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Physician Workforce in Lithuania: Changes during Thirty Years of Independence

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Abstract: Healthcare human resource planning is one of the biggest challenges facing the healthcare systems in many countries. Inadequate decisions in human resource planning can lead to an insufficient number of healthcare professionals then healthcare inequalities. One of the components of resource planning in the healthcare system is long-term data monitoring and the identification of potential trends. Since 1990, the number of physicians in Lithuania has decreased by 15.3% (−2266), but the decrease in the population has led to a 13.61% increase in the number of physicians per 10,000 inhabitants (5.32). During the analyzed period, the largest decrease in the number of physicians workforce by specialty was the number of medical physicians (−73.08%), epidemiology and hygiene (−69.30%), children's diseases (−49.08%), the most increased number was of family/general practitioners (GPs), geneticists, physical medicine, and rehabilitation specialists. Since 1992, the number of visits to physicians in Lithuania, which has been decreasing for a long time, began increasing, and in 2022 (9.3 visits) it has almost reached the number of visits (9.5) per capita as in 1991. The aim of this research was to collect long-term data from various databases, summarize them, and identify possible trends and the reasons for data changes. The study analyzed data from the Lithuanian healthcare system from the Declaration of Independence of Lithuania to the last 30 years. The data includes or affects the indicators of the healthcare system, changes in population and doctors, the number of visits to doctors, the number of medical students and residents, and data determining inequalities in the healthcare system. Long-term data analysis is useful for developing a model of healthcare human resource planning and for planning healthcare resources.

Keywords: healthcare system; healthcare planning; healthcare professionals; health resources; Lithuania

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1. Introduction

Lithuania and most other post-communist countries have inherited the Semashko healthcare organization model (named after Nikolai Semashko, a Soviet People's Commissar for Healthcare), which was characterized by a high level of centralized government administration and the absence of a private healthcare sector. The employees working in the system were civil servants, focusing not on primary healthcare services and the quality of services but on the number of hospitals and physicians [1,2]. This has led to a decline in the average life expectancy of the population and a widening gap between the average life expectancy of women and men [3] compared to other Western countries with a high number of physicians per 10,000 inhabitants and other healthcare challenges [4]. However, on 11 March 1990, after the restoration of Lithuania's independence, important reforms in various areas of the public sector began [5]. Since the Declaration of Independence, the healthcare system has been undergoing fundamental reforms aimed at improving the health and quality of the services provided by the population, as well as enabling consumer choice. This led to greater attention being paid to primary healthcare and training of family/general practitioners (GPs) in Lithuania [1,6].

The National Concept of Health for Lithuania (1991), approved by the Lithuanian parliament, set priorities for healthcare system reforms and became the basis for the formation of Lithuanian health policy [7]. Ongoing healthcare reform has led to changes in the health insurance system, i.e., when the health insurance system is financed from insurance premiums and collected taxes, the State Health Insurance Fund became responsible for the distribution of healthcare resources, and the Ministry of Health (MoH) is now responsible for the general regulation and organization of the healthcare system. Changes in primary care have enabled not only the development of the public sector but also the private sector, thus extending the freedom of choice to consumers and the extremely rapid growth of the number of GPs [6].

It was already clear in 1991 that the number of physicians in Lithuania was significantly higher than in other European countries [8]. This is what decided the need to determine the optimal number of physicians in Lithuania. In 1994, the first working group was set up, which presented an assessment that there are too many physicians in Lithuania, the distribution of physicians by specialty is uneven, and the shortage of physicians in the regional areas is particularly high [9]. However, the subsequent events (especially the increase in the migration of physicians after accession to the European Union (EU)) [10] led to the opposite trend, and the number of newly admitted students in medical studies has increased [3,11,12]. The result of this increase is that Lithuania currently has one of the largest numbers of physicians among the EU countries, but experts tend to believe that the shortage of physicians in the future will become an urgent problem [13]. In addition to the growing general demand for healthcare professionals, the geographical and specialty/profession imbalance in Lithuania is also an issue of concern [14]. According to the information of the Government Strategic Analysis Centre, in 2020, the greatest shortage of physicians was GPs, internal disease, infectious diseases (this choice could be determined by COVID-19), cardiologists, anesthesiologists—reanimatologists. In the future (2030), the projected greatest shortage will be of GPs and internal diseases [15]. This problem is particularly acute in rural areas, leading to lower healthcare access [1]. Other problems include a lack of healthcare system funding and a rather high focus of healthcare services on specialized and in-patient services contribute to the Lithuanian healthcare system receives poor evaluations among other Central and Eastern European countries [16].

When analyzing the human resources situation in Lithuanian healthcare, it is important to evaluate not only the changes in population and physicians, the number of visits to physicians, and the number of medical students and residents but also the data that determine the inequalities. These assessments can contribute to the development of the human resource planning model for healthcare, as long-term data analysis can help assess future trends and develop reliable forecasting models.

This paper provides an overview of trends and reforms in the physician workforce since Lithuania gained independence in 1991. This paper's main audience comprises those interested in the health systems of the former Soviet countries. However, this analysis offers lessons for other countries in Europe and elsewhere as it presents transitions in the healthcare workforce during the rapid transformation of the health system and society in general.

2. Materials and Methods

For the analysis of trends in the physicians' workforce in Lithuania in the post-independence period (since 1991), we used different sources of secondary (aggregated) data:

1. World Health Organization (WHO) database for obtaining data on the number of physicians per 10,000 inhabitants of Lithuania [8].
2. Institute of Hygiene information sources (published reports for 1991–1998; internal electronic database for 1999–2021) for obtaining information about the number of medical and residency students who graduated medical studies in Lithuanian universities (Lithuanian University of Health Sciences, and Vilnius University), the total

number of all physicians and physicians by specialty and county, number of visits to physicians, and number of visits to physicians per one inhabitant [3,11].

3. State Data Agency of Lithuania database for obtaining data on the number of population [17].

Data on changes in the number of physicians are presented following the order of the Minister of Health of the Republic of Lithuania of 1999, in which figures in terms of higher education in medicine (physicians' qualification) are divided into medical doctor's practice, 19 specialties, and 42 sub-specialties, as detailed in the table below (Table 1) [18].

Table 1. Nineteen specialties with sub-specialties are grouped together from the list of 61 specialties approved by the Ministry of Health [18].

Medical Doctor's Practice	
Specialties	**Sub-Specialties**
General practitioners (GPs)	
Internal medicine	Allergology and clinical immunology; occupational medicine; dermatovenerology; endocrinology; geriatrics; hematology; infectology; cardiology; nephrology; neurology; pulmonology; rheumatology; clinical toxicology; oncology chemotherapy; oncology radiotherapy; intensive care medicine.
Pediatrics	Neonatology; pediatric endocrinology; pediatric gastroenterology; pediatric hematology; pediatric cardiology; pediatric nephrology; pediatric neurology; pediatric pulmonology; pediatric intensive care medicine.
Dietetics	
Surgery	Abdominal surgery; plastic and reconstructive surgery; vascular surgery; heart surgery; neurosurgery; chest surgery; urology.
Orthopedics traumatology	
Pediatric surgery	
Anesthesiology reanimation	
Obstetrics gynecology	
Ophthalmology	
Otorhinolaryngology	
Psychiatry	Child and adolescent psychiatry.
Genetics	
Forensic medicine	
Physical medicine and rehabilitation	Sports medicine.
Pathology	
Laboratory medicine	
Radiology	
General dental practice	Oral surgery; orthodontic dentistry, endodontology, orthopedic dentistry; periodontology; pediatric dentistry; maxillofacial surgery.

List of personal healthcare specialties and sub-specialties.

The data were entered into a Statistical Package for the Social Sciences (SPSS) program version 20 database. The variables included: the total number of physicians, number of physicians per 10,000 inhabitants, number of physicians by specialty and county, number of visits to physicians, number of visits to physicians per one inhabitant, and number of graduates in medical studies.

A simple descriptive statistical analysis was performed using the SPSS 22.0 and MS Office Excel 2019 software package. Trends in physician supply and number of visits/consultations were analyzed using the method of linear regression. Coefficients of regression (b) multiplied by 100 were presented as average annual changes (AAC), with 95% confidence intervals (CI). A p-value < 0.05 was considered statistically significant. Ethical approval was not required, as only secondary (aggregated) data were used for this study.

3. Results

The total number of physicians in Lithuania has decreased by 15.3% (−2266) since 1990. In the same period, the population of Lithuania decreased (−24.4%, or by 903,700 inhabitants) [3,11]. This has led to the fact that the number of physicians per 10,000 inhabitants increased by 13.61% (5.32) during this period. However, over the 30 years, this figure ranged from 39.1 (in 1990) to the lowest rate of 34.93 (in 1992), increasing to 36.37 (in 1997) and again to 35.78 (in 2004). From 2005, it began to increase from 36.64 to 44.81 (in 2019). According to the latest data from the WHO, this number has increased to 49.5 (2021), also reaching the maximum number of physicians per 10,000 inhabitants over the entire data reporting period since 1990 (Figure 1) [8].

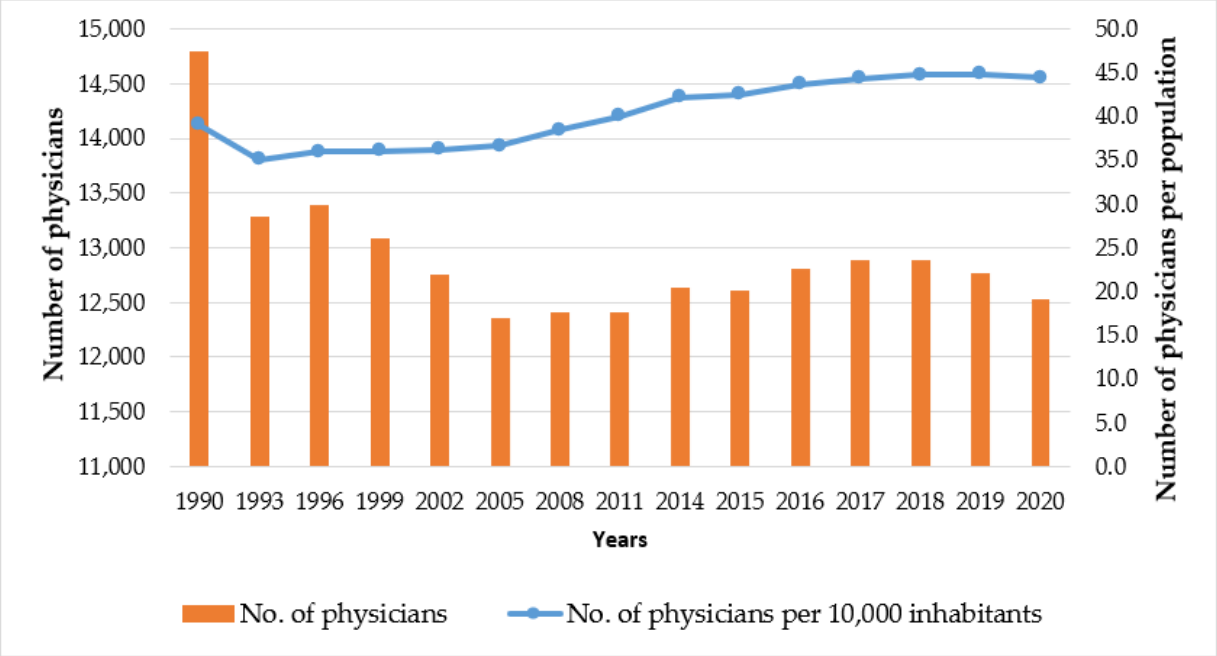

Figure 1. Physicians' number/per population (over 10,000) ratios in Lithuania every three years in the 1990–2020 period [8].

Since 1991, the number of physicians has changed mostly in all specialties. The most significant decrease was observed among these groups of physicians: epidemiology and hygiene (AAC = −3.98 [95% CI, −4.73; −3.23]), pediatrics (AAC = −2.59 [95% CI, −2.84; −2.33]), internal medicine (AAC = −2.33 [95% CI, −2.58; −2.07]) and laboratory medicine (AAC = −2.07 [95% CI, −2.70; −1.45]), obstetrics and gynecology (AAC = −1.38 [95% CI, −1.50; −1.27]). In other specialties such as otorhinolaryngology (AAC = −0.83 [95% CI, −0.95; −0.70]), ophthalmology (AAC = −0.26 [95% CI, −0.39; −0.12]), forensic medicine (AAC = −0.89 [95% CI, −1.37; −0.41]), and surgery (AAC = −0.07 [95% CI, −0.22; 0.08]), reductions were recorded, but not as high (Table 2).

The number of GPs increased the most from 81 specialists in 1993 to 2043 specialists in 2021 (AAC = 10.77 [95% CI, 8.00; 13.54]). Following resident physicians (AAC = 2.16 [95% CI, 1.55; 2.77]), geneticists (AAC = 6.02 [95% CI, 4.37; 7.68]), physical medicine and

rehabilitation (AAC = 2.03 [95% CI, 1.35; 2.70]), healthcare administrators and statisticians (AAC = 3.48 [95% CI, 2.10; 4.85]), anesthesiologists (AAC = 1.36 [95% CI, 1.13; 1.58), psychiatrists (AAC = 0.53 [95% CI, 0.27; 0.78]), orthopedists traumatologists (AAC = 1.24 [95% CI, 0.98; 1.49]) and radiologists (AAC = 0.18 [95% CI, 0.03; 0.33]) (Table 2).

Table 2. Number of physicians in Lithuania by specialties: 1991–2021 every five years [3,11].

The Number of Active Physicians According to Specialties	(Per 10,000 Persons and (Natural Persons))							AAC [95% CI] **
	1991	1996	2001	2006	2011	2016	2021	
General practitioners	n.d.	0.50 (181)	2.58 (897)	5.30 (1794)	6.19 (1860)	7.37 (2099)	7.35 (2043)	11.95 [9.22; 14.67] * (10.77 [8.00; 13.54]) *
Internal medicine	12.71 (4757)	12.98 (4656)	10.77 (3744)	9.31 (3151)	9.75 (2930)	9.88 (2813)	9.41 (2561)	−1.16 [−1.46; −0.86] * (−2.33 [−2.58; −2.07]) *
Pediatrics	4.49 (1681)	5.22 (1873)	19.76 † (1636)	18.26 † (1270)	20.42 † (1136)	19.75 † (1008)	17.64 † (856)	5.08 [3.35; 6.81] * (−2.59 [−2.84; −2.33]) *
Dietetics	0.06 (21)	0.06 (20)	0.07 (25)	0.06 (19)	0.07 (21)	0.08 (22)	0.08 (23)	1.33 [0.74; 1.91] * (0.11 [−0.48; 0.71])
Surgery	2.45 (915)	2.58 (927)	2.38 (826)	2.55 (864)	2.76 (828)	3.03 (862)	3.25 (870)	1.05 [0.84; 1.26] * (−0.07 [−0.22; 0.08])
Orthopedics traumatology	0.82 (307)	0.88 (317)	0.88 (305)	0.97 (330)	1.12 (336)	1.44 (409)	1.35 (377)	2.44 [2.14; 2.73] * (1.24 [0.98; 1.49]) *
Pediatric surgery	n.d.	0.18 (63)	0.80 † (66)	0.91 † (63)	1.31 † (73)	1.23 † (63)	1.36 † (66)	6.69 [4.40; 8.99] * (0.72 [−0.04; 1.48])
Anesthesiology	1.48 (552)	1.61 (576)	1.62 (562)	1.77 (600)	2.29 (687)	2.71 (771)	2.97 (823)	2.54 [2.27; 2.81] * (1.36 [1.13; 1.58]) *
Obstetrics gynecology	2.34 (877)	2.36 (846)	2.33 (810)	2.37 (801)	2.33 (699)	2.27 (647)	2.13 (587)	−0.25 [−0.35; −0.16] * (−1.38 [−1.50; −1.27]) *
Ophthalmology	1.00 (376)	1.01 (362)	1.02 (355)	1.00 (340)	1.16 (348)	1.28 (364)	1.16 (319)	0.90 [0.71; 1.09] * (−0.26 [−0.39; −0.12]) *
Otorhinolaryngology	0.86 (323)	0.88 (315)	0.86 (300)	0.86 (291)	0.92 (275)	0.96 (274)	0.87 (239)	0.33 [0.16; 0.50] * (−0.83 [−0.95; −0.70]) *
Psychiatry	1.21 (454)	1.41 (505)	1.59 (553)	1.75 (594)	1.84 (553)	1.95 (555)	2.03 (562)	1.72 [1.52; 1.92] * (0.53 [0.27; 0.78]) *
Genetics	n.d.	0.02 (8)	0.02 (8)	0.03 (10)	0.04 (13)	0.06 (17)	0.07 (19)	7.70 [5.59; 9.81] * (6.02 [4.37; 7.68]) *
Forensic medicine	0.16 (60)	0.18 (65)	0.22 (78)	0.17 (57)	0.17 (50)	0.18 (51)	0.19 (54)	0.28 [−0.18; 0.74] (−0.89 [−1.37; −0.41]) *
Physical medicine and rehabilitation	0.56 (211)	0.76 (272)	1.13 (394)	1.19 (403)	1.32 (396)	1.46 (415)	1.37 (375)	3.17 [2.53; 3.80] * (2.03 [1.35; 2.70]) *
Pathology	0.18 (68)	0.19 (69)	0.21 (74)	0.19 (66)	0.21 (64)	0.26 (73)	0.25 (70)	0.68 [0.31; 1.05] * (−0.51 [−0.84; −0.18]) *
Laboratory medicine	n.d.	0.43 (153)	0.34 (118)	0.26 (88)	0.31 (93)	0.30 (86)	0.32 (87)	−0.88 [−1.60; −0.17] * (−2.07 [−2.70; −1.45]) *
Radiology	1.23 (459)	1.37 (493)	1.30 (451)	1.42 (481)	1.54 (464)	1.72 (489)	1.79 (492)	1.35 [1.16; 1.54] * (0.18 [0.03; 0.33]) *
Medical doctor's practice	n.d.	n.d.	0.48 (167)	0.47 (160)	0.47 (141)	1.05 (300)	1.45 (406)	7.96 [6.11; 9.81] * (6.68 [4.80; 8.55]) *
Residency	n.d.	n.d.	3.36 (1168)	3.23 (1092)	5.50 (1653)	5.94 (1692)	6.34 (1773)	3.44 [2.73; 4.14] * (2.16 [1.55; 2.77]) *
Epidemiology and hygiene	0.95 (355)	0.99 (356)	0.77 (267)	0.89 (301)	0.74 (222)	0.66 (189)	0.39 (109)	−2.84 [−3.58; −2.11] * (−3.98 [−4.73; −3.23]) *

Table 2. *Cont.*

The Number of Active Physicians According to Specialties	(Per 10,000 Persons and (Natural Persons))							AAC [95% CI] **
	1991	1996	2001	2006	2011	2016	2021	
Healthcare administrators and statisticians	n.d.	n.d.	0.53 (185)	0.90 (306)	1.28 (383)	1.26 (359)	0.96 (268)	4.76 [3.34; 6.18] * (3.48 [2.10; 4.85]) *
Other	3.76 (1407)	3.34 (1198)	3.00 (1042)	1.27 (429)	0.34 (102)	0.43 (123)	n.d.	−12.28 [−13.91; −10.66] * (−13.46 [−15.13; −11.79]) *

† The calculation methodology has changed, and the number is not provided for all inhabitants, but per 10,000 children up to the age of 14; * $p < 0.05$; ** for 1991 (or earliest available)–2021; n.d.—no data.

There are significant differences in the number of physicians between cities and rural areas in Lithuania. This difference has been increasing since 2003. The number of specialists working in cities remains similar, but in rural areas, this number tends to be decreasing (Figure 2).

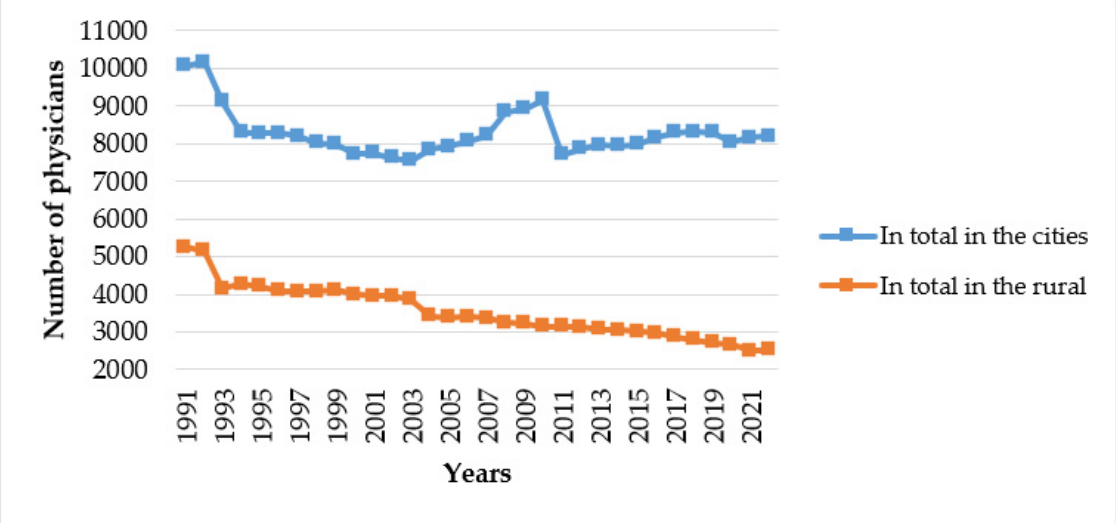

Figure 2. Number of active physicians working in cities and rural areas, 1991–2022 [2,7].

The largest number of physicians in the 1995–2022 period was recorded in the counties of Vilnius and Kaunas (Appendix A Table A1: The number of active physicians working in the MoH system and in the private sector in 1995–2022 per 10,000 inhabitants, by county [3,11]).

The absolute number of physicians' visits in Lithuania during the 1991–2018 period decreased from 35.37 million to 25.44 million (AAC = −0.84 [95% CI, –1.52; −0.17]). However, a negative population growth led to the number of visits per 1 inhabitant almost reaching the numbers of 1991 (Table 3).

In 2019, Lithuania introduced a remote consultation of physicians. These consultations can be provided for acute illnesses such as: colds, fever, urinary tract infections, etc., as well as non-urgent medical problems that do not require a physical examination [19]. Remote consultations in 2019 accounted for 0.69% of all visits, 2020—27.16%, 2021—31.23%, and 2022—21.24% (Table 3). The growth of remote consultations and the decrease in the number of contact visits was influenced by the COVID pandemic that began in 2020 and the restrictions imposed by the Government of the Republic of Lithuania, which led to the restriction of contact visits to healthcare professionals or making them entirely impossible [20].

Table 3. The number of visits to physicians in Lithuania 1991–2022 (1991–2000 [21] and 2003–2022 [22]) every three years.

Year	Number of Visits to Physicians (Million)	The Number of Visits to Physicians Is per One Inhabitant
1991	35.37	9.5
1994	28.90	7.8
1997	26.74	7.2
2000	22.46	6.4
2003	19.58	5.7
2006	20.94	6.4
2009	21.81	6.9
2012	22.52	7.5
2015	24.22	8.3
2018	25.44	9.1
1991–2018 (AAC [95% CI])	−0.84 [−1.52; −0.17] *	0.31 [−0.42; 1.03]
2021	24.79 (7.74 †)	8.8 (2.8 †)
2022	26.40 (5.59 †)	9.3 (2.0 †)

†—Percentage of remote consultations; *—$p < 0.05$.

The largest increase in visits at the first level was to GPs from 3.05 million (in 2001) to 12.4 million (2018) (AAC = 6.24 [95% CI, 4.47; 8.01]). The largest decrease was in visits to district therapists and surgeons (AAC = −6.83 [95% CI, −7.60; −6.07] and AAC = −5.28 [95% CI, −5.67; −4.90] accordingly). The total number of visits at the first level increased by 36.29% (AAC = 1.50 [95%CI, 1.15; 1.85]) (Appendix A Table A2: The number of visits to physicians in Lithuania in 2001–2022 according to the long list of specialties [22]).

The number of visits to physicians in the second and third levels also increased by 37.33% (AAC = 2.05 [95% CI, 1.68; 2.42]) (2001–2018). The highest increase was to anesthesiologists-reanimatologists (AAC = 17.11 [95% CI, 15.57; 18.65]), geneticists (AAC = 10.97 [95% CI, 9.71; 12.24]), psychotherapists (AAC = 5.47 [95% CI, −0.34; 11.28]), plastic and reconstructive surgeons (AAC = 8.82 [95% CI, 7.23; 10.42]) and vascular surgeons (AAC = 8.48 [95% CI, 7.57; 9.39]). The greatest decrease in visits was to physicians such as phthisiatricians (AAC = −31.71 [95% CI, −34.62; −28.81]), oncologists (AAC = −34.28 [95% CI, −43.11; −25.45]), cardiac surgeons (AAC = −2.71 [95% CI, −4.98; −0.43]), chest surgeons (AAC = −0.40 [95% CI, −2.12; 1.33]), otorhinolaryngologists (AAC = −2.26 [95% CI, −2.68; −1.84]), these reductions could also be due to the emergence of new specialists who took over some of the functions and at the same time visits (Appendix A Table A2).

Although remote consultations appeared in 2019 and were only at the first level, accounting for only 1.06% of all first-level appointments, the number of remote consultations increased significantly due to the COVID-19 pandemic, reaching 27.24% in 2020, 31.23% in 2021, 21.16% in 2022 [22].

Between 1991 and 2021, 11,576 medical students graduated from medical studies, and 12,036 individuals completed residency studies [3,11]. However, the annual number of graduates has differed over this period. In 1991, there were 284 medical graduates and in 1992—373. Since 1994, medical graduations started to decrease reaching the lowest value of 216 in 2005 (Figure 3). In 2002 the decision was made to increase the admission to medical training to 400 students annually [12]. This important decision was made based on previous planning forecasts [23]. As a result, the number of students graduating from medical studies has increased. The highest number of medical graduates was recorded in

2020 and 2021 when the number of graduates reached 571 in both years and compared to 1991, this number increased by 201.01%.

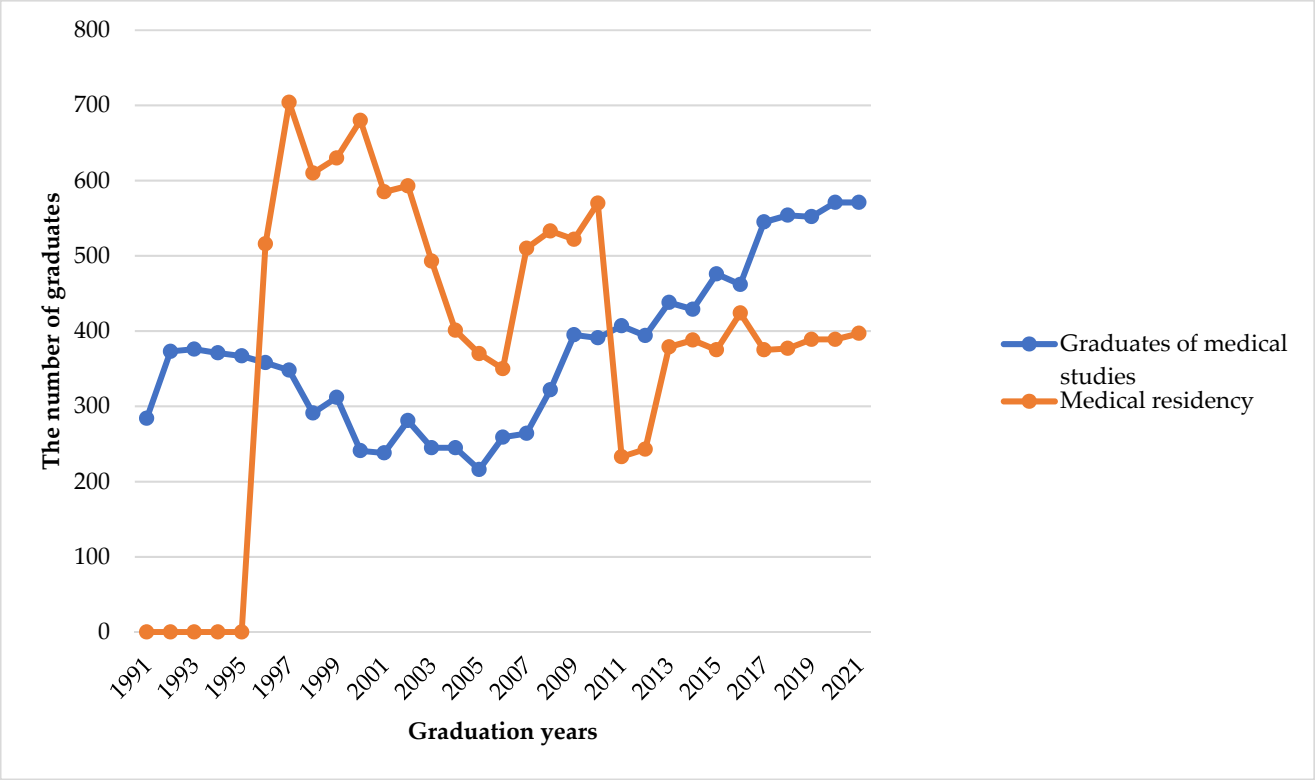

Figure 3. The number of students who completed medical studies and medical residency studies at the Lithuanian University of Health Sciences and Vilnius University during the period of 1991–2021 [3,11].

The first data on the number of individuals who completed medical residency is from 1996, when the number of individuals who completed residency studies was 516. In 1997, the highest number (704) of successful medical residency graduates was recorded since the Declaration of Independence. The lowest number was recorded in 2011—233, respectively, due to the low number of medical graduates in 2005. Since 2013, the number of individuals who graduated from medical residency has increased, so it has fluctuated around 400 (Figure 3).

4. Discussion

Although the global health workforce is growing, this does not guarantee a sufficient number of healthcare professionals. According to The Global Strategy on Human Resources for Health: Workforce 2030 adopted by the WHO, the shortage of healthcare professionals was 17.4 million in 2013 and will remain at 14.5 million in 2030. The shortage of specialists in Europe is projected to be like that in 2013 and will reach 0.1 million in 2030. In 2022, it was proposed to recalculate this figure, considering that in 2020 there were around 65 million healthcare professionals worldwide (data from 194 member states), which represents an increase of 29% since the adoption of the strategy in 2016; however, the shortage of healthcare professionals will remain at 15 million in 2022, and at 10 million in 2030 [24]. Similar challenges are common for the Baltic States.

Estonia, Latvia, and Lithuania were consistently among the leaders in the EU countries, according to number of physicians per 10,000 inhabitants, but even 30 years after the restoration of independence, the number of physicians decreased only in Latvia by 1.65 physicians, in Estonia the number increased by 3.63 physicians, in Lithuania by

5.34 physicians for 10,000 inhabitants. (Table 4), this is also due to the declining population in all three countries [8]

Table 4. Physicians' number/to population (per 10,000) ratios in Estonia, Latvia, and Lithuania every three years in the 1990–2020 period [8].

	Number of Physicians (Persons)			Number of Physicians (per 10,000 Inhabitants)		
	Estonia	**Latvia**	**Lithuania**	**Estonia**	**Latvia**	**Lithuania**
1990	5498	9439	14,795	35.0	35.1	39.1
1993	4792	7446	13,285	31.85	28.22	35.07
1996	4457	6966	13,389	31.07	27.49	35.97
1999	4200	6495	13,092	29.93	26.77	36.03
2002	4089	6443	12,749	29.65	27.7	36.26
2005	4257	6628	12,361	31.42	29.68	36.64
2008	4469	7040	12,413	33.43	32.74	38.5
2011	4372	6456	12,407	32.94	31.08	40.03
2014	4418	6412	12,631	33.61	31.89	42.18
2017	4569	6225	12,887	34.68	31.84	44.37
2020	5136	6346	12,529	38.63	33.45	44.42

The present number of physicians in Lithuania is high, but shortages are predicted. The most recent attempt to project the supply of physicians in Lithuania was done by STRATA. This projection suggested that Lithuania will be in an extreme shortage of the following physicians by 2030: general practitioners (−428), internal medicine (−420), pediatrics (−317), emergency medicine (–256), and anesthesiologists (–143) [15].

The COVID-19 pandemic, which began in 2020, had a significant impact on demographic and healthcare indicators. Although the increase in life expectancy between 2010 and 2019 in Lithuania was the fastest in the EU, the impact of COVID-19 was a major setback. Life expectancy in Lithuania in 2020 was the third lowest in the EU and 5.5 years below the EU average [25]. The number of visits to physicians has decreased significantly, not due to the improvement of the health of the population but to restrictions imposed by the Government of the Republic of Lithuania [20]. According to the number of visits at the primary level of healthcare, the number of visits not only reached the pandemic level but also significantly exceeded it. On the second and third levels, the number of visits is also growing rapidly (Appendix A Table A1). Such rapid growth will also impact the planning of human healthcare resources.

The results from our study and information from other countries suggest the need for continuous and long-term planning of health human resources. However, the planning of the health workforce requires a deep understanding of processes and dynamics in the field. If these processes are ignored, misleading interpretations and decisions can be made. For instance, the difference between physicians in urban and rural areas has significantly decreased in Lithuania in 2011. Nevertheless, this shift was not due to any positive changes in the geographical imbalance of physicians but rather to changes in the MoH regulation and status of resident physicians [3,11]. Another example is that even though significant reductions were recorded among medical practitioners and internal medicine professionals in Lithuania, this does not mean that these professionals left the labor market. This was due to the healthcare reforms, which provided an opportunity for these specialists to re-train and become general practitioners (GPs) [26].

Another challenge for health workforce planning in Lithuania is the absence of unified database, which stores all information about health human resources in the country. This means that data must be collected from a variety of databases or reports, where calculation

methodologies or data sources do not always coincide. Moreover, some databases have limited public access. These are some of the reasons why healthcare human resource planning is quite complicated, as it limits the observation of past trends and complicates the development of models for the planning of health human resources.

We must address some possible limitations of this paper. The data analyzed covered a long period (30 years), which may have led to changes in the methodology of data collection and affected the accuracy of the data. Also, the analyzed databases contain data collected from healthcare organizations, some of which may have provided inaccurate data or no data at all.

5. Conclusions

Our data analysis suggests that the number of specialist physicians in Lithuania has been changing due to policy decisions and the increasing number of visits to physicians. Although the number of physicians in Lithuania is high, the above-mentioned reasons may lead to a shortage in the future, especially in the rural areas. Achieving a balance between the supply and demand of physicians is a very complex but important task to ensure the effective performance of the health system and accessibility to health services. This healthcare challenge is expected not only in Lithuania and the Baltic States but also in other countries. Therefore, further research in this area and the exchange of the best practices between countries is critically important.

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Appendix A

Table A1. Number of active physicians who worked in the MoH system and in the private sector 1995–2022, number per 10,000 inhabitants, by county [3,11].

	Vilnius	Kaunas	Klaipėda	Šiauliai	Panevėžys	Alytus	Marijampolė	Tauragė	Telšiai	Utena
1995	43.7 (3921)	44.6 (3372)	34.5 (1435)	23.6 (947)	25.4 (821)	26.4 (534)	21.1 (419)	19.1 (248)	17.8 (326)	21.8 (442)
1996	44.5 (3980)	44.2 (3338)	33.8 (1405)	23.0 (926)	24.5 (792)	26.7 (541)	20.7 (410)	18.1 (235)	17.6 (321)	20.3 (410)
1997	44.5 (3980)	43.4 (3272)	33.3 (1384)	23.3 (936)	24.4 (786)	24.9 (504)	20.7 (411)	17.8 (231)	18.1 (330)	21.6 (435)
1998	43.9 (3927)	42.1 (3173)	33.3 (1384)	23.0 (924)	24.7 (793)	24.5 (496)	20.7 (411)	17.6 (229)	17.4 (317)	21.3 (427)
1999	43.2 (3865)	43.0 (3237)	33.3 (1384)	22.9 (918)	24.5 (787)	24.7 (499)	21.9 (435)	17.3 (224)	18.0 (329)	21.1 (422)
2000	43.7 (3716)	44.6 (3131)	33.9 (1310)	23.8 (882)	25.3 (761)	25.9 (486)	22.8 (430)	17.4 (233)	19.0 (342)	22.6 (421)
2001	44.3 (3756)	44.4 (3107)	33.4 (1284)	24.1 (891)	25.6 (766)	25.9 (486)	21.8 (411)	17.8 (238)	19.1 (343)	22.6 (417)

Table A1. *Cont.*

	Vilnius	Kaunas	Klaipėda	Šiauliai	Panevėžys	Alytus	Marijampolė	Tauragė	Telšiai	Utena
2002	44.2 (3744)	43.5 (3025)	33.0 (1265)	23.9 (876)	26.1 (775)	25.7 (478)	23.5 (441)	17.5 (233)	18.3 (328)	22.7 (415)
2003	43.4 (3680)	43.3 (2993)	32.5 (1245)	23.7 (864)	26.3 (776)	25.8 (476)	22.1 (413)	17.5 (232)	18.1 (323)	22.8 (413)
2004	43.1 (3660)	43.5 (2985)	31.8 (1214)	23.0 (831)	26.6 (779)	24.2 (443)	20.9 (388)	18.1 (238)	17.9 (317)	22.8 (408)
2005	43.7 (3709)	44.1 (3004)	31.9 (1214)	23.1 (824)	26.8 (776)	23.8 (431)	20.6 (379)	19.2 (249)	18.3 (321)	22.7 (401)
2006	44.7 (3793)	45.4 (3072)	32.5 (1234)	23.3 (825)	26.2 (752)	24.8 (444)	21.5 (393)	17.3 (222)	18.1 (316)	23.2 (406)
2007	45.7 (3877)	45.8 (3082)	31.9 (1209)	23.4 (820)	27.6 (785)	25.1 (445)	21.7 (394)	17.5 (223)	18.3 (318)	23.7 (409)
2008	48.4 (4110)	51.4 (3443)	33.1 (1251)	23.2 (803)	28.1 (790)	24.3 (425)	20.7 (373)	16.3 (206)	17.6 (304)	23.0 (392)
2009	49.1 (4177)	52.6 (3507)	33.0 (1242)	22.9 (783)	27.1 (753)	23.6 (409)	20.7 (369)	16.4 (205)	17.9 (306)	23.1 (388)
2010	50.2 (4207)	56.7 (3670)	33.6 (1233)	24.2 (795)	26.9 (728)	25.1 (420)	21.2 (368)	16 (193)	18.3 (305)	23.7 (387)
2011	43.5 (3629)	44.2 (2819)	33.8 (1224)	24.8 (799)	27.5 (730)	25.5 (419)	21.5 (368)	15.7 (186)	18.1 (296)	24.1 (386)
2012	46.4 (3740)	47.6 (2823)	36.8 (1221)	27.1 (787)	30.9 (748)	28.2 (429)	23.8 (373)	19.0 (202)	19.2 (284)	26.1 (380)
2013	46.2 (3723)	47.4 (2786)	39.1 (1287)	28.2 (807)	30.8 (735)	28.8 (432)	26.9 (414)	19.2 (201)	20.7 (301)	24.8 (353)
2014	46.9 (3785)	47.7 (2784)	38.4 (1258)	28.7 (808)	30.7 (722)	28.6 (423)	23.7 (359)	19.9 (205)	21.4 (307)	25.1 (352)
2015	47.0 (3781)	48.7 (2811)	39.3 (1276)	28.7 (793)	30.4 (702)	28.8 (418)	23.8 (354)	19.4 (196)	21.0 (297)	25.9 (355)
2016	48.5 (3905)	50.9 (2898)	39.2 (1257)	28.5 (770)	31.3 (704)	29.8 (422)	24.1 (350)	19.4 (191)	20.9 (288)	25.5 (340)
2017	49.0 (3948)	52.5 (2956)	40.2 (1275)	28.5 (756)	32.5 (711)	28.0 (387)	23.9 (338)	19.5 (187)	21.2 (284)	25.2 (327)
2018	49.3 (3996)	52.4 (2943)	39.9 (1266)	28.1 (738)	31.8 (682)	28.6 (388)	23.9 (332)	19.3 (181)	20.9 (276)	25.0 (318)
2019	47.7 (3917)	53.0 (2982)	38.5 (1231)	28.0 (731)	31.7 (669)	28.0 (376)	24.3 (332)	20.6 (189)	20.4 (266)	25.4 (317)
2020	45.9 (3808)	51.6 (2919)	37.5 (1206)	26.4 (686)	31.6 (657)	27.9 (369)	23.8 (321)	20.1 (181)	19.5 (252)	24.5 (303)
2021	45.8 (3743)	54.0 (3074)	36.2 (1173)	25.3 (661)	30.4 (646)	24.8 (337)	21.9 (299)	20 (182)	19.1 (252)	23.2 (291)
2022	45.2 (3846)	50.6 (2937)	39.0 (1309)	24.1 (631)	30.2 (640)	26.2 (355)	21.7 (295)	18.4 (167)	19.0 (250)	22.3 (280)
1995–2022 (AAC; 95% CI)	0.35 [0.17; 0.53] * (−0.01 [−0.19; 0.18]) *	0.83 [0.57; 1.09] * (−0.45 [−0.75; −0.14]) *	0.74 [0.47; 1.00] * (−0.39 [−0.59; −0.19]) *	0.75 [0.45; 1.04] * (−1.19 [−1.35; −1.03]) *	1.08 [0.92; 1.25] * (−0.77 [−0.90; −0.64]) *	0.41 [0.13; 0.70] * (−1.38 [−1.56; −1.21]) *	0.46 [0.18; 0.74] * (−1.19 [−1.43; −0.96]) *	0.42 [0.11; 0.74] * (−1.25 [−1.47; −1.03]) *	0.55 [0.32; 0.78] * (−0.98 [−1.17; −0.79]) *	0.61 [0.39; 0.82] * (−1.48 [−1.70; −1.27]) *

* $p < 0.05$.

Table A2. The number of visits to physicians in Lithuania in 2001–2022 according to the extended list of specialties [22].

Specialty (Long List)	Change from 2001 (or Since the Data is Available) to 2018 (or until Data Were Provided)			2019	2020	2021	2022
	2001	2018	AAC [95% CI]				
Obstetrician-gynecologist	933,061	580,050	−3.01 [−3.34; −2.68] *	549,128	439,450	484,371	468,639
District pediatrician	2,873,752	1,436,133	−3.48 [−4.09; −2.87] *	1,301,601	1,013,341	1,106,853	1,290,121
District therapist	3,845,129	1,044,286	−6.83 [−7.60; −6.07] *	973,362	822,948	830,209	877,188
Surgeon	950,423	384,026	−5.28 [−5.67; −4.90] *	342,918	230,409	240,058	241,873
Medical doctor	23,619 in 2006	17,627	0,49 [−4.97; 5.85]	23,166	20,204	25,764	46,397
Addiction psychiatrist	49,701	46,581	−4.67 [−6.89; −2.50] *	92,742	37,043	37,377	48,339
Psychiatrist	498,296	738,864	2.24 [1.88; 2.60] *	767,727	765,906	855,132	935,879
General practitioners	3,046,386	12,370,176	6.24 [4.47; 8.01] *	12,481,890	12,485,477	14,006,471	14,660,402
Child and adolescent psychiatrist	19,568	32,145	−0.63 [−2.25; 0.99]	34,632	29,734	31,641	35,166
Total of levels 1	**12,216,316**	**16,649,888**	**1.50 [1.15; 1.85] ***	**16,567,166**	**15,844,512**	**17,617,876**	**18,604,004**
Obstetrician-gynecologist	185,644	444,991	4.83 [4.14; 5.51] *	463,208	372,131	450,875	474,108
Allergist	48,755	55,852	0.83 [−1.30; 2.97]	56,683	38,742	46,227	50,170
Anesthesiologist-reanimatologist	2741	46,487	17.11 [15.57; 18.65] *	37,373	29,726	26,838	26,127
Surgeon	171,384	339,511	3.87 [3.21; 4.54] *	353,398	255,207	285,013	310,967
Occupational medicine doctor	5351	15,657	5.06 [0.64; 9.48] *	17,808	17,024	29,648	33,247
Dermatovenerologists	585,388	388,521	−1.57 [−1.92; −1.21] *	357,607	260,481	310,452	322,523
Dietitian	7194 in 2016	8175	6.39 [−53.67; 66.45]	8898	7605	12,375	14,336
Endocrinologist	304,394	414,726	2.36 [1.91; 2.82] *	421,179	312,297	382,416	398,235
Physical medicine and rehabilitation doctor	1,046,227 in 2017	1070,486	-	1,134,864	756,160	403,893	462,723
Phthisiatrician	202,052	659	−31.71 [−34.62; −28.81] *	365	238	83	36
Gastroenterologist	75,317	127,874	3.93 [3.33; 4.52] *	129,505	96,520	132,217	155,127
Geneticist	2852	17,728	10.97 [9.71; 12.24] *	19,976	18,664	21,513	22,688
Geriatrician	1173 in 2003	1727	−3.58 [−16.53; 9.37]	1668	1039	1202	2102
Hematologist	34,455	55,722	3.32 [2.68; 3.97] *	60,524	50,015	53,439	59,122
Infectious disease doctor	57,760	75,489	2.20 [1.59; 2.81] *	73,131	53,359	48,118	52,234
Cardiologist	289,145	521,260	3.94 [3.40; 4.48] *	514,693	387,655	466,281	485,065
Other	554 in 2018	554	-	16,866	11,686	15,254	18,852
Coloproctologist	8039	9594	2.52 [0.67; 4.36] *	8234	5507	6369	6673
Vascular surgeon	13,708	66,102	8.48 [7.57; 9.39] *	69,981	47,563	61,423	69,065

Table A2. *Cont.*

Specialty (Long List)	Change from 2001 (or Since the Data is Available) to 2018 (or until Data Were Provided)			2019	2020	2021	2022
	2001	2018	AAC [95% CI]				
Chest surgeon	6175	3839	−0.40 [−2.12; 1.33]	4772	3918	4629	4993
Mammologist	48,483 in 2006	109,784	7.66 [6.61; 8.71] *	120,785	78,720	123,660	125,238
Medical psychologist	3768	65,732 in 2017	17.99 [14.78; 21.21] *	n.d.	n.d.	n.d.	n.d.
Nephrologist	31,701	68,890	5.32 [4.73; 5.91] *	70,695	55,128	64,465	69,722
Neonatologist	1432	3702	5.06 [3.99; 6.13] *	3728	3325	3611	3566
Neurosurgeon	30,068	59,257	4.10 [3.51; 4.68] *	60,064	43,515	49,223	53,145
Neurologist	831,852	619,683	−1.09 [−1.71; −0.46] *	612,075	438,572	539,081	569,488
Ophthalmologist	1,048,332	728,899	−1.55 [−2.31; −0.80] *	719,187	494,215	571,332	614,102
Oncologist	155,615	429	−34.28 [−43.11; −25.45] *	132	61	59	41
Radiation oncologist	12,346	32,422	2.00 [−2.03; 6.03]	31,419	26,034	24,917	26,999
Oncologist pharmacist	45,114	159,408	9.46 [6.90; 12.03] *	161,370	145,362	147,132	145,715
Otorhinolaryngologist	912,442	556,761	−2.26 [−2.68; −1.84] *	556,470	357,795	397,648	483,366
Plastic and reconstructive surgeon	4483	22,867	8.82 [7.23; 10.42] *	22,657	15,160	16,642	16,822
Psychiatrist	45,936	52,858	2.11 [0.67; 3.56] *	56,748	49,956	52,027	50,136
Psychotherapist	3502	23,381	5.47 [−0.34; 11.28]	38,206	29,038	36,727	40,757
Pulmonologist	85,350	155,564	4.01 [2.27; 5.93] *	156,397	108,213	124,080	137,853
Rheumatologist	79,751	130,486	3.33 [2.82; 3.84]*	123,803	100,787	123,387	132,583
Emergency medical assistance	180,708 in 2006	411,271	4.72 [0.41; 9.04]*	452,852	409,491	471,944	553,013
Emergency medical doctor	6379 in 2018	6379	-	24,493	32,824	52,052	68,339
Sports medical doctor	477 in 2016	1705	63.69 [−159.79; 287.17]	1479	714	902	1517
Monitoring service	13,622 in 2007	164,970	20.56 [16.65; 24.47] *	171,592	137,361	141,332	149,273
Heart surgeon	3518	1344	−2.71 [−4.98; −0.43] *	1372	1128	847	1046
Toxicologist	1987	4673	6.63 [4.87; 8.39] *	4788	4737	4130	4484
Orthopedic traumatologist	547,792	638,393	1.29 [0.08; 2.49] *	639,668	446,161	524,421	583,455
Pediatric allergist	16,534 in 2004	23,189	1.63 [−0.91; 4.18]	24,596	19,280	25,037	33,951
Pediatric anesthesiologist	80 in 2004	104	−3.81 [−16.44; 8.82]	122	167	146	750
Pediatric surgeon	30,776	67,113	3.52 [1.95; 5.08] *	66,745	42,044	48,284	55,985
Pediatric endocrinologist	14,350 in 2004	34,378	5.14 [3.32; 6.96] *	35,149	26,731	33,169	33,710
Pediatric phthisiatrician	8794 in 2004	1146	−12.77 [−18.25; −7.30] *	1109	606	686	631
Pediatric gastroenterologist	7188 in 2004	23,245	6.40 [4.35; 8.46] *	22,722	15,829	20,669	24,657

Table A2. *Cont.*

Specialty (Long List)	Change from 2001 (or Since the Data is Available) to 2018 (or until Data Were Provided)			2019	2020	2021	2022
	2001	2018	AAC [95% CI]				
Pediatric hematologist	3565 in 2004	13,321	7.79 [5.57; 10.02] *	12,005	8452	10,651	12,665
Pediatric infectious diseases specialist	n.d.	n.d.	-	n.d.	4796	7158	6987
Child and adolescent psychiatrist	7253	7748	3.62 [1.54; 5.7] *	7640	7588	10,721	12,796
Pediatric cardiologist	n.d.	71,349	0.58 [−0.95; 2.11]	65,597	43,653	54,926	60,327
Pediatric cardio-rheumatologist	76,219	24,136 in 2004	−34.75 [−105.13; 35.62]	n.d.	n.d.	n.d.	n.d.
Pediatrician	89,141	108,521	3.27 [2.10; 4.35] *	107,895	63,462	74,212	88,808
Pediatric nephrologist	6020 in 2004	11,360	3.26 [1.37; 5.14] 0.003	11,108	8174	10,896	10,274
Pediatric neurosurgeon	1961 in 2004	2061	−2.11 [−4.05; −0.17] *	2033	1564	1711	2071
Pediatric neurologist	64,928 in 2004	76,082	−1.30 [−3.10; 0.51]	71,366	51,508	62,833	64,245
Pediatric ophthalmologist	80,695 in 2004	96,455	0.08 [−1.66; 1.81]	90,707	63,020	74,794	78,114
Pediatric oncologist pharmacist	n.d.	n.d.	-	n.d.	5	28	8
Pediatric orthopedic traumatologist	82,377 in 2004	72,680	−1.67 [−3.60; 0.26]	72,430	58,783	69,705	78,162
Pediatric pulmonologist	24,302 in 2004	50,053	3.06 [0.62; 5.50] *	45,168	27,851	28,934	34,706
Pediatric rheumatologist	2221 in 2004	3579	1.35 [−0.03; 2.73]	4669	3549	4472	5087
Pediatric urologist	1781 in 2004	5287	7.77 [2.91; 12.63] *	4269	3254	4496	4485
Pediatric urologist	165,481	268,271	2.46 [1.76; 3.17] *	267,051	193,464	227,409	244,914
Maxillofacial surgeon	5891 in 2007	8403	−1.24 [−6.43; 3.95]	11,182	8587	11,807	13,954
Internal medicine	191,897	225,009	3.76 [2.44; 5.07] *	203,582	169,225	160,628	132,765
Total of levels 2/3	**6,398,916**	**8,787,434**	**2.05 [1.68; 2.42] ***	**8,907,858**	**6,525,426**	**7,171,256**	**7,799,105**
TOTAL	**18,615,232**	**25,437,322**	**1.68 [1.43; 1.92] ***	**25,475,024**	**22,369,938**	**24,789,132**	**26,403,109**
Total, remote	**0**	**0**	**0**	**175,508**	**6,092,501**	**7,741,371**	**5,586,155**

* $p < 0.05$; n.d.—no data.

References

1. Rechel, B.; Dubois, C.-A.; McKee, M. (Eds.) *The Health Care Workforce in Europe: Learning from Experience*; European Observatory on Health Systems and Policies; World Health Organization: Copenhagen, Denmark, 2006; pp. 47–58. ISBN 9289022973.
2. Lovkytė, L.; Padaiga, Z. Physician workforce reform in Lithuania: An inevitable transition. *Cah. Sociol. Demogr. Medicales* **2001**, *41*, 347–368.
3. *Health of Lithuanian Population and Activities of Healthcare Institutions, 1991–1996*; Institute of Hygiene Reports; Institute of Health Information Centre: Vilnius, Lithuania, 1993–1997.

4. World Health Organization, Regional Office for Europe. *European Health for All database (HFA-DB)*; WHO, Regional Office for Europe: Copenhagen, Denmark, 2002.
5. Central Intelligence Agency (US). *The World Factbook 2023*; CIA: Washington, DC, USA, 2013. Available online: https://www.cia.gov/the-world-factbook/countries/lithuania/ (accessed on 11 October 2023).
6. Reamy, J.; Lovkytė, L.; Padaiga, Z. Physician workforce planning and the transition to primary health care in former socialist countries. *Cah. Sociol. Demogr. Med.* **2005**, *45*, 307–325. [PubMed]
7. Stankūnas, M.; Sauliūnė, S.; Smith, T.; Avery, M.; Šumskas, L.; Czabanowska, K. Evaluation of Leadership Competencies of Executives in Lithuanian Public Health Institutions. *Medicina* **2012**, *48*, 581–587. [CrossRef] [PubMed]
8. World Health Organization. Global Health Workforce Statistics Database. Available online: https://www.who.int/data/gho/data/themes/topics/health-workforce (accessed on 11 November 2023).
9. Jankauskienė, D. Evaluation of the Healthcare System Reform in Lithuania in 1990–1998. Doctoral Thesis, Kaunas University of Medicine, Vilnius, Lithuania, 2000.
10. Stankūnas, M.; Lovkytė, L.; Padaiga, Z. Lietuvos gydytojų ir rezidentų ketinimų dirbti Europos Sąjungos šalyse tyrimas [The survey of Lithuanian physicians and medical residents regarding possible migration to the European Union]. *Medicina* **2004**, *40*, 68–74. [PubMed]
11. *Health of Lithuanian Population and Activities of the Healthcare Institutions, 1997–2022*; Institute of Hygiene Reports. Institute of Hygiene Health Information Centre: Vilnius, Lithuania, 1998–2023. Available online: https://sena.hi.lt/spec_info/met_ata.php (accessed on 11 November 2023).
12. Starkienė, L. Planning the number of physicians: From research to health policy decisions. *Health Policy Manag.* **2012**, *1*, 337–343.
13. OECD/European Observatory on Health Systems and Policies. *Lithuania: Country Health Profile 2023, State of Health in the EU*; OECD Publishing: Paris, France, 2023. [CrossRef]
14. Zurn, P.; Dal Poz, M.R.; Stilwell, B.; Adams, O. Imbalance in the health workforce. *Hum. Resour. Health* **2004**, *2*, 13. [CrossRef] [PubMed]
15. Government Strategic Analysis Center. Update of Healthcare Professionals' Forecasts. Available online: https://strata.gov.lt/images/tyrimai/2021-metai/20210719-sveikatos-specialistu-poreikis.pdf (accessed on 14 November 2023).
16. Haakenstad, A.; Yearwood, J.A.; Fullman, N.; Bintz, C.; Bienhoff, K.; Weaver, M.R.; Nandakumar, V.; Joffe, J.N.; LeGrand, K.E.; Knight, M.; et al. Assessment performance of the Healthcare access and quality Index, overall and by select age groups, for 204 countries and territories, 1990–2019: A systematic analysis from the Global burden of disease study 2019. *Lancet Glob. Health* **2022**, *10*, e1715–e1743. [CrossRef]
17. Statistics Lithuania State Data Agency. Available online: https://www.stat.gov.lt/ (accessed on 11 November 2023).
18. Ministry of Health of Republic of Lithuania. *Order on List of Personal Healthcare Specialties and Sub-Specialties*; Countries in the List 1999; 15: Document No. 404; Ministry of Health of Republic of Lithuania: Vilniaus, Lithuania, 1999. (In Lithuanian)
19. Ministry of Health of Republic of Lithuania. *Order On Remote Patient Consultations and Doctor Consultations by a Member of the Doctor and Family Doctor Team*; Ministry of Health of Republic of Lithuania: Vilniaus, Lithuania, 2020.
20. Government of the Republic of Lithuania. *Resolution on the Declaration of Quarantine in the Territory of the Republic of Lithuania*; Document No. 207; Government of the Republic of Lithuania: Vilnius, Lithuania, 2020.
21. Data of the Annual Reports of the Health Information Centre of the Institute of Hygiene and the Information System of the Compulsory Health Insurance SVEIDRA. Available online: http://hi.lt/php/spiv1.php?dat_file=spiv1.txt (accessed on 11 November 2023).
22. Health Statistics Portal of the Institute of Hygiene. Available online: https://stat.hi.lt/default.aspx?report_id=266 (accessed on 11 November 2023).
23. Gaižauskienė, A.; Grabauskas, V.J.; Kučinskienė, Z.A.; Lovkytė, L.; Vaitkienė, R.; Padaiga, Ž. *Development and Planning of the Number of Lithuanian Doctors in 1990–2015*; Open Lithuania Foundation: Vilnius, Lithuania, 2003.
24. World Health Organization. Global Strategy on Human Resources for Health: Workforce 2030, 2016, Geneva. Available online: https://www.who.int/news/item/02-06-2022-global-strategy-on-human-resources-for-health--workforce-2030 (accessed on 11 November 2023).
25. OECD/European Observatory on Health Systems and Policies. *Lithuania: Country Health Profile 2021, State of Health in the EU*; OECD Publishing: Paris, France, 2021. [CrossRef]
26. Lovkytė, L.; Reamy, J.; Padaiga, Z. Physicians resources in Lithuania: Change Comes Slowly. *Croat. Med. J.* **2003**, *44*, 207–213. [PubMed]