



BFF BANKING
GROUP

Financing healthcare and the quality of the system for patients

Diagnosis from Poland and
other European Countries

BFF Banking Group is the leading financial services provider to suppliers of the Healthcare and Public Administration sectors in Europe. Throughout our Group history, we have always promoted conferences and research to discuss trending topics that could affect the relationship between companies and Public Administration, to help positive debates and improvements.

This is also the scope of the Report we created with regard to the Healthcare system in Poland in comparison with selected European Countries, namely Italy, Croatia, Czech Republic, Greece, Portugal, Slovakia and Spain.

We analysed the availability of services and treatment outcomes as the most relevant variables among patients' expectations, who are in fact the final users of Healthcare services. At the same time, we looked at the Healthcare debt and financing system, being a key topic across Europe, not only for Poland.

There is a common understanding that the quality of the Healthcare system depends on the amount of the expenditure. Still, we discovered that exceptions exist, such as the tendency for Western-European Countries to opt for cheaper and more effective outpatient care rather than expensive hospital treatments.

This Report rests on our intention to promote a broader and constructive discussion on all these issues. Different voices and points of views contribute to share the best practises and seek new solutions in favour of a more efficient and innovative European Healthcare environment.

This Report has been originally written in Polish, produced with the support of third parties for BFF Banking Group in Poland. This is an English courtesy translation of the original document.

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1

Executive summary

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Executive summary

The healthcare system from the patient's perspective

Patients' perspective sees little or no improvements in healthcare system. From the patients' point of view, the most important healthcare areas are the treatments' availability and their outcomes, prevention, availability of medicines, patients' rights, and information for the patient. These are comprehensively analysed by the authors of the "European Health Consumer Index" (EHCI).

Poland still strives with a non-optimistic patient perspective, despite its efforts to undertake reforms of the healthcare system. The EHCI stood at 400 points for most of the comparison Countries in 2016, which will change to some extent in the coming years: in 2018, Portugal scored 754, Slovakia scored 722 points and took 17th place, while Poland reached 585 points and 32nd place.

[Figures 3, 4 and 5]

Waiting times and the efficacy of treatment are central to patients in Poland. Although Poles have for years been dissatisfied with the functioning of their health service (in 2018, 66% of those surveyed were still dissatisfied), the recent polls registered the best result since 2009. The EHCI highlighted the problem with waiting times for scheduled surgical procedures.

[Figure 6]

System drawbacks: assets and liabilities of hospitals

Public spending on healthcare in Poland has registered a 142% increase between 2005 and 2017. Despite the positive trend, it remains one of the lowest healthcare investments in Europe and the lowest among the Countries compared in the Report. In 2005, Poland spent US\$ 807 (about € 714) per statistical citizen, and nowadays it spends nearly US\$ 2,000 (about € 1,769), while the Countries selected for the Report spend on average US\$ 2,711 (about € 2,398), and the OECD Countries US\$ 4,003 (about € 3,541).

[Figure 16]

Debt in healthcare system remains a key issue for all the Countries compared in the Report.

Larger Countries have the largest total debt: Italy (€ 25 billion), Spain (€ 5.7 billion) and Poland (€ 2.7 billion). However, looking at per capita values, Italy has the highest debt, followed by smaller Countries such as Croatia and Portugal, while Poland and Greece have the relatively lowest amount of financial encumbrance. High debt incurred by hospitals in all the comparison Countries tends to prolong commercial payments terms.

The examples of Slovakia and Czech Republic show that **relatively low investments in healthcare do not necessarily mean inefficient systems for patients.** Slovakia and the Czech Republic, along with Portugal, are the most efficient Countries in the selected group the Report is referring. They spend US\$ 2,200–2,800 per citizen on health, but rank much higher in terms of efficiency than Spain and Italy, who spend around US\$ 3,500 per citizen.

[Figure 16]

When demand exceeds supply, are hospitals still financially sound?

Hospital treatment is being reduced in favour of outpatient care. However, in Poland, the largest costs are still generated by the hospital infrastructure that absorbs 34% of healthcare expenditure. The Czech Republic, which has a similarly developed hospital network, spends only 24%, while the OECD average is less than 26%. The occupancy rate of hospital beds is only 66,8% compared to 70% in the Czech Republic (the OECD average is almost 73%), where unnecessary hospitalisations are avoided. By taking the example of cataract surgery procedures, less than 3% requires hospitalisation vs. 65% in Poland. Italy is also more effective: in Poland, almost three times fewer cataract removal procedures are performed than in Italy, while the waiting time is 17 times longer.

[Figures 28, 30 and 31]

There are not enough doctors and nurses in Poland. And those who are at hand, work more hours and for lower wages than their foreign colleagues. Among the Countries selected for this Report, Poland has the lowest percentage of doctors (2.4) and one of the lowest percentage of nurses (5.1): the OECD average stands at 3.4 and 9, respectively. At the same time, doctors in Poland give more consultations than the average in developed Countries (3,100 vs. 2,200 per year), and nurses have more patients under their care.

[Figures 32 and 33]

Emigration contributes to the widening of the deficit of doctors and nurses in Poland. The Country is not attractive for foreign nurses: between 2010 and 2016, the number of nurses practising in Poland decreased by almost 2.5%. Most of them work in Germany (13,000), the UK (3,000) and Italy (2,500), and migration losses are not balanced out by immigration. In recent years, Italy, Spain and Portugal have registered a significant increase in the number of nurses despite emigration, while in Poland, Slovakia and Greece the number of nurses is decreasing, and emigration causing additional losses. Similarly, increasing numbers of doctors are leaving Poland, but the number of medics in the Country is growing: from 2010 to 2015 there was a 28% increase in emigration (smaller than after Poland's adhesion to the EU), and 868 physicians left Poland in 2015 to the USA, Germany and Sweden. However, from 2010 to 2016 there was a 10% increase in the number of medics in the Country, fostered by an increase in immigration between 2014 and 2017.

[Figures 38, 41, 44 and 46]

Which trends will affect the healthcare system in the coming future?

Healthcare will need increasing financial resources as the number of people aged 65+ grows, since their treatment costs more than those of working age. By 2060, in Poland the percentage of people aged 65+ in society will double to 34%. This is the increase among the selected Countries. At the same time, the number of people of working age will fall to 52%. Due to demographic changes to maintain the current level of services available funding should increase by PLN 500 million (about € 132 million) each year.

[Figures 47 and 48]

The biggest threat to the availability of sister-level nurses is demography and trends in education.

By 2033, there may be a 32% drop in the number of nurses in Portugal, while Italians and Czechs may increase. As a result of reaching retirement age, almost 10,7% of nurses may leave the profession at any time, and another 28% will reach pensionable age within 5 years at the latest. Only Portugal (32% drop) shows negative results, while Italy and the Czech Republic increases in nursing staff of 28% and 30%, respectively. Concurrently, as a result of reaching retirement age, 22,6% of qualified could leave the Polish market at any time, and another 21% will reach pensionable age within 10 years at the latest. This demographic challenge is common to the other selected Countries, but a similar demographic situation is only seen in Italy, where more than half of the are over 55 years old (in Poland this is 44%).

[Figures 55, 58 and 59]

New medical technologies increase healthcare investments in developed Countries, but also contribute to the reduction of some costs and improvement of the quality of treatment. In the next few years, dilemmas related to innovative treatments will increasingly affect Poland. It is estimated that in the US new medical technologies account for 40–50% of the increase in healthcare costs per year; some studies claim it stands closer to 75%. Conversely, the results of pilot studies on innovative treatment methods in Poland show that, in a three-year perspective, telemonitoring enabled a 40–50% reduction in the cost of treatment for cardiology patients.

Among the new medical technologies, eHealth arouses great interest: according to WHO data, Poland is following world trends with Italy standing out in terms of scope and advancement of services. In contrast, the Czech Republic, Portugal, Spain and Greece are still working to develop their own strategy, and they are already adapting legislation to eHealth services.

Executive summary

Table 1. The most important healthcare information in the comparison Countries

	GDP per capita (US\$, PPP, 2017)	Main source of financing healthcare	Position in the EHCI 2017 (out of 35 Countries)	Debt	Health expenditure per inhabitant per capita (US\$, PPP, 2017)	Percentage of GDP allocated for health (2017)	Share of private expenditure on health as a percentage of GDP (2017)	Life expectancy (years)	Number of physicians per 1,000 residents (2015)	Number of nurses per 1,000 residents (2016)	Gross annual earnings of physicians (US\$, PPP, 2016)	Gross annual earnings of nurses (US\$, PPP, 2016)	Percentage of physicians aged 55+ (2016)	Percentage of inhabitants aged 65+ now and in 2060
Poland	29,000 (€ 25,656)	Health insurance (9%)	32	€ 2.7 billion (2017)	1,955 (€ 1,730)	6.70%	2.10%	78	2.42	5.16	37,421 (€ 33,106)	29,323 (€ 25,942)	43.9	17.2 / 34.1
Czech Republic	36,300 (€ 32,115)	Health insurance (13.5%)	14	€ 0.5 billion (2017)	2,630 (€ 2,327)	7.10%	1.30%	79.1	3.69	8.07	60,166 (€ 53,229)	28,092 (€ 24,853)	33 (2013)	19.3 / 30.4
Greece	27,600 (€ 24,418)	Taxes / Health insurance (7.1%)	29	€ 0.6 billion (2018)	2,325 (€ 2,057)	8.40%	3.20%	81.5	n.a.	3.25	68,587 (€ 60,679)	22,842 (€ 20,208)	n.a.	21.9 / 35.5
Italy	39,400 (€ 34,857)	Taxes	20	€ 25 billion (2014)	3,542 (€ 3,134)	8.90%	2.30%	83.3	3.95	5.57	99,273 (€ 87,827)	42,402 (€ 37,513)	53.1	22.5 / 33.4
Portugal	31,600 (€ 27,957)	Taxes	13	€ 1.9 billion (2018)	2,888 (€ 2,555)	9%	3%	81.2	4.6	6.3	72,320 (€ 63,982)	29,940 (€ 26,488)	n.a.	21.5 / 34.9
Slovakia	31,600 (€ 27,957)	Health insurance (14%)	17	€ 0.6 billion (2016)	2,269 (€ 2,007)	7.10%	1.40%	77.3	3.15	5.7	61,223 (€ 54,164)	26,091 (€ 23,083)	35.9	15.5 / 32
Spain	37,900 (€ 33,530)	Taxes	19	€ 5.7 billion (2017)	3,371 (€ 2,982)	8.80%	2.60%	83.4	3.82	5.51	97,905 (€ 86,617)	53,546 (€ 47,372)	33.2	19.4 / 29.5



2

The healthcare system from the patient's perspective

2

The healthcare system from the patient's perspective

Healthcare System: Rankings and historical performance

Patients' opinions

Access, treatments and prevention

Assessment of general condition of healthcare by Experts of the compared Countries

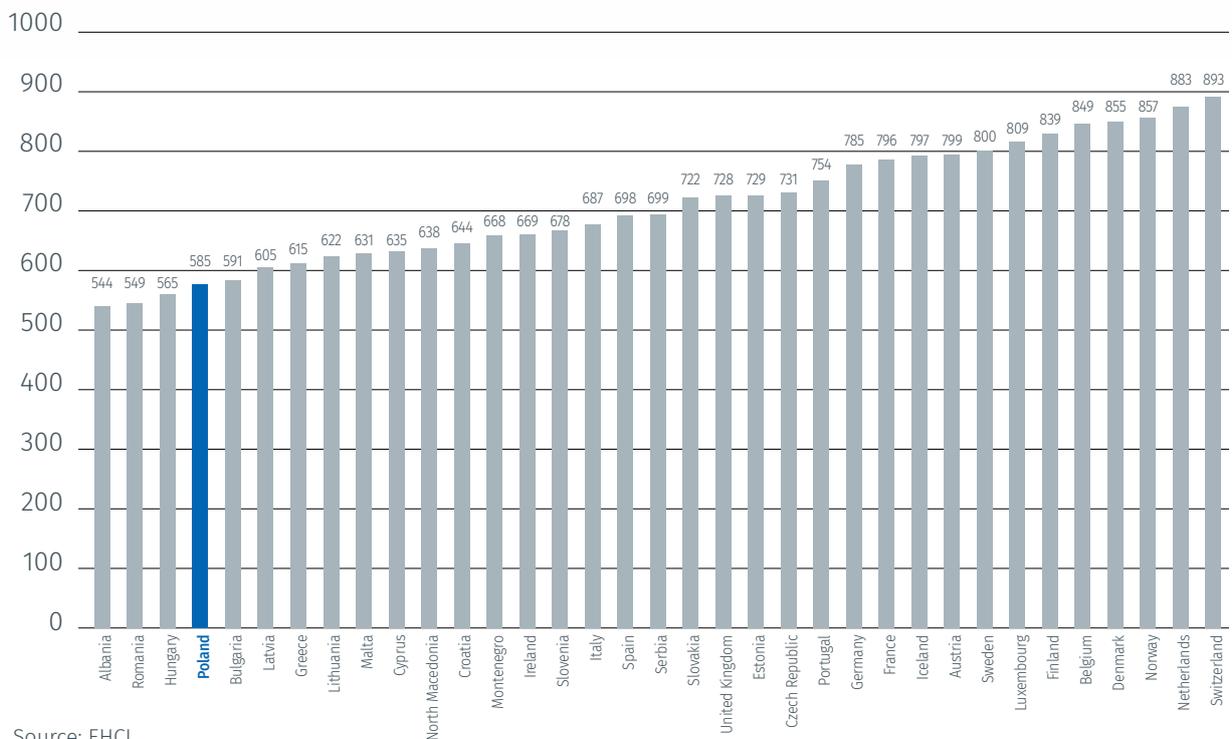
2.1 Healthcare System: Rankings and historical performance

a) Rank in the Euro Health Consumer Index (EHCI)

The EHCI analyses indicators and elements of a Country’s healthcare system, the functioning of which translates into the level of patient satisfaction with these services. The report assesses healthcare systems on the basis of six main categories: patients’ rights and information intended for the patient; availability (the waiting time for treatment); treatment results; scope and reach of services; prevention; and availability of medicines. The EHCI, published regularly since 2006 by the Swedish think-tank Health Consumer Powerhouse, was identified in 2013 by the current EU Health Commissioner Vytenis Andriukaitis as one of the most reliable reports of its kind.

According to the EHCI, the Polish healthcare system performs low in Europe. In 2018, Poland ranked 32nd out of 35 Countries surveyed, earning 585 points out the potential 1,000.¹

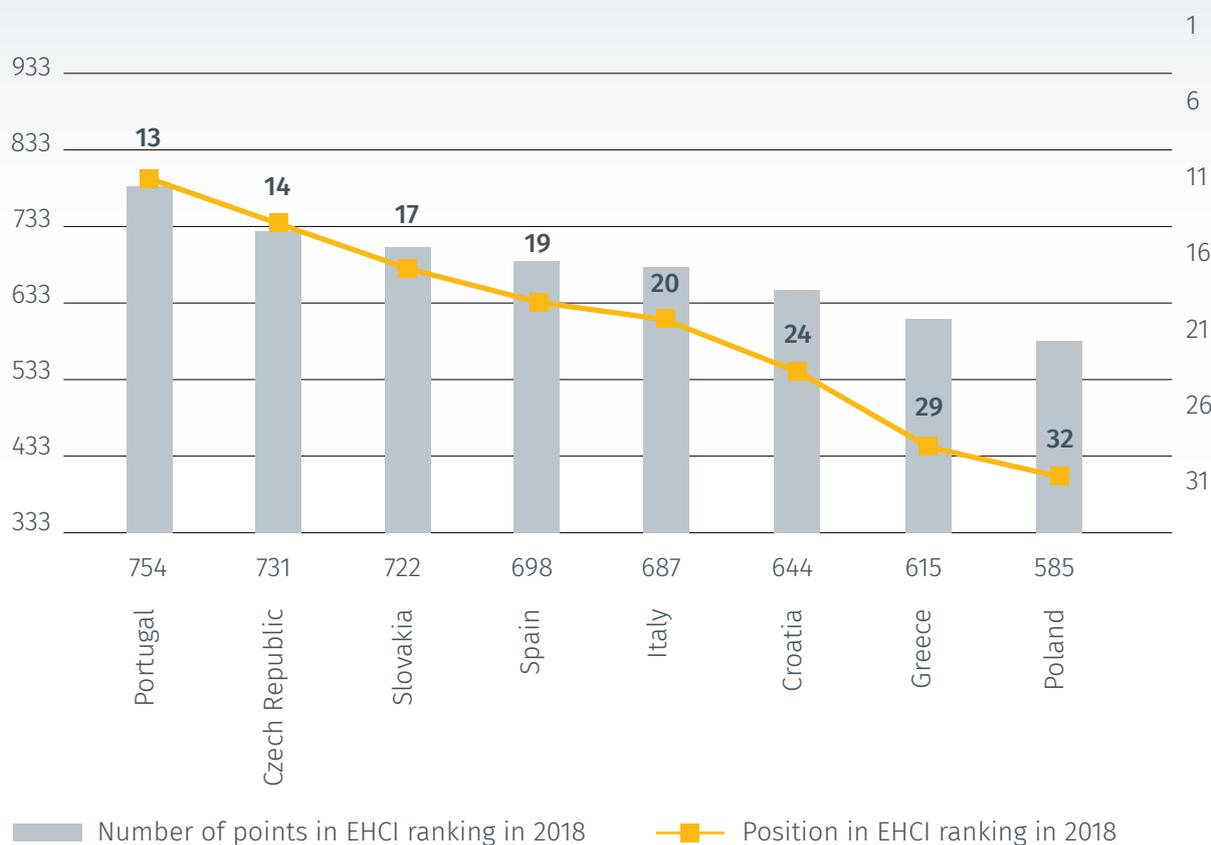
Figure 1. EHCI 2018 Results



Source: EHCI

¹ Arne Björnberg, Euro Health Consumer Index 2018. Report.

Figure 2. Poland and the comparison Countries in the EHCI



Source: EHCI

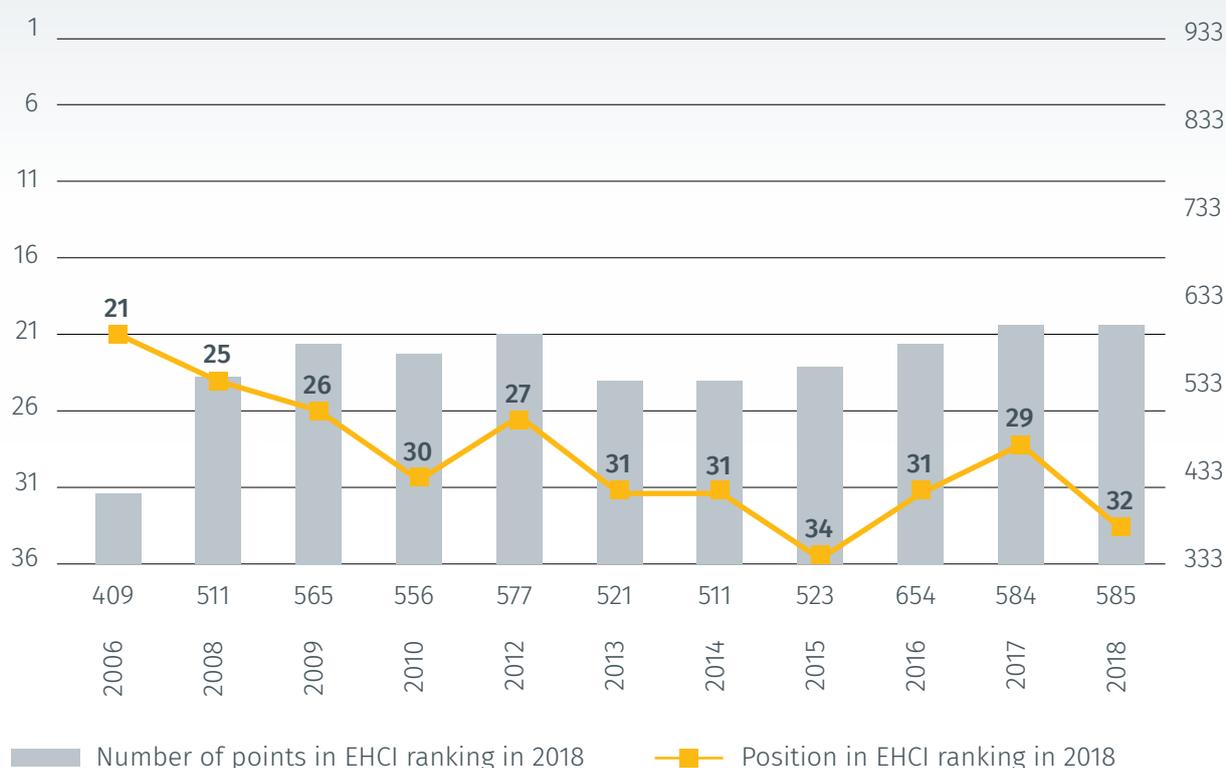
"In several regions of Italy there are pilot projects on an interdisciplinary approach to patient treatment. They consist of integrated procedures, including early diagnosis, hospitalisation and convalescence."

Prof. **Elío Borgonovi** (Italy), Bocconi University, Milan

b) Historical performance in the EHCI (2006–2018)

Taking into account the 12 years of analysis by the EHCI, it can be concluded that there is a general stagnation, and the public health service in Poland has not significantly deteriorated nor improved. Over a period of 10 years, the scores (511 in 2008 vs. 585 in 2018) and the positions in the rankings are similar. The position in the recent ranking (21 in 2006 vs. 32 in 2018) is mainly due to the smaller number of Countries surveyed in the early years.

Figure 3. Poland in the EHCI: historical results



Source: EHCI²

584 points obtained in 2017 ranked Poland in 29th place. In the current ranking, a score better by 1 point secured the Country only 32nd position, but it was the highest score in the history of this analysis. A similar result was achieved only in 2012 with 577 points, reaching 27th place in the ranking. From 2012 to 2015, the Polish health service fell down in the EHCI ranking to 34th place, similar to 2009–2010. However, since 2015, scoring has shown an upward trend.

The position of a Country in the ranking is determined not only with the number of points obtained, but also on the performance of other Countries. The stagnation of the Polish health service is especially visible when compared to the Countries that have made the greatest and fastest progress in recent years: Slovakia, Portugal, the Czech Republic and Croatia. In 2006, all these Countries were at around 400 points, with Slovakia ranking lower at 369 points. These proportions quickly changed, and by 2008 Slovakia was already 45 points ahead of Poland, while in 2018 it was 137 points ahead.

A relevant growth rate was also recorded by the Portuguese healthcare system: in 2008 it scored only 507 points (four points less than Poland), to reach 754 points in 2018 and 13th place in the ranking, ahead of Poland by 169 points.

² There was no survey in 2007 and 2011. Data from 2010 comes from the Euro-Canada Health Consumer Index.

Figure 4. Poland and the comparison Countries with the highest increase in EHCI scores

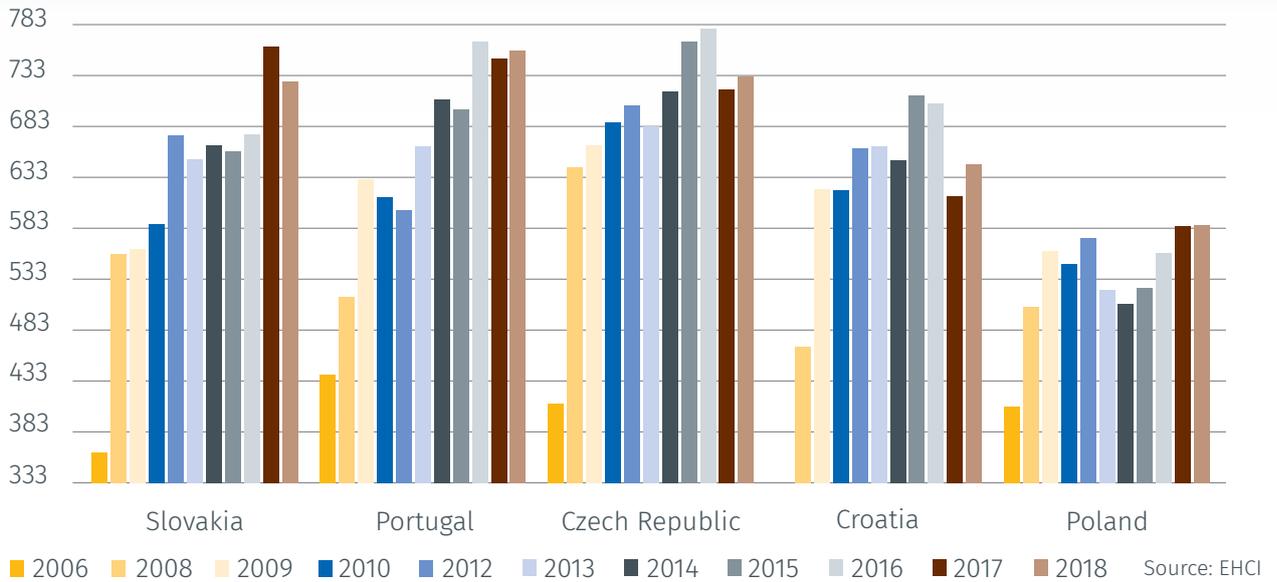
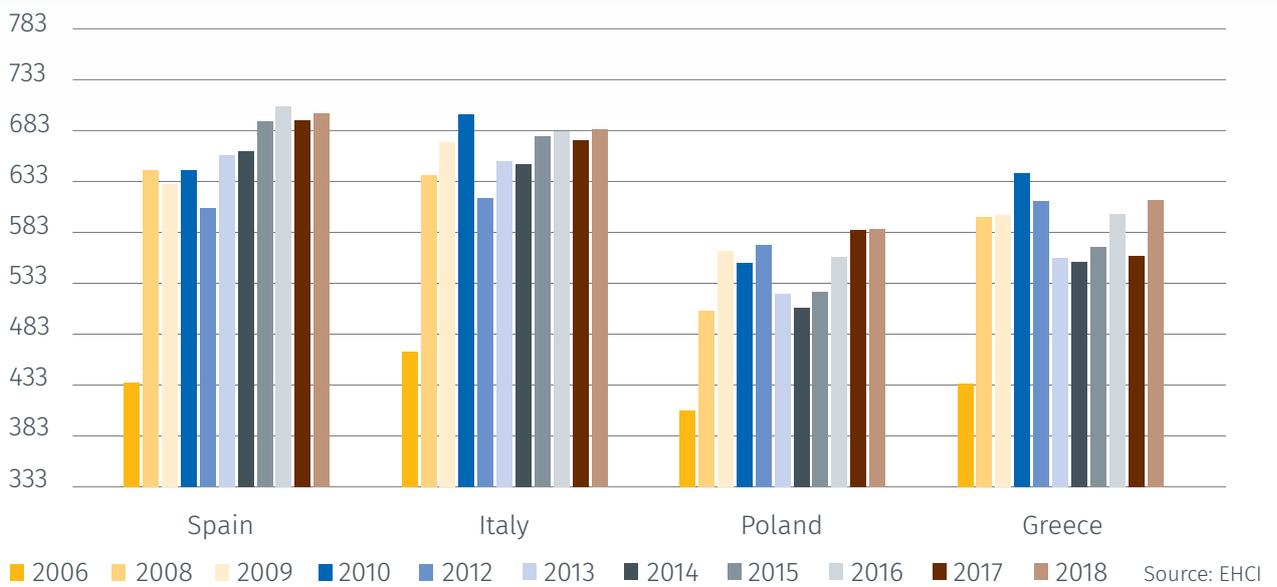


Figure 5. Poland and the comparison Countries with the lowest increase in EHCI scores



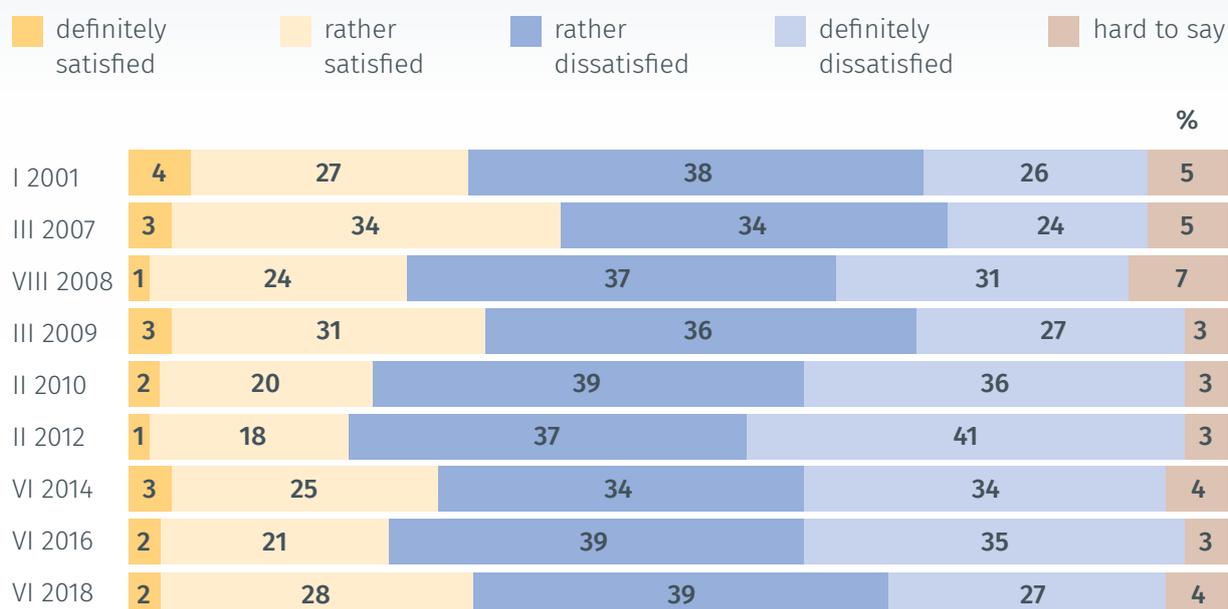
The situation in Spain, Italy and Greece, like in Poland, has not improved significantly in the last 10 years. However, the scores of these three Countries are higher than that of Poland. What is more, the gap between Poland and these three Countries is growing. In 2006 the difference amounted to 25, 62 and 25 points, respectively, but increased in 113, 102 and 30 points by 2018.

2.2 Patients' opinions

The position of the Polish healthcare service in the EHCI is reflected in patients' feedback. In the latest CBOS (Center for Public Opinion Research) survey, 30% of respondents were satisfied with the health service, which represents an increase of 7 percentage points compared to 2016. 66% were still dissatisfied with the healthcare system, but this figure has fallen by 8 percentage points since 2016. It is worth noting that the number of people strongly dissatisfied has decreased from 35% in 2016 to 27% in 2018.³

Figure 6. Satisfaction with healthcare in Poland

Are you generally satisfied with how healthcare currently operates in our Country?



Source: CBOS

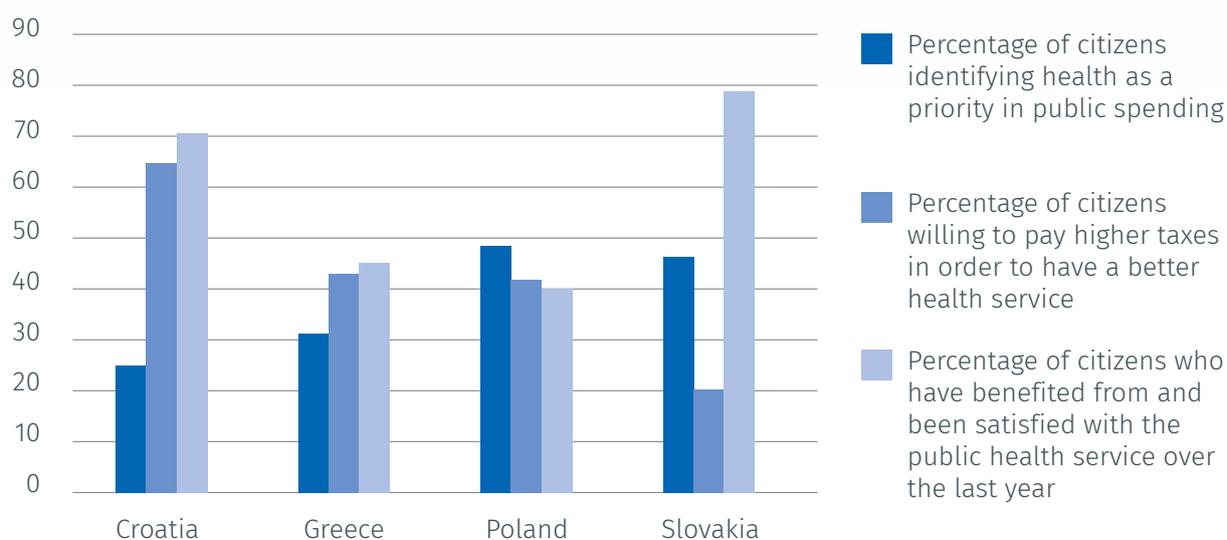
³ CBOS, Opinions on the functioning of healthcare. Survey Report. July 2018.

The healthcare system from the patient's perspective

Other data on health service satisfaction are provided by the European Bank for Reconstruction and Development.⁴ According to these data, 40% of people who used public healthcare services in Poland in the last year were satisfied. In Slovakia the figure was 79%, in Italy and Portugal it was around 90%, and in Spain it was 86%.⁵

Poland and Slovakia are at the forefront when it comes to identifying health services as a priority for public spending. However, only 21% of Slovaks and 41% of Poles would pay higher taxes to finance improvements in the healthcare sector. In Greece and Croatia this rate is higher - 43% and 65%, respectively - despite the fact that the health service is generally better rated there and is seen as a priority in public spending by 31% and 25% of respondents, respectively.

Figure 7. Satisfaction with the public health service: Poland and comparison Countries



Source: European Bank for Reconstruction and Development, 2016

⁴ Life in Transition. A decade of measuring transition, European Bank for Reconstruction and Development (2016).

⁵ On the basis of BFF Banking Group data from 2015 and WHO data from 2016. Cf. also results of the European Commission Report, Patients safety and quality of care (2014).

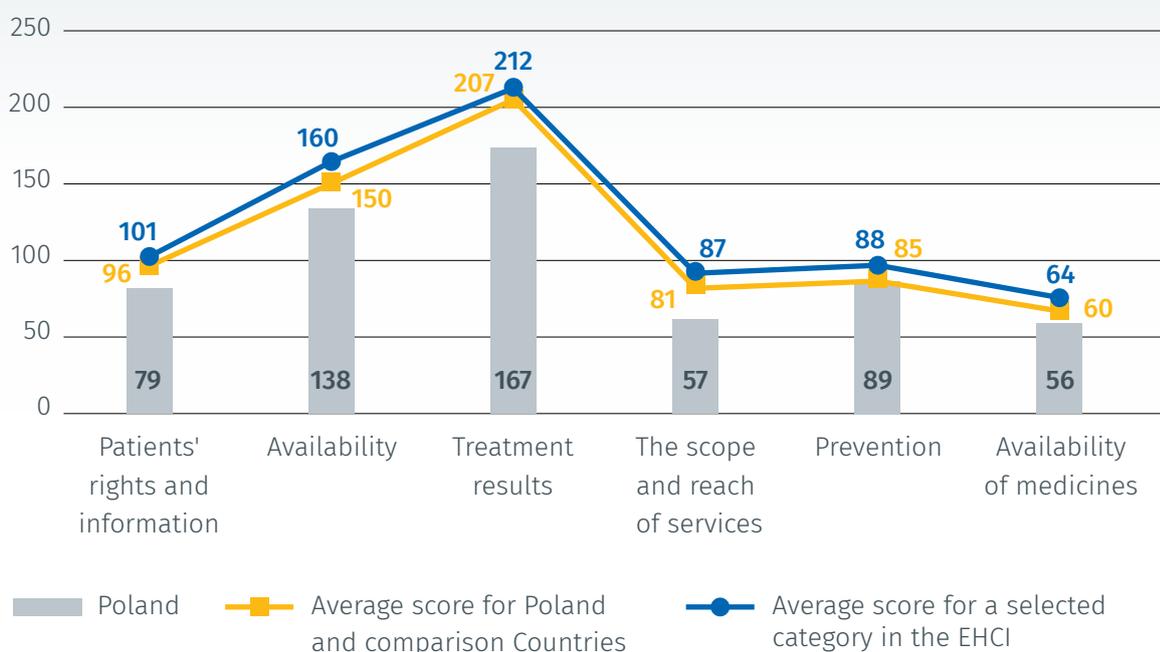
2.3 Access, treatments and prevention

According to EHCI 2018, the Polish healthcare service works well in terms of prevention. Prevention is the category in the ranking in which the Polish health service performed better than the European average and the compared Countries, gaining 89 points out of a possible 125. In the other categories, the results of the Polish health service were lower than the comparison Countries and European Countries.

A score relatively closest to the average values was noted by Poland in regards to the availability of pharmaceuticals, where it achieved 56 out of 100 points. In the remaining categories, the scores of the Polish health service were decidedly below the two average indicators taken into account.

Patients' rights and patient information in Poland were evaluated at 79 points out of 125, which was one of the lowest results in the entire ranking. Availability (i.e. the waiting time for treatment) ranked 138 points out of a possible 225. For treatment outcomes, Poland received 167 points out of a possible 300, placing Poland at the bottom of the list. The scope and reach of services in Poland were assessed at only 57 out of possible 125 points, below the average.

Figure 8. Average score in the main categories of the EHCI: Poland and the comparison Countries



Source: own calculations on the basis of EHCI 2018

a) Access to healthcare

Poland clearly stands out from the compared Countries, as well as from the average for all EU Countries, in the two most important categories of the EHCI: availability of services and treatment outcomes.⁶ These have a fundamental impact on the condition of healthcare and the level of patient satisfaction.

“Low public spending on the healthcare sector in Poland results in underinvestment in healthcare institutions and limitation of services. This is the reason for the queues, in particular for the specialist treatment centres.”

Dr. **Jerzy Gryglewicz** (Poland), Lazarski University

The “accessibility of services” comprises 6 subcategories. From among them, only the access to a family doctor in Poland was assessed as good, which earned Poland the maximum number of points.

The next three subcategories, namely direct access to a specialist without referral, waiting time for CT scan and child psychiatry were deemed average. The worst results were registered in the waiting time for planned surgical procedures, anti-cancer therapy.⁷ The 1-point score means that in over 50% of cases waiting time for, for instance, hip joint replacement, is over 90 days and for cancer therapy – over 21 days.

“The shortage of medical staff and a small number of medical graduates, an improperly distributed burden of financing the services, and a mismatch between the offered services and real needs affects negatively the access to services, including diagnostics, which are of particular importance.”

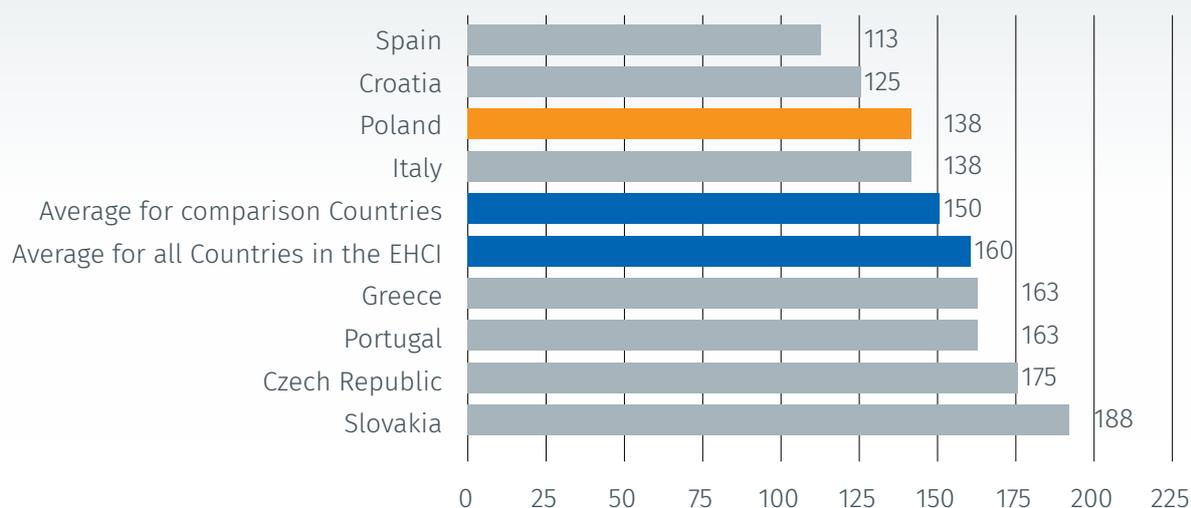
Prof. **Maria Węgrzyn** (Poland), Wrocław University of Economics

⁶ These two categories have the highest “weighting factor” in the EHCI listing, worth a total of 525 points out of the total 1,000. See Arne Björnberg, Euro Health Consumer Index 2018. Report p. 44

⁷ The average waiting time for services in April and May 2018 was as much as 3.7 months and since mid-2017 has grown by 6 months. See: Watch Healthcare, Raport na temat zmian w dostępności do gwarantowanych świadczeń zdrowotnych w Polsce. [Report on changes in accessibility to guaranteed health benefits in Poland], Warsaw, June 2018.

Among the compared Countries, Slovakia and the Czech Republic offer by far the best access to healthcare.

Figure 9. Availability of treatment: Poland and the comparison Countries



Source: EHCI 2018

For the purpose of this Report, Experts from the compared Countries assessed the impact of waiting times to see specialists on the functioning of health services in their Countries. The conclusion was that waiting times cause the biggest impact in Poland and the smallest one in Greece.

Table 2. What impact do long wait periods for treatment have on the overall healthcare situation? Experts' responses

Impact	Italy	Portugal	Poland	Greece
Large	✓		✓	
Medium	✓	✓		✓
Small				✓
None				

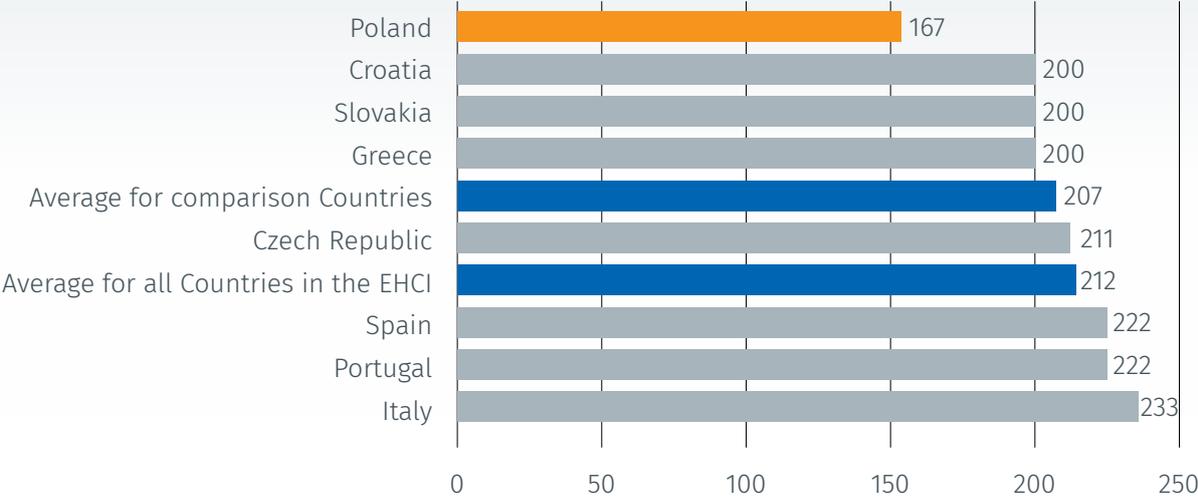
b) Treatment results

In the “treatment results” category, Poland performed better, being worse only in cancer treatment, with less than 60% of patients overcoming the disease. Poland copes better with heart attacks: less than 6% of patients with heart failure die in Poland within 30 days of their arrival in hospital.

Other indicators, such as mortality of patients with stroke, mortality among children, or people under 65 years of age, and Staphylococcus aureus infections, stood at an average level.

In terms of treatment results among the compared Countries, those from Southern Europe lead the way. The Czech Republic is the only Central and Eastern Europe Country which scored similarly to the European average.

Figure 10. Treatment results: Poland and comparison Countries



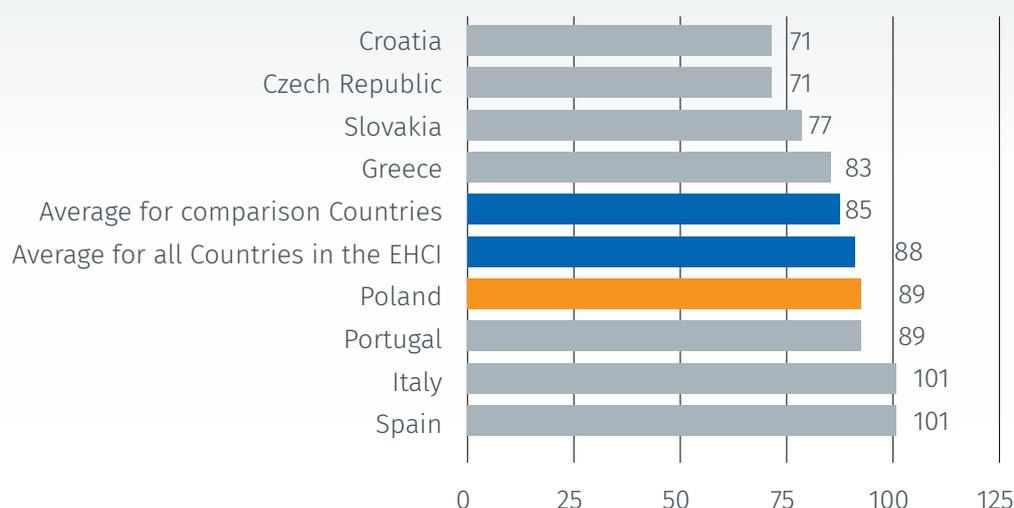
Source: EHCI 2018

c) Prevention

In comparison with other Countries, Poland achieved the best result in terms of prevention. This allowed it to slightly exceed the average in this category for all European Countries. The highest marks were given to our childhood vaccination programmes (covering at least 95% of children), the physical activity of children and adolescents (the number of PE hours in schools), and HPV prophylaxis (special free-of-charge vaccination programmes for teenagers). Alcohol and cigarette abuse remain at an average level.

An equally negative score was given for combating hypertension. One point means that in Poland more than 30% of people over 18 years of age have blood pressure higher than 140\90. In terms of prophylaxis, the ranking is again led by three Countries from Southern Europe. Spain and Italy do not have weaknesses in their disease-prevention programmes. Of the remaining Countries, only Poland was above the EHCI average. The Czech Republic and Slovakia were surprisingly weak in this category. Croatia was placed at the bottom of the ranking, with mostly negative scores in particular subcategories.

Figure 11. Prevention: Poland and the comparison Countries

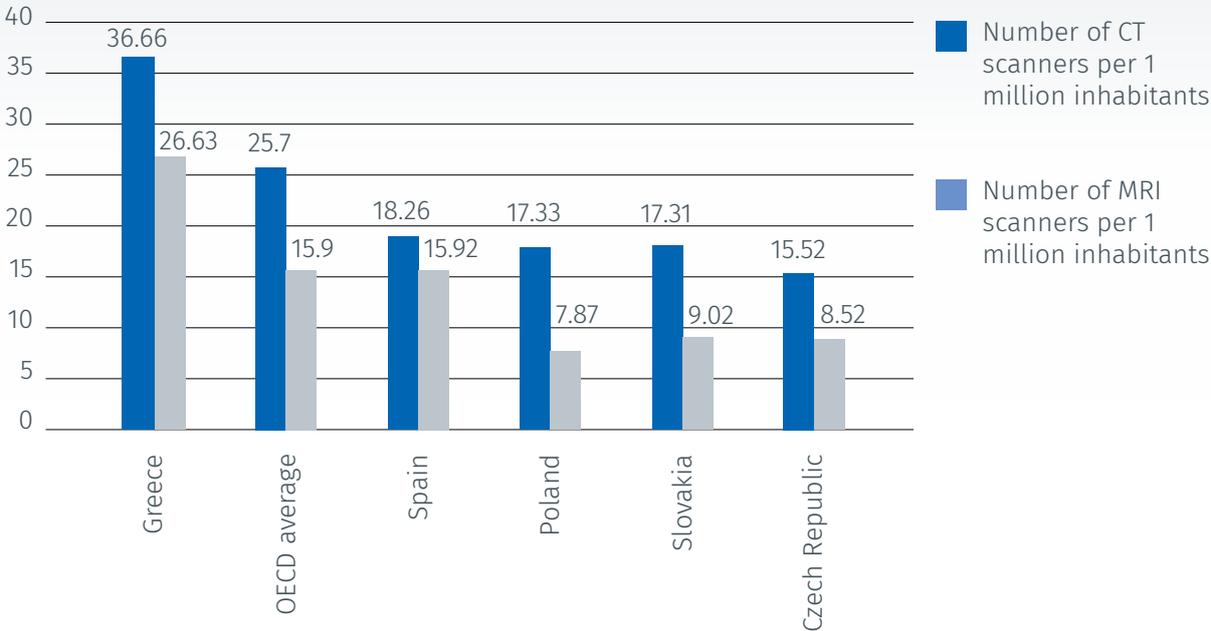


Source: EHCI 2018

d) Diagnostics

Among the compared Countries, Poland, the Czech Republic and Slovakia, which joined the EU in 2004, have significantly less modern diagnostic equipment than other European Countries. They are also far from the average OECD values. Particularly striking is the disproportion in terms of the number of MRI scanners.

Figure 12. Availability of modern diagnostic equipment in Poland and the comparison Countries, 2016



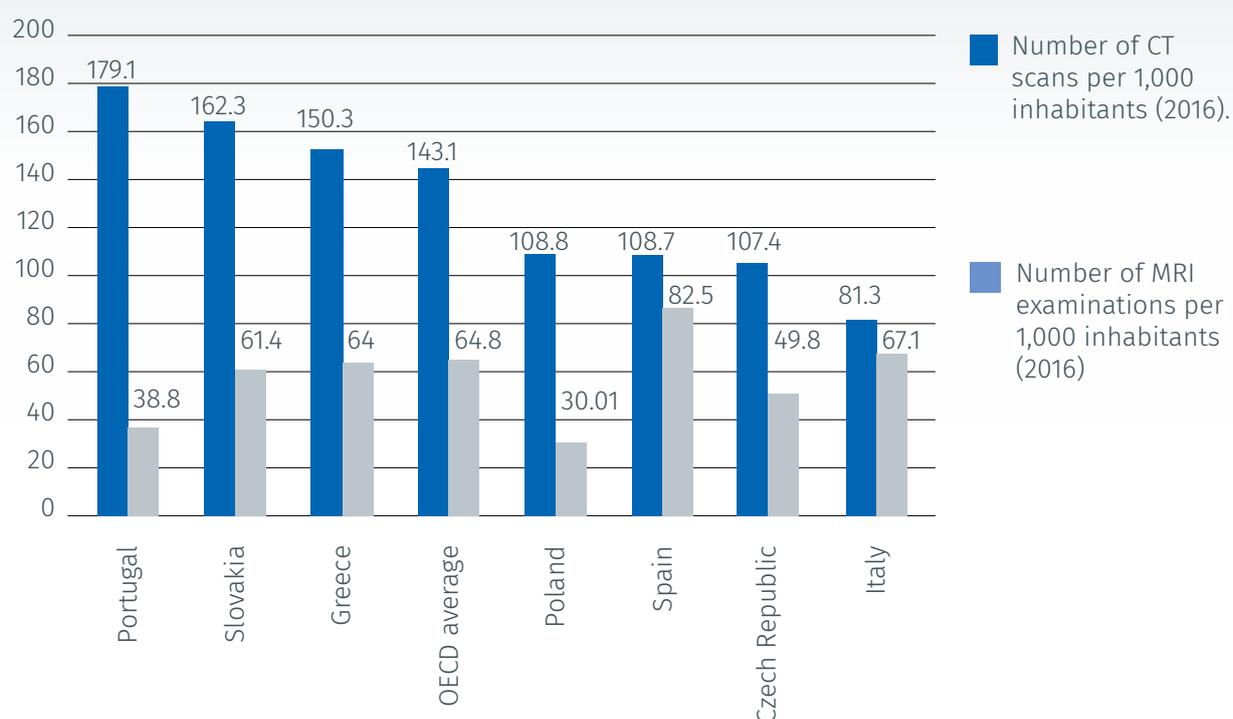
Source: OECD⁸

However, the number of devices does not directly determine the number of diagnostic tests performed. Italy has more modern equipment than the OECD Countries on average, but performs far fewer tests with it than the OECD average, especially with CT scanners. At the other end is Slovakia, where there are few devices but the number of tests definitely exceeds or equals the average values for OECD Countries.

In comparison with other Countries, Poland uses the available equipment quite effectively, with more CT scans carried out than in Italy and Spain, despite the fact that these Countries have more devices at their disposal. Meanwhile, Poland is by far the worst among the compared Countries for using MRI, and almost the worst among the OECD Countries surveyed.

⁸ Italy and Portugal are not included into the chart due to data referring respectively to 2015 and 2008.

Figure 13. Use of modern diagnostic equipment in Poland and the comparison Countries



Source: OECD⁹

2.4 Assessment of general condition of healthcare by Experts of the compared Countries

For the purpose of this Report, Experts from compared Countries assessed the overall status of healthcare services in their Countries.

Table 3. General healthcare condition of the comparison Countries

Assessment	Italy	Portugal	Poland	Greece
Very good				
Good	✓	✓		
Average		✓	✓	✓
Bad			✓	
Very bad				

⁹ The data for Portugal include only hospital equipment.

The healthcare system from the patient's perspective

The Experts also identified the best and worst performing healthcare areas in their Countries. Among the advantages of health systems, the Experts often listed universality. On the other hand, the weaknesses they identified included a shortage of medical staff and qualified managers, as well as low outlays in the service.

GREECE

Best performing healthcare areas	E-Prescription system
	Data analysis
	Access to healthcare for the lowest earners and the poorest
	No restrictions on access to the most expensive therapies
	Access to hospital care for immigrants and refugees
Major healthcare pains	Reduced public and private expenditure due to the economic situation of the Country
	Difficulties in organising the work of public hospitals due to staff shortages and financial constraints
	Public procurement mechanisms in hospitals
	Poor use of primary care

ITALY

Best performing healthcare areas

Universality of the system

Integrated treatment system

Specialist medical personnel

High level of hospital treatment

Technological advances, especially in the northern regions

Major healthcare pains

Development of chronic diseases - lack of systemic approach to their treatment and competence gaps of medical personnel in this respect

Geographical diversity (north vs. south) in treatment standards

Lack of investment in prevention

Staff shortages among nurses and physicians, ageing of the professional population

POLAND

Best performing healthcare areas

Emergency medical services

Interventional and invasive cardiology

Neonatology

Primary care

Highly specialised procedures

Provision of high-level services

Information on providers and the scope of services provided

Services provided in private establishments

Major healthcare pains

Shortage of medical personnel and an ageing professional population

Low outlays

Most of the funds are allocated to hospital treatment

Lack of a coherent vision for the development of the healthcare system

Limited availability of services

Too little expenditure on prevention and promotion of pro-health behaviour

Lack of social campaigns on the need to raise the health insurance premium

Politicisation of the healthcare system

Low managerial competence of the management staff

No possibility of co-financing of services

Few coordinated healthcare programmes

PORTUGAL

Best performing healthcare areas

Availability and universality of the system

High-level key health indicators

Health programmes that provide full and free services to cancer, rare and chronic diseases

Major healthcare pains

Underinvestment and tax-funded system instead of contributions-funded

Low managerial competence of the management staff

“Hospital-centric” system, insufficient use of outpatient care

3

System drawbacks: assets
and liabilities of hospitals

3

System drawbacks: assets and liabilities of hospitals

Poles' opinion on healthcare situation

Healthcare expenditure per capita

Public and private spending on healthcare

Co-payment system for services

Healthcare: the debt picture

Plans to increase public spending on healthcare in Poland

The effectiveness of healthcare

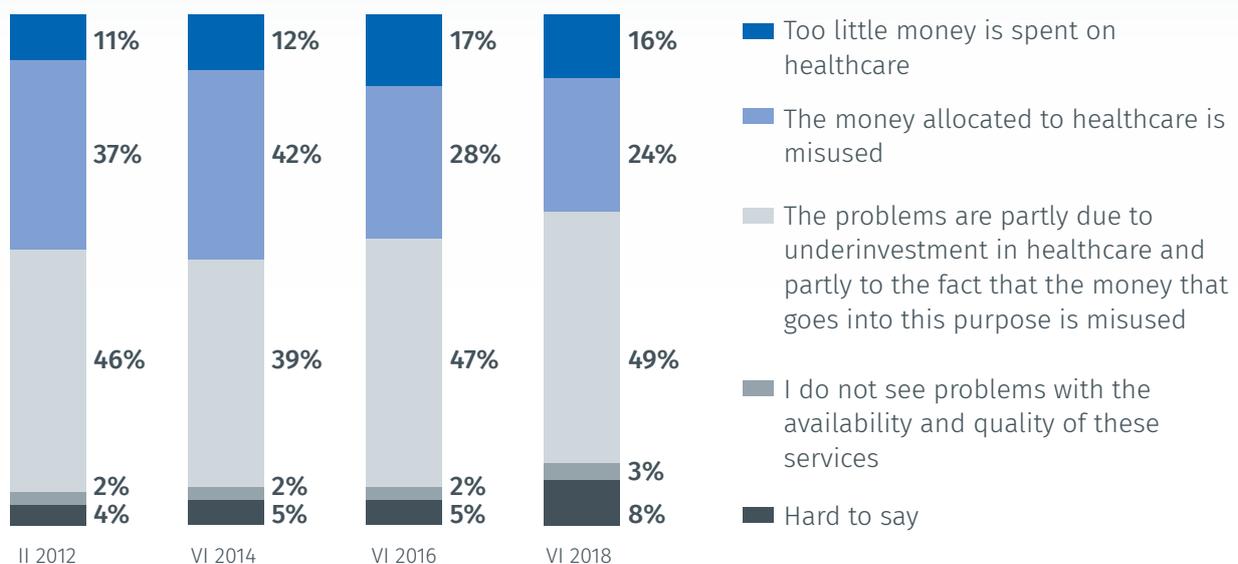
Experts on the financial condition and debt in the healthcare service

3.1 Poles' opinion on healthcare situation

In order to gather Poles' opinions on healthcare, the CBOS asked about the status of the healthcare service. 16% of respondents stated that the problems result from underfunding and 49% believed that the actual level of healthcare service is partly due to underfunding and partly to ineffective spending. Despite these data, in the last six years, the number of respondents that blame the healthcare situation on poor management and organisation has decreased, Poles have instead pointed out on the underfunding of healthcare.

Figure 14. Poles' opinion on the causes of the poor healthcare situation

Some people complain about problems with the availability and quality of public health insurance services. Do you think that the problems are due to the fact that:



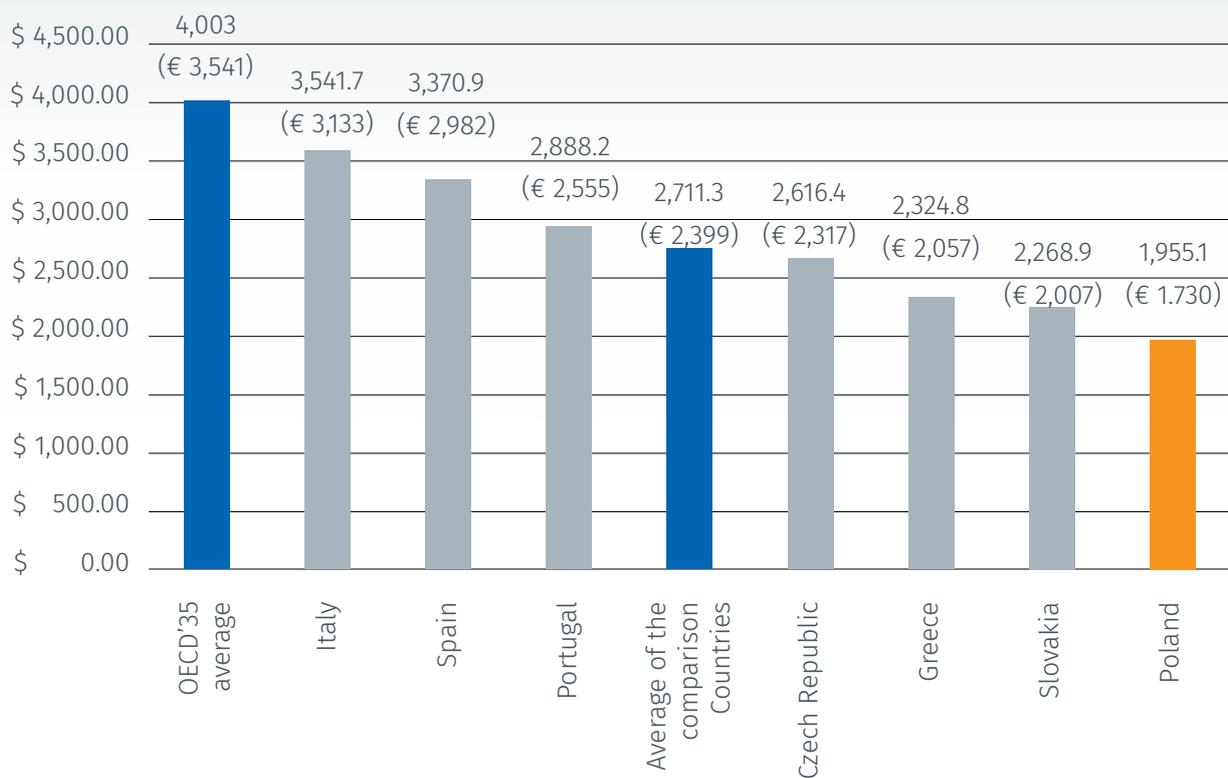
Source: CBOS

3.2 Healthcare expenditure per capita

a) Current situation

In 2017, the Polish state allocated almost US\$ 2,000 for healthcare of each citizen (taking PPP into account), which is the lowest amount registered in the compared Countries¹⁰ and one of the lowest among all OECD Countries. In Europe, only Latvia spends less on treatment. In 2016, the average for the compared Countries was US\$ 2,711 and for the OECD it was US\$ 4,003.¹¹

Figure 15. Per capita expenditure on healthcare according to PPP: Poland and the comparison Countries



Source: OCED 2017

For the purpose of this Report, Experts from the compared Countries assessed the impact of low levels of funding on healthcare in their Countries. The low level of financing is most evident in Greece and less in Portugal.

¹⁰ OECD data do not include Croatia as it is not a member of the organisation.

¹¹ Health at a Glance 2017, OECD, p. 133.

Table 4. What impact does the low level of healthcare funding have on the overall healthcare situation in my Country? Experts' responses

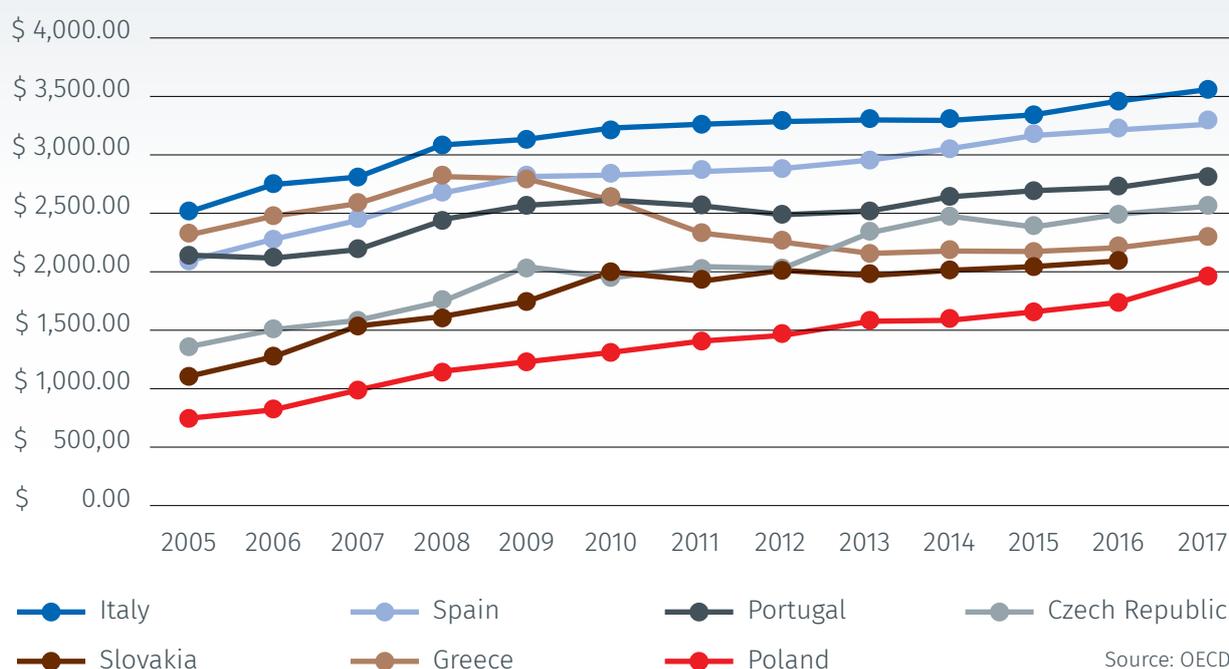
Assessment	Italy	Portugal	Poland	Greece
Large	✓		✓	✓
Medium	✓	✓	✓	
Small				
None				

b) Historical results

Looking at the amount of expenditure in 2005 and 2017, Poland recorded a spectacular leap and total spending per capita increased by 142%. Only Slovakia recorded a comparable increase of 107%. In the remaining compared Countries, the outlays did not grow so dynamically, but still grew by several dozen percentage points. Despite such a big jump, Poland is still ranked at the lower end of the compared Countries, and unfortunately has still not succeeded in levelling out the initial difference. In 2005, all Countries spent much more on healthcare than Poland.

Greece remains a separate case, ranking at the top of the compared Countries until 2009. As a consequence of the economic crisis, spending on healthcare per capita has fallen to almost 2005 levels. Nevertheless, spending levels are still higher in Greece than in Poland.

Figure 16. Dynamics of healthcare expenditures per capita in Poland and in the comparison Countries

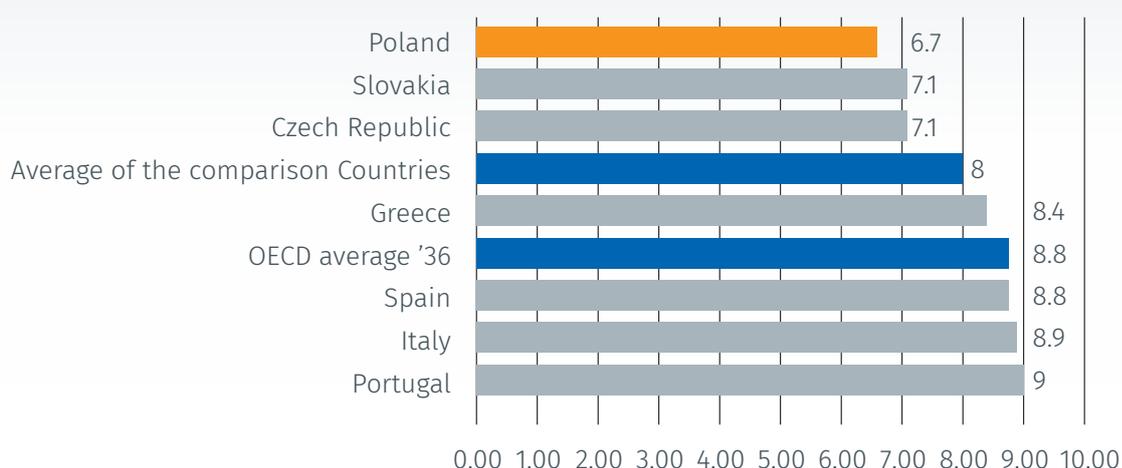


3.3 Public and private spending on healthcare

a) Public and private expenditure

In relation to GDP, Poland spends less on healthcare among the compared Countries. This is particularly evident in comparison with the Countries of Southern Europe, which spend about 2% more of GDP on healthcare than Poland does. The gap is much smaller between Poland and the Czech Republic and Slovakia – which spend around 0.5% more of GDP than Poland does.

Figure 17. Percentage of GDP allocated to healthcare: Poland and the comparison Countries



Source: OECD 2017

b) Public expenditure

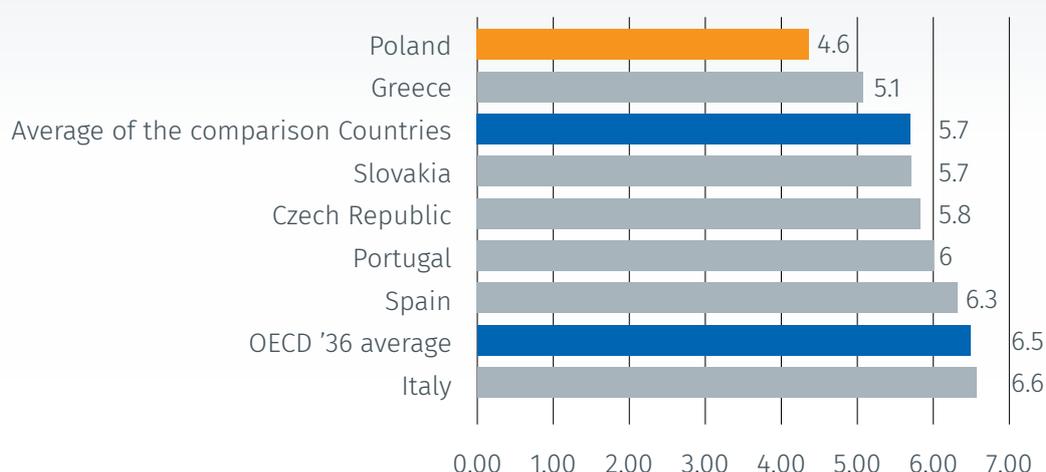
The structure of public and private spending on healthcare clearly differentiates the compared Countries, when analysing health expenditure in more detail.

“The healthcare system in Poland counts about 11% of the Country’s citizens work. Any reinforcement of this system stimulates the development of the national economy.”

Dr **Piotr Warczyński** (Poland), Physician, Manager, Academic Lecturer

Regarding public expenditure, Poland is the Country that spends less on healthcare at only 4.6% of GDP, while Italy, Spain and Portugal allocate at least 6% of GDP for healthcare. A comparison of public expenditure shows that Poland is also loosing ground to its neighbours: the Czech Republic and Slovakia are already allocating more than 1% extra of GDP. Poland is getting closer to Greece, which however suffers the consequences of economic crisis.

Figure 18. Percentage of GDP allocated to healthcare: Poland and the comparison Countries.
Public expenditure



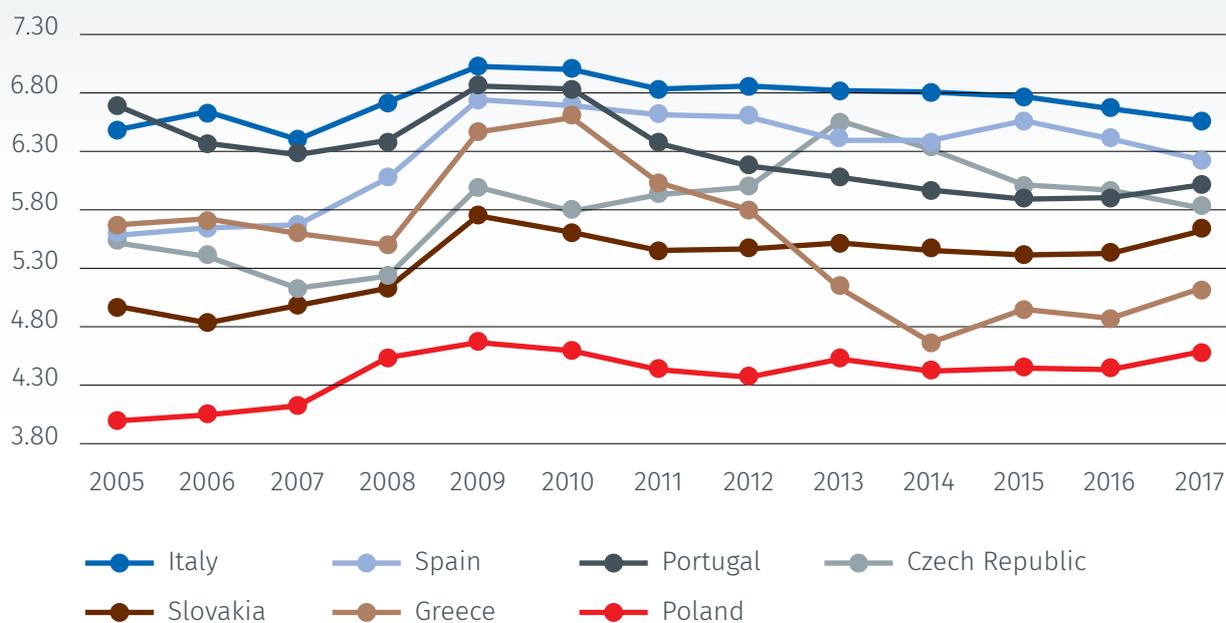
Source: OECD 2017

In Poland, budgetary expenditure on healthcare as a percentage of GDP was the lowest among the compared Countries not only in 2017, but also over the last 12 years, despite having increased spending by 0.6% since 2005. This is the third highest increase in spending after Spain (0.8 pp) and Slovakia (0.7 pp). However, these Countries had higher outlays from the outset, so the difference between them and Poland is still growing.

Conversely, Poland is reducing its distance to Countries where budgetary outlays fell between 2005 and 2017 (Portugal, -0.7 pp; Greece, -0.5 pp) or increased only marginally (Italy, 0.1 pp; Czech Republic, 0.2 pp). However, catching up with the compared Countries might take Poland a decade.

It is worth noting, however, the divergence of trends in expenditure per capita and expenditure as a percentage of GDP. The former are systematically growing in all the compared Countries, while the latter are growing only in three Countries: Poland, Slovakia and Spain.

Figure 19 Dynamics of expenditure on healthcare: percentage of GDP, public funds



Source: OECD

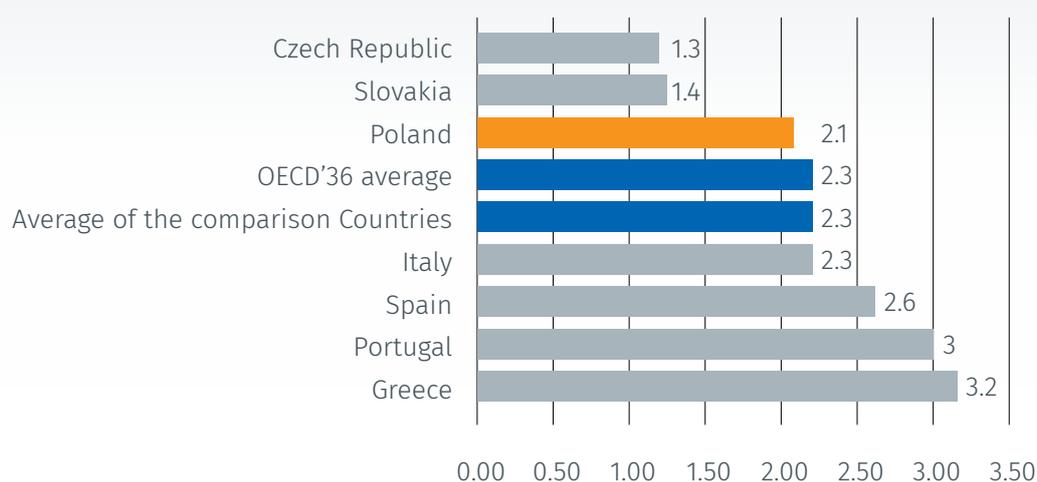
Table 5. What impact does the low level of healthcare funding have on the overall healthcare situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large	✓	✓	✓	✓
Medium	✓			
Small				
None				

c) Private expenditure

The comparison between the Countries analysed in this Report is slightly different when considering the share of private expenditure on health as a percentage of GDP. The largest number of patients paying extra for public health service is in Greece, at 3.2%. As a result, this Country owes its high level of total expenditure to private transfers. In Southern European Countries and Poland, close to the OECD average, extra-budgetary measures are an important complement to public spending.

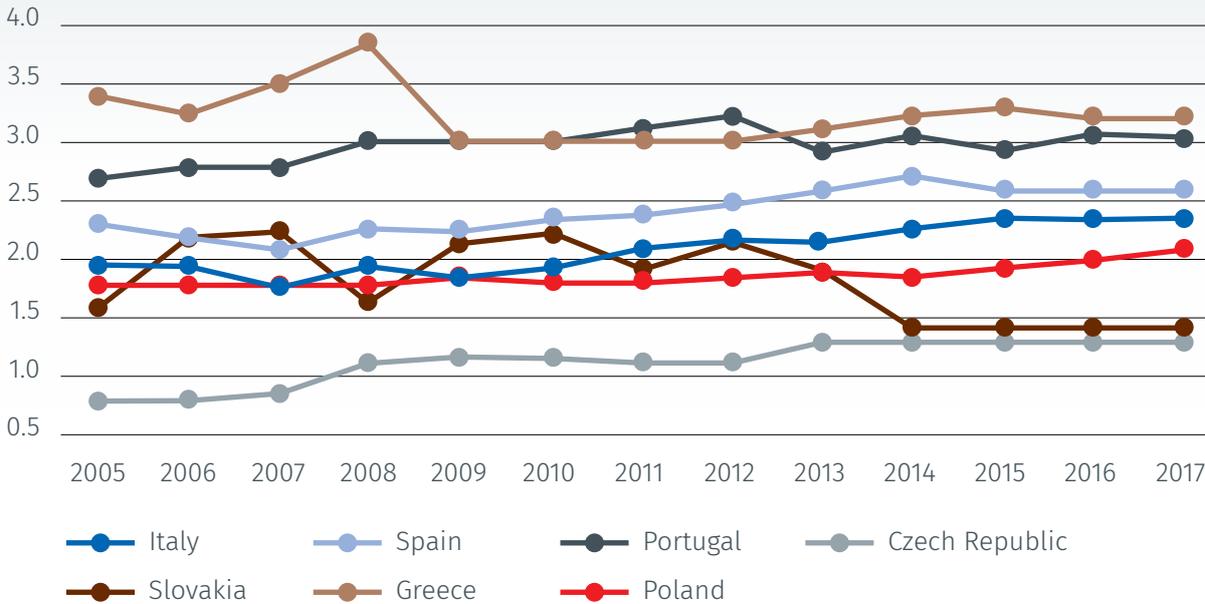
Figure 20. Percentage of GDP allocated to healthcare: Poland and the comparison Countries. Private expenditure



Source: OECD 2017

Among the compared Countries, the high share of private funds, such as additional health insurance and medical packages, in the financing of healthcare is mainly characteristic of the richer Countries of Southern Europe. In recent years, however, the highest growth in this respect was registered in the Czech Republic (0.5% pp), which began at the lowest level among the compared Countries in 2005. Italy and Spain, where the share of private expenditure was relatively high, also maintained growth (0.4%). The decline in private financing in Slovakia in the last 6 years (-0.2 %) is worth noting. For the last 12 years, Poland has recorded slight increases in private financing (0.3%).

Figure 21. Dynamics of expenditure on healthcare: percentage of GDP, private funds

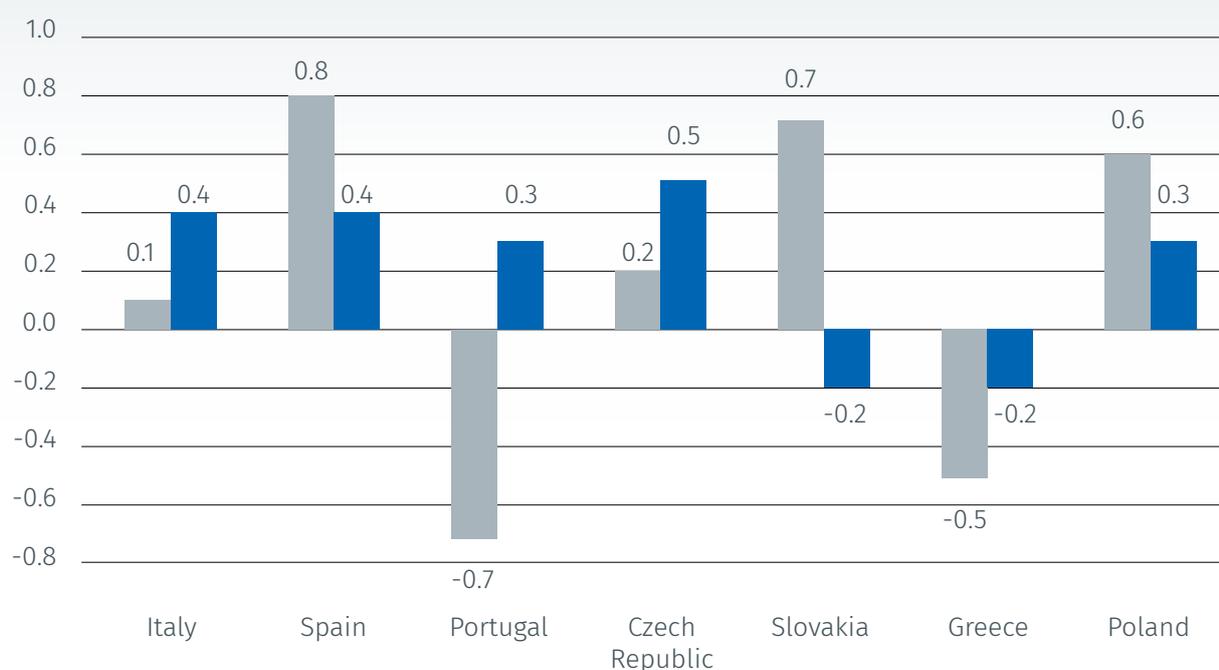


Source: OECD

d) Public and private expenditure: trends 2005–2017

When comparing the dynamics of healthcare funding as a proportion of GDP, it is worth noting the different trends in public and private funding. Apart from Greece, which is still suffering the effects of the financial crisis, Portugal has recorded a strong (0.7 pp) decrease in public spending on healthcare, with a slight (0.3 pp) increase in private spending in the last 12 years. Poland and Spain are increasing their outlays in a clear and differentiated way: both Countries are experiencing a noticeable increase in both public and private financing, with budget expenditure growing much faster than private spending. The opposite trend can be seen in Italy and the Czech Republic, where the overall level of funding is also increasing but is mainly based on private funding. Slovakia follows a separate road and has seen a clear increase in budgetary resources while private funding has fallen.

Figure 22. Dynamics of expenditures on healthcare: percentage of GDP, 2005–2017



Source: Own calculations based on OECD data

3.4 Co-payment system for services

In all the compared Countries, patients have free access to a pool of guaranteed services. However, the scope of services covered by free access is not the same everywhere, and Poland enjoys one of the widest. In the Polish system, patients pay only for medicines and rehabilitation (they also pay for visits to private clinics). Similarly, limited co-payment occurs only in Spain. At the other extreme there is Portugal, with an extensive co-payment system that includes medicines, primary care consultations, visits to specialists, and hospital services; 60% of citizens are exempt from co-payment.

In the Czech Republic, the extended co-payment system was gradually reduced. In 2015, hospitalisation surcharges (€ 4 per day) or visits to a general practitioner (€ 1.2) were discontinued, among other changes, but currently only the emergency first aid fee applies. This type of service is also subject to co-payment in Slovakia. In Greece, however, surcharges can be paid for things such as a higher standard of hospital room. Most Countries have legislation that exempts minors, lower earners and pensioners from co-payment.

Table 6. Co-payment in the comparison Countries: selected examples

Country (date)	Example of a service	Cost (€)
Czech Republic (2018)	First aid for emergencies	3.6
Slovakia (2016)	24-hour first aid	1.99
Portugal (2016)	Primary care services	4.5
Italy (2014)	Unjustified attendance at A&E	25
Croatia (2014)	Primary care services	1

Source: WHO

3.5 Healthcare: the debt picture

The Polish National Health Fund had a deficit of PLN 56.1 million (about € 13 million) at the end of 2017. The original financial plan assumed a much greater deficiency of funds at PLN 1.57 billion (approximately € 365 million). Due to lower than expected costs, the Polish healthcare deficit was much smaller than that of Portugal (about € 230 million, 2017).

Italy, on the other hand, recorded a large profit in 2016, which represent a rather remarkable result given that in 2015 the Country's healthcare system recorded a loss of € 614 million. In any case, in presence of a deficit at regional level, the legislation requires that regional taxes are raised the following year to cover the loss.

In the compared Countries, the current financial situation of the healthcare systems is more favourable than if we were also to consider historical data, which show that the health service in each of the comparison Countries is in debt. In terms of the total indebtedness of the health service, there are noteworthy disproportions between Italy and other Countries.¹² The two largest debtors are the Countries that, within the ranking, allocate the largest resources to healthcare.

"The debt of Italy's healthcare service grew particularly until 2010, and in some regions it became a serious problem, which has been put under control only recently. The main determinants for the debt growth were mainly underfunding and the existence of inefficiencies. However, since 2015 the debt growth has been halted and some regions have recently recorded a balanced budget."

Prof. **Vincenzo Atella** (Italy), University Tor Vergata, Rome

¹² To some extent, the differences in the amount of debt reported result from discrepancies in the nature of the data. For Slovakia, the Czech Republic, Croatia, Portugal and Poland, the data on hospitals' debt (for Poland, independent public healthcare facilities) were used, while in other cases the data refer to the entire healthcare system. This manipulation is justified since the hospitals are responsible for the majority of the debt. It should also be noted that for Greece (July 2018) only information on the maturing debt is available, so the total debt is higher. The data cover the following years: 2018 (Croatia, Portugal, Greece), 2017 (Poland, Spain, Czech Republic), 2016 (Slovakia), and 2014 (Italy).

“Among the causes of the Greek health service’s debt are primarily the government’s austerity plans and budgetary constraints resulting from the financial crisis. However, we should not forget the “internal” problems of the Greek health service, which include the lack of a link between the size of the hospital’s budget and health needs, and the hospital’s public procurement system based on the lowest price rather than on quality and efficiency.”

Christos Kazassis (Greece), Expert on Medical Technology and Finance in Healthcare

The debt picture in the compared Countries is different when considering the size of the debt in relation to the number of citizens of a given Country. Per capita, the health service debt is still the highest in Italy, followed by the smaller Countries, Croatia and Portugal. The Czech Republic, Greece and Poland have the lowest debt per capita.

“In the past, too little attention was paid to the efficiency and effectiveness of health services in Italy, which resulted in debt. In addition, there has too often been overinvestment in equipment and modern technology, which has not been used in an optimal way afterwards.”

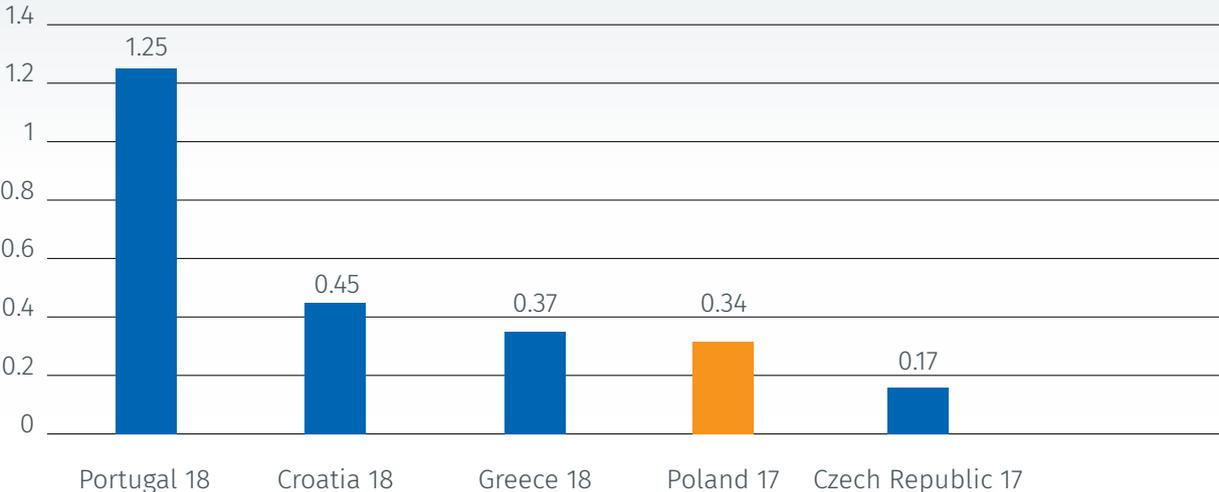
Prof. **Elio Borgonovi** (Italy), Bocconi University, Milan

a) Debt of public hospitals

It is worth looking more closely at the debt of hospitals, which usually accounts for the largest share of the debt of the health service as a whole. In Poland, the total indebtedness of public healthcare facilities (Pol. SPZOZ), the majority of which are hospitals, amounted to PLN 11.75 billion at the end of 2017 (approximately € 2.7 billion). This was much higher than in Portugal (€ 1.9 billion, 2018).

It should be remembered, however, that the compared Countries differ significantly in terms of the number of hospitals. In this context, the debt levels might be different for Poland and other Countries. In 2018, Portugal and Croatia were dominated by maturing liabilities: i.e. those whose payment period had expired (but which are not time-barred or written off). In Portugal, these accounted for less than 68% and in Croatia for almost 58% of the debt amount. In Poland, at the end of 2017, they amounted to PLN 1.46 billion (approx. € 340 million): i.e. 12.5% of the debt amount; lower than in the Czech Republic, where they accounted for 34.7%.

Figure 23. Mature liabilities of public hospitals (in billion €): Poland and the comparison Countries



Source: Polish Ministry of Health, BFF Banking Group data (2017)

For the purpose of this Report, Experts from the compared Countries assessed the impact of public hospital debt on overall healthcare in their Countries. Hospital debt has the lowest impact in Italy, and the highest impact in Poland and Greece.

Table 7. What impact does the indebtedness of public hospitals have on the overall healthcare situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large		✓	✓	
Medium				✓
Small	✓			✓
None				

b) Average waiting time for payment by the hospitals

In all the compared Countries, hospitals delay payments to external entities, which are most often providers of different services. The waiting time for payment from the hospital usually surpass the payment due date (60 days) as per the European Late Payment Directive (2011/7/EU), which put in place stringent measures to discourage a culture of late payment in commercial transactions.

“The Greek government is trying to counteract the huge backlog of hospitals paying for external services. To this end, solutions, as an analytical system to improve the quality of data on arrears, will be implemented to increase the efficiency of finance departments in hospitals.”

Christos Kazassis (Greece), Expert on Medical Technology and Finance in Healthcare

“The National Health Fund pays hospitals even a few months after they provide services. Therefore, medical institutions do not have a chance to cover the current costs of providing services from the funds provided by the National Health Fund. At the same time, they must not interrupt the continuity of services, so they decide to withhold payments to contractors (suppliers of medicines, medical equipment, etc.), and this generates significant hospital debts.”

Katarzyna Fortak-Karasińska (Poland), Fortak & Karasiński Law Office

For the purposes of the Report, Experts identified the institutions that hospitals turn to in the event of financial difficulties. In all the compared Countries, the service providers *de facto* lend to hospitals, as the most common way for hospitals to deal with debts is to delay payments to service providers.

Table 8. Where do, according to Experts, hospitals seek financial support?

Institution	Italy	Portugal	Poland	Greece
Banks	✓		✓	✓
Financial institutions			✓	
Suspension of payments to service providers	✓	✓	✓	✓
Hospitals do not lack funds				
Other				Ministry of Health

c) Consequences of hospital debts

Financial problems of hospitals affect the quality of patient service. In looking for savings, directors of indebted facilities often decide to reduce the costs of external services. In practice, this translates into reducing standard services at the patients' expense.

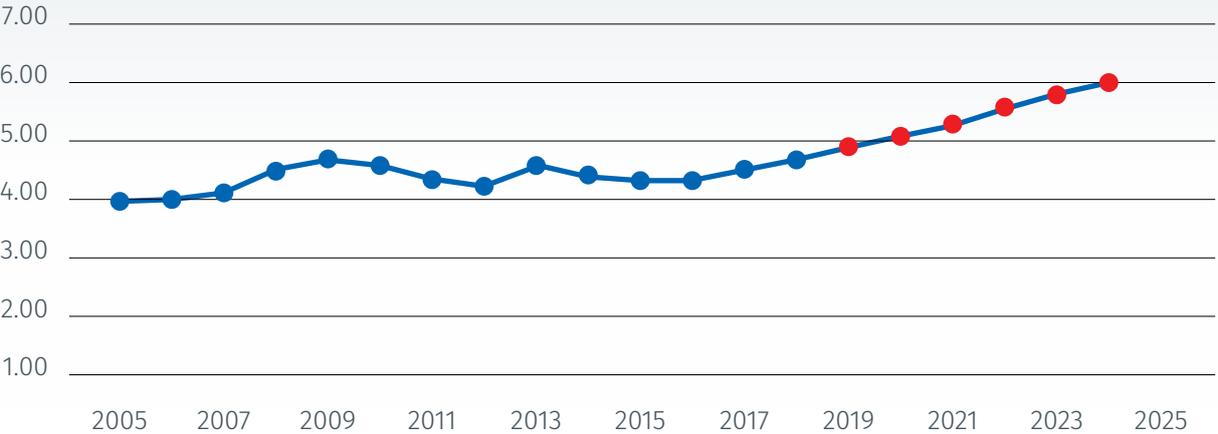
The debt of hospitals has also “hidden” impacts over the public finance: companies in fact - not being able to protect themselves from the risk deriving from late payments - apply even more expensive price list or do not participate to public tenders, by reducing competition and, above all, impacting negatively on the costs incurred by the public sector, which increase accordingly. As a result, the whole sector suffers inefficiency.

3.6 Plans to increase public spending on healthcare in Poland

In early July 2018, the Polish Parliament adopted an amendment to the Act on healthcare services financed from the public funds. It foresaw an increase in budgetary spending on healthcare from 4.78% in 2018 to 6% from 2024.¹³

If the plans are to increase expenditure as set out in the Act, in 2019–2024 the increase would amount to 1.14 percentage points. It would therefore be almost four times higher than in 2012–2017 and almost twice as high as in the last 12 years.

Figure 24. The current and forecasted increase in expenditure on healthcare in Poland. Percentage of GDP



Source: OECD, Polish Ministry of Health

¹³ OJ 2018 item 1532. <http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20180001532>, accessed 12.10.2018

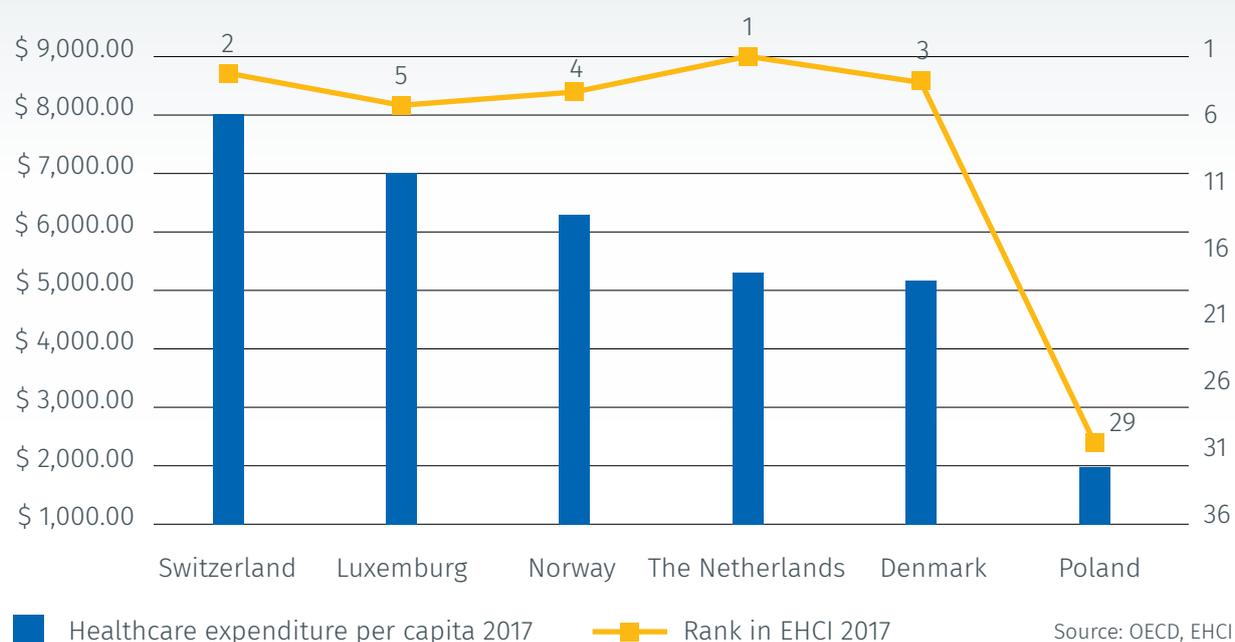
Such an increase in budgetary financing is needed for Poland to bridge the gap with the compared Countries in terms of the share of public spending on healthcare. In practice, however, the increase may prove to be insufficient. Due to the consequences of the financial crisis over the last 6 years in the compared Countries, public spending on healthcare has fallen everywhere except for Slovakia. Even if this trend is maintained, it may be that in Poland most of the additional expenditure on healthcare will be spent on satisfying wage demands, investment needs or medical inflation.

3.7 The effectiveness of healthcare

If we compare the results of the EHCI with data on health expenditure, the same Countries appear to be at the top of both lists. The best example is Switzerland, where a per capita expenditure of US\$ 8,000 in 2017 is ranked in second place both among OECD Countries and in comparison with the EHCI.¹⁴ With a closer look, however, the analogies become less obvious: the Netherlands spends a significantly lower amount than Switzerland; at “only” just over US\$ 5,300 yet it occupies the first place in the ranking.

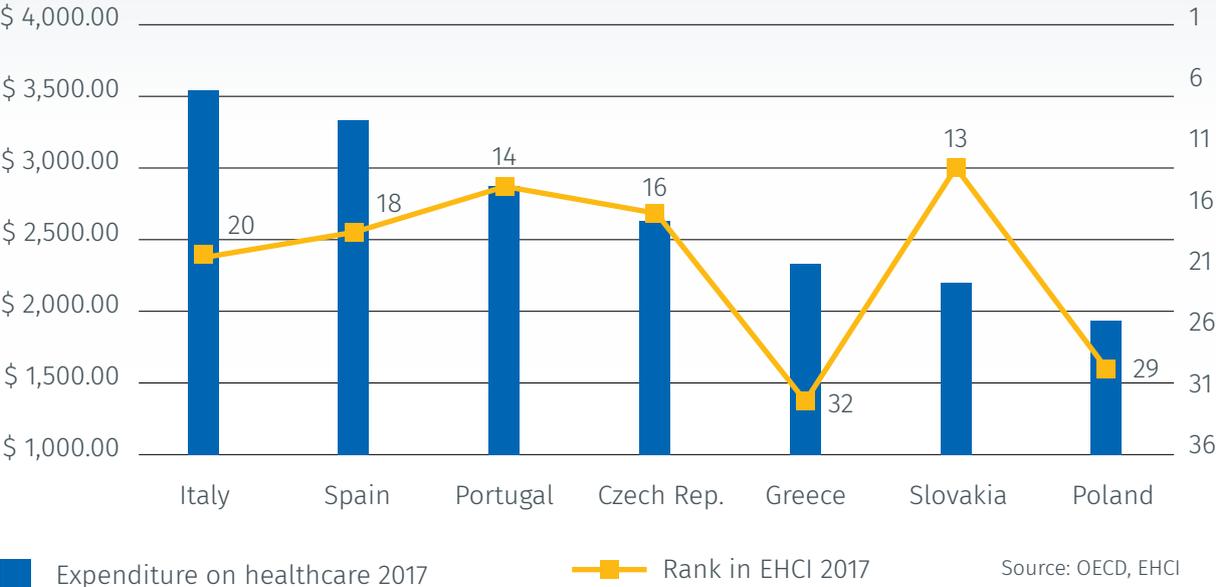
However, lack of direct correlation between the level of expenditure and patient satisfaction is generally limited to a group of Countries with high health expenditure. In principle, the most patient-friendly systems operate in the Countries that allocate the most resources to health. Slovakia and Portugal, which do not invest the highest amounts on healthcare but are positively assessed in the EHCI, are to some extent the exceptions. However, both Countries still have a long way to go to reach the forefront of “friendliness”. It seems that even with great efficiency they will not be able to eliminate this distance without increasing expenditure on healthcare (Fig. 25 and 26).

Figure 25. Expenditure on healthcare and “friendliness” of the system for patients: Poland and selected Countries of Western Europe



¹⁴ We quote the EHCI 2017 results in order to maintain the reliability of the comparison to OECD data (only 2017 data available).

Figure 26. Expenditure on healthcare and “friendliness” of the system for patients: Poland and the comparison Countries



“Among the problems for Polish healthcare could be the lack of effective supervision over public entities, and the lack of managerial competence among the management staff of healthcare institutions, which might be improved to meet current needs.”

Dr Jerzy Gryglewicz (Poland), Lazarski University

In 2017 Slovakia spent around US\$ 2,200 per capita and Portugal spent over US\$ 2,800 per capita on healthcare. Both are ahead of much richer Countries in the EHCI, such as Italy and Spain, which spend over US\$ 3,500 and US\$ 3,300, respectively. With spending on health of less than US\$ 2,000, Poland is ahead of Greece in the EHCI 2017 ranking, which spends more than US\$ 2,300. Greece spends slightly more than Slovakia, but in terms of “patient-friendliness” of the system, the Countries stand 19 places apart on the 2017 rankings.

A comparison of healthcare expenditures and “patient-friendliness” of the system shows that level of expenditure does not automatically translate into effectiveness of treatment in the areas most important for patients. In this respect, in 2017 the situation was worse in Greece, Italy and Spain.

Portugal, the Czech Republic and, above all, Slovakia can boast the most favourable ratio of expenditures to the “friendliness” of the healthcare system and thus good management efficiency. Compared to other Countries, the Polish health service appears to be underfunded, and scores low in meeting patients' needs.

For the purpose of this Report, Experts from the compared Countries assessed the impact of the management of the available funds on the overall healthcare situation in their Countries.

Table 9. What impact does poor management of the available funds have on the overall healthcare situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large	✓	✓	✓	✓
Medium			✓	
Small				
None				

3.8 Experts on the financial condition and debt in the healthcare service

For the purpose of this Report, Experts from the compared Countries assessed the current financial situation of the healthcare services in their Countries.

Table 10. Financial situation of the healthcare service in the comparison Countries

Assessment	Italy	Portugal	Poland	Greece
Very good	✓			
Good	✓			
Average		✓		
Bad		✓	✓	✓
Very bad			✓	

The Experts' 5-year forecasts for the financial situations of healthcare services in their Countries were not so optimistic, with Italy being an exception.

Table 11. Financial situation of the healthcare service in the comparison Countries over a 3-5 year period

Assessment	Italy	Portugal	Poland	Greece
Will improve significantly				
Will improve	✓			
Will not change	✓	✓		✓
Will deteriorate			✓	✓
Will significantly deteriorate				

Table 12. Healthcare debt in the comparison Countries over a 2-year period

Assessment	Italy	Portugal	Poland	Greece
Will significantly decrease				
Will decrease				
Will not change	✓	✓		✓
Will increase		✓	✓	✓
Will significantly increase				

"In my opinion, the reasons for the debt in the public health service in Poland include underestimation of the costs of providing most of the services, failure to take into account some of the necessary actions in the described medical procedures, as well as the lack of real consequences for entities incurring further debt."

Prof. **Maria Węgrzyn** (Poland), Wrocław University of Economics

Among the reasons for the debt in healthcare systems, the Experts most often mention the low level of public expenditure and various systemic problems, including those related to management.

Tabel 13. Most important factors influencing health service debt in the comparison Countries

GREECE	Reduction of public expenditure
	Late payments
	Costs of medicines and medical equipment
	No correlation between hospital budgets and medical needs
ITALY	Structural underfunding of the system
	Lack of economic education of management staff
	Too many (small) hospitals in relation to the number of citizens
	In the past, little emphasis on efficiency
	Overinvestment in equipment and technologies in the past
POLAND	Low level of financing of hospitals by the National Health Fund
	Lack of effective supervision of public entities
	Lack of managerial competence among the management staff
	Effective wage pressure on hospital managements exerted by medical staff
	Underestimation of the costs of providing most of the services
	Lack of willingness on the part of citizens to take part in the increase in expenditure
	Late payments by the National Health Fund
PORTUGAL	Management problems, including lack of analytical system
	General economic situation of the Country and underfunding of hospitals
	Valuations of medical services differing from actual prices and costs
	Cooperation between the Ministry of Health and Finance, and delays in the transfer of funds

4

When demand exceeds supply, are hospitals still financially sound?

4

When demand exceeds supply, are hospitals still financially sound?

Burdens on hospitals

Availability of medical personnel

Migration and its consequences for medical personnel

4.1 Burdens on hospitals

In healthcare systems, hospital treatment generates the highest costs. For example, in the National Health Fund expenses for 2017, hospitals consumed PLN 38.6 (€ 8.98) billion out of PLN 76.3 (€ 17.76) billion intended for healthcare services. For comparison, the payer spent PLN 15.8 (€ 3.68) billion on primary care (PC) and outpatient specialist care (OSC). Therefore, global trends aim at reducing the share of hospital treatment in healthcare in favour of PC and OSC.

a) Density of hospital networks

In terms of the number of hospital beds, Poland was at the forefront of the compared Countries, with more than 6.5 beds per 1,000 inhabitants. Only the Czech Republic registered a higher figure, approaching 7 beds per 1,000 inhabitants. The average for all OECD Countries in this category was 4.7. The smallest number of beds per 1,000 inhabitants was found in Spain and Italy, at around 3.

Among the compared Countries, Poland has by far the largest number of hospitals per 1 million inhabitants. However, this is below the OECD average. The OECD list includes the Countries of Southern Europe (except Greece), where there are by far the fewest hospitals.

"There are still too many hospitals (and beds) in Italy in relation to the number of citizens, many of which are small, local and non-specialised hospitals, often created in the past as a reply to the pressure exerted by local politicians with the aim of gaining electoral votes. Today, they are not justified either from the point of view of patient safety nor from the perspective of national healthcare organisations. They generate costs and do not provide good treatment results. In the context of national reforms, the authorities in some regions have drawn up plans to decommission these hospitals and set up fewer but better-quality facilities. However, local communities are often against this kind of solution."

Prof. **Vincenzo Atella** (Italy), University Tor Vergata, Rome

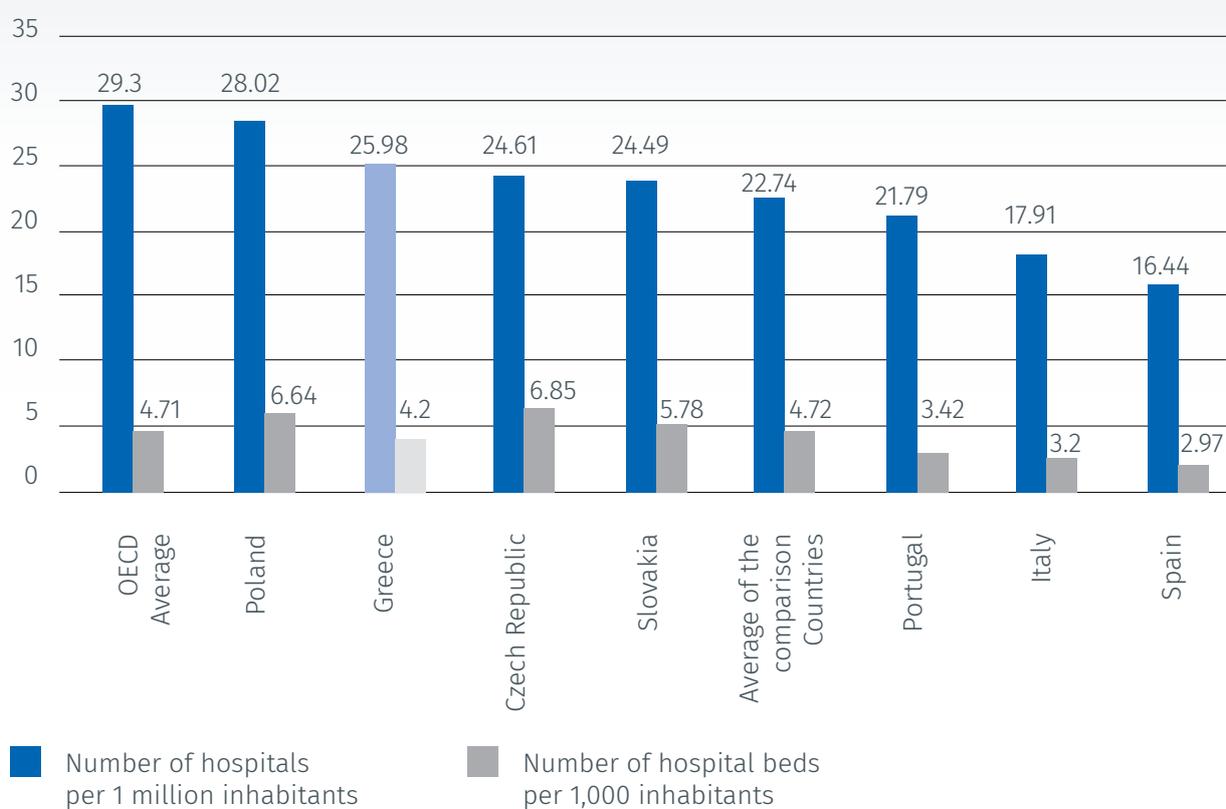
"In several regions of Italy, especially in Lombardy, but also in Tuscany, Veneto, Lazio and Emilia Romagna there are public and private hospitals which are among the top international rankings."

Prof. **Elio Borgonovi** (Italy), Bocconi University, Milan

When demand exceeds supply, are hospitals still financially sound?

The statistics show that there are different approaches to hospital treatment in the compared Countries. Greece and the Countries of Central Europe have extensive hospital networks and a large number of hospital beds. Portugal, Spain and Italy, on the other hand, are restricted in this respect.

Figure 27. Number of hospitals per 1 million inhabitants and hospital beds per 1,000 inhabitants: Poland and the comparison Countries



Source: OECD

b) Number of hospitalisations and hospital load

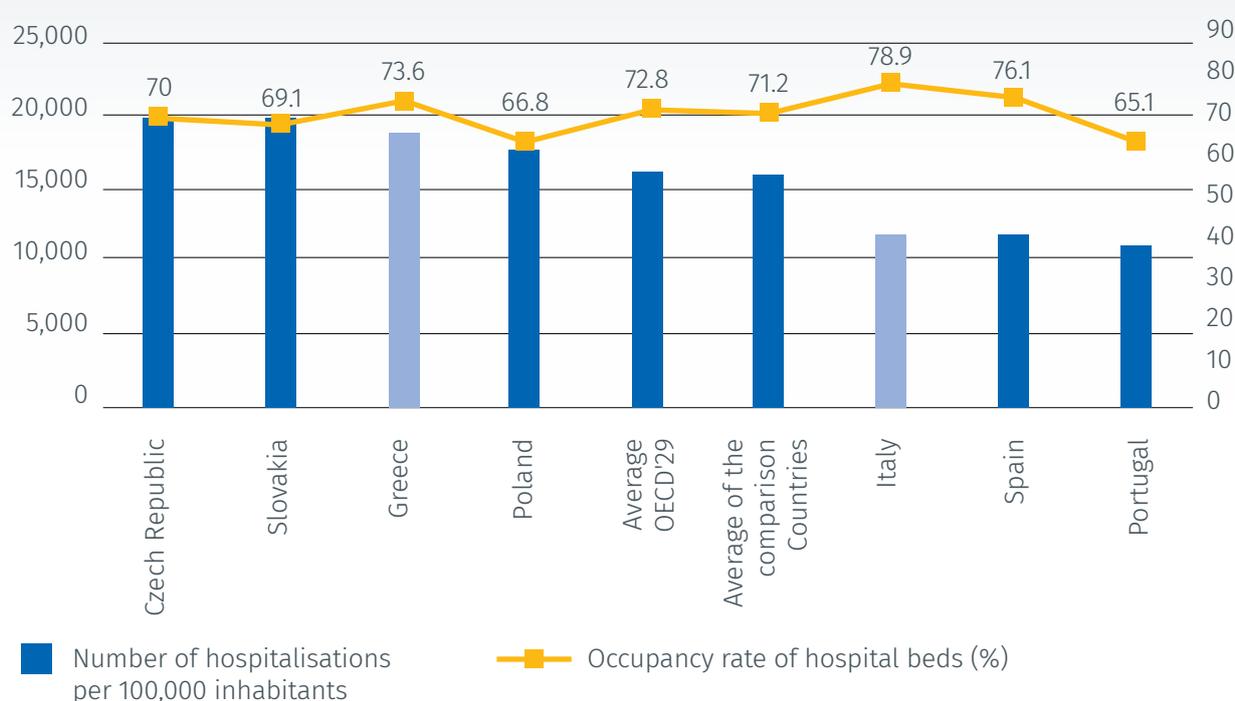
• Hospitalisation and bed occupancy

No surprise that hospital treatment dominates in Countries with the most extensive hospital infrastructure with an impact over debt. In terms of the number of hospitalisations per 100,000 inhabitants, the highest admissions were seen in the Czech Republic and Slovakia, with results exceeding 19,000 hospitalisations and Poland, with almost 18,000 hospitalisations.¹⁵ Italy, Spain and Portugal are at the opposite end of the scale; there, patients are admitted to the hospital almost half as often, with about 11,000 hospitalisations per 100,000 patients.

¹⁵ For Greece, the latest available data are from 2012; for other Countries the data are from 2016.

In Italy and Spain the existing infrastructure is used in the most optimal way. The bed occupancy rate is the highest, exceeding the OECD average of around 73%.¹⁶ Among the compared Countries, only Greece managed to exceed the OECD average, which shows that a relatively extensive network of hospitals in this Country is being used effectively. The Czech Republic and Slovakia achieved slightly below the average.

Figure 28. Number of hospitalisations and occupancy of hospital beds: Poland and the comparison Countries



Source: OECD, Polish Ministry of Health

The statistics confirm that there are too many hospital beds in Poland: among the compared Countries, it has one of the most extensive hospital networks and one of the highest hospitalisation rates, but the use of the infrastructure is ineffective at 67%. Empty hospital beds – even if they do not generate direct costs – still contribute to lower efficiency.

• *Average duration of hospitalisation*

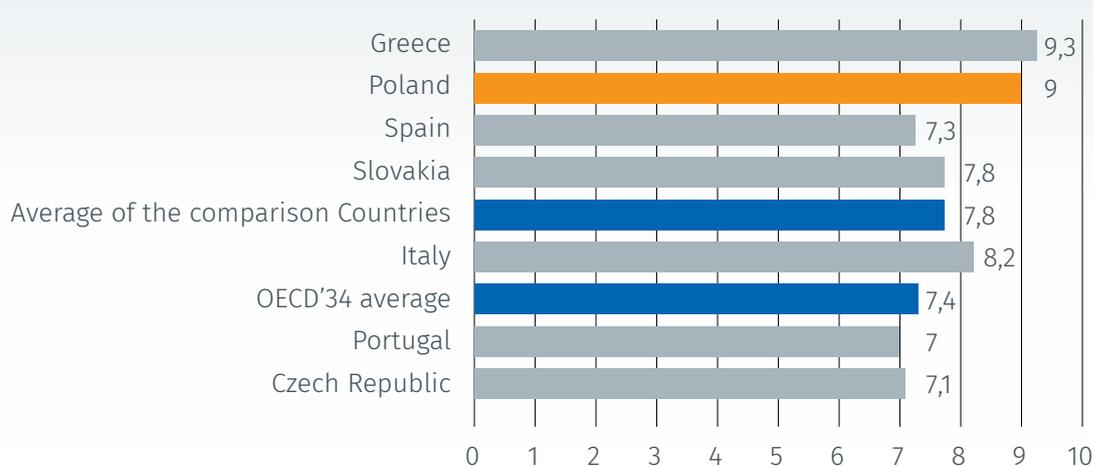
The average time of hospitalisation may also be a measure of treatment effectiveness. Prolonged hospitalisation may be evidence of ineffective hospital procedures, organisational clutter or ineffective treatment. On the other hand, too short stays can cause health complications and the patient’s return to hospital, which ultimately generates even higher costs.¹⁷ Excessive deviation from the OECD average - i.e. short or prolonged hospitalisation - should be considered as a negative phenomenon.

¹⁶ For Greece, the latest available data comes from 2012, for Italy from 2015 and for the rest of the Countries from 2016. The OECD does not have data on Poland. They come from the Centre for Health Information Systems, Statistical Bulletin of the Ministry of Health. Warsaw 2017, p. 65.
¹⁷ See Health at a Glance 2017 OECD, pp. 176–177. The average length of hospitalisation figures are from 2016, with the exception of Greece, where the latest available data is from 2012.

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In the case of Poland, data from the Ministry of Health show it is far behind European standards.¹⁸ In this perspective, the average length of hospitalisation is only slightly more than 5.3 days. In the short term, the effect of such a radical shortening of the time of hospitalisation is cost savings, but in the long term, the effects are quite the opposite.

Figure 29. Dynamics of hospital stays (in days): Poland and the comparison Countries



Source: OECD 2017

c) Funds for hospital treatment

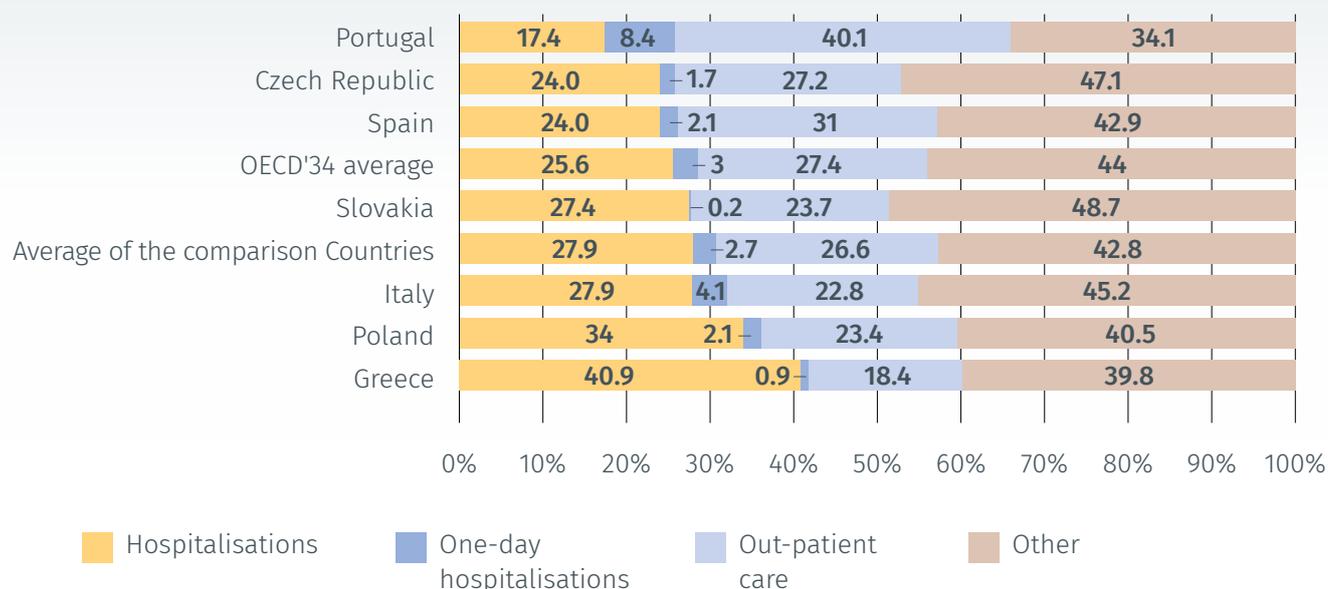
Patients are sent to hospitals most often in Poland and this is also where hospitals consume the largest part of the total healthcare budget. Poland, along with Greece, spends much more money on hospitals than the OECD average.

“One of the key issues of healthcare in Poland concerns the improper allocation of funds directed for the financing of services. Spending over 50% of the Health Fund budget on hospital treatment is ineffective.”

Dr Jerzy Gryglewicz (Poland), Lazarski University

¹⁸ Statistical Bulletin of the Ministry of Health. Warsaw 2018, p. 67.

Figure 30. Distribution of funds allocated to healthcare: Poland and the comparison Countries



Source: OECD data 2016

d) Outpatient treatment: taking the example of cataract as the simplest and most evident one

Between 2000 and 2015, most OECD Countries have reduced the number of hospital beds and hospitalisation rates, while increasing pressure and investment in treatments that do not require the patient to remain in hospital for long. This results from the progress in medical technologies (lower invasiveness of surgery, advances in anaesthetics) and from the desire to reduce the costs associated with hospitalisation.¹⁹

“In Portugal, hospital treatment dominates. However, it should be noted that there has been a major change in the field of outpatient surgical procedures, which displaces the “traditional” surgery that requires hospitalisation.”

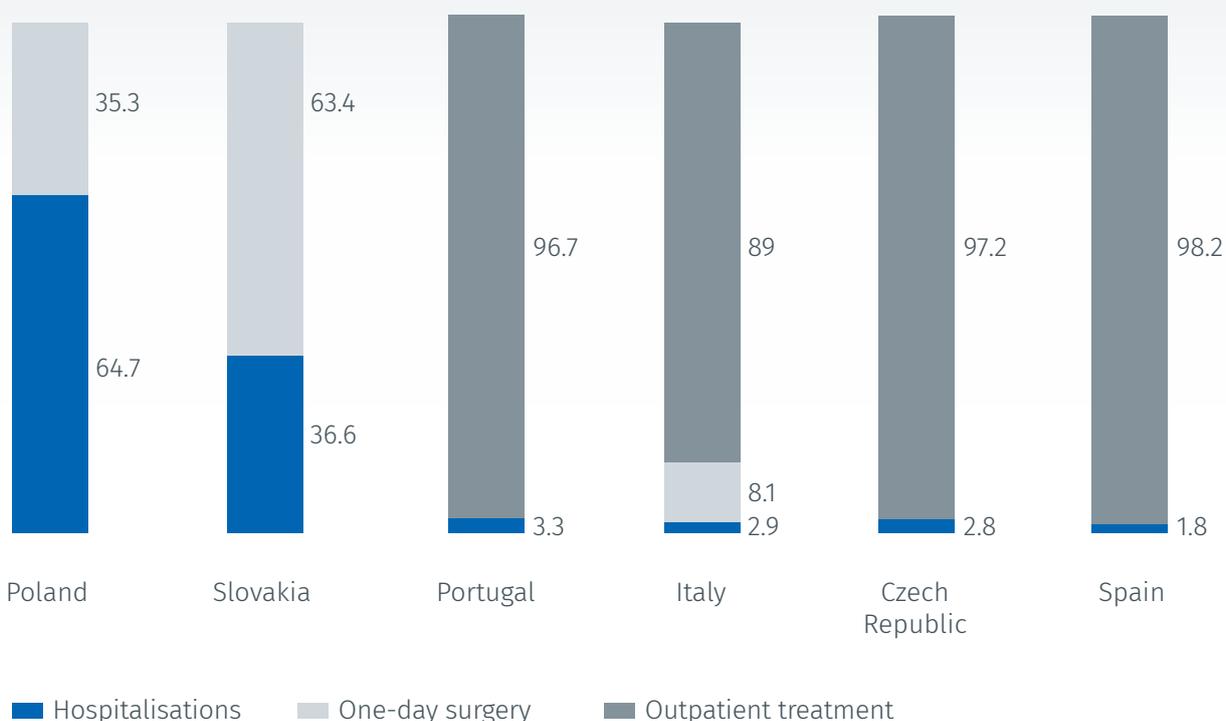
Henrique Capelas (Portugal), Economist, Healthcare Market Expert

¹⁹ See Health at a Glance 2017, OECD, pp. 172–173, 182–183.

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Statistics show that in Poland this trend is reversed. Some changes, however, are taking place in order to introduce European standards in Poland, for the time being in ophthalmology.²⁰ This tendency can be seen not only in the statements of healthcare expenses and the number of hospitalisations, it is also confirmed by the statistics of cataract treatment. In Portugal, more than 96% of cataract removal procedures are performed via one-day surgery. In Poland, this figure is only 35%, which is the lowest among all OECD Countries surveyed. Apart from Poland and Slovakia, in all the compared Countries cataracts are removed without the patient staying in hospital. This also applies to the Czech Republic, where, just like in Poland, there is an extensive hospital system.

Figure 31. Cataract operations in Poland and the comparison Countries, 2016



Source: OECD data²¹

Statistics on hospital financing and treatment divide the compared Countries into two groups. In Southern Europe (excluding Greece) where most money is spent on healthcare, there is a coordinated policy of reducing hospital admissions. Solutions of this kind bring measurable results. Among the compared Countries, the shortest waiting time for cataract removal, knee or hip surgery is in Italy, where the number of hospitals and hospital beds is much smaller than in Poland, and their use is the most optimal. According to OECD data, in 2015, Italy performed almost three times more cataract removal procedures than Poland, while the waiting time for the procedure was over 17 times shorter.

²⁰ See Klara Klinger, "Treatment and then home. The patient does not have to stay in hospital for a long time". *Dziennik Gazeta Prawna*, 12.09.2018.

²¹ Available data for Spain and Portugal date 2015.

In the Countries of Central Europe there is a different approach to hospital stays. The frequency of hospitalisations remains almost twice as high as in the south of the continent, with a lower utilisation of the existing bed base. However, the example of cataract surgery shows that even a “hospital-centric” system can be organised with a larger (Czech Republic and Slovakia) or a smaller (Poland) benefit for patients. In Poland, almost 65% of cataract removal procedures require hospitalisation.

At the same time, in Poland, the queues for the treatment of this ailment are more than four times longer than the median 97 days for selected OECD Countries.²²

These proportions look only slightly better for other treatments (knee and hip surgery) taken into account by the OECD.

For the purpose of this Report, Experts from the compared Countries assessed the impact of inpatient rather than outpatient treatment on the healthcare situation in their Countries. The problem of overuse of hospitals had the least impact in Italy, but is more severe in the rest of the world.

Table 14. What is the impact of inpatient treatment instead of outpatient treatment on the overall healthcare situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large		✓	✓	✓
Medium	✓			
Small				
None				

4.2 Availability of medical personnel

Availability of medical personnel affects the financial condition of hospitals. The fewer specialist physicians on the market, the stronger their position when negotiating salaries. On the other hand, higher salaries are a tool for directors of institutions to attract physicians, especially those with deficit specialisations.

a) An overview on the availability of medical personnel

The statistics prove that the healthcare system in Poland is based on hospital treatment. On the other hand, the waiting times and the poor use of the existing bed base indicate that the system might be more efficient. One of the reasons for this is the low number of physicians, which is below 2.5 per 1,000 inhabitants, while the OECD average is 3.4.²³ All the compared Countries are definitely ahead of Poland in this respect: in Southern European Countries, the number of physicians per 1,000 inhabitants is approaching 4, which is a very high result.

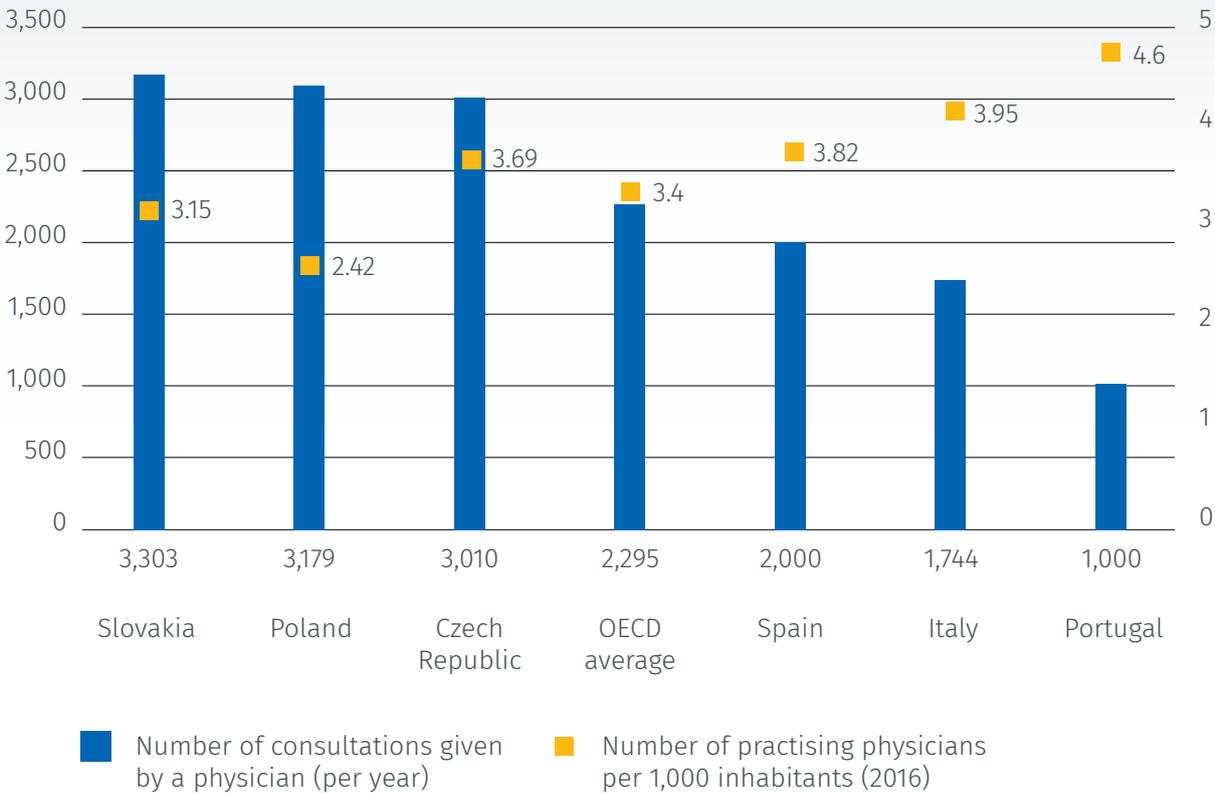
²² See Health at a Glance 2017, p. 97. OECD data do not include Slovakia and the Czech Republic in this respect.

²³ For Portugal and Greece, the numbers for all licensed physicians – and not only those in the profession – were used, as it was the only data available. For Portugal this gives a result that is about 30% higher. For Slovakia, on the other hand, the rate is 5–10% higher, as not only the physicians working with patients were taken into account, but also researchers or managerial physicians. See Health at a Glance 2017, OECD, p. 151.

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There are not enough physicians in Poland. Those who are here, on the other hand, work much more than their colleagues in other Countries. According to OECD estimates²⁴, a physician in a member Country gives an average of 2,295 consultations, while a physician in Poland gives as many as 3,179. Among the compared Countries, only Slovak physicians work more, providing 3,303 consultations a year. There are definitely fewer responsibilities, clearly below the OECD average, for physicians in Southern European Countries: in Spain physicians give 2,000 consultations per year and in Italy 1,744.

Figure 32. Number of physicians and consultations: Poland and the comparison Countries

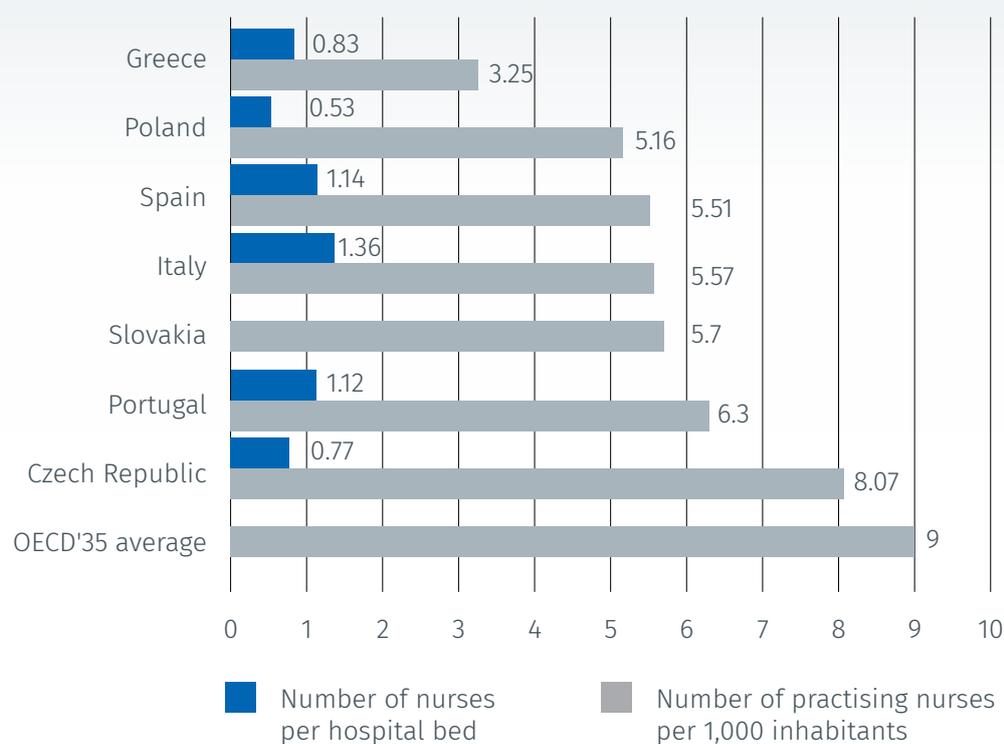


Source: OECD

In terms of the number of nurses per 1,000 inhabitants, Poland is at the bottom of the compared Countries.²⁵ In particular, Poland clearly stands out from the Czech Republic, which is the only Country in the ranking that is approaching the average value for OECD Countries.

²⁴ The OECD notes that the consultation rate is only an estimate. Data from 2015 or the latest available data are used. In the case of Portugal, the results are underestimated as all licensed physicians are included, not only those in the profession, and private medical practices are not included. See Health at a Glance 2017, pp. 168-169.
²⁵ The number of nurses in Greece per 1,000 inhabitants is underestimated compared to other Countries, as OECD data covered only nurses working in hospitals. For Portugal and Slovakia, on the other hand, the figures are overestimated as they include not only nurses caring for patients, but also those working in the wider medical sector. See Health at a Glance 2017, p. 159.

Figure 33. Number of nurses: Poland and the comparison Countries



Source: OECD²⁶

For the purpose of this Report, Experts from the compared Countries assessed the impact of shortages of health professionals on the healthcare situation in their Countries. In the compared Countries, the shortage of nurses is more of a problem than the shortage of physicians. Portugal has the smallest problem with availability of staff. The shortage of staff in Poland remains a serious problem. The situation is similar in Italy, where the phenomena analysed above have not had such a large negative impact on the healthcare system.

Table 15. What is the impact of physicians shortage on the overall healthcare situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large	✓		✓	
Medium				✓
Small		✓		
None				

²⁶ See Health at Glance 2017, OECD, p. 159.

When demand exceeds supply, are hospitals still financially sound?

Table 16. What is the impact of nurses shortage on the overall healthcare situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large	✓	✓	✓	✓
Medium		✓		
Small				
None				

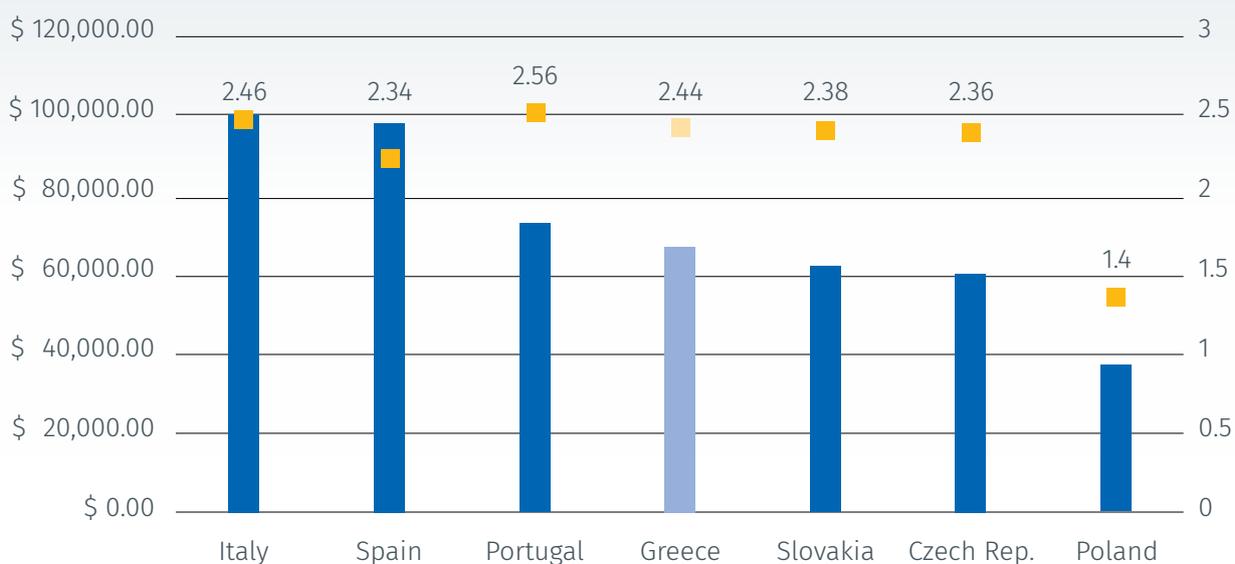
b) Earnings of physicians and nurses

• Physicians

There are few physicians in Poland, they work a lot of hours, and their salaries remain significantly lower than in the compared Countries. This applies in particular to specialists, whose salaries, according to OECD, are equivalent to less than 1.5 times the average Polish salary, compared to 2.5 the average salary in other Countries.²⁷ In Portugal, physicians earn very good salaries: both specialists and general practitioners are paid more than 2.5 times the average wage.

Taking into account the PPP, Polish specialists are also paid less among physicians in the compared Countries. Their annual income does not exceed US\$ 40,000, while in the Czech Republic it stands at US\$ 60,000, and the salaries are highest in Italy, approaching US\$ 100,000.

Figure 34. Earnings of physicians: Poland and the comparison Countries



■ Specialists, gross annual earnings, PPP ■ Specialists, percentage of average salary Source: OECD²⁸

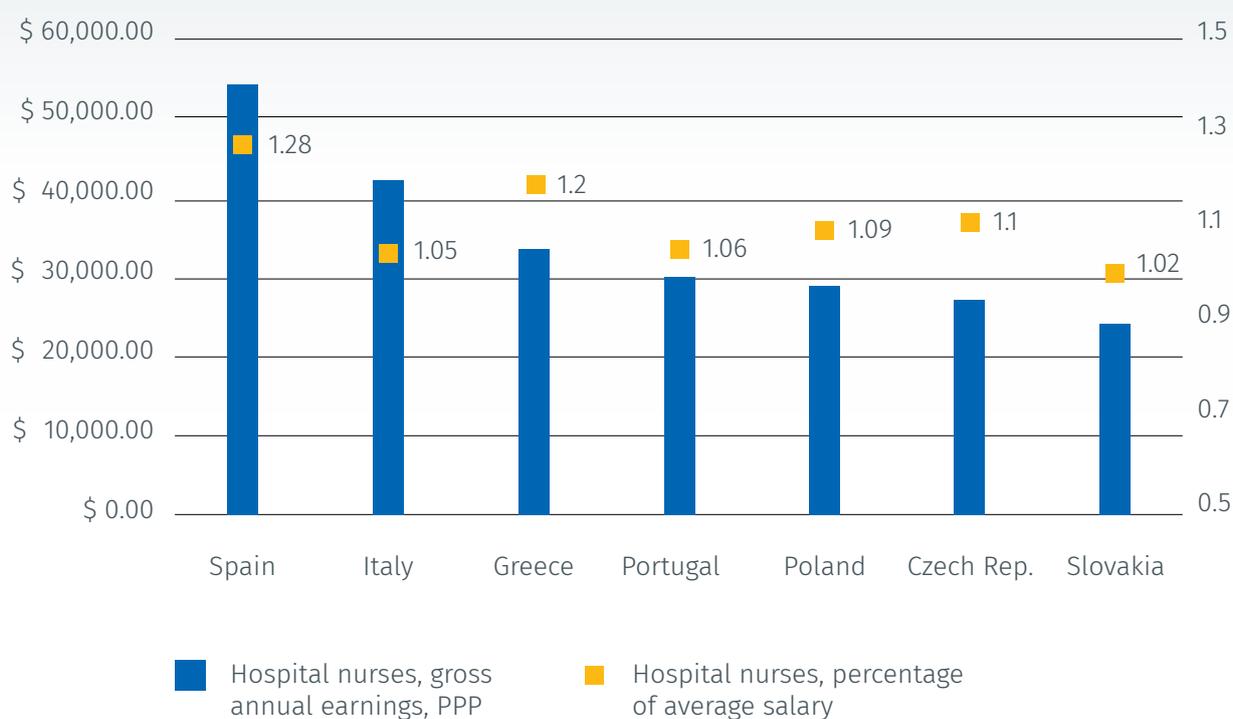
²⁷ According to the Central Statistical Office (GUS) data, in 2016 a Polish physician (without breaking this down into general practitioners and specialists) earned on average PLN 7,150 gross in the public sector and PLN 8,152 gross in the private sector. As the average salary in Poland was PLN 4,346, this gives an earning figure for physicians of 1.64 times and 1.87 times, respectively, this average salary. See Structure of remuneration by occupation in October 2016. Central Statistical Office: Warsaw 2018, p. 73. Approximate data are based on the 2017 report by the Ministry of Health. A physician with a second-degree specialisation earned on average PLN 10,917.60 gross (base + bonuses), with a first-degree specialisation PLN 5,580.94, and without specialisation PLN 5,419.10. Other details can be found in the Sedlak&Sedlak report, which shows that the median salary for general practitioners was PLN 7,100, which is clearly higher than that of specialist physicians. See Anna Cieślak-Wróblewska, "What should I specialise in to earn great money?", Rzeczpospolita, 16.07.2018; cf. also from portal www.wynagrodzenia.pl. For data on very large differences in the earnings of physicians, see <http://gospodarka.dziennik.pl/praca/artykul/565907/zarobki-lekarzy-pensje-w-sluzbie-zdrowia.html>

²⁸ For Greece, the latest available data are from 2012; for other Countries the data are from 2016.

• Nurses

In Poland there is extensive public debate on the low earnings of nurses. Meanwhile, statistics show that the problem of low earnings of nurses concerns not only this Country. Taking into account the PPP, the earnings of nurses in most Countries are in the range of US\$ 30,000 per year. This is higher only in Italy and Spain, where the nurses earn, on average, 1.28 times the national average salary. This is the highest multiple among the compared Countries, but in the other compared Countries, nurses still earn slightly more than the average salary.²⁹

Figure 35 Nurses' earnings: Poland and the comparison Countries



Source: OECD 2017

²⁹ For the earnings of nurses, the Central Statistical Office (GUS) also provides slightly different statistics from the OECD data. According to GUS, nurses' salaries in 2016 amounted to PLN 4,176 with a public employer and PLN 3,841 with a private employer (gross per month), i.e. 0.96 and 0.88 of the average salary, respectively. According to the Ministry of Health, a nurse with a master's degree and specialisation earns on average PLN 5,469.87 gross (base + bonuses), and without a title and specialisation they earn PLN 4,428.76. According to Sedlak&Sedlak, the median of nurses' earnings depends on their position and ranges from PLN 2,845 to 4,067 gross per month.

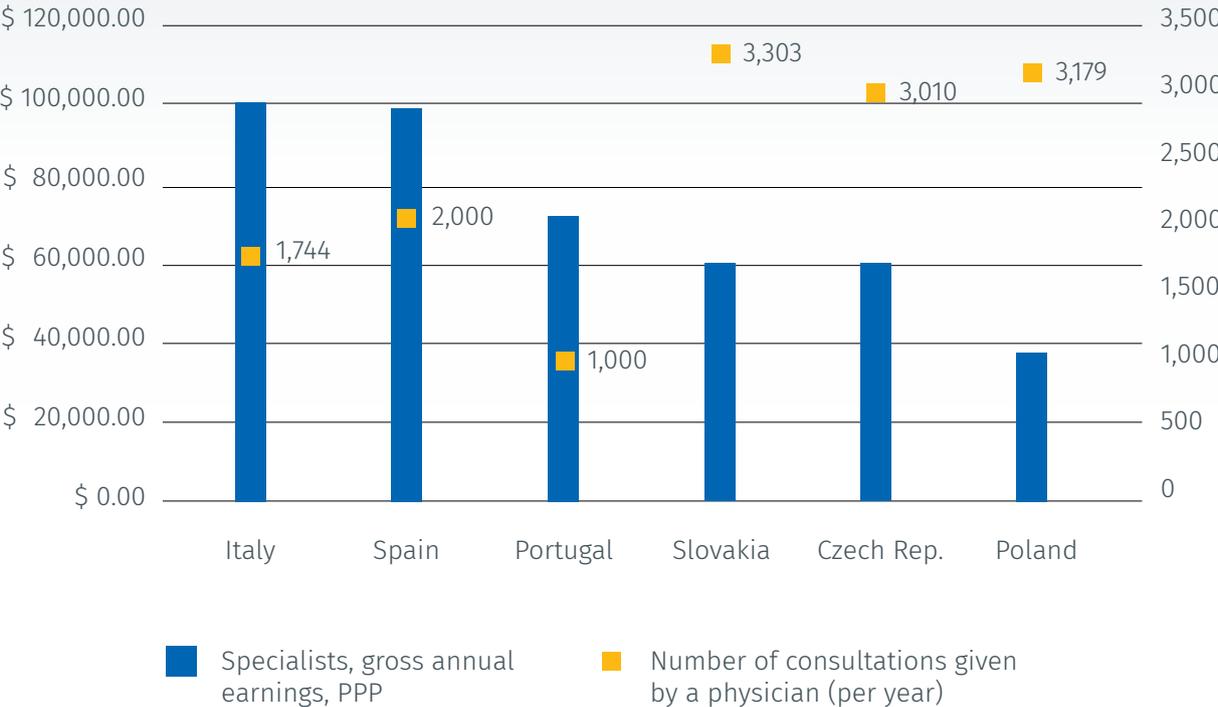
When demand exceeds supply, are hospitals still financially sound?

c) Working conditions of physicians and nurses

• Physicians

A comparison of physicians’ salaries with the number of consultations once again clearly differentiates the Countries of Central Europe from Western Europe. In Poland, specialist physicians earn over half that of physicians in Italy or Spain, with nearly twice as many consultations compared to colleagues from Southern Europe.³⁰ In the Czech Republic and Slovakia, physicians give a similar number of consultations as in Poland, but their salaries are significantly higher.

Figure 36. Earnings and workload of physicians: Poland and the comparison Countries



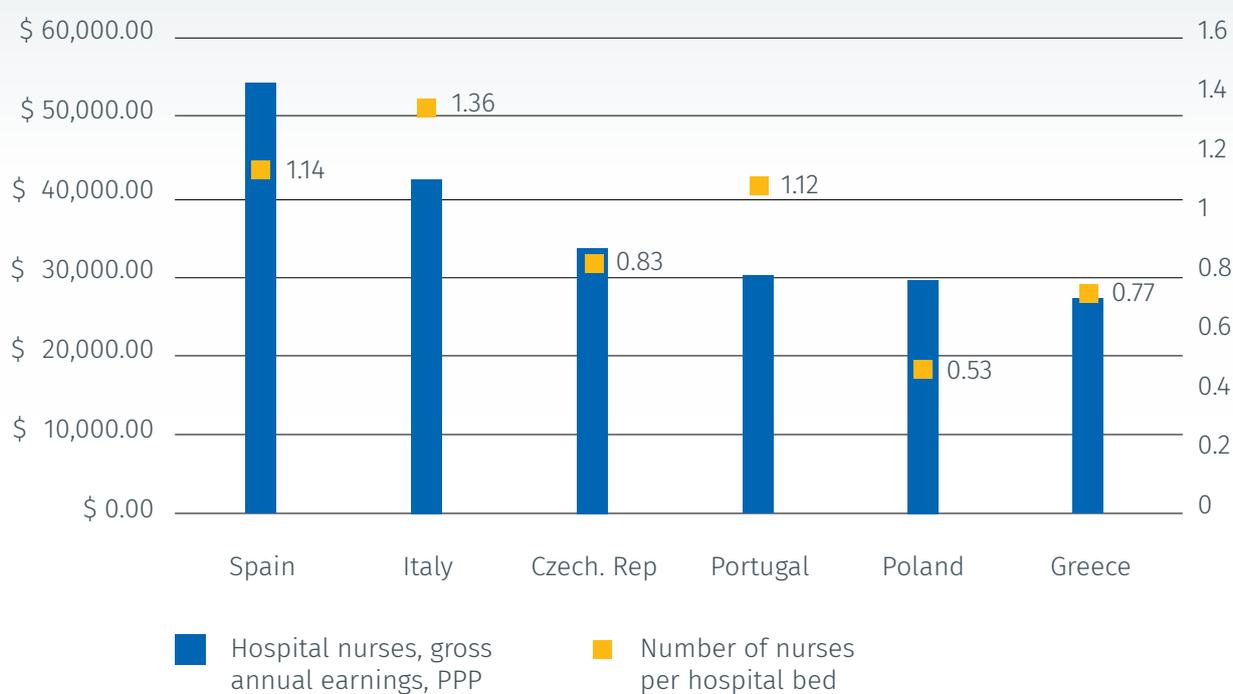
Source: OECD 2017

³⁰ The OECD statistics take into account consultations of both general practitioners and specialists. See Health at a Glance 2017, OECD, p. 168.

• Nurses

The OECD does not collect direct data on the amount of work carried out by nurses. Only indirect data is available, e.g. the number of nurses per hospital bed. On this basis, it can be concluded that a Polish nurse, at 2 hospital beds per nurse, has more work than her Italian colleague, who has to tend to less than 1 bed. In Poland, a nurse receives over half the remuneration for this work compared to Italy.

Figure 37. Earnings and workload of nurses: Poland and the comparison Countries



Source: OECD 2017

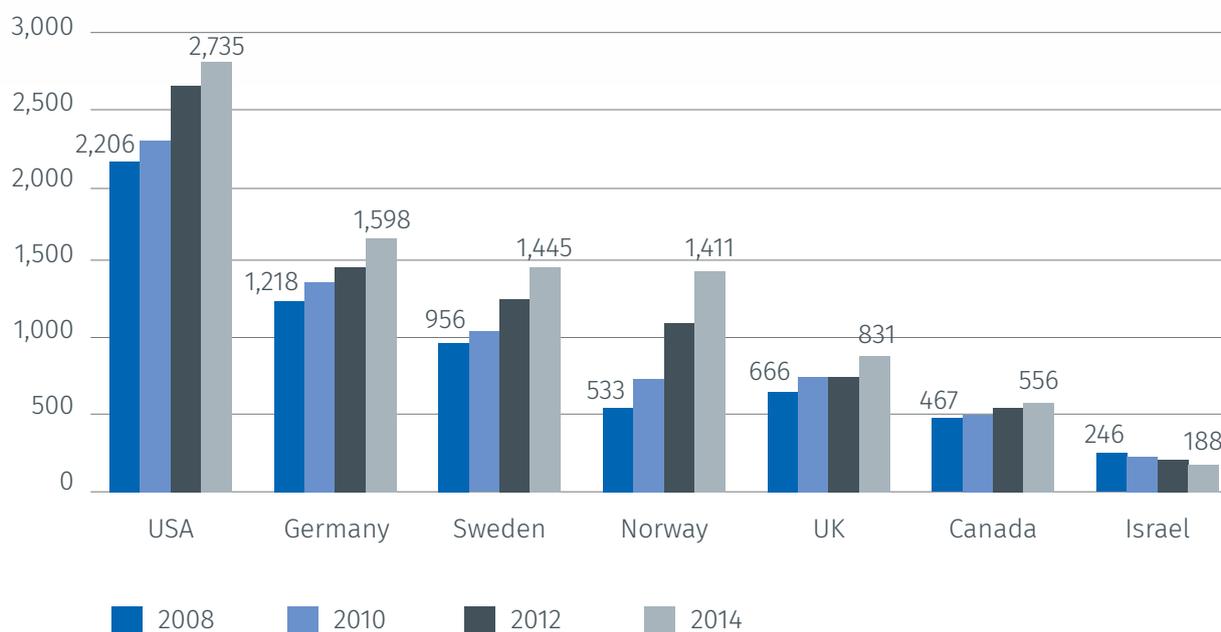
When demand exceeds supply, are hospitals still financially sound?

4.3 Migration and its consequences for medical personnel

a) Migration of physicians from and to Poland

Conclusions regarding the working conditions of physicians and nurses should be considered in the context of migration of medical personnel. Researchers on behalf of the WHO determined that among the motivations contributing to the migration of “white aprons” in Europe, an important role is played by higher salaries and better working conditions. This tendency also applies to Polish medical emigrants.³¹ The number of Polish physicians working abroad has been steadily growing for many years. In 2006, 4,885 Polish physicians worked in OECD Countries; this grew to 7,189 in 2010 and 9,439 in 2014.³² For years, the most popular destinations for Polish physicians have been the United States, Germany, Sweden, Norway, the UK, Canada and Israel. According to OECD data, the compared Countries are not a target for the emigration of physicians from Poland. Only 210 Polish physicians worked in Spain in 2011, and 26 worked in the Czech Republic in 2016.

Figure 38. Main directions and scale of emigration of physicians from Poland



Source: OECD

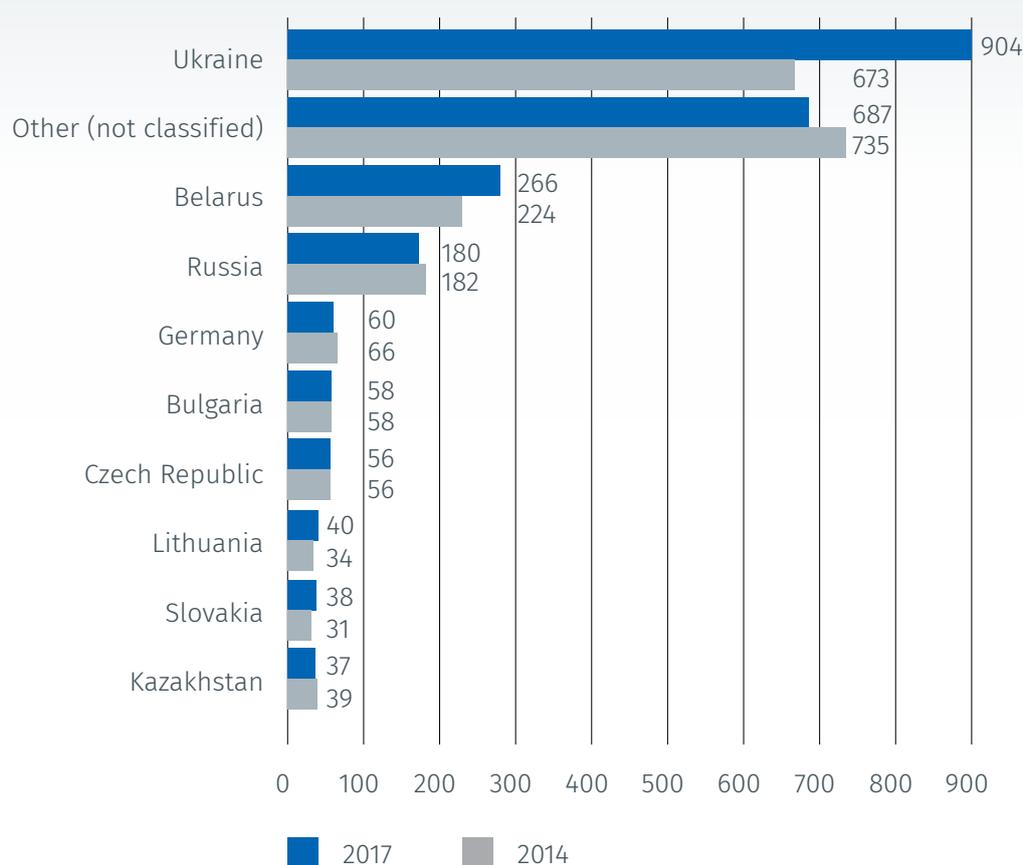
³¹ *Health Professional Mobility and Health Systems. Evidence from 17 European Countries.* Ed. M. Wismar et al. 2011, pp. 4, 438.

³² If not stated otherwise, we provide our own calculations based on OECD data. For Poland, the latest data, taking into account all major directions of emigration, comes from 2014.

Poland is not a direction of physicians' immigration from other Countries. According to OECD data, only 1.8% of all physicians in the Country obtained their qualifications abroad. It is one of the lowest indicators among the 28 Countries surveyed, for which the average is 16.9%.³³

Among foreign medics in Poland, most were trained in the Countries of the former Eastern Bloc. In 2017, 904 Ukrainians, 266 Belarusians and 180 Russians worked in Polish hospitals. A small number were physicians from across Polish southern borders: 56 Czechs and 38 Slovaks. In recent years, the number of physicians trained outside Poland has increased slightly, from 2,302 in 2014 to 2,549 in 2017 (i.e. an increase of less than 11%). This increase stems almost exclusively from Ukraine: the number of Ukrainian physicians has increased by 34% in 4 years.

Figure 39. Main directions and scale of immigration of physicians to Poland



Source: OECD

³³ See Health at a Glance 2017, OECD, p. 165.

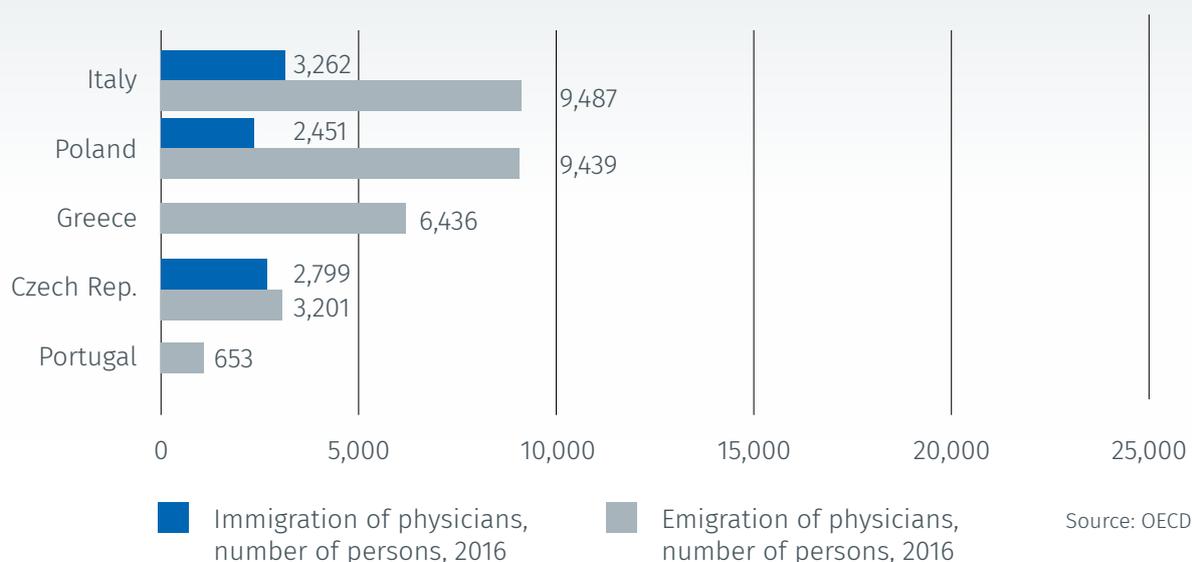
When demand exceeds supply, are hospitals still financially sound?

b) Migrations of physicians from and to compared Countries

If we take Poland as a reference point, among the compared Countries only Italy has a similar structure of physician migration. Both Countries have practically the same emigration rate, and a similarly low percentage of physicians trained abroad: 1.8% for Poland and 0.8% for Italy. In 2016, however, more foreign-trained physicians went to Italy than Poland.

Among the compared Countries, in 2016 only Spain achieved a positive migration balance, i.e. more physicians went into the Country than left it, and Spain has the highest percentage of physicians educated abroad (9.4%). The vast majority come from Latin American Countries, where the standards of education for physicians are different than in Europe. This raises the problem of maintaining an adequate quality of treatment in the Spanish health service.

Figure 40. Migrations of physicians: Poland and the comparison Countries³⁴



c) Migrations of nurses in Poland and the compared Countries

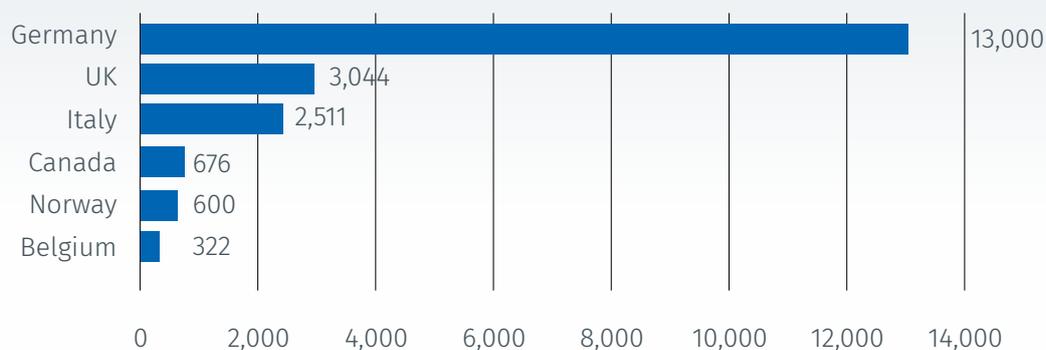
According to the OECD, in 2016 there were 20,251 nurses educated in Poland who are now working abroad. The most popular direction of emigration seems Germany, with over 50% of Polish nurses who work abroad. More than 3,000 Polish nurses worked in the UK and more than 2,500 in Italy. Other Countries were less attractive destinations.

The number of nurses trained in Poland but working abroad is particularly high if we compare it with the data on immigration provided by the OECD. According to these statistics, only 21 nurses who were trained abroad came to Poland in 2016. In turn, the Supreme Chamber of Nurses and Midwives estimates that 90 nurses from Ukraine currently work in Poland.³⁵

³⁴ Data on physicians arriving in Slovakia and Spain were not included into chart because they refer to 2011.

³⁵ See Karolina Kowalska, *Będzie więcej pielęgniarek z Ukrainy, Rzeczpospolita*, 13.04.2018.

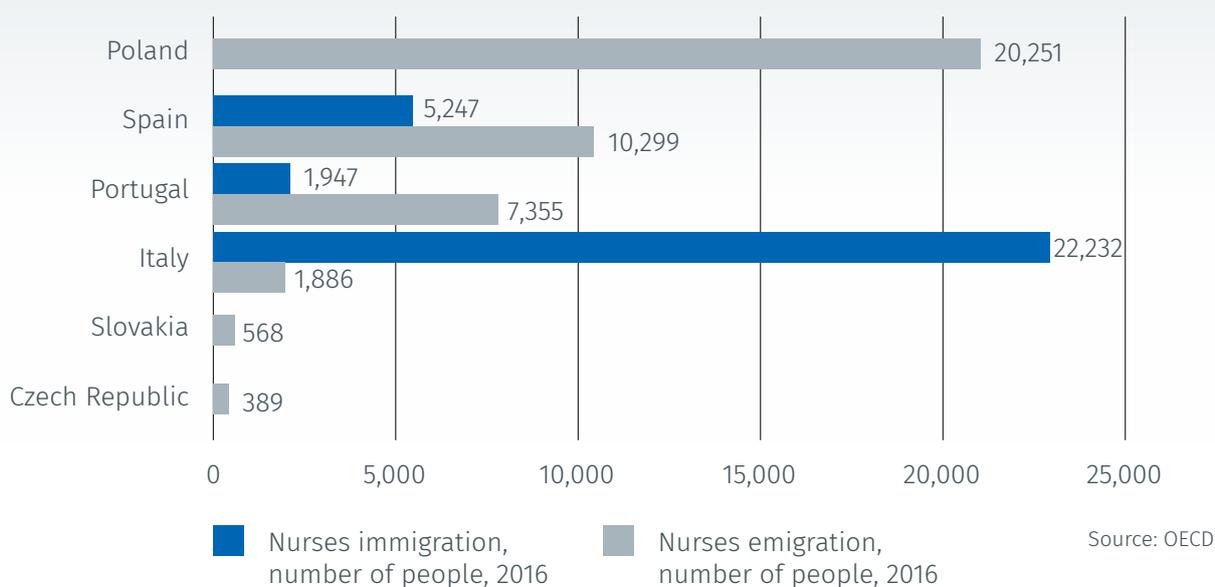
Figure 41. Number of Polish nurses working abroad, 2016



Source: OECD

In 2016 over 20,000 Polish nurses emigrated, the highest number among the compared Countries. Spain ranked second, with almost half the amount of nurses emigrating, at 10,299, and emigration of nurses is also common in Portugal. In the remaining compared Countries, the Czech Republic, Slovakia and Greece, the emigration of nurses is marginal.

Figure 42. Migrations of nurses: Poland and the comparison Countries³⁶



Source: OECD

³⁶ Greece was not included into the chart because data refers to 2015.

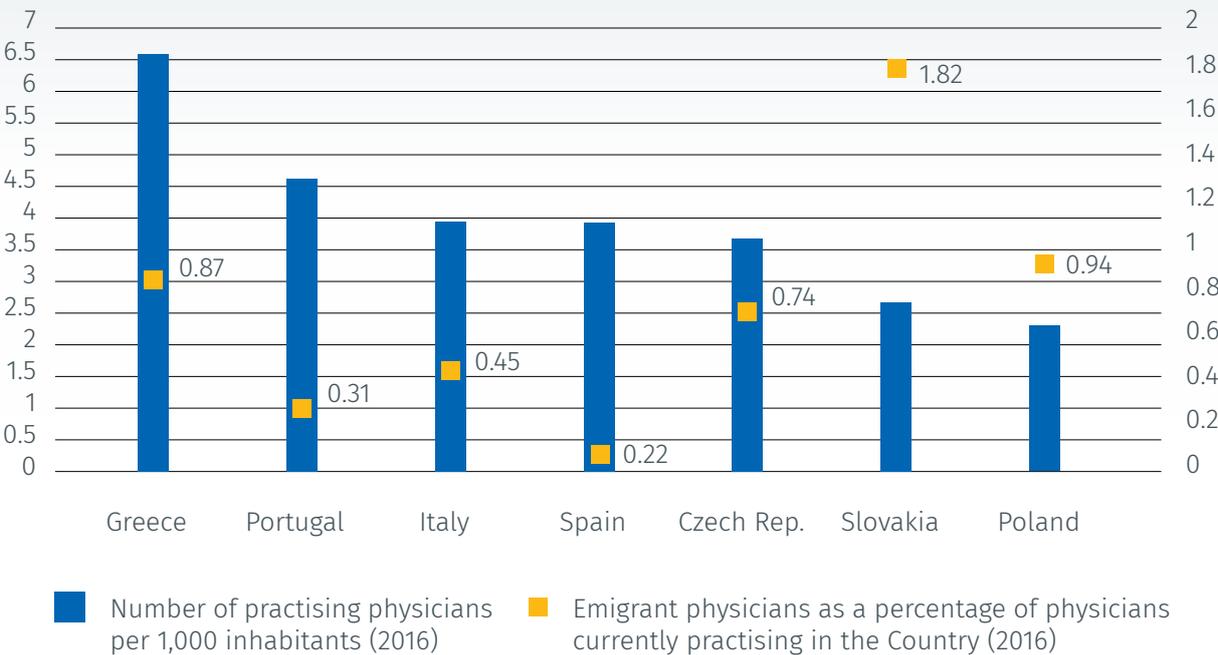
When demand exceeds supply, are hospitals still financially sound?

Italy is definitely the most attractive of the compared Countries for foreign nurses. In 2016, it employed over 22,000 nurses trained abroad, mainly from Romania (13,000) and Poland. Foreign nurses account for 5.7% of all active nurses there. There are fewer foreign nurses in Spain (5,247) and Portugal (1,947) than in Italy, but still far more than in the other compared Countries. The OECD does not have reliable data on the immigration of nurses to Central European Countries.

d) Migration and the impact on physicians availability

Slovakia and Poland have a significantly low number of physicians per 1,000 inhabitants than the other compared Countries (3.15 and 2.4, respectively) and the OECD average (3.4). Meanwhile, both Countries also have the highest percentage of emigrant physicians.³⁷ Thus, in Poland and Slovakia the number of physicians is already low and additionally depleted by emigration, which - going through historical data - is increasing in all the compared Countries.

Figure 43. Emigration and availability of physicians: Poland and the comparison Countries

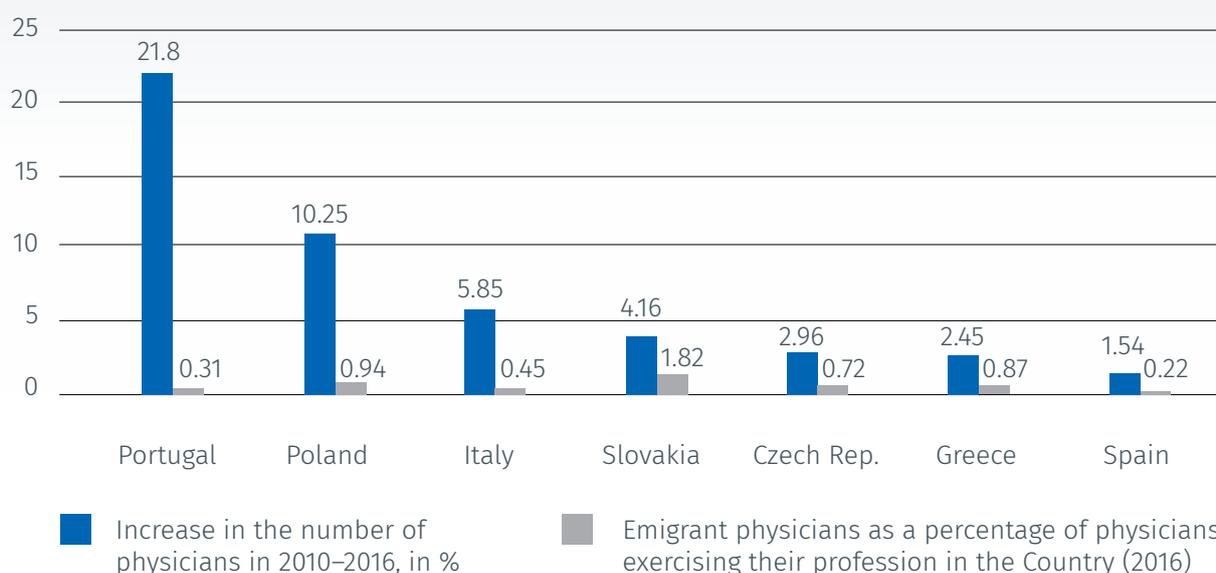


Source: OECD, own calculations on the basis of OCED

³⁷ This percentage for Slovakia would be even higher if, as in other Countries, only physicians working with patients (practising physicians) were taken into account in the calculation. However, the OECD does not have this data for Slovakia. Therefore, we used data on physicians currently working in the profession and those who use their medical education in other roles (researchers, managers, experts – professionally active physicians). The percentage of emigrants would also be higher for Portugal and Greece, where all physicians licenced to practice were taken into account. See Health at Glance, p. 151, cf. footnote 28 in this Report.

Researchers of medical staff migration have also noted the problem.³⁸ This phenomenon of the drainage of specialists to richer Countries in Western Europe is particularly evident in Countries where emigration is in no way offset by immigration, i.e. Slovakia and Poland.

Figure 44. Increase in the number of physicians and the percentage of emigrant physicians: Poland and the comparison Countries



Source: own calculations based on the OECD

Even if we adjust for an approximately 30% positive overstatement of the data from Portugal³⁹ compared to other Countries, the ratio of the increase in the number of physicians to the percentage of emigrant physicians is favourable. The situation is similarly positive in Italy. In comparison with other Countries, the situation in Poland is not the worst. The high percentage of emigrant physicians is counterbalanced by the relatively high increase in the number of physicians. However, it should be remembered that the number of physicians in Poland in relation to the population is still the lowest among the compared Countries.

In Slovakia, the Czech Republic and Spain, the losses in the healthcare system caused by emigrant physicians are the highest in relation to the scale of the increase in the number of physicians. However, it should be beared in mind that both the Czech Republic and Spain have a relatively high number of physicians in relation to the population. The same cannot be said of Slovakia.

For the purposes of this Report, Experts assessed the impact of the emigration of physicians on the healthcare situation in their Country.

In Italy, this phenomenon is of little significance, quite the opposite of Poland.

³⁸ Health Professional Mobility and Health Systems. Evidence from 17 European Countries. Ed. M. Wismar et al. 2011, pp. 74–75.

³⁹ Cf. footnotes 28 and 42.

When demand exceeds supply, are hospitals still financially sound?

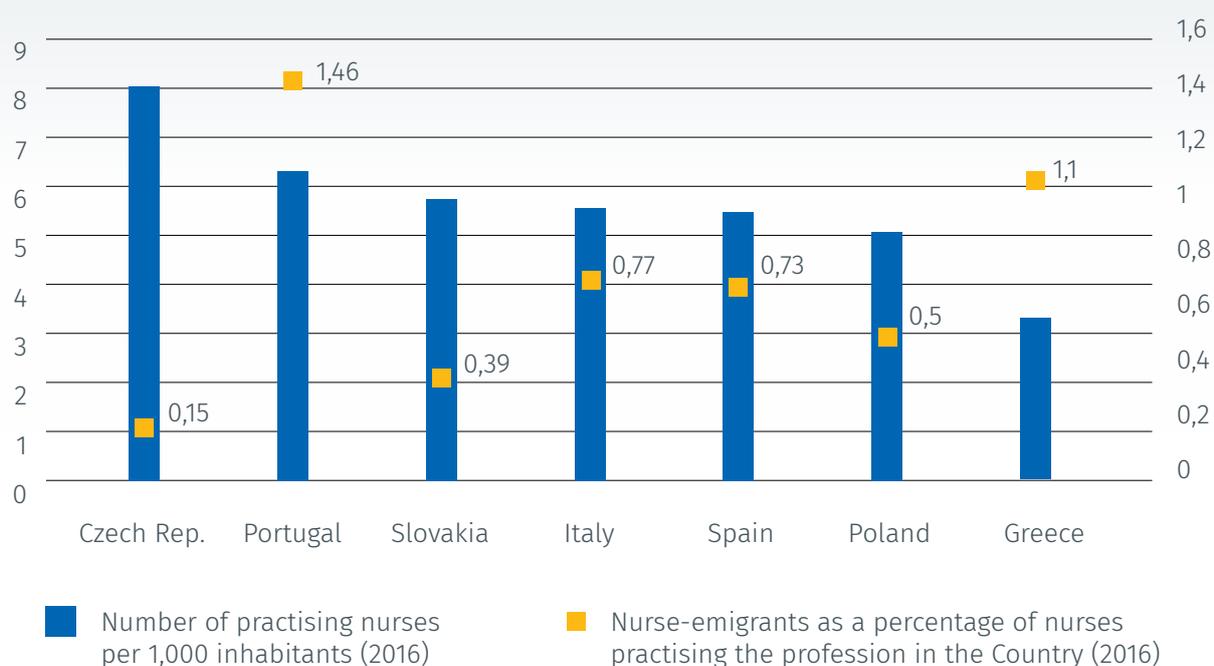
Table 17. What impact does the emigration of physicians have on the overall healthcare situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large			✓	
Medium		✓	✓	✓
Small	✓			
None				

e) Migration and the impact on nurses availability

According to OECD data, the percentage of nurses emigrating compared to the overall number of nurses in the Country is the lowest in the Czech Republic (0.15%), which also boasts the highest number of practising nurses per 1,000 inhabitants (8.07). However, the Czech Republic does not reach the OECD average of 9 nurses per 1,000 inhabitants. In Spain, Italy and Poland the situation looks worse: the number of nurses in relation to the number of inhabitants is lower there, and those leaving represent a higher percentage of the professionally active.

Figure 45. Emigration and availability of nurses: Poland and the comparison Countries

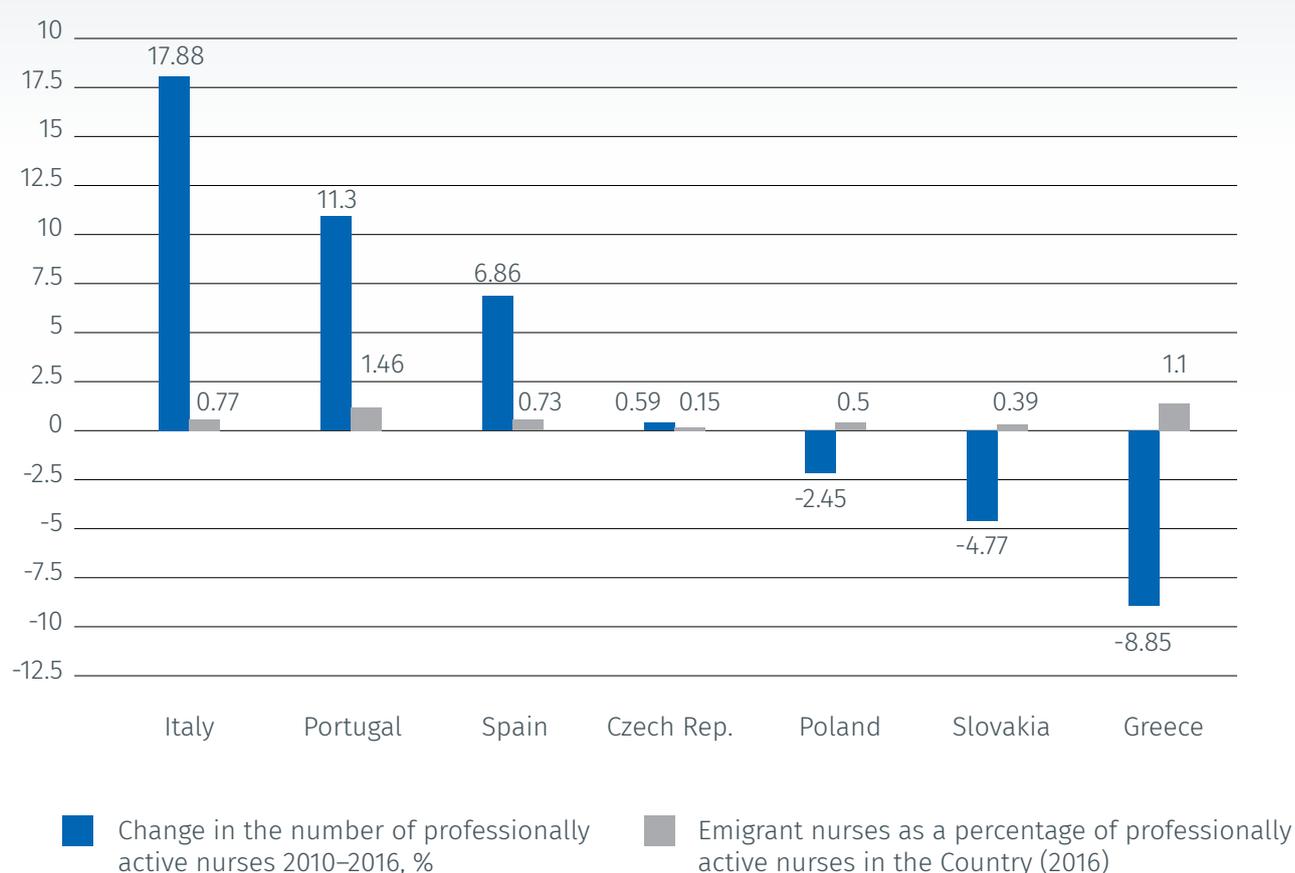


Source: Own calculations on the basis of OECD data

Portugal has the poorest availability of nurses, as does, to a lesser extent, Slovakia. In fact, the situation is much worse than shown in Figure 45.⁴⁰ The percentage of nurse-emigrants in Portugal is the highest among the compared Countries, with an already low ratio of working nurses in relation to the population.

Among the compared Countries, Greece, Slovakia⁴¹ and Poland show by far the worst trends in the availability of professionally active nurses. In each of these Countries, not only is the numbers of nurses far below the OECD average, but this has fallen over the last six years. The scarce resources of nurses are additionally depleted by emigration. This also applies in the Czech Republic, where an increase in the number of nurses turned out to be minimal.

Figure 46. Change in the number of nurses and the percentage of emigrant nurses: Poland and the comparison Countries



Source: own calculations on the basis of OECD

⁴⁰ See footnote 25 in this Report. For Portugal, Slovakia and Greece, the OECD data for the number of nurses are not compatible with those for other Countries. If the available data were comparable, the percentage of emigrant nurses for Portugal and Slovakia would be higher because the number of nurses would be lower, while for Greece the percentage would be lower because the number of nurses would be higher.

⁴¹ Cf. reservations from footnotes 25 and 39. If the available data for Greece, Slovakia and Portugal were comparable to those for the other Countries, the rate of change in the number of nurses for Portugal and Slovakia would be lower because the number of nurses would be lower, while for Greece it would be higher because the number of nurses would be higher.

When demand exceeds supply, are hospitals still financially sound?

In the other compared Countries, the prospects for the availability of nurses are more optimistic. Although in Spain and Italy the number of nurses is below the OECD average and emigration is relatively high, in recent years the growth rates have been positive, especially in Italy.

For the purposes of this Report, Experts assessed the impact of emigration of nurses on the healthcare situation in their Country. Only in Poland this phenomenon was assessed with an high level of criticality.

Table 18. What is the impact of the nurse emigration on the overall health situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large			✓	
Medium		✓	✓	
Small	✓	✓		✓
None				

5

Which trends will affect the healthcare system in the coming future?

5

Which trends will affect the healthcare system in the coming future?

Ageing population and its impact on the healthcare system

Changes in the number of physicians and nurses

Pay rises for healthcare professionals and the financial burden on hospitals

New medical technologies

The Experts' health forecasts for the compared Countries

5.1 Ageing population and its impact on the healthcare system

Demographic forecasts for Poland and compared Countries, but also for other European Countries, are unambiguous: the number of older people will increase, since we live longer. On the other hand, the population of young people (including those of working age) is shrinking. From the point of view of the healthcare system, and especially its financing, this means huge changes.

A reduction in the number of people of working age who pay health insurance contributions, with increasing numbers of pensioners and the elderly, will have two main consequences. The Ministries of Health in Poland and in the compared Countries will not only have to fill the gap in health budgets caused by a reduced inflow of money from working people⁴², they will also have to find additional resources to meet the health needs of older people.

In Poland, which is not an exception in this respect, the costs of treatment of elderly people are several times higher. This is also growing much faster than for people of working age. According to conservative estimates by the National Health Fund, between 2014 and 2030 the increase will be seen in the cost of services “significantly related to age”. The most funds, an increase of 33.9%, will have to be allocated to care services. In order to maintain the current level of availability of services in line with demographic changes, funding should increase by PLN 500 million (about € 132 million) every year.⁴³

For the purpose of this Report, Experts have assessed the impact of an ageing population on the healthcare situation in their Country. In Poland and Greece this phenomenon is not visible to the same extent as in Italy and Portugal.

Table 19. What is the impact of an ageing population on the overall healthcare situation in my Country? Experts’ responses

Assessment	Italy	Portugal	Poland	Greece
Large	✓	✓	✓	✓
Medium			✓	✓
Small				
None				

⁴² In 2018, due to the good economic situation, the Social Insurance Institution blocked a subsidy from the state budget for the Social Insurance Fund. In total, that amounted to PLN 5.2 billion. Adam Niedzielski, vice-president of the National Health Fund, said that “Such a situation also has extremely beneficial consequences for the National Health Fund budget”. Moreover, the National Health Fund budget gained directly from the economic situation due to growing salaries and a higher number of employees. In 2017, the Fund’s revenues from health insurance premiums were higher by PLN 1.69 million than expected. See the Annual Report on the implementation of the 2017 National Health Fund Financial Plan, p. 33.

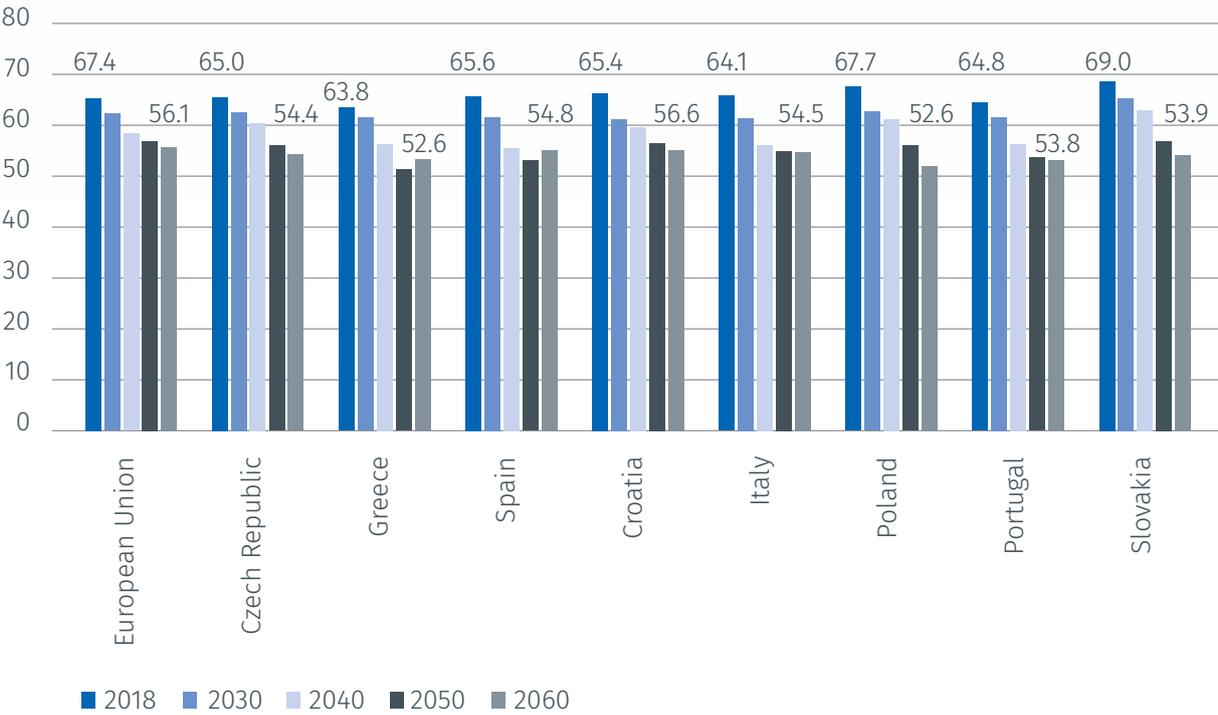
⁴³ National Health Fund, Projection of costs of healthcare services financed by the National Health Fund in the context of demographic changes in Poland. Warsaw 2015, pp. 12, 13.

Which trends will affect the healthcare system in the coming future?

a) Demographic forecasts for Poland and compared Countries

According to the European Statistical Office, over the next four decades the number of people of working age who, *de facto*, finance the social security system will fall by around 10% in the compared Countries and will amount to just over half of the population. At present, Slovakia has the highest percentage of people aged 15–64 (69%), with Poland (67.7%) a close second. In both Countries, by 2060 there will also be the largest decrease among the compared Countries in the number of economically active people, to 53.9% and 52.6%, respectively.

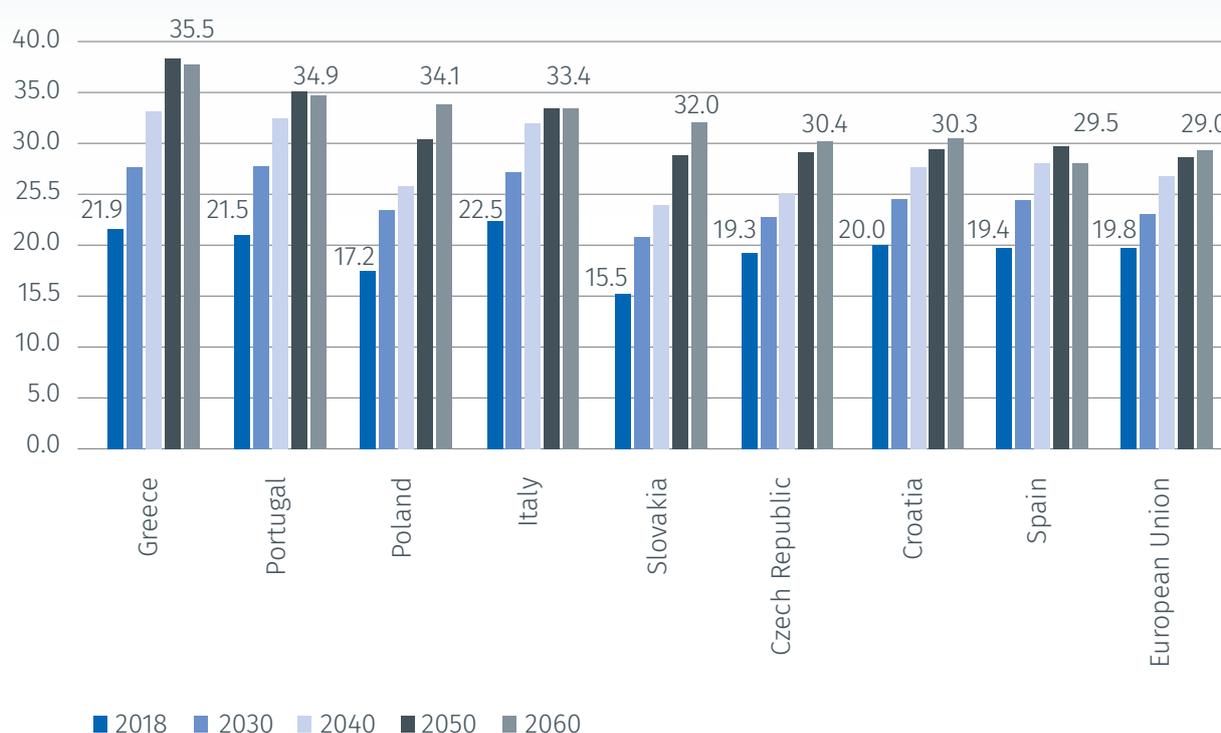
Figure 47. Persons aged 15–64 as a percentage of the population: projections for Poland and the comparison Countries



Source: Eurostat

According to Eurostat, the number of people of retirement age, i.e. those generating the highest costs for the healthcare system, will grow steadily in the coming decades. In the European Union, people aged 65+ currently account for 19.8% of the population. In the compared Countries located in Central and Eastern Europe, this figure is slightly lower: Poland (17.2), Czech Republic (19.3), and Slovakia (15.5). In Western and Southern Europe, on the other hand, the figure is slightly higher than the EU average: Greece (21.9), Italy (22.5), Portugal (21.5), Croatia (20). The exception is Spain, with 19.4% of the Country's population aged 65+.

Figure 48. People aged 65+ as a percentage of the population: projections for Poland and comparison Countries



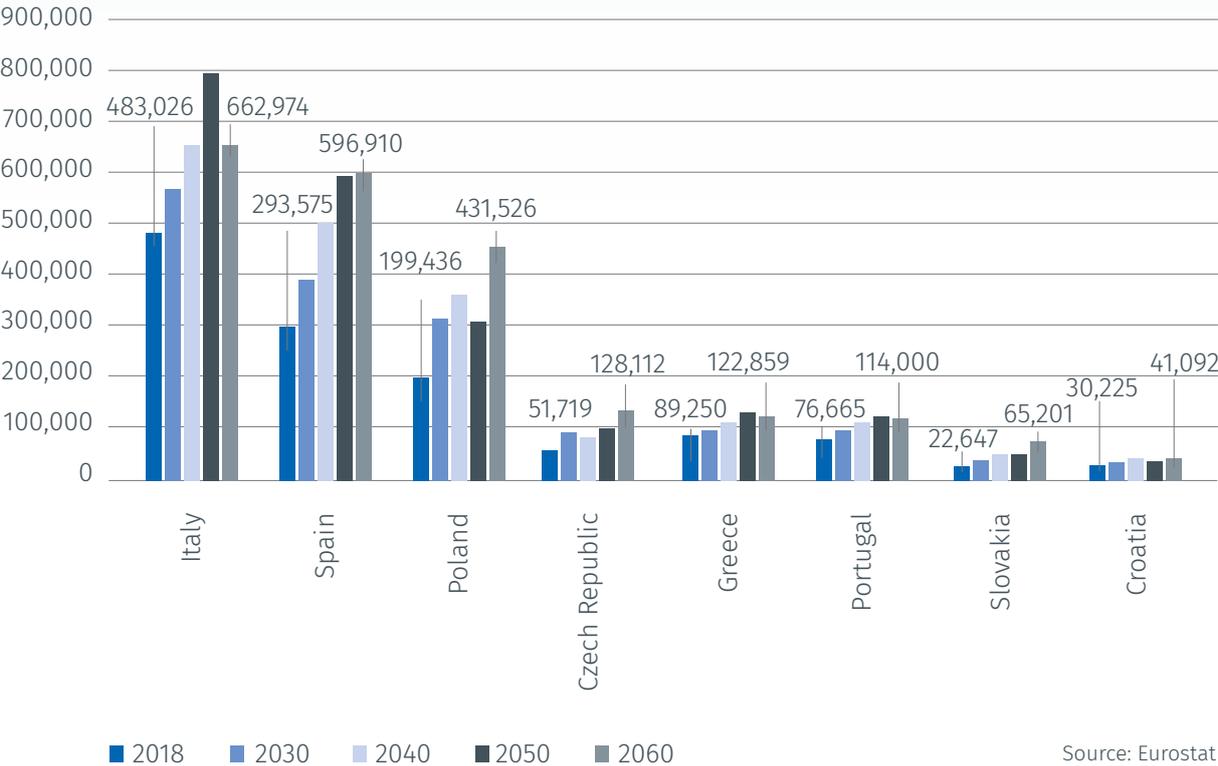
Source: Eurostat

Which trends will affect the healthcare system in the coming future?

In the coming decades, the percentage of pensioners will increase steadily and significantly. In all the compared Countries, within 30–40 years this will exceed 30% of the Country’s total population. The highest, almost two-fold increase to 34.1%, will take place in Poland. In Greece, by 2050, people over 65 years of age will account for 36.5% of the population, and in Portugal they will account for 35%.

Over the next four decades, the number of the oldest people, aged 80+, will increase intensively. The largest increase will be seen in the Countries of Central and Eastern Europe, especially in Slovakia, where the growth will amount to 187%. Currently there are 22,647 people aged 80+ living there, and in 2060 there will be 65,201. Poland will see a 116% increase, from 199,436 at present to 431,526 in 2060.

Figure 49. Increase in the number of people aged 80+: projection for Poland and the comparison Countries

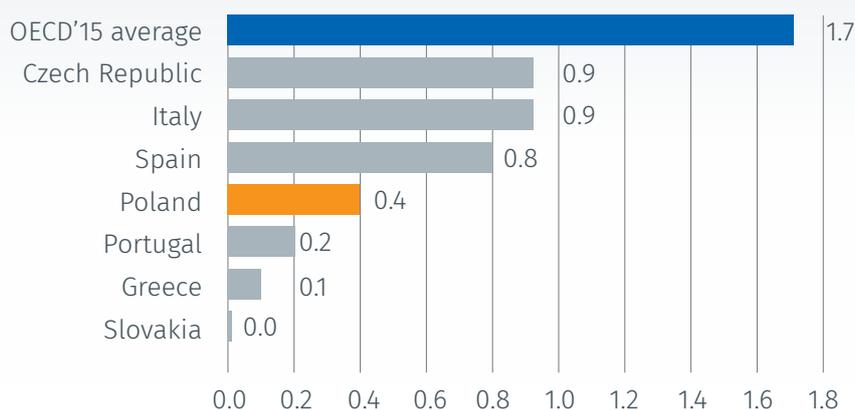


b) Outlays on long-term care

Long-term care usually applies to older people. Poland assigns only 0.4% of GDP to this sector, clearly less than the Czech Republic, Italy and Spain, the leaders in this aspect. However, in all the compared Countries, the level of long-term care expenditure in 2016 was clearly below the 2015 average indicator for developed Countries, at 1.7%.⁴⁴

⁴⁴ See Health at Glance 2017, OECD, p. 215.

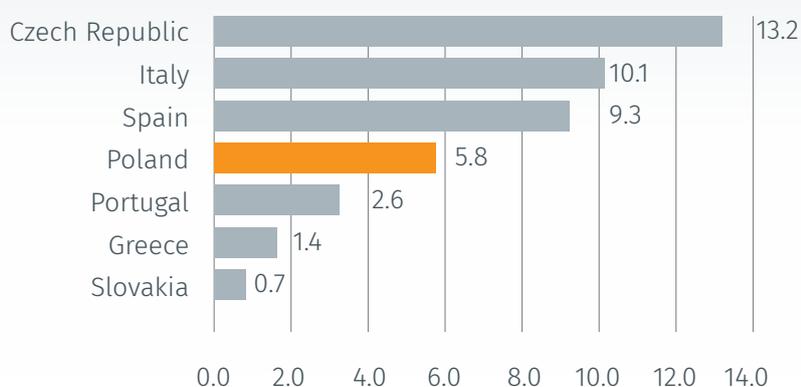
Figure 50. Expenditure on long-term care as a percentage of GDP: Poland and the comparison Countries, 2016



Source: OECD 2017

The lowest level of financing for long-term care can be seen in the Countries that will face the highest increase in the number of pensioners and elderly people in the coming years. The outlook is not favourable for Slovakia, where long-term care expenditure was less than 0.1% of GDP and represented less than 1% of total healthcare expenditure. Demographic forecasts are also unfavourable for Poland, so the level of financing of care for seniors in our Country might be regarded as dangerously low.

Figure 51. Long-term care expenditure as a percentage of total healthcare expenditure: Poland and the comparison Countries, 2016



Source: OECD 2017

Which trends will affect the healthcare system in the coming future?

The availability of long-term care beds also shows the scale of the “demographic” challenges that all European Countries, including the compared Countries, will face in the coming years. For Poland, this is an unfavourable indicator, because it highlights the scale of investments necessary to meet the needs of the oldest part of society. According to the OECD, the number of beds in Poland decreased between 2005 and 2015 by 0.6 beds per 1,000 inhabitants aged 65+.⁴⁵

The OECD notes the general trend of reducing the number of beds in long-term care, but this is particularly true for Countries that have sufficient beds of this type; for example, in the Czech Republic, where in 2015 the number of beds was 11.4 less than in 2005. In contrast, Slovakia, which is the only Country with more beds than the OECD average, has increased this figure by 3.5 in recent years. Italy also increased the number of beds by 3.3 but this has not significantly improved accessibility.

Figure 52. Number of beds in long-term care per 1,000 people aged 65+



Source: OECD 2017

5.2 Changes in the number of physicians and nurses

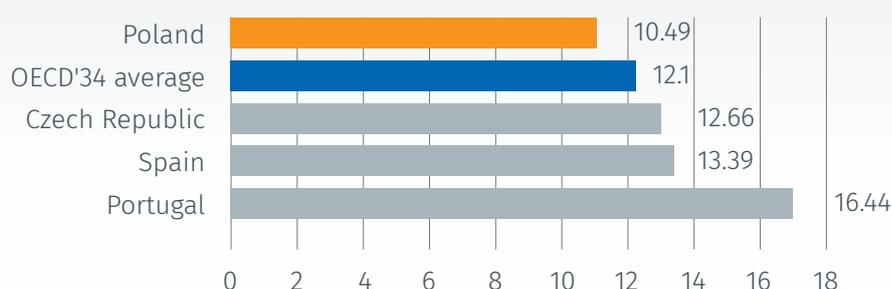
a) Number of medical graduates

The number of physicians in the Country is influenced not only by the migration of medical personnel, but also by the training of future professionals. We already know that migration trends have intensified in recent years and are likely to continue to intensify, bringing an outflow of physicians from the compared Countries. Will the losses be compensated by medical and nursing graduates?

In terms of the number of medical university graduates (similar to the number of already educated physicians), Poland ranks near the bottom of the compared Countries and below the OECD average. The system of physician training in the other compared Countries gives much better results in terms of the number of graduates. Portugal deserves particular attention in this respect: the number of physicians graduating from universities there (in relation to the population of the Country) is the highest among the compared Countries and ranks 5th compared to all OECD Countries.

⁴⁵Trends in bed availability come from Health at a Glance 2017, p. 213.

Figure 53. Number of medical graduates per 100,000 inhabitants: Poland and the comparison Countries, 2016⁴⁶



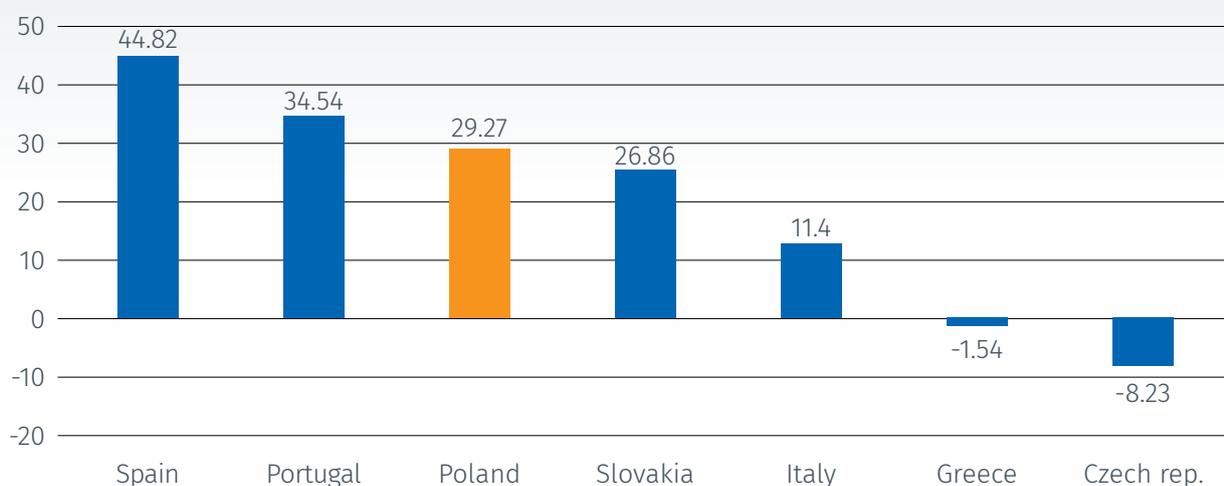
Source: OECD

It is worth noting the positive trend at Polish medical universities, which in the years covered by the analysis released almost 30% more graduates. In 2010 there were 3,081 graduates and in 2016 there were 3,983.⁴⁷ In addition to immigration, this is a way to supplement the losses after emigrants and increase the number of physicians in Poland in relation to the population.

Spain and Portugal are in a much better position. Both Countries can boast not only an above-average number of graduates, but also a spectacular increase in this respect, at around 45% and 35%, respectively.

The Czech Republic, on the other hand, stand out negatively. The percentage of medical graduates fell by almost 10% between 2010 and 2016, but in relation to the Country's population this is still higher than the OECD average.

Figure 54. Change in the number of medical graduates in 2010–2016, %



Source: own calculations based on the OECD data

⁴⁶ Greece, Italy and Slovakia are not included into the chart due to data referring respectively to 2013, 2015 and 2014.

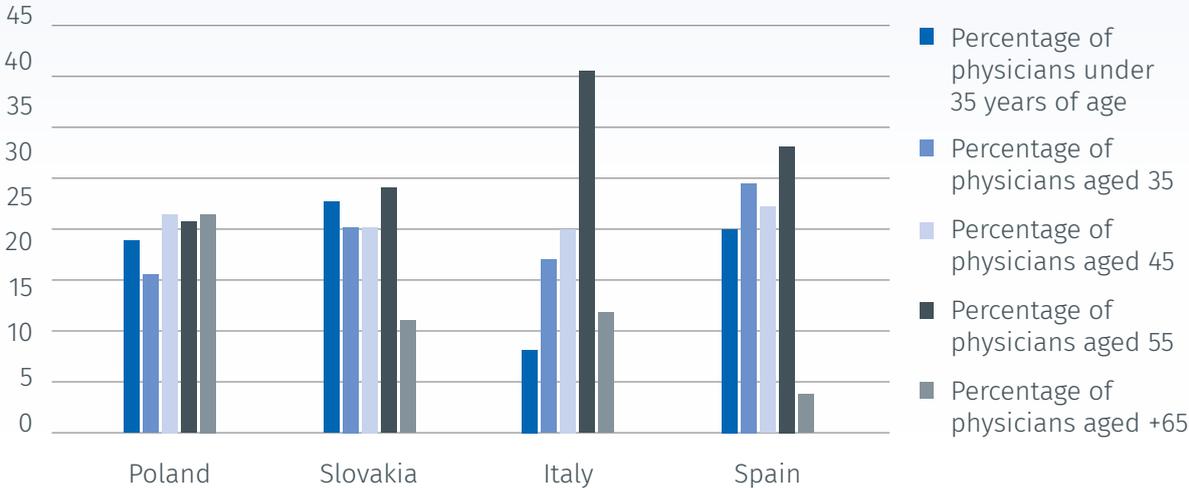
⁴⁷ According to data from the Ministry of Health, admission places for medical studies are increasing; in the academic year 2015/16 there were 3,529 places and in 2017/18 this had already grown to 4,368. See <https://www.gov.pl/zdrowie/wieksze-limity-przyjec-na-kierunki-lekarskie>.

Which trends will affect the healthcare system in the coming future?

b) Age structure of physicians

Over the next few years, all the compared Countries will have to deal with the problem of ageing medical personnel. In Italy, over 50% the physicians are more than 55 years old; and in Poland this is 43%. In Poland, according to data from the Ministry of Health in 2017, as many as 22.6% of the employed physicians have already reached retirement age and could retire at any time. In Italy and most of the other compared Countries, this figure is around 10%.

Figure 55. Age structure of physicians: Poland and the comparison Countries, 2016



Source: OECD, Polish Ministry of Health

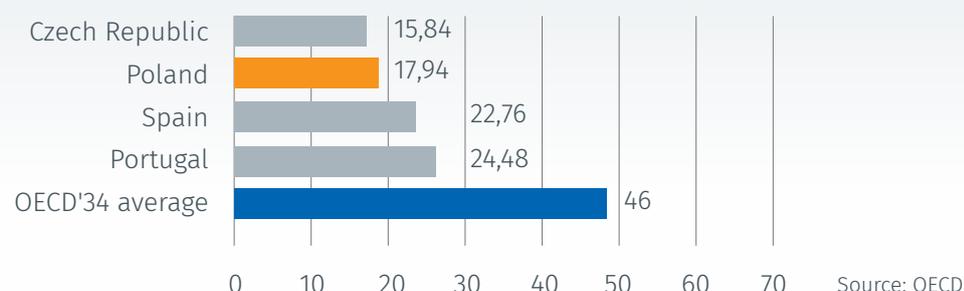
In the compared Countries, the biggest group of physicians is those aged 55–64, who will reach retirement age within 10 years at the latest: Italy (41.3%), Spain (28.7%), Slovakia (24.4%), and Poland (21.3%).

In terms of the number of physicians under 35 years of age, Poland compares favourably with other Countries, with 18.8% of the medical population. The highest figures for this can be seen in Slovakia (22.6%) and the lowest in Spain (8.5%).

c) Number of nursing degree graduates

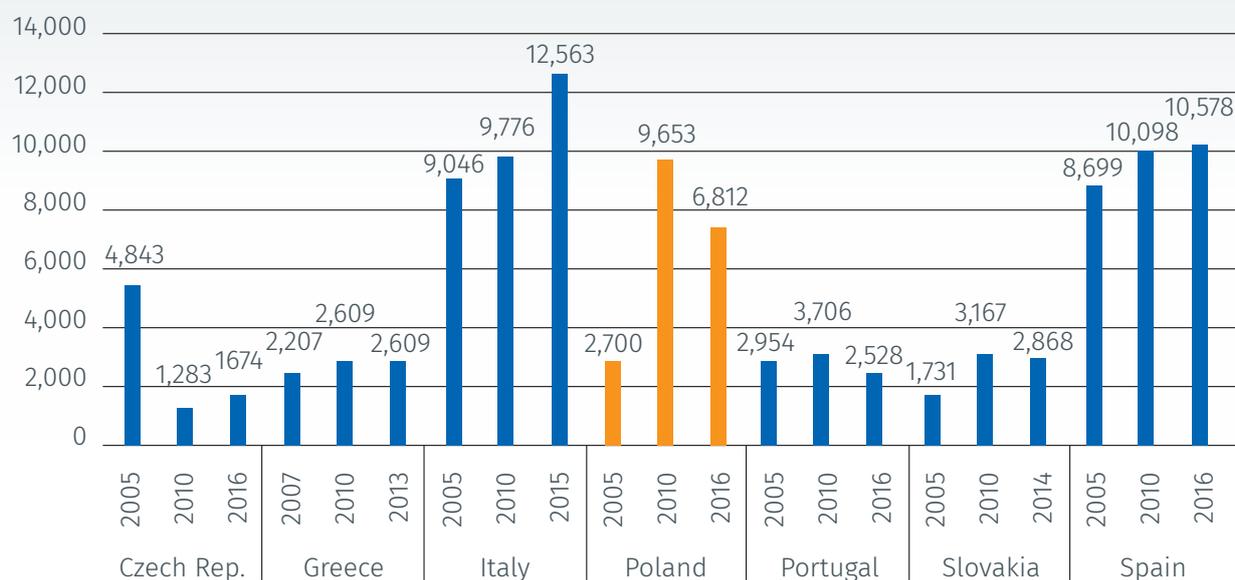
The lack of nurses in Poland, but also in most of the compared Countries, will be difficult to solve by bringing nursing graduates into the profession. In terms of the number of nursing graduates per 100,000 inhabitants, Poland is at the bottom of the compared Countries. However, for most of them, there are more than double the OECD average of graduates. The exception is Slovakia.

Figure 56. Number of nursing graduates per 100,000 inhabitants: Poland and the comparison Countries, 2016⁴⁸



In the last dozen or so years, there has only been a systematic increase in the number of nursing graduates in Italy and Spain.

Figure 57. Number of graduates of nursing studies in Poland and comparison Countries



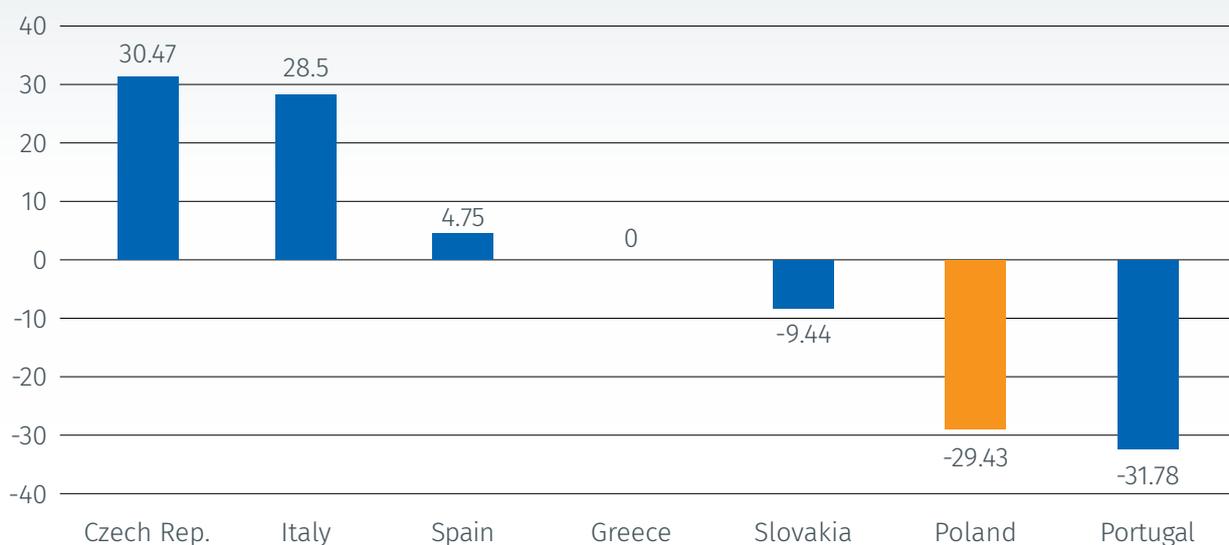
Source: OECD

On the other hand, in recent years there have been large fluctuations in the number of graduates in a few of the compared Countries, including Poland. From 2005 to 2010, the number of nurses graduating from university in Poland increased several times, but the following years brought a significant decrease.⁴⁹ For Poland, the 29% drop is a worrying result given the low number of active nurses. Similarly, there were large fluctuations in the Czech Republic, and slightly smaller fluctuations in Portugal.

⁴⁸ Greece, Italy and Slovakia are not included into chart due to data referring respectively to 2013, 2015 and 2014. cf. Health at a Glance 2017, p. 161.
⁴⁹ Data from the Ministry of Health show that the number of admissions to (undergraduate) nursing studies is growing: academic year 2015/16, 5,677; academic year 2017/18, 6,262. At the same time, according to the Minister of Health, Łukasz Szumowski, 30% of female graduates are not interested in nursing and prefer other industries, such as cosmetics. See Szumowski's statement for Channel 1 of the Polish Radio, 13.06.2018: <https://www.gov.pl/zdrowie/wieksze-limity-przyjec-na-kierunki-lekarskie>.

Which trends will affect the healthcare system in the coming future?

Figure 58. Change in the number of nursing graduates in 2010 - 2016, %

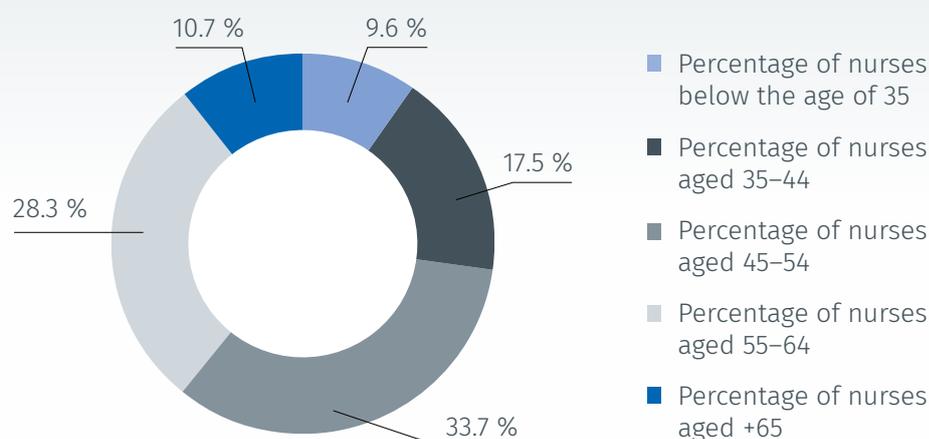


Source: own calculations based on the OECD

d) Age structure of nurses in Poland

According to the Statistical Bulletin of the Ministry of Health⁵⁰, nurses who are eligible to retire at any time account for 10,7% of all nurses in the profession. Together with those in the 55–64 age group who will reach pensionable age in the near future, this gives a total of more than 39% of all nurses, so many may leave the profession in the coming years.

Figure 59. Age structure of nurses in Poland



Source: Own calculations based on Polish Ministry of Health data

⁵⁰ The OECD does not have data on the age structure of nurses in the compared Countries.

Meanwhile, young nurses under 35 years of age account for only 10% of those working in the profession. This is not expected to increase in the near future according to the data presented in the previous section, which shows that in recent years the number of female nursing graduates in Poland has fallen by almost 30%.

The shortage of nurses will therefore worsen, and the negative consequences of this will become more apparent in the context of an ageing society as a whole. According to estimates of the Supreme Chamber of Nurses and Midwives in Poland, there will be a shortage of 169,000 nurses in 2033⁵¹.

5.3 Pay rises for healthcare professionals and the financial burden on hospitals

In all Countries, the emigration of physicians and nurses is a result of a desire for improved working conditions, including remuneration. In Poland, in the first half of 2018, salary increases were awarded to physicians, resident physicians and nurses. Physicians will earn at least PLN 6,750 (about € 1,779) gross on the condition that they give up on-call time outside their primary place of employment.

Resident physicians will receive a PLN 600 (about € 158) or PLN 700 (about € 184) increase if, after specialisation, they work for a public entity for two years. Nurses received a guarantee that PLN 1,100 (about € 290) of the previous increases they have received so far in the form of allowances, will be included in the basic salary. The agreement with nurses also included a provision for increasing employment standards.⁵² Thanks to another government increase in the minimum wage to PLN 2,250 (about € 593) gross in 2019, the hospital cleaning and catering personnel will also see financial gains.

The Ministry of Health will cover only part of the costs of the increases. For example, the increased proportion of social insurance contribution that hospitals will have to pay after salary raises for physicians or resident physicians, will have to come from hospitals' own budgets. The situation is similar with the increased employment standards for nurses. However, in this case, apart from money for salaries, directors of at least 60% hospitals will have to find nurses that are simply not available on the market.⁵³ Thus, the Polish Association of Employers of County Hospitals demanded the suspension of this provision. Hospitals lacking funds for salaries and increases can apply for money to the founding body, incur a credit, or take out a loan from a bank or financial institution. In the latter case, this will further drive the debt spiral.

“One of the reasons for the debt in the health service in Poland is the obligatory wage pressures of the medical and non-medical staff without introducing additional measures to the healthcare system.”

Prof. Maria Węgrzyn (Poland), Wrocław University of Economics

Even if the hospital does not have to incur debts in order to finance the salary increases, there will be less money left for patient treatment.

⁵¹ SCNMP, Strategy for the development of nursing and midwifery in Poland. Warsaw 2017, p. 93.

⁵² The agreements of the Minister of Health with physicians and nurses contain many exclusions and detailed provisions. The content of the agreements with physicians and nurses is available on the website of the Ministry of Health: <https://www.gov.pl/zdrowie/podpisano-porozumienie-z-pielegniarkami-i-poloznymi>; <https://www.gov.pl/zdrowie/jest-porozumienie-ministra-zdrowia-z-lekarzami-rezydentami>.

⁵³ Union of Polish Counties, Situation of county hospitals and prospects for the future, p. 27.s

Which trends will affect the healthcare system in the coming future?

5.4 New medical technologies

Increasing resources are being allocated to healthcare. Innovative medical technologies are among the key drivers of cost increases. It is thought that in the USA they are responsible for a 40–50% increase in healthcare costs per year⁵⁴, but some studies estimate this to be as high as 75%.⁵⁵

Technological progress plays an essential role in the increase in healthcare costs, especially in highly developed Countries, where the level of use of new technologies is high. Studies show that in the Countries that joined the European Union in 2004 and in the post-Soviet Countries this correlation is not significant. However, with increases in wealth, it can be expected that medical technologies will increasingly determine an increase in healthcare costs.⁵⁶

Some of the researchers placed the “blame” for the increasing costs in healthcare on new technologies. On the other hand, however, the Experts point to examples of modern technologies making it possible to noticeably reduce costs. In Poland, for instance, at the Silesian Centre for Heart Diseases, telemonitoring of patients in a three-year perspective helped to reduce the cost of treatment by 40–50%.⁵⁷ The economic benefits resulting from the implementation of new solutions in healthcare also include faster convalescence of patients and less postoperative complications. In oncology, for example, the treatment of neurilemoma with Gamma Knife, an irradiation device, can reduce hearing loss from 71.7% to 32.7%, and nerve damage from 22.1% to 3.8%.⁵⁸

“The electronic prescription system (e-Prescription) used in Greek healthcare deserves to be commended. In addition, advanced data analytics help us better understand the entire healthcare system and tailor it to patients’ needs.”

Platon Peristeris (Greece), Pharmaffairs Consulting Firm

Among the new medical technologies, eHealth arouses great interest. In September 2018, the schedule for the introduction of an electronic system in Poland assumed that the e-Prescription programme would start operating on a nationwide scale at the beginning of 2020, eReferral would begin a year later, and full electronic circulation of medical records would be introduced at the beginning of 2022.⁵⁹ According to WHO data, Poland performs well in the eHealth aspect⁶⁰ and follows world trends, implementing projects in areas popular in most Countries researched by WHO. Among the compared Countries, Italy stands out in terms of scope and advancement of eHealth. Not the same for the Czech Republic, especially in the area of legislation. Portugal and Spain do not have a strategy for the development of eHealth and Greece does not have a strategy for the development of teleHealth. However, in terms of adapting legislation to electronic health services, these three Countries are at the top of the list.

⁵⁴ See Cf. Daniel Callahan, Healthcare Costs and Medical Technology, The Hastings Centre 2008. <https://www.thehastingscenter.org/briefingbook/health-care-costs-and-medical-technology/#expertbox>

⁵⁵ Błażej Łyszczarz, Ewelina Nojszewska, Determinating factors of healthcare expenses in Europe. “Yearbook of the College of Economic Analysis of the Warsaw School of Economics” 2015, No 39, p. 186.

⁵⁶ Ibid., p. 194.

⁵⁷ Ryszard Piotrowicz, XXI century – time of telemedicine on the example of modern implementations. In: Modern medical technologies and their impact on everyday clinical practice in the Polish health service. Senate Office 2016, pp. 23–24.

⁵⁸ Mirosław Ząbek, Use of gamma radiation as a source of therapeutic energy. In: Ibid., pp. 47, 50.

⁵⁹ Deputy Minister of Health Janusz Cieszyński, 13.09.2018, statement in the “To się liczy” programme, money.pl.

⁶⁰ Atlas of eHealth. Country profiles 2015: The use of eHealth in support of universal health coverage. Based on the findings of the 2015 global survey on eHealth.

Table 20. New medical technologies in comparison Countries

Category	Czech Republic	Croatia	Greece	Italy	Poland	Portugal	Spain	% of “yes” responses for all Countries
National Strategy For EHealth	no	yes	yes	yes	yes	no	no	58
National Strategy For TeleHealth	no	yes	no	yes	no	yes	no	22
Elearning Programmes For Medical Students	yes	N\A	yes	yes	yes	yes	yes	58
Elearning Programmes For Physicians	yes	yes	yes	yes	yes	no	N\A	58
Legal Framework For Electronic Circulation Of Documents Among Specialists Of The Medical Sector In Different Countries	no	no	yes	yes	no	yes	yes	22

Source: WHO 2015

It is worth noting that apart from the costs, the barriers to the introduction of eHealth services are the habits of the potential users. In Poland, an audit of the Podlasie eHealth Information System carried out by the Supreme Audit Office showed that some medical personnel would prefer to use paper documentation rather than switch to electronic systems.⁶¹ The Deputy Minister of Health, Zbigniew Król, during the meeting of the Parliamentary Health Committee, also claimed that there is insufficient interest in telemedicine.⁶² Poland is by no means an exception in terms of the attitude of physicians towards eHealth services. According to Deloitte, only 14% of physicians in the US have the technology required for virtual visits, and only 18% of those who do not are considering implementation within 2 years. However, as far as patients are concerned, 23% have already had their first e-consultation, and 57% of those who have not yet benefited from such a solution would be happy to do so.⁶³

For the purposes of this Report, Experts assessed the impact of the lack of access to modern medicines and technologies on health services in their Country. The compared Countries generally have no difficulty in providing patients with modern treatments, and the top-ranked Country, in this respect, is Portugal.

⁶¹ Cf. <https://www.nik.gov.pl/aktualnosci/nik-o-podlaskim-systemie-informacyjnym-e-zdrowie.html>.

⁶² Cf. <http://www.rynekzdrowia.pl/Technologie-informacyjne/Wiceminister-Krol-zainteresowanie-telemedycyna-wsrod-lekarzy-jest-bardzo-male,184872,7.html>.

⁶³ Deloitte 2018 Surveys on US Healthcare Consumers and Physicians: Virtual Care. https://www2.deloitte.com/insights/us/en/multimedia/infographics/virtual-health-care-survey-infographic.html?id=us:2sm:3tw:4di_g1:5eng:6dj.

Which trends will affect the healthcare system in the coming future?

Table 21. What impact does the lack of access to modern medicines and technologies have on the overall healthcare situation in my Country? Experts' responses

Assessment	Italy	Portugal	Poland	Greece
Large				
Medium	✓		✓	✓
Small				
None		✓		

5.5 The Experts' health forecasts for the compared Countries

The most optimistic projections for the healthcare sector were formulated by the Greek Experts. They expect an improvement in public funding, which was previously reduced as a result of the financial crisis. The worst projections were given for Portugal and Poland.

Table 22. Overall healthcare condition of the comparison Countries over a 2-year period

Assessment	Italy	Portugal	Poland	Greece
Will improve significantly				
Will improve				✓
Will not change	✓	✓	✓	✓
Will deteriorate		✓	✓	
Will significantly deteriorate				

Table 23. Overall healthcare condition of the comparison Countries over a 5-year period

Assessment	Italy	Portugal	Poland	Greece
Will improve significantly				
Will improve				✓
Will not change	✓		✓	✓
Will deteriorate	✓	✓	✓	
Will significantly deteriorate				
Difficult to say		✓		

“In Italy, the incidence of chronic diseases is increasing. This is due to the ageing of society, but also to the unhealthy lifestyles of the younger generations. In the latter case, the greatest damage is caused by obesity. Chronic diseases pose the greatest challenge to sustainable socio-economic development.”

Prof. **Vincenzo Atella** (Italy), University Tor Vergata, Rome

“The Polish healthcare system is hampered by a lack of coherent vision for development. The actions taken are fragmentary in nature, often underdeveloped, and thus rarely bring the expected results. The composition of the system itself leaves much to be desired. It remains based on three subsystems (payer, treatment facility, patient), with each pursuing individual, rather than common goals. In such a situation, there is no way to succeed.”

Prof. **Maria Węgrzyn** (Poland), Wrocław University of Economics

“In 3–5 years time I expect the health situation in Greece to improve. The government announced an increase in spending on public healthcare and a reform of the primary healthcare system.”

Platon Peristeris (Greece), Pharmaffairs Consulting Firm

Which trends will affect the healthcare system in the coming future?

Experts have also noted the phenomena that may pose the greatest threats to the effective operation of health services in their Countries within 5 years. Common themes are concerns about the financial stability of their Countries, politicisation of the healthcare system, and the quality of management in healthcare institutions.

Table 24. Biggest threats to healthcare functioning in the comparison Countries, in the perspective of 5 years

ITALY	Lack of understanding by politicians that healthcare can be a lever for the Country's development
	Financial instability of the Country and underfunding of the system
	Lack of medical staff
	An ageing population
	Geographical diversity of the Country in the quality of healthcare
PORTUGAL	Underfunding of the system
	An ageing population
	Politicisation of the healthcare system
	Rising costs of medical equipment
POLAND	Lack of a coherent and long-term health policy
	Shortage of medical staff
	Lack of competence among the management staff
	Underfunding of the system
	Limited access to modern therapies and medicines
	Too small a scale of preventive actions
	Lack of public acceptance of higher health contributions
	Thinking about healthcare in terms of costs, not investments
GREECE	Stagnation in the level of expenditure on healthcare and instability of public finances
	No structural reforms
	Politicisation of the healthcare system
	Low effectiveness of public administration activities

Annex 1 - Key health information from the compared Countries

POLAND

Category	Result
GDP per capita (2017, US\$, PPP)	29,000 (€ 25,656)
Main source of financing of healthcare (insurance rate)	Health insurance (9%)
Rank in the EHCI 2018 (out of 35 Countries)	32
Independent public healthcare facilities debt (2017)	PLN 11.75 billion (approximately € 2.7 billion)
Health expenditure per capita (2017, US\$, PPP)	1,955 (€ 1,730)
Percentage of GDP allocated to health (2017)	6.7%
Share of private expenditure on health as a percentage of GDP (2017)	2.1%
Life expectancy (2016)	78 years
Number of physicians per 1,000 inhabitants (2016)	2.42
Number of nurses per 1,000 inhabitants (2016)	5.16
Annual earnings of physicians (2016, US\$, gross, PPP)	37,421 (€ 30,452)
Annual earnings of nurses (2016, US\$, gross, PPP)	29,323 (€ 25,942)
Percentage of physicians aged 55+ (2016)	43.9%
Percentage of people aged 65+ now and in 2060	17.2% / 34.1%
Characteristics of the Country (2016)	28 hospitals per 1 million inhabitants, the highest amongst comparison Countries

CZECH REPUBLIC

Category	Results
GDP per capita (2017, US\$, PPP)	36,300 (€ 32,115)
Main source of financing of healthcare (insurance rate)	Health insurance (13.5%)
Rank in the EHCI 2018 (out of 35 Countries)	14
Debt (2017)	€ 0.49 billion
Health expenditure per capita (2017, US\$, PPP)	2,630 (€ 2,327)
Percentage of GDP allocated to health (2017)	7.1%
Share of private expenditure on health as a percentage of GDP (2017)	1.3%
Life expectancy (2016)	79.1 years
Number of physicians per 1,000 inhabitants (2016)	3.69
Number of nurses per 1,000 inhabitants (2016)	8.07
Annual earnings of physicians (2016, US\$, gross, PPP)	60,166 (€ 53,229)
Annual earnings of nurses (2016, US\$, gross, PPP)	28,092 (€ 24,853)
Percentage of physicians aged 55+ (2013)	33%
Percentage of people aged 65+ now and in 2060	19.3% / 30.4%
Characteristics of the Country (2016)	Nurses-emigrants represent only 0.15% of nurses working in the Country. This is the lowest percentage in the list of Countries

GREECE

Category	Result
GDP per capita (2017, US\$, PPP)	27,600 (€ 24,418)
Main source of financing of healthcare (insurance rate)	Taxes or health insurance (7.1%)
Rank in the EHCI 2018 (out of 35 Countries)	29
Health system debt (2018)	€ 0.6 billion
Health expenditure per capita (2017, US\$, PPP)	2,325 (€ 2,057)
Percentage of GDP allocated to health (2017)	8.4%
Share of private expenditure on health as a percentage of GDP (2017)	3.2%
Life expectancy (2016)	81.5 years
Number of physicians per 1,000 inhabitants (2016)	n.a.
Number of nurses per 1,000 inhabitants (2016)	3.25
Annual earnings of physicians (2016, US\$, gross, PPP)	68,587 (€ 60,679)
Annual earnings of nurses (2016, US\$, gross, PPP)	33,842 (€ 20,208)
Percentage of physicians aged 55+ (2016)	n.a.
Percentage of people aged 65+ now and in 2060	21.9% / 35.5%
Characteristics of the Country (2016)	In the years 2010–2016, the increase in the emigration of nurses amounted to 1444%!

ITALY

Category	Result
GDP per capita (2017, US\$, PPP)	39,400 (€ 34,857)
Main source of financing of healthcare (insurance rate)	Taxes
Rank in the EHCI 2018 (out of 35 Countries)	20
Health system debt (2014)	€ 25 billion
Health expenditure per capita (2017, US\$, PPP)	3,542 (€ 3,134)
Percentage of GDP allocated to health (2017)	8.9%
Share of private expenditure on health as a percentage of GDP (2017)	2.3%
Life expectancy (2016)	83.3 years
Number of physicians per 1,000 inhabitants (2016)	3.95
Number of nurses per 1,000 inhabitants (2016)	5.57
Annual earnings of physicians (2016, US\$, gross, PPP)	99,273 (€ 87,827)
Annual earnings of nurses (2016, US\$, gross, PPP)	42,402 (€ 37,513)
Percentage of physicians aged 55+ (2016)	53.1%
Percentage of people aged 65+ now and in 2060	22.5 % / 33.4%
Characteristics of the Country (2016)	In 2010–2016, there was the biggest increase in the number of nurses working in the profession, at 17.8%

PORTUGAL

Category	Result
GDP per capita (2017, US\$, PPP)	31,600 (€ 27,957)
Main source of financing of healthcare (insurance rate)	Taxes
Rank in the EHCI 2018 (out of 35 Countries)	13
Health system debt (2018)	€ 1.9 billion
Health expenditure per capita (2017, US\$, PPP)	2,888 (€ 2,555)
Percentage of GDP allocated to health (2017)	9%
Share of private expenditure on health as a percentage of GDP (2017)	3%
Life expectancy (2016)	81.2 years
Number of physicians per 1,000 inhabitants (2016)	4.6
Number of nurses per 1,000 inhabitants (2016)	6.3
Annual earnings of physicians (2016, US\$, gross, PPP)	72,320 (€ 63,982)
Annual earnings of nurses (2016, US\$, gross, PPP)	29,940 (€ 26,488)
Percentage of physicians aged 55+ (2016)	n.a.
Percentage of people aged 65+ now and in 2060	21.5% / 34.9%
Characteristics of the Country (2016)	The highest number (16.4) of medical graduates per 100,000 inhabitants among the compared Countries and much higher than the OECD average (10.4)

SLOVAKIA

Category	Result
GDP per capita (2017, US\$, PPP)	31,600 (€ 27,957)
Main source of financing of healthcare (insurance rate)	Taxes (14%)
Rank in the EHCI 2018 (out of 35 Countries)	17
Health system debt (2016)	€ 0.6 billion
Health expenditure per capita (2017, US\$, PPP)	2,269 (€ 2,007)
Percentage of GDP allocated to health (2017)	7.1%
Share of private expenditure on health as a percentage of GDP (2017)	1.4%
Life expectancy (2016)	77.3 years
Number of physicians per 1,000 inhabitants (2016)	3.15
Number of nurses per 1,000 inhabitants (2016)	5.7
Annual earnings of physicians (2016, US\$, gross, PPP)	61,223 (€ 54,164)
Annual earnings of nurses (2016, US\$, gross, PPP)	26,091 (€ 23,083)
Percentage of physicians aged 55+ (2016)	35.9%
Percentage of people aged 65+ now and in 2060	15.5 / 32%
Characteristics of the Country (2016)	Most patient-friendly healthcare system among the comparison countries, with almost the lowest expenditure on health.

SPAIN

Category	Result
GDP per capita (US\$, PPP)	37,900 (€ 33,530)
Main source of financing of health care (insurance rate)	Taxes
Rank in the EHCI 2017 (out of 35 countries)	18
Health system debt (2015)	€ 5.7 billion
Health expenditure per capita (US\$, PPP)	3,371 (€ 2,982)
Percentage of GDP allocated to health	8.8%
Share of private expenditure on health as a percentage of GDP	2.6%
Life expectancy	83.4 years
Number of physicians per 1,000 inhabitants	3.82 (€ 86,617)
Number of nurses per 1,000 inhabitants	5.51 (€ 47,372)
Annual earnings of physicians (US\$, gross, PPP)	97,905
Annual earnings of nurses (US\$, gross, PPP)	53,546
Percentage of physicians aged 55+	33.2%
Percentage of people aged 65+ now and in 2060	19.4% / 29.5%
Characteristics of the Country (2016)	A 44% increase in the number of medical graduates, 2010 - 2016, the largest among the comparison countries.

Annex 2 - List of Experts

The Experts' statements are restricted to the context of the Report "Financing Healthcare and the quality of the system for patient. Diagnosis from Poland and other European Countries". Information and data provided by Experts come out from the answers of a questionnaire specifically made for the purpose of this Report. The Experts are the exclusive author of their statements and comments included in the Report. The given statements and information cannot be associated in any form to BFF Banking Group.

Christos Kazassis (Greece), Expert in Medical Technology and Finance in Healthcare. Editor of the industry magazine Scanner. Advisor to the Hellenic Radiological Society. In 2015–2017, Vice-President of the Hellenic Health Services Management Association. From 2000 to 2006 Mr. Kazassis was advisor of the Ministry of Health in Cyprus.

Platon Peristeris (Greece), Expert in the Healthcare and Pharmaceutical Market, Consulting in the Pharma Industry with extensive expertise in the sectors of Medical Affairs, Regulatory and Public Affairs and with deep knowledge of the European and Greek environment, having created his own company, PharmAffairs.

Prof. **Vincenzo Atella** (Italy), Professor of Economics at the University of Rome Tor Vergata and Adjunct Affiliate at the Centre for Health Policy at Stanford University. Scientific Director of the Farmafactoring Foundation, Senior Economist at the Italian Association of General Practitioners, and President of the AIES - Italian Health Economics Association. His main research activity focuses on healthcare financing, policy impact evaluation in the healthcare sector and the role that new technologies have on health outcomes and healthcare system sustainability. He has extensively published in top international peer reviewed journals.

Prof. **Elio Borgonovi** (Italy), Full Professor of Economics and Management of Public Administration at Bocconi University. In 1978 he founded CERGAS (Centre for Research on Health and Social Care Management). He has been CERGAS Director and currently President. He was also President of Italian Association of School of Management and of SDA (Bocconi School of Management). In the last 40 years he has been a member of many committees focused on policies and management development at State, Regional and local levels. He is author of several papers and books in healthcare management and Public Administration Management.

Prof. **Francesca Lecci** (Italy), Associate Professor of Practice of Government and Healthcare Management at SDA Bocconi School of Management. At SDA Bocconi, Francesca Lecci is Director of the Executive Master in Management of Health and Social Care Organizations (EMMAS) and Program Director of two post-experience specialisation courses. She is the author of numerous books and articles on healthcare management. She is Coordinator of a research area on Management and member of the Executive Committee at CERGAS (Centre for Research on Health and Social Care Management) at Bocconi University. Since 2017 she has been Secretary General at AIES - Italian Health Economics Association.

Katarzyna Fortak-Karasińska (Poland), Legal Adviser and Partner at Fortak & Karasiński Radcowie Prawni Sp. p. in Łódź. She advises on medical activities, creating a network of institutions, introducing new medical technologies to the Polish market, and conducting clinical trials. She represents hospitals and clinics in litigations initiated by patients, as well as in proceedings against the National Health Fund. She was a panellist during the European Economic Congress in Katowice and the Economic Forum in Krynica.

Dr **Jerzy Gryglewicz** (Poland), Leader and Lecturer of the MBA programme in Healthcare at Lazarski University in Warsaw. He served as Deputy Director for Clinical Affairs of the Institute of Rheumatology in Warsaw, Deputy Director of the Warsaw City Health Policy Bureau, and Chief Specialist in the Department of Drug Management and Control Department of the National Health Fund Headquarters.

Dr **Piotr Warczyński** (Poland), Internal Medicine Physician, Endoscopist, Physician of Medical Sciences in the field of Gastroenterology, Manager, Expert in the organisation of healthcare, Lecturer at universities, and Expert for international consulting companies. From 2014 to 2017 he was Undersecretary of State in the Ministry of Health. He is an author/co-author of many legal acts, including the Act on Public Aid and Restructuring, Hospital Networks, the Act on Accreditation, the Act on Patients' Rights, the Act on Therapeutic Activity, the Oncological Package, and the Act on quality and patient safety.

Prof. **Maria Węgrzyn** (Poland), Prof. of the University of Economy in Wrocław, head of Postgraduate Studies "Management and Finance in Healthcare" in Wrocław, Białystok and Opole, and "Insurance and Medical Law". Long-term lecturer educating students in various forms of qualification improvement, including the Polish-French master's studies "Management of health and social care units". Member of the Council of the National Health Fund, Lower Silesia Branch (fourth term).

Henrique Capelas (Portugal), Currently President of the Board of Directors at the Hospital de Guimarães. With a strong experience in the health sector, he has produced several studies as Consultant in the areas of Management, Human Resources, Finance and Health. He was Professor in the High School, Trainer in the areas of Financial Management and Visiting Professor of the University of Minho and UTAD. Mr Capelas has held several management positions in different areas such as Telecommunications, Banking Industry and Public Hospitals. He holds a degree in Business Administration from the University of Minho and he is post-graduated by the same University in Health Policies. He is also graduated in Accounting and Administration from ISCAP and holds a postgraduation in Higher Education of Health Institutions, AESE/IESE (University of Navarra).

Joao Vieira Pereira (Portugal), Deputy Director and Columnist at Expresso, the most important newspaper in Portugal and the most read in a printed weekly edition, with a daily digital edition too. He started as a journalist at the daily paper Jornal de Negócios (from 1997 to 2003) and was the Director of the weekly Semanário Económico (from 2003 to 2006). He joined Expresso in 2006 and was the Director of Exame (2012-2017). He appears regularly as a commentator on SIC television.

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Methodological Note

This Report has been produced with the support of third parties for BFF Banking Group in Poland.

Data for the Report comes from materials released by the Ministries of Health and Ministries of Finance of the comparison Countries, OECD, WHO, Eurostat database and BFF Banking Group.

Unless otherwise noted, OECD data cited throughout the document are taken from the database at <https://stats.oecd.org>.

The analysis did not take into account the "Bloomberg Most Efficient Healthcare Systems in the World" ranking, because it is based just on three indicators, life expectancy and healthcare expenditures (total and "relative"). The EHCI summary, taking into account several dozen indicators, with OECD input data seemed to be much more meaningful.

As part of the work on the Report a questionnaire was created and sent to Experts from the compared Countries, who agreed to participate in the project on a voluntary basis. The results of the questionnaires were included in the Report in the form of quotations or collective answers to closed questions. The Experts statements are restricted to the context of this Report. They are the exclusive author of their comment included in the Report and BFF Banking Group cannot be associated to them in any form.

Therefore, BFF Banking Group cannot be held, in any case, responsible for the content of the Report and, in particular, for the data and evaluation mentioned therein. It remain understood that Report does not provide and cannot be interpreted as form of financial advisory and/or investment recommendation.

About BFF Banking Group

BFF Banking Group is the leading financial services provider to suppliers of the European Healthcare and Public Administration sectors. It means that we help companies in their business relations with the Public Administration, by granting liquidity and improving their financial ratios through factoring and credit management services.

The company was founded in Italy in 1985, at the initiative of a group of industrial operators in the pharmaceutical and biomedical industry for the management of receivables from the National Healthcare Service. In over 30 years of activity, the Group has developed a solid expertise in the management and non-recourse transfer of trade receivables due from Public Administrations in Europe. It was 2010 when BFF Banking Group launched its operations in Spain to serve multinational companies operating in that market; and it started the crossborder activities in Portugal in 2014. In 2016, BFF Banking Group expanded its international footprint with the acquisition of the leading group in public sector credit management in Poland, Slovakia and Czech Republic. On April 2017 BFF Banking Group (BFF) finally listed on the Italian Stock Exchange (MTA) and started operations in Greece. In 2018 Croatia followed as the eighth market, while a branch in Lisbon opened with the objective of further strengthening the business that has been conducted in Portugal on a cross border basis since 2014.

BFF Banking Group is now operating in 8 Countries: Italy, Croatia, Czech Republic, Greece, Poland, Portugal, Slovakia and Spain.

BFF Banking Group in Poland

BFF Banking Group started operating in Poland in 2016, as the result of the acquisition of a Polish leading financing company. Being active on Polish factoring and debt management market enables BFF Banking Group to support financial liquidity of local healthcare institutions and local governments as well as public administration suppliers.

BFF MEDFinance is also part of the Group, as key business partner financing investments in public and private hospitals.

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