

# Healthcare trends in Estonia

*What changes should people be prepared for in the near future in terms of the organisation of the healthcare system, the availability and level of services? An overview of the audits of the National Audit Office*



# Healthcare trends in Estonia

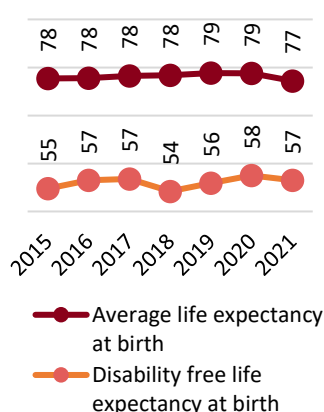
*What changes should people be prepared for in the near future in terms of the organisation of the healthcare system, the availability and level of services? An overview of the audits of the National Audit Office*

## Summary

### For your information,

life expectancy has increased in the decades following the restoration of Estonia's independence (in 2021 there was a decrease due to COVID-19). The indicator of disability free life expectancy at birth has also improved.

Both indicators have grown more slowly than expected in recent years, and there is a gap between men and women in both:



Source: Statistics Estonia

Mainly because of a shortage of healthcare professionals and partly also because of the lack of finances, people in Estonia will probably have to accept in the near future that the availability and/or quality of health services will not be uniformly at the expected level. However, the decisions necessary for functioning under the new conditions and for reorganisation are still pending.

\* \* \*

As Estonia is a country with a shrinking and ageing population, where it is predicted that one in four people will be of retirement age by 2035, and the growth rate of disability free life expectancy has so far been slower than expected, a greater need for medical services and resources is foreseeable in the future.

The long-term development strategy "Estonia 2035" adopted by the Estonian Parliament (Riigikogu) states that Estonia spends 6.7% of GDP on healthcare, which is, however, almost three percentage points below the average of the European Union, and even if the current level of services is maintained, the Estonian Health Insurance Fund's costs will increase almost 24% faster than revenues by 2035.<sup>1</sup> The Foresight Centre is a think tank of the Riigikogu that analyses long-term developments in society and the economy. Its 2020 analysis states that citizens' co-payments could double by 2035, queues for treatment will become longer and the Health Insurance Fund's budget will reach a deficit of 900 million euros if no changes are made to the system.<sup>2</sup> Therefore, the discussion on the topic of revising the financing principles of health insurance will probably become increasingly urgent in the near future (see overview of financing in Appendix A).

Over the years, the National Audit Office has often highlighted the ills of the healthcare system, stressing that timely identification of health problems, starting treatment and getting it right are central to extending healthy life expectancy and improving people's quality of life. Healthcare is an area that affects all aspects of social life, because human capital is the greatest asset of any country, and it must be preserved and developed.

<sup>1</sup> "Estonia 2035" strategy. 2021.

<sup>2</sup> The future healthcare in Estonia. Scenarios up to 2035. Foresight Centre, 2020.

This year's annual report provides Parliament with a comprehensive overview of changes and future trends in the issues that the National Audit Office has analysed in audits of the healthcare sector since 2015.

### **1. In the healthcare sector, the worsening shortage of healthcare professionals has become a bigger problem than the lack of money.**

The shortage of healthcare professionals has become one of the central problems in the healthcare sector. There is a particularly high shortage of nurses, psychiatrists, emergency medicine doctors and family physicians. Overtime is also widespread in the healthcare sector. Various crises have further increased the risk of a shortage of healthcare professionals, as well as overload and burnout among them. The shortage of healthcare professionals and their overload have been talked about for a long time, but there is no quick solution in sight – if anything, the problems are getting worse. Here are some examples.

#### **For your information,**

in the first half of 2022, there were 54 lists having substitute doctors, with a total of approximately 72,500 patients.

For comparison: broken down by region, in 2022 there were, for example, 9 lists with substitute doctors in Lääne-Viru County, 8 in Harju County, 6 in Võru County, 5 in Pärnu, Valga and Saare Counties, 4 in Rapla and Viljandi Counties and fewer in other counties.

- **The number of lists without family physicians is increasing, and the temporary substitute doctor in family medical care is becoming an increasingly permanent phenomenon.** In the 2020 annual report, the National Audit Office pointed out that there are more family physicians retiring than the vacancies can be filled. Nearly half of all family physicians were and are 60 years old or older, i.e. they are already at retirement age or can retire in the near future if they wish. It is becoming increasingly difficult to find new doctors for the family physician list: in the first half of 2022, nearly 75% of family physician competitions failed. In the same period, 54 lists had a substitute doctor, of which 13 lists have had a temporary solution for five or more years. For patients, this may mean that the substitute doctor is not there for them when needed and does not know the patients on the list well enough. The increase in the proportion of substitute doctors contradicts the essence of family medical care.

The Family Physicians Association of Estonia, the Health Board, the Estonian Health Insurance Fund, and the Ministry of Social Affairs consider the optimal size of the family physician list to be 1,600 people. According to this, there is a shortage of at least 45 family physicians in Estonia.

#### **Health reports of the National Audit Office:**

- ["Detection of malignant tumours and referral of a patient to treatment"](#) (2021);
- ["Audit dental care benefit"](#) (2021);
- ["Annual report by the National Audit Office to the Parliament"](#) (2018, 2019, 2020);
- ["Emergency medical care"](#) (2018);
- ["State's activity upon treating and maintaining the health of children"](#) (2016);
- ["State activity in organising independent nursing care"](#) (2015).

- **Psychiatrists and other mental health specialists would be needed, but it is difficult to maintain the current level.** According to the National Institute for Health Development, 222 psychiatrists worked in Estonia in 2021, including 18 child and adolescent psychiatrists. So there were approximately 15 psychiatrists per 100,000 people. In 2019, this ratio was 16, and then the Estonian Psychiatric Association estimated that 30–40 more psychiatrists were needed. Additional 130–160 clinical psychologists would be needed for primary (first contact) care level. There is also a shortage of school psychologists and mental health nurses.

In addition to the actual need described above, maintaining the current number of specialists has also become a problem. Half of the psychiatrists are already of retirement age or will soon reach it. Therefore, the shortage of psychiatrists is very great and one can speak of a labour crisis in this area.

The recent increase in the training mandate for healthcare professionals has been important, but it was done too late. There are also difficulties in filling study places in some disciplines because the work is stressful and this discourages young people from choosing a profession. In addition, not all students complete their studies and education takes a long time. Therefore, an increased number of study places will not help to alleviate the need for healthcare professionals in the near future. The training mandate needs to be increased in the future, and it is important to make the less popular specialties more attractive. It is necessary to bring forth an innovation with which it will be possible to somewhat reduce the need for human labour.

## **2. Disease prevention and early detection have received little attention in recent years.**

Untreated diseases will be reflected in people's lost years of life and work in the future. As a result, treatment time is prolonged, the risk of complications increases, people are removed from an active life, and the financial burden on the healthcare system increases.

The National Audit Office has investigated changes in children's participation in medical examinations, school healthcare, and vaccinations, and in adults' participation in screenings and visits to the dentist. In these matters, the situation has not improved in recent years. Furthermore, health promotion was not sufficiently addressed during the pandemic COVID-19 and more attention needs to be paid to this area in the future.

- **Children's health problems go unnoticed because a large number of children do not go for medical examinations.** The state has prescribed medical examinations at specific intervals for early discovery of illnesses. While 88–96% of children of up to 2 years of age underwent regular medical examinations, the number was only 6% among 3–6-year-olds. However, 43% of children between the ages of 3 and 6 remained completely out of sight of a health care professional for years, because they never underwent a medical examination.
- **Early detection of health problems is also hindered by the lack of school nurses.** Because a school-age child spends a large part of their day in school, both health promotion and monitoring of health should be a part of the school life for all children. The established requirement – one school nurse per 600 pupils – cannot be met everywhere. For example, in 2021, among 90 schools, there were 55 schools with more than 600 pupils, and only one school nurse was serving them. In 2016, there were 42 such schools. One reason for the worsening situation is the general shortage of nurses.

### For your information,

The World Health Organisation has set goals for vaccination with four vaccines, none of which Estonia meets.

| Disease to be vaccinated against | WHO's objective | The proportion of people vaccinated in 2021 |
|----------------------------------|-----------------|---|
| Diphtheria and tetanus           | 95%             | 89.5%                                       |
| Pertussis                        | 90%             | 89.5%                                       |
| Poliomyelitis                    | 95%             | 89.5%                                       |
| Measles, mumps, rubella          | 95%             | 89.4%                                       |

- **Refusal to vaccinate children is increasing and this can lead to the return of dangerous diseases.** As a result of previous successful vaccination, quite a few dangerous diseases have almost disappeared from Estonia. Unfortunately, the refusal of vaccination has increased. Depending on the vaccine, in 2014 there were 1.9–3.5% of people who refused vaccination, but in 2021 the number had increased to 3.8–7.8%.<sup>3</sup>
- **The dental care benefit, where everyone is treated equally, has increased inequality in dental care.** Following the entry into force of the dental care benefit for adults in 2017, the number of people attending the dentist for the first time and the number of people who visited the doctor more often increased. However, the benefit was used more by people with higher incomes who would be able to pay for dental care themselves. On the other hand, between 2016 and 2021, about 40% of adults, mostly people with lower incomes, never visited a dentist. Only about 4% of recipients of subsistence benefits claimed dental care benefit.

Inequalities in dental care have increased because current benefit conditions do not protect people with high medical needs from high healthcare costs. For a person in high need for treatment who has to visit the doctor repeatedly, the total co-payment is 70–85%. People with lower incomes cannot afford such a high co-payment. It would help them if the income and healthcare costs of each individual were taken into account when granting benefits.

- **Participation in cancer screening tests is low, and the start of cancer treatment is delayed.** Although every week that treatment is delayed reduces a cancer patient's chance of survival by 1–3%, cancer in Estonia is often discovered at a later stage. Poor participation in health screening is one of the reasons why malignant tumours are detected too late. Participation rate in screening is considerably below the 70% agreed in the Cancer Control Plan, reaching 59% for breast cancer, 51% for cervical cancer and 48% for colorectal cancer in 2021.

Even after a malignant tumour has been detected, there still might be delays in treatment at different stages. According to the Cancer Control Plan, the duration of the patient's pathway from cancer suspicion to first treatment should be a maximum of 63 days. In reality, only breast cancer patients started cancer treatment on time (within 52 days, on average). It took approximately 100 days for cervical and lung cancer patients and 122 days for colorectal cancer patients.

### 3. Access to health services is still inconsistent across counties and specialties.

In an international comparison, people in Estonia rate their unmet need for health care highest compared to estimates from other countries in the European Union. At the same time, treatment started at the right time is more effective and less costly, while later treatment reduces the number

<sup>3</sup> The most important diseases mentioned in the national vaccination schedule have been considered, excepting COVID-19.

of disability free life expectancy, increases the subsequent volume of health services and requires more complex treatment. Already, the limited availability of specialist care and family medical care means that patients who should be treated either in a hospital or by a family physician end up in inpatient nursing care and in the Emergency Medicine Department (EMD).

- **Estonia is estimated to have the greatest unmet need for health care in the European Union.** Although the unmet need for health care as estimated by the Estonian population has somewhat decreased in 2021 compared to previous years, it is still the largest in Europe (12.6%, the average of the European Union countries was 4.8%). Due to the lack of healthcare professionals and other resources, people cannot get to a doctor on time as queues for treatment are long.

In Estonia, the maximum length of the waiting list for outpatient specialist care is 42 days. In 2021, 23% of patients who made an initial reservation did not arrive at their appointment within this time. In reality, the waiting time for an appointment can be longer than the measurable length of the queue, as in some cases it is not possible to book an appointment because there are no free appointments.

- **The EMD continues to be the place to address bottlenecks at other levels of health care, but it is expensive and a burden on the system.** 57% of visitors to the emergency medicine department have minor health problems and mostly do not need the EMD service. The main reason for this is the patchy availability and inconsistent quality of family medical care and the long queues for specialist care. However, this leads to overwork in emergency medicine departments, which prevents the rapid admission of patients requiring emergency care.
- **Patients with increasingly complex conditions come to inpatient nursing care.** The reason for this trend is the deficient availability of specialised and family medical care. Due to the shorter duration of inpatient treatment, the patient is referred to nursing care more quickly. Family physicians often do not assess whether patients with these more serious health problems need nursing care or do not update their treatment plans.

In addition, in nursing care, the problem for people is the high co-payment, which is why they cannot always afford the service at the desired time or in the necessary volume. COVID-19 also affected the availability of inpatient nursing care, as some hospitals temporarily removed beds to use them for treating patients with COVID-19.

However, the aforementioned bottlenecks create additional tasks for nursing care. It is positive that the availability of home nursing has increased. However, its further expansion is limited by the shortage of nurses.

#### **4. There is a big gap between the goals of the health sector and the actual possibilities and results.**

There is a relatively broad consensus on the directions and goals of the health policy formulated in the "Estonia 2035" strategy and the Public

Health Development Plan. Beneath the surface, however, lurk many unresolved questions or even contradictions. In other words, the plans are ambitious, but the way to reach the goals has not yet been determined and/or for related reasons (weak leadership and coordination, lack of resources), there is no agreement on how to reach the finish line.

- **There are major challenges, such as ensuring the sustainability of healthcare financing or reforming the hospital network, for which the solutions have been too slow.** The development of hospital network is a critical area where policy is stuck in the research or analysis phase. The last hospital network development plan ended in 2015, but it is not known when the new plan will be completed. The problem is that there is no agreement on the optimal number and location of hospitals for Estonia now and in the future. At the same time, the number of specialties in county hospitals has decreased due to the lack of healthcare professionals.
- **The healthcare sector is characterised by solving problems in small steps, but people expect more.** For example, the development of e-solutions and telemedicine services, as well as the review of treatment pathways, are welcome developments that help to address concerns about inconsistent access to health services. However, it does not solve the main bottleneck that hampers the provision of health services – there is still a shortage of healthcare professionals. Gradual changes bring us closer to the goals, but, as long as fundamental decisions at the level of the system are not made, the impact of individual development projects is limited and temporary solutions become permanent, there is a risk of duplication, etc.

## What next?

The most general question is how to reduce the gap between the vision of health development plans and actual results.

**In Estonia, it is not analysis or the big picture that is lacking, but the ability and courage to implement the agreed goals.** Major problems must be addressed actively and comprehensively at every level of decision-making. First of all, this requires very good administrative skills. Capacity development must be a deliberate and systematic activity, the bar must be raised in all aspects of administrative capacity: the presence of experts, their knowledge and skills, well-functioning institutions and processes, money, etc. Secondly, addressing the major challenges in the health sector requires a clear will and decisive leadership.

Ultimately, the question boils down to whether or not society has time to postpone the resolution of known decision points. Success is not always guaranteed when the action is taken. At the same time, it is quite certain that not taking decisions will lead to having to make concessions on the quality and availability of health services.



## Table of contents

|  |           |
|--|-----------|
| <b>Disease prevention must be assessed and developed more systematically</b>   | <b>8</b>  |
| Children's participation in medical examinations is still poor in certain age groups   | 8         |
| Refusal to vaccinate children is on the rise   | 13        |
| The adult dental care benefit has not reached the people who need state support the most   | 14        |
| Only half of those invited go to cancer screenings   | 15        |
| <b>The availability of health services is patchy regionally and by speciality</b>  | <b>18</b> |
| The Ministry of Social Affairs has not decided which health services must be available at the county level   | 18        |
| Not everyone gets to see a medical specialist in time  | 20        |
| Emergency medicine departments are still burdened by people who do not need urgent care  | 23        |
| Due to the labour shortage, changes in the organisation of family medical care are inevitable  | 26        |
| Inpatient nursing care has more and more seriously ill patients, and the volume of home nursing care has increased considerably                            | 31        |
| A unified approach is needed to design a unified treatment pathway, incl. e-Health support   | 36        |
| <b>Healthcare personnel problems cannot be solved quickly</b>  | <b>41</b> |
| The need for healthcare professionals is huge  | 41        |
| The shortage of staff is compensated by overtime, but this can lead to a deterioration in the quality of treatment   | 45        |
| The preparation of the next generation of healthcare professionals has been hampered by both the lack of interest of students and the lack of study places | 47        |
| <b>Previous healthcare audits of the National Audit Office</b>   | <b>51</b> |
| <b>Appendix A. Overview of health financing</b>  | <b>52</b> |
| <b>Appendix B. Childhood vaccination statistics</b>  | <b>56</b> |
| <b>Appendix C. Emergency queues</b>  | <b>57</b> |
| <b>Appendix D. Family physician advice line</b>  | <b>58</b> |
| <b>Appendix E. Inpatient availability of nursing care by county per person aged 65 and over and number of bed days per patient in 2021</b>                 | <b>62</b> |

## Disease prevention must be assessed and developed more systematically

### For your information,

evidence-based and well-designed preventive measures, together with the necessary money, personnel and quality system, help to achieve the country's public health goals. The need for them was emphasised by the National Audit Office in the 2016 audit "[State's activity upon treating and maintaining the health of children](#)." The 2021 audit "[Detection of malignant tumours and referral of a patient to treatment](#)" also deals with the need to implement a quality system.

### For your information,

**children are scheduled for regular medical examinations to monitor their health status.** The goal is to discover possible health problems and, if necessary, advise the family in order to develop healthy eating and exercise habits for the child.

The frequency of medical examinations and their provider are specified in the **children's health monitoring guide**.

Medical examinations of children are **pre-school** children are carried out each year by either by a family physician or a family nurse. The interval of medical examinations for children up to two years of age is more frequent.

The health of **school-age** children is checked by both school nurses and family physicians.

### Participation of pre-school children in medical examinations

the **patient portal** is a part of the e-health system through which patients can view their health records, submit their requests, etc. The main page of the portal is <https://www.digilugu.ee>.

1. The National Audit Office has investigated whether the situation regarding children's medical examinations and vaccinations has improved in recent years and whether adults participate in screenings and visit the dentist. The first chapter of the report reveals that the situation has not improved. There has even been some retrogression in the vaccination of children. Furthermore, it turns out that it was not possible to carry out health promotion activities under the conditions of the pandemic COVID-19. These observations are described in more detail below.

### Children's participation in medical examinations is still poor in certain age groups

2. In 2016, the National Audit Office evaluated the State's activities to ensure children's health. According to the audit "[State's activity upon treating and maintaining the health of children](#)", monitoring of children's health was not coordinated, very few age groups participated in medical examinations, and school-age children did not receive unified school health services. Systematic monitoring of the children's health and consistent treatment were also not guaranteed.

3. There is no obligation to participate in medical examinations in Estonia. The responsibility to look after the child's health and to attend medical examinations lies with the parents. Family physicians and nurses, as well as state institutions, such as the Ministry of Social Affairs, the Health Board, and the Estonian Health Insurance Fund, are concerned with raising the parents' awareness of the necessity of medical examinations and other issues related to keeping the child healthy. For example, doctors and nurses can advise parents and remind them of the deadlines and the need for medical examinations.

4. In the audit of treating and maintaining the health of children completed in 2016, the National Audit Office recommended that the Health Insurance Fund and the Ministry of Social Affairs revise the Children's Health Monitoring Guide in collaboration with experts to better coordinate the child health monitoring and ensure regularity and more accurate targeting of activities. In 2019, a new version of the [Children's Health Monitoring Guide](#) was finalised, specifying the content of the service, the age of the children attending the medical examination, etc.

5. According to the family physicians, the next step in this guide should be to specify the questionnaires for assessing the child's health and, furthermore, to integrate the algorithms needed for diagnosis into the family physicians' information systems.

6. A faster medical examination and a more thorough check-up of children would be supported if parents fill in the child health assessment questionnaire in advance, which is available to doctors via the **patient portal**. This is not the case at the moment. There is also no reminder system that would automatically send parents a (repeated) invitation before the deadline for the medical examination and thus contribute to higher attendance at medical examinations.

7. The quality system of family physicians includes indicators that are used to assess the participation of children of a certain age in medical examinations. The family physician may receive additional fee if the attendance of children at the medical examination is at least average in the age groups defined in the quality system. In the past, the participation of the age groups of children who were part of the quality system in the medical examination was at a good level.

### For your information,

The National Audit Office did not evaluate the participation in the medical examination of the target groups mentioned in the quality system of the family physician (see appendix on the website of the Health Insurance Fund) (examination at 1, 3 and 12 months and 2 years; the pre-school medical examination at 6, 7 or 8 years), as the Health Insurance Fund has such an analysis for the period 2017–2019. According to the Health Insurance Fund, the participation of the above-mentioned target groups in medical examinations was around 88.7–96.1%.

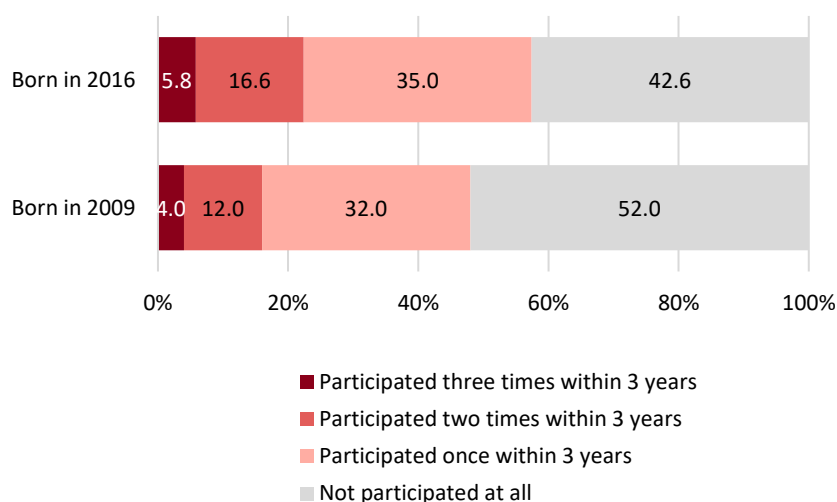
The National Audit Office audit in 2016 found that 85–93% of children up to the age of 2 had attended the medical examination. The National Audit Office did not separately assess attendance at the pre-school medical examination in the previous audit. However, it can be generalised that the percentage of participation of up to 2-year-olds has not changed significantly in the meantime and is still high.

8. The National Audit Office investigated participation in medical examinations among pre-school children (3–5(6) years old). These age groups do not belong to the target groups of the family physician's quality system and are not paid any additional fee.<sup>4</sup> According to the Health Insurance Fund, children born in 2016 (who do not belong to the target groups of the family physician's quality system due to their age) were medically examined in 2019–2021.

- once – 35%;
- twice – 16.6%;
- three times – 5.8%.

9. In the past, these participation rates were somewhat lower. Nevertheless, the current rate of participation in medical examinations for children aged 3–6 years is too low, considering that coverage in the age groups previously included in the quality system is around 90% (see Figure 1).

**Figure 1. Participation of children aged 3–6 years in medical examinations in 2012–2014 and 2019–2021, %**



Source: Analysis of the National Audit Office based on the data of the Estonian Health Insurance Fund

### Participation of school-age children in medical examinations

10. Participation of school-age children in medical examinations is at a good level in the age groups where the medical examination was performed by the school nurse and rather meagre in the age groups where the examination was performed by the family physician.

<sup>4</sup> In 2021, medical examinations for three-year-old children were also included in the family physician's quality system. This step had no influence on the results of the analysis here, because in 2021 the children born in 2016 were already older than three years.

11. According to the Children's Health Monitoring Guide, school-age children should go to the family physician for a medical examination between the 5th and 9th grades. In the 2020/2021 academic year (a.y.), 15% of children in the 5th grade<sup>5</sup> and 8% of children in the 9th grade participated in the medical examination. In the previous National Audit Office audit, the corresponding percentages were between 10% and 12%. Due to the low participation in medical examinations, a way must be found so that children whose participation is not monitored by the Health Insurance Fund are not excluded from medical examinations.

12. According to the Children's Health Monitoring Guide, school nurses must check the health of school-age children in the 1st, 3rd, 7th and 10th grades. The participation of school-aged children in the medical examination by the school nurse has somewhat decreased: in the 2020/2021 a.y., an average of 74%<sup>6</sup> of children attended the medical examination (see Table 1), and at the time of the 2016 audit this percentage was 79%.<sup>7</sup>

13. In 75 schools, first-, third-, seventh- and tenth-graders had not passed the medical examination by the school nurse at all. In the same period, only 10% of the pupils in the respective classes of these schools had a medical examination by a family physician.

14. If we look at the individual grades, we see that the tenth-graders are the worst coverage by medical examinations. In the interviews conducted during the preparation of the review, it was stated that the reason was the unwillingness of pupils to miss classes due to medical examinations.

**Table 1. Percentage of first-, third-, seventh- and tenth-graders who received school health services and those who participated in a medical examination with a family physician (%) in the 2020/2021 a.y. (in the period 01/09/2020–31/08/2021)**

| Indicators   | 1st grade | 3rd grade | 7th grade | 10th grade | Total |
|--|-----------|-----------|-----------|------------|-------|
| Percentage of medical examinations by a school nurse, according to the 2016 audit data   | 76        | 85        | 84        | 73         | 79    |
| Percentage of those who underwent a medical examination by the school nurse in the 2020/2021 a.y.  | 76        | 79 ↓      | 73 ↓      | 64 ↓       | 74 ↓  |
| Percentage of the target group that had some kind of contact with the school nurse (vaccinations, medical examinations or other) (in the 2020/2021 a.y.) | 78        | 81        | 84        | 70         | 79    |
| Percentage of children who had no contact with a school nurse and whose medical examination was performed by a family physician (in the 2020/2021 a.y.)  | 4         | 1         | 2         | 1          | 2     |
| Percentage of children who have not been examined by a family physician or a school nurse (in the 2020/2021 a.y.)  | 20        | 20        | 25        | 35         | 24    |

Source: Analysis of the National Audit Office based on the medical bills of the Estonian Health Insurance Fund and the pupil list of the Ministry of Education and Research

<sup>5</sup> From 2021, the quality system of family physicians will also include a medical examination for fifth-graders, which could increase participation in medical examinations in this age group in the future.

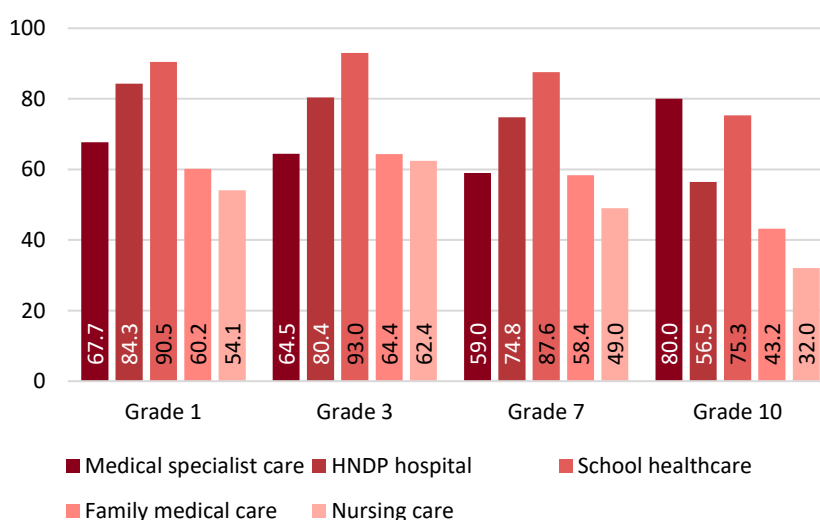
<sup>6</sup> Bills for school health services are divided into three according to the service listed: medical examination, vaccination and other.

<sup>7</sup> In the meantime, the guide was updated and during the observed period, the eleventh graders had to participate in the medical examination instead of the tenth grade, while the other grades did not change.

15. The National Audit Office formed groups of school health service providers according to the main activity of their health services (e.g. school healthcare or family medical care, etc.) and compared their involvement in medical examinations (see Figure 2). It was found that the highest participation rate in medical examinations was in institutions whose main activity was school healthcare (depending on the school grade, the participation percentage was 75–93%) and the lowest in the group of institutions whose main activity was family medical care and school healthcare as an additional activity (depending on the grade, the participation percentage was 43–64%).

16. Therefore, whether or not school health care is the main activity of the institution plays a role in the provision of the medical examination service. In those institutions for which school healthcare is an additional activity, less attention is paid to it. This may result in some children being treated unequally when accessing the service, i.e. if there are few medical examinations in some schools, the availability of the service is unequal, and the Health Insurance Fund should monitor the provision of the service more closely.

**Figure 2. Participation of pupils in medical examinations by main activity of school health service providers in the 2020/2021 a.y., %**



HNBP – the Hospital Network Development Plan's hospital

Source: Analysis of the National Audit Office based on the medical bills of the Estonian Health Insurance Fund and the pupil list of the Ministry of Education and Research

17. The quality of school health services remains inconsistent. In Estonia, one school nurse is required for every 600 pupils.<sup>8</sup> Many schools cannot meet this requirement - in November 2021, 55 out of 90 schools had more than 600 pupils each (52 of them had more than 650 children each), but only one school nurse offered the service.<sup>9</sup> 42 such schools were identified in the 2016 audit. One of the reasons for the deteriorating situation is the general shortage of nurses (see also clauses 156–162),

<sup>8</sup> Minister of Social Affairs regulation "[Activities of a nurse providing health services at school and requirements for the time, volume, availability and location of the activities of the nurse](#)" of 13 August 2010.

<sup>9</sup> Statistics have been compiled based on how many school nurses at a school have submitted medical bills.

which affects the availability of school health services. In addition, the workload of the existing school nurses is high, which has a negative impact on the quality of the service.

18. The 2016 audit report identified a number of other bottlenecks in school health services: inconsistent levels by region, limited space, insufficient connectivity with the Health Information System etc. During the preparation of this review, the National Audit Office also examined the general development of school health services in recent years on these issues and found that the problems had not been resolved.

## General organisation of school healthcare

### For your information,

**in many schools, lack of space is a problem for the provision of health services, but this does not automatically mean a conflict with supervision requirements.** For example, if the school has two school nurses because of the number of pupils, they often have to share a room. In this case, it is not possible to conduct medical examinations and individual consultations for several children at the same time, but the applicable requirements are not violated.

The school provides the rooms for the school nurse. The Health Board issues a permit for the provision of the service. The permit also specifies the space required (in square metres, not based on the number of school nurses). Thus, even if the requirements for the size of the room and the number of school nurses are met, the availability and quality of the service may suffer because two school nurses cannot work in one room at the same time.

The Health Board cannot criticise the situation during surveillance because it is based on the space requirement given in square metres during the inspection. The problem of limited space can only be solved together with the school administration.

### For your information,

**in the autumn of 2022, the school health services quality system was also introduced.** This provides an opportunity to better link interventions to financing and thereby harmonise and raise service levels, provided that the quality indicators applied are realistic.

## Impact of the pandemic COVID-19

19. The Health Board's 2019 monitoring of school health services identified deficiencies in compliance with reception room requirements, documentation of services provided to pupils, or compliance with school nurse training requirements. There was a partial lack of equipment, devices, working tools or medicines at several places of operation. There were more problems in smaller schools.

20. According to school nurses, their work is hampered by problems arising from the fragmentation of health information systems. Therefore, children's health data (including information on previous vaccinations) are not sufficiently available. A high workload arises from the need to obtain parental consent for vaccination manually. Such concerns could be addressed by the introduction or further development of e-solutions.

21. More specifically, it is about the organisation of vaccination: school nurses need to know the previous vaccination status when they re-vaccinate children, but the current health information system does not allow for quick and comprehensive information. Therefore, it takes a lot of time to search for information. The problem will hopefully be solved when the information system is updated and the exchange of information is standardised (see also clause 147). In addition, according to the Health and Welfare Information Systems Centre (TEHIK), it is planned to collect statistics on national vaccinations and to draw up an overview based on the data submitted by the Health Information System, and school nurses may be exempted from the obligation to submit vaccination reports to the Health Board.

22. If they wish, parents could use the patient portal to provide information about giving or refusing consent for vaccination, which would also reduce the workload of school nurses. There is currently no such possibility.

23. As positive changes, the Health Insurance Fund, in collaboration with the Ministry of Social Affairs and the school nurses, updated the school nursing operations manual in 2020, started monitoring the use of the service by reporting medical bills, and changed the financing cost model in 2021. This updated the lists and costs of resources required for the nurses' work (including medicines, consumables, medical equipment, hardware and software costs and administrative costs) and added the staff costs for a supervisor/consultant.

24. The pandemic COVID-19 led to a difficult time in school healthcare, where both the pandemic (testing, informing, vaccinating, etc.) and the so-called routine activities had to be managed simultaneously and operationally. Regular distance learning by pupils has reduced attendance



at medical examinations. However, service providers confirmed in their interviews with the National Audit Office that they consider it important to carry out medical examinations and, in some cases, to have children examined during distance learning.

### For your information,

in the **National Audit Office audit (2020)** "**Access to education support services**", according to kindergartens and schools, if the current arrangement continues, more than 1000 full-time support specialists will be needed (i.e. the total number reduced to full-time equivalents).

25. However, according to service providers, there is concern that due to the pandemic there was no time for health promotion activities (health education, etc.), which is an important task of school health service providers. According to the schools, children needed more support than necessary due to mental health problems, the lack of timely support can lead to later illnesses. In addition to the school nurse, child mental health professionals should also be available, but there are not enough of them in schools either.

26. **In summary**, participation in medical examinations among children has not increased significantly: only 6% of children aged 3-6 years regularly attend medical examinations; at school age, 8-15% of pupils in the grades belonging to the target groups go to the family physician for an examination. At the same time, participation in the medical examinations performed by the school nurses is relatively good, 74% on average.

27. Most of the previous problems of school healthcare have remained the same, and development is hampered by a shortage of school nurses. Therefore, health promotion, monitoring of their condition and prevention of diseases are not guaranteed for all children. However, steps have been taken to solve the problems (e.g. the school health services quality system has been created), which, if successfully implemented, could further harmonise the quality of the service and increase children's participation in medical examinations.

### Refusal to vaccinate children is on the rise

28. Vaccination is an effective and safe way to protect against contracting or suffering from serious infectious diseases. As a result of previous successful vaccination, quite a few dangerous diseases have almost disappeared from Estonia.<sup>10</sup> Thus, it is important to maintain a high level of vaccination coverage.

29. The national vaccination schedule has been established for the vaccination of children, on the basis of which family physicians, family nurses, and school nurses vaccinate children. Among other things, family physicians have the duty to explain to the patient or their legal representative the necessity of immunisation, to inform them of possible side effects and to advise on other issues related to immunisation.<sup>11</sup>

30. The World Health Organisation (WHO) has set goals for vaccination with four vaccines

- 95% of children against diphtheria and tetanus;
- 90% of children against pertussis;
- 95% of children against poliomyelitis;

### For your information,

The National Audit Office's audit "**State's activity upon treating and maintaining the health of children**" stated that percentage of people refusing vaccination has increased, ranging from 1.9% to 3.5% in 2014, depending on the vaccine. One reason for refusals was that the Ministry of Social Affairs was not able to effectively make parents aware of the necessity of medical examinations and vaccinations.

<sup>10</sup> The Health Board website on vaccination, <https://ta.vaktsineeri.ee/et/>

<sup>11</sup> Communicable Diseases Prevention and Control Act, section 8 (1).

- 95% of children against measles, mumps, rubella.

31. According to 2021 data, Estonia did not meet any of these goals: the share of pertussis vaccination was 0.5 percentage points lower than the target level, and for other diseases 5.5–5.6 percentage points lower (see Appendix B for more details). In 2014, goals were missed by 0.5 percentage points for two vaccines (diphtheria/tetanus and poliomyelitis) and by 1.5 percentage points for one vaccine (measles, mumps, and rubella). The criterion for vaccination against pertussis was fulfilled at that time.

32. According to the data of the Board of Health, the number of people refusing vaccination against all infectious diseases mentioned in the vaccination schedule has increased by approximately 0.3% every year since 2010, including in 2021, depending on the number of people refusing from the vaccine, there were between 3.8 and 7.8%<sup>12</sup> (see Appendix B for details). According to the Health Board, the main reasons for not getting vaccinated are as follows:

- doubts about the effectiveness and safety of vaccines;
- fear of side effects;
- health service providers dealing with vaccinations do not provide enough information (including lack of information for themselves);
- the risk of infectious diseases is underestimated and there is conflicting information in public sources.

33. Therefore, although the reasons for the refusals are known, the explanations of the Ministry of Social Affairs, the Health Board, and family physicians about the necessity of vaccination have not reached the consciousness of all parents. Therefore, there is a continuing need to raise people's awareness and improve the capacity of health service providers to provide information.

34. **In summary**, percentage of children refusing vaccination has consistently increased. In 2021, up to 7.8% already refused vaccination, depending on the target group and the vaccine. According to health experts, this is too much. Percentage of people vaccinated in Estonia did not meet the target level set by the WHO for any of the observed vaccines, and the vaccination coverage of children is even lower than during the 2016 audit of the National Audit Office.

### **The adult dental care benefit has not reached the people who need state support the most**

35. Oral health has a strong connection with a person's overall health. Diseases of the oral cavity affect health and can contribute to the development of certain diseases or worsen the course of already existing general diseases. The oral health of adults in Estonia is poor: according to

---

<sup>12</sup> The HPV (human papillomavirus) vaccine is excluded from the review because it was only started in 2018 (vaccinating girls aged 12–14).



the 2022 survey by the Health Insurance Fund, three quarters of people over 35 are in need of dental treatment.

36. As of July 1, 2017, adults with medical insurance can use the dental care benefit. The purpose of the compensation is to reimburse adults for essential treatment and to encourage people to visit the dentist and thereby motivate them to take better care of their oral health and prevent health problems.

### For your information,

in the 2021 audit "**Adult dental care benefit**", the National Audit Office pointed out that after the benefit came into effect in 2017, the number of people attending their first visit to the dentist and the number of people who visited the doctor more often increased.

However, the benefit is used more by people with higher incomes who would be able to pay for dental care themselves.

A large number of people on lower incomes (recipients of subsistence benefits) have never been to a dentist in the last five years.

37. The benefit has brought people to their first visit and more frequent visits to the dentist, but the benefit is used more by those who do not need it directly according to their income. Two-fifths of adults, mostly people on lower incomes, have never been to a dentist in the last five years. Thus, the benefit has not reached enough people who need state support the most.

38. Inequalities in dental care have increased because current benefit conditions do not protect people with high medical needs from high healthcare costs. For a person in high need for treatment who has to visit the doctor repeatedly, the total co-payment is 70–85%.

39. The benefit covers essential dental care. One out of 30 reimbursable services is aimed at preventive treatment. Greater emphasis on prevention in the list of reimbursable services would help to prevent or detect diseases at an early stage as one measure. Dentists recommend that adults have an oral health check-up once a year.

40. In 2020, approximately 284,500 people used the benefit, which constitutes nearly one-third (29%) of the adult population with health insurance. There were no significant restrictions on dental treatment in 2021 due to the pandemic. The number of users of the benefit increased by 12% in 2021 and reached approximately 318,900 people, which continues to make up only a third (nearly 32%) of medically insured adults.

41. Starting from 2022, the benefit can be used at an increased rate also for the unemployed and recipients of subsistence benefits. In 2022 in the first half of the year, 243,171 adults used the benefit, of which 8,905 were unemployed and 433 were recipients of subsistence benefits.

42. **In summary**, the unemployed have taken up the possibility of using the benefit well, it is estimated that nearly a fifth of them have used the benefit. At the same time, the benefit, which treats everyone equally, has increased inequality in dental care – the people who need state support the most still use the benefit very little. Only about 4% of recipients of subsistence benefits claimed dental care benefit. In addition, reimbursable services focus more on treating existing health problems and do not pay enough attention to prevention.

### Only half of those invited go to cancer screenings

43. Any delay in cancer treatment results in a reduction in the life expectancy of a cancer patient. The 2021 audit of the National Audit Office states that cancer is detected too late in Estonia, and cancer treatment also starts later than it should. **Screening** is an effective method for early detection of cancer, but participation in screening is low in Estonia.

**Screening** is a health examination intended for early detection of breast, cervical or colon cancer for healthy people without complaints or symptoms in a certain age group.

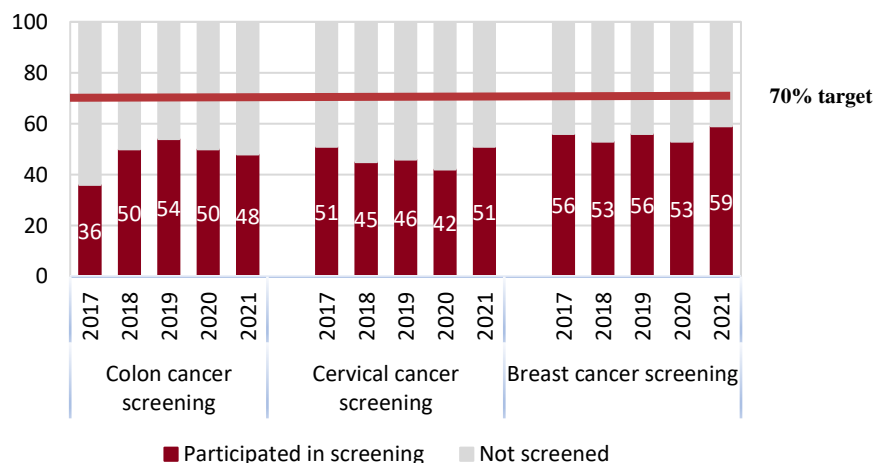
**For your information,**

in the 2021 audit "Detection of malignant tumours and referral of a patient to treatment", the National Audit Office pointed out that cancer is detected too late in Estonia – for example, only approximately 29% of cervical cancer, 35% of colon cancer and 49% of breast cancer were detected in the early stages of the disease in 2018.

Participation in screening is also low in Estonia. All the more important is the timely treatment that must be ensured. In Estonia, the time from the suspicion of cancer to the commencement of treatment is longer than recommended.

44. Coverage, i.e., the screening participation rate of members of the target group, is well below the target level of 70% agreed in Estonia's Cancer Control Plan for 2021–2030, reaching 59% for breast cancer, 51% for cervical cancer and 48% for colon cancer in 2021 (see Figure 3). Compared to the 2020 figures, the participation rate in cervical and breast cancer screening has somewhat increased. At the same time, participation in colon cancer screening has declined quite a bit.<sup>13</sup>

**Figure 3. Participation of the target group in screenings in 2017–2021, %**



Source: National Audit Office based on the data of the National Institute for Health Development

45. From 2021, even uninsured persons can participate in screenings for free. According to the National Institute for Health Development, depending on the screening, approximately 10–18% of the target group of uninsured persons have participated in them. Previously, this share was between 3% and 10%. Thus, in 2021, more uninsured people participated in screening than before.

### The treatment pathway of a cancer patient

46. The total journey time from suspicion of cancer to primary treatment should be maximum of 63 days.<sup>14</sup> Based on the National Audit Office audit, cancer treatment was started on time, from the four places, only for patients with breast cancer (52 days on average). It took approximately 100 days for cervical and lung cancer patients and 122 days for colorectal cancer patients. Delays occurred at every stage of the treatment pathway, both in family medical care and specialist care as well as in cancer centres.

47. The reasons for the delay were different: doctors did not recognise the disease, the queue for examinations/radiation treatment was long, the patient himself delayed or refused treatment, moving between different levels of healthcare took time, etc.

<sup>13</sup> The Estonian Health Insurance Fund keeps a three-year running record based on treatment bills in addition to the usual record of participation in screening. The latter shows how much of the target group has been checked in the year before and after the screening. Furthermore, depending on the location of the cancer, some additional service codes are included in the coverage calculation (e.g., for cervical cancer screening, 66807, 66809, 66811, etc.). The data can be found on [the Health Insurance Fund website](#).

<sup>14</sup> Cancer Control Plan for 2021–2030.

48. In order to manage cancer treatment and prevention, Estonia's national Cancer Control Plan for 2021–2030 was drawn up under the leadership of the Ministry of Social Affairs and with the help of experts. This action plan was approved in May 2021. Its implementation plan for 2024 was supposed to be completed in the first quarter of 2021, but at the time of the completion of this review, there was no implementation plan yet.

49. **In summary**, the participation of Estonian residents in cancer screenings is below the recommended / target level. Furthermore, a year and a half after the approval of the Cancer Control Plan, it has not been possible to adopt the implementation plan, which is needed to agree on specific activities, deadlines and resources, in addition to those responsible.

50. According to the National Audit Office, disease prevention and health promotion among children and adults are still not effective and their quality is inconsistent. The National Audit Office found that participation in medical examinations has not increased significantly over the past six years, and in general, participation in the medical examination is low. It is worth noting that the situation with children's vaccination has worsened – it has consistently decreased a little every year, and there is a risk that the incidence of diseases mentioned in the vaccination schedule will start to increase again.

51. More effective monitoring of children's health is hampered by the shortage of school nurses and other specialists. In addition, there are still bottlenecks in school healthcare that need to be solved, such as inconsistent quality of service, lack of space, inconsistent access to health data, etc. The results of the audit of cancer screening and adult dental care show that the participation of adults in prevention is also lower than it could be.

52. The National Audit Office further adds that if measures to improve disease prevention have been agreed on at the plan level, their implementation should be more systematic and take place in close cooperation between institutions. Among other things, the parties concerned should be supported with user-centred e-solutions. In summary, when promoting this area, it is necessary to deal with both decisions with great weight and long-term impact as well as tasks implemented in a shorter period of time. An overview of them is in Table 2.

**Table 2. Fundamental decision points and tasks that can be solved more quickly in disease prevention**

| Strategic issues   |  |
|--|--|
| <ul style="list-style-type: none"> <li>Compared to the past, what should be done differently in order to achieve better results in the prevention and early detection of diseases?</li> <li>How to ensure the necessary healthcare professionals and money for effective prevention?</li> </ul>                                |  |
|  |  |
| Tactical tasks   |  |
| <ul style="list-style-type: none"> <li>An important test is to increase the participation rate in medical examinations, vaccinations and screenings. This requires a clear organisation of prevention management and responsibility and a functioning "plan-implement-evaluate-renew" cycle of preventive measures.</li> </ul> |  |

## Summary of disease prevention issues

### For your information,

the observations of the National Audit Office are in line with the 2020 analysis of the National Institute for Health Development (NIHD) on [how to improve the quality of prevention in Estonia](#). The NIHD notes that in order to solve problems, it should be decided who leads prevention, and responsibilities and cross-sectoral cooperation mechanisms should be established; the necessary measures should be made available to the target group, and their quality and financing should be systematically assessed (and improved).

- Nurses and doctors dealing with prevention would be immediately supported by user-centered e-solutions, e.g. a reminder system for patients, asking consents necessary for vaccination in the patient portal, and other applications.
- The implementation plan of the Cancer Control Plan must be a document that dynamically supports the implementation, which must be approved as soon as possible and later ensure its systematic review and renewal.
- The conditions of the dental care benefit for adults should be changed so that they take into account the person's need for treatment and the ability of people with lower incomes to pay for dental care.

## The availability of health services is patchy regionally and by speciality

53. In the Public Health Development Plan 2020–2030, the inconsistency of health services is identified as one of the main problems of the Estonian healthcare system. The second chapter of the report examines coverage of care needs, factors affecting access to specialty and family medical care, widespread visits to emergency medicine departments, and changes in nursing care. Access to these health services remains inconsistent, although the wider adoption of e-consultation and telemedicine services have alleviated the situation to some extent.

### The Ministry of Social Affairs has not decided which health services must be available at the county level

#### Availability of health services by county

54. Good access to health services helps to ensure timely treatment and more effective treatment results. Currently, the choice of most services to be provided is left to the discretion of each general hospital, so it varies from region to region.

55. The National Audit Office compared the development plan of the hospital network based on the [contracts of the Health Insurance Fund](#)<sup>15</sup> services provided by hospitals in the period 2019–2021. It turned out that several county or general hospitals have in recent years reduced the number of services provided by the Regulation of the Minister of Social Affairs “[Requirements for hospital types](#)”<sup>16</sup> left to the discretion of the service provider<sup>17</sup>. For example, in 2019 there were pediatricians in 11 general hospitals, but in 2021 there were only in five (see Table 3). According to the Estonian Hospital Association, the main reason for this is a shortage of medical specialists.

56. The Health Insurance Fund clarified that, when interpreting the data presented in Table 3, it must be taken into account that in general hospitals, in addition to internal medicine doctors, other doctors also provide services in the specialty of internal medicine. For example, an endocrinologist or urologist may also work in the internal medicine

<sup>15</sup> The hospitals of the hospital network development plan are hospitals that belong to the list of regional hospitals, central hospitals, general hospitals, local hospitals and rehabilitation hospitals established by Regulation No. 105 of the Government of the Republic of 02/04/2003 to ensure uniform access to health services.

<sup>16</sup> Regulation no. 103 of the Minister of Social Affairs dated 19/08/2004 “Requirements for hospital types”. RT I, 28/06/2022, 11.

<sup>17</sup> The general hospital must provide outpatient and inpatient health services in the following specialties: emergency medicine, internal medicine, general surgery, anesthesiology, laboratory medicine, and radiology. The rest specialties are optional.

department. In other words, services from other specialties are sometimes billed as an internal medicine specialty service. Therefore, the data in Table 3 may differ from reality to some extent.

**Table 3. Health services of the HNDP general hospitals by specialty in 2019 and 2021**

| Specialty           | Number of the HNDP general hospitals offering the services |      | The change in the number of hospitals offering the service in comparison between 2019 and 2021 |
|---------------------|--|------|--|
|                     | 2019   | 2021 |  |
| Pediatrics          | 11   | 5    | –6   |
| Pulmonology         | 9  | 4    | –5   |
| Neurology           | 11   | 6    | –5   |
| Cardiology          | 10   | 6    | –4   |
| Nephrology          | 7  | 4    | –3   |
| Urology             | 9  | 6    | –3   |
| Orthopedics         | 9  | 6    | –3   |
| Endocrinology       | 9  | 6    | –3   |
| Gastroenterology    | 4  | 2    | –2   |
| Rheumatology        | 6  | 4    | –2   |
| Infectious diseases | 1  | 0    | –1   |

\* The table excludes those specialties where the status has remained the same. The provision of services did not expand in any specialty.

Source: Estonian Health Insurance Fund

57. Although it is stipulated by specialty which services each hospital must provide based on its type and which can be provided if desired, the Ministry of Social Affairs has not decided which services and to what extent must be represented in each county. The management of the Health Insurance Fund has its own decision<sup>18</sup> have determined the levels of service availability, but in Estonia there is no document approved at the government or ministerial level, which would stipulate which health services, in which region and to what extent, need to be provided to ensure optimal access to treatment for patients.

## Development of the hospital network

58. Most of the medical specialist care is provided by the hospitals of the hospital network development plan. Considering the trends in the consumption of health services and the aging of the population, the age structure and workload of healthcare professionals, the country's treatment possibilities and needs should be re-examined and the goals updated. However, the hospital network development plan has not been updated yet. The last hospital network development plan ended in 2015.

59. In 2000, during the preparation of the hospital network development plan, experts recommended reducing the number of hospitals to 13. The hospital network development plan adopted in 2002<sup>19</sup> included 19 hospitals, to which another hospital was added in 2018. In 2022, the

<sup>18</sup> Decision No. 185 of the Management Board of the Health Insurance Fund of 04/05/2018 "Principles of regional availability of medical specialist care".

<sup>19</sup> Regulation No. 105 of the Government of the Republic of 02/04/2003 "Hospital Network Development Plan."

### For your information,

the recommendations made in the 2010 audit of the National Audit Office "Sustainability of the hospital network" were, among others, the following:

- to update Estonia's hospital network development plan;
- add a realistic active-treatment network investment plan to the hospital network development plan being created and provide a schedule and money for its implementation;
- to evaluate the forecast of personnel needs, based on the new hospital network, and to align both the development plans of doctors' specialties and the training mandate with it.

### Unmet need for treatment, i.e. estimated availability of medical care

**Unmet need for health care** is people's assessment of missed treatment and medical care. Non-recipients of medical care are those who needed medical care in the last 12 months, but for some reason did not receive it.

hospital network development plan includes a total of 20 hospitals in Estonia. This is a third more than what experts considered necessary and affordable for Estonia more than 20 years ago. The problem is not so much in the specific number of hospitals as in the fact that there is no agreement on the optimal number and location of hospitals for Estonia now and in the future.

60. In order to prepare the development plan for the new hospital network, the Ministry of Social Affairs ordered the analysis "Human-centred and integrated hospital network 2040" from the European Commission under the financing of the structural reforms support measure. The project ended in June 2022, when proposals for the development of the hospital network were ready. However, further discussions on the hospital network and the preparation of decisions still need time, and the date for the adoption of the hospital network development plan is not known.

61. **In summary**, the concentration of health services in larger hospitals may be inevitable due to the need to ensure the quality of care. On the other hand, if the local general hospital no longer offers services in a certain specialty, timely treatment may become less accessible and patients in rural areas may become victims of unequal treatment. Consolidation of treatment could be a thought-out and coordinated action at a higher level of governance. In other words, under the leadership of the Ministry of Social Affairs, it should be agreed to what extent and how to ensure the regional availability of health services.

### Not everyone gets to see a medical specialist in time

62. Treatment started at the right time is more effective and less costly. The National Audit Office analysed how quickly people can access a medical specialist in Estonia. However, due to the change in the methodology for measuring treatment queues, it is not possible to compare whether after the previous National Audit Office audit<sup>20</sup> the length of the waiting line has decreased.<sup>21</sup> However, it can be said that treatment queues still exceed the established maximum length for certain specialties.

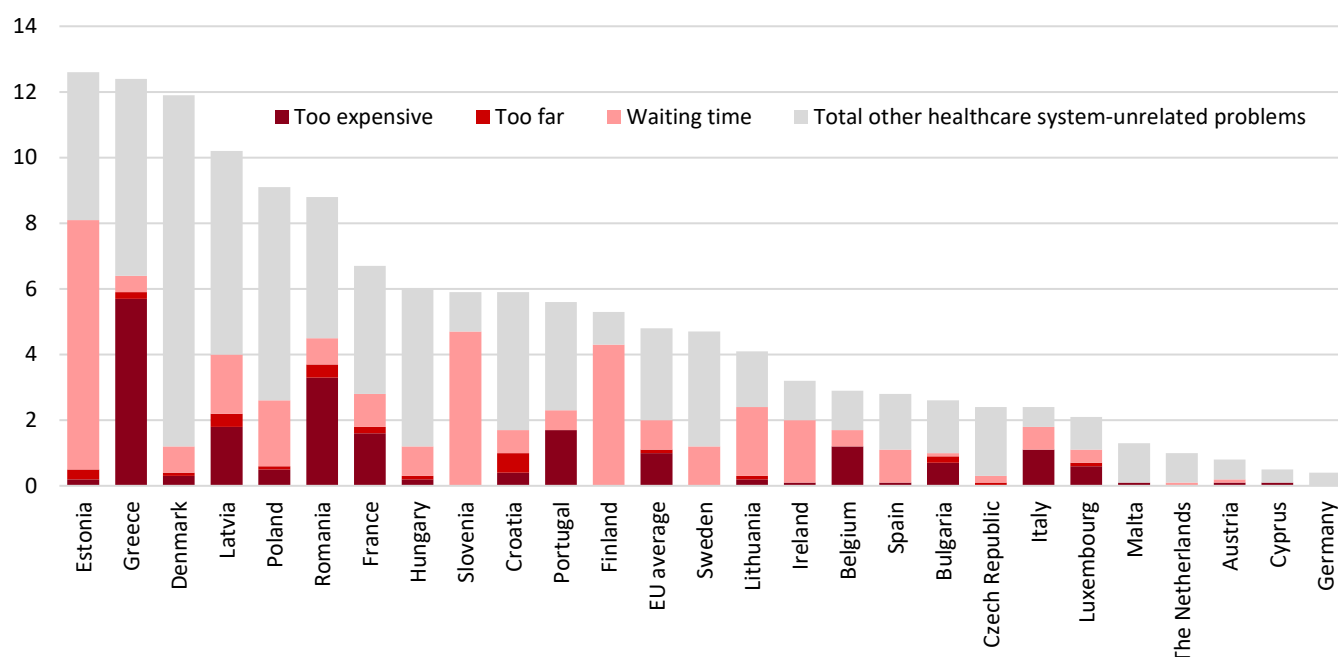
63. When comparing the availability of health services between countries, one of the main indicators is the unmet need for health care. It is also an important indicator of the Public Health Development Plan for 2020–2030. According to Eurostat data<sup>22</sup>, as of 2021, the **unmet need for health care** of Estonian residents had somewhat decreased compared to previous years but was still the largest in the EU (12.6%). At the same time, the average of the EU countries was 4.8% (see Figure 4). According to Estonian people, the main obstacle here is long queues for treatment.

<sup>20</sup> Audit of the National Audit Office "Emergency medicine", 23/10/2018.

<sup>21</sup> The methodology of collecting and presenting information about treatment queues has changed. Until December 2020, medical institutions submitted quarterly reports on waiting lists to the EHIF. From January 2021, treatment waiting lists are measured on the basis of digital referral data, bookings and appointment notices. Waiting times are presented as median waiting times instead of the previous average.

<sup>22</sup> Waiting Times for Health Services. Next in Line. OECD Health Policy Studies. 28/05/2020.



**Figure 4. Share (%) of unmet needs for health care among people aged 16 and over and its main causes in EU countries, 2019**

Source: Eurostat, Unmet health care needs statistics, 2021

### Median waiting time in the queue for specialist care

**Median** is a point from which the larger and smaller values are the same in quantity.

64. In Estonia, the maximum length of the waiting list for outpatient specialist care is 42 days.<sup>23</sup> According to the Health Insurance Fund, in 2021 there were 77% of initial reservations with a waiting time of up to 42 days.<sup>24</sup> During the first six months of 2022, an average of 74% of people reached a medical specialist's first contact outpatient appointment within the established time, while the longest queues were in regional hospitals, where only 65% of patients reached their appointment within 42 days.

65. The analysis of the average length of waiting lines for medical specialist care (from booking to expected appointment) in general, central and regional hospitals shows that in the first half of 2022, the **median** waiting time increased compared to the previous year.<sup>25</sup> Out of all specialties (a total of 37), in the period January–June 2022, the maximum length established by the Health Insurance Fund, i.e. 42 days of waiting time, was exceeded for 18 specialties. Table 4 shows, for example, the average median waiting time in hospitals for those specialties that exceed twice the maximum length of the queue (more detailed information on the length of treatment queues is in Appendix C).

<sup>23</sup> Resolution No. 5 by the Supervisory Board of the Estonian Health Insurance Fund of 11 January 2013.

<sup>24</sup> Estonian Health Insurance Fund Annual Report 2021

<sup>25</sup> Regulation No. 105 of the Government of the Republic of 02/04/2003 established a list of regional hospitals, central hospitals, general hospitals, local hospitals, and rehabilitation hospitals to ensure equal access to health services.

### For your information,

The OECD uses certain surgical treatment services as a basis for comparing the length of treatment queues. According to their example, waiting times in Estonia were among the longest. Thus, the waiting times for surgical operations in Estonia in 2018 were as follows:

- knee replacement – 461 days (99 in Finland);
- hip replacement – 282 days (77 in Finland);
- cataract removal – 187 days (97 in Finland).

**Table 4. Average waiting time of more than 84 days in general, central and regional hospitals in the first half (H1) of 2021 and 2022 (marked in pink)**

| Specialty                    | Institution  | Average waiting time in the first half of 2021 in days | Average waiting time in the first half of 2022 in days |
|------------------------------|--|--|--|
| Allergology and immunology   | SA Tallinna Lastehaigla (Tallinn Children's Hospital)        | 63   | 87   |
| Gastro-enterology            | AS Ida-Tallinna Keskhaigla (East Tallinn Central Hospital)   | 69   | 106  |
| Speech therapy               | SA Pärnu Haigla (Pärnu Hospital)                             | 125  | 97   |
| Nephrology                   | SA Ida-Viru Keskhaigla (Ida-Viru Central Hospital)           | 85   | 88   |
| Neurosurgery                 | AS Rakvere Haigla (Rakvere Hospital)                         | 58   | 85   |
|                              | SA Tartu Ülikooli Kliinikum (Tartu University Hospital)      | 101  | 76   |
| Ophthalmology and optometry  | SA Läänemaa Haigla (Lääne County Hospital)                   | 22   | 89   |
| Orthopedics and traumatology | AS Ida-Tallinna Keskhaigla (East Tallinn Central Hospital)   | 70   | 102  |
|                              | SA Ida-Viru Keskhaigla (Ida-Viru Central Hospital)           | 78   | 89   |
| Psychiatry                   | AS Lääne-Tallinna Keskhaigla (West Tallinn Central Hospital) | 83   | 98   |
|                              | SA Narva Haigla (Narva Hospital)                             | 102  | 100  |
|                              | AS Järvamaa Haigla (Järva County Hospital)                   | 78   | 88   |
| Psychology                   | SA Tartu Ülikooli Kliinikum (Tartu University Hospital)      | 52   | 94   |
|                              | SA Raplamaa Haigla (Rapla County Hospital)                   | 85   | 31   |
| Urology                      | SA Läänemaa Haigla (Lääne County Hospital)                   | 72   | 113  |
| Vascular surgery             | AS Ida-Tallinna Keskhaigla (East Tallinn Central Hospital)   | 66   | 100  |
|                              | SA Ida-Viru Keskhaigla (Ida-Viru Central Hospital)           | 85   | 38   |

Source: The National Audit Office, based on the data of the Estonian Health Insurance Fund



## For your information,

in the spring of 2022, the pilot project "Timefinder" was launched, initially for four specialties. If a suitable visit time is not immediately available at the nationwide digital registry, the person has the opportunity to add themselves to the waiting list there. Timefinder then notifies you via SMS and e-mail when a suitable time occurs. Two thirds of Estonian treatment facilities have joined the application.

66. When evaluating the length of queues, however, it should be taken into account that this indicator may not adequately reflect the real situation – in some cases, it is not possible to book an appointment at all, because there are no free visit times available. In other words, the waiting time before the opening of visiting hours is not measured, although it affects the duration of the waiting time from a person's point of view.

67. In order to improve the availability of medical specialist care, the Health Insurance Fund started to develop telemedicine services from 2020, i.e. the patient and healthcare specialist communicate remotely, via phone, video call or online chat. As a result, in 2021, out of 3.5 million outpatient appointments, 8% of specialist care was done remotely.

68. However, the number of teleconsultations for medical specialist care decreased by 22% compared to 2020 (by 80,250 appointments), as doctors and nurses preferred to return to regular appointments. The restriction set by the Health Insurance Fund was also applied, with which a teleconsultations could only be made in the case of a recall, i.e. as a repeat visit.<sup>26</sup>

69. **In summary**, if you compare the availability of health services with other EU countries, based on the indicator of unmet need for health care, Estonian residents feel the problem more acutely than elsewhere in the EU. Due to the lack of healthcare professionals and other resources, people cannot get to a doctor on time as queues for treatment are long. Queues for specialist care vary by specialty and are also related to the popularity and service capacity of the service provider.

70. A separate problem is that it is currently not possible to determine the exact actual length of treatment queues, as it is not always possible to make a reservation due to the lack of available appointment times: service providers generally publish available appointments up to three months in advance, which fill up quickly and people may therefore have to wait for the announcement of new free times.

## Emergency medicine departments are still burdened by people who do not need urgent care

71. Long waiting lists, limited access to medical care and the ability to see a doctor at emergency medicine department without a referral are factors that increase the burden on emergency medicine departments (EMDs). This is a problem, because the cost of the EMD service is, for example, significantly more expensive than that of a family physician. The data analysis showed that the situation has not changed in recent years and the burden on EMDs is still higher than it should be.

72. On 01/01/2020, the financing principles of EMD and emergency rooms changed.<sup>27</sup> The changes were initiated based on both the previous audit of the National Audit Office and the World Bank's recommendation to replace the service-based financing of EMDs with a readiness fee so that it covers all analyses performed and assigned by EMDs.

## Change in the EMD financing

<sup>26</sup> Estonian Health Insurance Fund Annual Report 2021.

<sup>27</sup> [Regulation of the Government of the Republic "List of Health Services of the Estonian Health Insurance Fund" \(§ 46\).](#)

73. The readiness fee in EMD is justified by the fact that the availability of personnel, equipment and premises should not depend on the number of patients. At the same time, some EMD-related services provided in other structural units of the health service provider (laboratory, radiology, other examinations and procedures required for a treatment decision) will continue to be paid on a per-service basis.

74. The reform of the financing model that took place in 2020, according to the Estonian Society of Emergency Physicians, has been somewhat problematic. Not all the changes are working as they should yet, more specifically, the methodology of preparing the price list (especially the lack of data underlying the evaluation and analysis of work processes), the weak part of the control systems (to ensure all the services resulting from the contract) and EMD's cooperation with departments of other specialties are a concern. The movement of patients (especially the elderly) after providing first aid at EMD has turned out to be one of the biggest concerns, because, for example, there is a shortage of places in nursing care, etc.

75. The relevant working group has made corrections in the methodology for preparing the price list of the model, but the solutions to the other aforementioned problems are still being developed. However, the main problems of EMD – shortage and overload of staff, outdated infrastructure, increasing number of patients who do not need urgent care – have not been alleviated by the change in financing.

76. A direct comparison between the previous audited period (2017) and the current status is not possible due to changes in financing principles and health service providers. However, if you look at the last two years, referrals to EMD have increased by 13,000 and the cost of medical bills by 37 million euros (Table 5).<sup>28</sup>

### For your information,

in the 2018 audit "**Emergency medicine**", the National Audit Office has pointed out that in Estonia, in 2017, emergency medicine department was approached on approximately 462,000 occasions and the cost of the EMD medical bills was around 153 million euros. According to the National Audit Office, the system needed reform, as visits to the emergency medicine department were financed at the expense of scheduled medical specialist care, and the majority of those visitors to EMD (57%) did not need urgent care.

### Triage

**Triage** is dividing sick people into categories (blue/green, yellow, orange, red) according to the urgency of the need for help, based on the patient's condition and possible threat to their life and health.

**Table 5. Overview of the EMD indicators**

| Indicators   | 2020 year | 2021 year | Growth (%) |
|--|-----------|-----------|------------|
| Visits to EMD  | 418.787   | 431.823   | 3          |
| Cost of the EMD medical bills (in millions of euros) | 191       | 228       | 19         |
| The EMD readiness fee (in millions of euros)         | 31.7      | 33        | 4          |

Source: National Audit Office, based on medical bills of the Estonian Health Insurance Fund

77. It should be borne in mind that the COVID-19 crisis has also affected visits to EMD and their costs – for example, the EMD doctors noted in an interview that the number of referrals decreased at the beginning of the pandemic, so the later higher level may instead be the normal number of visitors.

78. The distribution of visits to EMD into the **triage** categories has remained unchanged in the comparison of the 2018 audit and the data of 2020 and 2021. This means that even now 57% of those who visit EMD are marked with a green/blue triage, i.e. it is rather a clientele of potential family physicians who do not need urgent help. The Ministry of Social

<sup>28</sup> Estonian Health Insurance Fund Annual Report 2021.

Affairs and the Health Insurance Fund have not implemented sufficient measures (e.g. ensuring primary care for uninsured people, prior consultation of patients by phone, extending the appointment times of family physicians) that would make people prefer to consult a family physician instead of EMD.

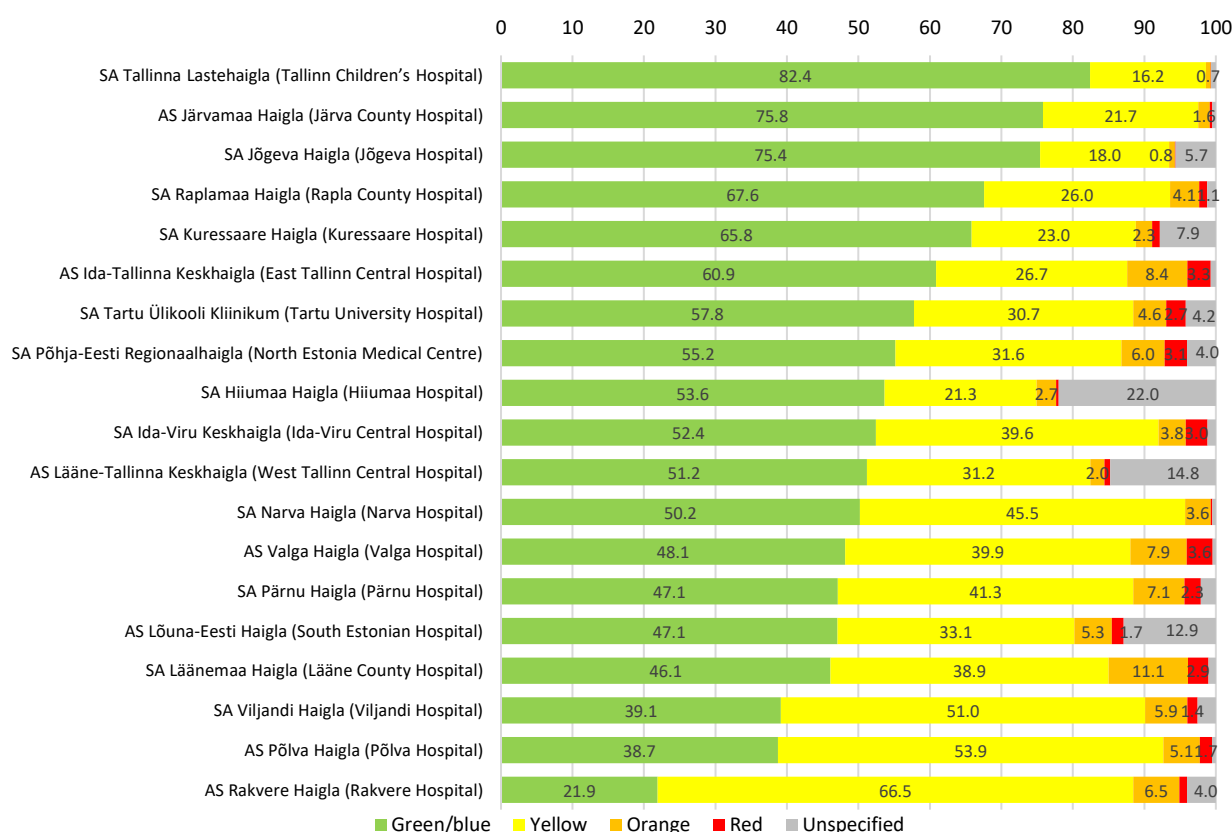
### For your information,

based on the analysis of medical bills, some patients marked with green/blue triage have turned to EMD as many as 57 times during the year. There were 299 patients who used the EMD service regularly (more than 10 times a year) in 2020 and 315 in 2021.

79. According to the representatives of the Estonian Society of Emergency Physicians, there are problems with the availability of primary care in many places, but the biggest problem is precisely in South Estonia, where many patients are advised to go to EMD for examinations and treatment by family medical care.

80. For most minor health problems, visits to EMD rather than the family physician took place in Järva and Rapla Counties and Jõgeva hospital (see Figure 5). If the assumption is that patients with more severe traumas (with red, orange and yellow triage categories) should be concentrated in EMD of large hospitals, then the shares presented in Figure 5 do not support this. The Health Insurance Fund based its assessment on the results<sup>29</sup>, that the practice of assigning triages is different in EMDs, depending on the number of patients and the work processes due to the seriousness of their condition.

Figure 5. Percentage of triage categories of visits to EMD by service provider in 2021, %



Source: National Audit Office, based on medical bills of the Estonian Health Insurance Fund

<sup>29</sup> [The EMD triage. Target selection topic summary](#). Estonian Health Insurance Fund, 2021.

**81. In summary**, one of the main problems of EMD – that only people who need urgent help visit it – has not been solved yet. It is often more convenient for people to go to EMD instead of the family physician, especially if all the tests are done there immediately. As it is a complex problem, its solution should include improving the capacity of family medical care, and better cooperation with other departments of the hospital and other service providers (including the social sector) would in turn make the work of EMD more efficient.

### For your information,

in the 2018 audit "**Emergency medicine**", the National Audit Office assessed whether the emergency medicine department treats patients whose health condition requires urgent help.

According to the overall assessment of the audit, a large part of those who visited EMD could receive help from a family physician. At the same time, the Board of Health and the Health Insurance Fund did not have an overview of the exact availability of family medical care.

### Availability of family medical care

#### For your information,

in the 2018 audit "**Emergency medicine**", the National Audit Office stated that the Health Insurance Fund does not analyse the filling of out-of-hours appointments. Since family physicians are not obliged to provide data on the occupancy of out-of-hours appointments, family medicine centres also do not keep an accurate count of how many people use this option. Therefore, the Health Insurance Fund does not have an overview of whether the additional appointments are useful and whether they help to reduce the burden on EMD.

In 2017, there were 73 family physicians (approximately 9% of all family physicians) in 15 municipalities that allowed out-of-hours appointments. In 2021, the number of doctors making out-of-hours appointments dropped by almost a third (48 doctors, or approximately 6% of all family physicians). These doctors were located in 13 municipalities.

### Due to the labour shortage, changes in the organisation of family medical care are inevitable

**82.** The National Health Development Plan 2020–2030 emphasises the need to ensure the availability of health services at the primary level. The low availability of primary health services and the inadequacy of out-of-hours appointments are inversely related to a higher need for emergency care.<sup>30</sup> The National Audit Office investigated whether and how the evaluation of the availability of family medical care and the provision of out-of-hours appointments by a family physician have changed compared to 2017.

**83.** From 1 July 2022, the Health Insurance Fund took over the organisation of family medical care from the Health Board: registration in the list, organisation of competitions, finding substitute doctors, etc. The Health Insurance Fund checks the fulfilment of the contracts concluded with family physicians, and the Health Board supervises the fulfilment of the requirements for family medical care. According to both the Health Insurance Fund and the Health Board, there are no significant problems with fulfilling the conditions for the availability of family medical care in Estonia.<sup>31</sup> The Health Insurance Fund justifies this by the fact that each list has either a family physician or a substitute doctor.

**84.** According to the reports of the Health Insurance Fund, in 2017, 82% of the inspected family physician's practices fully met the availability requirements.<sup>32</sup> The availability check took place at the family physician's place of business, and the evaluator asked to show, firstly, whether it was possible for a patient with an acute condition to get an appointment with the family physician on the same day, and secondly, whether it was possible to serve a chronically ill patient within five days. If it was shown at the reception desk that it was possible to get an appointment within the prescribed period according to the patient's condition, then the service was assessed as available.

**85.** This approach did not make it possible to assess when the patient needed the appointment and when they actually got an appointment. The Health Insurance Fund has renounced this assessment, so currently only complaints about family medical care are reviewed or random checks are

<sup>30</sup> Andrea Posocco, Maria Paola Scapinello, Irene De Ronch *et al.* Role of out of hours primary care service in limiting inappropriate access to emergency department. *Intern Emerg Med* 13, 549–555 (2018); Caroline Berchet. Emergency Care Services. OECD Health Working Papers No. 83, 2015.

<sup>31</sup> According to the work instructions of the family physician and the healthcare professionals working with him or her, the family physician must organise an appointment for a patient with an acute health disorder on the day of the consultation or, in other cases, within five working days.

<sup>32</sup> Results of the inspection of the availability of family physicians in 2017.

carried out. The Health Insurance Fund and the Health Board do not have data on the availability of family medical care. Therefore, it is not possible to assess the improvement or deterioration of the availability of family medical care quite adequately. It is also not clear what the Health Insurance Fund and the Health Board are basing their assessment on.

### For your information,

**Primary health centre** – teams of family physicians working in one centre – brings together a minimum of three lists.

In addition to family physicians and nurses, midwives, physiotherapists and home nurses also work in health centres.

The health centre is also open longer than usual, on weekdays from 8 a.m. to 6 p.m. For more details, see the conditions on the [Health Insurance Fund's website](#).

### Out-of-hours appointment by family physicians

**Out-of-hours appointment** is a family physician's appointment that takes place before 8 a.m. or after 6 p.m. on a weekday or anytime on a weekend. The Health Insurance Fund has financed out-of-hours appointments since 2014.

86. According to the Health Insurance Fund and the Health Board the availability of family medical care has improved by the increase in the number of **primary health centres**. By October 2022, 43% (340) of all family physician lists had joined the health centres. Health centres operate in less than half (35) municipalities. According to the data of Statistics Estonia, approximately 77% of Estonian residents live in these municipalities.

87. While health centres operate in 35 municipalities, 27 of them have one health centre and eight municipalities have more: in Tallinn city (17), Tartu city (4), Saue and Viimsi Rural Municipalities, and Kohtla-Järve, Paide, Rakvere and Sillamäe cities (2 in each). On the other hand, 40 municipalities did not have any health centres in October 2022.

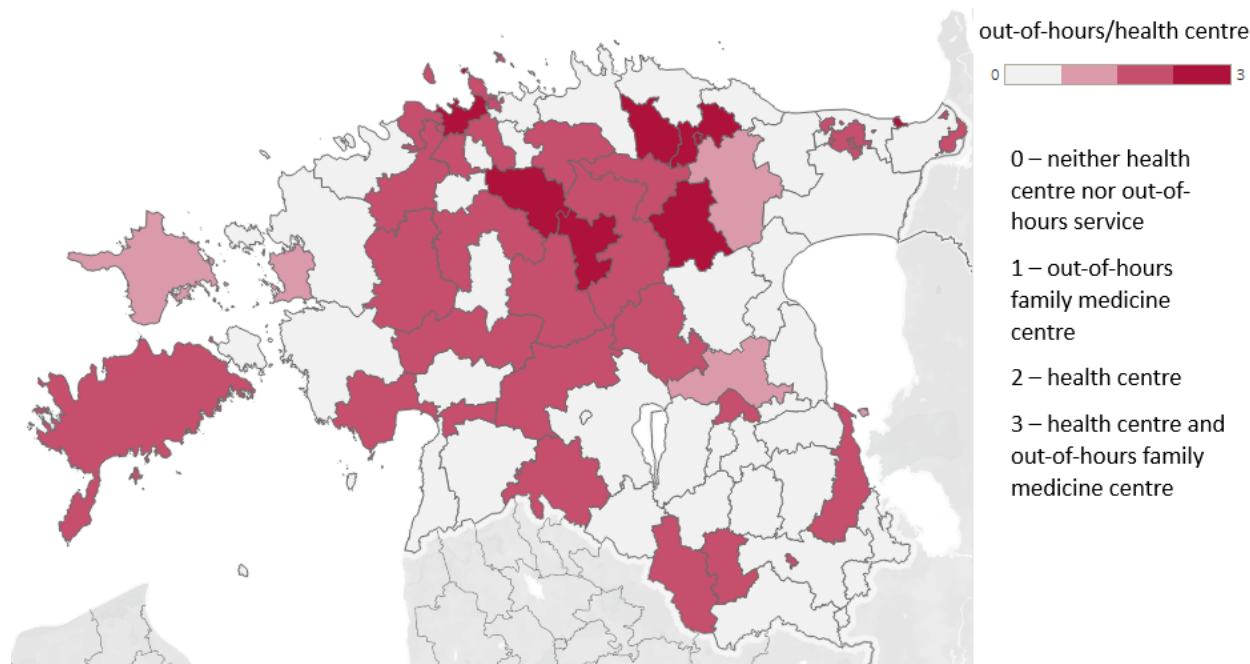
88. The health centre must be open on weekdays between 8:00 a.m. and 6:00 p.m. In other family physician practices, the appointment time may vary between 8:00 and 18:00, but at least one day a week the appointment must be until 18:00.<sup>33</sup> In Estonia, family physicians do not have a legal obligation to provide **out-of-hours appointments**.

89. In October 2022, there was not a single family physician in the larger cities of Tartu, Pärnu and Narva who had an out-of-hours appointments financed by the Health Insurance Fund. At the same time, there are health centres in these cities – four in Tartu, one in Pärnu, and one in Narva.

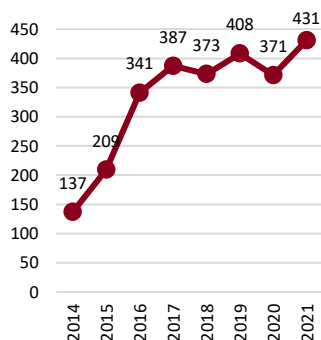
90. In October 2022, there were 27 municipalities with a health centre, but there were no out-of-hours appointments by family physicians financed by the Health Insurance Fund. More than half of the municipalities (40) have neither a health centre nor the possibility of out-of-hours appointments (see Figure 6). The differences between the regions are therefore very great. In the opinion of the National Audit Office, the challenge in assessing the necessity of out-of-hours appointments is that the service is not offered according to people's needs, but based on the ability of family physicians to offer out-of-hours appointments.

<sup>33</sup> Regulation no. 2 of the Minister of Social Affairs of 06/01/2010 "[Work instructions of the family physician and the healthcare professionals working with him or her](#)", section 5 (3).



**Figure 6. First contact health centres and out-of-hours family medicine centres as of October 2022**

Source: Estonian Health Insurance Fund

**Fee for out-of-hours appointments, in thousands of euros**

Source: Annual reports of the Estonian Health Insurance Fund

**Family physician advice line 1220** is a nationwide 24-hour medical advice line designed to provide help when family medical care is not available (for example, outside working hours, on national or public holidays) or when the health problem is not such that it is necessary to see a family physician immediately.

91. In 2018, 40% of family physicians who had out-of-hours appointments estimated that the number of patients outside of working hours was the same or higher than during working hours. 60% of such family physicians found that there were fewer patients than during working hours. In 2021, according to family physicians, more or the same number of patients went to appointments outside of working hours.

92. Since 2014, the Health Insurance Fund has paid an additional fee 2.6 million euros to family physicians for out-of-hours appointments (approximately 400,000 euros per year, see figure on the left). At the same time, since the introduction of the additional fee, the Health Insurance Fund has not evaluated how many people have used this option and how the addition of health centres affects it.

93. The pandemic COVID-19 increased the workload of family physicians. In addition to the increase in the number of patients, family physicians also vaccinated people against COVID-19. The **family physician advice line 1220** helped to alleviate the workload of family physicians and visits to EMD somewhat (see Appendix D for more information about the advice line).

94. From January 2020, people are able to ask for personalised advice from the family physician advice line (e.g. prescriptions can be extended). In 2021, 6,229 people used personalised consultations, which is almost a third of the set goal.

95. Furthermore, the advice line can be used to register the need to open a work incapacity certificate (sick leave) in the Health Information System. This means that the patient no longer has to go to EMD to initiate sick leave during non-working hours. This change has not reduced the workload of family physicians, as there is no automatic notification to the family physician of the wish to open a work incapacity certificate, and the patient has to inform their doctor themselves.

### For your information,

The Estonian Health Insurance Fund is obliged to provide the service of a family physician to all people in Estonia. The Ministry of Social Affairs has set a goal that no list will be left without a family physician or a temporary substitute.

### For your information,

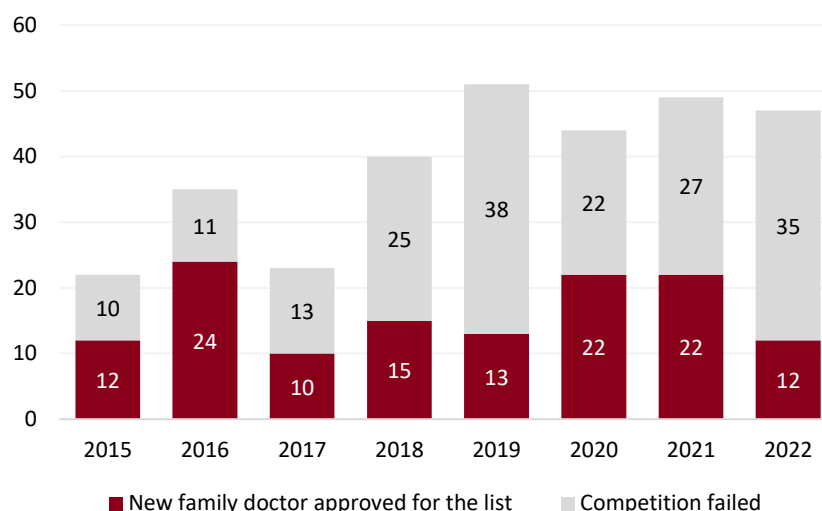
the limit size of the family physician list is 1,200 to 2,000 people. The list can also be up to 2,400 people, but then another doctor must work with the family physician.

The average size of the list in 2021 was approximately 1,650 people. 1,600 people is the optimal size of the list, according to the goodwill agreement between the Family Physicians Association of Estonia, the Health Board, the Estonian Health Insurance Fund, and the Ministry of Social Affairs, which ensures high-quality family medical care.

**Incubation programme** is a support measure for ensuring the continuity of the family medicine service, which allows a family physician who withdraws from the list to work together for one year with a family physician who is interested in taking over the list. The subsidy consists of paying an additional fee for hiring a family physician without a list (3,641 euros per month) and can be used anywhere in Estonia, except Tallinn and Tartu.

96. The challenges of sustainability of family medical care have become more and more serious over time. For example, finding a family physician to take up the list has become more and more difficult. In the period 2015–2022, the first half of the year, 311 competitions have been organised to find a family physician for the list (see Figure 7). In less than half of the cases (42%) a new family physician was found for the list. For example, in the first half of 2022, nearly 75% of competitions failed.

**Figure 7. Competitions organised for the list to find a family physician in 2015–2022<sup>34</sup>**



Source: National Audit Office on the basis of the Health Board's data

97. If, as a result of the competition, it is not possible to find a family physician for the list, a temporary substitute must be sought. Replacing the family physician should be short-term. If in the first half of 2022 54 lists had a substitute doctor, then on 13 lists the temporary substitution has lasted five or more years. It is hard to call it temporary if the substitution has lasted this long.

98. According to the Family Physicians Association of Estonia, the networking of family medicine centres would be helpful in solving the problem of repeatedly failed competitions or in finding a temporary replacement if a family physician falls ill. This means long-term cooperation between family physicians and agreements on the organisation of substitutions.

99. Since it is not possible to maintain the organisation of family medical care in the way we have been used to, patients have to adapt to new circumstances, for example, e-solutions (increased use of teleconsultations) will probably become a permanent part of the organisation of family medical care.

100. In 2020, the **incubation programme** for family physicians started. This allows a beginner family physician to work together with a retiring family physician and get to know the list and the management of the family medicine centre for one year. If the retiring family physician decides to withdraw from the list at the end of the programme, a public competition will be organised to find a doctor for the list. A family

<sup>34</sup> The number of failed competitions includes the number of repeated competitions.

physician who has participated in the programme can participate in the competition equally with other candidates.

101. The Incubation Programme, a relatively new measure to alleviate a shortage of family physicians, has found a new family physician for seven of the lists. At the same time, in 2021 there were 52 family physician lists where there was no family physician (there was a temporary substitute).

102. The Ministry of Social Affairs, in cooperation with the Health Insurance Fund, has taken steps to encourage beginner family physicians to take up a patient list. For example, from 01/07/2022, if the list is approved for the family physician for the first time, the upper limit of the number of people on the list can be temporarily (for up to two years) reduced.<sup>35</sup> This allows the doctors to familiarise themselves more thoroughly with the work of the family medicine centre as well as with the patient health data.

**Beginner's allowance** purpose is to (financially) motivate doctors who have completed their residency to start working at a family medicine centre or a local, general or central hospital in areas where it is difficult to find qualified doctors (i.e. outside Tartu and Tallinn). Beginner's allowance is 15,000–45,000 euros over five years.

Source: [Health Services Organisation Act](#), sections 54<sup>1</sup> and 54<sup>2</sup>

103. Furthermore, the conditions of **beginner's allowance** have been made more flexible: the application submission period is longer, the amount of the allowance can be increased, and the allowance can be partially used.<sup>36</sup> The right of nurses to issue sick leave also relieves the burden on family doctors.<sup>37</sup>

104. Furthermore, the Health Insurance Fund has created a cooperation network together with local authorities in order to offer future family physicians better support in different regions. The Health Insurance Fund has also intensified cooperation with the chair of family medicine at the University of Tartu. Its purpose is to increase percentage of future family physicians who take up professional work.

105. In April 2022, the Ministry of Social Affairs and the Family Physicians Association of Estonia started preparing a development plan for primary health care, as currently there is no valid development plan for specialty of family medicine and in primary health care. The development plan should be completed by the end of 2023. It focuses on the development needs of family medical care specialists and other healthcare professionals until 2030.

106. In 2020, the Ministry of Social Affairs proposed ([533 SE](#)) to amend the law so that in a situation where public competitions to find a family physician have repeatedly failed and the list has suddenly been left without a doctor, the list could be temporarily served by the hospital of the hospital network development plan until a new family physician is found.

107. This proposal was removed from the draft in the Riigikogu in its second reading in 2022, because, according to the family physicians, the amendment would run counter to the existing principles of separating family medical care and specialist care. There is still no good solution to

<sup>35</sup> [Health Services Organisation Act](#), section § 8 (4<sup>1</sup>).

<sup>36</sup> [Health Services Organisation Act](#), sections 35, 54<sup>1</sup> and 54<sup>2</sup>.

<sup>37</sup> [Health Insurance Act](#), sections 51 and 52.



the situation when public competitions to find a family physician repeatedly fail.

**108. In summary**, due to the acute labour shortage, it is likely that it will not be possible to maintain the availability of family medical care at the usual level or in the usual manner in the future. The family medical care system cannot perform all the assigned tasks at a consistent level across the country. In the future, for example, teleconsultations may be common.

**109.** Under the leadership of the Ministry of Social Affairs, a number of steps have been taken to ensure the sustainability of family medical care (e.g. initiation of an incubation programme, temporary lowering of the upper limit of the list, making beginner's allowances more flexible). However, the system-wide decisions necessary to fundamentally improve the situation have been postponed for various reasons.

### **Inpatient nursing care has more and more seriously ill patients, and the volume of home nursing care has increased considerably**

#### **Inpatient nursing care**

**110.** The purpose of inpatient nursing care and home nursing is to maintain and, if possible, improve the patient's health condition and ability to cope, as well as short- or long-term treatment and support of a patient in a stable condition, alleviating ailments if necessary and preparing the person for referral to a care facility or home. Nursing care services are provided based on the patient's needs either at home, in a hospital or in a care facility. The patient is referred for treatment by a doctor.

#### **For your information,**

**in 2018**, the Ministry of Social Affairs submitted to the government a concept for creating a unified long-term care system. **In 2019**, a possible financing scheme was proposed to the government. At the end of the same year, the Ministry of Social Affairs submitted to the government proposals for an updated arrangement for long-term care.

**In 2021**, the memorandum was prepared, the content of which was to organise the system of long-term care services in cooperation between municipalities and the State, and it was proposed to prepare the corresponding draft law. The government took note of the proposals, but no financing decisions were made.

According to the action programme for **2022** of the Government of the Republic, a long-term general welfare reform plan is being developed regarding 2022–2023. At the time of writing this review, it was not known whether this would include health services.

Source: [the website of the Ministry of Social Affairs](#),  
[the website of the Government of the Republic](#)

**111.** One of the conclusions of the 2015 audit of the National Audit Office “[State's activity in organising independent nursing care](#)” was that the system of independent nursing care and welfare is not connected as a whole and tripartite (health insurance fund, municipality, and patient) financing principles have not been implemented, therefore the patient chooses a financially more favourable service/solution, but it may not always be the most suitable for them and more efficient for the country.

**112.** By 2022, no significant changes have taken place in the system. Independent nursing care and tending still do not function as a unified whole, the necessary decisions have been delayed. However, the first steps have been taken to create a long-term care model (see also the left column), where health services are one of the necessary services.

**113.** According to the Estonian Association of Gerontology and Geriatrics (EGGA) and service providers, the condition of inpatient nursing care patients has become more difficult in recent years for the following reasons:

- the Health Insurance Fund has focused on shortening the duration of the average inpatient treatment case in active treatment, therefore patients are referred to nursing care more quickly;
- patients' conditions were made more difficult by the disease COVID-19;

- also, the pandemic COVID-19 has affected people's access to treatment and help is reached later, so the condition of patients who reach nursing care may be more difficult;
- family physicians have not always assigned services to their patients and have not examined patients for a long time. According to the service providers, it is sometimes difficult to reach family physicians when the prescribed treatment needs to be specified. According to the EGGA, it can be seen from the referrals that approximately 70% of referred patients have not been to a family physician. A referral may be issued, for example, based on the patient's relatives explanations and upon request.

114. Furthermore, according to one service provider, the nursing care service can already be considered a service of the general internal department.<sup>38</sup> This means that patients in a stable condition no longer reach nursing care, and sick people need medical care more than once a week (which is the regularity prescribed in nursing care).

## Impact of the pandemic COVID-19

115. The pandemic COVID-19 also caused availability problems in independent inpatient nursing care – when there was an outbreak in the facility, new patients could not be admitted, or hospitals sometimes closed inpatient nursing units to accommodate COVID-19 patients.

## Number of nursing care beds

116. The development plan of Estonia's nursing care network for 2004–2015, valid until 2015, stated the need for an evidence-based nursing care service, which was 10 beds per thousand 65-year-old and older residents in the county. According to EGGA, this indicator can still be used as a basis for assessing the need for beds.

117. The National Audit Office found that, after the audit published in 2015, the number of beds has decreased: at the end of 2013, there were 8.4 beds per thousand inhabitants aged 65 and over, but this indicator was 6.6 in 2020 and 6.32 in 2021. In other words, in 2021 there were 1,710 inpatient nursing care beds, but that is 992 beds less than needed.

118. Both the proportion of beds and the volume of services financed by the Health Insurance Fund differ from county to county. This was also the case during the previous audit. In 2021, the number of recipients of inpatient nursing care in the counties was 3–6% of the number of residents aged 65 and over in the respective county (see Appendix E). The number of bed days per person receiving the service also varied from county to county, varying from 17 to 45 days. For example, in Hiiu County, the time a patient was treated at one time was more than twice as short as in Harju County.

119. When interpreting the information presented in the previous point, it is important to note that hospitals do not differ from the profile of the nursing care service, and therefore the variability should not be so great. For comparison, in 2013, depending on the county, 4–8% of the population aged 65 and over in the respective county received the service.

## For your information,

**The National Audit Office's 2015 audit estimated** that 25% of patients who received inpatient nursing care service received the wrong and most expensive care in 2013. Furthermore, regional differences in service provision were caused by the principles of financing by the Health Insurance Fund, and the development of nursing care was hampered by a shortage of personnel.

<sup>38</sup> In the hospital, the internal medicine department deals with the analysis and treatment of the disease symptoms of the internal organs, and approaches the patient seeing his or her organism as a whole.

The number of bed days per patient varied less, i.e. it was 26–45 depending on the county.

120. At the same time, the overview of the need for the service is incomplete, because on the one hand, the Health Insurance Fund does not collect data on the treatment queue for inpatient nursing care and home nursing, and on the other hand, patients can register themselves on the treatment queue in several institutions. Also, in recent years, several service providers did not accept patients sent to the family physician at all, because the nursing units were closed in order to accommodate COVID-19 patients. According to the service providers themselves, in recent years the service was more accessible to patients coming from active treatment at the hospital.

121. In 2021, the National Audit Office conducted a survey among service providers, who provided inpatient nursing care, and found out what the order of treatment was in their institution in the last three years. The National Audit Office found that the queue for treatment differed from one institution to another – in smaller institutions, the queue was short in 2021 (it was possible to get nursing care immediately or within a few days), but in large cities/institutions the queue was longer and in some places reached up to 4 months (e.g. in Harju County). On average, only about a third of the institutions had a queue longer than two weeks.

122. According to some service providers, patients with complex and certain comorbidities are not admitted for treatment when possible (e.g. when the comorbidity is psychiatric diagnoses or the need for contact isolation) because the price of the service and the resources required are not in line with the provision and financing of the existing service. In order to find a more precise solution for the future, it would be necessary for the professional associations and the Health Insurance Fund to analyse the problem and agree on the terms of service provision.

123. An obstacle to the use of the service is the co-payment for inpatient nursing care, which is too high for some patients.<sup>39</sup> [Analysis of the co-payment burden](#)<sup>40</sup> shows that the costs of independent inpatient nursing care have increased significantly in recent years, accounting for 19% of the total co-payment burden (17% in 2019).

124. The existence of the problem was confirmed by several service providers, who emphasised in particular that the co-payment cannot be paid if the need for the service is of long duration. At the same time, there are also situations where patients are not referred for treatment because they do not have the money to pay the co-payment.

125. On a positive note, the number of patients for whom the audit completed in 2015 found that 25% of patients did not actually need inpatient nursing care, the number of such patients has now decreased. This observation is based on EGGA's assessment (the exact change in

<sup>39</sup> As of 1 April 2021, the co-payment for inpatient nursing care is 13.26 euros for one day of nursing care per patient. At the same time, the fee for the first ten bed days of treatment is 2.50 euros per day, or a total of 25 euros.

<sup>40</sup> Kersti Esnar, Eleri Lapp. Can the residents of Estonia afford health services given their income and co-payment burden? Ministry of Social Affairs, 2021.

terms of numbers cannot be given as this would require separate expert work).

126. Thus, although the waiting list for inpatient nursing care is quite short, patients receive this service in a more difficult condition than before. The reasons are that patients remain in inpatient hospital treatment for as short a time as possible and are then immediately referred to nursing care; the co-payment for the service is too high for many patients; the family physician does not consistently update the patients' treatment plans, so the doctor may recognise the need for the service too late. Furthermore, the service and patients were affected by COVID-19. The service providers, in turn, prefer to provide the services for so-called simpler patients.

## Home nursing

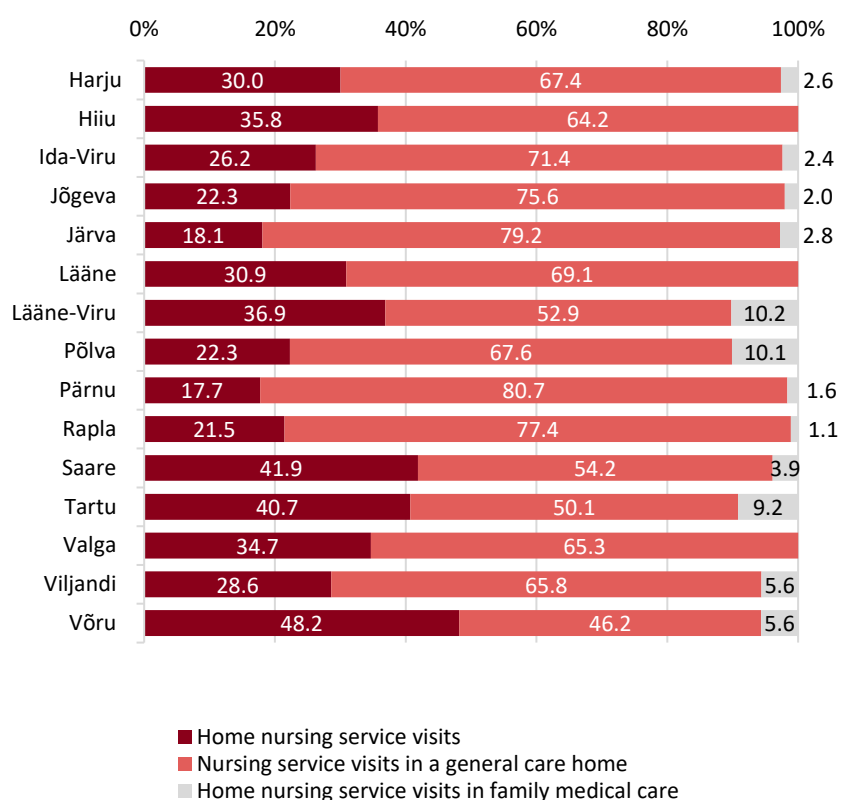
**Home nursing in a general care home** is a home nursing service offered to clients living in a nursing home during the day.

127. Home nursing service is offered to patients who can manage at home, but still need nursing care procedures. Home nursing services are provided on the basis of a referral. In recent years, new home nursing services have been added: **home nursing in a general care home** and home nursing in family medical care. Primary health centres offer the latter.

128. The added services are undoubtedly necessary, but according to the service providers and EGGA, the general increase in the provision of nursing care is hampered by a shortage of nurses (see clauses 156–162 for more details).

129. Based on the medical bills of the Health Insurance Fund, there were 214,442 home nursing visits in 2013 and approximately 276,000 visits in 2021, or about 30% more than in 2013. In 2021, approximately 616,000 visits of the general nursing care service, and approximately 33,000 visits of the home nursing service in family medical care were added to this (see Figure 8). The number of visits has increased significantly, mainly due to the new service offered at the general care home.

130. Figure 8 shows that the volume of home nursing services provided by family medical care is quite small, for example, not a single visit has taken place in Hiiu County (where there is no health centre). At the same time, home nursing services are available quite well in every county through the general care service.

**Figure 8. Percentage of different home nursing service visits by county in 2021\***

\* Individual visits where the patient's county was not indicated were excluded from the data.

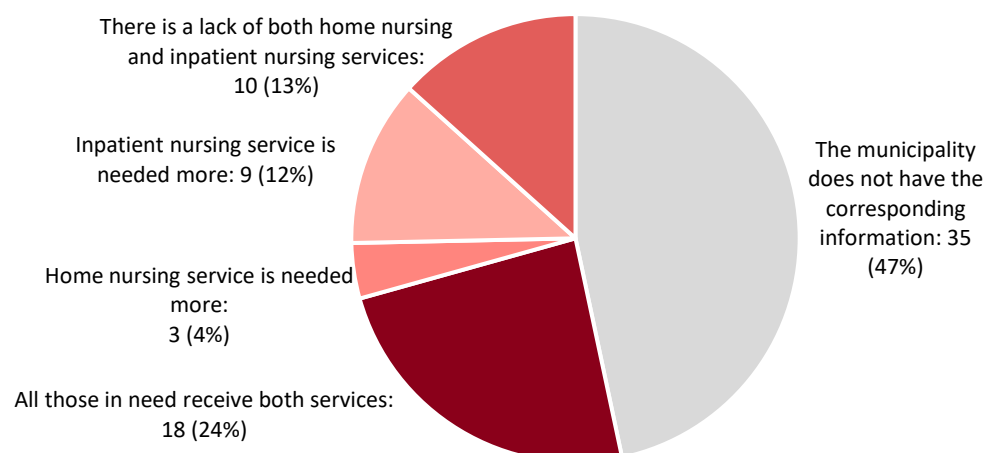
Source: Analysis of the National Audit Office based on the data of the Estonian Health Insurance Fund

## Municipalities' assessment of service availability

131. In 2020, the National Audit Office conducted a survey in 76 municipalities (where 75 responded), which revealed that not all those who need nursing care can receive the service (the availability of nursing care is reflected in Figure 9). The reasons given for the lack of nursing care were the following:

- there are queues for inpatient treatment;
- the home nursing service is not provided sufficiently;
- the service is not offered in the territory of the municipality;
- due to the limited availability of the service, patients visit the care service;
- the organisation of the inpatient nursing service is neither client-oriented nor flexible.

**Figure 9. The number of surveyed municipalities according to whether in-patient nursing care or home nursing care, which is financed by the Estonian Health Insurance Fund, is provided when necessary**



Source: Survey of the National Audit Office in municipalities, audit "Detection of social problems among the elderly by local governments"

**132. In summary**, there is no accurate information about the need for inpatient nursing care. The National Audit Office's survey among service providers found that the queue for nursing care is not very long, but at the same time, the condition of patients referred for treatment is becoming more difficult, so nursing care has to do what the current standard does not require. The availability of the service and the condition of the patients were affected by the pandemic COVID-19, the availability of family and specialist care, and the co-payment for the service. If the significantly wider availability of home nursing services than before is positive, the further expansion of nursing care is limited by a shortage of nurses.

### **A unified approach is needed to design a unified treatment pathway, incl. e-Health support**

**133.** Several audits and reviews by the National Audit Office<sup>41</sup> have found that in the current healthcare system, the patient's movement between different medical specialists and doctors is not guaranteed to be systematic and coordinated, i.e. to offer the unified treatment pathway. Existing e-Health solutions also do not support the attending physician in treatment and do not make the flow of the patient's health information between the different levels sufficiently smooth and accessible.

**134.** According to the Public Health Development Plan for 2020-2030, service integration is important because, among other things, it helps people to better manage their illness, while improving the efficiency of the system and the availability of services.

**135.** Since for patients their movement in the healthcare system, or the treatment pathway, is fragmented and complicated, in order to harmonise this, the Health Insurance Fund has started mapping treatment pathways and developing telemedicine services in recent years. Examples of such

### **The projects to develop treatment pathways**

<sup>41</sup> [The National Audit Office's Annual Report to Parliament 2018–2019: e-State; "Emergency Medicine", 2018; "State's activity upon treating and maintaining the health of children", 2016; "State's activity in organising independent nursing care", 2015.](#)

review of treatment pathways, development and testing of new solutions are as follows:

- [stroke pilot project](#), i.e. better organisation of the post-stroke treatment pathway (2019–2022);
- [endoprosthetic treatment pathway](#) (2021–2022);
- [emergency care treatment pathway](#) (2020);
- [treatment pathway for adults with depression](#) (2021);
- [OnKontakt application for cancer patients](#) (2020–2023);
- [treatment pathway of a patient with psoriasis](#) (2020–2023).

136. Furthermore, in 2022, the Ministry of Social Affairs launched the all-Estonian project "People-centred social and health services." It aims to create a model where the provision, organisation and financing of social and health services are integrated. The project should end in 2025, its target group is patients who need both social and health services.

**PAIK** is a pilot project initiated by Viljandi Hospital and the Ministry of Social Affairs and financed by the Health Insurance Fund, i.e. LOCAL ("paik" means "location" in Estonian) health support service to ensure consistent treatment and the best social support in Viljandi County.

137. One of the starting points of the project is the experience gained from the Viljandi **PAIK** project. The PAIK project tested the integration of healthcare and social services based on patient needs. At the time of the completion of this review, the new project of the Ministry of Social Affairs is in its initial phase, and its success cannot yet be assessed. In essence, however, it is an initiative in which an attempt is made to find a solution to link services that support human health.

138. The aforementioned development projects show that the Ministry of Social Affairs, in cooperation with the Health Insurance Fund, has undertaken a step-by-step solution to the fragmentation problems of the healthcare system. However, due to the project-based approach, harmonisation of treatment pathways (and integration of different services) takes a lot of time and other resources. This is one reason why it is not possible to map all disease-based treatment pathways. Furthermore, the selection and implementation of telemedicine-service (development) projects depends primarily on the zeal and initiative of health service providers and/or professional associations.

139. In other words, the initiated projects are necessary because new solutions can lead to a specific positive change (e.g. shortening of the treatment pathway) for a specific target group/disease group. However, a complete transformation of healthcare is still to come, as minor developments cannot yet fundamentally change the system of patient movement between the different levels of health care.

## Use of e-consultation

**E-consultation** – an opportunity created mainly for family physicians to consult with medical specialists through the health information system in order to specify the diagnosis and treatment of their patient.

140. **E-consultation** helps to send the patient to the next level faster, and the specialist can also support the family physician who is treating the patient through it (provide treatment-related and other recommendations). Family physicians use e-consultation more and more. There are more and more specialties where this option is available – from the beginning of 2022, e-consultation is available in 31 specialties.



141. Based on statistics, the share of e-consultation in all referrals (digital referrals of family physicians and e-consultations altogether) is still quite small – if in 2020 e-consultations were 7% of all referrals, then in 2021 they were 8% (approximately 51,000 e-consultations and 620,000 digital referrals of family physicians).

### For your information,

in a few specialties, such as hematology and psychiatry, as a result of the agreement between the Health Insurance Fund and the professional societies, the patient is mainly forwarded to e-consultation.

142. Statistics on e-consultations show that in 2021, in approximately 35% of e-consultations, the patient did not have to see a medical specialist, but it was enough for the specialist to transmit treatment-related recommendations via the e-channel. An invitation to a medical specialist was sent within 7 days, in other words, an urgent need for treatment was detected in 7% of cases (see Table 6).

**Table 6. E-consultation responses by category in 2020 and 2021, %**

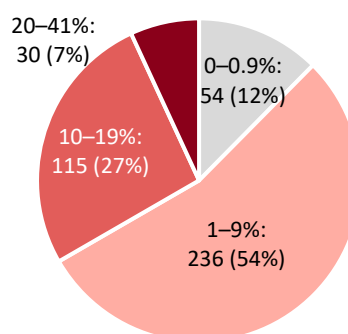
| E-consultation responses         | 2020 | 2021 |
|----------------------------------|------|------|
| E-consultation                   | 38.3 | 34.8 |
| Appointment within 7 days        | 8.0  | 7.1  |
| Appointment within 8-42 days     | 34.3 | 31.4 |
| Appointment in more than 42 days | 14.4 | 11.2 |
| Other                            | 3.6  | 4.6  |
| Impossible to say (no data)      | 1.5  | 10.9 |
| Total                            | 100  | 100  |

Source: Analysis of the National Audit Office based on the data of the Health Insurance Fund and the Health and Welfare Information Systems Centre

143. However, not all family physicians use e-consultation or use it little (see Figure 10). Given the benefits of e-consultation, its use among family physicians should be strongly promoted. According to the Health Insurance Fund, the reasons for not using e-consultation with family physicians were investigated and two reasons emerged:

- e-consultation is not used if the doctor does not see a practical need for it (e.g. in some counties, the patient can easily and quickly get an appointment with a medical specialist);
- for elderly and family physicians with weaker Estonian language skills, filling out the e-consultation referral and other technical editing may be too difficult.

**Figure 10. Numerical distribution of family medicine centres based on the share of the use of their e-consultations out of all digital referrals in 2021**



Source: National Audit Office, based on the data of the Health Insurance Fund and the Health and Welfare Information Systems Centre



## E-Health

### For your information,

in Estonia, the Health and Welfare Information Systems Centre (TEHIK) is involved in the development of eHealth. The focus of its efforts in 2020-2021 was to contribute to solving the crisis COVID-19 in developing e-solutions: vaccination certificate (immunisation record), provision of analyses on COVID-19 for doctors, data exchange with the Police and Border Guard Board regarding persons who have remained in isolation and/or have fallen ill, etc.

**144.** In addition to the aforementioned development projects and e-consultation, supporting e-Health solutions are needed to integrate services. The current system does not favour harmonisation and integration of the treatment pathway, because the structure of the Health Information System does not allow a quick overview of patients' health status or medical history. In addition, information is not always transmitted according to the standards of the Health Information System, which in turn prevents information from being received.

**145.** In order to harmonise the treatment pathway and integrate services, it would be necessary to find a solution to exchange health information between the social and health fields, to create an overview for family physicians on the use of health services by patients on their list (e.g. regular information about visits to EMD, emergency calls or requests to open a sick note submitted via 1220, so that the family physician can support the patient if necessary) and speed up the exchange of information between the medical specialist and family physician, etc.

**146.** Efforts have been made to make the data of the Health Information System more accessible through individual projects. For example, the "Data Viewer" e-solution was implemented to find data, which simplifies the work of doctors with information through data visualisation. As a first step, the patient's analysis results were visualised on the corresponding screen.

**147.** In the long term, the creation of a new generation health information system (upTIS) is planned. To date, there is an overview of the problems, the upTIS vision and the development plan have been created (preliminarily by 2022). UpTIS is implemented by individual services (which are separate information systems in a large system). UpTIS plays an important role in improving the work of doctors, making treatment decisions and improving the availability of data. However, the effects of the development will only become apparent in the future, because the transition to a new system is a long process.

**148. In summary,** at present, the treatment pathways are not yet harmonised and the services are not integrated. Several projects and measures are in progress. If successfully implemented or continued, they will contribute to shortening at least part of the patient's treatment pathway. Considering the distant future, however, we should think about how to make the harmonisation of treatment pathways even more systematic and how e-Health could support this process.

### Summary of availability issues of health services

**149.** There is a shortage of family physicians in Estonia, queues for specialist care are long, and health services are not available equally in all counties. Furthermore, the problems of other treatment levels accumulate in nursing care and EMD: patients arrive at inpatient nursing care in a more difficult condition than before, while a large share of patients who visited EMD could receive help from a family physician. Although the National Audit Office only examined some aspects of access to health services, it is possible to conclude on the basis of these findings that timely treatment is not equally available to all people in all counties and specialties.

**150.** Developing the quality and availability of health services should also involve better integration of different services, while coherent

organisation of services means change at the system level (coherent provision, management and financing of services in different areas) This should also be supported by an updated health information system where a high quality data set that meets information sharing standards has been agreed. Currently, the exchange of health information between different levels in Estonia is not yet well organised. For example, family physicians cannot always support their patients on their own initiative and in a timely manner.

151. In order to improve the availability of medical specialist care, the Health Insurance Fund started to develop telemedicine services from 2020, i.e. the patient and healthcare specialist communicate remotely, via phone, video call or online chat. As a result of this, in 2021, out of 3.5 million outpatient appointments, 8% of specialist care was done remotely. It is also positive that in Estonia, as far as possible, harmonisation of treatment pathways is being done at the level of people and institutions.

152. At the same time, there is no clarity as to what the organisation of Estonian healthcare as a whole, or system-level processes will be in the future. For example, how are primary care services integrated with hospital services? An overview of the basic future options for the organisation of health services and measures that can be implemented more quickly are presented in Table 7.

**Table 7. Fundamental decision points and tasks that can be solved more quickly in ensuring correct and timely treatment**

| Strategic issues  |
|---|
| <ul style="list-style-type: none"> <li>How to proceed with the organisation of both family medical care and the hospital network? How to ensure their consistency and coordination of services? Which health services must be available in less populated areas and which services will be centralised? How to solve patient movement/transport concerns?</li> <li>Should we push for networking and empowerment of family physicians, and if so, how, and what are the concrete steps?</li> <li>How to reduce the burden on emergency medicine departments?</li> <li>How to ensure that nursing care arrives on time?</li> <li>How to bring about broader system-level change and ensure integration of services between different levels of healthcare and with other areas of administrative policy?</li> </ul>  |
| Tactical tasks  |
| <ul style="list-style-type: none"> <li>The projects to develop treatment pathways improve the situation at the level of specific target groups and institutions and should be continued.</li> <li>The workload on family physicians can be reduced by redistributing tasks within the family physician team. It is being dealt with. However, it would also be helpful to do so-called small things, for example informing the family physician that their patient had visited the emergency medical department the previous day, etc.</li> <li>Encourage the use of e-consultations more, because through this it is possible to send the patient to see a medical specialist based on his or her actual need or to give advice to the family physician about further treatment.</li> <li>It is important to continue the preparation of important decisions, such as the discussions and adoption of development plans for family medical care and the hospital network in the next one or two years.</li> <li>It is necessary to continue to invest in the standardisation of health information and the exchange of information between different levels and participants of healthcare.</li> </ul> |

## Healthcare personnel problems cannot be solved quickly

153. The foundation of the availability of high-quality medical care is the availability of a sufficient number of trained healthcare professionals. Unfortunately, the shortage of healthcare professionals is getting worse. The shortage of nurses and care workers, as well as family physicians and doctors in the field of psychiatry and emergency medicine is particularly acute. There is overwork in the Estonian healthcare system, the greatest risk of which is poor quality of treatment, and the challenge is the need to ensure patient safety.

### The need for healthcare professionals is huge

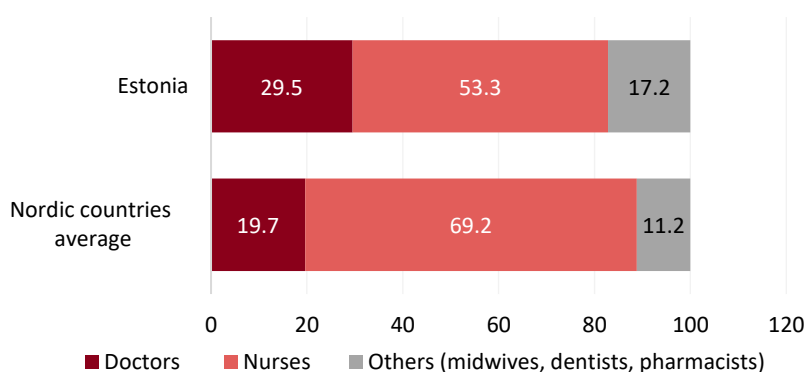
154. To determine the current extent of the shortage of healthcare professionals and to identify changes in recent years, the National Audit Office conducted interviews with several professional associations and healthcare institutions, analysed data from several registers and compared international statistics.

155. As of the first quarter of 2022, 7,048 doctors, 15,014 nurses, 1,897 dentists, and 1,081 midwives were registered in [the National Register of Healthcare Professionals](#). Not all persons in the register work in Estonia or in the healthcare sector. A total of 190 doctors of foreign origin have been entered in the register between 2008 and 2021, most from Ukraine (72) and the Russian Federation (90).

### International statistics

156. Compared to countries of the Organisation for Economic Cooperation and Development (OECD), the share of doctors in Estonia is higher than healthcare professionals, and the number of nurses is significantly lower. The situation is also the same when compared to Nordic countries such as Norway, Sweden, Finland, and Denmark (see also Figure 11). The nurse-doctor ratio is 1.8 in Estonia and 3.6 in the Nordic countries, and the average for OECD countries is 2.6.<sup>42</sup> We are roughly 3,000 nurses short of the OECD average nurse-doctor ratio (taking into account the current number of doctors).

Figure 11. Share of nurses and doctors among healthcare professionals



Source: National Audit Office; State of the World's Nursing Report 2020 – Country Profiles. WHO, 2020

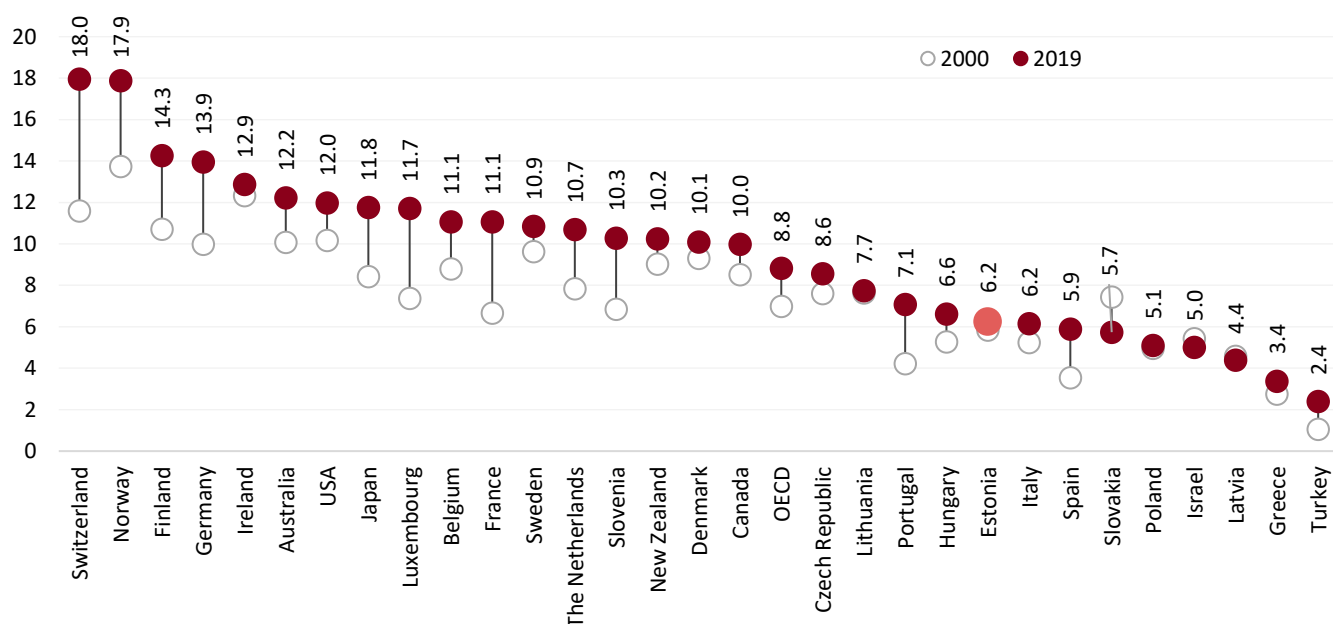
<sup>42</sup> [Health at Glance 2021](#). OECD, 2021.

## Number of nurses

157. According to WHO, the average number of nurses per 1,000 inhabitants in the Nordic countries was 13.7 in 2020.<sup>43</sup> In Estonia, according to the National Institute for Health Development (NIHD), this indicator was 6.3 in 2020 and 6.48 in 2021. With this, we are also rather behind the OECD countries (average 9.4). The average age of nurses in Estonia is 46 years.

158. According to the NIHD information, there were 8,632 nurses in Estonia in 2021, and their number has grown by an average of 2% per year since 2013. Nevertheless, the overall number of nurses in Estonia has increased only relatively slightly in recent decades (see Figure 12). In order to reach the level of the Nordic countries, the number of nurses in Estonia should increase by approximately 9,500 nurses, or about twice.

Figure 12. Number of nurses per 1000 people in 2000 and 2019



Source: Health at Glance 2021. OECD, 2021

159. The new generation of health care professionals has also been in a downward trend for some periods. For example, 467 nurses graduated from the health care college in 2017, but only 383 nurses in 2020. The situation was the same for doctors – if 151 doctors graduated from the university in 2017, then 138 in 2020.<sup>44, 45</sup>

160. Compared to other countries, we have a low proportion of nurses who have immigrated from elsewhere. In OECD countries, on average 6.1% of nurses received their education elsewhere, in countries such as Switzerland 25.9%, Australia 18.1%, Norway 6.2%, Sweden 3.2%, Latvia 2.6% and Finland 1.8%. In Estonia, 0.2% of nurses have received their education elsewhere.<sup>46</sup>

<sup>43</sup> State of the World's Nursing Report 2020 – Country Profiles. WHO, 2020.

<sup>44</sup> [State of Health in the EU. Estonian State's health profile, 2021](#). OECD, 2021.

<sup>45</sup> Some specialties did not have graduates because the length of residency was prolonged.

<sup>46</sup> [State of the Worlds Nursing Report, 2020, Country Profiles](#). WHO, 2020.

## For your information,

an analysis of the impact of nurse workload found that a one-patient increase in nurse workload increased the likelihood of inpatient death by 7% within 30 days. The education of nurses also affected the outcome – hospitals where 60% of nurses had a university degree and nurses cared for an average of 6 patients had almost 30% lower mortality than hospitals where only 30% of nurses had a university degree and nurses cared for an average of 8 patients. Thus, a higher number of nurses per patient reduces mortality, the subsequent burden of treatment, and is more economically beneficial because, among other things, the number of hospital days is reduced (and the total cost of nurses' wages is lower). In addition, the risk of staff burnout is reduced.

Source: Effects of nurse-to-patient ratio legislation on nurse staffing and patient mortality readmissions and length of stay. *The Lancet*, 2021

## Psychiatrists and other mental health specialists

### For your information,

OECD statistics show that depression is relatively common in Estonia (it was also before the pandemic COVID-19). Long-term depression can be accompanied by self-harming behaviour, suicidal thoughts and attempts. In terms of suicides, Estonia ranks quite high among OECD countries.

Source: OECD. *Health at a Glance: Europe 2020* Adult mental health

**161.** The OSKA healthcare survey by Kutsekoda (the Estonian Qualifications Authority)<sup>47</sup> and the interviews of the National Audit Office have shown that the focus in health care is increasingly shifting towards promotion and prevention measures, which creates additional pressure to increase the number of nursing staff. It must be taken into account that the scope of nurses' work is wider today than in the past and there are more jobs – for example, home nursing, emergency services, home nursing in a general care home, nurse's independent appointments and the right to write prescriptions, the addition of a third family nurse in health centres – and this in turn increases the need for nurses.

**162.** The need for nurses became particularly acute during an unexpected crisis. According to the Estonian Nurses Union, before the pandemic COVID-19, a nurse in a hospital in Estonia took care of an average of 12–14 patients, but during the pandemic, a nurse was already responsible for up to 20 people in need during a shift.

**163.** Analyses and assessments made ten years ago already showed that if Estonia wants to reach nine nurses per 1,000 people by 2032 (which was the OECD and European Union average in 2010), starting from 2014, 450–500 nurses should have gone to work in Estonian medical institutions in all subsequent years. For this purpose, 700–800 students per year should have been admitted to nursing education.<sup>48</sup>

**164.** According to the consensus agreement, such level of admission will be reached<sup>49</sup> only the next, 2023/2024 academic year, i.e. nine years later. Thus, the earlier goal of the Ministry of Social Affairs, that there would be nine nurses per 1,000 people in healthcare in 2030, has shifted to 2042.

**165.** In terms of the number of doctors, we are at the level of OECD countries. There are 3.5 doctors per 1,000 inhabitants in Estonia, which is almost the same as the OECD average and slightly lower than the average of the European Union countries (3.7). Therefore, it is more appropriate to assess the shortage of doctors by individual specialties. For example, both OSKA studies and long treatment queues indicate that there is an acute shortage of psychiatrists in Estonia.

**166.** According to the NIHD, there were 222 psychiatrists working in Estonia in 2021, including 18 child and adolescent psychiatrists. So there were approximately 15 psychiatrists per 100,000 people. In 2019, this ratio was 16. In comparison, in 2019, according to the OECD, the number of psychiatrists per 100,000 people was 26 in Norway, 24 in Finland, 23 in Sweden, 23 in Lithuania, and 16 in Latvia.

<sup>47</sup> [Estonian labour market today and tomorrow 2019–2027](#). An overview of the Estonian labour market situation, labour needs and the resulting training needs. Kutsekoda (the Estonian Qualifications Authority), 2020.

<sup>48</sup> Raul-Allan Kiivet *et al.* Õdede arvu prognoos aastaks 2032 (Forecast of the number of nurses for the year 2032). *The journal Eesti Arst (Estonian Physician)* 2013;92:616–626. <https://eestiart.ee/odede-arvu-prognoos-aastaks-2032/>.

<sup>49</sup> The consensus agreement was concluded on 18/02/2022 and was signed by the Ministry of Social Affairs, Ministry of Education and Research, Tartu Health Care College, Tallinn Health Care College, Estonian Hospital Association, Family Physicians Association of Estonia, Estonian Emergency Services Association, Association of Private Healthcare Providers, Estonian Nurses Association and Estonian Association of Occupational Health Physicians.

167. According to the development plan for the specialty of psychiatry drawn up by the Estonian Psychiatric Association, the required number of psychiatrists would be 30–40 more than currently. Additional 130–160 clinical psychologists would be needed for primary (first contact) care level. There is also a shortage of school psychologists and mental health nurses.<sup>50</sup>

168. It is important to note that more than half of psychiatrists are of retirement age or will reach retirement age in the near future. Therefore, the need for new psychiatrists is very great and one can speak of a labour crisis in this area.

169. As of December 2020, there were 737 practice lists of a family physician in Estonia, and 48 of them did not have a permanent family physician. This is a problem because most substitute doctors have their own list and it is difficult to fully contribute to multiple lists; the substitute doctor may not know the patients of the other list as well, etc. By June 2022, the number of lists without a family physician (i.e. with a substitute doctor) had increased by another six lists. In total, by the summer of 2022, there were 54 lists with substitute doctors and there were approximately 72,500 patients in them.

### For your information,

in 2010, there were 803 registered family physicians in Estonia, and the number of insured persons without a family physician was estimated by the Health Insurance Fund to be between 4,500 and 5,000.

Source: Audit of the National Audit Office "Organisation of family medical care", 8 April 2011

170. For comparison: broken down by region, in 2022 there were, for example, 9 lists without a family physician in Lääne-Viru County, 8 in Harju County, 6 in Võru County, 5 in Pärnu, Valga and Saare Counties, 4 in Rapla and Viljandi Counties and fewer in other counties. The number of people on the lists with a substitute doctor by county is presented in Figure 13.

171. The aggravation of the problem of a shortage of family physicians is also shown by the fact that, for example, a quarter of the substitute doctors with a list are over retirement age (average age 70 years), and another quarter is approaching retirement age. Furthermore, thousands of Ukrainian war refugees have also arrived in Estonia in recent months, who also need health services.

### Family physicians

172. According to the goodwill agreement concluded in March 2019 by the Family Physicians Association of Estonia, the Health Board, the Estonian Health Insurance Fund, and the Ministry of Social Affairs, it is considered optimal if the family physician list includes 1,600 people. According to this indicator, there is a shortage of at least 45 family physicians in Estonia

<sup>50</sup> [Vaimse tervise roheline raamat \(The Green Book of Mental Health\)](#). Ministry of Social Affairs. Tallinn, 2020.

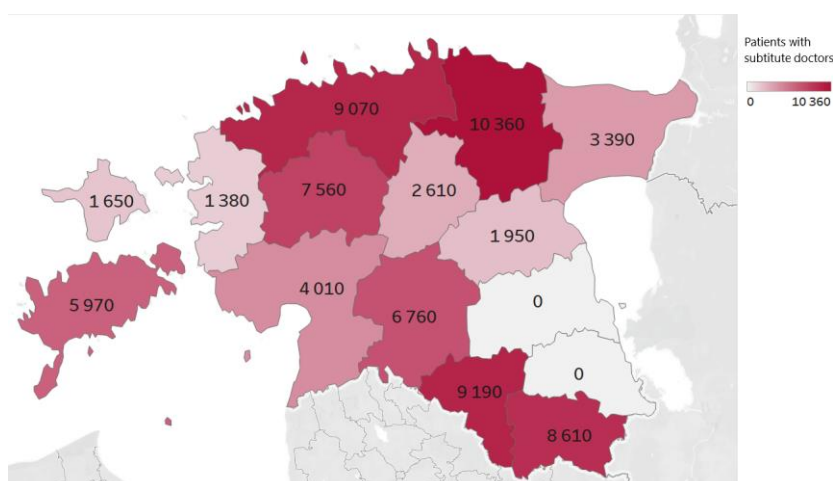


## For your information,

in the 2020 annual report "The future of priority public services", the National Audit Office pointed out that

- there are more family physicians retiring than new ones;
- Almost half of family physicians are 60 years of age or older;
- It is becoming increasingly difficult to find new doctors for the family physician list, and competitions fail;
- there are lists where there has been a temporary substitute instead of a family doctor for 7 years;
- there have been few graduates of the residency for a long time, and less than half of them immediately take up the list;
- residency graduates often do not want to work away from Tallinn or Tartu.

**Figure 13. Number of patients on the lists with a substitute doctor as of June 2022**



\* In Tartu and Põlva counties, all lists had a family physician as of June 2022

Source: Health Board

**173. In summary,** there are many problems with ensuring the availability of healthcare professionals. Regarding doctors, there is a labour crisis among family physicians, psychiatrists and emergency medicine doctors (see also clause 193). The shortage of nurses deserves to be highlighted separately. In health sector strategy documents, it is considered important to significantly increase the contribution of nurses in total healthcare, as the training time of nurses is shorter and the wider use of nurses helps to better control healthcare personnel costs in the long run. However, the National Audit Office's analysis here shows that the deep shortage of nurses prevents the effective implementation of this strategy. There are simply too few of them now and in the near future.

## The shortage of staff is compensated by overtime, but this can lead to a deterioration in the quality of treatment

**174.** The National Audit Office asked various institutions in the healthcare sector, firstly, whether there is an overview of the current healthcare professionals as a labour resource, i.e. what data is collected, and secondly, how the shortage of professionals is planned to be reduced. It turned out that this area lacks an accurate overview of staffing needs, the length of doctors' and nurses' working days and the intensity of their work. The shortage of healthcare professionals does not seem to be easing in the near future.

**175.** The NIHD collects statistics on healthcare professionals (as of November) and their salary data (as of March) from health service providers every year. There is information about the number of working doctors and nurses, but estimating their deficit is more difficult.

**176.** According to the NIHD, the data on overtime worked could serve as an indicator of staffing needs (in other words, several full-time positions were filled at the expense of overtime). Based on this, according to the statistics database of healthcare professionals, in November 2021, 365 nurse and 116 doctor positions were unfilled.

**177.** One example: in the case of psychiatrists, the overtime would fill 2.4 positions (see table 8), but the actual need for psychiatrists is several

## Data collected about healthcare professionals



times higher (see the description of the need in clause 167). In other words, it is not possible to cover the need for healthcare professionals even if the existing ones systematically work overtime. The number of overtime hours also does not indicate the total number of personnel required.

**178.** Overtime data must be treated with caution also for the reason that different service providers calculate overtime in different ways. Several interviews conducted by the National Audit Office revealed that in some healthcare institutions not all working hours are reflected in the official working time schedules, and some work is not included in the working time (e.g. work with documentation, handover of shifts). Furthermore, many healthcare professionals work for multiple employers and the total number of hours they work is not visible to their employers. In short, the number of overtime hours is likely to be underreported.

**179.** Table 8 shows the number of healthcare professionals and overtime statistics for some specialties. Data from 2016 and 2021 have been compared, which show that the amount of overtime has increased significantly during this time. Consequently, the shortage of professionals is getting worse, which is being tried to be alleviated with overtime work.

**Table 8. Number of healthcare professionals and positions filled at the expense of overtime**

| Healthcare professionals           | Number of employees in 2021, reduced to full-time | Additional number of positions filled due to overtime |       |
|------------------------------------|---|---|-------|
|                                    |   | 2016  | 2021  |
| Healthcare professionals in total  | 20,362.6  | 499.7   | 811.5 |
| Doctors, incl.                     | 3,815.1   | 101.5   | 116.3 |
| ... resident doctor                | 452.9   | 4.6   | 4.2   |
| ... emergency medicine doctor      | 131.8   | 7.3   | 6.4   |
| ... family physician               | 820.7   | 7.5   | 8.5   |
| ... psychiatrist                   | 152.6   | 4.0   | 2.4   |
| Nurses, incl.                      | 8,171.6   | 195.6   | 365.0 |
| ... emergency medicine nurse       | 675.7   | 37.9  | 66.8  |
| ... home nurse                     | 148.6   | 1.7   | 2.1   |
| ... school nurse                   | 225.9   | 0.8   | 1.8   |
| ... family nurse                   | 1,283.1   | 3.4   | 9.5   |
| Psychologists and psychotherapists | 166.7   | 0.2   | 0.9   |

Source: Statistics of the National Institute for Health Development

**180.** According to the National Audit Office, setting and adhering to workload standards for healthcare professionals would help to provide more clarity on the actual need for healthcare professionals. Currently, workload standards have been established only in inpatient nursing care and intensive care.

181. According to the Ministry of Social Affairs, workload monitoring in the Estonian private healthcare system is a matter between the employer and the contractor. The NIHD collects information on workload and overtime, and work intensity is measured by the Health Insurance Fund when it establishes the service price. However, the problem is not only the skewness of overtime statistics and the nuances of regulating labour relations at the employer-contractor level.

182. The real problem is that in a situation where, due to staff shortages, the number of patients in the hospital is often excessive for a nurse or doctor, the quality of treatment can be compromised due to a lack of workload standards. This is a system or policy-making level issue. If the overtime statistics are also inaccurate, it is not possible to make adequate decisions regarding the entire system in health personnel policy.

183. In 2020, Estonia participated in the European Union project [SEPEN](#) (*Support for the health workforce planning and forecasting expert network*), in which the workforce planning organisation of [Estonia and other countries was mapped](#) and recommendations for further developments were given. Estonia's problem was, among other things, the fragmentation of data. Therefore, work began on updating the Health Board's registers. According to the Ministry of Social Affairs, this should create better data analysis opportunities and contribute to the development of Estonia's healthcare workforce planning and forecasting system.

184. **In summary**, the intensity of work of healthcare professionals and frequent overtime has been a known concern for a long time. A separate problem is that there are no reliable statistics on overtime. Until now, both some employers and the Ministry of Social Affairs have lacked the will to deal with these issues, because even more accurate statistics in themselves do not bring more people to this area, and some healthcare professionals prefer working with a heavy workload.

185. According to the National Audit Office, the Ministry of Social Affairs should still deal with this issue. The National Audit Office believes that overtime cannot be a long-term solution to the problem of the shortage of healthcare professionals, as systematic overwork can jeopardise the well-being of patients. Secondly, a more adequate picture of the need for healthcare professionals helps to plan more realistic personnel policy measures.

### **The preparation of the next generation of healthcare professionals has been hampered by both the lack of interest of students and the lack of study places**

#### **Learning/training**

186. The system for preparing the national training mandate for Estonian healthcare professionals is decentralised. The number of study places is negotiated among themselves by the Ministry of Social Affairs, the Ministry of Education and Research, the University of Tartu, health care colleges as well as hospitals, professional societies and other parties. Since resources are limited, there is no long-term plan, and the number of admissions is always agreed separately for each specialty each year.

187. On 18 February 2022, a consensus agreement on study places for applied higher education in the healthcare sector was concluded for the new period. Accordingly, the Ministry of Social Affairs has once again agreed with the Ministry of Education and Research and other parties that

### For your information,

In 2021, the number of admissions to the basic education of nurses and midwives at Tallinn and Tartu Health Care Colleges was a total of 559. At this level, starting from 2026, there would have been 100 more beginners than retirees. At this rate of growth, it will take 40 years to increase the total number of nurses working in Estonia by 4,000.

Source: Eesti Arst, March 2022

### For your information,

During the document acceptance period in June 2022, a total of 2,037 applications were submitted for 524 study places at the Tartu Health Care College, the radiology technician and physiotherapist curricula were of greatest interest to the applicants. There were 13.1 applicants for the radiology technician position, and 11.8 for the physiotherapist position.

it is necessary to convene a training committee every year for better planning of study places.

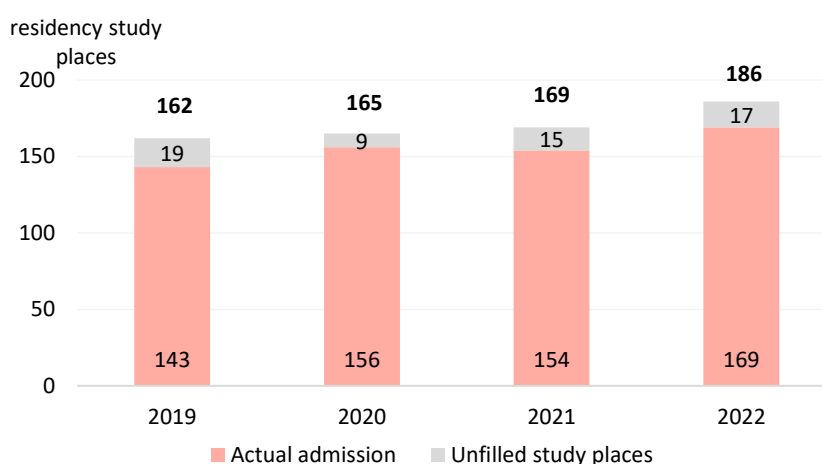
**188.** According to the new consensus agreement, it is the responsibility of the Ministry of Education and Science to apply for targeted financing for additional study places, and the Ministry of Social Affairs must finance practise bases. In the basic education of nursing, reception will increase in the 2022/2023 a.y. up to 600 pupils and in the 2023/2024 a.y. up to 700 pupils.

**189.** In 2022, based on the agreement with the Ministry of Social Affairs and the University of Tartu, the residency order for medical specialists was also increased from the previous 169 places to 186. With the largest residency order over the years, admissions in the specialties of family medicine, psychiatry, and radiology increased.

**190.** Steps were also taken earlier to increase the number of family physicians: In 2021, the University of Tartu, in cooperation with the Ministry of Social Affairs and the Ministry of Education and Research, increased the number of study places in the family medicine residency from the previous 35 to 40 places. This is a fifth more than in 2013, when there were 32 study places. Although a record figure of 28 family physicians graduated from family medicine residency in 2021, considering the smaller number of graduates in previous years and the length of their studies, this is not enough to significantly ease the shortage of family physicians.

**191.** Increasing admission numbers is not the only measure needed. One of the bottlenecks is the number of people who want to become healthcare professionals (see Figure 14). In addition, it must be taken into account that not all students graduate. In the period from 2019 to 2022, the share of those who dropped out of higher education in the healthcare sector was on average 7.2%.<sup>51</sup>

**Figure 14. Number of state-financed residency study places, actual admission, and number of unfilled study places in 2019–2022**



Source: Ministry of Social Affairs

<sup>51</sup> <https://www.haridussilm.ee/ee/korghariduse-tulemuslikkus>

192. The problems related to the above are weak competition for admission and the insufficient popularity of some specialties, the limitation of the practise base (not every hospital has the necessary conditions for learning and not enough supervisors) and the high workload of resident physicians.

193. For example, in order to cover the minimum need for new employees in emergency medicine in the next ten years, there should be 30–40 residency places per year. However, there are only 10–12 applicants. There are several reasons for the relatively low popularity of the specialty: the work at EMD is very intensive, the working conditions are difficult and the development prospects are modest.

## Other factors shaping the labour market

194. Both OSKA surveys<sup>52</sup> and interviews with various professional associations confirm that the healthcare system needs a different workforce structure to function effectively compared to the current one. Both hospitals and family medicine centres need medically trained administrative staff, such as secretaries and assistants, to take over technical tasks from doctors and nurses and save them time.

195. Recently, the labour market of healthcare professionals has been affected by the intensifying competition in recruitment, including between family medicine centres and private companies offering other specialised medical care. This creates additional pressure to raise wages and review working conditions.

## For your information,

the need to develop personnel standards was agreed upon in 2012. The plan was to develop personnel standards for workload by the summer of 2013.

Source: collective agreement of healthcare professionals of 29/12/2012

This agreement is still unfulfilled. Hospitals take advantage of the lack of standards and apply unreasonably high workloads.

Source: *Postimees Tervis*, 22/01/2016

The same problem was described again in several interviews given to the National Audit Office, as the personnel standard has not been established.

196. For healthcare professionals, the comprehensive value proposition of the employer is becoming increasingly important, i.e. other working conditions (including a work culture that values the employee) are important in addition to salary. The new generation of doctors and nurses want more suitable working hours, establishment of workload standards, clear delineation of job duties and competence requirements, career models and also, for example, the opportunity to participate in trainings without the obligation to find a substitute for themselves.

197. There are not many healthcare professionals of foreign origin in Estonian healthcare, because in Estonia, in addition to professional knowledge and skills, knowledge of the Estonian language is also required. Alleviating the shortage of workers through the recruitment of personnel of foreign origin has not been topical in Estonia, but in connection with the large number of war refugees from Ukraine and the fact that healthcare professionals are rather moving to other specialties (e.g. the catering sector), this issue has risen to the agenda.

198. **In summary**, we have come to this due to the pressure resulting from the aging of the population to the point where the shortage of personnel has become one of the biggest obstacles to the provision of health services. This leads to a visit to the doctor and treatment being reached later than would be possible, which in turn can cause greater damage to health (including psychological damage) and increase healthcare costs. However, there is no quick relief for personnel problems.

<sup>52</sup> [Tulevikuvaade tööjõu- ja oskuste vajadusele \(A future view of the need for labour and skills\). Healthcare, 2017](#). OSKA, 2017.

## Summary of healthcare staffing Issues

### For your information,

in the fall of 2022, 23 Ukrainian war refugee nurses with professional nursing education will be offered applied higher education at Tallinn Health Care College.

Paramedics and nurses with non-professional education, midwives and medical students with incomplete education have also shown interest in studying at the college.

**199.** The shortage of healthcare professionals has been talked about for a long time, but the problem has not been solved. There is a particularly high shortage of nurses, psychiatrists, emergency medicine doctors and family physicians. Having said this, it should be noted that it is not possible to adequately assess the need for healthcare professionals from the available data: there is a lot of overtime in healthcare, but it is not easy to determine the real size of the problem, because the data is not accurate.

**200.** What is certain is that the pandemic COVID-19 and the arrival of refugees from the war in Ukraine have exacerbated the shortage of healthcare professionals, their overwork and the risk of burnout.

**201.** Although the training mandate for healthcare professionals has recently been increased, not all available study places have been filled. Actually, the personnel problems in healthcare start from the nature of the work and the working conditions, which are no longer attractive enough for today's young people. Furthermore, as the training lasts for years, the results of increasing the training mandate can be seen in the distant future. So there is no good answer for how to overcome shortages of personnel.

**202.** Due to staffing problems, the inhabitants of Estonia will probably have to adjust in the near future to the fact that the availability and/or quality of health services will not meet the expected level. Table 9 summarises the basic decisions related to healthcare personnel policy and the measures that can be implemented more quickly.

**Table 9. Fundamental decision points and tasks that can be solved more quickly in healthcare personnel policy**

| Strategic issues   |
|--|
| <ul style="list-style-type: none"> <li>How to ensure the existence and continued growth of healthcare professionals both in the coming years (taking into account that, for example, one fifth of family physicians are 65 or older) and in the distant future?</li> <li>How to mitigate risks arising from overwork (deterioration of treatment quality, staff burnout, etc.)?</li> <li>How to ensure the attractiveness of the work of healthcare professionals?</li> <li>How to work smarter? If we have few people, how can we deliver services differently (e.g. use technology to reduce the need for human labour)?</li> <li>Considering the personnel situation, what is the optimal balance of quality, availability and volume of health services?</li> </ul>                  |
| Tactical tasks   |
| <ul style="list-style-type: none"> <li>Due to the deep shortage of healthcare professionals, it is likely to be necessary to make concessions in the volume of health services or their (organisational) quality or access to them. A clear plan is needed for this (otherwise the development plans of the primary care and hospital network cannot be accepted).</li> <li>Presumably, a discussion is needed on the issue of whether making the employment of foreign workers more flexible is necessary and possible or not. If change is desired, it must be decided what concretely needs to be done (i.e. how to solve the problems of ensuring quality of work and language skills).</li> <li>To agree on the permissible load standards for healthcare professionals.</li> </ul> |

## Previous healthcare audits of the National Audit Office

06/12/2021 – **Detection of malignant tumours and referral of a patient to treatment**

16/11/2021 – **Dental care benefit for adults**

06/11/2020 – **Annual report of the National Audit Office to Parliament on the future of priority public services**

11/11/2019 – **Annual report by the National Audit Office to the Parliament, #e-state**

23/10/2018 – **Emergency medical care**

03/11/2016 – **State's activity upon treating and maintaining the health of children**

03/02/2015 – **State activity in organising independent nursing care**

17/01/2014 – **Activity of the State in implementing e-Health**

07/04/2011 – **Organisation of family medical care**

All reports are available on the website of the National Audit Office at [www.riigikontroll.ee](http://www.riigikontroll.ee)

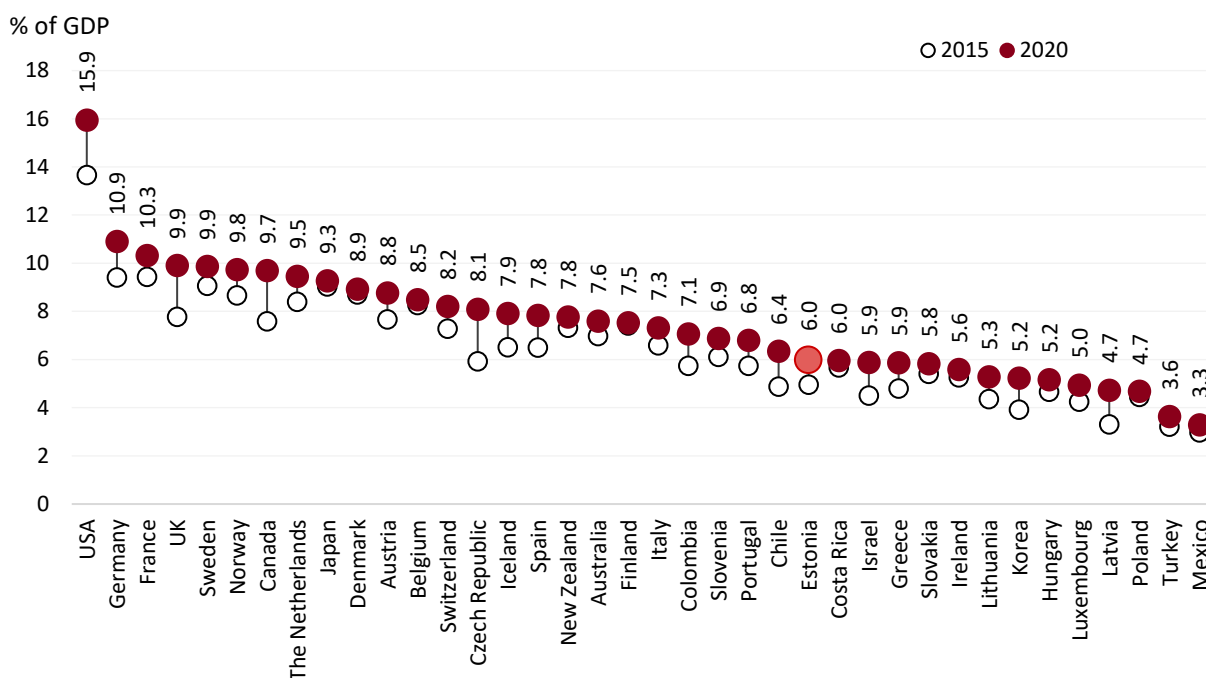
## Appendix A. Overview of health financing

Estonia is a country with a declining and aging population, where, according to forecasts, every fourth person will be of retirement age in 2035. Since the growth rate of healthy life years has been slower than expected, the need for medical services and resources can be expected to increase in the future. The National Audit Office prepared an overview on how quickly Estonia's healthcare expenditures have grown compared to other countries in recent years, what the financing dynamics have been and how the demand for medical specialist care has changed.

### General situation

Until recently, the share of Estonian healthcare costs in GDP was quite stable from year to year: if in 2010 it was 4.8% of GDP, then in 2018 it was 5.0%. Among the OECD countries, Estonia has been lagging behind with this rate of healthcare expenditures (see Figure 15). In 2020, however, Estonian spending increased significantly and reached 6% of GDP.

**Figure 15. Share of national medical expenses in gross domestic product (GDP) in OECD countries in 2015 and 2020**



Source: Health expenditure and financing. OECD database

In the "Estonia 2035" strategy, it is stated that by 2035, if the current level of services is maintained, the expenses of the Health Insurance Fund will grow almost 24% faster than the revenues. The Foresight Centre's 2020 analysis states that citizens' co-payments could double by 2035, queues for treatment will become longer and the Health Insurance Fund's budget will reach a deficit of 900 million euros if no changes are made to the system.<sup>53</sup>

Most of the Health Insurance Fund's income is made up of the health insurance portion of the social tax, but this employment-based financing model no longer covers the total need for healthcare expenditures. Therefore, since 2018, the Health Insurance Fund has been given additional operating support, which is calculated from the old-age pensions of non-working recipients of age-related and national pensions. For example, this allocation amounted to 190 million euros in 2022, which is 21% of the Health Insurance Fund's budget (see also Figure 16).

<sup>53</sup> The future healthcare in Estonia. Scenarios up to 2035. Foresight Centre, 2020.

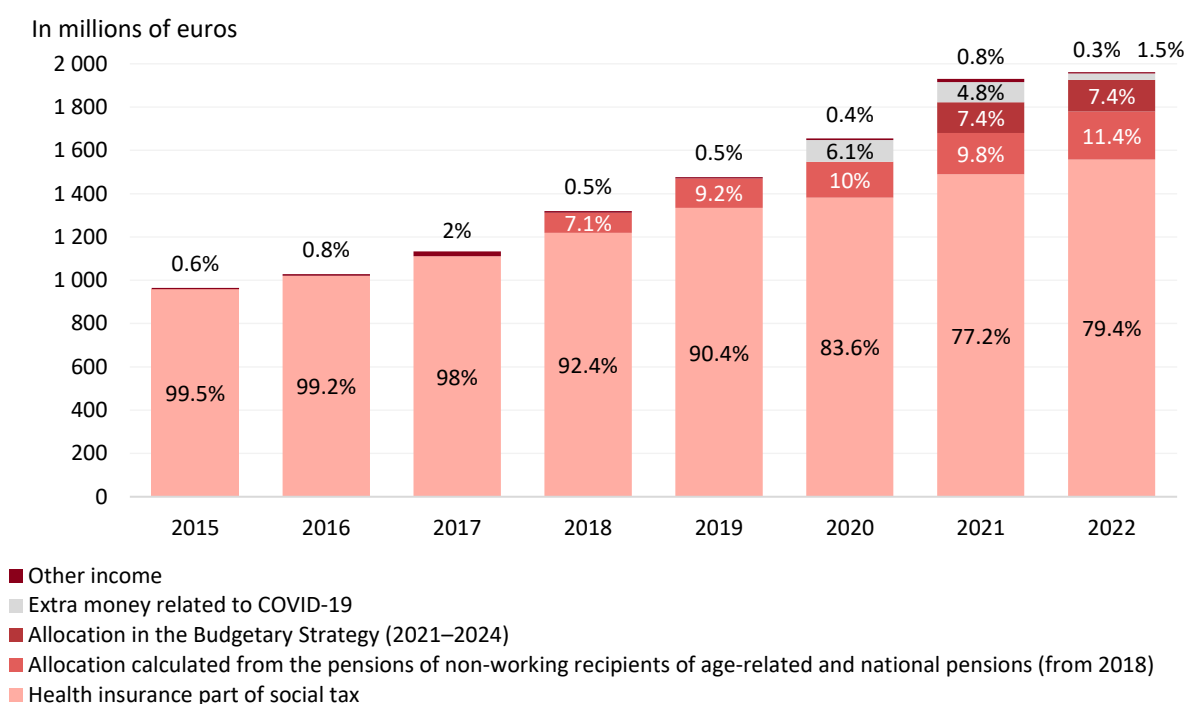


Furthermore, in its 2020 decision, the Government of the Republic allocated: to compensate for the decrease in social tax receipts:

- 143.4 million euros by 2021;
- 142.7 million euros by 2022;
- 131.0 million euros by 2023;
- 123.1 million euros by 2024.

Furthermore, a total of approximately 222 million euros has been allocated to the Health Insurance Fund in 2020–2022 to cover costs related to the pandemic COVID-19.

**Figure 16. Sources of the Health Insurance Fund's income in 2015–2022 in millions of euros and as percentage of total income**



Source: Estonian Health Insurance Fund's annual accounts and budgets 2015–2022

All these additional allocations have delayed appearance of the deficit. On the other hand, a financing model in which the share of social tax decreases and the share of allocations increases (as shown in Figure 16) is not sustainable. The reason is that agreements are made for a limited period and there is no long-term certainty. It would be necessary to find a permanent solution for financing healthcare. The National Audit Office has referred to this need in its [annual review](#) to the Riigikogu in 2018. The Ministry of Social Affairs has also stated in [the analysis of healthcare financing for 2021](#) that the solution should be such that it reduces the dependence of the Health Insurance Fund's budget on exclusively labour-related taxes.

### Estimated, financed and unfinanced demand for specialist care

When planning healthcare costs, the Health Insurance Fund annually assesses the demand for health services (need for treatment) by region. The evaluation takes into account the number of people living in the county, the costs of the relevant specialty in the previous year, data on treatment queues, etc. The result is called *estimated demand*. Based on this, and taking into account the possibilities and priorities of the Health Insurance Fund's budget, the financing of the demand is planned, i.e. *financed demand* is created (at the same time, both the treatment cases and their cost are kept track of). At the end of the year, it becomes clear how many treatment managers were actually paid by the Health Insurance Fund – this is

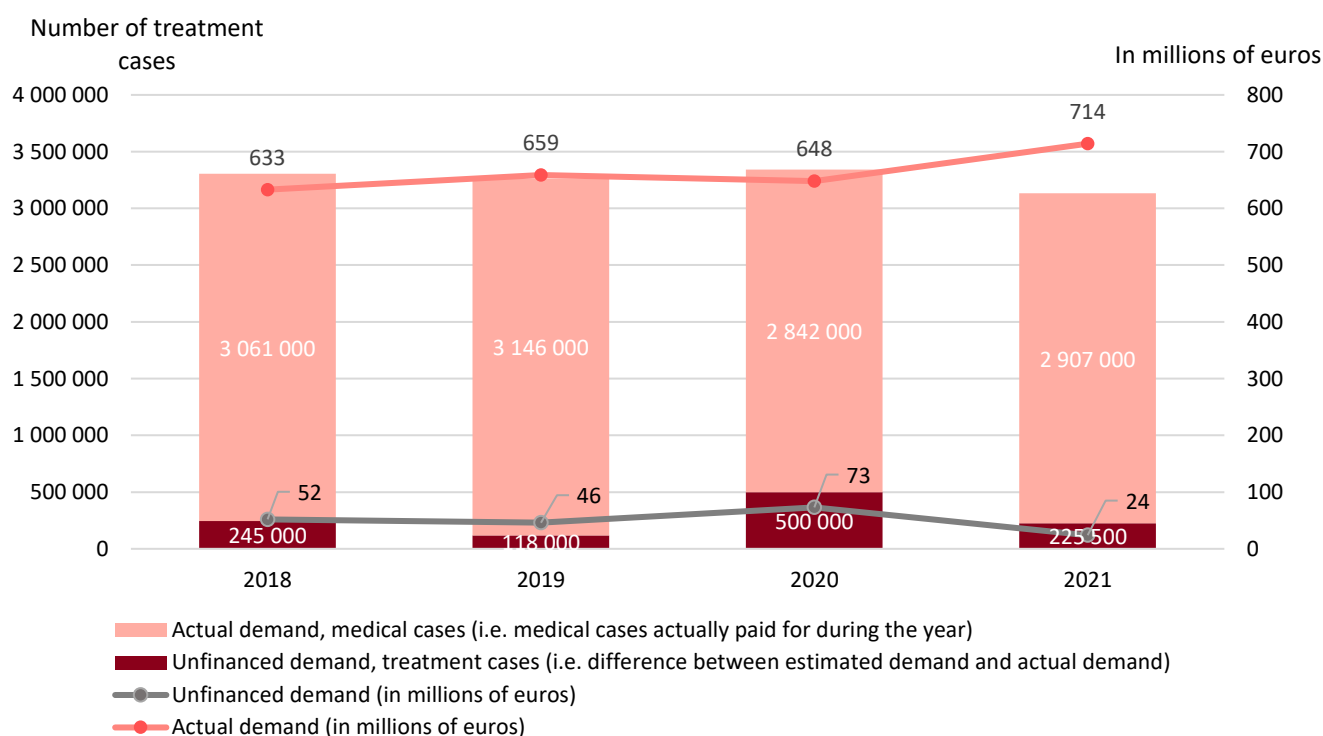
called *actual demand*. Since resources are limited, the difference between actual demand and initially estimated demand can be called *unfinanced demand*.

According to the Health Insurance Fund, the unfinanced demand for treatment cases in medical specialist care was 225,500 cases in 2021 (see Figure 17). Of this, 77% was outpatient treatment. The biggest deficit was in the specialties of internal medicine (94,000 treatment cases), surgery (54,000), and gynecology (38,000).

In financial terms, the Health Insurance Fund assessed the estimated demand for medical specialist care treatment cases to be 738 million euros in 2021, 713 million euros were allocated for this purpose (financed demand), and the actual demand, i.e. the cost of treatment cases, was 714 million euros by the end of the year. The unfinanced demand was nearly 24 million euros, which was approximately 3.3% of the initial estimated demand. Looking at treatment guidelines, compared to 2018, the estimated demand has decreased by 5%. The reason for the decrease is the reduced availability of medical care and the number of visits in 2020 due to the impact of the pandemic COVID-19.

**For comparison**, in 2018, the Health Insurance Fund estimated the demand for health services at approximately 685 million euros, and unfinanced demand made up 7.6% of that, or about 52 million. In absolute numbers, 227,000 treatment cases remained unfinanced in 2018.<sup>54</sup>

**Figure 17. Financed and unfinanced treatment cases and their cost in the period 2018–2021**



Source: Estonian Health Insurance Fund

### Impact of the pandemic COVID-19

During the pandemic COVID-19, the level of unmet medical needs was somewhat higher than usual, although lower than in many other European Union countries. Access to treatment during the crisis was improved by the rapid introduction of teleconsultations, supported by the existing digital infrastructure in Estonia. However, the long-term impact of COVID-19 on planned treatment queues is not yet clear.<sup>55</sup>

<sup>54</sup> Emergency medical care. National Audit Office, 2018.

<sup>55</sup> [State of Health in the EU Estonian State's health profile, 2021](#). OECD, 2021.

Due to the pandemic COVID-19, the number of actual treatment cases in specialist care specialties decreased by approximately 10%, i.e. there were 304,000 fewer treatment cases – in 2019 there were approximately 3.1 million and in 2020 it dropped to 2.8 million. Also in 2021, the number of treatment cases remained lower than before: there were 2.9 million of them (see Figure 17).

If 44,100 treatment cases remained unfinanced in inpatient treatment at the end of 2021, it is estimated that almost a third of this, or 12,100 treatment cases, was specifically the medical debt related to COVID-19 (which was calculated according to a separate methodology and coordinated between the Health Insurance Fund and the Estonian Hospital Association).

**In summary**, healthcare costs have increased faster than previously due to the pandemic COVID-19 in recent years, while the availability of services has worsened. This trend is important because later treatment negatively affects the number of healthy years lived, increases the subsequent volume of health services and requires more complex treatment. All this puts healthcare financing under great pressure in the long term. The need to review health insurance financing models is becoming more and more relevant over time.

## Appendix B. Childhood vaccination statistics

**Table 10. WHO-recommended vaccination coverage rate, vaccination coverage and percentage of refusers to vaccinate by disease against which vaccination is given in 2020–2021**

| Indicators   | Diseases to be vaccinated against |           |               |                         |                            |                |
|--|-----------------------------------|-----------|---------------|-------------------------|----------------------------|----------------|
|  | Diphtheria, tetanus               | Pertussis | Poliomyelitis | Measles, mumps, rubella | Hepatitis B virus          | Hib infection* |
| 2-year-old vaccination requirement by the WHO (%)                          | 95.0                              | 90.0      | 95.0          | 95.0                    | –                          | –              |
| Average vaccination coverage of 2-year-old children in Estonia in 2020 (%) | 91.1                              | 91.0      | 91.1          | 90.8                    | 90.8                       | 90.8           |
| Average vaccination coverage of 2-year-old children in Estonia in 2021 (%) | 89.5                              | 89.5      | 89.5          | 89.4                    | 86.4 (7 months to 6 years) | 89.4           |
| Percentage of refusers in 2020 (%)   | 5                                 | 5         | 5             | 5.3                     | 5.3                        | 6.9            |
| Percentage of refusers in 2021 (%)   | 5.5                               | 5.6       | 5.5           | 6                       | 3.8                        | 7.8            |

\* Hib infection – purulent meningitis in infants and young children.

Source: National Audit Office on the basis of the Health Board's data

## Appendix C. Emergency queues

**Table 11. Waiting times (in days) for an outpatient first visit to medical specialist care in hospitals and at other service providers according to the Estonian Health Insurance Fund data (pink colour shows waiting times that exceed the maximum length established for the outpatient specialist care queue, i.e. 42 days)**

| Specialties                  | General hospitals |      |    | Central hospitals |      |    | Regional hospitals |      |    | Other service providers |      |    |
|------------------------------|-------------------|------|----|-------------------|------|----|--------------------|------|----|-------------------------|------|----|
|                              | May 2021          | 2022 |    | May 2021          | 2022 |    | May 2021           | 2022 |    | May 2021                | 2022 |    |
|                              |                   | May  | H1 |                   | May  | H1 |                    | May  | H1 |                         | May  | H1 |
| Allergology and immunology   |                   |      |    | 23                | 62   | 49 | 37                 | 75   | 54 |                         | 7    | 22 |
| Andrology                    |                   | 15   | 24 | 15                | 20   | 25 | 6                  | 35   | 29 |                         | 12   | 16 |
| Anesthesiology               | 12                | 23   | 10 | 35                | 49   | 34 | 4                  | 7    | 6  | 17                      | 0    | 0  |
| Dermatovenereology           | 21                | 24   | 27 | 14                | 19   | 32 | 32                 | 74   | 44 | 13                      | 27   | 27 |
| Endocrinology                | 28                | 30   | 26 | 25                | 35   | 34 | 20                 | 44   | 35 | 27                      | 28   | 22 |
| Gastroenterology             | 22                | 23   | 25 | 38                | 58   | 48 | 15                 | 74   | 56 | 31                      | 55   | 32 |
| Hematology                   | 41                | 33   | 27 | 45                | 42   | 45 | 37                 | 37   | 37 |                         |      |    |
| Infectious diseases          | 2                 | 9    | 7  | 9                 | 14   | 13 | 6                  | 9    | 7  |                         |      |    |
| Cardiac surgery              | 18                | 21   | 23 |                   |      |    | 46                 | 36   | 31 |                         |      |    |
| Cardiology                   | 23                | 43   | 30 | 35                | 39   | 35 | 24                 | 41   | 34 | 11                      | 29   | 23 |
| Pediatric surgery            | 24                | 24   | 15 | 7                 | 73   | 41 | 23                 | 32   | 30 |                         |      |    |
| Speech therapy               | 18                | 6    | 9  | 14                | 96   | 63 | 32                 | 52   | 44 |                         | 42   | 30 |
| Mammology                    |                   | 17   | 16 | 15                | 38   | 30 | 30                 | 38   | 37 | 12                      | 18   | 26 |
| Medical genetics             |                   | 23   | 24 |                   |      | 63 | 45                 | 70   | 40 |                         |      |    |
| Nephrology                   | 33                | 49   | 39 | 54                | 63   | 56 | 21                 | 33   | 35 |                         |      |    |
| Neurosurgery                 | 41                | 95   | 69 | 19                | 14   | 31 | 73                 | 44   | 58 |                         |      |    |
| Neurology                    | 23                | 29   | 26 | 26                | 49   | 42 | 29                 | 61   | 50 | 28                      | 27   | 26 |
| Ophthalmology and optometry  | 25                | 37   | 35 | 23                | 41   | 38 | 18                 | 62   | 56 | 31                      | 34   | 27 |
| Oncology                     | 20                | 20   | 18 | 15                | 12   | 15 | 20                 | 32   | 28 | 5                       | 14   | 6  |
| Orthopedics and traumatology | 40                | 45   | 38 | 55                | 78   | 73 | 16                 | 25   | 22 | 44                      | 39   | 25 |
| Otorhinolaryngology          | 8                 | 19   | 18 | 8                 | 19   | 17 | 7                  | 13   | 15 | 3                       | 11   | 12 |
| Pediatrics                   | 10                | 11   | 9  | 8                 | 24   | 19 | 16                 | 50   | 44 | 7                       | 22   | 19 |
| Psychiatry                   | 40                | 46   | 45 | 53                | 87   | 70 | 17                 | 29   | 23 | 38                      | 30   | 29 |
| Psychiatry and psychology    | 6                 | 44   | 28 | 2                 |      | 15 | 3                  | 14   | 12 |                         |      |    |
| Psychology                   | 37                | 17   | 22 | 28                | 33   | 31 | 19                 | 60   | 54 | 8                       | 5    | 7  |
| Pulmonology                  | 22                | 21   | 21 | 33                | 29   | 27 | 9                  | 10   | 13 | 22                      | 3    | 14 |
| Rheumatology                 | 19                | 31   | 27 | 36                | 43   | 41 | 34                 | 41   | 39 | 9                       | 14   | 12 |
| Thoracic surgery             |                   |      |    | 15                | 14   | 18 | 7                  | 14   | 10 |                         |      |    |
| Internal diseases            | 21                | 8    | 12 | 8                 | 17   | 16 | 14                 | 13   | 17 |                         |      |    |
| Stomatology                  |                   |      |    |                   |      |    | 5                  | 13   | 11 | 6                       | 17   | 16 |
| Oral, maxillofacial surgery  |                   |      |    |                   |      |    | 17                 | 61   | 44 | 17                      | 30   | 28 |
| Obstetrics and gynecology    | 16                | 17   | 17 | 15                | 16   | 17 | 23                 | 47   | 37 | 8                       | 11   | 13 |
| Rehabilitation and physiatry | 23                | 48   | 35 | 15                | 36   | 28 | 12                 | 25   | 25 | 7                       | 20   | 22 |
| Occupational health care     | 3                 | 5    | 7  | 11                | 24   | 20 | 13                 | 16   | 19 | 5                       |      | 9  |
| Urology                      | 30                | 45   | 43 | 16                | 30   | 33 | 17                 | 64   | 55 | 6                       | 16   | 16 |
| Vascular surgery             | 9                 | 6    | 14 | 69                | 56   | 57 | 4                  | 3    | 5  | 22                      | 23   | 25 |
| General surgery              | 8                 | 9    | 8  | 10                | 24   | 18 | 8                  | 18   | 21 | 5                       | 12   | 13 |

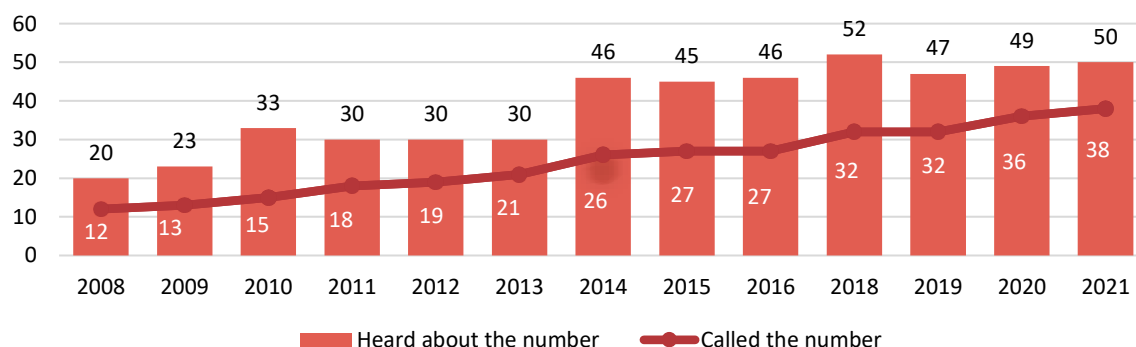
## Appendix D. Family physician advice line

Family physician advice line 1220 is a nationwide 24-hour medical advice line designed to help people when family medical care is not available (for example, outside working hours, on national or public holidays); or if the health problem does not require immediate attention by the family physician. The service can be used both anonymously and personalized, and it is also available to people without medical insurance. Advice is given in both Estonian and Russian, and from 3 p.m. to 5 p.m. it is also possible to get help in English.

The phone number 1220 can be called from all network operators across Estonia and abroad. When calling, the standard tariff of the call service number always applies, and the price is based on the price list of the caller's telephone operator (Elisa, Tele2, Telia, etc.). During the first wave of COVID-19 in 2020, calling the advice line was free of charge. The service provider has repeatedly proposed to the Health Insurance Fund to request the change of the short number to a toll-free number.

Awareness of the family physician advice line 1220 has increased in Estonia over the years (see Figure 18). If in 2010, a third of Estonian residents had heard of the line and 15% had called its number, then in 2021 nearly half of Estonian residents had heard of the family physician advice line and 38% had called its number. 12% of the population have not heard of it at all. Over the past three years, the percentage of those who have not heard of the advice line has decreased, and the percentage of those who call it has increased.

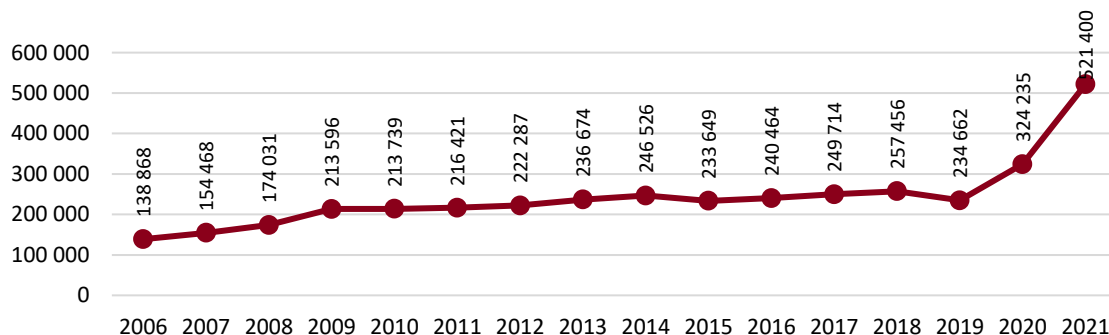
**Figure 18. Estonian people's awareness of the family physician advisory line and its use in 2008–2021, %**



Source: Surveys of the Estonian Health Insurance Fund on residents' assessment of their health and medical care in 2008–2021

Along with the increase in the popularity of the advice line, the number of calls made to the family physician advice line has also increased (see Figure 19). Between 2015 and 2019, the advice line received an average of 240,000 calls per year. In 2020, the number of calls increased by leaps and bounds. Growth continued in 2021 (521,400 calls).

**Figure 19. The number of calls made to the family physician advisory line in 2006–2021**



Source: Reports of the family physician advisory line

The reason for the noticeable increase in the number of calls was the pandemic COVID-19.<sup>56</sup> On average, during the entire period, there have been the most calls on Saturdays and Sundays (more than 800 calls per day).

The budget of the family physician advice line was nearly 1.5 million euros in 2021, which is approximately two and a half times more than in 2010. The budget has grown at the same pace as the number of calls, about 8–9% per year. The advice line budget makes up nearly 1% of the costs of general medical care.<sup>57</sup>

The service is provided by both nurses and consulting physicians. In 2010–2017, there were 35 consultants on average, from 2018 up to 45 people per year, but in 2021 the number of consultants decreased again to 34. The decrease in the number of consultants is due to the increase in the number of full-time employees. In addition to the advice line, many consultants also work elsewhere, for example in a family medical centre, an EMD or an emergency room. In addition, several doctors retired in 2020 because they could not cope with the workload caused by the coronavirus.

The time until a call to the advice line is answered has increased due to the increase in the number of calls (see Table 12). Indicators that have fallen below the set goal are marked in red. The share of so-called lost calls was 12% in 2021, which is six times more than in 2019, and four times more than stipulated in the minimum requirements.<sup>58</sup> The share of calls answered within one minute was 71% in 2021, which is the lowest since the beginning of service provision and 17% more than stipulated in the minimum requirements.

**Table 12. Availability of the advisory line service in 2015–2021**

| Year | Lost calls (after 30 s), %* | Answered within 1 minutes, %** | Answered within 2 minutes, %*** |
|------|-----------------------------|--------------------------------|---------------------------------|
| 2015 | 4                           | 94                             | 98                              |
| 2016 | 3                           | 93                             | 97                              |
| 2017 | 2                           | 92                             | 97                              |
| 2018 | 3                           | 91                             | 96                              |
| 2019 | 2                           | 93                             | 97                              |
| 2020 | 7.5                         | 83                             | 91                              |
| 2021 | 12.3                        | 71                             | 85                              |

\* Goal: no more than 3%. \*\* Goal: not less than 88%. \*\*\* Goal: not less than 93%.

Source: Reports of the family physician advisory line

There have been no significant failures in the provision of the service in recent years. As the number of calls has increased rapidly, there were days in 2020 and 2021 when the advice line was overloaded. In 2021, the speed of receiving calls was most affected by the pandemic COVID-19 and the nationwide overload of family physicians. Callers mostly did not have questions related to health or healthcare arrangements, but needed clarification about restrictions. After the opening of the national information telephone line 1247, the number of such visits decreased significantly.

Although there is no ceiling on the volume of calls, the length of the call queue is limited. There cannot be more than 41 people active in the call queue. If 40 callers are already in the waiting queue, the caller receives a message that the service is overloaded and a recommendation to call again later. The volume of the call waiting queue is designed so that people do not have to wait too long in the queue and pay a short number fee for the waiting time.

Compared to 2017, the share of questions related to the organisation of the healthcare system increased significantly in 2021 compared to other topics (from 5% of all calls in 2017 to 21% in 2021) (see Figure 20). The share of calls related to consulting for diseases or their symptoms had also increased

<sup>56</sup> Activity reports of the national family physician advice line 1220 to the Health Insurance Fund for 2020 and 2021.

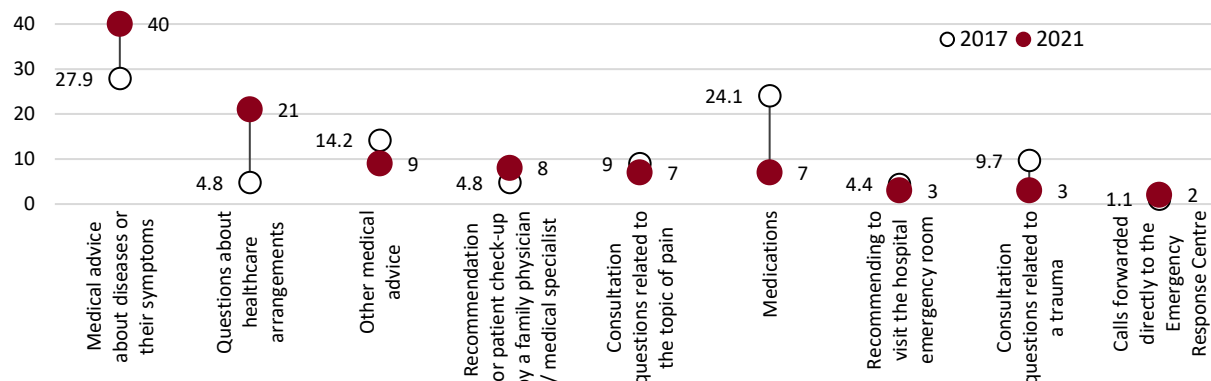
<sup>57</sup> Estonian Health Insurance Fund's annual accounts.

<sup>58</sup> Results of the national family physician advice line service in 2019.



significantly compared to 2017. This increase was mainly due to an increase in the number of consultations related to fever and virus, including COVID-19.

**Figure 20. Topics of calls to the advisory line in 2017 and 2021, %**

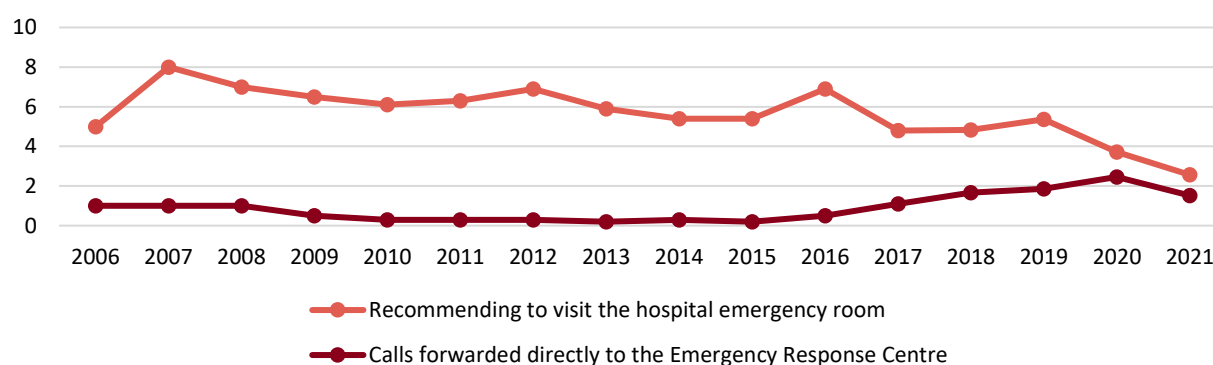


Source: Reports of the family physician advisory line

Until 2017, the share of questions related to medications increased rapidly (in the period 2011–2017, on average 72% per year). According to the service provider, patients who have started self-medicating at home without consulting a family physician are calling more and more often, wanting to find out over the phone whether the medication they have chosen is suitable. Therefore, consultants have recommended that more and more people turn to a family physician or a medical specialist instead of self-treatment.

In 2016, 6% (approximately 16,600) of cases (see Figure 21) and in 2020 3.7% (12,000) of cases were recommended to go to the hospital emergency room. If they had all applied to EMD, they would have made up approximately 2.8% of all applicants (424,289). In 2020, 2.5% (approximately 8,000) of calls were forwarded to the Emergency Response Centre.<sup>59</sup> If all these referrals had been justified, they would have accounted for approximately 3% of medical events. Percentage of calls forwarded to the Emergency Response Centre has increased compared to the previous period, while percentage of recommended visits to the hospital emergency room has decreased.

**Figure 21. Recommending that callers to the family physician advisory line go to the hospital emergency room and forwarding the callers' calls to the Emergency Response Centre in 2016–2021**



Source: Reports of the family physician advisory line

The reason for the decrease in the number of referrals to the hospital emergency room is the change in organisation of work, according to which the consultants first explain to the caller, based on the principles of the EMD triage, how long the possible waiting time in the hospital emergency room is for the

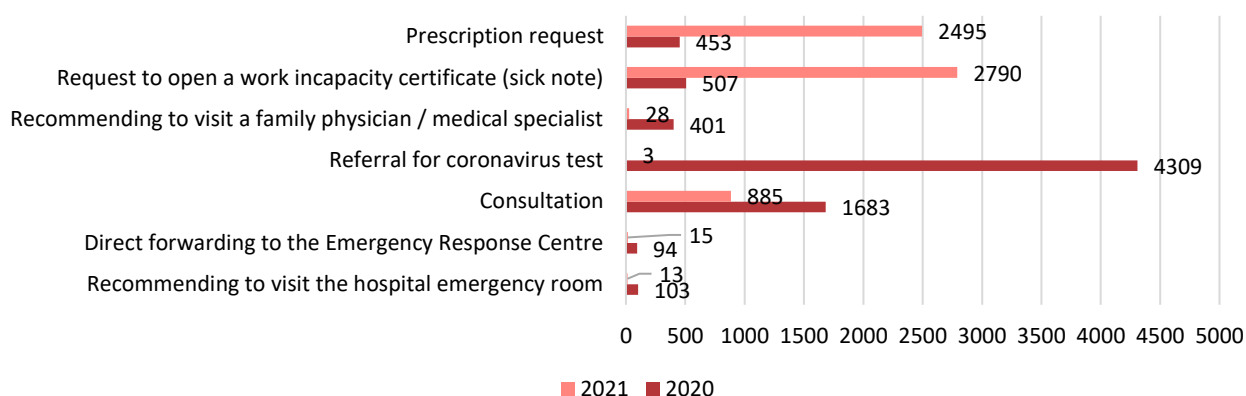
<sup>59</sup> In 2020, the Emergency Response Centre registered more than 408,000 emergency events to which help was dispatched. Medical events accounted for the majority (61%) of recorded events. In 2020, the Emergency Response Centre recorded an average of 684 medical, 306 police-related, 47 rescue-related and 82 complex incidents per day (the Emergency Response Centre website).

symptoms they describe. Then, recommendations for home treatment are usually given, and a recommendation is added to call back if the health condition does not improve or becomes worse. The reason for the increase in percentage of referrals to the Emergency Response Centre is also a work organisation change: a consultant is obliged to forward the call to the Emergency Response Centre if they consider that urgent help is necessary. In previous years, when urgent help was needed, the callers were often advised to call the Emergency Response Centre themselves.

From January 2020, people are able to ask for personalised advice from the family physician advice line (on the basis of a Mobile ID or Smart ID). Personalised service is provided only by doctors. If the caller gives permission for this, the advice line physician can view the person's health data, such as diseases, prescribed medications and tests performed, in order to provide more detailed health advice. In personalised consultations, the advice line physician transmits all consulting information to the patient portal, so that the person's family physician is also aware of the health condition that has worried the patient. Personalised consultation is provided from Monday to Friday in the period 8 a.m.–10 p.m. and from Friday 10 p.m. to Sunday 10 p.m. around the clock. During these times, personalised consultations are available in both Estonian and Russian.

In 2020, the main reason for personalised consulting was a referral for a coronavirus test (57%). In 2021, however, the main reason for personalised consulting was the desire to open a sick leave (45%), and this has significantly increased compared to 2020 (see Figure 22). In 2021, personalised consulting related to issuing prescriptions and the desire to issue a prescription was in second place, which has also increased significantly compared to 2020. Repeated prescriptions prescribed previously can be extended through the family physician advisory line. Behind the noticeable increase in the number of requests to extend the prescription and open a sick leave is the possibility to use the services on Saturdays, Sundays and public holidays.

**Figure 22. Reasons for personalised consultation in 2020–2021**



Source: Reports of the family physician advisory line

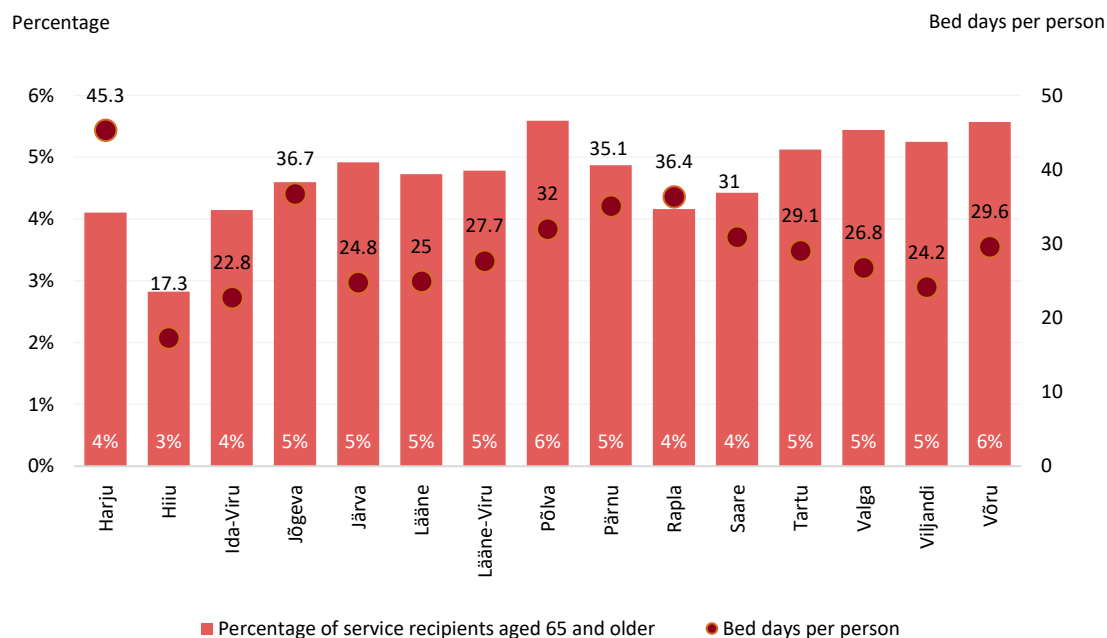
Immediately after the announcement of the state of emergency on 13–15 March 2020, there were blocked calls at the call centre station due to the limitation of call channels (4% of March calls).<sup>60</sup> There were also blocked calls between 24 and 25 December 2020, which accounted for 1% of the volume of calls in December. To a lesser extent, blocked calls also occurred in 2021. In previous years, the number of such cases has not been high.

In 2020, the service provider introduced a new Telia call centre, which ensures a more stable and error-free solution. A smart back-up solution for crisis situations (electricity and/or internet outage) is built into the new call centre, during which calls are automatically routed to the consultants' external phones and the service is not interrupted. The new call centre enables personal identification during the call, if the caller wishes. During the transition to the new call centre, the previous limit on incoming call channels was removed so that even more calls could be served.

<sup>60</sup> Goal: no more than 0.01%.

## Appendix E. Inpatient availability of nursing care by county per person aged 65 and over and number of bed days per patient in 2021

Figure 23. Percentage of people receiving inpatient nursing care for people aged 65 and older by county and number of bed days per patient in 2021



Source: National Audit Office, based on data of the Estonian Health Insurance Fund and Statistics Estonia