



SOTSIAALMINISTEERIUM

COVID-19 vaccination plan

April – June 2021

Ministry of Social Affairs

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1. The objective of COVID-19 vaccination

The following objectives have been set for vaccination against COVID-19 in Estonia:

- to protect the most vulnerable Estonian residents, i.e. the risk groups who are more likely to be infected than others or who, in case they are infected, may have a more severe course of illness (e.g. health care professionals and residents and employees of social welfare institutions);
- to reduce/prevent COVID-19-related cases of illness and death;
- to reduce the burden on the health system and the economy;
- to protect workers who provide vital and critical services to the people in order to ensure the normal functioning of society;
- to protect the population from the spread of COVID-19.

The objectives for COVID-19 vaccination coverage (see Annex 1) and activity planning in Estonia are¹:

- to achieve 70% coverage of at least one dose of vaccination in people over the age of 70 by the end of April 2021;
- to gradually provide vaccination to all of those who wish to get it from May 2021, by the following age groups: 60–69, 50–59, 16–49;
- to provide at least one dose of vaccination for all people in the risk groups by the end of May 2021;
- to provide at least one dose of vaccination to all those who wish to get it by the end of June 2021;
- to achieve 70% coverage in adult population by the autumn of 2021.

¹ According to the action programme approved by the Government of the Republic on 23.02.2021, the indicator of getting out of the COVID-19 disease pandemic is the coverage of vaccination against COVID-19 in adults, which is hoped to reach 70% in 2021.

2. COVID-19 vaccination target groups

COVID-19 vaccines will gradually arrive to Estonia in initially limited quantities after receiving an EU marketing authorisation. Therefore, it has not yet been possible to provide vaccination to all of those who wish to get it.

Priority target groups for COVID-19 vaccination have been specified by the National Immunoprophylaxis Expert Committee advising the Ministry of Social Affairs.

These are:

- health care professionals and people working in health care institutions to ensure the functioning of health care – about 30,000 people;
- employees and residents of social welfare institutions – about 25,000 people;
- all people over the age of 70 and/or people with certain diagnoses who may have a very severe course of the disease – about 370,000 people.

The National Immunoprophylaxis Expert Committee also defined more specific diseases and conditions that make a person belong in the risk group of COVID-19. The Family Physicians Association of Estonia divided them into high-risk and very high-risk diseases and conditions and compiled the principles for the chronological order of inviting people in the risk groups to be vaccinated:

- all people ≥ 80 years of age;
- people ≥ 70 years of age with a disease or a condition that puts them at very high or high risk for the severe course of the disease;
- all people ≥ 70 years of age, regardless of joining diseases, and people aged 16–69 with diseases and conditions that put them at very high risk for the severe course of the disease;
- people ≥ 60 years of age with diseases and conditions that put them at high risk for the severe course of the disease;
- people aged 50–59 with diseases and conditions that put them at high risk for the severe course of the disease;
- people ≥ 16 -49 years of age with diseases and conditions that put them at high risk for the severe course of the disease.

The following diseases or conditions are considered to be very high risk:

- organ transplantation or bone marrow transplantation (performed up to 2 years ago);
- primary immunodeficiency;
- malignant neoplasms of lymphoid tissue and hematopoietic tissue (diagnosed up to 5 years ago) or other neoplasms (diagnosed up to 1 year ago);
- cystic fibrosis;
- renal failure;
- demyelinating diseases of the central nervous system;
- dementia;
- Parkinson's disease;
- amyotrophic lateral sclerosis;
- stroke in the last year and residual signs of stroke;
- people with haematological, rheumatological, gastroenterological, neurological diseases who have received immunosuppressive therapy in the last 5 years.

The following diseases or conditions are considered high risk:

- diabetes;
- cardiological diseases;
- chronic bronchitis;
- emphysema;
- COPD;
- severe asthma (oral corticosteroid therapy in the last 5 years, biological therapy);
- bronchiectasis;
- obesity (BMI ≥ 40).

More detailed criteria and principles for the distribution of risk groups based on ICD codes are described in the guidance material for family physicians. All Estonian residents can see on www.digilugu.ee whether they belong to a risk group and book an appointment for vaccination, when vaccinators who have interfaced with the national digital registry have opened up free appointment times for vaccination and the vaccination queue has reached them. If a person who is in a risk group has not booked an appointment for a vaccination through the digital registry or it is not possible, the vaccinator will call them when the vaccination queue gets to them.

If a family physician recognises that there are people on their practice list who do not have the diseases or conditions described above, but who definitely need vaccination due to their health condition (e.g. a patient has a rare disease or some other justified reason), the family physician may vaccinate them regardless of their age. Also, if justified and approved by the family physician, vaccinations can be given to the caregivers or relatives of the people in the aforementioned risk groups and people to be vaccinated at the discretion of the family doctor, especially if the person in the risk group cannot be vaccinated due to health reasons or age or they cannot be taken to the vaccination point.

The next priority target group for ensuring the functioning of the society is:

- frontline workers with a higher risk of infection and providers of vital services (within the meaning of the Emergency Act) – up to around 150,000 people.

The ministries carried out the mapping of the target groups, involving various parties and taking into account the appeals received.

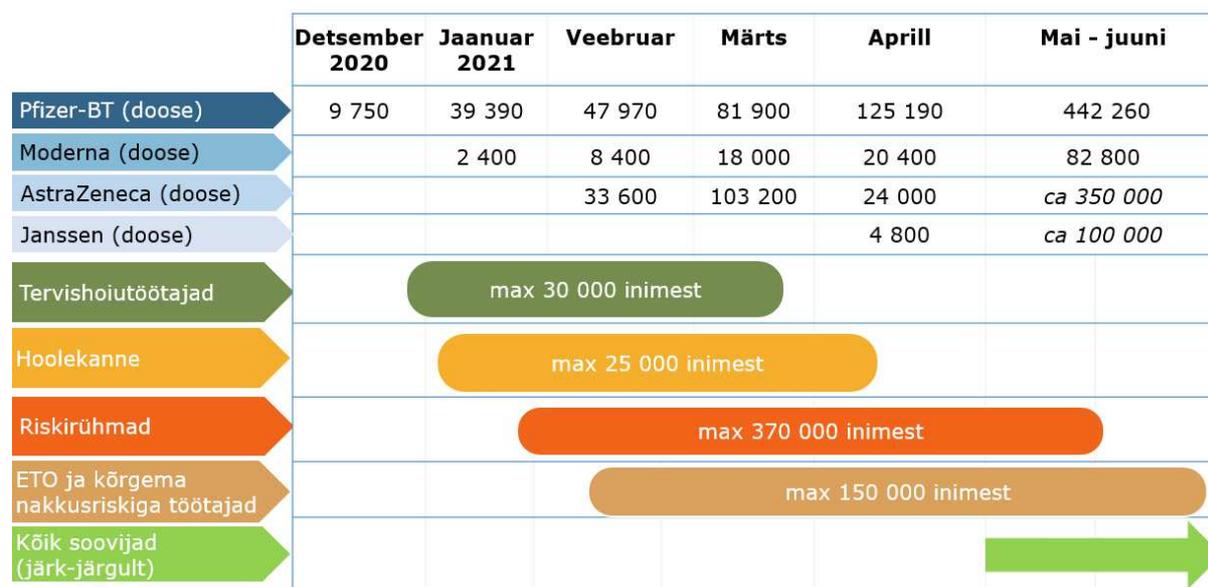
The principles for ranking frontline workers and providers of vital services with a higher risk of infection are:

- continuity of services critical to the functioning of society;
- the service has no alternative;
- exposure to risk groups;
- high risk of infection and likelihood of major outbreaks;
- very frequent contact with many people;
- lack of remote working opportunities;
- study, training or regular contract work in a health or social care institution.

As of 04.03.2021, the Government Office, in cooperation with the Ministry of Social Affairs and other ministries, manages the lists of frontline workers and providers of vital services that are being referred to the vaccination. The Government Office, in cooperation with the ministries, sets priorities for vaccination of frontline workers and providers of vital services with a higher risk of infection. In the case of local government services, the coordination and list management is also supported by the Rescue Board. People who belong to the target group will be directed to vaccination if the vaccine deliveries arriving to Estonia and the coverage of risk groups allow it.

3. Current situation and the stages of opening of the vaccination possibility

The speed of vaccination has depended mostly on the deliveries of vaccines to Estonia (see Annexes 2 and 5), the speed of starting to use vaccines in Estonia is significantly higher than the average in EU. The following figure gives an overview of the vaccination schedule for the different target groups:



	December 2020	January 2021	February	March	April	May – June
Pfizer-BT (doses)	9,750	39,390	47,970	81,900	125,190	442,260
Moderna (doses)		2,400	8,400	18,000	20,400	82,800
AstraZeneca (doses)			33,600	103,200	24,000	ca 350,000
Janssen (doses)					4,800	ca 100,000
Health care professionals		max 30,000 people				
Welfare services		max 25,000 people				
Risk groups		max 370,000 people				
Providers of vital services and workers with a higher risk of infection		max 150,000 people				
Everyone who wishes (gradually)						→

Figure 1. Delivery quantities of COVID-19 vaccines to Estonia as of 19.04.2021 and target groups who can be provided with vaccination.

3.1. Current situation of target group coverage

As of 13.04.2021, 260,797 people have been vaccinated with at least one dose in Estonia, and the coverage of the adult population with at least one dose is 24.3%. In the age groups 70–79 and 80+, the coverage is over 50% (Table 1). As of 12.04.2021, the vaccination coverage of all risk groups (see Chapter 2. COVID-19 vaccination target groups) is 42.1%. About 20% of those vaccinated with at least one dose are frontline workers or providers of vital services with a higher risk of infection, mainly social workers, internal security workers, employees of general education schools and kindergartens.

Regionally, the highest coverage among the population over the age of 70 is on the islands and in Rapla County, followed by Järva County and Lääne County, the backwardness that Ida-Virumaa had in the first months has started to decline (see Table 1).

Table 1. The coverage of at least one dose of vaccination in counties by age groups as of 19.04.2021.

County	Total coverage	0–17	18–29	30–39	40–49	50–59	60–69	70–79	80+
		21.6%	0.1%	8.1%	11.0%	17.0%	26.3%	42.0%	59.1%
Harju County	19.5%	0.1%	8.2%	10.6%	16.8%	25.5%	39.2%	57.5%	51.9%
Hiiu County	32.2%	0.2%	9.3%	15.6%	23.8%	35.0%	52.8%	85.3%	74.7%
Ida-Viru County	13.5%	0.0%	5.6%	6.5%	9.7%	13.7%	22.3%	34.5%	24.5%
Jõgeva County	28.9%	0.0%	9.2%	12.5%	19.6%	34.2%	51.2%	65.8%	65.7%
Järva County	26.9%	0.0%	6.5%	10.7%	16.6%	28.0%	51.7%	68.1%	69.1%
Lääne County	29.1%	0.0%	8.0%	12.1%	19.3%	32.4%	54.8%	71.3%	68.1%
Lääne-Viru County	24.9%	0.0%	7.3%	11.1%	18.2%	30.2%	49.7%	59.2%	60.8%
Põlva County	28.5%	0.1%	8.4%	10.4%	20.2%	32.3%	55.4%	71.3%	62.7%
Pärnu County	23.0%	0.0%	6.0%	9.1%	14.6%	25.0%	45.7%	61.5%	61.8%
Rapla County	25.8%	0.0%	6.7%	10.3%	17.7%	28.2%	54.5%	74.3%	71.8%
Saare County	29.3%	0.0%	7.8%	12.6%	19.9%	33.3%	58.7%	72.6%	72.7%
Tartu County	25.2%	0.1%	11.9%	16.3%	22.3%	33.1%	52.1%	69.4%	62.6%
Valga County	22.8%	0.0%	6.5%	8.2%	15.8%	25.0%	45.9%	54.9%	52.1%
Viljandi County	25.6%	0.0%	6.5%	10.6%	17.2%	27.6%	48.7%	63.4%	66.8%
Võru County	25.6%	0.0%	7.0%	10.4%	17.8%	29.9%	50.1%	65.4%	57.2%

3.2. Opening of vaccination possibilities in the second quarter

When taking into account the coverage achieved by 19.04.2021, in order to reach the 70% target, it is necessary to start the 1st dose of the vaccination course in 24,500 people in the 70+ age group, 45,500 people in the 60–69 age group and 392,000 people in the 18–59 age group (see Table 2).

As of 19.04.2021, the forecast of vaccine deliveries not yet received but expected to arrive, allows to start vaccination with the first dose for approximately 56,000 people in April, approximately 322,000 people in May, and at least 84,000 people in June (Table 2). The forecast of COVID-19 vaccines arriving to Estonia by the end of the second quarter is presented in the Figure 1 on page 5.

Table 2. The estimated forecast as of 19.04.2021 of the quantities of COVID-19 vaccines arriving to Estonia by months until the end of the second quarter and the chronological forecast of achieving 70% coverage by vaccination with the first doses by age groups and the estimated number of doses required.

	Overall	April (from week 16)	May	June
Doses arriving to Estonia in April–June	1,090,000	107,000	451,000	532,000
Predicted second doses	340,000	51,000	129,000	160,000
70% coverage in the 70+ age group	24,500	24,500		
70% coverage in the 60–69 age group	45,500	31,500	14,000	
70% coverage in the 18–59 age group	392,000	0	308,000*	84,000*
Doses from which the coverage can be increased to >70% of the adult population				288,000

*- The number of doses to be used depends, among other things, on the recommendations for the use of specific vaccines

The schedules and volumes of deliveries of COVID-19 vaccines to Estonia will be agreed between the Member States led by the European Commission, taking into account the production and supply capacity of the manufacturers.

In April, vaccination will be provided primarily to 70+ people. If the quantities of vaccines arriving to Estonia allow, the vaccination of people in the very high risk groups and high risk groups will be continued as well according to the order of risk groups compiled by family physicians. After that, depending on the quantities of COVID-19 vaccines arriving to Estonia that have received the EU marketing authorisation, it will be possible to gradually open the possibility of getting the vaccination to all of those who wish within the month of May. Vaccination is provided by age groups as follows, taking into account that the likelihood of a more severe disease increases with age (see Annex 6, Figure 3):

- age group 60–69;
- age group 50–59;
- age group 16 to 49.

4. COVID-19 vaccinators and vaccination sites

The doctors, nurses and midwives who have received basic and advanced immunisation training in the last five years can do the vaccinations. After each COVID-19 vaccine receives the EU marketing authorisation, there will be vaccine-specific training course based on the summary of product characteristics and existing studies. The training courses are in Estonian with simultaneous interpretation into Russian and they can also be watched after they air (<https://www.vaktsineeri.ee/et/tervishoiutootajatele-vaktsineerimine>).

Health care professionals and people working in health care facilities are usually vaccinated in hospitals, family health centres and emergency medical care facilities. Staff and residents at the social welfare facilities are usually vaccinated by a nursing service provider or a family physician on site. Vaccination for risk groups is generally available in family health centres, but it is advisable to offer in-hospital vaccination against COVID-19 to people who are often visiting a hospital because of their medical condition. Such diseases and conditions have been specified by the National Immunoprophylaxis Expert Committee and can be found in Annex 3. In general, the principle is that the second dose should be given at the same site as the first dose. If this is not possible (e.g. the hospital is far from the person's place of residence, in another county, etc.), then getting the second dose must be agreed upon individually with the person's family physician.

Since mid-February, in addition to the ones mentioned above, additional health care providers have been involved, with whom the Estonian Health Insurance Fund has entered into respective agreements for administering COVID-19 vaccinations.

Vaccinations shall be carried out on the site of the health care provider or off the site, for example at the place of work or at a place temporarily adapted for vaccination, which allows for larger-scale vaccinations. Off-site vaccination should also be carried out in accordance with the requirements for vaccination and the recommendations of the competent authorities. The Health Board has prepared separate guidelines for organising larger-scale vaccinations off-site (see Annex 4). If a person is unable to go the vaccination site due to a medical condition, vaccination may also be administered at the person's place of residence if the storage and transport requirements for the vaccines allow.

Vaccination centres will be prepared taking into account the number of inhabitants in the county, the coverage of vaccination and local needs in order to enable vaccination to all of those who wish to get it. The vaccination centre can be set up at various temporary sites (cultural or sports buildings, mobile brigades, etc.) or also in the premises of a local health care provider.

5. Management and organisation of COVID-19 vaccination

The Government of the Republic has set the objective that from May all of those who wish are able to get a free and close to home vaccination. The Minister of Health and Labour is responsible for the preparation of proposals and resolutions of strategic issues of COVID-19 vaccination and their transfer to the Government of the Republic. COVID-19 vaccination is organised by the Ministry of Social Affairs together with the institutions of the area of government and cooperation partners based on the COVID-19 vaccination plan and decisions approved by the Government of the Republic.

5.1. Management of COVID-19 vaccination

The preparation and start of vaccination during the first quarter of 2021 was led by the COVID-19 Vaccination Steering Group.

The increase and stabilisation of vaccine volumes will allow vaccination to be extended to the entire adult population in the coming months, while preparations need to start for the autumn of 2021 and the year of 2022 and a long-term vaccination strategy needs to be developed.

On the basis of the COVID-19 Vaccination Steering Group there will be two working groups formed to set long-term and short-term objectives and to carry out the necessary activities in an operational manner:

- COVID-19 Vaccination Strategy Working Group, with the main task of developing a long-term vaccination strategy against COVID-19;
- COVID-19 Vaccination Management Working Group, with the main task of operational implementation of the COVID-19 vaccination plan and organising the vaccination of the population for the autumn of 2021.

Tasks of the COVID-19 Vaccination Strategy Working Group:

- setting long-term goals for COVID-19 vaccination and planning activities;
- updating the COVID-19 vaccination plan;
- coordinating the participation in the European Union joint procurements of the COVID-19 vaccines and forming the standpoints of Estonia;
- scientific cooperation and pharmacovigilance issues and providing the vaccinators with guidance based on the recommendations of the National Immunoprophylaxis Expert Committee;
- planning the vaccination of persons under the age of 16 and possible revaccination of the population;
- planning the necessary IT solutions and reaching agreements with the parties;
- preparing vaccination summaries and analyses;
- communicating the strategic decisions and plans of the COVID-19 vaccination.

Tasks of the COVID-19 Vaccination Management Working Group:

- preparing a more detailed action plan for vaccinating the population for the period from May to August 2021;
- operational organisation of vaccination on the basis of the COVID-19 vaccination plan and the guidelines of the Government of the Republic;

- coordinating vaccination in family health centres, hospitals, private health care institutions and vaccination sites;
- cooperation and communication with state agencies, local governments and representatives of the private sector in organising vaccination;
- submitting vaccination statements and reports to the public and the Government of the Republic;
- communication related to the organisation of vaccination against COVID-19.

Both working groups are provided with expert advice by the National Immunoprophylaxis Expert Committee and there is also cooperation established with the COVID-19 Scientific Council of the Government of the Republic. In addition, there is a working group specialised on communication (if necessary, additional thematic subgroups will be created as well) to ensure successful organisation of vaccination and providing information to the public.

In order to coordinate the vaccination of the general population in the late spring and in the summer months, the Ministry of Social Affairs created a separate position, the main task of which is to lead the COVID-19 vaccination working group based on the vaccination plan, the decisions of the Government of the Republic and the recommendations of the National Immunoprophylaxis Expert Committee. In addition, regional vaccination coordinators will also be involved, when necessary, to ensure the smooth running of vaccination and the exchange of information in specific counties.

Responsibilities of the main authorities participating in the COVID-19 vaccination working groups:

- **Ministry of Social Affairs** – preparing a comprehensive strategic plan for COVID-19 vaccination and coordinating its implementation, participating in the EU joint procurements of COVID-19 vaccines, specifying risk groups, managing the National Immunoprophylaxis Expert Committee and organising its work, cooperating with the Government of the Republic and international institutions;
- **Health Board** – planning and implementing transport and storage of COVID-19 vaccines in cooperation with health care institutions and the private sector, advising vaccinators, managing www.vaktsineeri.ee, forwarding COVID-19 vaccination data to the European Centre for Disease Prevention and Control and participating in international expert working groups;
- **Estonian Health Insurance Fund** – financing the vaccinators, communicating with the vaccinators and exchanging information, preparing and monitoring the vaccine distribution plans and based on that making vaccine offers to the vaccinators, preparing statements and reports in cooperation with the Health and Welfare Information Systems Centre;
- **State Agency of Medicines** – the competent authority for pharmacovigilance, including the safety of vaccines, registering and treating the side effects of COVID-19 vaccines, including informing the public, cooperating with the European Medicines Agency, including participating in the EU vaccine evaluation process;
- **Health and Welfare Information Systems Centre** – planning, developing and coordinating the implementation of digital solutions for vaccination against COVID-19 disease in cooperation with the parties, preparing the statements and reports in cooperation with the Estonian Health Insurance Fund;
- **Government Office** – coordinating the vaccination of frontline workers and providers of vital services with a higher risk of infection.

The task of the vaccinators participating in the COVID-19 vaccination working groups is to provide the working groups with input from the vaccinator's point of view, to bring the most important issues of vaccination management that arise on the site to the working groups and to propose solutions, to

forward the information that has been agreed upon in the COVID-19 vaccination working groups to the organisations they represent.

5.2. Principles of COVID-19 vaccination management

In the event of an epidemic, the general principles for organising the COVID-19 vaccination are as follows:

- it is essential to provide vaccination as a first priority to the persons who are in the risk groups because of their age or medical condition in order to reduce serious illnesses and the burden on the health system;
- the COVID-19 vaccines arriving to Estonia are being administered following the recommendations for the use of the vaccines, which are also adapted according to the growing knowledge over time;
- the volumes of vaccines arriving to Estonia must reach the people at the first opportunity, so that the immunity would develop in as many people as possible as soon as possible and therefore would help to prevent the further spread of the epidemic in Estonia;
- larger quantities of vaccines and special attention may be directed to areas with higher infection and/or lower vaccination rates to improve coverage.

The COVID-19 vaccines being used for the vaccinations in Estonia are the ones that have been granted the EU marketing authorisation. In order to acquire them, Estonia participates in the EU joint procurement of COVID-19 vaccines. An overview of the EU joint procurement vaccine portfolio, concluded pre-purchase agreements and the quantities of vaccines requested by Estonia can be found in Annex 5.

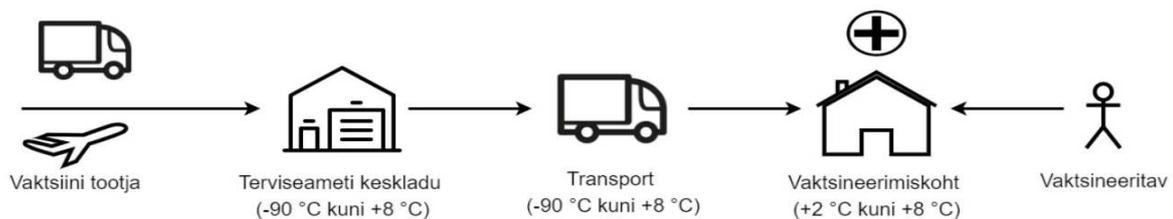
In order to meet the objectives of the second quarter of COVID-19 vaccination (see Chapter 1), considering the quantities of the COVID-19 vaccine deliveries arriving to Estonia and the current coverage of vaccination of Estonian residents by age groups (see Annex 1), it is important to organise the vaccination while **complying with the following principles:**

- the focus of the vaccine dose distribution until the end of April will be on increasing coverage in the 70+ age groups, i.e. the risk groups vaccinated by family physicians;
- the vaccine dose distribution will after that be focused on enabling people in all risk groups to be vaccinated, i.e. also the younger people who are in the risk groups due to their health but who have not yet had the opportunity to be vaccinated;
- the vaccination principles for frontline workers and providers of vital services with a higher risk of infection will be updated at a Government Cabinet meeting and coordinated by the Government Office in co-operation with the COVID-19 Vaccination Management Working Group;
- if the coverage of people in the risk groups with at least one dose of vaccination in half of the counties is 60%, then providing vaccination shall start to all of those who wish to get it by age groups depending on the quantities of vaccines arriving to Estonia and the sizes of age groups or target groups; when it comes to vaccinating all of those who wish, the focus shifts to the next age group when the coverage in the previous age groups for vaccination with at least one dose in half of the counties is 50%;

- for people who are unable to leave their place of residence due to a medical condition or leaving is very difficult, a solution will be found in cooperation with local authorities to make it possible for them to get vaccinated.

5.3. Logistics of COVID-19 vaccines

The vaccine manufacturer is responsible for transporting the vaccines to the agreed location in the Member State. In the case of Estonia, it has been agreed that the manufacturer will transport the vaccines to the central warehouse of the Health Board, where the vaccines are registered and after that generally transferred to the warehouse of a Health Board's COVID-19 vaccine logistics partner. The warehouses provide the necessary conditions for storing the vaccines (-90°C to +8°C). The vaccines are distributed according to the vaccine distribution plan and the orders of the vaccinators (Figure 2). The vaccinators do not need to create special conditions or purchase additional equipment to store the vaccines. Even the most demanding COVID-19 vaccines can be stored for up to five days under normal vaccine storage conditions (+2°C to +8°C).



Vaccine manufacturer – the central warehouse of the Health Board (-90°C to +8°C) – Transport (-90°C to +8°C) – Vaccination site (+2°C to +8°C) – Person getting the vaccine

Figure 2. Movement of the COVID-19 vaccine to the vaccination site.

5.4. Ordering the COVID-19 vaccines and vaccination.

As long as the quantities of vaccines arriving to Estonia are limited, vaccinators will be allowed to order vaccines on the basis of a distribution plan, which will be agreed in advance in the COVID-19 Vaccination Management Working Group when the vaccine manufacturers have forwarded the detailed information on the delivery size and time.

The vaccine orders are confirmed through an electronic ordering environment, which contains information on both orders and stock status. The vaccine deliveries are complete with syringes and needles for the vaccinator to administrate the vaccine and a package leaflet for the person getting the vaccination, and if necessary, the solvent for the vaccine and syringes and needles for using the solvent will also be added. The internal transport in Estonia to the vaccination sites at the temperature prescribed by the vaccine manufacturer is organised by the Health Board.

The vaccinator at the vaccination site:

- compiles a schedule for vaccination based on target groups;

- confirms the required amount of vaccine in the electronic ordering environment;
- invites the people from the target group to vaccination or opens the registration for vaccination in the national digital registry or in another digital channel used by the person getting the vaccine or by the telephone;
- before starting the vaccination, identifies the temporary and permanent contraindications to immunisation, explains the need for vaccination, informs about possible side effects that may occur with immunisation and what to do if they do occur, and helps the person to find answers to other questions that may have arisen;
- tells the person to be vaccinated about the need to inform the doctor of any possible side effects after immunisation;
- books a time for the second dose if it is necessary for completing the course of the vaccine and informs the person getting vaccinated about this;
- after the vaccination, documents the vaccination according to the requirements, including transmitting the notice of immunisation to the health information system;
- informs the State Agency of Medicines about any side effects caused by the immunisation (<https://raviamet.ee/ravimi-korvaltoime-teatis>).

Person getting the vaccine:

- is able to check via www.digilugu.ee whether they belong to the COVID-19 risk group due to their health condition or age, or whether they have an opportunity to get vaccinated based on their age group in the national digital registry;
- can book a time for vaccination through a vaccinator or the digital registry, if there are free times for vaccination and they belong to the target group to be vaccinated;
- can find general information about vaccination and COVID-19 vaccination-specific information on the Health Board's website www.vaktsineeri.ee or www.kriis.ee or by phone 1247;
- can inform the State Agency of Medicines of possible side effects that have occurred after the vaccination if they wish to do so;
- can, if necessary, ask their family doctor or the Family Doctor's Advice Line 1220 for health advice or information about COVID-19 vaccines.

When organising the vaccination it should be taken into account that the vaccines are in multi-dose vials and therefore careful planning at vaccination sites is particularly important. To prevent loss of the vaccine, it is recommended to keep a reserve list in case someone cancels their vaccination appointment or does not show up for it. Preference should be given to people in the risk groups (starting with the groups that have the highest priority) or to another target group currently being vaccinated.

A person is considered to be vaccinated if they have completed the course of vaccination. For a two-dose vaccine (such as the ones that have received the EU marketing authorisation – the AstraZeneca, Pfizer/BioNTech and Moderna vaccines), this means two doses; for a single-dose vaccine (Janssen vaccine), the vaccination course is finished by injecting one dose only. Patients who have already had the COVID-19 disease will be vaccinated with a single dose one to six months after the recovery and their vaccination course will be considered finished. The vaccination course is also considered finished in people who have been vaccinated with a single dose and who have had the COVID-19 disease after their first dose.

Vaccination against COVID-19 disease will be free of charge for all Estonian residents, including uninsured people (living, studying or working in Estonia) in 2021. Vaccination is voluntary, but each vaccination contributes to reducing the spread of the virus and normalising the situation, and also helps to protect those who cannot be vaccinated for various reasons.

6. COVID-19 vaccination communication

The purpose of vaccination communication is to provide Estonian people with evidence-based and operational information to ensure that the COVID-19 vaccination runs smoothly and to help people to make informed decisions.

To achieve this purpose, it is necessary to:

- provide information on vaccines, their efficiency, safety and possible side effects;
- provide information on the procurement of vaccines and on organising the vaccination in Estonia;
- restrain the spread of factually incorrect and malicious misinformation.

Vaccination is voluntary in Estonia and the confidence of Estonian people in vaccination is high. The coverage of most of the immunisation schedule vaccinations in 2020 was over 91%. The coverage of influenza vaccination has also increased every year. Thanks to vaccination, several infectious diseases that are still circulating in the world (e.g. polio) have disappeared from Estonia.

The Ministry of Social Affairs has on a monthly basis surveyed the attitude of the Estonian population about COVID-19 vaccination. As of the end of March, 75% of the Estonian population is ready to vaccinate. This figure also includes the people who have already been vaccinated. The figure has increased since the beginning of January. At the beginning of January, 15% of the population was firmly against getting vaccinated, by the middle of March this figure had dropped to 12% and it had remained at the same level at the end of the month.

The knowledge of which vaccines will arrive to Estonia, for which target groups they are suitable, what are the possible contraindications and side effects, is constantly improving, therefore communication must be flexible and fast enough to forward new information and prevent the wider spread of possible misinformation. People need to be promptly provided with information on who, when and where can get vaccinated.

In order to increase people's trust, it is firstly necessary to make evidence-based and adequate information easily accessible. Therefore, communication activities include giving daily information through state channels, press communication and other wider reporting activities for both the Estonian and Russian-speaking population. Official information related to COVID-19 vaccination is available on the vaksineeri.ee website in Estonian, Russian and English. Vaccination target groups will be informed of their turn to get the vaccination gradually according to the vaccination plan.

Communication related to COVID-19 vaccination is coordinated by the Ministry of Social Affairs in cooperation with its area of government institutions, including the Health Board, the State Agency of Medicines and the Estonian Health Insurance Fund. It is important to have cooperation in communication between different ministries, authorities, health care institutions and health care professional associations, the Government of the Republic, the COVID-19 Scientific Council, the National Immunoprophylaxis Expert Committee, local governments, the private and third sectors and the medical and research community in general, depending on the jurisdiction of each organisation. Health care professionals have an important role to play in maintaining the confidence in vaccination as they are in direct contact with the people getting the vaccination. Cooperation with the press is also important to ensure the vaccination process is running smoothly as it covers news on vaccination and helps to bring evidence-based and up-to-date information to the general public.

Annex 1. Vaccination coverage as of 19.04.2021 and the temporal forecast for achieving the objectives set by the end of the second quarter

Table 1. Coverage of vaccination with at least one dose in counties by age groups as of 19.04.2021.

County	Total coverage	0–17	18–29	30–39	40–49	50–59	60–69	70–79	80+
		21.6%	0.1%	8.1%	11.0%	17.0%	26.3%	42.0%	59.1%
Harju County	19.5%	0.1%	8.2%	10.6%	16.8%	25.5%	39.2%	57.5%	51.9%
Hiiu County	32.2%	0.2%	9.3%	15.6%	23.8%	35.0%	52.8%	85.3%	74.7%
Ida-Viru County	13.5%	0.0%	5.6%	6.5%	9.7%	13.7%	22.3%	34.5%	24.5%
Jõgeva County	28.9%	0.0%	9.2%	12.5%	19.6%	34.2%	51.2%	65.8%	65.7%
Järva County	26.9%	0.0%	6.5%	10.7%	16.6%	28.0%	51.7%	68.1%	69.1%
Lääne County	29.1%	0.0%	8.0%	12.1%	19.3%	32.4%	54.8%	71.3%	68.1%
Lääne-Viru County	24.9%	0.0%	7.3%	11.1%	18.2%	30.2%	49.7%	59.2%	60.8%
Põlva County	28.5%	0.1%	8.4%	10.4%	20.2%	32.3%	55.4%	71.3%	62.7%
Pärnu County	23.0%	0.0%	6.0%	9.1%	14.6%	25.0%	45.7%	61.5%	61.8%
Rapla County	25.8%	0.0%	6.7%	10.3%	17.7%	28.2%	54.5%	74.3%	71.8%
Saare County	29.3%	0.0%	7.8%	12.6%	19.9%	33.3%	58.7%	72.6%	72.7%
Tartu County	25.2%	0.1%	11.9%	16.3%	22.3%	33.1%	52.1%	69.4%	62.6%
Valga County	22.8%	0.0%	6.5%	8.2%	15.8%	25.0%	45.9%	54.9%	52.1%
Viljandi County	25.6%	0.0%	6.5%	10.6%	17.2%	27.6%	48.7%	63.4%	66.8%
Võru County	25.6%	0.0%	7.0%	10.4%	17.8%	29.9%	50.1%	65.4%	57.2%

Table 2. The estimated forecast as of 19.04.2021 of the quantities of COVID-19 vaccines arriving to Estonia by months until the end of the second quarter and the chronological forecast of achieving 70% coverage by vaccination with the first doses by age groups and the estimated number of doses required.

	Overall	April (from week 16)	May	June
Doses arriving to Estonia in April–June	1,090,000	107,000	451,000	532,000
Predicted second doses	340,000	51,000	129,000	160,000
70% coverage in the 70+ age group	24,500	24,500		
70% coverage in the 60–69 age group	45,500	31,500	14,000	
70% coverage in the 18–59 age group	392,000	0	308,000*	84,000*
Doses from which the coverage can be increased to >70% of the adult population				288,000

*- The number of doses to be used depends, among other things, on the recommendations for the use of specific vaccines

Table 3. Number of people vaccinated with at least one dose by age groups and number of doses required to reach 70% coverage, as of 19.04.2021. The table does not include people for whom there is no data available in any county or people who are foreigners.

	Overall	0-17	18-29	30-39	40-49	50-59	60-69	70-79	80+
Population 2020 <i>Source: Statistical Office/TEHIK</i>	1,326,819	257,025	169,043	195,957	182,372	171,098	162,927	111,143	77,254
Number of people vaccinated with at least one dose by age groups	287,080	155	13,713	21,465	30,921	44,925	68,501	65,697	41,703
Minimum number of first doses required for 70% coverage	461,931		391,905				45,548	12,103	12,375

Annex 2. COVID-19 vaccines that have arrived to Estonia

Pfizer/BioNTech vaccine

Pfizer/BioNTech vaccine “Comirnaty” was granted the EU marketing authorisation on 21.12.2020. The first doses of Comirnaty vaccine arrived to Estonia on 26.12.2020. The first vaccinations were done on 27.12.2020.

The summary of product characteristics and the package leaflet are available here: https://www.ema.europa.eu/en/documents/product-information/comirnaty-epar-product-information_en.pdf

Moderna vaccine

Moderna vaccine “COVID-19 vaccine Moderna” was granted the EU marketing authorisation on 06.01.2021. The first doses of the vaccine arrived to Estonia on 13.01.2021.

The summary of product characteristics and the package leaflet are available here:

https://www.ema.europa.eu/en/documents/product-information/covid-19-vaccine-moderna-epar-product-information_et.pdf

AstraZeneca vaccine

AstraZeneca vaccine “Vaxzevria” was granted the EU marketing authorisation on 29.01.2021. The first doses of the vaccine arrived to Estonia on 07.02.2021.

The summary of product characteristics and the package leaflet are available here:

https://www.ema.europa.eu/en/documents/product-information/vaxzevria-previously-covid-19-vaccine-astrazeneca-epar-product-information_et.pdf

At the time of receiving the EU marketing authorization for AstraZeneca, there was insufficient data on its effectiveness in the older people. Therefore, most countries in the EU decided to set an upper age limit for the use of the AstraZeneca vaccine. On 04.02.2021, the National Immunoprophylaxis Expert Committee issued a recommendation to use AstraZeneca in Estonia to vaccinate people under the age of 70, until additional data becomes available. As the vaccination of the first risk groups with Pfizer/BioNTech and Moderna vaccines was ongoing at that time, due to the recommendations for the use of AstraZeneca, it was decided to start vaccinations for the following target groups significantly earlier than originally planned.

Due to additional information (efficiency, safety), the recommendations for the use of AstraZeneca in Estonia have been changed, similarly to other EU countries.

Based on the efficiency data for AstraZeneca in the United Kingdom, the National Immunoprophylaxis Expert Committee decided on 10.03.2021 to drop the upper age limit recommendation.

Similarly to other COVID-19 vaccines with the EU marketing authorisation, collecting the safety data for AstraZeneca also continued. In the course of this, in March several countries reported very rare

cases of platelet deficiency and thrombosis in younger people following the vaccination with AstraZeneca. The European Medicines Agency launched an investigation, as a result of which it was found that the cases were not linked to the vaccine, but it was considered possible and therefore the investigation was continued. The overall benefit-risk balance of AstraZeneca was assessed as positive by the European Medicines Agency.

From 18.03.2021, the National Immunoprophylaxis Expert Committee recommended to use the AstraZeneca vaccine especially in those over the age of 60. The National Immunoprophylaxis Expert Committee re-discussed the use of AstraZeneca on 05.04.2021 and as a result it was decided that for those who have already received the first dose of AstraZeneca the vaccination course should also be finished with AstraZeneca. The Committee recommends not to give the first dose of AstraZeneca to people under the age of 60 until there is further information on the platelet deficiency and the mechanism by which thrombotic events occur, which would help to reduce the risk of those events.

Janssen vaccine

Janssen vaccine “COVID-19 vaccine Janssen” was granted the EU marketing authorisation on 11.03.2021. The first doses of the vaccine arrived to Estonia on 13.04.2021. By that time, the European Medicines Agency had already launched an investigation into rare thrombosis and thrombocytopenia cases following the vaccinations with the Janssen vaccine in the United States. The manufacturer informed the EU Member States of this on 14.04.2021 and announced a temporary suspension of deliveries pending a new assessment by the European Medicines Agency. In addition, the manufacturer recommended to wait before starting to use the vaccine.

The summary of product characteristics and the package leaflet are available here:

https://www.ema.europa.eu/en/documents/product-information/covid-19-vaccine-janssen-epar-product-information_et.pdf

Annex 3. People for whom it is reasonable to offer vaccination in a hospital due to their medical condition

Risk groups of adults and children >16 years of age

Adults:

- hemodialysis patients;
- oncology patients receiving chemotherapy or radiation therapy;
- patients with rheumatic diseases or systemic connective tissue diseases receiving biological treatment;
- tuberculosis patients and psychiatric patients undergoing long-term hospitalisation;
- patients that have received an organ transplant;
- patients receiving biological treatment for multiple sclerosis;
- patients undergoing organ transplantation;
- patients with primary immunodeficiency;
- patients with cystic fibrosis.

Children >16 years of age with chronic illnesses:

- obesity;
- severe genetic disease;
- severe neurological disease;
- severe metabolic disease;
- congenital heart disease;
- diabetes;
- chronic kidney disease;
- chronic liver disease;
- asthma and other chronic lung diseases;
- primary and secondary immunodeficiency (including drug-induced).

Annex 4. Minimum requirements for organising a large-scale COVID-19 vaccination taking place outside of a site for provision of health care services

1. General requirements

- Immunisation is organised by the health care provider(s) with a valid activity license issued on the basis of the Health Services Organisation Act.
- The health care provider must notify the Health Board in a written reproducible form of the intention to organise immunisations outside the site that they have registered in the Health Board's registry at least one week before the planned activity, providing the following information:
 - the vaccination centre's name, address and the telephone number of the reception;
 - contact person (name, position, telephone number, e-mail);
 - data on the staff of the vaccination centre (number of doctors; number of nurses; number of support staff);
 - data on persons administering the immunisation (name, specialty (doctor/nurse/midwife), institution, date when immunisation training was completed, training provider);
 - the opening hours of the vaccination center;
 - a link to the website of the vaccination centre or to an alternative website where information about the vaccination centre has been published (if available).
- On behalf of the health care provider the vaccination procedures are performed by a doctor, nurse or midwife registered in the Health Board, who has completed immunisation training in accordance with a program approved by the Ministry of Social Affairs and who has a valid certificate to prove this.
- The provision of vaccination services (including handling of vaccines) is carried out in accordance with the requirements set out in the Health Services Organisation Act, the Medicinal Products Act, the Communicable Diseases Prevention and Control Act and in the regulations established on the basis of these Acts.
- Patients are registered for immunisation according to the instructions of the Estonian Health Insurance Fund by telephone or in a digital registry.

2. Requirements for premises and equipment

- The vaccination centre must have a separate waiting area, an area for immunisation and an area for monitoring patients for 15 minutes after the vaccination.
- The rooms must allow patients to keep their distance from each other, except for members of the same household.
- The premises must have the possibility to wash hands and use disinfectant.
- Work surfaces must be made of water-resistant material to allow wet cleaning and disinfection.
- There must be a separate area to get the vaccines ready.

- There must be a separate room for vaccination or another way to separate people while they are getting vaccinated to ensure the necessary privacy and quality of service and readiness to deal with complications (including life-threatening complications) from immunisation.
- There must be sufficient lighting provided in the room to allow the health care professional to carry out the vaccination properly.
- The vaccination room must have sufficient ventilation or another way to provide fresh air.
- Necessary appliances for the immunisation service:
 - a table;
 - a chair;
 - a refrigerator or a thermal container for storing vaccines;
 - a bin for waste;
 - a container of appropriate quality for the collection and storage of hazardous waste, including a container for sharp-cutting tools;
 - appropriate disinfectants for skin and for surfaces;
 - a possibility for the patient to lie down;
 - band-aids;
 - gloves;
 - masks;
 - IT software and equipment to properly transmit immunisation data to the Health Information System;
 - instructions for use of COVID-19 vaccines in Estonian;
 - COVID-19 vaccine package leaflets in Estonian and Russian.
- First aid equipment for treating the possible side effects of immunisation, including anaphylactic shock:
 - devices for the venous access;
 - a disposable oxygen mask, an AMBU bag and an oxygen tank;
 - a blood pressure monitor;
 - a pulse oximeter (or monitor);
 - a clock with an option to keep track of seconds;
 - a tourniquet;
 - a spatula;
 - a lamp for a throat observation;
 - necessary drugs: adrenaline, antihistamines (clemastine, loratadine, etc.), glucocorticoids (prednisolone, dexamethasone), at least 2 litres of crystalloid infusion solutions;
 - anaphylaxis treatment guide (see subitem 6)

3. Infection control requirements

- The health care provider must have instruction materials on hand hygiene, cough etiquette, use of personal protective equipment, cleaning and disinfecting of the work environment, and waste management. These materials must be available to all employees and the employees must be trained.
- The person administering the immunisation must be aware of and comply with the above requirements.
- The person administering the immunisation must wear a surgical mask.
- The person administering the immunisation must not show signs of an acute respiratory infection and must not have been in close contact with a confirmed COVID-19 patient.

- The vaccination centre must have the capability to assess the risk of COVID-19 infection (customer interview/health declaration, visual inspection, temperature measurement).
- Upon entering the vaccination centre, the client is asked to disinfect their hands and they are given a surgical mask, making sure that they put it on it correctly.
- People with acute respiratory symptoms are not serviced, their immunisation will be postponed.
- People who are known to have COVID-19 and people who have been in close contact in the last 10 days with the people who have COVID-19 will be handled according to the instructions of the Health Board and their immunisation will be postponed.

4. Requirements for handling COVID-19 vaccines

- The transport, storage and usage of the COVID-19 vaccines and the disposal of the vaccines that have become unusable shall be carried out on the basis and in accordance with the procedures provided for in the Medicinal Products Act and in accordance with the requirements established by the marketing authorisation holder or the manufacturer.
- When using the multi-dose vials of vaccines, aseptic technique and cold chain should be ensured during every time they are being used.
- Once opened, the multi-dose vials of vaccines should be stored in accordance with the requirements of the marketing authorisation holder or the manufacturer. The opened multi-dose vial of vaccine may be used within the period of time specified by the marketing authorisation holder or the manufacturer (see Annex 2).
- The time of opening the multi-dose vial and the time period of authorised use must be indicated on the package.
- The person administering the immunisation must be previously informed of the requirements for handling the vaccine.

5. Patient servicing requirements

- Immunisation should be preceded by the identification of temporary and permanent contraindications to immunisation, for which the health care professional performing the immunisation is responsible. The person administering the immunisation shall explain to the patient or their legal representative why the immunisation is necessary, inform them of any side effects that may occur with the immunisation and advises them on other issues related to immunisation.
- Prior to the immunisation, the patient will be given the vaccine package leaflet and other information materials.
- To prevent traumas related to fainting, the patient gets the injection while sitting down.
- At the vaccination centre, the patient is monitored for 15–20 minutes after the vaccination.
- In the event of post-vaccination health problems, the patient may, if necessary, seek the advice of the person who injected them with the vaccine or their family doctor or call the Family Doctor's Advice Line 1220. In critical cases, an ambulance must be called (tel. 112).

6. Anaphylaxis treatment guide

- Place the person lying down, legs higher and in case they are unconscious place them on their left side.
- Ensure a clear airway and if possible, administer oxygen.

- Administer adrenaline 1 mg/1 ml solution for injection² intramuscularly 0.5 ml/dose.
- If the condition does not improve, the dose of adrenaline may be repeated at 5-minute intervals.
- An ambulance must be called as soon as possible (tel. 112) and the patient must be hospitalised. Even if the condition improves with the initial treatment, recurrent episodes of anaphylaxis within 24 hours cannot be ruled out.
- If necessary, start with ABC techniques for resuscitation: compression to ventilation ratio of 30:2.
- Establish a venous access immediately after the administration of adrenaline. To fill the volume, infusion treatment with 0.9% NaCl solution, 1–2l for an adult. Repeat the bolus if necessary.

Annex 5. Procurement of COVID-19 vaccines for Estonia

Estonia participates in the EU joint procurement of COVID-19 vaccines. For conducting the joint procurement there is an agreement³ with the annex⁴ authorising the European Commission to procure COVID-19 vaccines on behalf of the Member States. Representatives of all Member States participate in the EU Joint Procurement Steering Committee.

There are eight vaccine candidates in the EU's common vaccine portfolio. As of 06.04.2021, the European Commission has concluded pre-purchase agreements with the following vaccine manufacturers: AstraZeneca, Sanofi, Janssen Pharmaceutica NV, Pfizer/BioNTech, Curevac and Moderna. It is possible to decide on joining the Sanofi pre-purchase agreement later, for now Estonia has joined the remaining pre-purchase agreements, which had to be decided on within five working days of sending the agreement to the EU member states. Pre-purchase agreements for the vaccine manufacturers Novavax and Valneva have not yet reached the EU Member States.

Table 4. Vaccine manufacturers in the EU vaccine portfolio whose pre-purchase agreements Estonia has joined or plans to join and the technologies on which their vaccines are based.

Manufacturer	Technology	Number of doses for	Number of people
AstraZeneca	adenoviral vector	1,330,000 doses	665,000
Sanofi	protein-based	600,000 doses*	300,000
Janssen Pharmaceutica NV	adenoviral vector	300,000	300,000
CureVac	mRNA	659,383 doses	329,692
Moderna	mRNA	234,467 doses + 10,000 additional doses	117,234 + 5,000
Pfizer/BioNTech	mRNA	603,876 doses + 350,000 additional doses + 293,084 additional	301,938 + 321,542

²The ampoule may have an indication that it is a 0.18% solution. This means that 1 ml of solution contains 1.8 mg of adrenaline bitartrate, equivalent to 1 mg of adrenaline. No dose adjustment is required.

³https://ec.europa.eu/info/sites/info/files/decision_approving_the_agreement_with_member_states_on_procuring_covid-19_vaccines_on_behalf_of_the_member_states_and_related_procedures.pdf

⁴https://ec.europa.eu/info/sites/info/files/annex_to_the_commission_decision_on_approving_the_agreement_with_member_states_on_procuring_covid-19_vaccines_on_behalf_of_the_member_states_and_related_procedures.pdf

Novavax	protein-based	293,084 doses*	146,542
Valneva	inactivated	88,000 doses*	44,000
OVERALL		4,761,894	2,530,948

*– pre-purchase agreements for which the distribution of doses between Member States has not yet been finally agreed upon and may therefore change or a pre-purchase agreement has not yet been concluded.

With the approval of the Government of the Republic, Estonia plans to join pre-purchase agreements of all vaccine manufacturers in the EU vaccine portfolio, similarly to other Member States, in order to mitigate potential risks that may arise when applying for an EU marketing authorisation or producing or supplying a vaccine. The need to purchase additional vaccines will be assessed at the time of each decision to join the contract or when ordering additional doses.

Not all characteristics and effectiveness of the vaccines are known in detail before the EU marketing authorisation is granted, including for how long the vaccination will provide immunity and for which age groups one or the other vaccine will be effective. It is expected that the quantities of vaccines arriving to Estonia can be distributed over several years. The amounts of vaccine that are remnant can be resold or donated.

It is unlikely that COVID-19 vaccines will widely reach the private market in the near future or the quantities will be small and expensive. Many countries enter into pre-purchase agreements with reputable vaccine manufacturers already before they are granted a marketing authorisation.

Annex 6. Probability of hospitalisation due to COVID-19 disease by age groups

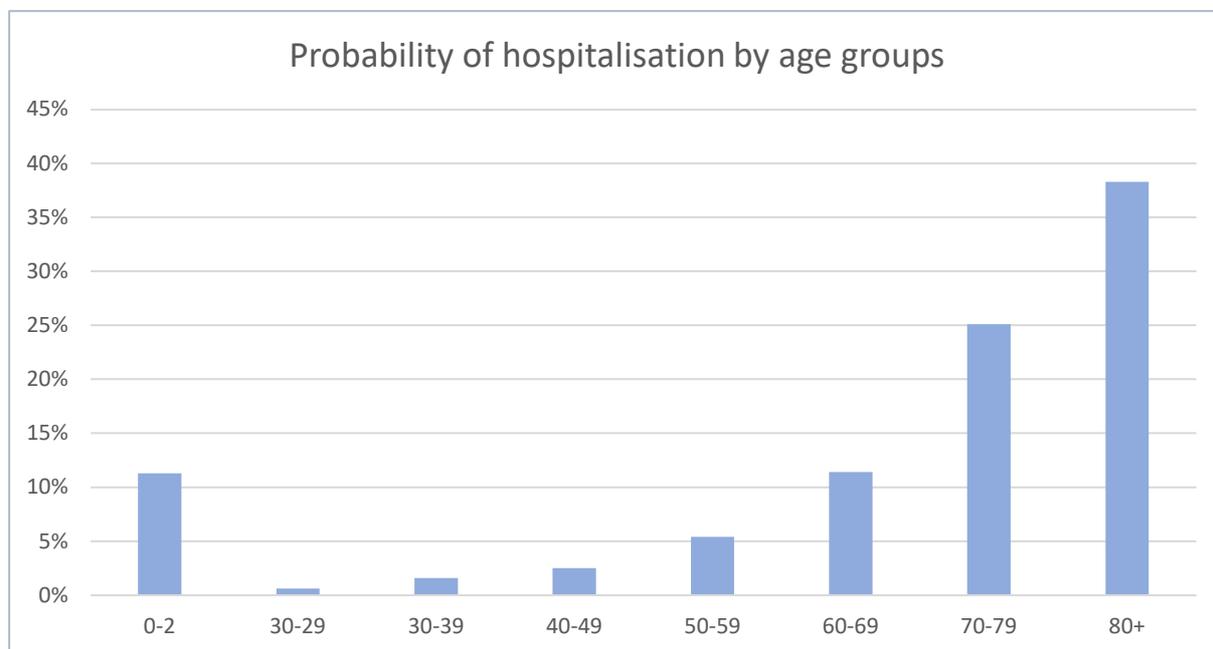


Figure 3. Probability of hospitalisation due to COVID-19 disease as of 8.04.2021. *Source: TEHIK*