



Reasons for visiting family doctors' offices in 2017



Tervise Arengu Instituut
National Institute for Health Development

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Tallinn 2018

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Recommended reference of this publication: Anderson, E., Eigo, N., Kirpu, V., Panov, L., Rätsep, M., Sokurova, D., Väärssi, K. Reasons for visiting family doctors' offices in 2017. Tallinn: National Institute for Health Development; 2018.

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Definitions

Health care invoice

an invoice for medical expenses, submitted by the health care service provider to the Health Insurance Fund for services rendered to the patient. One invoice may contain information regarding several visits.

Primary health care

the collection of outpatient services available to everyone at work, school and place of residence for resolving the most frequent health issues. Primary health care services are provided by a family doctor along with a family nurse and other support specialists (1).

Principal diagnosis

the patient's main condition defined at the end of a health care episode. The main reason for the patient's treatment and examination need is marked as the principal condition. If there are more than one conditions, the one causing the largest loss of resources will be selected (2).

Visit

a family doctor's or family nurse's outpatient visit (primary, repeated, preventive) and contacts by phone and e-mail.

Other health-related contact (Z00–Z99)

includes the preventive examination of both small children and adults, issuing health certificates, screening, issuing prescriptions, vaccination and contraception, observation in case of a suspected illness or social issues, etc.

Abbreviations

EHIF	Estonian Health Insurance Fund
EPS	Estonian Society of Family Doctors
FDO	Family doctor's office
ICD-10	International Classification of Diseases, 10th version

Summary

In 2017, more than a million people visited the family doctor's office on at least one occasion – 82% of women and 72% of men. Starting from the age of 15, women visit family doctors more than men.

- ❖ Out of all family doctor's visits 70% were outpatient visits, 29% phone and 1% e-mail consultations.
- ❖ The number of independent visits of family nurses is growing, but 75% of the visitations workload is still covered by family doctors.
- ❖ Out of all reasons for visits, 62% fell in the following groups of diagnosis: 50% of visits were evenly distributed between treating respiratory (J00–J99) or circulatory system (I00–I99) diseases or other health-related contacts (Z00–Z99), and a tenth of visits were related to a musculoskeletal disease (M00–M99).
- ❖ A fifth of the 3.6 million family doctor's consultations were related to the treatment of respiratory system diseases. Patients visited the family doctor due to that reason on average four times a year.
- ❖ A fourth of family nurse's visits and a fifth of phone consultations was related to other health-related contacts. These were followed by consultations related to the treatment of a circulatory system disease.
- ❖ Although, other health-related contacts made up the largest proportion of reasons for visiting the family nurse, family doctors made significantly more visits and phone consultations due to that reason.
- ❖ The using of e-mail consultations by family doctors was still modest. Most of e-mail contacts were made by 15–44-year-old residents but communicating via e-mail is also not unfamiliar for older people. Most visits were made to consult or follow up treatment on respiratory and circulatory diseases.
- ❖ While infants (aged 0–4 years) and elderly residents (65 and above) needed help most frequently, the main patients of family doctors were over 65-year-old women with a circulatory disease.

Introduction

The Estonian health care system is organised so that when patients experience a health problem, their first point of contact is a family doctor or a family nurse. Family doctors treat acute and chronic diseases of people in the practice list; observe children's development and vaccinate children; perform minor surgical procedures; take samples; refer to examinations; and consult patients in case of nursing, injury or poisoning and preventive activities (3).

In an ageing society, where the proportion of people with chronic diseases is increasing, it is important to improve primary health care to ensure its effective operation. Most health issues must be resolved by the family doctor's team (4).

However, the current organisation of the system falls short in providing people with high-quality and coordinated services. According to the survey "Estonian residents' evaluation of health and health care", approximately 80% of residents was satisfied with the family medicine system in 2016. 92% of respondents was happy with their family doctor (5). At the same time, family doctors have confessed to being overburdened and incapable of fulfilling all their duties. It has been noticed that family doctors refer patients to a medical specialist too readily. The National Audit Office has discovered while analysing the activity of family doctors that in more than half of the cases, family doctors have referred patients with hypertension to a cardiologist without good reason. In addition, almost 40% of visits to the Emergency Department are cases, where patients should have received assistance from their family doctor (5; 6).

The problem continues to be access to family medicine, although it varies by counties (4). It is not easy to find a doctor for every region in Estonia today. Year on year, the number of patients sent to the family doctor's visit on the same day has reduced and the number of patients who have received consultation on no earlier than the 3th–4th day has increased (5; 6). At the same time, the number of independent consultations made by a family nurse at a family doctor's office (FDO) has increased. The growing role of nurses in primary care teams is also one of the objectives in developing Estonian health care to, among other things, reduce doctors' work load and to improve accessibility of medical care (7).

In case of a restricted functioning of primary health care, helping those in need falls unto medical specialists, hospitals and emergency departments, which increases expenses of the health care system and reduces the accessibility of specialised medical care (4).

Starting from 2006, the Estonian Health Insurance Fund (EHIF), in cooperation with the Estonian Society of Family Doctors (EPS) has developed the quality assurance system of family doctors with the aim of motivating and encouraging family doctors to actively engage in preventive work, prevention of the spread of infectious diseases and in more efficient observation of patients suffering from chronic diseases (8). Despite of the high participation of FDO in the quality assurance system, it has been found that observation of the health status of chronically ill patients is not on a good level in Estonia and quality varies between FDO. Patients with chronic diseases are not receiving sufficient preventive services established in treatment guides. In addition to the rigid funding model of family doctors, they lack time for the systematic observation of the health status of chronically ill patients and preventive activities (9).

The aim of the analysis is to study the reasons for consulting family doctors and to analyse the distribution between visits to family doctors and family nurses – what was the extent of independent work by the family nurse, which health problems were rather referred to the doctor and which were left for the nurse to resolve.

Please note that although the analysis is based on diagnoses, it does not cover morbidity of the population on the whole but describes reasons for visiting FDO.

Methodology

The analysis uses the details of 3.98 million medical invoices submitted to EHIF by FDO in 2017 containing the information regarding 6.5 million visits.

Indicators considered:

- Business Registry code of the health care service provider
- number, start and end date of the medical invoice
- a unique code assigned to individual patients
- sex and birth year of the patient
- type of visit

1,000 medical invoices were not involved in the analysis due to missing indicator as follows:

- 543 – the type of visit
- 430 – the unique code
- 18 – sex
- 5 – birth year

Type of visit is a code assigned for the health care services provided by EHIK, classifying visits based on the occupation and activity of the health care personnel:

- 9001 – primary consultation of a family doctor;
- 9002 – repeated consultation of a family doctor;
- 9003 – preventive consultation of a family doctor;
- 9016 – scheduled family doctor's consultation for persons not covered by health insurance;
- 9018 – phone consultation of a family doctor;
- 9019 – e-mail consultation of a family doctor;
- 9061 – consultation of a family nurse;
- 9064 – phone consultation of a family nurse;
- 9065 – e-mail consultation of a family nurse (10).

This analysis does not reflect details regarding the home visits made by family doctors and nurses. The proportion of home visits in family medical care continues to be in a downward trend accounting for less than 1% of all visits in 2017.

Conclusions and facts specified in the analysis have been confirmed by statistical methods, using the χ^2 , T and ANOVA tests to find correlations between indicators, and Fischer's LSD, ANOVA and Tukey's HSD tests to compare values and discover differences by groups.

Patients of family medical care

In 2017, family doctor's offices were visited by 82% of women and 72% of men residing in Estonia, amounting to slightly over a million patients in total. Family medical care was used the most by small children (aged 0–4) and over 65-year-old patients (Figure 1).

56% of patients visiting a FDO were women. The largest difference occurred among 15–44-year-old residents, where three-fourths of the women visited a FDO at least once a year, while the visit was made by only 60% of men.

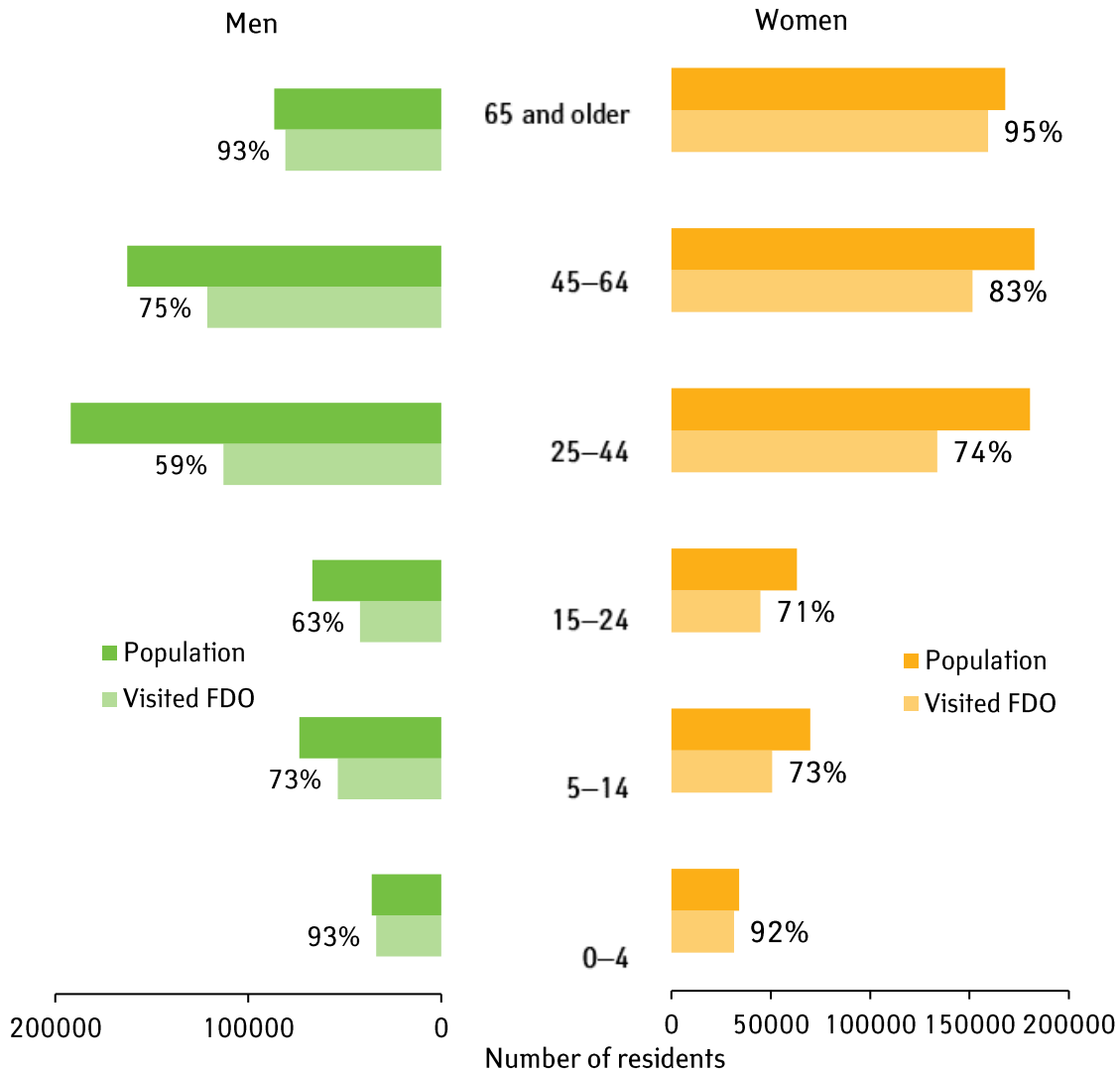


Figure 1. The number of family doctors' patients and their proportion in population by sex and age, 2017
Note: FDO – Family doctors' offices

A total of six and a half million visits were made to FDO. On average, one person visited FDO six times a year. Slightly above the Estonian average (6.4), family medical care was sought in Lääne-Viru and Harju counties, while fewer visits than the average were made in Lääne, Hiiu and Valga counties (Figure 2).

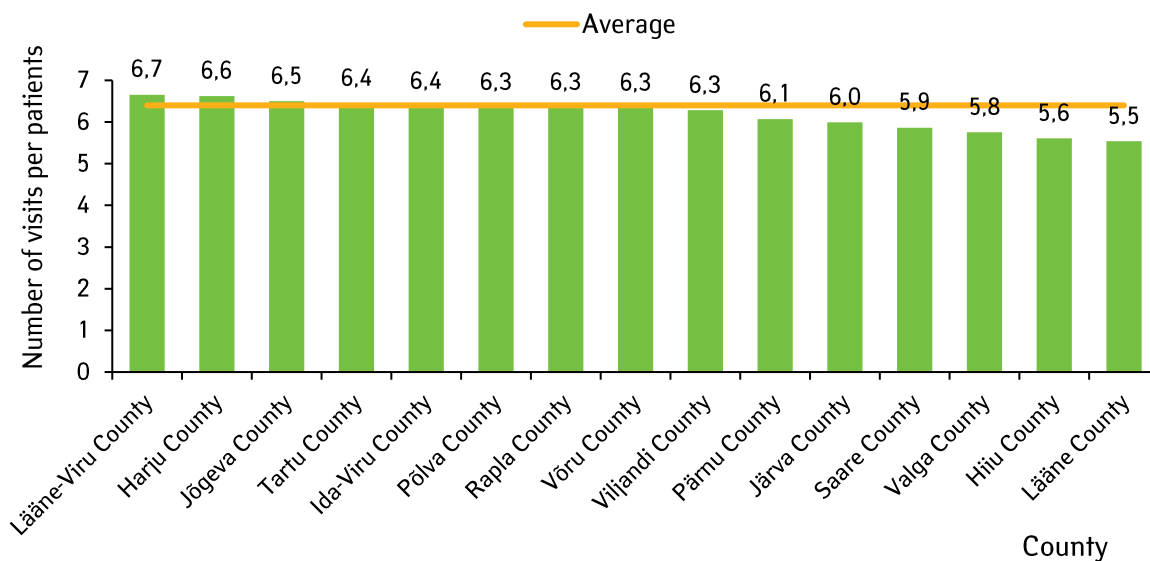


Figure 2. The average number of patients visits to FDO by county, 2017

Medical care was needed most frequently by small children (aged 0–4 years) and the elderly (65 and above). Small children were taken to the doctor nine times and elderly people made eight visits a year on average. The least number of visits were made by 15–24-year-old young people, i.e. four visits per patient on average (Figure 3).

Small children were taken to FDO frequently, but the total number of visits was not big, as the proportion of children aged up to four years is only 5% of the population. A third of all visits were made by over 65-year-old patients. The visit load of FDO started growing among 45-year-old patients. Out of all visits, 60% were made by 45-year-old and older patients (Figure 3).

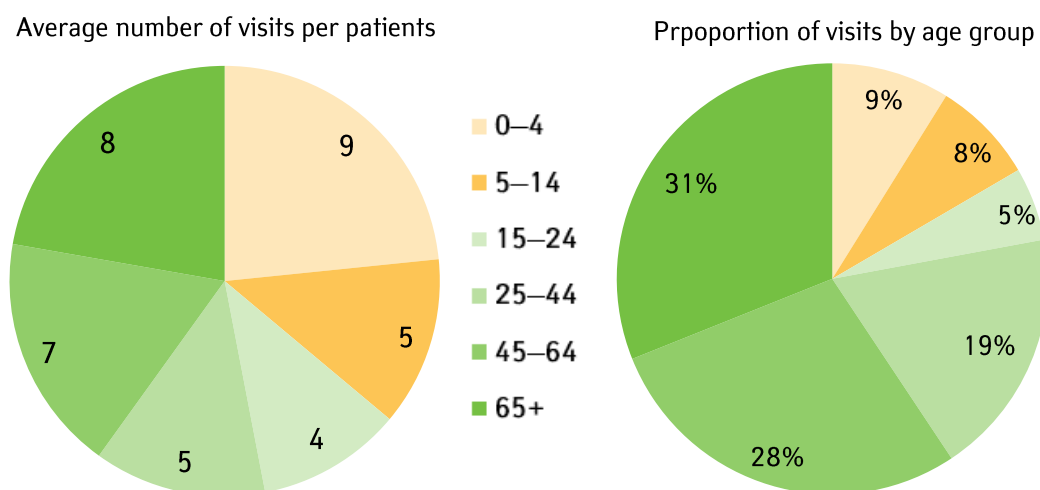


Figure 3. The average number of visits per patients and proportion of visits by age group, 2017

The number of men's and women's visits differed across age groups, except for among boys and girls aged 0–4 years (Figure 4).

The most frequent patient who visited FDO was an over 65-year-old woman, which is caused by both the higher proportion of women in the population and the frequency of visits (Figures 1, 3, 4 and 5). On average, women made eight visits a year, whereof 40% were phone consultations. The main reason for visits among over 65-year-old women was a circulatory disease in 34% of all cases. Elderly women made an average of four visits a year due to that health problem. Men in the same age visited FDO for the same reason as frequently, accounting for 35% of all over 65-year-old male patients.

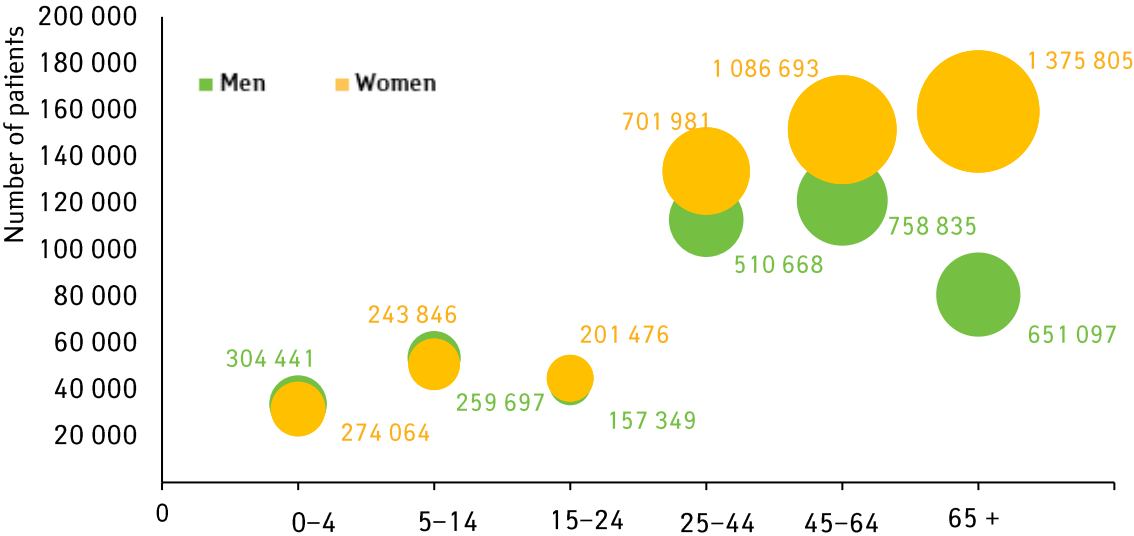


Figure 4. The number of patients and visits by age group and sex, 2017
Note: The number indicates the number of visits

Patients visiting a family doctor and a family nurse were distributed across age groups quite similarly. Family doctors consulted slightly more patients aged between 45 to 64 years. The independent work of family nurses was rather aimed at over 65-year-old patients (Figures 5 and 11).

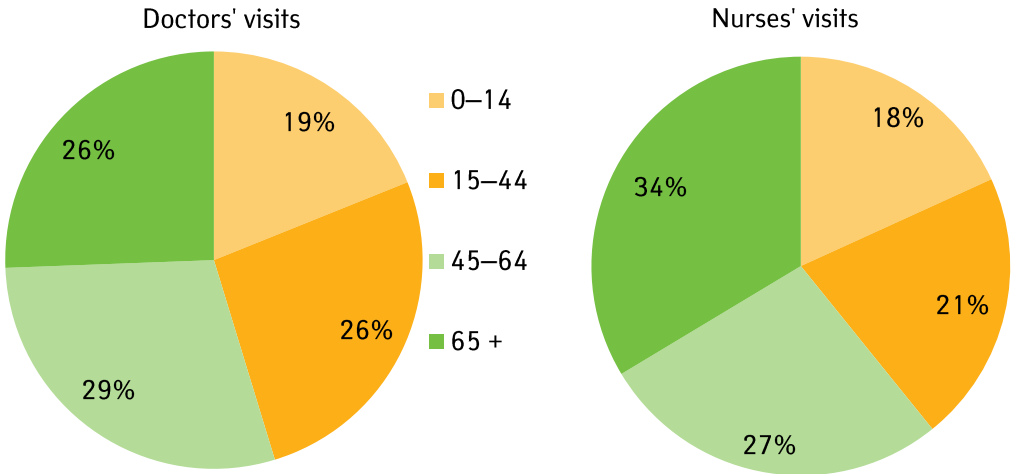


Figure 5. Family doctors and nurses' visits by patient age group, 2017

Reasons for visiting

50% of visits made to FDO were almost equally distributed between respiratory or circulatory diseases and other health-related contacts (Figure 6 and Table 3 in Annex 1). In addition, more than a tenth of visits resulted from musculoskeletal and connective tissue diseases. Thus, 62% of visits made to FDO distributed across four principal categories of diagnoses.

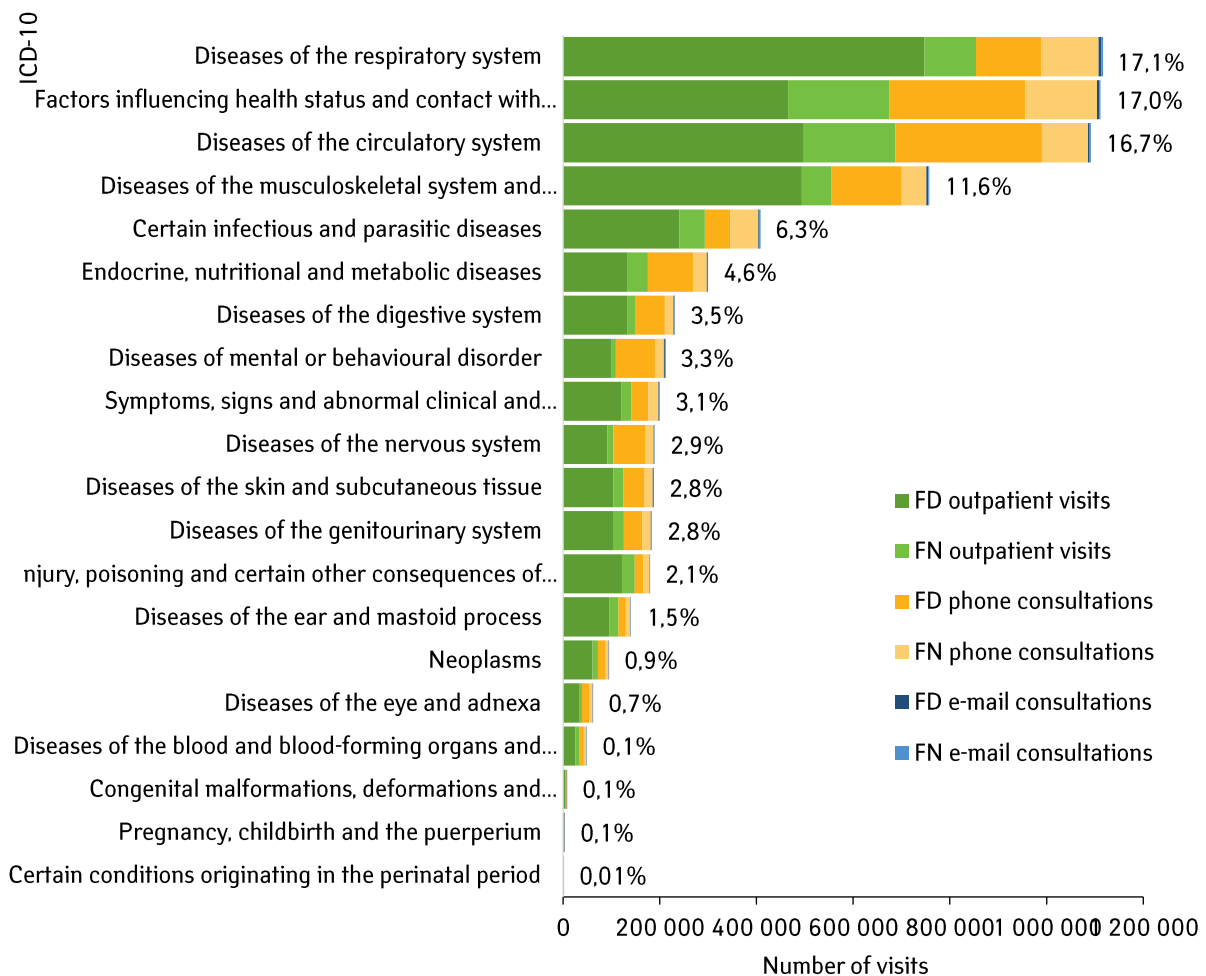


Figure 6. Family doctor's (FD) and nurse's (FN) visits by patient's principal diagnoses, 2017
Note: Other health-related consultations or factors influencing health status and contact with health services.

Respiratory system diseases were the main cause for visits in up to 45-year-old patients. Out of children's visits (0-14), these diseases accounted for more than a third. The most common diagnosis was the acute upper respiratory infection of unspecified sites (J06). Another principal cause for visits was often the viral infection of an unspecified site (B34), which is used to indicate the infection of both the respiratory tract and the gut.

The proportion of visits made due to circulatory diseases increased along with the age. In that category of diagnoses, the most common principal diagnosis was hypertensive heart disease (I11) (Figure 7, Table 1). Along with essential (primary) hypertension (I10), these accounted for 11% of all the principal causes for visits. As a comparison, the aforementioned quality assurance system of family doctors observed 319,885 patients with hypertension in 2017 (11).

Cardiovascular diseases, including hypertension with its complications, is among the main reasons for morbidity and death in Estonia. The prevalence of this disease in the elderly is 60% (11; 12). In 2017, close to 40% of the reasons for visits by over 85-year-old patients was related to circulatory system diseases.

The category 'other health-related contacts' involve various activities: preventive examinations of small children and adults, issuing medical certificates, performing screenings, issuing prescriptions, vaccination, contraception, observation in case of suspected illness or social issues, etc. In this diagnosis category, the most visits were performed for children, especially to conduct preventive examinations. The aim of children's preventive visits was to observe the development of their health and to ensure required medical care through early detection of health disorders (13; 14).

In adults, the most frequent reason for other health-related contacts was issuing repeat prescription for medicaments or appliance (Z76). The proportion of issuing repeat prescription for medicaments or appliance grew alongside age, being the reason for other health-related contacts in more than 60% of cases in over 65-year-old people. By frequency, this was followed by health examination and issuing medical certificates (Z02) and observation of people with chronic diseases (Z03). The proportion of health examination and issuing medical certificates was the highest in the age group of 15–64. In addition, a large number of visits were made in connection with contraception in the age group of 15–44 and visits related to tumour screening among 45–64-year-old patients.

It is known that one of the main reasons for the temporary and permanent incapacity for work of the working-age population is musculoskeletal diseases, which are the main occupational diseases in both Estonia and abroad (15). The proportion of musculoskeletal diseases was the highest in 45–64-year-old patients, the age group accounting for 42% of all visits made for that reason. The most common disorders were back pain (M54) and arthrosis of knee joints (M17).

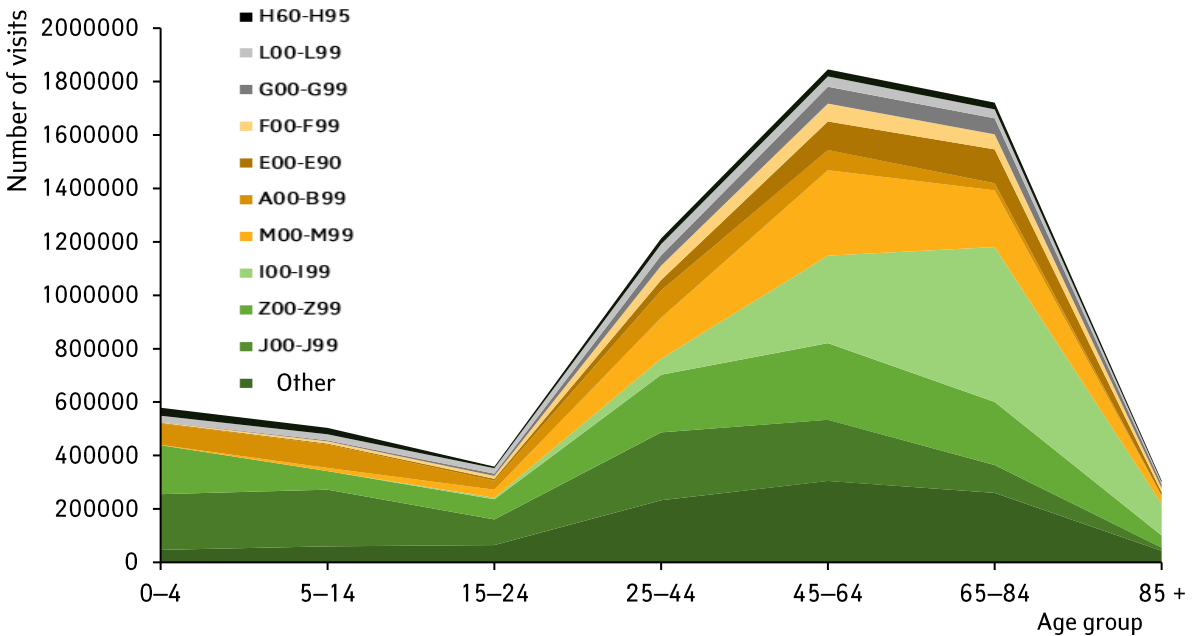


Figure 7. The number of visits by chapter of ICD-10 and age group, 2017

Note: J00–J99 Diseases of the respiratory system; Z00–Z99 Factors influencing health status and contact with health services; I00–I99 Diseases of the circulatory system; M00–M99 Diseases of the musculoskeletal system and connective tissue; A00–B99 Certain infections and parasitic diseases; E00–E90 Endocrine, nutritional and metabolic diseases; F00–F99 Mental and behavioural disorders; G00–G99 Diseases of the nervous system; H60–H95 Diseases of the ear or mastoid process; L00–L99 Diseases of the skin and subcutaneous tissue

Table 1. The most frequent reasons for visits based on principal diagnosis and age group, 2017

ICD-10	Total		0-14		15-44		45-64		65 +	
	Visits	%	Visits	%	Visits	%	Visits	%	Visits	%
Hypertensive heart disease (I11)	431,920	6.6	1	0.0	8,469	0.5	110,961	6.0	312,489	15.4
Acute upper respiratory infections of unspecified sites (J06)	380,758	5.8	170,324	15.7	118,039	7.5	72,640	3.9	19,755	1.0
Hypertension (I10)	290,885	4.5	32	0.0	29,949	1.9	126,742	6.9	134,162	6.6
Viral infection of an unspecified site (B34)	240,429	3.7	107,751	10.0	79,918	5.1	43,067	2.3	9,693	0.5
Back pain (M54)	213,139	3.3	1,213	0.1	71,867	4.6	92,949	5.0	47,110	2.3
Non-insulin-dependent diabetes mellitus (E11)	125,662	1.9	32	0.0	4,344	0.3	43,871	2.4	77,415	3.8
Atrial fibrillation and flutter (I48)	121,749	1.9	3	0.0	1,082	0.1	18,495	1.0	102,169	5.0
Acute bronchitis (J20)	119,939	1.8	37,541	3.5	26,303	1.7	33,500	1.8	22,595	1.1
Acute nasopharyngitis (J00)	102,138	1.6	71,847	6.6	21,100	1.3	7,361	0.4	1,830	0.1
Acute pharyngitis (J02)	97,350	1.5	37,693	3.5	38,842	2.5	15,967	0.9	4,848	0.2
Acute laryngitis and/or tracheitis (J04)	73,247	1.1	25,808	2.4	20,706	1.3	19,070	1.0	7,663	0.4
Sleep disorders (G47)	70,843	1.1	140	0.0	7,506	0.5	20,373	1.1	42,824	2.1
Arthrosis of the knee joint (M17)	64,706	1.0	16	0.0	2,570	0.2	26,255	1.4	35,865	1.8
Acute maxillary sinusitis (J01)	60,323	0.9	6,639	0.6	33,269	2.1	15,946	0.9	4,469	0.2
Cystitis (N30)	57,662	0.9	4,833	0.4	22,595	1.4	13,549	0.7	16,685	0.8
Gastritis and duodenitis (K29)	55,948	0.9	467	0.0	14,076	0.9	18,342	1.0	23,063	1.1
Non-suppurative otitis media (H65)	55,729	0.9	40,689	3.8	8,955	0.6	3,948	0.2	2,137	0.1
Other joint disorders, not elsewhere classified (M25)	54,285	0.8	2,530	0.2	20,244	1.3	20,731	1.1	10,780	0.5
Acute tonsillitis (J03)	48,131	0.7	17,752	1.6	23,190	1.5	5,953	0.3	1,236	0.1
Disorders of lipoprotein metabolism and other lipidaemias (E78)	45,744	0.7	23	0.0	2,962	0.2	18,154	1.0	24,605	1.2
Other intervertebral disc disorders (M51)	43,869	0.7	7	0.0	11,914	0.8	23,391	1.3	8,557	0.4
Conjunctivitis (H10)	35,368	0.5	18,444	1.7	7,859	0.5	5,129	0.3	3,936	0.2
Congestive heart failure (I50)	35,100	0.5	52	0.0	379	0.0	4,794	0.3	29,875	1.5
Varicella (B01)	19,734	0.3	18,918	1.7	773	0.0	32	0.0	11	0.0
General medical examination (Z00-Z99)	1,111,644	17.0	252,028	23.3	290,149	18.5	286,688	15.5	282,779	14.0
Other	2,569,669	39.4	267,280	24.7	704,414	44.8	797,620	43.2	800,355	39.5
Total visits	6,525,971	100	1,082,063	100	1,571,474	100	1,845,528	100	2,026,906	100

Types of visits

Out of the six and a half million visits made in 2017, three-fourths were family doctors' and a fourth family nurses' visits (Figure 8). Year on year, the number of nurses' independent visits at FDO has increased. Compared to 2007, the number of nurses' visits has grown over four times (16). One of the reasons is introduction of additional pay to family nurses as of 2013 (17).

Most, i.e. 70% of visits made to FDO were outpatient visits. Their proportion was the largest in all patients' age groups and principal diagnosis groups (Figure 10). A third of visits was phone consultations and only 1% e-mail consultations.

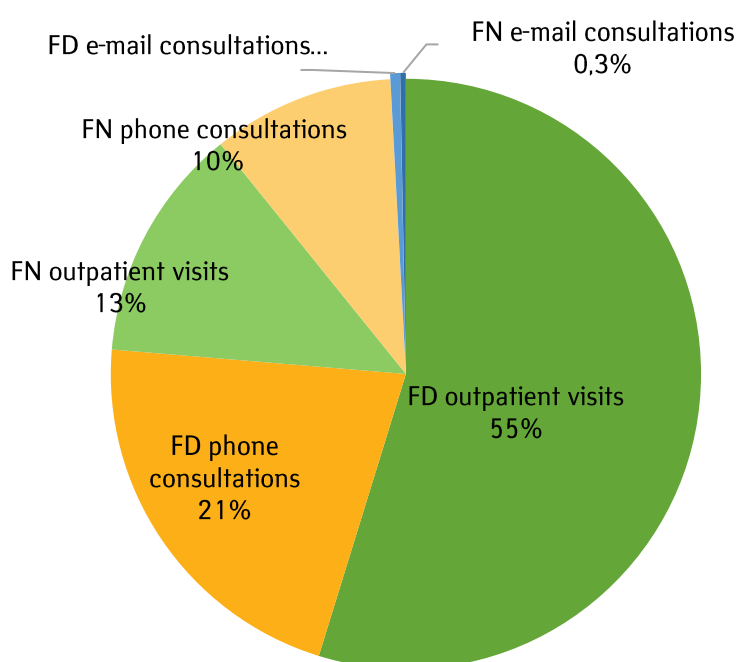


Figure 8. Family doctor's and nurse's visits by type, 2017

As a rule, FDO were contacted by phone with problems related to circulatory diseases (I00–I99) and other health-related issues (Z00–Z99) (Figures 8 and 9). Regarding children, phone consultations were, in addition to other health-related contacts, also related to the treatment of respiratory diseases (Annex 1, Figure 12).

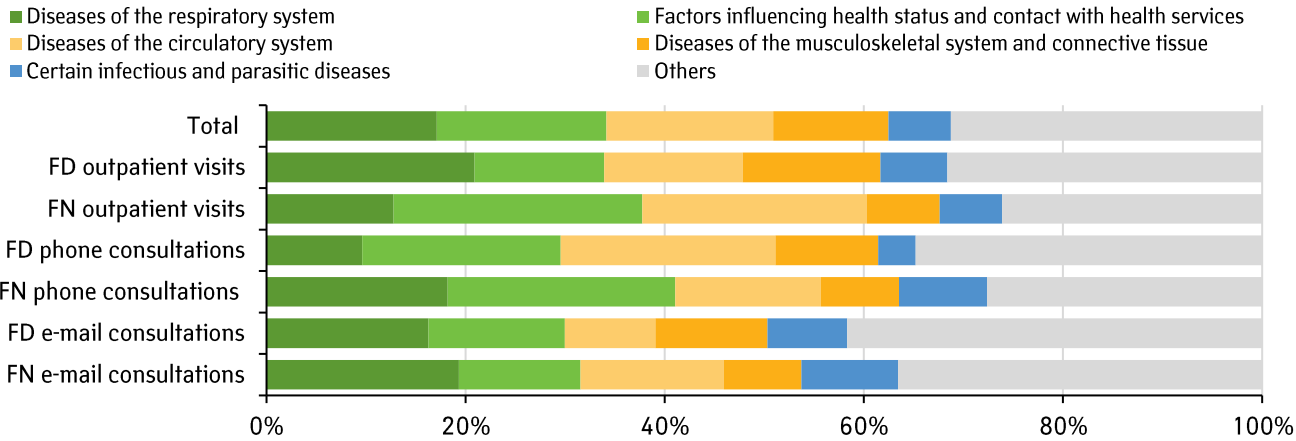


Figure 9. Visits by type and principal diagnosis group, 2017

Slightly more than half of family doctor’s 3.6 million visits were repeated patient consultations, whereof a fifth was related to respiratory diseases, 18% with the circulatory system and 16% with the treatment of musculoskeletal and connective tissue diseases (Figures 9 and 10). Out of family doctors’ visits, 40% were initial consultations, whereas a fourth of these visits were related to respiratory diseases. These were followed by musculoskeletal and connective tissue diseases (14%) and circulatory diseases (11%).

The preventive consultations accounted for 8% of family doctor’s visits. These were mostly made for the purpose of other health-related contacts, whereof 70% were health examinations and encounters for administrative purposes (Z02) or general examinations of infants and children (Z00) – 45% and 25%, respectively.

Altogether, a fifth of family doctors consultations involved issues related to respiratory diseases and on average, a patient visited the family doctor four times a year.

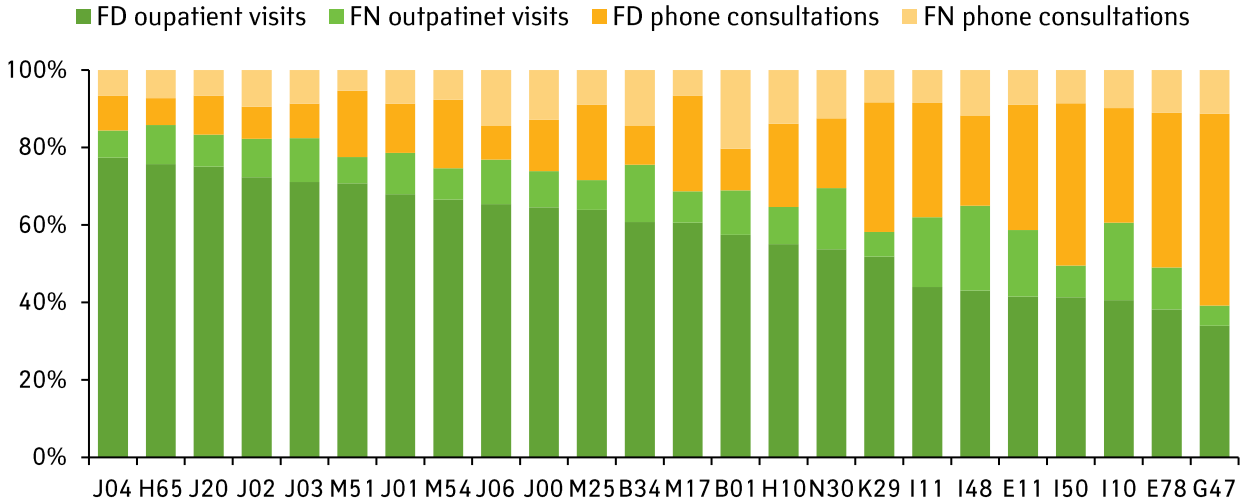


Figure 10. Most frequent principal diagnoses (except for codes Z) by type of FD and FN visits, 2017

J04–Acute laryngitis; H65–Non-suppurative otitis media; J20–Acute bronchitis; J02–Acute pharyngitis; J03–Acute tonsillitis; M51–Other intervertebral disc disorders; J01–Acute maxillary sinusitis; M54–Back pain; J06–Acute upper respiratory infections of multiple and unspecified sites; J00–Acute nasopharyngitis; M25–Other joint disorders, not elsewhere classified; B34–Viral infection of an unspecified site; M17–Arthrosis of the knee joint; B01–Varicella; H10–Conjunctivitis; N30–Cystitis; K29–Gastritis and duodenitis; I11–Hypertensive heart disease; I48–Atrial fibrillation and flutter; E11–Non-insulin-dependent diabetes mellitus; I50–Congestive heart failure; I10–Hypertension; E78–Disorders of lipoprotein metabolism and other lipidaemias; G47–Sleep disorders.

Out of family doctors' visits, phone consultations made up an average of 29%, having the highest proportion in Harju County (40%) and the lowest proportion in Lääne County (22%). As a rule, family doctors were consulted by phone due to other health-related issues, such as issue of repeat prescription for medicaments or appliance, observation and evaluation for suspected diseases/conditions (Z76; Z03). Consultations were also significant in relation to hypertensive diseases, including hypertensive heart diseases (I10; I11).

A fourth out of family nurse's visits and a fifth of phone consultations was related to other health-related contacts (Figures 6, 9 and 10). Although, other health-related contacts made up the largest proportion of reasons for visiting the family nurse, family doctors made significantly more visits and phone consultations in that category. The exception was counselling (Z71), which is the main task of family nurses – these visits accounted for 80% of all consultations made for that reason.

In addition to the above (other health-related contacts), family nurses were often visited with circulatory diseases. The main reason for visits in 16% of patients was health problems related to hypertension and atrial fibrillation and flutter. Family nurses were also visited with acute respiratory infections (J06) and viral infections of an unspecified site (B34).

43% of family nurse's visits were phone consultations. Family nurses, similarly to family doctors, made the most phone consultations in relation to issuing repeat prescriptions (Z76, 14.5% and 9.8%, respectively). This was followed by counselling regarding acute upper respiratory infections (J06).

E-mail counselling is still used very modestly at FDO. Family doctors were consulted by e-mail mostly by 15–44-year-old patients. At the same time, e-mail communication was also not unfamiliar for older patients (Figure 11).

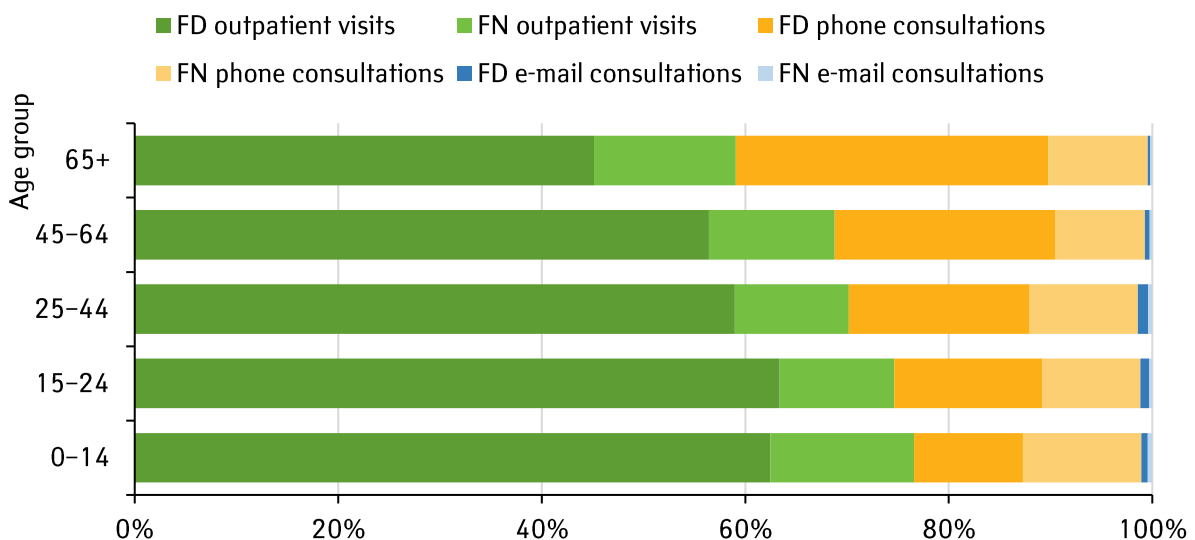


Figure 11. Visits by type and patients age group, 2017

The most e-mail contacts with family doctors were made in Harju County (1.1% of all doctor's visits). E-mail consultations were rare in Lääne, Viljandi and Ida-Viru counties (0.1% of all family doctors' visits). Family nurses were consulted by e-mail the most in Valga County (6.4% of all nurse's visits) and rarely in Lääne, Jõgeva, Pärnu, Hiiu, Võru, Saare and Rapla counties. The main reason for consulting a family doctor and a family nurse was observation and consultation of patients with respiratory and circulatory diseases (Figures 10 and 11).

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Annex

The following tables and figure illustrate the data presented in the report. First, chapters of International Statistical Classification of Diseases and Related Health Problems, version 10. Next, the order of principal diagnosis groups and the most frequent reasons for visits in detail.

Table 2. Chapters of International Classification of Diseases, version 10., 2017

Chapter	Name	Code
I	Certain infectious and parasitic diseases	A00–B99
II	Benign and unspecified neoplasms	D10–D48
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	D50–D89
IV	Endocrine, nutritional and metabolic diseases	E00–E90
V	Mental and behavioural disorders	F00–F99
VI	Diseases of the nervous system	G00–G99
VII	Diseases of the eye and adnexa	H00–H59
VIII	Diseases of the ear and mastoid process	H60–H95
IX	Diseases of the circulatory system	I00–I99
X	Diseases of the respiratory system	J00–J99
XI	Diseases of the digestive system	K00–K93
XII	Diseases of the skin and subcutaneous tissue	L00–L99
XIII	Diseases of the musculoskeletal system and connective tissue	M00–M99
XIV	Diseases of the genitourinary system	N00–N99
XV	Pregnancy, childbirth and the puerperium	O00–O99
XVI	Certain conditions originating in the perinatal period	P00–P96
XVII	Congenital malformations, deformation and chromosomal abnormalities	Q00–Q99
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00–R99
XIX	Injuries, poisoning and certain other consequences of external causes	S00–T98
XX	The external causes of morbidity and death	V01–Y98
XXI	Factors influencing health status and contact with health services	Z00–Z99

Table 3. Reasons for visits based on principal diagnosis according to the chapter of ICD-10, 2017

No	ICD-10	Visits	%
1	Diseases of the respiratory system (J00–J99)	1,116,947	17.1
2	Factors influencing health status and contact with health services (Z00–Z99)	1,111,644	17.0
3	Diseases of the circulatory system (I00–I99)	1,091,667	16.7
4	Diseases of the musculoskeletal system and connective tissue (M00–M99)	757,049	11.6
5	Certain infectious and parasitic diseases (A00–B99)	408,317	6.3
6	Endocrine, nutritional and metabolic diseases (E00–E90)	299,874	4.6
7	Diseases of the digestive system (K00–K93)	230,637	3.5
8	Mental and behavioural disorders (F00–F99)	212,147	3.3
9	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	200,196	3.1
10	Diseases of the nervous system (G00–G99)	189,446	2.9
11	Diseases of the skin and subcutaneous tissue (L00–L99)	187,983	2.9
12	Diseases of the genitourinary system (N00–N99)	183,215	2.8
13	Injuries, poisoning and consequences of certain other external causes (S00–T98)	179,866	2.8
14	Diseases of the ear and mastoid process (H60–H95)	139,747	2.1
15	Neoplasms (C00–D48)	94,741	1.5
16	Diseases of the eye and adnexa (H00–H59)	61,990	0.9
17	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)	48,348	0.7
18	Congenital malformations, deformation and chromosomal abnormalities (Q00–Q99)	7,635	0.1
19	Pregnancy, childbirth and the puerperium (O00–O99)	3,439	0.1
20	Certain conditions originating in the perinatal period (P00–P96)	1,080	0.0

Table 4. Reasons for visits based on principal and single diagnosis, 2017

No	Name in ICD-10	Visits	%
1	Hypertensive heart disease (I11)	431,920	6.6
2	Acute upper respiratory infections of multiple and unspecified sites (J06)	380,758	5.8
3	Persons encountering health services in other circumstances (Z76)	314,230	4.8
4	Essential (primary) hypertension (I10)	290,885	4.5
5	Viral infection of an unspecified site (B34)	240,429	3.7
6	Dorsalgia or back pain (M54)	213,139	3.3
7	Examination and encounter for administrative purposes (Z02)	192,438	2.9
8	Medical observation and evaluation for suspected diseases and conditions (Z03)	151,716	2.3
9	general examination and investigation of persons without complaint and reported diagnosis (Z00)	151,484	2.3
10	Non-insulin-dependent diabetes mellitus (E11)	125,662	1.9
11	Atrial fibrillation and flutter (I48)	121,749	1.9
12	Acute bronchitis (J20)	119,939	1.8
13	Acute nasopharyngitis or common cold (J00)	102,138	1.6
14	Acute pharyngitis (J02)	97,350	1.5
15	Acute laryngitis and tracheitis (J04)	73,247	1.1
16	Sleep disorders (G47)	70,843	1.1
17	Persons encountering health services for other counselling and medical advice, not elsewhere classified (Z71)	69,618	1.1
18	Gonarthrosis (arthrosis of knee) (M17)	64,706	1.0
19	Acute maxillary sinusitis (J01)	60,323	0.9
20	Acute cystitis (N30)	57,662	0.9
21	Gastritis and duodenitis (K29)	55,948	0.9
22	Non-suppurative otitis media (H65)	55,729	0.9
23	Asthma (J45)	55,722	0.9
24	Other hypothyroidism (E03)	54,790	0.8
25	Other joint disorders, not elsewhere classified (M25)	54,285	0.8
26	Acute tonsillitis (J03)	48,131	0.7
27	Other anxiety disorders (F41)	46,869	0.7
28	Disorders of lipoprotein metabolism and other lipidaemias (E78)	45,744	0.7
29	Depressive episode (F32)	45,210	0.7
30	Special screening examination for neoplasms (Z12)	44,856	0.7
31	Other intervertebral disc disorders (M51)	43,869	0.7
32	Gastro-oesophageal reflux disease (K21)	42,501	0.7
33	Vasomotor and allergic rhinitis (J30)	38,673	0.6
34	Abdominal and pelvic pain (R10)	37,907	0.6
35	Other soft tissue disorders, not elsewhere classified (M79)	36,592	0.6
36	Need for immunization against certain single viral diseases (Z24)	35,460	0.5
37	Conjunctivitis (H10)	35,368	0.5
38	Congestive heart failure (I50)	35,100	0.5
39	Contraceptive management (Z30)	34,899	0.5
40	Coxarthrosis (arthrosis of hip) (M16)	33,683	0.5

41	Shoulder lesions (M75)	33,419	0.5
42	Polyarthrosis (M15)	31,916	0.5
43	Other disorders of urinary system (N39)	30,820	0.5
44	Bronchopneumonia, unspecified (J18)	29,542	0.5
45	Iron deficiency anaemia (D50)	29,266	0.4
46	Nonorganic sleep disorders (F51)	28,692	0.4
47	Need for immunization against other single viral diseases (Z25)	28,286	0.4
48	Allergic contact dermatitis (L23)	28,032	0.4
49	Hyperplasia of prostate (N40)	27,878	0.4
50	Chronic diseases of tonsils and adenoids (J35)	27,318	0.4
51	Other cardiac arrhythmias (I49)	24,832	0.4
52	Gout (M10)	24,230	0.4
53	Chronic ischaemic heart disease (I25)	23,676	0.4
54	Angina pectoris (I20)	23,510	0.4
55	Atopic dermatitis (L20)	22,381	0.3
56	Viral and other specified intestinal infections (A08)	21,961	0.3
57	Disorders of vestibular function (H81)	21,856	0.3
58	Other gastroenteritis and colitis of infectious and unspecified origin (A09)	21,486	0.3
59	Other enthesopathies (M77)	21,006	0.3
60	Other dermatitis (L30)	19,878	0.3

Table 5. Top 25 reasons for visits based on principal and single diagnosis and age group, 2017

No	0-4			5-14			15-24			25-44			65-84			85 +		
	ICD-10	Visits	%	ICD-10	Visits	%	ICD-10	Visits	%	ICD-10	Visits	%	ICD-10	Visits	%	ICD-10	Visits	%
1	J06	85,930	21.7	J06	84,394	26.7	J06	32,563	11.5	J06	85,476	8.6	I11	258,531	15.0	I11	53,958	17.7
2	B34	53,729	13.6	J00	24,865	7.9	B34	21,261	7.5	M54	61,867	6.2	I10	118,984	6.9	I48	17,160	5.6
3	J00	46,982	11.9	H65	17,098	5.4	J02	11,941	4.2	B34	58,657	5.9	I48	85,009	4.9	I10	15,178	5.0
4	H65	23,591	6.0	J20	15,465	4.9	M54	10,000	3.5	I10	28,044	2.8	E11	70,177	4.1	G47	10,643	3.5
5	J20	22,076	5.6	J03	11,833	3.7	J03	8,209	2.9	J02	26,901	2.7	M54	42,065	2.4	I50	10,310	3.4
6	J02	16,160	4.1	B01	9,333	3.0	J01	7,178	2.5	J01	26,091	2.6	G47	32,181	1.9	E11	7,238	2.4
7	J04	12,367	3.1	J35	7,655	2.4	N30	6,426	2.3	J20	20,244	2.0	M17	31,524	1.8	M54	5,045	1.7
8	H10	11,987	3.0	J30	6,852	2.2	L70	6,264	2.2	F41	16,329	1.6	E78	22,492	1.3	M15	4,404	1.4
9	B01	9,585	2.4	R10	6,544	2.1	J00	6,143	2.2	N30	16,169	1.6	J20	20,057	1.2	M17	4,341	1.4
10	L20	9,269	2.3	H10	6,457	2.0	J20	6,059	2.1	J04	15,669	1.6	K29	19,841	1.2	F51	3,881	1.3
11	J03	5,919	1.5	A08	5,293	1.7	J30	5,734	2.0	M25	15,356	1.5	I50	19,565	1.1	I20	3,384	1.1
12	J35	5,699	1.4	B80	4,964	1.6	J04	5,037	1.8	J03	14,981	1.5	E03	18,986	1.1	K29	3,222	1.1
13	A08	3,719	0.9	R05	3,384	1.1	M25	4,888	1.7	J00	14,957	1.5	J06	18,552	1.1	I25	2,990	1.0
14	H66	3,504	0.9	J18	3,367	1.1	R10	4,025	1.4	F32	14,147	1.4	N40	18,346	1.1	N30	2,762	0.9
15	L23	3,364	0.9	N30	3,346	1.1	J45	3,984	1.4	J30	12,866	1.3	M15	17,320	1.0	I70	2,657	0.9
16	A09	3,343	0.8	L23	3,232	1.0	J35	3,566	1.3	E03	11,919	1.2	M16	17,125	1.0	J20	2,538	0.8
17	R05	3,261	0.8	J11	2,708	0.9	D50	2,991	1.1	K29	11,732	1.2	J45	14,686	0.9	H81	2,486	0.8
18	L27	2,975	0.8	F80	2,662	0.8	F32	2,936	1.0	M51	11,266	1.1	K21	14,461	0.8	N40	2,439	0.8
19	J18	2,715	0.7	H66	2,592	0.8	F41	2,864	1.0	M79	10,554	1.1	N30	13,923	0.8	M16	2,391	0.8
20	J45	2,364	0.6	M25	2,348	0.7	H65	2,848	1.0	D50	9,953	1.0	I25	13,208	0.8	H40	2,357	0.8
21	B80	2,341	0.6	M21	2,270	0.7	R51	2,639	0.9	R10	9,543	1.0	I20	13,148	0.8	J45	2,330	0.8
22	L30	2,219	0.6	L30	2,122	0.7	A09	2,591	0.9	K21	9,482	1.0	F51	12,456	0.7	E03	2,206	0.7
23	D50	2,097	0.5	R51	2,101	0.7	A08	2,528	0.9	G43	8,942	0.9	I49	11,620	0.7	K21	2,167	0.7
24	B08	1,966	0.5	N39	1,953	0.6	M79	2,509	0.9	J45	8,498	0.9	M10	10,589	0.6	E78	2,113	0.7
25	R29	1,742	0.4	L01	1,951	0.6	N39	2,371	0.8	I11	8,270	0.8	F41	10,550	0.6	I13	2,070	0.7

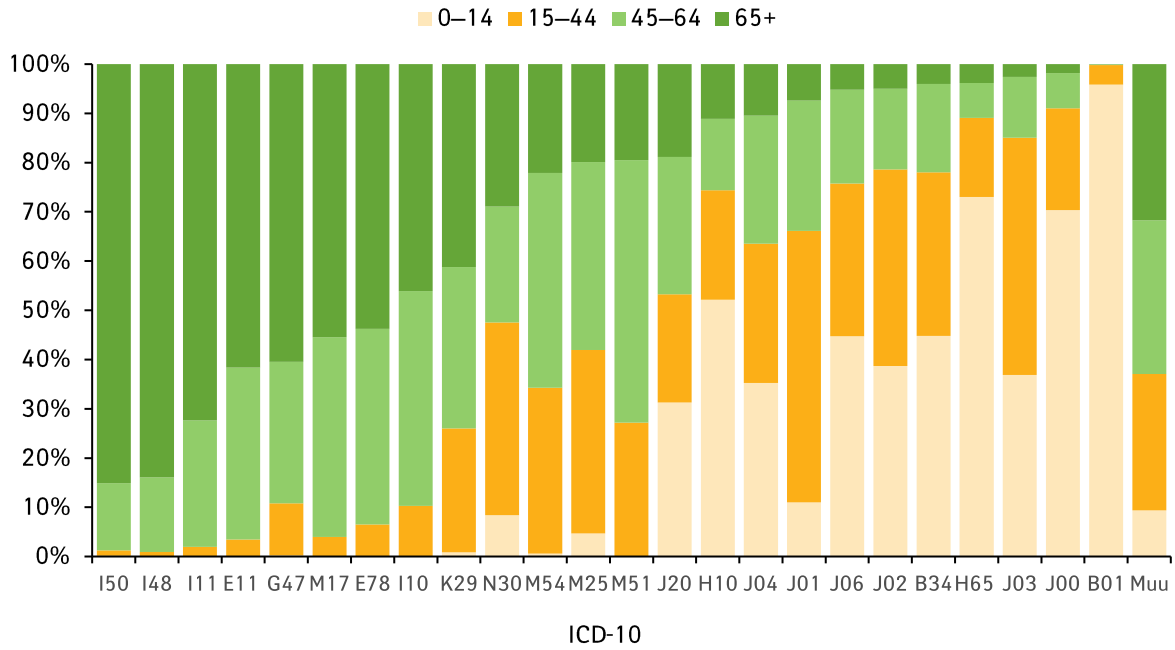


Figure 12. The most frequent reasons for visits based on principal diagnosis and age group, 2017

Note: I50–Congestive heart failure; I48–Atrial fibrillation and flutter; I11–Hypertensive heart disease; E11–Non-insulin-dependent diabetes mellitus; G47–Sleep disorders; M17–Arthrosis of the knee joint; E78–Disorders of lipoprotein metabolism and other lipidaemias; I10–Hypertension; K29–Gastritis and duodenitis; N30–Cystitis; M54–Back pain; M25–Other joint disorders, not elsewhere classified; M51–Other intervertebral disc disorders; J20–Acute bronchitis; H10–Conjunctivitis; J04–Acute laryngitis and tracheitis; J01–Acute maxillary sinusitis; J06–Acute upper respiratory infections of multiple and unspecified sites; J02–Acute pharyngitis; B34–Viral infection of an unspecified site; H65–Non-suppurative otitis media; J03–Acute tonsillitis; J00–Acute nasopharyngitis; B01–Varicella.

Health and health care statistics:

- **Health statistics and health research database**
<http://www.tai.ee/tstua>
- **Website of Health Statistics Department of National Institute for Health Development**
<http://www.tai.ee/en/r-and-d/health-statistics/activities>
- **Dataquery to National Institute for Health Development**
tai@tai.ee
- **Database of Statistics Estonia**
<http://www.stat.ee/en>
- **Statistics of European Union**
<http://ec.europa.eu/eurostat>
- **European health for all database (HFA-DB)**
<http://data.euro.who.int/hfadb/>
- **OECD's statistical databases (OECD.Stat)**
http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT

