THE ORGANIZATION AND DELIVERY OF
VACCINATION SERVICES IN THE EUROPEAN UNION

ESTONIA

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Estonia

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Governance

The Ministry of Social Affairs is responsible for developing and overseeing implementation of the national immunization schedule and programmes. It is also responsible for developing and implementing the national immunization policy, and organizes the procurement of vaccines and immunoglobulins to fulfil the immunization schedule. Furthermore, it coordinates the implementation of the immunization schedule, immunization pursuant to emergency care, and immunization necessary for the prevention of an epidemic of a communicable disease.

The Ministry of Social Affairs also coordinates the activities of the Health Board and the Medicines Agency. The Health Board organizes the distribution of vaccines and immunoglobulins, carries out immunization surveillance and monitors immunization coverage. The Medicines Agency issues marketing authorizations for medicines (including vaccines and immunoglobulins) and carries out their safety and quality monitoring.

The national health insurance fund (Estonian Health Insurance Fund) is involved in immunization mainly through the financing of primary health care and school nursing. From 2019 it is planned that the Estonian Health Insurance Fund will take over the Ministry of Social Affairs' responsibility for organizing vaccine procurement.

The Communicable Diseases Prevention and Control Act regulates immunization in Estonia. Vaccines that are included in the national immunization schedule and emergency vaccinations are nationally organized and

publicly funded. Vaccinations that are not included in the immunization schedule are governed by the same legislation, but the state does not organize or finance these vaccines.

The national immunization schedule includes vaccines for children against 12 diseases: tuberculosis, hepatitis B, rotavirus, diphtheria, tetanus, whooping cough, **measles**, mumps, rubella, polio and *Haemophilus influenza* type B (Hib); the HPV vaccine has also been added to the state vaccine schedule for girls starting from 2018. For adults, a diphtheria and tetanus vaccine is included in the immunization schedule every ten years.

Adult vaccination against **influenza** has not been added to the immunization schedule; nevertheless, a health technology assessment (HTA) was conducted in 2014 by the Tartu University Department of Public Health to evaluate the impact of seasonal influenza vaccination by analysing the costs and cost-effectiveness of a nationwide vaccination of population-based target groups in Estonia. The analysis concluded that a national influenza vaccination programme for population-based risk groups would reduce both the number of influenza cases, including severe cases requiring hospitalization, and illness-related costs in both young children and older adults. Nevertheless, as of 2018, political commitments have not been made to add adult influenza vaccines to the national immunization schedule.

A National Immunization Technical Advisory Group advises the Ministry of Social Affairs on issues and decisions concerning state immunoprophylaxis. The expert group consists of representatives of the Ministry of Social Affairs, the Health Board, the State Agency of Medicines, the Estonian Health Insurance Fund, the Estonian Society of Family Physicians, the Estonian Society for Infectious Diseases, the Estonian Society of Paediatricians, the Union for Child Protection, the Estonian Nursing Association and the Immunologists and Allergists Society.

Vaccination is voluntary in Estonia. The parent or legal guardian of a child or a person with restricted legal capacity decides about the vaccination of that person. Before performing the vaccination, the health care professional checks the health of the patient and finds out whether or not they have permanent or temporary contraindications for vaccinations. In case of contraindications, vaccination is not performed or is temporarily postponed.

Vaccinations can only be carried out by a medical professional (doctor, nurse or midwife) who has completed special training. National guidelines for medical professionals have been developed to ensure safe vaccinations.

Newborns are vaccinated at the hospital after delivery according to the national immunization schedule. The family doctor or nurse is responsible for vaccinating persons on their patient list according to the immunization schedule. School-aged children and adolescents receive vaccinations at school and the school nurse carries out these vaccinations according to the national immunization schedule. Post-traumatic anti-tetanus immunizations are carried out in the emergency medical departments in hospitals. Other immunizations are provided by outpatient clinics for infectious and travel medicine, women's clinics and/or private practices.

Before each vaccination in the school, the school nurse must ask for written consent from the parent of the child even if it has already been granted for the child's admission to the school. Parental consent helps to avoid any contraindications. If the family does not want to vaccinate their children, this must be confirmed in writing. This is also mandatory when vaccinations conducted by the primary care provider are rejected.

There are no sanctions for parents or people who have decided to reject vaccination according to the immunization schedule. Nevertheless, there is a continuous media monitoring and communication strategy on increasing vaccination coverage among the population.

The Health Board supervises health care providers. The purpose of supervision is to ensure:

(a) the quality, effectiveness and safety of immunological products at all stages of their handling;

(b) compliance with the immunization procedure (safety) requirements; and

(c) completion of the immunization programme.

The Health Board monitors vaccination coverage and is responsible for overseeing the level of coverage in the country. The vaccination programmes are not based on population registries. All health care providers need to report vaccinations to the Health Board (including measles and influenza). For vaccines that are included in the national immunization schedule (measles), the health care

provider needs to report to the Health Board the number of persons in the target group and the number of persons vaccinated. This means that health care providers, such as primary care providers and school nurses, use their own patient lists as the basis to define the target groups. The coverage of the national health schedule vaccines is not calculated based on the national population registry, because of the quality of the data in the national population registry; it is assumed that it includes people who are not actually resident in Estonia. Nevertheless, for calculating influenza vaccine coverage, the Health Board uses the population registry. There are no specific target measures for population groups other than the threshold of covering 95% of children with vaccinations included in the immunization schedule. By the end of 2017, 95% of children aged 1–14 years were vaccinated against measles. Around 50 000 persons were reported to have received an influenza vaccine during 2017, out of a total population of approximately 1.3 million.

The Health Board provides a statistical overview of all immunizations and reports on the vaccination schedule four times a year. An overview of vaccination coverage is published annually on the Health Board's website and on the official national website for vaccinations: vaktsineeri.ee. On the basis of the reports, the Health Board draws up and reports data on immunization to the World Health Organization and to the European Commission. Based on these reports, the Health Board monitors immunization trends and assesses their impact on the epidemiological situation in the country. If necessary, the Health Board submits proposals for changes to the immunoprophylaxis programmes or for new activities.

The Health Board monitors the storage, distribution and transportation of immunological products in accordance with the requirements of the cold chain. Supervision of health care professionals includes, for example, a check on whether the medical professionals who are providing the vaccinations have received appropriate training and whether all vaccinations have been provided, recorded and documented in an accurate and timely manner. The Health Board also checks whether the immunizations are conducted according to the national immunization schedule, especially whether they are provided in a timely manner.

The State Agency of Medicines carries out safety and quality monitoring of medicines, including immunological products, to ensure that they meet quality and safety requirements. Post-marketing safety and quality monitoring of medicinal products is subject to adverse reaction reports from health care professionals. Health care professionals carrying out vaccinations are required to submit a notification to the State Agency of Medicines regarding all serious adverse reactions. In addition, every person can report an adverse reaction to the State Agency of Medicines. All non-serious adverse reactions are reported to the Marketing Authorization holder of the vaccine. All alert notifications received by the State Agency of Medicines are registered, identified and entered into the database. Information on adverse reactions is analysed, forwarded to the Marketing Authorization holder, the World Health Organization and the European Medicines Agency. The State Agency of Medicines publishes an overview of adverse drug reactions, including vaccines, on its website annually.

Provision

Childhood vaccinations against measles are provided at the ages of 1 and 13 years. It is a combined vaccine for measles, mumps and rubella. The first vaccine is most commonly provided by the primary care provider during a child's regular health check-ups. Family doctors are motivated to actively invite parents for child check-ups, including vaccinations, because they are a part of the quality bonus system. Health check-ups for children are mandatory for certain age groups (at 1 month, 3 months, 12 months, 2 years and pre-school) and these mostly align with the immunization schedule. School nurses mostly provide the second vaccination at the age of 13.

Since influenza vaccinations are not included in the national immunization schedule, these vaccinations are not organized at a national level. Any health care provider that has medical professionals with appropriate training can perform the vaccinations. Primary care providers or ambulatory clinics specializing in infectious and travel medicine mostly perform the influenza vaccinations.

It is mandatory for the health care provider to register all immunizations in writing or in the electronically stored immunization booklet and enter them on the health record, which, according to the most recent developments, automatically adds the data to the digital immunization booklet. An immunization certificate is issued to newborn babies on the maternity ward; for other persons the family physician or other health care provider issues the certificate. The written consent or refusal of the parent or legal representative is kept on the patient's health

records. Since Estonia has National Health Records, this information is then accessible for all health care providers in the country.

Pharmacies have not participated in vaccination programmes in the past. They are allowed to sell vaccines but, generally, pharmacies have not been allowed to vaccinate. However, in the autumn of 2018, a pilot programme was launched, allowing to provide influenza vaccinations in pharmacies during a one-month period.

Financing

All vaccinations included in the national immunization schedule, including measles, are free of charge at the point of delivery. Vaccinations not included in the immunization schedule and performed at the person's request (or on the recommendation of a doctor) are paid for out-of-pocket.

Vaccines are procured at the national level and distributed to the service providers. Until 2018, the Ministry of Social Affairs has financed vaccines from the state budget. From 2019 the Estonian Health Insurance Fund will be responsible for covering the costs of vaccines. The Estonian Health Insurance Fund is funded through social health insurance contributions in the form of an earmarked social payroll tax. Since all children are entitled to health insurance, there are no gaps in vaccination coverage as a result of having no health insurance.

Primary care and school health care are also free of charge for insured people in Estonia, which means that there is also no co-payment at the point of service delivery when receiving vaccinations. Vaccination costs are included in the capitation payment for primary care and school nursing. In primary care the providers are also incentivized with a quality bonus system to increase vaccination coverage.

Vaccines that are not included in the national immunization schedule, such as influenza, need to be paid fully out-of-pocket. The person would need to purchase the vaccine and, if the vaccination is not done by the primary care provider, might need to pay for the immunization as well. Vaccination in the outpatient centres providing immunization services are carried out on the basis of a price list set by the provider.

Employers are responsible for financing their employees' immunization and prophylactic treatment necessary for the protection of their health in those occupations where they are at risk of infection (including placement, foreign missions of military and civil structures, etc.).

The municipalities can finance the prevention and control of communicable diseases (including vaccinations), but this is rather rare. The Communicable Diseases Prevention and Control Act makes it possible for the Estonian Health Insurance Fund to finance vaccines, but so far this option has not been used.

Key barriers and facilitators

The main facilitator of vaccination coverage against measles is its inclusion in the national immunization schedule, which enables access to vaccination for all children free of charge. Vaccination is part of primary health care and health care provided at schools, which means that it is easily accessible. Primary care providers are interested in high coverage rates, because it is part of their quality bonus system. Furthermore, since there is a surveillance system in place for monitoring coverage, it is possible to take immediate action if coverage starts to decrease.

A barrier in the current system is the increase in the number of patients or their representatives who decline vaccination because of unfounded concerns. Although there is continuous communication on a national level explaining the need for vaccinations, the number of children under 2 years receiving measles vaccination is decreasing. Greater stakeholder involvement including primary care providers and other medical personnel might increase trust in vaccinations.

Adult influenza vaccination coverage is extremely low in Estonia. Although population-based vaccination of risk groups has been assessed as cost-efficient, no political commitments have been made to add adult influenza vaccines to the national immunization schedule. The high vaccination service charge might be an additional barrier for increasing coverage.

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