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Physicians and dentists – staffing and training system in Poland

Lekarze i lekarze dentyści w Polsce – stan kadrowy i system kształcenia

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S u m m a r y

Introduction. Doctors and dentists are one of the key elements of a healthcare system. The efficiency and effectiveness of the system heavily depends, among others, on the number, distribution and qualifications of these healthcare professionals.

Aim. The aim of this research was to demonstrate the current situation in the staffing of doctors and dentists as well as medical education system in Poland.

Material and methods. The research has a descriptive character and is based on publicly available data and publications prepared by the Central Statistical Office of Poland, Supreme Chamber of Control of Poland, Polish Chamber of Physicians and Dentists, Polish Ministry of Health, OECD and EU.

Results. The quota of doctors in Poland is insufficient when confronted with the health needs of the population. In the years to come, this number will be gradually decreasing due to inadequate generation replacement and migration. Educational potential of the institutions offering undergraduate medical education is not fully used to face the future demand for doctors in the national healthcare system. Despite organizational changes and increased number of residencies, postgraduate training system of today does not meet all the expectations yet.

Conclusions. The situation in Poland concerning insufficiency of doctors and dentists is alarming. There is a continuous lack of systematic analyses of how many doctors are needed and of which specialties. It is essential to create a comprehensive policy for human resources development in the Polish healthcare system, concerning doctors, nurses, public health workers and other healthcare professionals.

S t r e s z c z e n i e

Wstęp. Lekarze i lekarze dentyści to jeden z podstawowych elementów systemu zdrowia. Od m.in. ich liczby, rozmieszczenia i kwalifikacji w istotnym stopniu zależy efektywność i skuteczność tego systemu.

Cel pracy. Celem pracy było przedstawienie obecnego stanu kadrowego lekarzy i lekarzy dentyistów oraz systemu ich kształcenia w Polsce.

Materiał i metody. Badanie miało charakter opisowy i zostało przeprowadzone w oparciu o ogólnie dostępne dane i opracowania GUS, NIK, OECD, UE, NIL oraz MZ.

Wyniki. W Polsce liczba lekarzy jest niewystarczająca w stosunku do potrzeb zdrowotnych populacji. Liczba lekarzy w kolejnych latach będzie maleć w związku z brakiem zastępowalności pokoleniowej w tym zawodzie i emigracją. Możliwości dydaktyczne systemu kształcenia przeddyplomowego nie są w pełni wykorzystywane do zaspokojenia zapotrzebowania krajowego systemu zdrowotnego na lekarzy. System kształcenia podyplomowego, mimo zmian organizacyjnych i zwiększenia liczby przyznawanych miejsc rezydentów, również nie spełnia pokładanych w nim oczekiwań.

Wnioski. Stan kadr lekarskich w Polsce jest alarmujący. W dalszym ciągu brakuje systematycznych analiz dotyczących zapotrzebowania na lekarzy ogólnie oraz lekarzy poszczególnych specjalności. Niezbędne jest opracowanie całościowej polityki rozwoju zasobów ludzkich w ochronie zdrowia obejmującej lekarzy, pielęgniarki, pracowników zdrowia publicznego oraz inne zawody i specjalności.

INTRODUCTION

In accordance with the provisions of the Medical Profession Act (Journal of Laws of 2015 item 464), medical practice consists in providing health benefits, in particular: examinations of health, diagnosing diseases and their prevention, treatment and rehabilitation of patients, providing medical advice, as well as issuing opinions and medical certificates by a person qualified, confirmed by relevant documents. In turn, the profession of dentistry involves providing the above-mentioned services by a person with the required qualifications, confirmed by the relevant documents, with reference to diseases of the teeth, mouth, facial skull and tissues.

Due to the tasks performed, doctors and dentists are the exposed and vital group of professionals in the health system. Their number, their skills and qualifications, as well as territorial distribution, significantly influence the effectiveness and efficiency of the health system, which is essential for the implementation of public tasks in ensuring the health and safety of the population. In recent decades, due to, among others, demographic changes and migrations, medical personnel deficit has been global (1). At the same time the deficit increases within the most qualified and thus the most difficult to be educated profession in the health system, which doctors. In order to improve the situation it is necessary to conduct systematic analyses of the current state of human resources and analyses of the system of undergraduate and postgraduate education, and design remedial actions based on the results of the analyses.

AIM

The aim of the study was to analyze the personal status of doctors and dentists in Poland in the given period, due to, among others, their number, age and specialty and to compare the situation in Poland with the situation in other countries as well as to analyse the education system undergraduate and postgraduate of the professional groups in the years 2006-2015, including the evaluation of the actions undertaken by public authorities in the organization of the system.

MATERIAL AND METHODS

The material analyzed included documents and data of the Supreme Medical Chamber, the Ministry of Health (including the report on state budget execution in the field of health care and the Ordinance of the Ministry of Health), the Central Statistical Office, and the European Union and OECD (Organization for Economic Co-operation and Development). A comprehensive analysis of the existing, public sources was conducted in the following areas: number, age and sex of doctors; the number of doctors in relation to the population; migration of doctors; undergraduate and postgraduate education in the framework of specialties.

RESULTS

Number, age and sex of doctors

According to the data of the Supreme Medical Chamber (NIL) as of 31.10.2015 the total number of the members of the Chamber was 184 074 persons, including 143 226 doctors and 40 243 dentists. However, the number of doctors and dentists practitioners amounted to 167 116 people, including 131 157 doctors and 35 511 dentists (2).

The group of doctors and dentists was dominated by women. They accounted for 57.4 and 75.7% of these professions (2). According to OECD statistics (Organization for Economic Co-operation and Development) the Share of women among doctors in Poland (56.5%) in 2013 was significantly higher than the average for OECD countries, which amounted to 44.5%. Participation of women has increased in comparison to 2000 when it amounted to 54.2% in Poland and the average in OECD countries, 37.5% (3).

Analysis of the age structure of physicians and dentists in Poland shows that half of the practicing physicians have already exceeded 45 years of age. In turn, the group of physicians at the age of 65 accounted for 13.7% (tab. 1). Moreover, as shown by the analysis of the Central Statistical Office, the share of this group is steadily growing. At the same time, the number of doctors in the group of 35-44 is decreasing (4).

Physicians by specialty

According to the Supreme Medical Chamber's data as at 31.10.2015, the number of physicians and dentists with specialty (including those with both the I and II degree of specialty) and practitioners was 114 189, which accounted for 68.3% of these professionals in Poland. In addition, 46 022 people obtained the I degree of specialty in the old system. Both groups consisted of a total of 160 211 people, which accounted for 95.8% of all these professionals in Poland (2). The largest group of specialists practitioners are specialists of the following areas: internal medicine (18 057 people), family medicine (10 510), paediatrics (7009), obstetrics and gynecology (6178), general surgery (6079), anesthesiology and intensive care (5183). The group of dentists included the largest group of specialists in conservative dentistry with endodontics (11 945). Small numbers of geriatricians (335) and public health professionals (1354) draw attention.

According to the OECD data for 2013 in Poland there were relatively few primary care physicians (15%), with a large share of medical specialists (85%). It clearly differs from the OECD average of 62 and 29%, as well as from the situation in individual member countries, such as Germany (58 and 42%), the Netherlands (54 and 44%), France (53 and 47%) and Ireland (40 and 60%) (3).

The number of doctors in relation to population

According to data from the European Commission, in 2012, the number of physicians per 1000 inhabitants

Tab. 1. Age structure of doctors and dentists practitioners registered in the Supreme Medical Chamber by gender in October 2015

Age in years	Number of men doctors	%	Number of women doctors	%	Total number of doctors	%
to 25	1147	1.8	2407	2.4	3554	2.1
26-30	6343	9.8	11 902	11.6	18 245	10.9
31-35	5263	8.1	10 322	10.1	15 585	9.3
36-40	5656	8.7	9434	9.2	15 090	9.0
41-45	7082	10.9	10 419	10.2	17 501	10.5
46-50	8752	13.5	12 362	12.1	21 114	12.6
51-55	7871	12.1	11 205	11.0	19 076	11.4
56-60	7730	11.9	11 471	11.2	19 201	11.5
61-65	5851	9.0	8976	8.8	14 827	8.9
66-70	3393	5.2	6127	6.0	9520	5.7
Above 70	5709	8.8	7692	7.5	13 401	8.0
Total	64 797	100.0	102 317	100.0	167 114	100.0

Source: Based on the statistical information of the Supreme Medical Chamber

was 2.2 in Poland with the average for the 28 EU countries of 3.4 (5) (note: the average for EU countries is calculated on the basis of data provided by individual Member States, therefore it is not always 28 countries) (fig. 1).

The number of physicians in Poland per 100,000 inhabitants was growing steadily since 1960 to 1997, from 96.9 to 235.8. In later years, the number of physicians decreased, except for 2003, when it reached 243.4 per 100,000 inhabitants (6). According to the CSO data from 2013, the number of doctors per 10 thousand inhabitants in 2013 was the smallest in the Wielkopolska Region, where it reached 15, while it was the highest in the Mazowieckie Region, where it reached 26 (7).

According to data from the European Commission, in 2012 the number of dentists per 100,000 inhabitants in Poland amounted to 32.4 while the average for the

19 countries of the EU was 72.0. For comparison, the figures were: Bulgaria – 92.4, Sweden – 80.9, Germany – 80.7, France – 63.8, Hungary – 56.5, United Kingdom – 52.8 (6). The number of dentists in Poland in the period from 1980 to 1990 maintained at 47 per 100,000 inhabitants. In subsequent years, there was a decrease in the number of dentists, until 2001, when this indicator reached 26.5. From that moment, the situation had improved and since 2004, the number of dentists has been maintained at over 30 per 100,000 inhabitants (6).

Migrations of physicians

There is no data on the exact number of Polish physicians who went abroad. However, there are estimates based on Supreme Medical Chamber’s data. According to the Supreme Medical Chamber’s data as at 10.11.2015, certificates confirming formal qualifica-

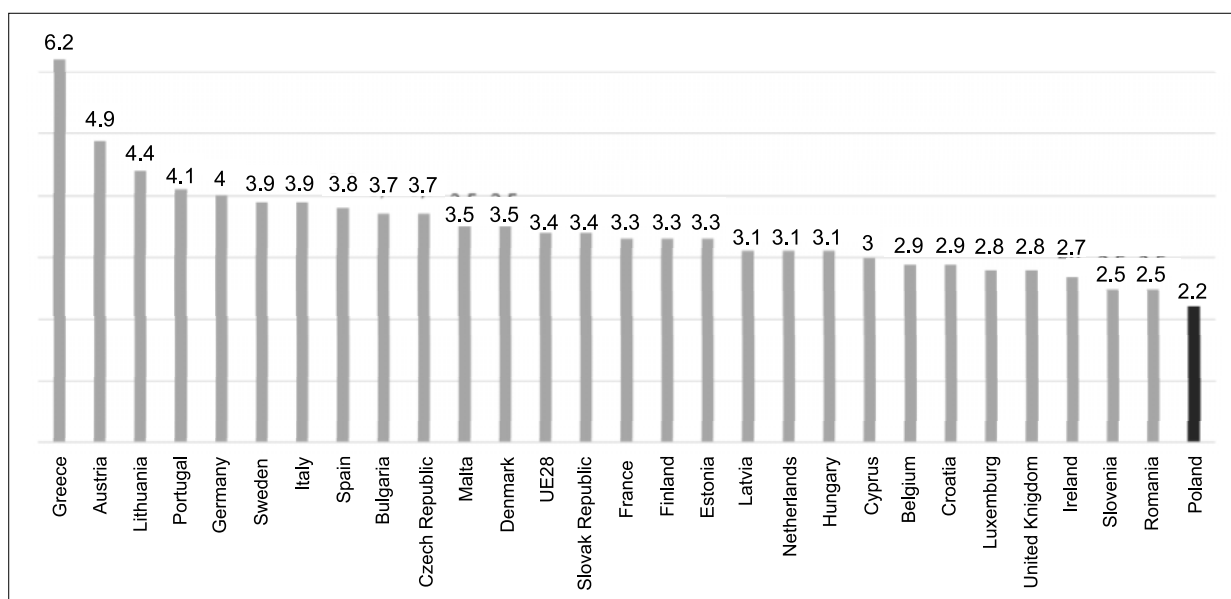


Fig. 1. Number of doctors per 1000 inhabitants in 2012
Source: Health at a Glance: Europe 2014, OECD 2014

tions were issued to 9320 doctors applying for their recognition of qualifications in other EU countries. This represented a 7.08% of practitioners (2). Due to the obligation to register, accurate data is known for foreigner physicians in Poland. According to the Supreme Medical Chamber's data as at 31.11.2015, the number of foreigner doctors and dentists who obtained a license to practice in Poland amounted to 554 persons (2).

Undergraduate education

Education in the professions of doctors and dentists takes place under the provisions of the Act on higher education (8) and the Medical Profession Act (1).

The professions of a physician and a dentist are subject to the EU rules, and training in these professions must comply with the requirements of the Professional Qualifications Directive (9). According to them, the training of doctors takes at for least 6 years or 5500 hours of theoretical and practical training at a university or under supervision. In the case of dentists, education includes at least 5 years of theoretical and practical full-time studies at the university level, in line with the program specified in the directive mentioned above.

Detailed educational standards in the medical and medical-dental fields are defined in the Regulation of the Minister of Science and Higher Education on education standards for the fields of study: medical, dental, pharmacy, nursing and midwifery (10). According to these standards, uniform Master's degree in medicine last no less than 12 semesters, and the number of hours of instruction and practice cannot be less than 5700 (the number of ECTS credits is at least 360). In turn, uniform master's degree at the Faculty of Medicine and Dentistry last at least 10 semesters, and the number of hours of instruction and practice cannot be less than 5000 (the number of ECTS credits is at least 300). In Poland, studying medical and dental faculties can be taken up in a stationary mode (studies are free of charge) or non-stationary mode (additional charge for the studies – e.g. at the Medical University of Warsaw, the fee for a year of extramural studies conducted in Polish at the Faculty of Medicine was PLN 35 400 and at the Faculty of Medicine and Dentistry – PLN 37 500) and in a language other than Polish (in practice, these studies are conducted in English), which are paid studies (e.g. at the Medical University of Warsaw in the academic year 2014/2015 one-time fee for the entire course of studies in English at the Faculty of Medicine was EUR 66 600 for the six-year program and EUR 57 600 for the four-year program. On the other hand, in the case of the dental faculty, the fee for the studies was EUR 82 900).

In 2015, 15 institutions had the authorization for a higher education institution in medicine and 10 had the authorization for a higher education institution in the Faculty of Medicine and Dentistry. Since the academic year 2015/2016, three new facilities have obtained the authorization for a higher education institution in the

Faculty of Medicine, i.e. the Faculty of Health Sciences at the Jan Kochanowski University in Kielce, the Faculty of Medicine at the University of Rzeszow and the Faculty of Education, Sociology and Health Sciences at the University of Zielona Góra (11). What is more, in the academic year 2016/2017, i.e. the first non-public university, the Department of Health and Medical Sciences at the Jan Modrzewski Krakow Academy will start recruitment for medical studies (12).

Every year, the Minister of Health sets limits of admissions to the Faculty of Medicine (tab. 2) and of Medicine and Dentistry (tab. 3) by regulation. According to the regulations, setting the limits is based on the assessment of the demand for graduates, taking into account the possibilities of universities and other specific rules (12).

In the period from 2006 to 2015, the total limit of admissions to medical studies total increased from 3087 to 6188, by 100.5%. In the case of full-time studies, this increase amounted to 38.6 and 112.6% in the case of the extramural. In the analyzed period, the increase in the limits of admissions was not the same. The largest increase (41%, as compared to the previous year) was recorded in 2009 and it was associated mainly with the introduction of studies in a language other than Polish, for which the limit was set at 1219 places. Since that time, the limit of admission to those studies has remained at approx. 1/4 of all places. In subsequent years, increases in total limits has not exceeded 3% versus the previous year and in 2013 the limit of admissions to Medicine was lowered by 9.1%. In the last two years, the limits have been significantly increased.

In the case of studies at the Faculty of Medicine and Dentistry in the period from 2006 to 2015, the totals of limits increased from 877 to 1362, i.e. by 55.3%. In the analyzed period, as in the case of the medical faculty, increase of the limits was not the same. The largest increase (28.1%) took place in 2009 and it was associated with the introduction of studies in a language other than Polish and an increase in recruitment for part-time studies by 30%.

Limits of admissions were used up. As a result, during the academic year 2006/2007 to the academic year 2013/2014 the number of medical graduates increased by 29.7%, and by 2.4% in the case of graduates of the medical and dental faculty (tab. 4).

Postgraduate education within specialties

In 2013, under the Regulation of the Minister of Health on the specialty of doctors and dentists (13) a system of module specialties was established, launched in the second half of 2014. Under this system, specialist education consists of a basic module and a specialist module. The first module corresponds to the basic range of theoretical knowledge and practical skills in a particular field of medicine, or is common to the related fields of medicine. Five basic modules have been introduced, i.e.: general surgery, otorhinolaryngology, pathology, pediatrics and internal medicine. The sec-

Tab. 2. Limits of admissions to medical studies in 2006-2015

Year	Total		Uniform stationary (including foreigners)			Uniform extramural			Studies in a language other than Polish		
	Limit of places	Change versus (%) the previous year	Limit of places	Change versus (%) the previous year	Share in the limit	Limit of places	Change versus (%) the previous year	Share in the limit	Limit of places	Change versus (%) the previous year	Share in the limit
2006*	3087		2594 (94)	9.9	84.0%	493		16.0%	–		–
2007	3213	4.1	2695 (85)	3.9	83.9%	518	5.1	16.1%	–		–
2008	3402	5.9	2774 (84)	2.9	81.5%	628	21.2	18.5%	–		–
2009	4797	41.0	2815 (73)	1.5	58.7%	763	21.5	15.9%	1219		25.4%
2010	4931	2.8	3023 (81)	7.4	61.3%	765	0.3	15.5%	1143	-6.2	23.2%
2011	5059	2.6	3053 (83)	1.0	60.3%	769	0.5	15.2%	1237	8.2	24.5%
2012	5202	2.8	3165 (79)	3.7	60.8%	749	-2.6	14.4%	1288	4.1	24.8%
2013	4731	-9.1	2850 (74)	-10.0	60.2%	689	-8.0	14.6%	1192	-7.5	25.2%
2014	5510	16.5	3194 (61)	12.1	58.0%	865	25.5	15.7%	1451	21.7	26.3%
2015	6188	12.3	3589 (60)	12.4	58.0%	1048	21.2	16.9%	1551	6.9	25.1%

*In 2004 and 2005, the limit for full-time studies amounted to 2240 and 2360, and the admission limit for part-time studies was 20% of the limit of on-site studies, but not less than 15 people

In 2015, studies at the Faculty of Medicine were carried out at 15 university facilities: the Medical University of Lodz, the Karol Marcinkowski Medical University in Poznan, the Medical University of Silesia in Katowice, the Warsaw Medical University, the Medical University of Lublin, the Medical University of Bialystok, the Medical University of Gdansk, the Pomeranian Medical University in Szczecin, the Piastów Śląskich University of Medical Sciences in Wrocław, Collegium Medicum at the Jagiellonian University, Collegium Medicum at the Nicolaus Copernicus University, the Faculty of Medical Sciences at the University of Warmia and Mazury, the Faculty of Medicine and Health Sciences at the Jan Kochanowski University, the Faculty of Medicine at the University of Rzeszów, the Faculty of Medicine and Health Sciences at the University of Zielona Góra.

Source: Own calculations based on the regulations of the Minister of Health on the limitation of admissions to studies from 2004 to 2015.

Tab. 3. Limits of admissions for Dentistry in the years 2006-2015

Year	Total		Uniform stationary (including foreigners)			Uniform extramural			Studies in a language other than Polish		
	Limit of places	Change versus (%) the previous year	Limit of places	Change versus (%) the previous year	Year	Limit of places	Change versus (%) the previous year	Limit of places	Change versus (%) the previous year	Year	Limit of places
2006*	877		722 (22)	4.6	82.3%	155		17.7%	–		–
2007	785	-10.5	647 (20)	-10.4	82.4%	138	-11.0	17.6%	–		–
2008	889	13.2	720 (23)	11.3	81.0%	169	22.5	19.0%	–		–
2009	1139	28.1	724 (27)	0.6	63.6%	220	30.2	19.3%	195		17.1%
2010	1147	0.7	735 (27)	1.5	64.0%	217	-1.4	18.9%	197	1.0	17.2%
2011	1134	-1.1	748 (27)	1.8	66.0%	212	-2.3	18.7%	174	-11.7	15.3%
2012	1161	2.4	759 (31)	1.5	65.4%	229	8.0	19.7%	173	-0.6	14.9%
2013	1161	0.0	759 (31)	0.0	65.4%	229	0.0	19.7%	173	0.0	14.9%
2014	1274	9.7	773 (26)	1.8	60.6%	242	5.7	19.0%	259	49.7	20.4%
2015	1362	6.9	810 (26)	4.8	59.0%	256	5.8	19.0%	296	14.3	22.0%

*In 2004 and 2005, the limit for full-time studies amounted to 720 and 690, and the admission limit for part-time studies was 20% of the limit of on-site studies, but not less than 15 people

In 2015, studies at the Faculty of Medicine and Dentistry were carried out by 10 universities: the Medical University of Lodz, the Karol Marcinkowski Medical University in Poznan, the Medical University of Silesia in Katowice, the Warsaw Medical University, the Medical University of Lublin, the Medical University of Bialystok, Medical University of Gdansk, the Pomeranian Medical University in Szczecin, the Piastów Śląskich University of Medical Sciences in Wrocław, Collegium Medicum at the Jagiellonian University.

Source: Own calculations based on the regulations of the Minister of Health on the limits for admission to studies from 2004 to 2015.

ond module, which is a specialized, corresponds to the profile of specialty in which physicians may continue specialized training after completing a certain basic module – a list of them includes 41 specialties. There would also be 28 specialties within uniform modules. Under the system, the list of medical

specialties covers 77 specialties and 9 medical and dental specialties.

Data from the Ministry of Health (MZ) (14) indicates that the number of residencies granted in the period from 2012 to 2014 remained at the same level. A significant increase in the residencies granted took place in 2015 (tab. 5).

Tab. 4. Number of students and graduates of Medicine and Medicine and Dentistry in the years 2006-2015

Academic year	Medicine				Medicine and dentistry			
	Stationary		Part-time		Stationary		Part-time	
	S	A	S	A	S	A	S	A
2006/2007	13 971	2237	2279	53	3629	762	874	27
2007/2008	14 417	2339	2472	72	3622	776	890	41
2008/2009	14 779	2360	2647	83	3659	826	830	69
2009/2010	15 081	2499	2975	107	3578	811	860	64
2010/2011	No data	2610	No data	116	No data	828	No data	51
2011/2012	15 993	2674	3157	149	3476	792	902	51
2012/2013	16 753	2831	3272	143	3440	742	932	102
2013/2014	16 797	2763	3495	207	3439	743	950	65
2014/2015	17 259	2875	3827	312	3433	734	1031	95
2015/2016	17 738		4023		3497		1053	

S – studying, A – graduates

Source: Reports on the state budget execution in the field of health

Tab. 5. Number of residencies granted for physicians and dentists

Year	1-31 March	1-31 October	Total
2010	500	2000	2500
2011	842	2500	3342
2012	444	2500	2944
2013	536	2464	3000
2014	500	2500	3000
2015	1612	5746	6529
2016	1901		

Source: Information from the Ministry of Health

In the period from 2006 to 2014, the number of residencies was gradually increasing from 7500 to 15 000 (tab. 6) (15). In 2014, the implementation of specialty training based on funded residency included more than 3.8 thousand agreements concluded with companies employing residents, under which the training of more than 15 thousand physicians was funded. An amount of PLN 615 781 was expended for this purpose. The largest number of residents trained in the field of internal medicine, pediatrics and anesthesiology.

In 2015, a doctor who began to specialize in the residency mode, received a gross salary of PLN 3170, to be increased to PLN 3458 after two years. On the other hand, in the priority fields of medicine, the salary in the first year was PLN 3602 and PLN 3890 (16) after two years.

DISCUSSION

The number of doctors in Poland in relation to the population is the lowest among 28 countries of the European Union. The number of dentists in Poland is among the lowest in the EU. Regardless of the opinion NIL number of dentists is sufficient (17). Apart from a small number of doctors in Poland total staff is unevenly distributed. They note considerable ter-

itorial disparities in access to doctors (7). A serious problem is the differences in access to a doctor for the residents of towns and villages. The deficit of medical staff and uneven distribution is a problem most of the world (1, 3).

Highlights a clear predominance of women among doctors and dentists. This situation has a measurable impact on the health care system, because – as analyzes – women doctors usually work in less time than men (3).

An important feature of the group of doctors is a small share of primary care physicians. The deficit of family doctors is a serious problem, with the points of view of the efficiency and effectiveness of treatment. This contributes to making subsequent treatments and generates higher costs (1).

Doctors in Poland are professional group with a relatively high average age. Moreover, the average is still rising, making the substitution generation in this profession is at stake. Age makes doctors that they have limited opportunities to work full-time, also because of the age of the quality of their work may fluctuate. A similar situation exists in other countries (1, 3). Some countries, especially highly, shortages of medical staff complements by accepting foreign workers. For example, according to OECD data from 2013. 34.2% of physicians practicing in Ireland, evolved abroad (3). The share of foreigners in the total number of physicians practicing physicians was also significant in the United Kingdom (28.7%), Sweden (24.3%), Finland (19.9%), Slovenia (14.4%), Belgium (10.7%), France (9.2%), Germany (8.8%) and Hungary (7.6%). One of the important factors that may affect the migration of doctors are wage. According to OECD data in 2013, in Poland relationship wages doctor working under a contract of employment to the average salary total was 1.6, while this ratio was e.g. in Germany, 3.7; Ireland 3.7; Netherlands, 2.9; UK 2.4 or 2.2 French (3). In addition to remuneration for making decisions by doctors

Tab. 6. Specialist trainings for doctors and dentists pursued in the residency mode in 2006-2014

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Expenditures (in thousands PLN)	161 402	167 666	234 472	No data	486 000	527 008	566 611	628 033	615 781	648 921
Number of agreements (in thousands)	2.7	2.8	3	No data	3.3	3.3	3.7	4	3.8	3.9
Number of doctors (in thousands)	7.5	7.8	8.3	No data	11	12.5	13.1	14.5	15	15.4
Internal diseases	2646	No data	2 345	No data	1763	1926	2071	2371	2175	2110
Pediatrics		No data	479	No data	901	1192	1321	1640	1604	1725
Anesthesiology	400	No data	596	No data	858	1004	1068	1223	1212	1259
Orthopedics	235	No data	382	No data	619	804	860	983	959	975
Cardiology	No data	No data	no data	No data	449	659	720	839	896	824
Family medicine	915	No data	1029	No data	796	817	879	974	878	926
Radiology	178	No data	324	No data	505	639	727	808	823	801
General surgery	380	No data	431	No data	551	643	699	836	818	807
Gynecology	270	No data	315	No data	453	613	672	799	798	777
Psychiatry	401	No data	340	No data	No data	No data	No data	572	545	543

Source: Reports on the state budget execution in the field of health

to emigrate may affect also better working conditions and professional development opportunities, including specialist education in other countries (18).

The result of the small number of doctors include their heavy workload. Although the average number of medical consultations per capita granted in Poland in 2012. Amounting to 7.0 was at a level similar to the average for the EU-25 of 6.6, is the result of a relatively small number of doctors, the average number of consultations per one doctor Poland, during the year was 3172, which is above average for the 24 countries of the EU in 1958 (5). Heavy workload of doctors in Poland is confirmed in other studies, including the information of the Supreme Chamber of Control, where it was pointed out that in some cases the working time of doctors differs significantly from any standards (19). The result of this situation is the limited access to health care for patients. As research shows, the average waiting time for a single guaranteed health care benefits in Poland (regardless of their nature, diagnosis and treatment, without taking into account the complexity of the assessment and the necessary treatment implemented in stages) in 2015. Amounted to approx. 2.97 a month (20). The longest we had to wait for the benefits to the doctor: orthodontist (9.7 months), an endocrinologist (7.7), angiologa (7.1), the neurosurgeon (4.8), a hepatologist (4.5), a diabetes (4.2), cardiologists (3.9) and a nephrologist (3.7). Access to a doctor depended also on the financial situation of the patient. According to the OECD study from 2012, Poland was a country with one of the highest

numbers of persons declaring unmet need for medical consultation, of depending on income 11.2% of the population with high incomes, 14.2% of middle-income and 16.6% on low incomes, with average values of this index for the 28 countries in the EU of 4.2, 6.4 and 9.4%. Alarming high incidence was also a declaration of unmet need for dental consultations (Poland 6.2, 9, 13.1% and EU-28: 3.8, 7.2, 11.5%) (5).

The primary method of alleviating the shortage of medical in Poland is the system of higher education. This system, in recent years a growing number of educated students.

In response to the great interest in studying in the fields of medical and medical-dental (including in the framework of studies paid, despite their relatively high costs) and increasing opportunities for medical schools, resulting from the development of scientific and educational infrastructure, limits admissions are gradually increased. Interest in medical studies and the potential of universities do not translate into a growth in the number of doctors in Poland. There is a high probability that the majority of graduates in medical and dental conducted in a language other than Polish, who now account for nearly a quarter of admission limit, after obtaining the diploma does not take up employment in Poland. In principle, the limits of admission determined by the Minister of Health should correspond to the needs of the health care system for employees and capabilities of universities. The division of limits between studies conducted in Polish and studies in

other languages shows that the possibilities of the education system are not fully utilized to meet the needs of the national health system. In turn, the significant increase in the size limits granted in recent years call into question the possibility of maintaining a high level of quality of education and implementation of the study program. The experience of countries such as e.g. Brazil and India indicate that the privatization of training medical staff carries the risk of lowering the level of education, because of the advantage in recruiting economic criteria over the substantive and the tendency of universities to adapt to the expectations of student-clients, and is not conducive to increasing the number of doctors in a country that is a leading education (21, 22). Due to the relatively long period of study in the fields of medical and medical-dental any decisions on changes to limits have implications postponed. The key importance of these professions to public health makes it necessary to determine the long-term strategy in the field of education and its consistent implemented.

While the education system pre-postgraduate affects a number of medical staff, is crucial for the qualification of personnel has a system of post-graduate education, especially vocational specialization. One of the basic education specialization is the training in the framework of jobs residencies, i.e. Financed from the state budget training places for doctors. The number of residencies, which may be granted not only depend on the decision of the Minister of Health and allocated the appropriate financial resources, but also the capabilities of individuals accredited to conduct specialization and the number of potential managers specialization. Therefore, the possibility of increasing the number of residencies are limited. The more that the creation of such places must ensure the quality of education and the possibility of full implementation of the program specialization. Accordingly, the possible increase residency subsequent years appear to be limited. It is worth noting that in 2018. Medical schools is to leave two times more graduates

than usual, which is associated with the shortening of the duration of the study, which was introduced in 2010. Meaning themselves residents of a salary. This amount is similar to the average wage in the economy and often exceeds the basic remuneration of managers specialization.

CONCLUSIONS

The number of doctors in Poland amounting to approx. 2.2 per 1000 inhabitants appears to be insufficient in relation to the growing needs of the demographic and epidemiological, as can be seen in both the average number of advice given per one doctor as well as the waiting time for patients at medical consultation. In the short term shortage of doctors will increase due to the gradual retirement subsequent generations of doctors and a lack of substitutes. Moreover, access to medical advice is highly diversified geographically. In the face of present needs of the education system does not seem to respond adequately. Enrollment limits on medical studies is markedly increased only in the last two years. At the same time an important part of the educational base is used for the training of doctors, most of whom will never work in Poland. In the case of postgraduate training also they are serious negligence, and carried out a change of specialization specialty basic and detailed specializations module does not solve problems such as the availability of courses and internships specialization (23).

An analysis of the activities undertaken by the Ministry of Health in policy planning medical staff, such as. Determining the limits of admission, granting residencies, elimination of postgraduate specialization and changes in the system, a picture emerges inconsistent. The continued lack of systematic analyzes of the demand for doctors in general and physicians in various specialties.

It is necessary to develop an overall policy of the development of human resources in health care, including doctors, nurses, public health workers and other professions and specialties (24).

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