MODELS OF FINANCING INVESTMENTS IN HEALTH

Oana BÎRSAN Ph.D Student *(oana.vilcu@fiscont.com.ro)*
Bucharest University of Economic Studies

Abstract

The financing health investments and tracking the allocation of financial resources to health are preconditions for assessing the performance of health financing and financial protection systems, assessing the efficiency and productivity of the health system. Comprehensive and comparable estimates of health spending in each country are an essential contribution to health policy and planning and are needed to support the achievement of national and international health goals. Financing health investments varies from one country to another depending on the overall healthcare financing pattern or the combination of the different types of funding used. Funding systems for the health system are not only responsible for increasing the financial resources to finance the health system, but also for finding a way of financing that promotes financial equity and good health of the population.

Keywords: *health system, investment, medical services, funding sources, national health programs*

JEL Classification: H51, I10

Introduction

The medical services are mostly provided through hospitals. In this context, the focus of resource allocation for investment is to finance hospitals. In recent years, the trend is to invest in hospitals with as many beds as possible, able to provide all the necessary medical services but at the same time they are highly consuming financial resources. In parallel with the tendency to build high-capacity hospitals, at European level, the development of preventive health services through national health programs and the development of ambulatory medical services, which are not very resource-intensive and which have as a direct effect reduction of government spending on health. A report from the National Health Organization in 2018 documents the global pattern of falling external funding and increasing domestic public funding. But with economic development, countries tend to spend more on per capita health, and a shrinking share of these expenditures tends to come from development aid and other private sources. This article analyzes health spending in 2008-2016 in 5 European countries that apply different funding models and allocate large resources as a share of the budget for health financing, namely Germany,

Spain, France, UK and Romania. The purpose of this article is to analyze the resources allocated for health based on the funding source for the period 2008-2016, subtracting the equity of the spending in the countries covered by the analysis over time. Another goal is to associate health spending with economic development and increasing public health spending.

Literature review

In 2010, Or, Z, Cases, C, Lisac, M, Vrangbaek, K, Winblad, U, Bevan, G analyzed two of the funding systems for Bismarck and Beveridge in European countries. Cylus and Mladovsky, P, in 2012 analyzed by what means and the extent to which, historically, the government's increase in health spending in Europe has changed as a result of economic crises. In 2016, Lyszczarz, B presents a critical analysis of the role of the public and private sector in health systems remains one of the crucial issues of the functioning of these systems. The purpose of this research is to identify relationships between the performance of healthcare systems in CEE and CIS countries (Central and Eastern European countries and the Commonwealth of Independent States) and the mix of the public-private health sector in these countries. The study uses a unitary zero method to build three measures of health system performance in the following areas: resources, services, and health. The values of these measures are correlated with the share of public funding that represents the public-private mix in health systems.

In 2018, Saltman analyzes the impact on health services caused by slower economic growth. Thus, his paper assesses the recent health sector reform strategies in Europe since the financial crisis of 2008.

Methodology, data, results and discussions

The financial resources are an essential contribution to healthcare systems - they are strictly needed to purchase medicines and other sanitary materials in order to invest in health infrastructure and pay for health workforce. However, limited financial resources are a universal constraint faced by all health systems. The National Health Organization has identified funding for health as one of the six key elements of health systems and their adequate funding being crucial to quality of life. Funding systems for the health system are not only burdened with increasing financial resources for financing the health system, but also finding a way of financing that promotes equity.

Moreover, the development of future health financing scenarios allows decision-makers and individuals to predict the amount of services that can be provided and identify gaps where the expected funding is insufficient. Frames and examples from a number of countries highlight the important role

of timely and comprehensive estimates of health financing in decision-making and analysis.

Healthcare systems must be funded according to their ability to pay, such as those based on income tax, and which promote both financial equity and a better health of the population. Excessive dependence on daily spending cuts access to care for those who are uninsured and risks increasing their burden of disease and rising poverty due to the high cost of health care. The recognized importance of financial protection has led to its inclusion as one of the two basic elements of universal health, basic services, as outlined in Objective 3 on Sustainable Development in the report prepared by the National Health Organization.

Understanding past trends and anticipating future trends in health financing is important for planning and allocating the resources needed to achieve universal health coverage and other health objectives. Studies carried out, including the work carried out by the network of global health financing mechanisms, have tracked both spending and future spending on health, as well as spending on the source of funding (government, private finance, direct payments and through European Health Aid Development Funds) by 2050. A National Health Organization report of 2018 documents the overall pattern of falling external funding and increasing domestic public funding by supporting key findings from other existing studies.

Research centered on the global health finance transition by this team and others has shown that, along with economic development, countries tend to spend more on per capita health and that a shrinking share of these expenditures tends to come from funds development assistance and other private sources.

The studies have shown that reducing government spending on per capita health can lead to increased mortality among children, adults and pregnant women.

Other studies have found that countries with a lower level of health spending from cumulative financing mechanisms, such as insurance-based or tax-based financing, have lower performances in terms of universal coverage of health services.

These benefits and the high risk of out-of-day spending have led to a focus on the components of health financing sources in different countries. The transition to health financing is a theory developed to characterize the gradual passage of the level and source of health financing observed in countries over time. Countries generally start this transition with an initially low level of health spending per capita, which is largely assured by direct payments or from private sources, and the gradual transition to higher per capita spending is based more on government funding.

Traceability of healthcare financial resources is a prerequisite for assessing the performance of health financing and financial protection systems that characterize progress along the health finance transition, assessing the efficiency and productivity of the health system, or advocating change in health care policy. Moreover, the development of future health financing scenarios allows decision-makers and individuals to predict the amount of services that can be provided and identify gaps where the expected funding is insufficient. Frames and examples from a number of countries highlight the important role of timely and comprehensive estimates of health financing in decision-making and analysis.

Given that countries are committed to delivering global commitments to universal health coverage and other health-related objectives set out in the UN Sustainable Development Objectives, the available health resources available can be used to assess the expected progress. In the absence of comprehensive and comparable estimates of health financing, decision-makers and planners can not clearly measure the amount spent on health, where the funds came from or what are the reasonable expectations for future spending.

A large share in the allocation of financial resources to health services is represented by capital investments in health infrastructure. The basic components of the health infrastructure, major investments, are represented in capital investments, both in the construction of hospitals as real estate and investments in endowment with their technological equipments.

Number of beds in hospitals per 1,000 inhabitants

Table 1

TIME	2011	2012	2013	2014	2015	2016
European Union - 28 countries	532	527	522	518	514	509
Germany	822	818	820	823	813	806
Spain	309	299	296	297	298	297
France	636	634	629	621	613	605
Romania	612	660	667	671	679	684
United Kingdom	289	281	276	273	261	258

Source: eurostat.ec.europa

The capacity to provide hospital services is analyzed according to the number of beds in each hospital. Table 1 shows the decrease in the number of beds per 1000 locals at European level, but at the same time there is a discrepancy between the number of beds between the analyzed countries. Thus, in the countries that apply the Bismark system (Germany, France and Romania), the number of beds is higher than that of the European Union, which leads to a higher level of investment in hospitals, while in the other two

countries applying the Beveridge Funding mode, the number of hospital beds is even half that at the European level.

Through the Talllin Charter[6], EU Member States agreed that there is no single optimal approach to health financing; the differences between models are beginning to fade as countries create new combinations of revenue collection, unification and acquisition agreements, according to their own needs, their own historical, fiscal and demographic context and their own social priorities and preferences. Financing agreements should support redistribution of resources to meet health needs, reduce financial barriers related to the use of necessary services, and protect against the financial risks of using healthcare in a fiscally responsible manner. Financing agreements should also provide incentives for the efficient organization and delivery of health services, allocate resources to service providers on the basis of their performance and the needs of the population, and promote accountability and transparency in the use of funds. The global allocation of resources should create an appropriate balance between healthcare, disease prevention and health promotion, addressing current and future health needs.

Expenses in millions of euros provided by all health care providers

Table no. 2

	2011	2012	2013	2014	2015	2016
European Union - 28 countries	:	:	:	1,400,895.00	1,468,660.14	1,480,696.88
Germany	289,642.00	296,990.00	308,487.00	321,322.00	337,208.00	350,221.00
Spain	97,316.74	94,369.91	92,572.69	93,654.40	98,497.21	100,335.78
France	230,522.12	236,259.07	242,027.46	249,015.41	252,367.80	257,194.38
Romania	6,200.08	6,282.96	7,469.04	7,569.84	7,925.31	8,511.15
United Kingdom	:	:	201,664.58	221,597.90	254,820.62	233,886.44

Source: https://ec.europa.eu/eurostat/web/health/data/database

Table 2 shows the amounts in million euros for medical services, irrespective of their public, private or mixed type). Compared with the data presented in Table 1, it is remarked that their size is inversely propotional to the capacity of hospitals to provide medical services (expressed in number of beds). The conclusion is that much of the sums needed for health investment should not be allocated directly to hospitals that are resource intensive but to non-hospital medical services where the necessary investments are in technological equipment.

Certain models of health investment funding were analyzed by researchers by presenting case studies applied through regional hospitals

in Europe7. Although case studies come from several different European countries, the basic factors of change and the concepts that guide the projects are remarkably coherent and similar. The main health determinants in Europe face many challenges and opportunities in capital investment: demographic and epidemiological transitions associated with an aging population, advances in medical technologies and technologies, pharmaceuticals, increased public expectations, persistent health inequalities.

Health expenditures in millions of euros paid from the health budget

Table no. 3

	2011	2012	2013	2014	2015	2016
European Union - 28 countries	:	:	:	:	:	:
Germany	221,633.00	226,921.00	238,069.00	249,571.00	261,685.00	272,325.00
Spain	4,590.96	4,454.89	4,509.24	4,526.48	4,722.50	4,786.29
France	163,839.85	167,804.93	172,110.83	177,593.65	180,394.27	200,097.58
Romania	4,057.64	4,206.38	4,961.26	4,980.43	5,114.18	5,552.86
United Kingdom	:	:	323.51	333.09	355.51	319.43

Sorce: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_sha11_hphf&lang=en

Table 3 shows the expenditures for health services expired in millions of euros paid from the health budget funded by the mandatory contributions of the inhabitants. Correlation with Table 2 shows a large share of medical expenses incurred indirectly by policyholders who make a mandatory contribution to these health care schemes.

Despite the pressure to increase health spending as a gross percentage of Gross Domestic Product (GDP), there is a growing recognition of the need to improve the efficiency and effectiveness of health systems. The challenge is to combine health needs, public and professional expectations and the resources available. Thus, capital is of crucial importance because a large capital is needed in strict correlation with the extent to which health resources are spent, by shaping health service priorities, delivery systems and delivery structures. The Organization for Economic Cooperation and Development (OECD) established as final criteria for evaluating development assistance: relevance, efficiency, effectiveness, impact and sustainability or sustainability. These key assessment criteria were also adopted for the development of investments in health infrastructure (OECD 2008b), as follows:

- Relevance: the extent to which the investment activity is adapted to the priorities and policies of the target group, beneficiary.

- Efficiency: it measures the results - qualitative and quantitative - compared to inputs.
- Efficacy: a measure of the extent to which an investment activity achieves its proposed objectives.
- Impact: Positive and negative changes from development, intervention, direct or indirect, intentional or unintentional.
- Sustainability: this refers to the measurement of benefits and the likelihood that an activity will continue after the funding has been withdrawn.

Number of services rendered in millions of national currency of each country

Table no. 4

	2011	2012	2013	2014	2015	2016
Germany	248,874.08	258,605.92	273,211.11	285,203.67	298,209.23	311,164.38
Spain	74,003.70	68,967.20	66,382.63	67,301.34	71,541.54	73,730.81
France	182,080.22	186,910.72	191,082.34	195,791.60	200,103.80	204,079.50
Romania	22,600.27	24,021.02	24,889.09	25,912.18	26,978.32	29,809.43
United Kingdom	143,434.93	147,203.38	155,281.26	158,779.29	170,023.81	166,615.48

A major challenge for hospital investment - or even any large scale investment or project - to be sustainable in the long run is the long time involved in planning, financing, construction and operation. It is the interval between the concept and commissioning of large or regional hospitals that may range from 5 to 10 years, while a few years are needed to build the hospital. What can mean for many hospitals, as when they start functioning, no longer meets current (or future) health needs of their population. In the case of health services, patients' expectations and care patterns change, and they change much faster than the health facilities they provide. Often, the planning of capital investment projects continues to involve only some marginal changes, with emphasis on measures such as number of beds or hospital activity. The resulting difference is a major challenge for the long-term sustainability and efficiency of hospitals.

The financing models for health investments are represented by financing from European non-reimbursable funds, financing through public-private partnership, financing from the state budget, financing from local budgets and so on.

Case studies for hospitals built between 1990 and 2010 in different countries across Europe by using some of the above-mentioned funding

models or by using combined funding models within the same unit but for service types medical analysis and their analysis from the perspective of the previous evaluation criteria (relevance, effectiveness, efficiency, impact and sustainability) do not suggest that a particular type of financing model has better performances than the other. In part, this can be explained by the heterogeneity of the population and the governance of each country. Insufficient attention to these structural differences can explain the limited success of most of the models used.

Conclusions

The health expenditures per capita, which have been steadily rising since 2008, are projected to continue to grow in the future but with a lower growth rate, and the large disparities in spending per capita on country should persist in the next period. Increasing health priorities and total public spending are key factors for facilitating the transition to health financing in all countries, mobilizing additional internal health resources to gradually replace high pocket payments. The sustained increases in the quantity, equity and efficiency of health financing are essential for achieving universal health coverage and for improving global health outcomes.

Selective Bibliography

1. Cashin, C. (2016) – *Health financing policy: the macroeconomic, fiscal, and public finance context*, International Bank for Reconstruction and Development/The World Bank, Washington, DC ;
2. Chang, A si altii (2019) – *Past, present, and future of global health financing: a review of development assistance, government, out-of-pocket, and other private spending on health for 195 countries, 1995–2050* - Global Burden of Disease Health Financing Collaborator Network ;
3. Cylus, J., Mladovsky, P, McKee, M., (2012) – *Is There a Statistical Relationship between Economic Crises and Changes in Government Health Expenditure Growth? An Analysis of Twenty-Four European Countrie*s, Wiley – Blackwell USA;
4. Dieleman, J.L, Sadat, N., Chang, A.Y. si altii (2018) – *Trends in future health financing and coverage: future health spending and universal health coverage in 188 countries*, Lancet;
5. Fathy, N. (2012) – *Who is shaping the future of European health systems?*, British Medical Journal ;
6. Fas, B., Gai, Y., Gottret, P. (2007) – *Government health expenditures and health outcomes*, Health Econ;
7. Ferreira, M.R.J., Mendes, A.N. (2018) – *Commodification in the reforms of the German, French and British health systems*, Abrasco, Rio de Janeiro Brasil;
8. Lyszczarz, B. (2016) – *Public-private Mix and Performance of Health Care Systems in CEE and CIS Countries*, Nicolaus Copernicus Univ Torun , Poland;

9. Mossialos, E., Dixon, A., Figuerosa, J., Kutzin (2002) –*Funding Health Care:Options, for Europe* , European Observatory On Health Care Systems Series , Who and Open University Press;
10. Or, Z. , Cases, C., Lisac, M. , Vrangbaek, K. , Winblad, U. , Bevan, G.(2010) – *Are health problems systemic? Politics of access and choice under Beveridge and Bismarck systems*, Cambridge Univ press , Cambridge, England;
11. Rechel, B., Erskine, J., Dowdeswell, W. S. (2009) – *Capital Investment for Health – Case Studies from Europe*, World Health Organisation;
12. Saltman, R.B. (2018) – *The impact of slow economic growth on health sector reform: a cross-national perspective*, Cambridge Univ press , Cambridge, England;
13. Salman, R.B. , Duran, A. (2013) – *Governance, Government, and the Search for New Provider Models*, International Jounal of Health Policy and Management;
14. Stuckler, D., Basu, S., Suhrcke, M., Coutts, A., McKee, M. (2009) – *The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis* , Elsevier Science Inc, New York USA;
15. ***Analysing Health Sector Performance, Background paper, WBI/World Bank Flagship Course on Health Sector Reform and Sustainable Financing, 1999;
16. ***Carta de la Talin: Sisteme de sănătate pentru sănătate şi bunăstare. , http://www.euro.who.int/__data/assets/pdf_file/0008/88613/E91438.pdf;
17. ***WHO - World Health Report 2010 – health systems financing: the path to universal coverage, WHO (2010); https://www.who.int/whr/2010/en/;