
ECONOMICS

& Sociology

Magdalena Jaworzyńska,
Maria Curie-Skłodowska University in
Lublin,
Lublin, Poland,
E-mail:
magdalena.jaworzynska@umcs.lublin.pl

Received: December, 2015

1st Revision: March, 2016

Accepted: June, 2016

DOI: 10.14254/2071-
789X.2016/9-3/4

JEL Classification: I11, I15, I18 *Keywords:* healthcare, health conditions, expenditures.

Introduction

Healthcare is a very important and, at the same time, difficult element of each state's policy. For many countries, the issue of financing the healthcare system is a delicate matter and one of the basic economic and social issues. Nevertheless, decisions concerning the sources and principles of healthcare financing influence the quality of the entire system (Hady and Leśniowska, 2013, p. 1).

The development of medical technologies, as well as the introduction of new generations of drugs, cause that currently there are opportunities of effectively treating cases which until recently were beyond doctors' reach. Another problem which is connected with the functioning of systems of health care is ageing population observed practically in all developed countries as well as new challenges connected with it. These circumstances cause that maintaining domestic systems of health services is generating higher and higher costs (Kujawska, 2015, p. 113).

Every health system is aimed at satisfying the specific health needs of the population.

Health systems can be described using models of service delivery, financing, and economic policy. Much of the literature depicts health delivery systems in terms of a national health system, social insurance or private insurance model. Within each model, there are various forms of financing including general taxation, specific taxation, and private financing (Kulesher, Forrestal, 2014, p. 127).

The cost of delivering health care imposes a large, and often growing, burden in nearly all countries. Increasingly, health care decision-makers are being asked to improve performance by containing expenditures while maintaining steady improvements in access and quality (Anell and Willis, 2000, p. 770).

Jaworzyńska, M. (2016), A Comparative Analysis of the Health System Financing in Poland and Selected Countries, *Economics and Sociology*, Vol. 9, No 3, pp. 41-51.
DOI: 10.14254/2071-789X.2016/9-3/4

A COMPARATIVE ANALYSIS OF THE HEALTH SYSTEM FINANCING IN POLAND AND SELECTED COUNTRIES

ABSTRACT. The purpose of this article is to compare the Polish health care system with the systems of selected countries (in Netherlands, USA, Germany and Great Britain). In the Polish health care system should be introduced to patients paying for services, commercialization of hospitals, introduced a number of health funds.

This article presents a comparative analysis of the health system financing in Poland and selected countries: The Netherlands, Germany, United Kingdom, USA. Analysis will cover the period from 2011 to 2013. Data deriving from the OECD Health Data database were used.

1. Characteristics of Foreign Health Systems

Traditional models of health systems are treated as benchmarks describing the desired and ideal shape of the system. They represent a collection of potentially possible solutions from which one can choose those best suited in specific conditions. There are three health systems defined in literature:

- model of national health service, also known as the Beveridge model,
- social insurance system, the so-called Bismarck model,
- the system of non-regulated insurance market, the so-called residual model.

Britain's National Health Service (NHS) came into existence on 5 July 1948. It was the first health system in any western society to offer free medical care to the entire population. It was, furthermore, the first comprehensive system to be based not on the insurance principle, with entitlement following contributions, but on the national provision of services available to everyone (Fincham, 2011, p. 27).

The Bismarck model of health care structure, financing, and delivery is named in honor of Prussian Chancellor Otto von Bismarck, who unified Germany in the 19th century the system incorporates "sickness funds" which are jointly financed by employers and employees via payroll deductions. In this instance, the Bismarck model represent what is available to employees via employer-sponsored health insurance coverage. The major difference in the German system is that the "sickness funds" companies are not profit-generating entities. These "sickness fund" companies do not make a profit (Fincham, 2011, p. 29).

A model of private health insurance in which access to benefits is conditioned on having a private insurance policy. Monies allotted to financing the benefits derive from private insurance premiums, health service manufacturers are private entities (Łyszczarz, 2014, p. 92).

The European Union Member States and the United States built their health systems on the basis of these models.

Health system in Poland requires substantial modification. Therefore, in the process of improving the health system in Poland, one should draw upon the experience of other countries. In this paper, the Polish health system is compared with health systems of the following countries:

- Germany, that base their system on the Bismarck model,
- the United Kingdom, whose health system is based on the Beveridge system,
- the United States, based on the residual model,
- the Dutch health system, which is considered to be the best European health system, according to the Health Consumer Powerhouse report.

Parameters which determine the results of the health care such as infant mortality rate (IMR), life expectancy (LE) for women and men were used in the analysis.

Within the parameters characterising resources of the systems of health care, the following were taken into account: the number of doctors per 1000 residents and the number of hospital beds per 1000 residents as well as average time of stay in hospital.

As the parameters characterising the financing system, the following were taken into account in the analysis: health care system total expenses measured as share of GDP and per capita (USD PPP); share of out-of-pocket expenses as share in health total expenses and per capita share (USD PPP).

2. Comparison of expenses

Figure 1 presents health care expenses per capita (USD PPP), whereas in Figure 2 health care average expenses are presented as a percentage share in GDP.

Health expenditure in Poland, both per capita and as a percentage of GDP, is one of the lowest in the European Union.

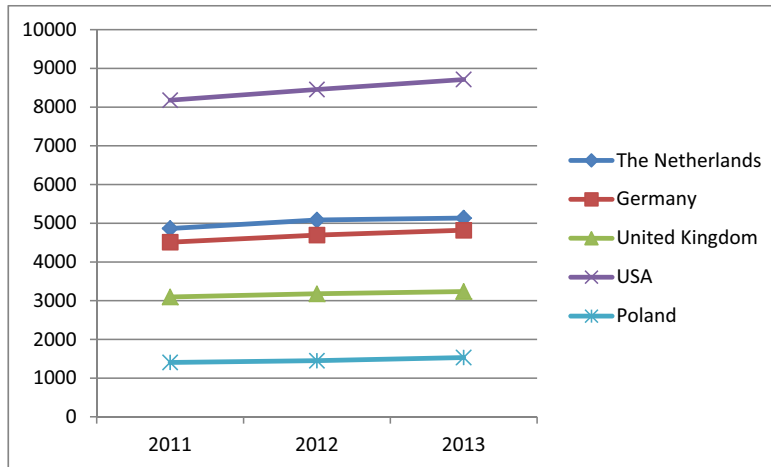


Figure 1. Health expenditures per capita (USD PPP) in the countries considered in the period 2011-2013

Source: Own elaboration on the basis of OECD Health Data 2015.

Analysing the volume of expenditure per capita by purchasing power parity on health in selected countries it should be noted that in 2013 the largest amount on health was released in the USA (more than USD 8.7k), then in Netherlands (approx. USD 5.1k), Germany (approx. USD 4.8k) and the United Kingdom (approx. USD 3.2k). The amounts spent on health, compared with the USA, were clearly lower: in the UK more than 2.7 times, in Germany – almost 1.8 times, in Netherlands – 1.7 times, and in Poland – 5.6 times.

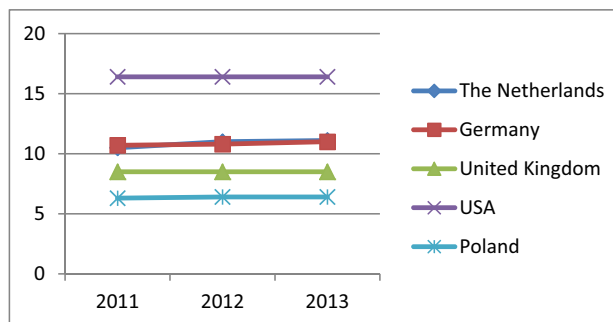


Figure 2. Total health expenditure as percentage of GDP in the countries considered in the period 2011-2013

Source: Own elaboration on the basis of OECD Health Data 2015.

Taking into account the share of health expenditure in GDP, it should be noted that there are large disparities between the considered countries. In 2013, the United States allocated the largest share on health expenditure, and it was 16.4% of GDP, followed by the Netherlands – 11.1%, Germany – 11%, the United Kingdom – 8.5% and Poland – 6.4% of GDP.

A major problem from the point of view of the society is its share in co-financing the health care. *Figure 3* presents share of private out-of-pocket expenses in health care total expenses, whereas in *Figure 4* the same expenses are presented per capita denominated in USD PPP.

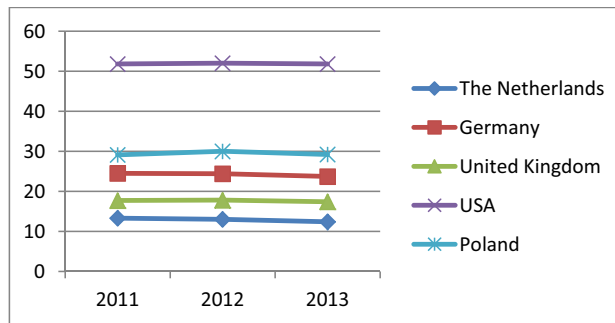


Figure 3. Out of pocket health expenditure as percentage of GDP in the countries considered in the period 2011-2013

Source: Own elaboration on the basis of OECD Health Data 2015.

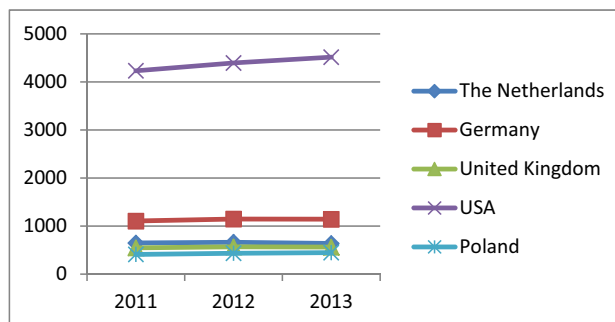


Figure 4. Out of pocket health expenditure per capita (USD PPP) in the countries considered in the period 2011-2013

Source: Own elaboration on the basis of OECD Health Data 2015.

Within the analysed period, the share of out-of-pocket expenses for USA is a few percentage points higher than in the remaining countries being analysed. It is surprising that within the period analysed Poland also has a large share amounting to 30%. Netherlands and Great Britain have the smallest share. Per capita expenses within the analysed period remain at a safe level. It can be noted that in USA and Germany these expenses are higher than in the remaining countries being analysed.

3. Comparison of resources

From the point of view of the effectiveness of the systems of health care, resources involved in a process of provision of health services are essential. The number of beds per 1000 residents is shown on *Figure 5*.

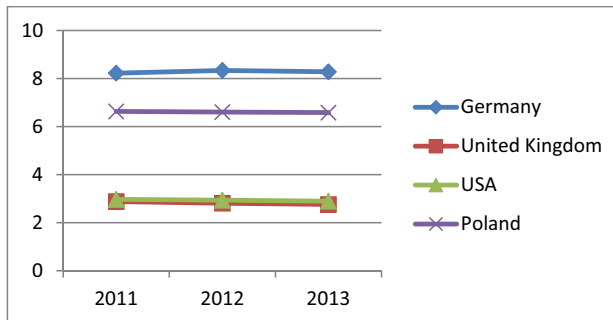


Figure 5. Hospital beds per 1000 in the countries considered in the period 2011-2013
Source: Own elaboration on the basis of OECD Health Data 2015.

There is a downward trend in the number of beds per 1000 residents in all countries being analysed. It is a result of broader application of daily stays, without the need to be hospitalised. In 2013 in USA and Great Britain there is over 65% less beds than in Germany. It is one of the reasons for which Bismarck's system, represented by Germany, is characterised by greater costs.

The number of doctors per 1000 residents is shown on *Figure 6*.

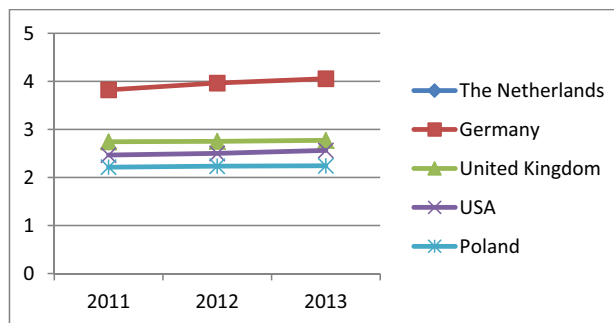


Figure 6. Number of physicians per 1000 in the countries considered in the period 2011-2013
Source: Own elaboration on the basis of OECD Health Data 2015.

There is an upward trend in the number of doctors per 1000 residents within the analysed period in all countries. The biggest increase was registered in Germany by 0.2 doctor, and the littlest in Great Britain and Poland by approx. 0.03.

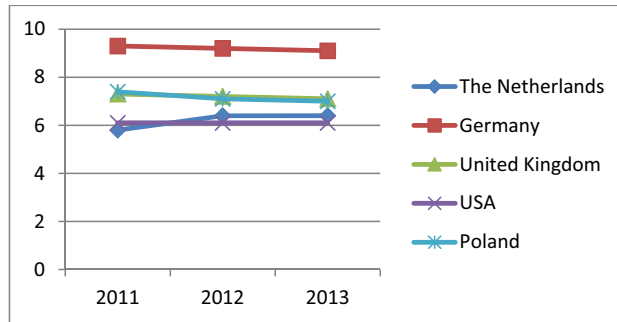


Figure 7. Average length of stay in hospitals in the countries considered in the period 2011-2013

Source: Own elaboration on the basis of OECD Health Data 2015.

The last parameter analyzed in the framework of the resources is the average length of stay in the hospital. In most countries the average time decreased, only the Netherlands has increased in the period of 0.6 days. It means that all hospitals tried to do as much as possible to shorten the average patient's stay in hospital, but at the same time not allowing the quality of service to worsen. Briefly, patients are staying in the United States, the longest in Germany, a country that is representing the model Bismarca.

4. Comparison of results

Figure 8 shows the infant mortality rate.

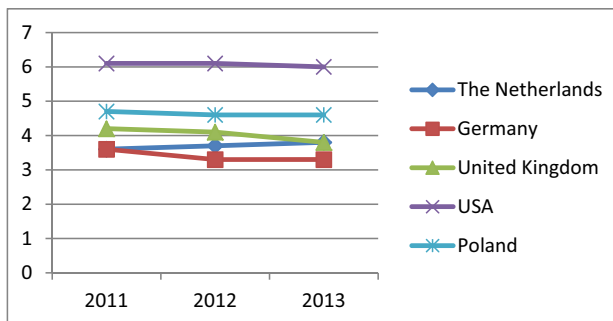


Figure 8. Infant mortality in the countries considered in the period 2011-2013

Source: Own elaboration on the basis of OECD Health Data 2015.

In the analyzed period, in most countries, you may notice a decrease in infant mortality. The highest rates observed in the United States, the lowest in Germany.

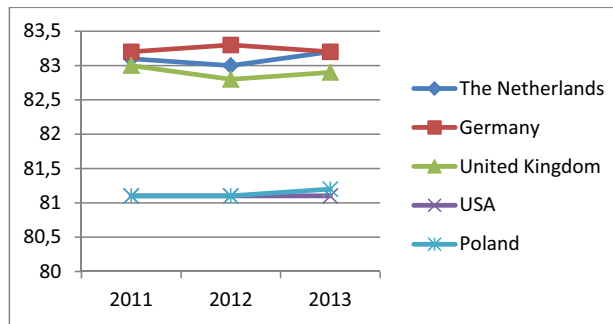


Figure 9. Life expectancy female at birth in the countries considered in the period 2011-2013

Source: Own elaboration on the basis of OECD Health Data 2015.

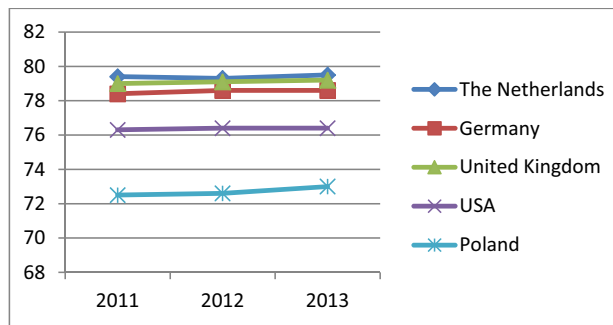


Figure 10. Life expectancy male at birth in the countries considered in the period 2011-2013

Source: Own elaboration on the basis of OECD Health Data 2015.

According to the *Figure 9* and *10* the highest life expectancy female and male at birth is in Germany the Netherlands and in the United Kingdom. The trend in the presented countries should be evaluated in a positive way. In each examined country the life expectancy has been growing steadily between these years, which can be seen in the *Figure 9* and *10*.

Looking at the presented order, we can conclude that, to a large extent, a model of health system applied in the country may determine the amount of public funding. The first place went to the country using the Beveridge model of health care, and then there was Germany and the Netherlands (with the Bismarck model of health care) and the USA (where the residual model is used).

The health systems of different countries vary in scale and nature of state activity in the health system, and the size of the public sector. Comparing health systems in the United Kingdom, Germany, and the Netherlands and in the United States, one can observe that in all the countries concerned it is the state that makes intervention, primarily through regulations in the area of health care. The state dominates the health systems in the United Kingdom and Poland, while in the United States it is dominated by the private sector. The essential role in each of the models is the financing of health care. It is the primary determinant of health system organization that says about the real shape of health sector and opportunities to meet their citizens' health needs (Białynicki-Birula, 2006, p. 53).

By comparing the characteristics of health systems in selected states, it can be concluded that the Polish health system is similar to the solutions found in the UK in terms of allocation of resources for health care and the role of the Government in the system. In both

countries the finances for health care are collected centrally and then allocated to regions. In Poland the National Health Fund carries out this allocation function, while in the UK funds are divided directly by the Department of Health. Existence of the National Health Fund in Poland makes the Polish health system similar to the health system solutions used in most European countries, for example in Germany. The only difference is that there is only one, centralized health fund (NFZ) in Poland, while in Germany there are more than a dozen separate health funds (Durbajło-Mrowiec, 2009, p. 46).

Resources for the functioning of the public health system in Germany and Netherlands come mainly from contributions paid by the insured. In contrast to Poland, in these countries they clearly defined the scope of the medical services are covered by the universal insurance, and the competition between separate health funds has been reassured. The solutions used in Germany and Netherlands are totally opposed to the system adopted in the United Kingdom, where funds for health come from the national budget.

If it comes to the American health system, despite the fact that it is the most expensive in the world, it performs worse than the European systems. The United States have the best and worst health care among the developed countries at the same time. The United States has got the biggest number of Nobel laureates in medicine working there, the vast majority of world's breakthroughs have been born here, and here are the best hospitals and clinics. On the other hand, every fifth adult does not have any medical insurance. This is the most striking difference between the American and European approach to health care. In the United States insurance is optional, and is provided by private companies, while in the European countries insurance is universal, compulsory and financed from taxes or compulsory contributions.

The European health systems are characterized by simplicity and clarity when compared with the American complex mosaic of provisions and offices.

The drawback of the European health systems, on the other hand, are long queues of patients waiting months for treatments (e.g. organ transplants). Insured Americans wait shorter than Europeans for costly operations.

It can be concluded that the free market works only when the consumer knows what he is buying and is able to make his decisions rationally. Medicine is so complicated that few people can assess the offered product on their own. It is even harder to choose rationally when ignorance overlaps with the fear of death.

Despite the presence of significant differences between the presented models of health system, it should be noted that there are some common features to them. In all the described health systems there are two essential health care segments: the first generating universal benefits and the second, of a higher standard nature, available only for specific social groups. In all the systems we can distinguish from a range of tasks related to health care that are obligations incumbent upon the state only. These are the following: research, medical training, and preparation of health promotion programmes (Białynicki-Birula, 2006, p. 53).

Knowledge of specific solutions used in the countries presented, may be useful in designing and implementing health care reforms, e.g. in Poland. Please remember, however, not to mindlessly copy solutions that work well in other countries. Each model functions in a specific social and economic environment, in a particular system of values and in a particular tradition, and the effectiveness of a specific model is dependent on the environment into which it is implemented. Consequently, no two identical solutions can be found, and systems differ not only in technical details, but often in the philosophy underlying their formation (Sowada, p. 3).

The experience of the countries in terms of the transformation of the health system led to the formulation of the following conclusions. The reforms have proven to be less effective where they tried to focus on shaping the demand side by using market-based incentives, aimed directly at the patient, like introduction of an open basket of guaranteed medical

services, or charging a patient with additional fees incurred regardless of having a general entitlement to benefits (Włodarczyk, 2003, p. 159).

Reforms aimed at the supply side, at the providers of medical services, have proven to be more successful. The mechanisms that have played a positive role include contracting used in public systems, new rules for the allocation and funding of capital investment, rules for payment to service providers which take into account the element of effect and performance, and new rules for the regulation and control of expenditure on medicines and pharmaceuticals. As far as organization goes, it should be noted that the hospital network has been transformed – and the efficiency of the hospitals has been stimulated financially, by granting them autonomy (Włodarczyk, 2003, p. 159).

5. Proposal for directions of change of the Polish health system

Comparison of health insurance systems functioning in Poland and in other countries allows you to identify the characteristics of a national system that affect the financial situation of healthcare institutions (Durbajło-Mrowiec, 2009, p. 47):

- a small proportion of practice activities and private entities in the system,
- lack of competition among insurers,
- a small competition among medical service providers,
- a small number of associations of medical service providers and their weak position in the system,
- one dominant source of system funding,
- designing of such contracts for hospitals where it is assumed that all costs are flexible and dependant on the number of services, which introduces financial uncertainty, and on the other hand, at specified hospitals' resources, improves their management.

Having regard to the solutions found in health systems of these countries, you can indicate the directions into which the Polish health system should evolve:

- patient's contribution to health services – in many countries, citizens pay health insurance and, additionally, pay extra money for a medical advice. These fees do not save the system but are of a regulatory nature. They make patients not misuse the medical assistance, when it is not necessary, but do not close the way to treat those who really need it.
- commercialisation of healthcare institutions – public hospitals and health centres currently operate as Independent Public Healthcare Establishments (SPZOZs), which are something intermediate between a state establishment and an enterprise. Although many SPZOZs are doing much better today than a few years ago, they still bear the burden of being public, meaning "nobody's", and for which no one assumes financial responsibility. Instead, they are under numerous non-substantive influences of local authorities and politicians. Therefore, if we want SPZOZs to be well managed and economically efficient, we need to transform them into normal enterprises and give them a real owner. The first step in this direction should be to transform SPZOZs into commercial companies and to subject them to the discipline of the commercial law (including the possibility of declaring bankrupt).
- demonopolising the National Health Fund, introducing a competition between administrators of public funds aimed for health services. These can be public (created out of the NFZ) and private health insurance companies. Each of them should meet certain financial conditions if they want to enter the market (guarantees in the event of bankruptcy). The companies should compete for the insured with better health

service financing conditions (e.g., smaller fees for treatment, smaller surcharges to medicines, improved service standards, etc.).

In addition to the objective methods of assessing health system which is, among others, an analysis of actual data in terms of the level of expenditure on health, one might want to pay attention to the subjective evaluation of health systems, that is satisfaction surveys filled in by patients, analysis of the availability of medical services, or the evaluation of health policy makers. These indicators are mostly comprehensive in nature and consist of multiple dimensions at the same time (Sowa, 2008).

One of such rankings, developed by the Swedish institute of Health Consumer Powerhouse (HCP), is the Euro Health Consumer Index (EHCI). The Euro Health Consumer Index is a standard ranking evaluating public health systems in Europe. In the ranking, which is based on 38 indicators, 33 public health systems in Europe are evaluated taking into account six main areas: client rights and access to information, e-health, waiting lists for treatments, treatment results, the generosity of the system and the availability of medicines (Euro Health Consumer Index).

The data used in the rankings are derived from publicly available statistical sources, consumer research and independent studies carried out by the developers of the ranking. The starting point for the research and interpretation is perception of the health system by a consumer.

In accordance with the results of the EHCI 2014, Poland ranked 31st in the Euro Health Consumer Index, which examines the quality of health systems in 36 European countries. Poland was one of the few countries covered by the EHCI 2014 was worse result than in 2013. As the large central European country, belonging to the EU, Polish results are undeniably weak. Poland was ranked for Albania, only slightly ahead of Lithuania and Serbia. In terms of access and outcome it is at the bottom of the ranking.

The first rank went to the Netherlands, who received a record-breaking score of 898 points. The second rank, just like the year before, went to Switzerland (855 points), followed by Norway with a score of 851 points, and Finland (795).

When it comes to countries whose health systems were presented in this work, they rank quite high. Germany ranked the 9th, and the United Kingdom – the 14th.

Summary

Healthcare tends play a crucial role in every country and its society. Appropriate and well-performing healthcare systems constitute an important notion of each country's policy. All the countries analysed in the study improved their performance in the sampled period of years 2011-2013 and improved the level of people's health.

The levels of the average length of stay in hospitals have been decreasing and at the same time life expectancy has been rising, which should be highly appreciated.

In all countries total health expenditures have been rising steadily and because of this fact healthcare systems had more sources to invest in the system in order to improve the quality of service and as a consequence the population's health.

It can be concluded that the health model is a significant factor influencing the shape of health care. However, there is no perfect health system.

On the basis of the analyse done, it is difficult to assess which of the systems – Beveridge's or Bismarck's market one – is better. It is confirmed by certain parameters that the Bismarck's system is more cost-consuming, whereas larger outlays do not directly translate into the results, such as life expectancy, infant mortality rate, which are akin irrespective of the system of health care used.

Specific characteristics of societies, history, culture, social and political considerations have had and have a huge impact on the structure of the health system financing models. Governments around the world have serious trouble with the availability of health services. The better health system, the longer people live. And the older society, the requirements as to the scope and intensity of health care are bigger.

References

- Anell, A., Willis, M. (2000), International comparison of health care systems using resource profiles, *Bulletin of the World Health Organization*, 78(6), pp. 770-778.
- Białynicki-Birula, P. (2006), *Zmiany w systemie finansowania ochrony zdrowia w Polsce. Perspektywa międzynarodowa*, Monografie: Prace Doktorskie Nr 4, Akademia Ekonomiczna w Krakowie, Cracow.
- Durbajło-Mrowiec, M. (2009), Wyznaczniki wartości zakładu opieki zdrowotnej, *Prace Naukowe nr 41 Uniwersytetu Ekonomicznego we Wrocławiu*, Wrocław.
- Europejski konsumencki ranking służby zdrowia EHCI: „Polska opieka zdrowia wymaga gruntownego remontu”, <http://www.healthpowerhouse.com/files/Poland.pdf> (referred on 10.12.2015).
- Hady, J., Leśniowska, M. (2011), *Finansowanie systemu opieki zdrowotnej w Polsce na tle wybranych krajów Unii Europejskiej*, Rozprawy Ubezpieczeniowe, No. 10 (1/2011), wyd. Rzecznik Ubezpieczonych, Uniwersytet Kardynała Stefana Wyszyńskiego, Fundacja Edukacji Ubezpieczeniowej, pp. 97-111.
- Fincham, J. (2011), *Health Policy and Ethics*, London: Pharmaceutical Press.
- Kujawska, J. (2015), Porównanie funkcjonowania systemów opieki zdrowotnej w europejskich krajach OECD, *Problemy zarządzania*, Vol. 13, No. 2(53), T. 2.
- Kulesher, R., Forrestal, E. (2014), International models of health systems financing, *Journal of Hospital Administration*, Vol. 3, No. 4.
- Łyszczarz, B (2014), *Ocena efektywności systemów opieki zdrowotnej w krajach OECD*, Wolters Kluwer S. A., Warszawa.
- OECD Health Data 2015.
- Sowa, A. (2008), Ochrona zdrowia w wybranych krajach OECD – trendy wydatków i ocena funkcjonowania systemu, In: Stan finansów ochrony zdrowia, *Zeszyty BRE Bank-CASE*, No. 97.
- Sowada, Ch., *Finansowanie świadczeń zdrowotnych w ramach systemów publicznych – przykłady rozwiązań europejskich*, <http://www.case-doradcy.com.pl> (referred on 30.09.2013).
- Włodarczyk, C. (2003), *Reformy zdrowotne uniwersalny kłopot*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków.