=30)\***

| Country       | Comirnaty     | Moderna       | AstraZeneca       |
|---------------|---------------|---------------|-------------------|
| Austria       | 27/12/2020    | 15/01/2021    | 08/02/2021        |
| Belgium       | 05/01/2021    | 18/01/2021    | 15/02/2021        |
| Bulgaria      | 27/12/2020    | week 2, 2021  | week 5, 2021      |
| Croatia       | 27/12/2020    | 13/01/2021    | 08/02/2021        |
| Cyprus        | 27/12/2020    | 19/01/2021    | 17/02/2021        |
| Czechia       | 26-27/12/2020 | 14/01/2021    | 11/02/2021        |
| Denmark       | 27/12/2020    | 13/01/2021    | 08/02/2021        |
| Estonia       | 27/12/2020    | week 2, 2021  | week 7, 2021      |
| Finland       | 27/12/2020    | 08/01/2021    | 10/02/2021        |
| France        | 27/12/2020    | 11/01/2021    | 07/02/2021        |
| Germany       | 26/12/2020    | week 2, 2021  | 08/02/2021        |
| Greece        | 27/12/2020    | week 7, 2021  | week 7, 2021      |
| Hungary**     | 26/12/2020    | week 2, 2021  | week 5, 2021      |
| Iceland       | 29/12/2020    | 13/01/2021    | 11/02/2021        |
| Ireland       | 29/12/2020    | 16/01/2021    | 08/02/2021        |
| Italy         | 31/12/2020    | week 2, 2021  | week 6, 2021      |
| Latvia        | 28/12/2021    | 13/01/2021    | 09/02/2021        |
| Liechtenstein | 18/01/2021    | missing       | <i>not in use</i> |
| Lithuania     | 27/12/2021    | 13/01/2021    | 09/02/2021        |
| Luxembourg    | 28/12/2020    | week 3, 2021  | week 6, 2021      |
| Malta         | 27/12/2020    | 04/02/2021    | 12/02/2021        |
| Netherlands   | 06/01/2021    | 25/02/2021    | week 6, 2021      |
| Norway        | 27/12/2020    | 15/01/2021    | 25/02/2021        |
| Poland        | 26-27/12/2020 | 12-20/01/2021 | 12/02/2021        |
| Portugal      | 27/12/2020    | 13/01/2021    | 08/02/2021        |
| Romania       | 27/12/2020    | 04/02/2021    | 15/02/2021        |
| Slovakia      | 26/12/2020    | week 4, 2021  | week 6, 2021      |
| Slovenia      | 27/12/2020    | week 3, 2021  | week 5, 2021      |
| Spain         | 27/02/2021    | 14/01/2021    | 09/02/2021        |
| Sweden        | 27/12/2020    | 13/01/2021    | week 6, 2021      |

\* Data on vaccines in use and date of first vaccine administration gathered from ISAA reports from 8 February to 15 March 2021; missing data complemented with data reported by EU/EEA countries to TESSy (e.g. vaccine products and reporting week of first administration of doses for each product); updates received from HSC members on 19 March 2021. Dates of first administration presented as dates (dd/mm/yyyy) or epidemiological week depending on the source and format that the country used in the ISAA reports.

\*\* Hungary started using Sputnik V (Gamaleya) in week 5 2021 and BBIBP-CorV (Sinopharm) in week 7 2021.