



Health care personnel in Estonia 2013



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Health care personnel in Estonia 2013

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INTRODUCTION

National Institute for Health Development began in 2014 to collect data about the speciality, occupation, contractual work load and the hours actually worked by health care personnel in November of 2013 on personal basis from the health care facilities registered in the Health Board. Data collected pursuant to the new methodology allow to exclude double counting of persons, analyse data in detail and therefore prepare high-quality and comprehensive statistics.

This is the first analysis that has been prepared upon regular statistical production process after the amendment of the methodology for collecting data of health care personnel. The analysis provides an overview about the number, gender, age of doctors and nurses, in how many institutions, in which occupation are they working, by the different types of health care providers and counties. Data of the health care personnel belonging to other categories do not find approach in this analysis. Results of the research have been published also in the database of Health statistics and health research of the National Institute for Health Development (www.tai.ee/tstua).

Analysis consists of two parts: In the first section general ideas about the methodology for collecting data of health care personnel are provided. The second part provides an overview about doctors and nurses and the amount of work performed by them in November of 2013.

National Institute for Health Development thanks all health care providers, who presented the data of health care personnel about November of 2013, and provided additional explanations about the data for ensuring statistics of higher quality.

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DEFINITIONS AND EXPLANATIONS

County — location of health care service provider.

Health care professional — employees who are directly related to provision of health care services (physicians, dentists, nurses and midwives and other health care specialists).

Health care provider i.e. health care institution — a legal person whose principal or ancillary activity is to provide health care services. Health care providers must have an activity licence issued by the Health Board.

Occupation — set of jobs whose main tasks and duties are characterised by a high degree of similarity. For classifying occupations the International Occupation Classification of Health Care System ISCO-08 is used.

Overtime — over the normal working hours worked hours

Post actually filled — actual hours worked by full-time equivalents. In fact, the number of filled positions is found by dividing the actual hours worked by full-time or 168 working hours per month of November 2013.

Post filled — one FTE is equivalent to one employee working full-time equals normally to 40 hours per week.

Post filled according to contractual work load — the employer and the employee agreed working hours of full-time work.

Profession — i.e. professional group, which is formed by similar occupations. A specific set of tasks and responsibilities in the organization or institution for specific job

Resident Dentist — a dentist continuing professional training in residency.

Resident Physician — a physician who learned a certain speciality during residency

Specialty — knowledge and skills acquired by an educational institution, latest qualifications or speciality.

1. METHODOLOGICAL OVERVIEW

Since 2013 the National Institute for Health Development (NIHD) is collecting data about health care personnel pursuant to the Health Services Organisation Act¹ by statistical report "Health care personnel" established on the basis of the Regulation of the Minister of Social Affairs No 51 from 7 December 2012 "Requirements for the preparation of reports on health care statistics and economic activities in the field of health care, the composition of the data and the procedure for the submission of these"². Data composition based on the report form is provided in Annex No 1 of this analysis.

The amendment of the methodology for collecting data of health care personnel was caused by a circumstance, that aggregated reporting did not cover any more the information needs of data users and continuing collection of data in such form was not rational. Information about interpretation and options of data collected by the NIHD with aggregated reporting can be read additionally from the analysis issued by the NIHD in 2013 "Methodology for calculation of health care personnel in 2008-2012" (in Estonian „Tervishoiutöötajate arvestuse metoodika 2008-2012“). Information about the development of new methodology for collecting data of health care personnel and the pilot research results can be read additionally from the analysis issued by the NIHD in 2012 "Renewal of collecting the statistics of health care personnel".

Pursuant to subsection 1 of § 3 of the Health Services Organisation Act a health care personnel is a doctor, dentist, nurse and midwife, if he/she is registered in the Health Board. In the statistics of health care personnel by the NIHD under general title of health care personnel belong employees mentioned in subsection 1 of § 3 of the Health Services Organisation Act as well as the other specialists and auxiliary specialists of health care sector. Within the framework of this report all persons shall be considered among health care personnel, with whom a health care provider (HCP) has been in employment relationship by employment contract, contract for services, authorisation agreement or within the framework of any other contract, regardless to the type of contract. All sole proprietors and owners of private limited companies, who are providing health care services, shall also be calculated among health care personnel. In case of HCPs, whose main activity is not a provision of health care services, only this part of employees are recorded in the dataset who is providing health care services.

¹ Available at: <https://www.riigiteataja.ee/akt/106062014022> (08.10.2014)

² Available at: <https://www.riigiteataja.ee/akt/113122012004> (08.10.2014)

Non-medical staff, for example accountants, IT specialists etc. (except psychologists, social workers and the heads of medical departments of companies/heads of units, who are considered also as health care personnel by the NIHD) are not recorded in the dataset.

The health care personnel on maternity leave, whose contract has been suspended and who were not providing health care services in November of 2013, are not recorded in the statistics of health care personnel.

Collection of data on individual level allows to observe the work of health care personnel for different HCPs, counties and occupations. Looking at the number of health care personnel by the types of HCPs has to be taken into account, that health care professionals who were working for different type of HCPs in November of 2013, have been calculated in all types of HCPs they have been working for. For instance, if a doctor was working in hospital as well as in specialised health care institution, he/she has been calculated as a doctor in both institutions, but in total number only one-time. Consequently, the number of health care personnel, by the types of HCPs aggregated shall not indicate the total amount of health care personnel. The same principle applies also in case of calculation of health care personnel by the types of hospital and by counties.

Also, while looking the number of health care personnel by the professions and occupations, the same principle has to be taken into account. The health care personnel working in several different professions and occupations have been calculated in every profession and occupation they have been working in. For instance, if a health care specialist was working as a doctor in two occupations and as a nurse in one occupation, he/she has been calculated as a person in both occupations as a doctor and additionally as a nurse. Consequently, total amount of employees according to different occupations or professions aggregated shall not indicate the total amount of health care personnel.

Resident physicians and resident dentists have been calculated accordingly among the number of doctors and dentists. Resident physicians, who are acquiring first specialty in residency, have been recorded according to the specialty to be acquired in educational institution. According to the same principle have been recorded also the doctors already acquired a speciality, who are performing practice of a new specialty to be acquired within the framework of residency contract. If a doctor studying physician specialty in residency performs residency practice as a doctor in work within the framework of his/her physician

speciality, he/she is recorded in the dataset pursuant to the occupation of doctor, whom he/she was working in November of 2013. The same principle also applies to resident dentists.

Students, who are still studying to be a doctor or a dentist, have not been calculated among doctors and dentists. They have been determined in the statistics separately under the titles "Assistant physicians (students)" and "Assistant dentists (students)". Assistant nurses and assistant midwives shall be recorded as also students, who have not acquired yet vocation of nurse or midwife. Also, these specialists shall be considered separately and not calculated among nurses and midwives. Among nurses shall not be calculated and due to general nature of specific work shall be considered separately also dental care nurses/assistants.

As the posts filled according to contract have been considered work load prescribed by employment contract, contract for services, authorisation agreement or within the framework of any other contract, i.e. in other words, working time agreed upon between employer and employee in regard to full-time. In November of 2013 were 168 working hours the time that is considered as full-time i.e. work load 1.0. If the work load of health care specialist in regard to full-time was not surely determined in contract, then it was estimated.

In order to have an overview about the positions actually filled by health care personnel, the working hours actually performed shall be reined back to full-time i.e. work load 1.0. The number posts actually filled has been found by dividing the working hours actually performed with full-time i.e. 168 working hours. Among the hours actually worked have been calculated all the hours worked, including "working hours in standby duty", that have not been calculated as a part of contract. Among the hours actually worked have been calculated also the time spent in professional training. Time remained on standby home duty and on vacation has not been calculated.

The amount of overtime indicates to hours worked within the standard for working time agreed upon between employer and employee. Overtime which is compensated by granting time off later shall not be reported as overtime. Here should be taken into account, that the statistics of health care personnel represent the data questioned from HCPs. Therefore, statistics of health care personnel reflect only the data of working time officially calculated by an employer for the health care specialists. Neither doctors, nurses nor other health care personnel have been questioned separately, in order to determine their vision of actual working time.

The dataset of health care personnel of 2013 does not include information about standard working hours of November (i.e. working hours prescribed for working in November regardless to the contractual work load of employee) and about the time not worked, therefore the amount of actually performed work by health care personnel is calculated on the basis of the length of November i.e. 168 hours worked.

Upon collecting and disclosing the data the NIHD is guided by the Official Statistics Act. Personalised data shall be used only for statistical purposes and shall not be disclosed for the third parties.

2. DOCTORS

2.1. Number of doctors and their gender and age

In November of 2013 in total 4,395 doctors were working in Estonia. The largest group formed family physicians, anaesthesiologists and gynaecologists – accordingly 942, 299 and 296 doctors (Figure 1). The smallest were working as thoracic surgeons, clinical microbiologists and clinical immunologists – accordingly 9, 4 and 3 doctors.

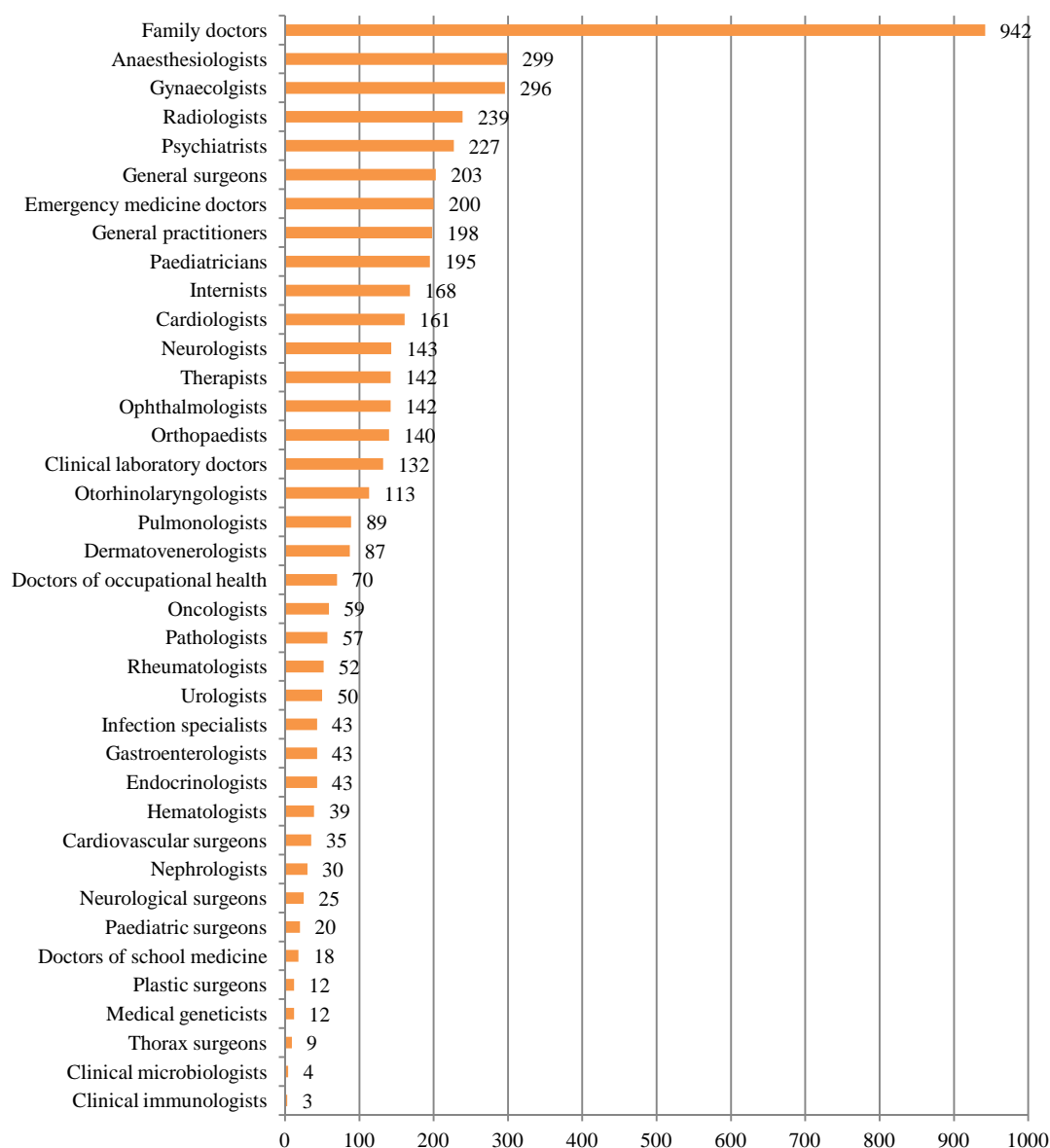


Figure 1. Number of doctors by occupation, November 2013

Approximately 75.3% of the Estonian doctors were women (Figure 2). As a clinical microbiologist, clinical immunologist and doctors of school medicine were working only women, as thorax surgeons however, only men. Male doctors were working mainly also as urologist, cardiovascular surgeon, neurosurgeon, general surgeon and orthopaedist, where their percentage amounted over 60%.

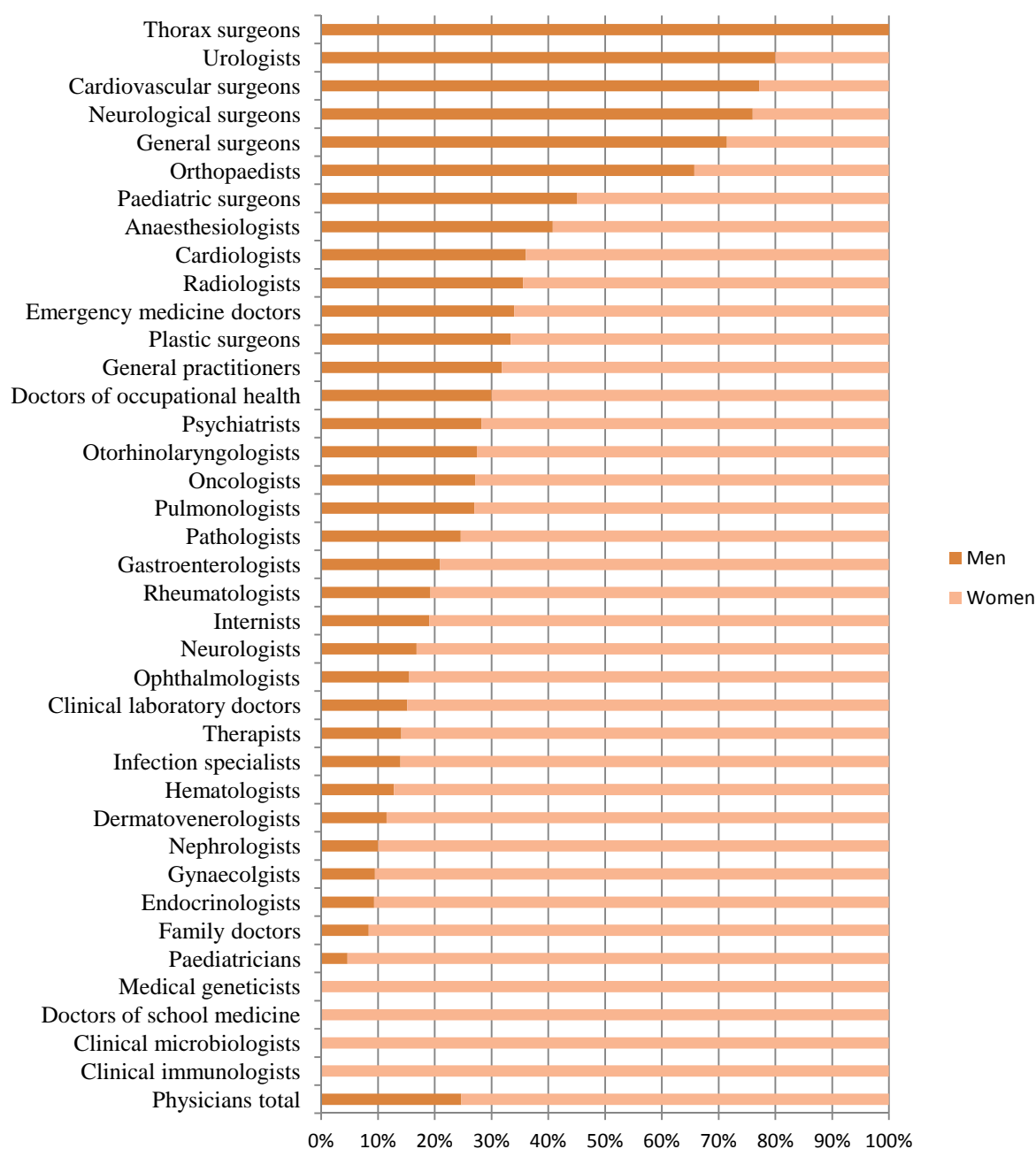


Figure 2. Distribution of doctors by gender and occupation, November 2013

Approximately half of the medical doctors were 40-59 and more than a quarter in the age of 60 or older (Figure 3).

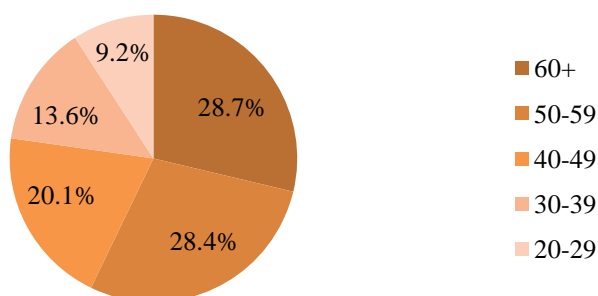


Figure 3. Distribution of doctors by age group, November 2013

The average age of doctors was approximately 51 years. The oldest doctor was a 90 years old radiologist and the youngest 23 years old ophthalmologist. In rehabilitation care providers was the highest average age of doctors – approximately 60 years (Figure 4). The average age of the doctors working in dental care providers was 57 and in specialised health care providers 55 years. The youngest doctors were working in emergency medical care providers, their average age was approximately 40 years.

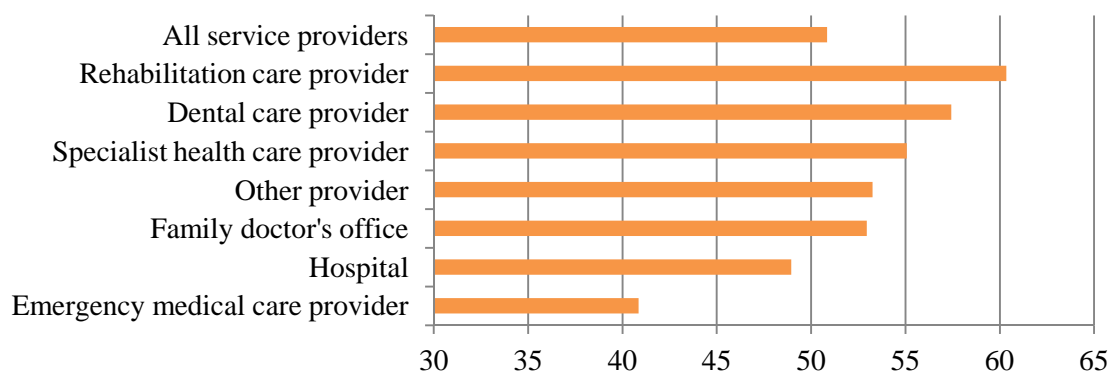


Figure 4. The average age of doctors by type of HCP, November 2013³

³ Other providers– not elsewhere specified HCPs, who own activity licence for provision of health services, e.g. institutions providing health care services in schools, out-patient departments of medicine in prisons and institutions, whose activity is organisation of the first aid trainings, provision of medical consultation by telephone and provision of support staff services for the family physicians. Other providers group includes also nursing and diagnostic institutions.

The doctors working in hospitals were by an average of 49 years old (Figure 5). In hospitals the average age of doctors was the highest in local hospitals – 58 years. The doctors working in regional hospitals were however the youngest– their average age was approximately 45 years.

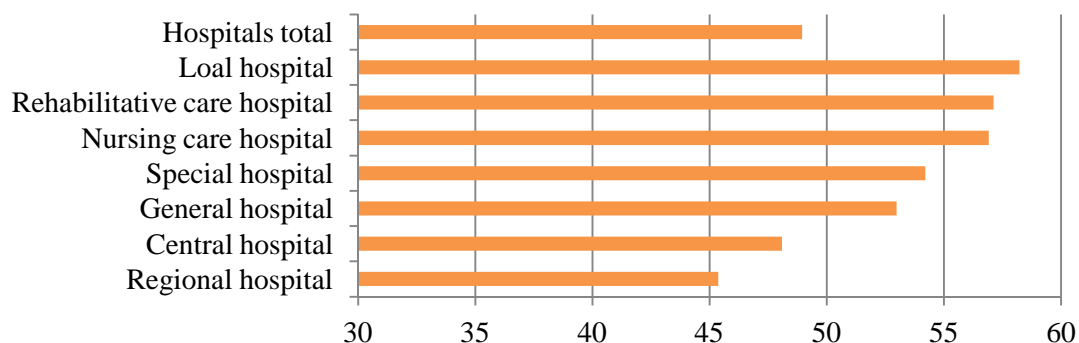


Figure 5. The average age of doctors by type of hospital, November 2013

2.2. Where are the doctors working

68.6% of the doctors were working in hospital (Figure 6). In family doctor's office were working 21.8% and in specialist health care providers 16.7% of the doctors. In rehabilitation and dental care providers was working the smallest amount of the doctors i.e. accordingly 1.8% and 0.2% of all doctors.

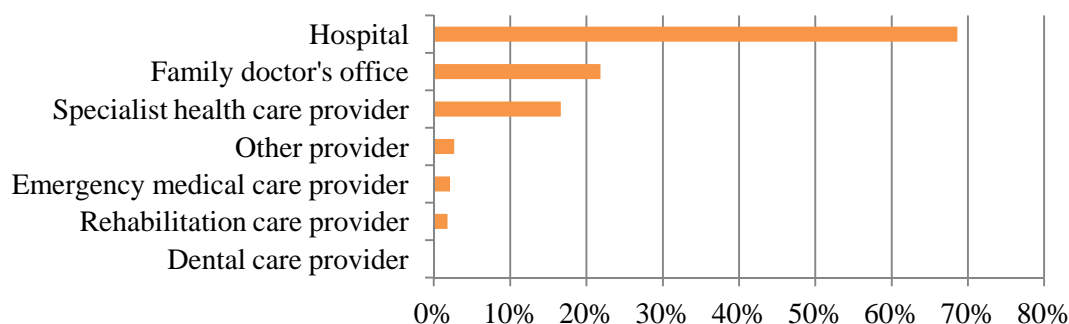


Figure 6. Distribution of doctors by type of HCP, November 2013⁴

⁴ Other institution – not elsewhere specified HCPs, who own activity licence for provision of health services, e.g. institutions providing health services in schools, out-patient departments of medicine in prisons and institutions, whose activity is

In hospitals were working in total 3,016 doctors, the majority of them i.e. 52.8% were working in regional hospitals (Figure 7). In central hospitals were working 30.2%, in general hospitals 20.2% of the doctors working in hospitals. In rehabilitative care hospitals was working the smallest amount i.e. 0.6% of the doctors working in hospitals.

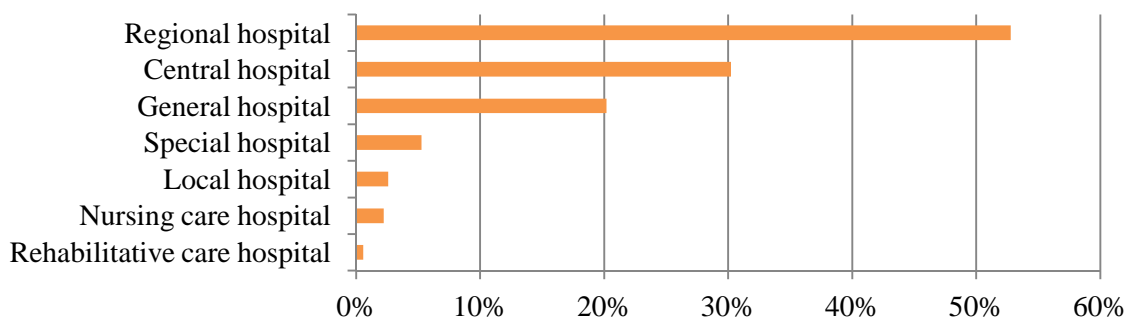


Figure 7. Distribution of doctors by type of hospital, November 2013

The largest amount, i.e. 2,004, doctors were working in Tallinn (Figure 8). In Tartu were working 1,108, in Ida-Viru County 398 and in Pärnu County 258 doctors. The smallest amount of doctors i.e. 30 doctors were working in Hiiu County.

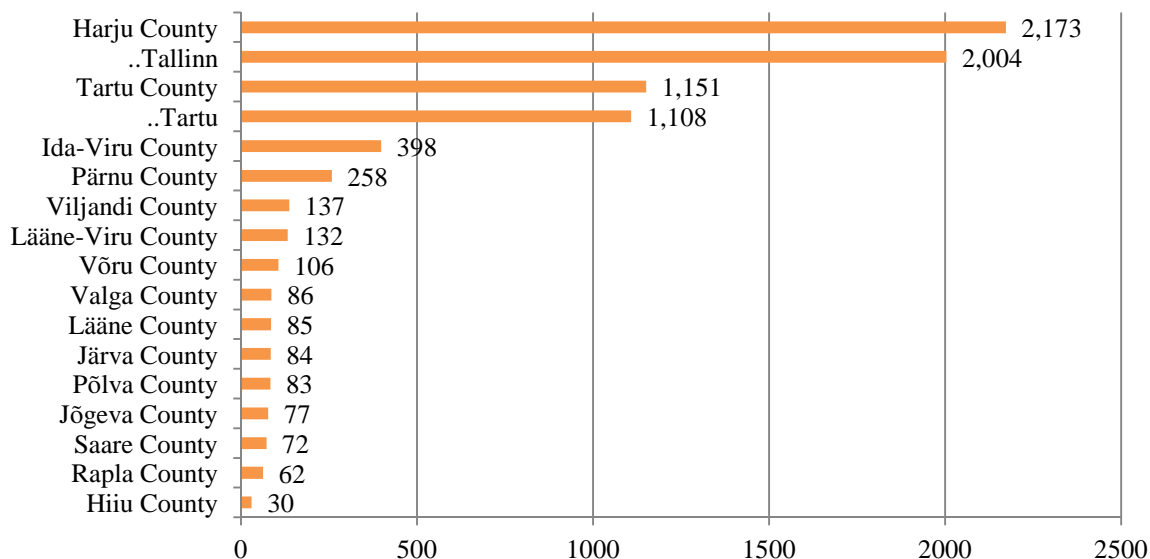


Figure 8. Number of doctors by county, November 2013

organisation of the first aid trainings, provision of medical consultation by telephone and provision of support staff services for the family physicians. Other institutions shall also include nursing and diagnostic institutions.

Within the framework of several different occupations were providing health care services 7.5% of the doctors (Figure 9). The majority of doctors i.e. 92.5% were providing services still within the framework of one occupation.

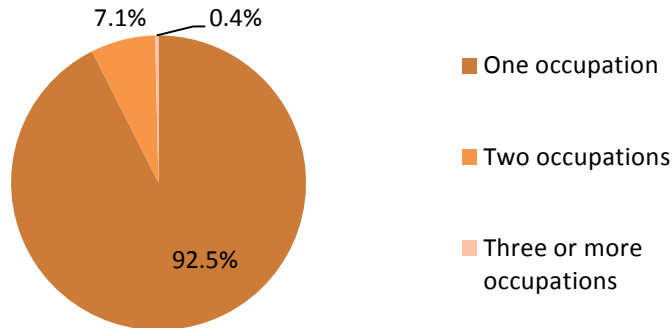


Figure 9. Number of doctors by number of occupations, November 2013

One-fifth of the doctors were working for more than one employer (Figure 10). For two employers were working 17.6% and for three or more employers 4.8% of doctors.

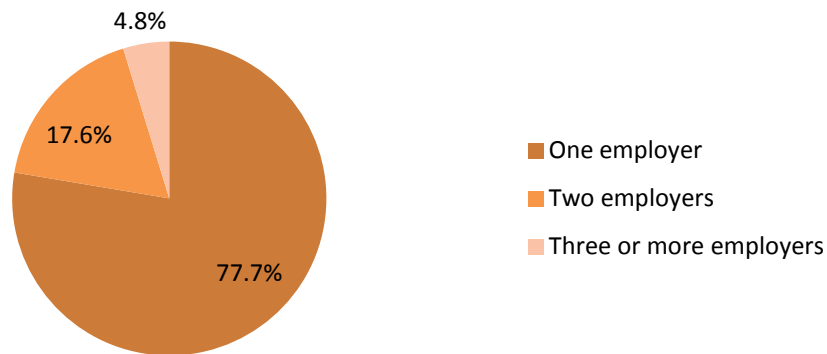


Figure 10. Number of doctors by number of employers, November 2013

Among the doctors working in hospitals 17.1% i.e. 537 doctors were working additionally for some other employer. Their majority i.e. 11.7% additionally to hospitals were working in specialist health care providers (Figure 11). In emergency medical care providers were working 2.2% and in family doctor's offices 2% of hospital's doctors.

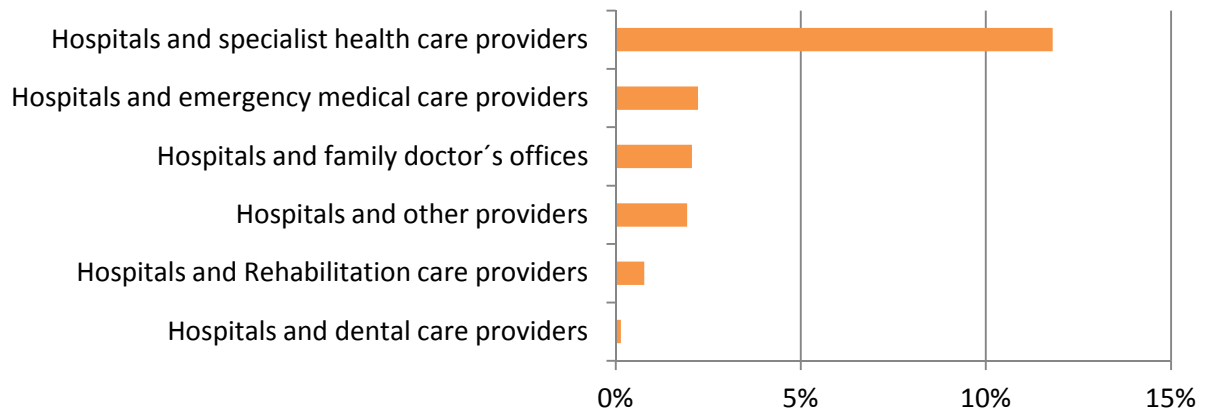


Figure 11. Distribution of the doctors working in hospitals by type of HCP, November 2013

The majority of the doctors i.e. 51.5% were working only in HCPs belonging to the public sector (Figure 12). In HCPs under private sector were working 31.8% of doctors. 6.1% of all doctors were working in HCPs belonging to both state and private sector and 6.6% in HCPs belonging to both the local government and private sector.

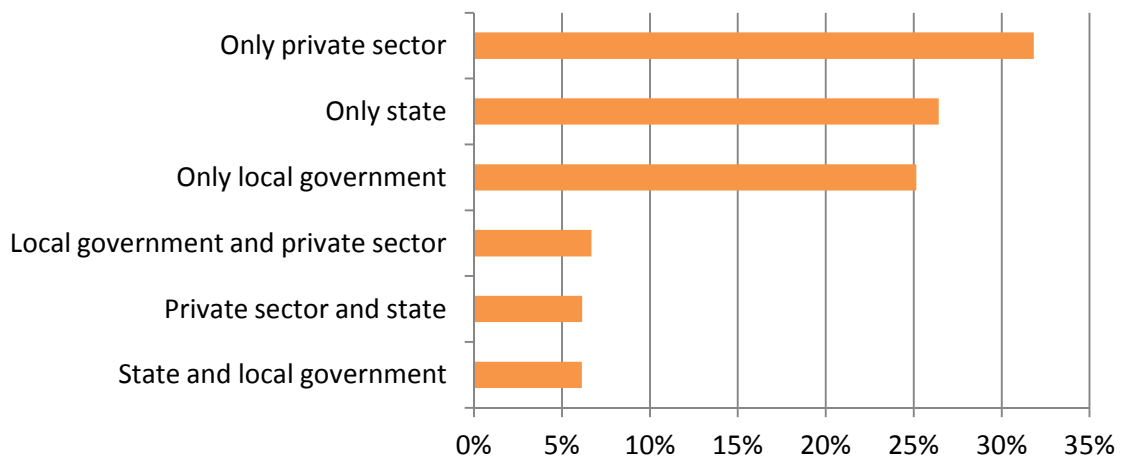


Figure 12. Distribution of doctors by type of HCP owner, November 2013

10.8% of all doctors were moving between different counties, while working (Figure 13). In three or more counties were working 1.3% of the doctors.

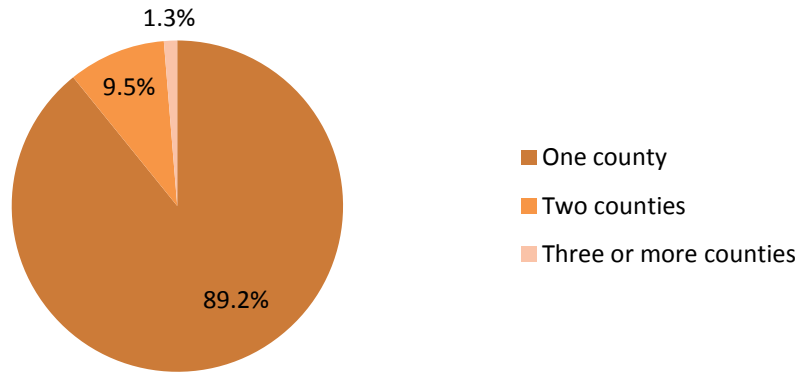


Figure 13. Number of doctors by number of counties, November 2013

2.3. The posts filled by the doctors

By contractual work load 4,395 doctors filled 4,260.3 posts. Other words the 4,395 doctors full time equivalent (FTE) employment was 4,260.3 (Table 1). By contract the largest amount i.e. 2813.7 posts were filled by the doctors in hospitals. Hospitals were followed by family doctors offices and specialist health care providers – accordingly 904.6 and 364.6 posts filled. The smallest amount i.e. 70.3 posts were filled by the doctors working by contract in other providers.

Table 1. The posts filled by the doctors and overtime hours by type of HCP, November 2013

	Number of persons	Posts filled according to contractual work load	Posts actually filled	Average number of working hours	Average number of overtime hours
Number in total	4,395	4,260.3	3,846.1	147.0	4.1
Hospital	3,016	2,813.7	2,530.6	141.0	5.3
Family doctors office	960	904.6	858.6	150.3	1.3
Specialist health care provider	732	364.6	306.0	70.2	0.4
Dental care provider	7	1.3	0.6	14.4	0.0
Emergency medical care provider	93	60.8	54.2	97.8	2.6
Rehabilitation care provider	78	45.0	40.1	86.4	1.5
Other provider	118	70.3	56.2	80.0	0.2

Actually in November of 2013, doctors filled 3,846.1 posts – from those in hospitals 2,530.6, in family doctor’s offices 858.6 and in specialist health care providers 306.0 posts. The biggest difference in contractual posts and the posts actually filled was also in hospitals, which indicates, that there was planned more work than was performed in November of 2013. The difference arises from the fact, that a part of doctors were on vacation or for other reason out of work and deputies could not replace in necessary amount the doctors out of work. Also, HCPs are not registering all hours of overtime as the overtime, if overtime shall be compensated by granting time off during the next months.

The amount of work performed by doctors depends on the age, occupation of a doctor and the type of providers they are working for. The median of hours worked by doctors was 168 hours in November (Figure 14). It means, that half of doctors were working less and half were working more than 168 hours in November. 90-percentile of emergency medical care providers reached up to 244 hours by an average in November, in hospitals the relevant indicator was 208 and in family doctor’s offices 180.

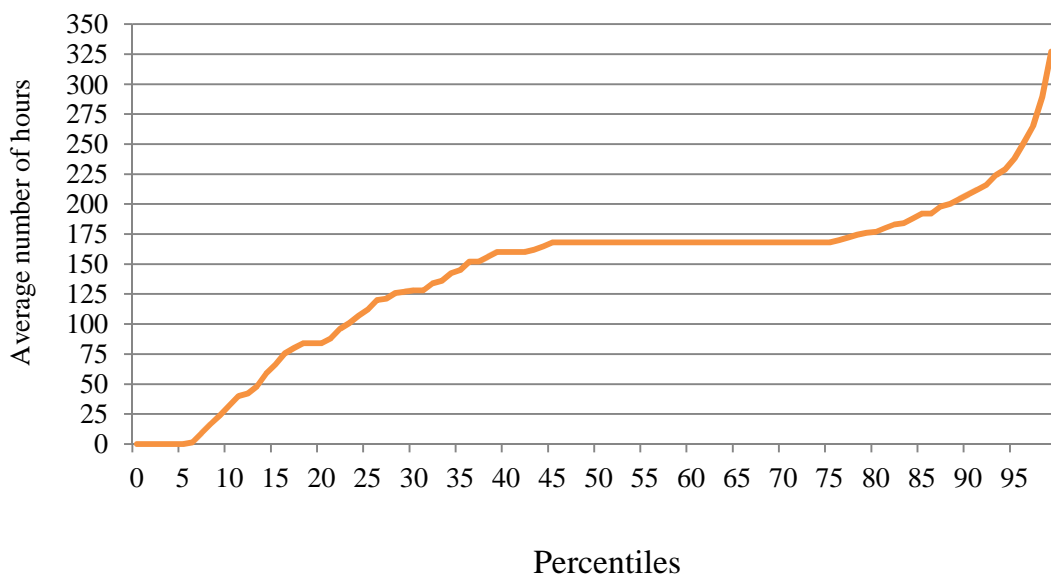


Figure 14. The average number of working hours by doctors by percentiles, November 2013

If taking into account the work of doctors in all their workplaces and occupations, then doctors were working by an average of 147 hours in November. At the same time, according

to the statistics submitted, per doctor by an average of 4.1 hours of overtime was performed in November of 2013. Except the doctors, who were on vacation for the whole month or were out of work for some other reason (160 doctors), the amount of overtime per doctor would be by an average of 4.3 hours. The largest amount of overtime was performed by the doctors in hospitals, where every doctor performed by an average of 5.3 hours of overtime in November.

According to contractual work load, the doctors working in hospitals filled the largest amount of posts in regional hospitals – in total 1,418.8 posts (Table 2). But actually in regional hospitals 1,249.7 posts were filled. One doctor of regional hospital was working by an average of 132 hours. In nursing care hospitals the doctors were working the least, by an average of 65.5 hours. The largest amount of overtime was performed by the doctors in general hospitals, where per one doctor was performed by an average of 7.1 hours of overtime.

Table 2. The posts filled by doctors and overtime hours by type of HCP, November 2013

	Number of persons	Posts filled according to contractual work load	Posts actually filled	Average number of working hours	Average number of overtime hours
Number in total	3,015	2,813.7	2,530.6	141.0	5.3
Special hospital	159	91.8	88.1	93.1	4.7
Central hospital	911	753.8	692.6	127.7	3.0
Local hospital	78	42.2	40.3	86.7	1.9
Regional hospital	1,591	1,418.8	1,249.7	132.0	5.1
Rehabilitative care hospital	17	9.9	7.3	72.5	0.0
Nursing care hospital	67	27.8	26.1	65.5	0.0
General hospital	609	469.4	426.4	117.6	7.1

The largest amount of overtime was performed by paediatric surgeons – by an average of 14.1 hours of overtime per doctor. One anaesthesiologist performed by an average of 11.3, general surgeon 11.5 and emergency medicine doctor 8 hours of overtime⁵.

The most were working doctors aged between 50 -59, by an average of 154.5 hours in a month (Figure 15). Per one doctor in the age of 50-59 was performed the largest amount i.e. by an average of 5 hours of overtime. Doctors aged between 20 -23 were working in November by an average of 152.6 hours, from which one doctor performed by an average of 4.3 hours of overtime.

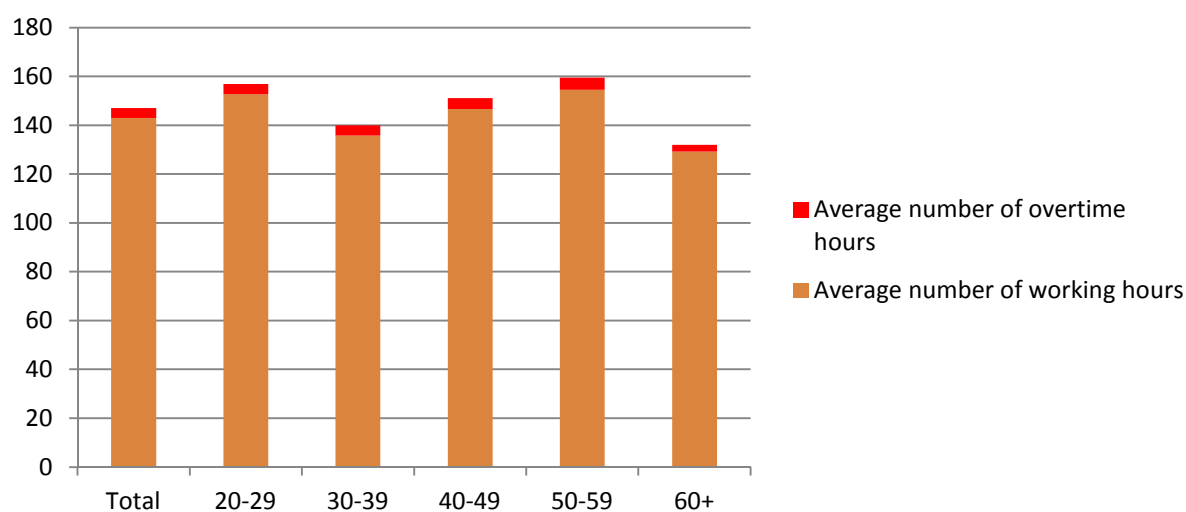


Figure 15. Number of working and overtime hours of doctors by age group, November 2013

Doctors were working most in Saare County and in Tallinn, by an average of 139.6 and 139.4 hours (Figure 16). In Järva County however per one doctor were done the largest amount of overtime i.e. 19.8 hours. In Hiiu County per one doctor were done by an average of 8.8 and in Võru County 7.3 hours of overtime.

⁵ Information about the posts filled by doctors and overtime performed by occupations is available in detail in the database of Health statistics and health research of the National Institute for Health Development. Interpreting of data should be based on the principles described in the chapter of methodology.

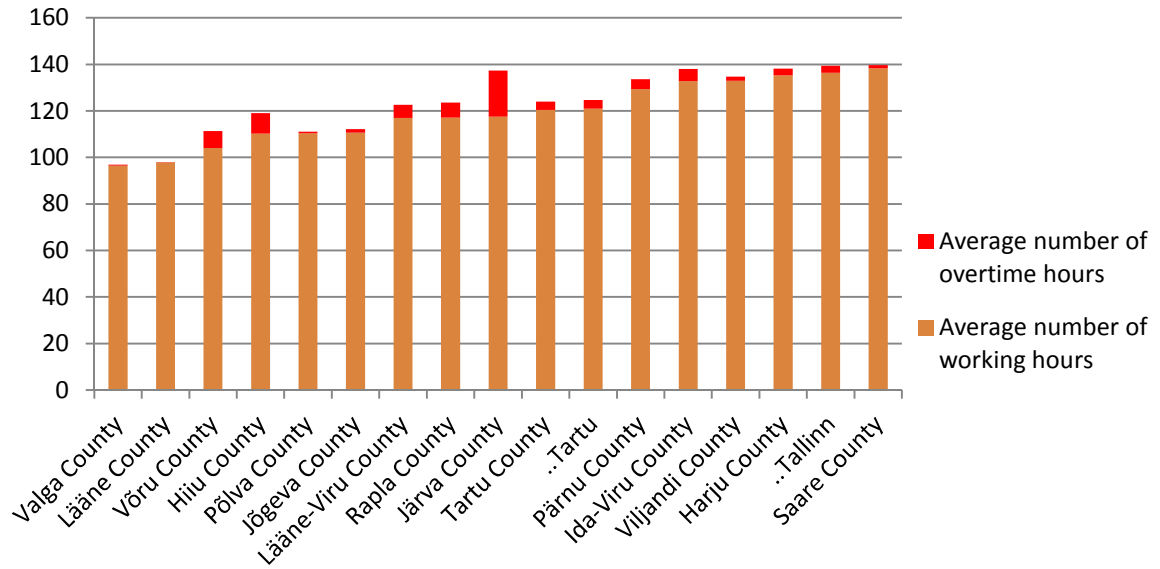


Figure 16. Average number of working and overtime hours of doctors by counties, November 2013

3. NURSES

3.1. Number of nurses and their gender and age

In November of 2013 in total 7,428 nurses were working in Estonia. Among nurses the largest amount formed general, family and anaesthesia-intensive care nurses – accordingly 3,405 and 1,032 and 769 nurses (Figure 17). The smallest amount formed diabetes and geriatric nurses – accordingly 9 and 7 nurses.

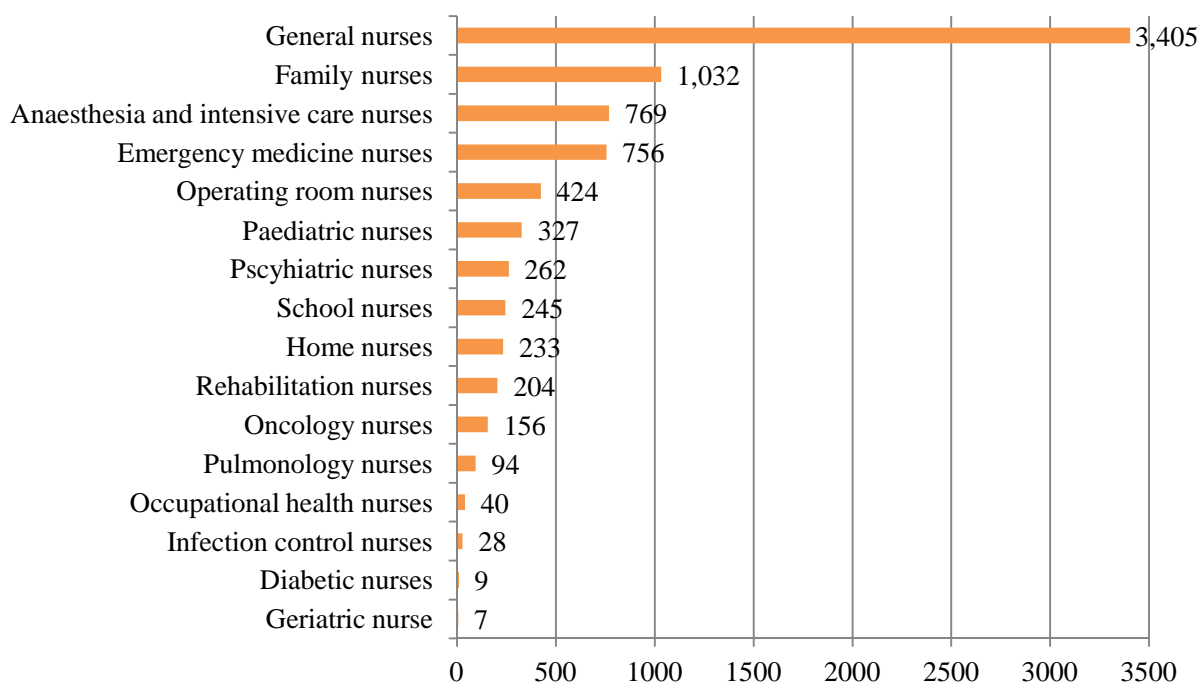


Figure 17. Number of nurses by occupations, November 2013

Among Estonian nurses were working in November of 2013 only 1.7% men (Figure 18). Men were working mainly as emergency medicine, anaesthesia-intensive care and occupation health nurses, where their percentage was accordingly 8.9%, 2.6% and 2.5%. As rehabilitation, pulmonology, infection control, school, geriatric and diabetes nurses were working only women.

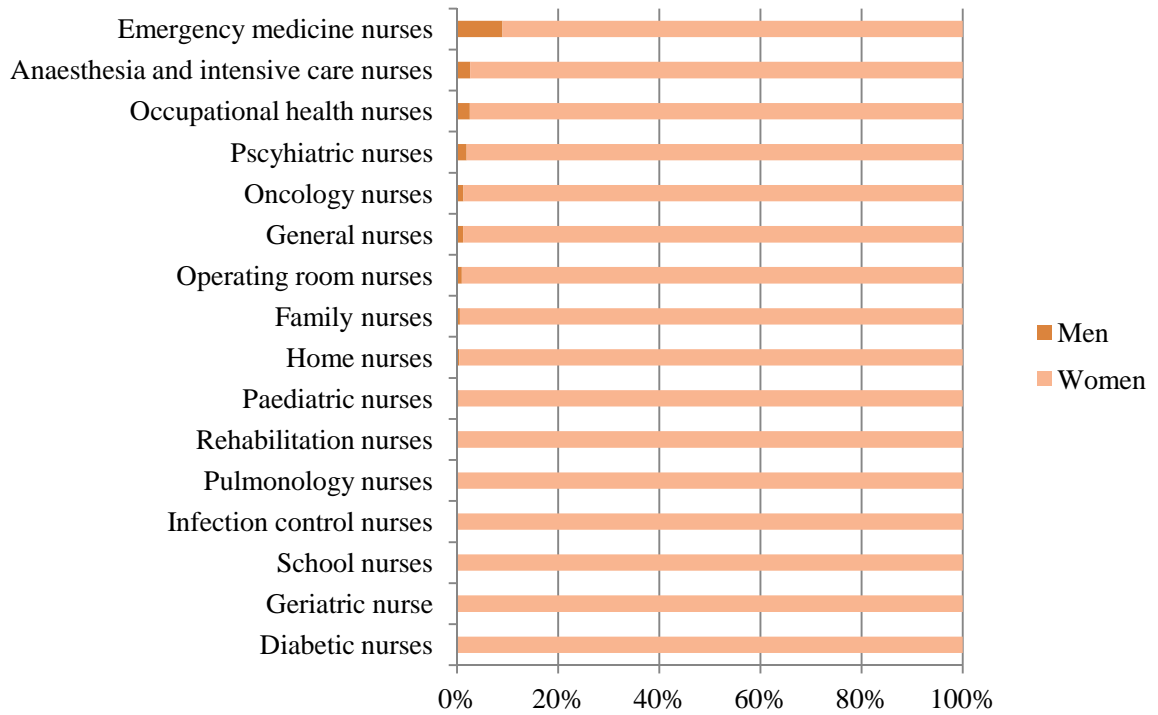


Figure 18. Distribution of nurses by gender and occupation, November 2013

Nurses working in Estonia are for the most part in the age of 40-59 (Figure 19). Approximately 13.2% of nurses were 20-29 and 14.7% 60 years old or older.

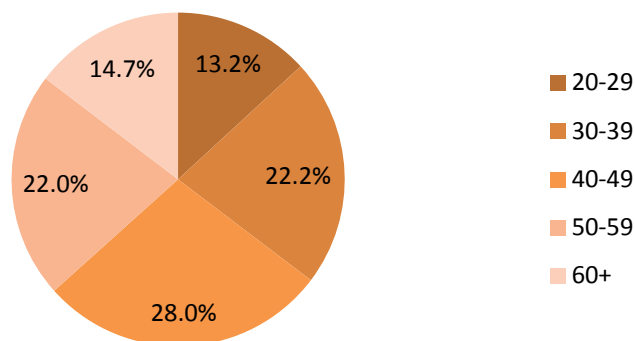


Figure 19. Distribution of nurses by age group, November 2013

The average age of nurses was approximately 45 years. The oldest nurses were 81 and the youngest 22 years old. The highest average age of nurses was in dental care providers – approximately 51 years (Figure 20). The youngest nurses were working in emergency medical care providers, their average age was approximately 40 years.

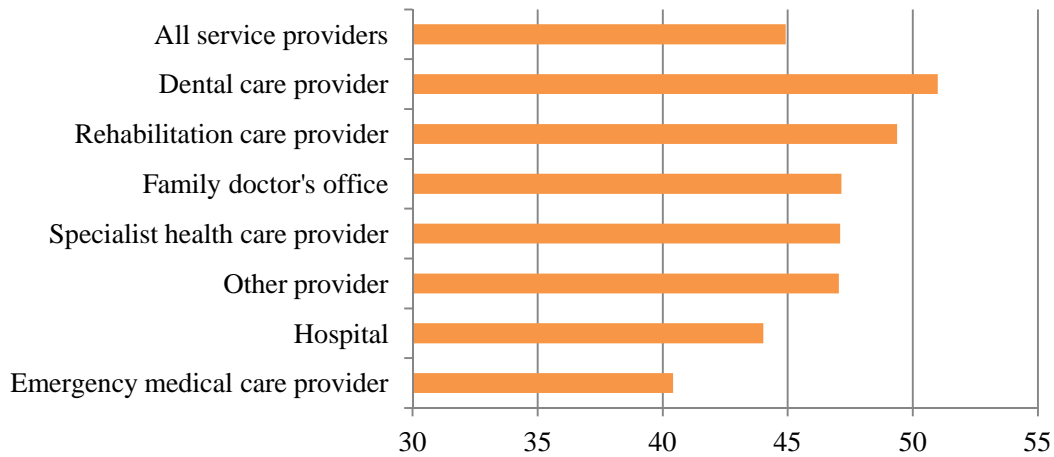


Figure 20. The average age of nurses by type of HCP, November 2013

The nurses working in hospitals were by an average of 44 years old (Figure 21). In hospitals the average age of nurses was the highest in nursing care hospitals – 52 years. The nurses working in regional hospitals were however the youngest among nurses in work – their average age was approximately 41 years.

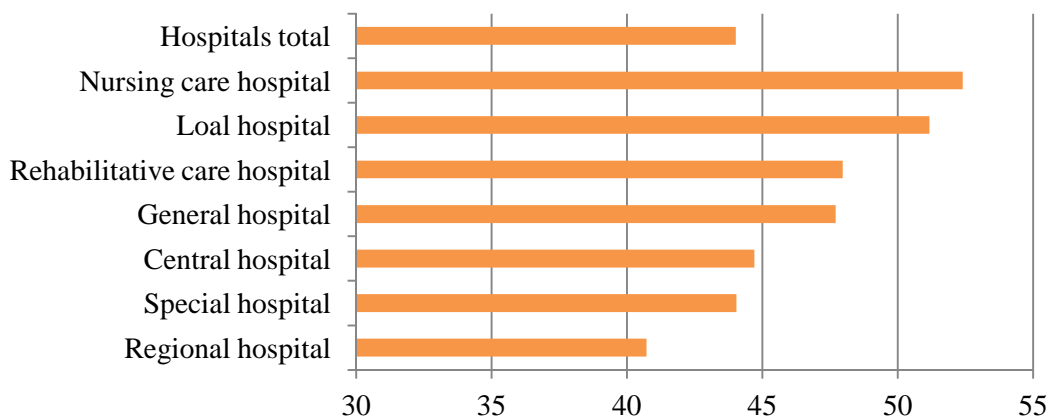


Figure 21. The average age of nurses by type of hospital, November 2013

3.2. Where are the nurses working

74.5% of nurses were working in hospitals (Figure 22). In family doctor's offices were working 15.2% and in specialist health care providers 6.1% of the nurses. In dental and rehabilitation care providers was working the smallest amount of the nurses i.e. accordingly 0.1% and 1.2% of all nurses.

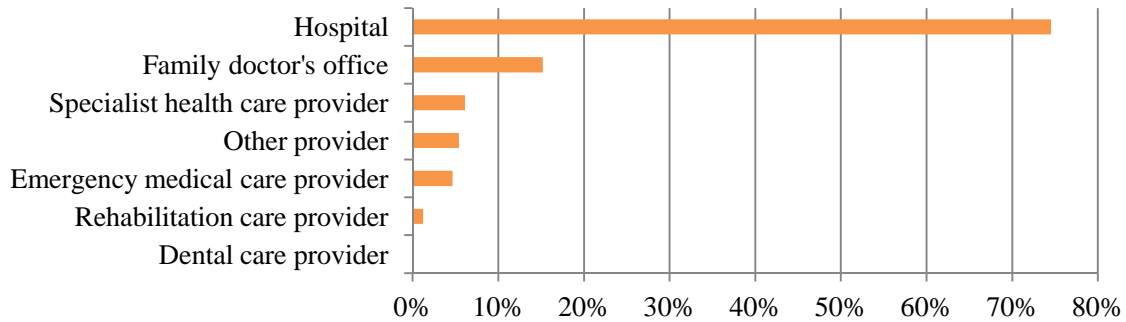


Figure 22. Distribution of nurses by type of HCP, November 2013⁶

In hospitals were working 5,528 nurses, the majority of them i.e. 45% in regional hospitals (Figure 23). In central hospitals were working 29.9%, in general hospitals 19.7 % of the nurses working in hospitals. In rehabilitative care hospitals was working the smallest amount, i.e. 0.6% of the nurses, working in hospitals.

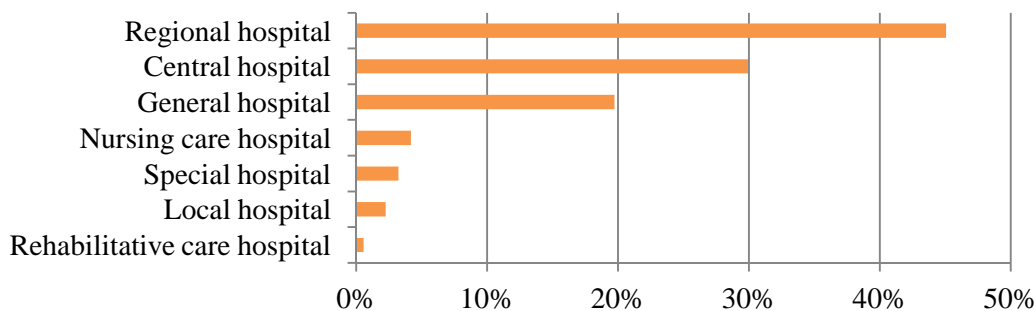


Figure 23. Distribution of nurses by type of hospital, November 2013

⁶ Other institution – not elsewhere specified HCPs, who own activity licence for provision of health services, e.g. institutions providing health services in schools, out-patient departments of medicine in prisons and institutions, whose activity is organisation of the first aid trainings, provision of medical consultation by telephone and provision of support staff services for the family physicians. Other institutions shall also include nursing and diagnostic institutions.

The largest amount i.e. 3,172 nurses were working in Tallinn (Figure 24). In Tartu were working 1,463, in Ida-Viru County 914 and in Pärnu County 438 nurses. The smallest amount of nurses i.e. 25 doctors, were working in Hiiu County.

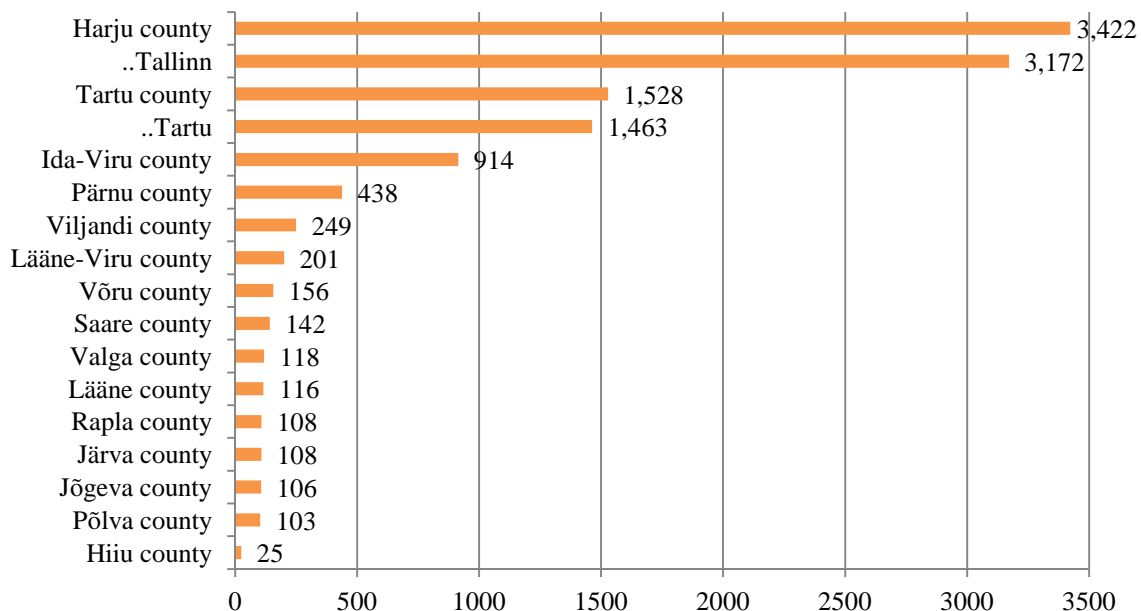


Figure 24. Number of nurses by county, November 2013

Within the framework of several different nurse occupations were providing health care services 7.3% of the nurses (Figure 25). The majority of nurses i.e. 92.6% were providing services still within the framework of one occupation.

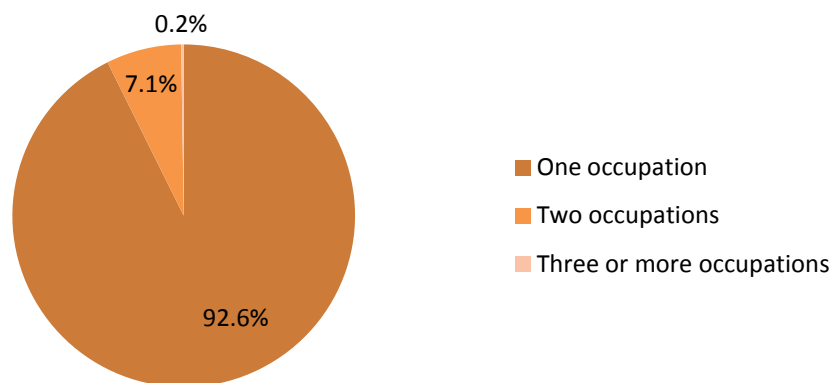


Figure 25. Number of nurses by number of occupations, November 2013

10.9% of nurses were working for more than one employer (Figure 26). For two employers were working 10.2% and for three or more employers 0.7% of nurses.

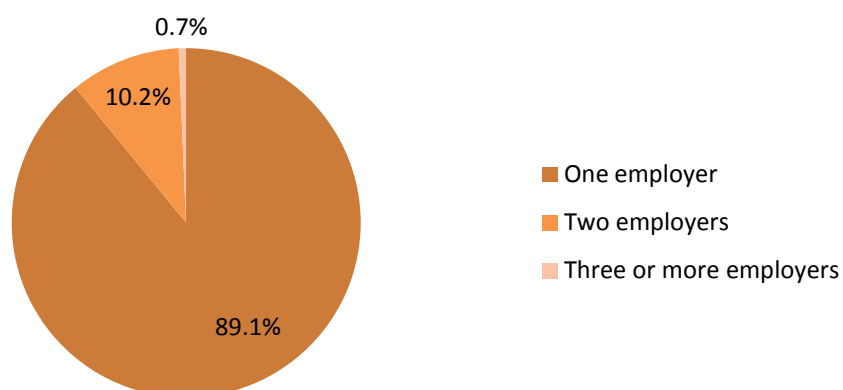


Figure 26. Number of nurses by number of employers, November 2013

Among all the nurses working in hospitals 8.2% i.e. 453 nurses were working additionally for some other employer. The majority i.e. 2.4% of the nurses working in hospitals were additionally working in emergency medical care providers (Figure 27). In specialist health care providers were additionally working 2.2% and in family doctor's offices 1.9% of all nurses working in hospitals.

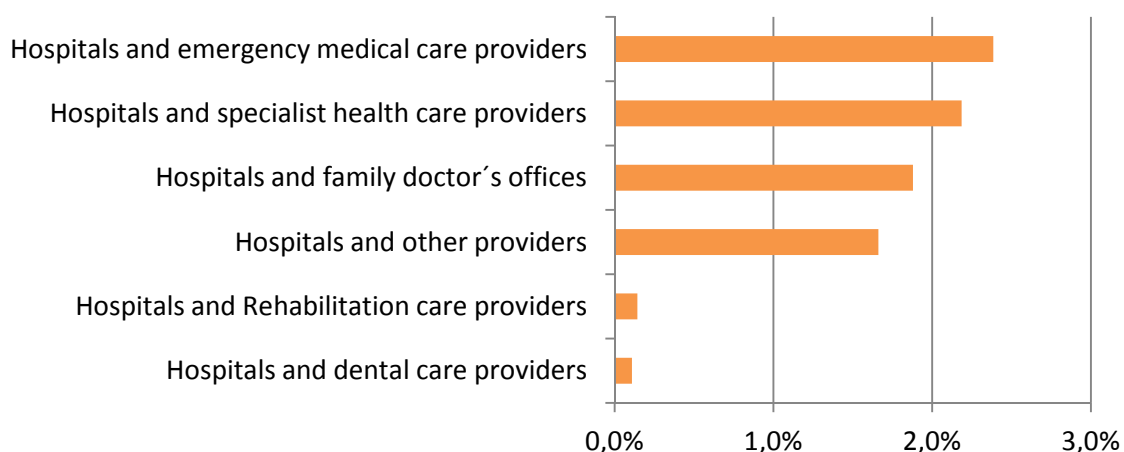


Figure 27. Distribution of nurses working in hospitals by type of HCP, November 2013

The majority of nurses i.e. 68% were working in HCPs belonging to the public sector (Figure 28). In HCPs under private sector were working 24.4% of nurses. 2.4% of all nurses were working in HCPs belonging to the both state and private sector and 2.6% in HCPs belonging to the local government as well as in HCP s under private sector.

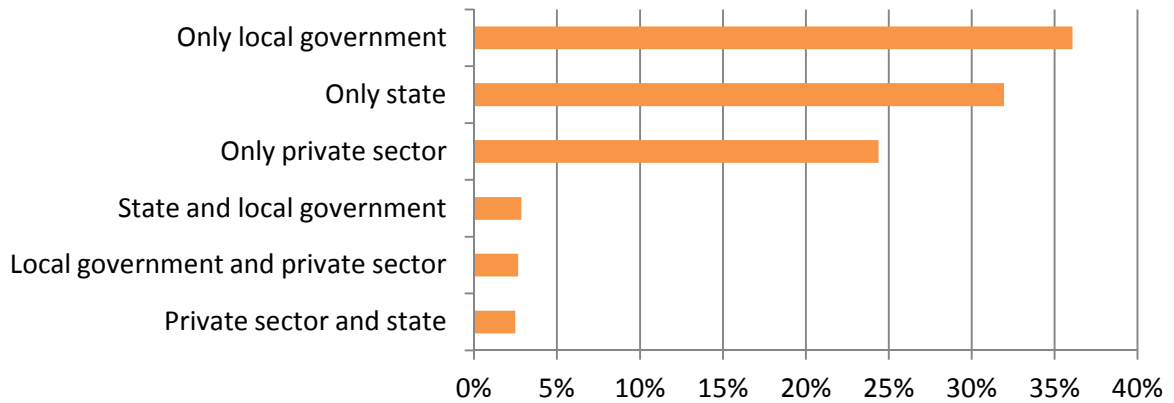


Figure 28. Distribution of nurses by type of HCP and the owner, November 2013

4% of all nurses were moving between different counties, while working (Figure 29). In three or more counties were working only a minor part i.e. 0,1% of nurses.

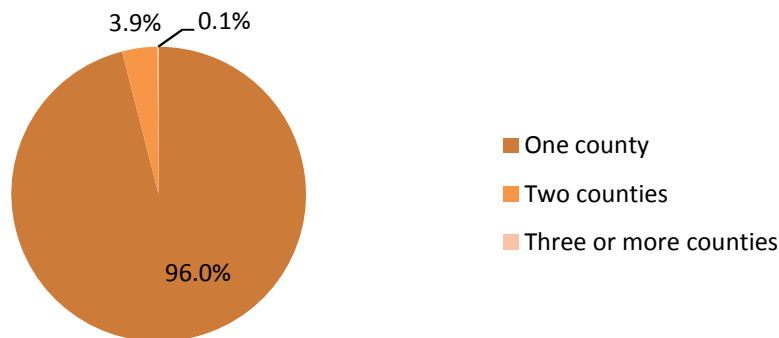


Figure 29. Number of nurses by number of counties, November 2013

3.3. The Posts filled by the nurses

By contract 7,428 nurses filled 7,431.2 posts (Table 3). By contract the largest amount i.e. 5,342.3 posts were filled by the nurses in hospitals. Hospitals were followed by family doctor's offices and specialist medical care providers – accordingly 1,057.8 and 323.4 posts filled. The smallest amount i.e. 3.5 posts were filled by the nurses working by contract in dental care providers.

Table 3. The posts filled by nurses and overtime hours by type of HCP, November 2013

	Number of persons	Posts filled according to contractual work load	Posts actually filled	Average number of working hours	Average number of overtime hours
Number in total	7,428	7,431.2	6,650.3	150.4	5.5
Hospital	5,535	5,342.3	4,758.2	144.4	6.6
Family doctor's office	1,129	1,057.8	977.9	145.5	0.9
Specialist health care provider	454	323.4	301.6	111.6	1.4
Dental care provider	8	3.5	3.2	67.5	0.0
Emergency medical care provider	345	303.6	257.5	125.4	5.9
Rehabilitation care provider	91	78.7	68.1	125.7	0.5
Other provider	401	322.1	283.9	118.9	1.5

Actually in November of 2013, nurses filled 6,650.3 posts – from those in hospitals 4,758.2, in family doctor's offices 977.9 and in specialist health care providers 301.6 posts. The biggest difference in contractual posts and the posts actually filled was in hospitals, which indicates, that there was planned more work than was performed in November of 2013. The difference arises from the fact, that a part of nurses were on vacation or for other reason out of work and deputies could not replace in necessary amount the nurses out of work. Also, HCPs are not registering all hours of overtime as the overtime, if overtime shall be compensated by granting time off during the next months.

The amount of work performed by nurses depends on the age, occupation of a nurse and the type of institution they are working for. The median of hours worked by nurses was 168 hours in November (Figure 30). It means, that half of nurses were working less and half were working more than 168 hours in November. 90-percentile of emergency medical care providers reached up to 248.4 hours by an average in November, in hospitals the relevant indicator was 204 and in family doctor's offices 177.3.

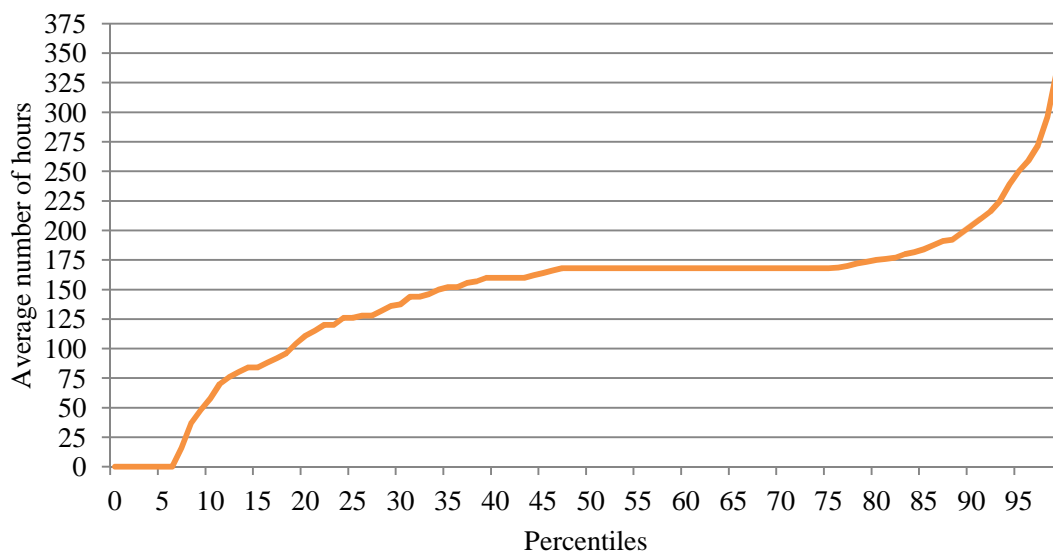


Figure 30. The average number of working hours of nurses by percentiles, November 2013

If taking into account the work of nurses in all their workplaces and occupations, then nurses were working by an average of 150.4 hours in November of 2013. At the same time, according to the statistics submitted, per nurse by an average of 5.5 hours of overtime was performed in November of 2013. Except the nurses, who were on vacation for the whole month or were out of work for some other reason (438 nurses), the amount of overtime per nurse would be by an average of 5.8 hours. The largest amount of overtime was performed by the nurses in hospitals, where a nurse performed by an average of 6.6 hours of overtime.

According to contractual work load, the nurses working in hospitals filled the largest amount of posts in regional hospitals – in total 2,302.8 posts (Table 4). But actually in regional hospitals 1,978.8 posts were filled. The most i.e. by an average of 154.8 hours was working

one nurse in rehabilitative care hospital and the least i.e. 118.9 hours in special hospital. The largest amount of overtime was performed by the nurses in central hospitals, where one nurse performed by an average of 6.1 hours of overtime.

Table 4. The posts filled by nurses and overtime hours by type of hospital, November 2013

	Number of persons	Posts filled according to contractual work load	Posts actually filled	Average number of working hours	Average number of overtime hours
Number in total	5,528	5,342.3	4,758.2	144.6	6.6
Special hospital	179	140.3	126.7	118.9	3.9
Central hospital	1,654	1,538.8	1,377.5	139.9	6.1
Local hospital	125	114.0	107.0	143.8	5.0
Regional hospital	2,491	2,302.8	1,978.8	133.5	7.4
Rehabilitative care hospital	32	30.3	29.5	154.8	1.3
Nursing care hospital	232	196.8	185.6	134.4	3.0
General hospital	1,091	1,019.4	953.1	146.8	5.5

The largest amount of overtime was performed by emergency medicine and anaesthesia-intensive care nurses – by an average of 14.4 and 8.1 hours of overtime per nurse⁷.

The most were working nurses aged between 50 -59, by an average of 162.2 hours in a month (Figure 31). Per one nurse in the age of 20-23 was performed the largest amount i.e. by an average of 6.8 hours of overtime. Nurses aged between 40-49 were working in November by an average of 161.6 hours, from which one nurse performed by an average of 6.5 hours of overtime.

⁷ Information about the posts filled by nurses and overtime performed by occupations is available in detail in the database of Health statistics and health research of the National Institute for Health Development. Interpreting of data should be based on the principles described in the chapter of methodology.

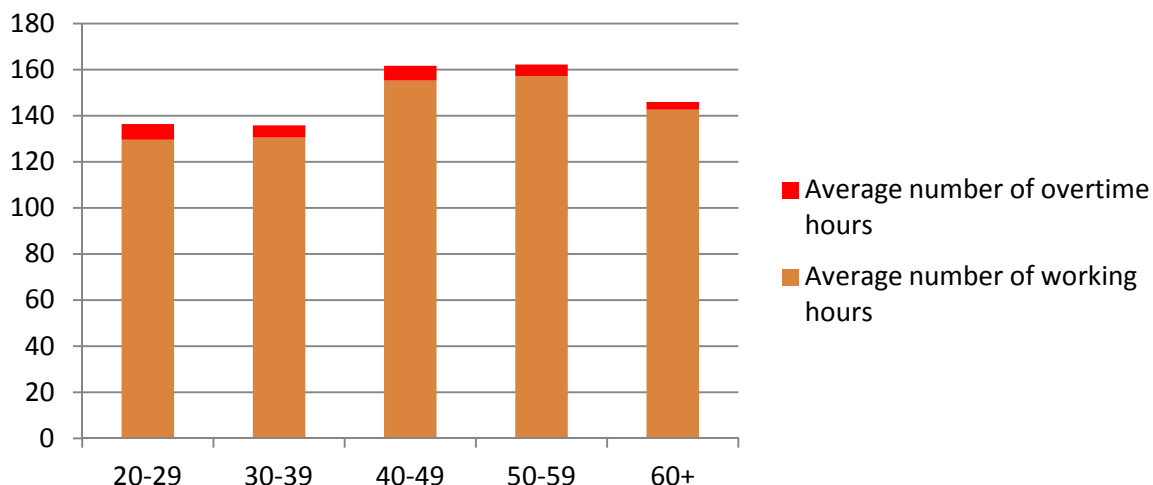


Figure 31. Number of working and overtime hours of nurses by age group, November 2013

Nurses were working most in Järva County and in Saare County, by an average of 174.8 and 161.5 hours (Figure 32). In Järva County per one nurse were done by an average of the most i.e. 12.6 hours of overtime. In Pärnu County per one doctor were done by an average of 12.5, in Hiiu County 11.9 and in Võru County 10.1 hours of overtime.

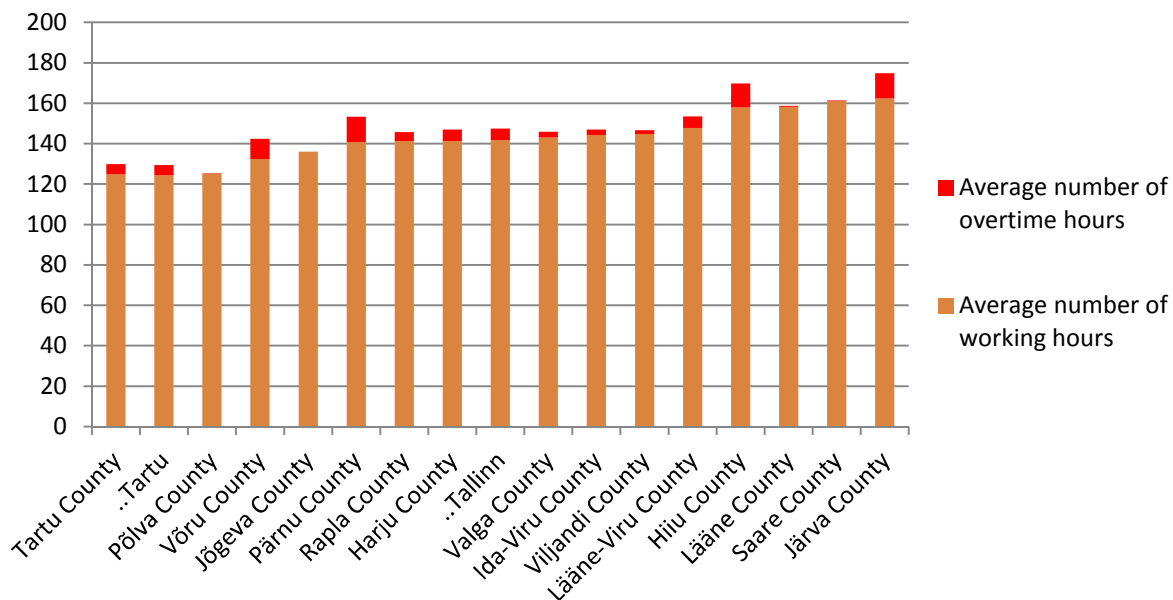


Figure 32. Average number of working and overtime hours of nurses by counties, November 2013

SUMMARY

In 2013 the National Institute for Health Development amended the methodology for collecting data of health care personnel. Data collected pursuant to the new methodology, allow to exclude double counting, analyse data in detail and therefore prepare high quality and comprehensive statistics. As the result of the data analysis, it can be said, that the amendment of methodology has proved its worth.

Within the research of health care personnel, all the health care providers registered in the Health Board were questioned, in order to find out the field, occupation, contractual work load and the hours actually worked by health care personnel in November of 2013.

In November of 2013 in total 4395 doctors and 7428 nurses were working in Estonia. The largest amount among doctors formed family physicians, anaesthesiology and intensive care doctors and gynaecologists – accordingly 942, 299 and 296 doctors. The smallest amount was working as thoracic surgeons, clinical microbiologists and clinical immunologists – accordingly 9, 4 and 3 doctors.

Among nurses the largest amount formed general nurses, family nurses and anaesthesia-intensive care nurses – accordingly 3405, 1032 and 769 nurses. The smallest amount formed diabetic and geriatric nurses – accordingly 9 and 7 nurses.

The average age of doctors was approximately 51 years. Average age of nurses was 45.

22% of doctors and 10,8% of nurses were working for more than one employer. The average working time of doctors and nurses varies depending on the age, occupation of a doctor or a nurse, also on the type of institution they are working for. Doctors were working by an average of 147 hours in November i.e. 21 hours less than standard hours and nurses 150.4 hours i.e. 17.6 hours less than standard hours. At the same time, according to the statistics submitted, per doctor by an average of 4.1 and per nurse 5.5 hours of overtime was performed in November of 2013.

Among doctors the largest amount of overtime was performed by paediatric surgeons – by an average of 14.1 hours of overtime per doctor. One anaesthesiology-intensive care doctor performed by an average of 11.3, general surgeon 11.5 and emergency medicine doctor 8 hours of overtime. The largest amount of overtime was performed by emergency medicine

and anaesthesia-intensive care nurses – by an average of 14.4 and 8.1 hours of overtime per nurse.

The next few years will surely go for burnishing new methodology, detailed analysis of data and finding more suitable option for publishing the results.

The plans for the nearest future include also publishing of the public data files. The public data files are meant for statistics users, who would like to make a statistical analysis based on individual data. Basis for disclosure of the data files is § 36 of the Official Statistics Act. This should simplify the options for the use of data and facilitate performance of detailed analysis by statistics consumers. As the provision of public data files service is a new field for the National Institute for Health Development, the relevant process needs still development. It is important to keep in mind confidentiality rules. Therefore, the relevant files shall consist collected individual data, which has been anonymised and protected for disclosure. For this purpose the characteristics, which allow to identify a person, should be eliminated or recodified.

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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/tegevused/tervisestatistika>

Dataquery to National Institute for Health Development

tai@tai.ee

Database of Statistics Estonia

<http://www.stat.ee/>

Statistics of European Union

<http://ec.europa.eu/eurostat>

European health for all database (HFA-DB)

<http://data.euro.who.int/hfad/>

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http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT

