

The financing of the health care of a region through the public-private partnership

Dmitriy Shor

Volgograd State University
Institute of Economy and Finances
Volgograd, Russia
ShorDM@volsu.ru

Inna Shor

Volgograd State University
Institute of Economy and Finances
Volgograd, Russia
ShorIM@volsu.ru

Dildarakhon Shelestova

Volgograd State University
Institute of Economy and Finances
Volgograd, Russia
ShelestovaDA@volsu.ru

Abstract— The development of the practices of the government and private sector interaction via collaborative projects can ensure the competitiveness and economic stability of a region. Those projects are designed to support the financing of the modernization of the health care infrastructure, the availability and quality of medical services. However, organizational-legal, institutional, financial and economic, and other measures which have been taken in Russian regions do not fully unleash the potential of the public-private partnership. The purpose of this study is to devise practical recommendations for the development of the public-private partnership on the financing of the health care which stimulates the economic growth and the competitiveness of a region. The study relies on the systematic, economic and statistical analysis, and the dialectical method of cognition. In this study the statistics of the modern practice of the public-private partnership in the health care were analyzed and prospective areas for improvement were presented as well as conditions for its effective development according to the SWOT-analysis. We found out that to achieve high quality of the results of the realization of the potential of the public-private partnership in the health care it is necessary to select and launch public-private partnership projects which are already possible to be carried out given the current legal fold; to conduct integrated assessment of the necessity for amendments to the existing legislation according to the results of the regional practice of the public-private partnership; to devise an effective institutional, and financial and economic incentive mechanism for the development of the public-private partnership.

Keywords— *public-private partnership, health care, financing, economy of a region, project*

I. INTRODUCTION

The current experience of foreign countries is the example of the effectiveness of the public-private partnership (PPP) in health care. First of all, this applies to the countries with high levels of productivity, GDP per capita, and average life expectancy. Thus, there is a direct correlation between the level of country's social and economic development and the scope of the PPP implementation: in advanced market

economies the public-private partnership is widely represented in the health care. For instance, in the USA, the UK, Germany, Italy, Canada, France and Japan the PPP projects have the largest share (184 out of 615 projects) [1]. It is also important to note that foreign practices prove the effectiveness of the realization of the public-private partnership in the health care (savings in public expenditure account for 10%, thus ensuring the improvement of the quality and the decrease in the medical service prices) [2].

The successful experience of foreign countries with different financing systems has served as one of the reasons for the analysis of the possibility and usefulness to implement the public-private partnership in the Russian health care system. We suppose that some reasons stimulating this implementation for the Russian regions are:

- The majority of the fixed assets of healthcare facilities undergo serious physical deterioration (more than 40-45%).
- Budget allocation to the healthcare system is scarce and insufficient (over the past 15 years the GDP share of public expenditure on health care is 3,6% on average and it falls behind with the recommended by the World Health Organization 6%, Fig. 1; in the majority of the developed countries public expenditure on health constitutes a large proportion of the GDP, nearly more than two times more than an average figure across Russia, Fig. 2; inefficient investment in health care accounts for 40-60% compared to the total expenditure).
- Up to 20% of the Russian state health centers provide service in the fields which are potentially demanded by private investors.

- State federal facilities which are under the jurisdiction of the Russian Ministry of Health are in need of private investment (more than 20bln roubles) [3,4].

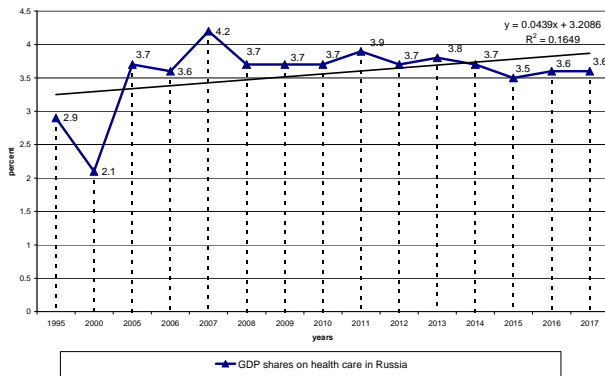


Fig.1. Dynamics of GDP shares on health care in Russia

Source: created by the authors according to [5].

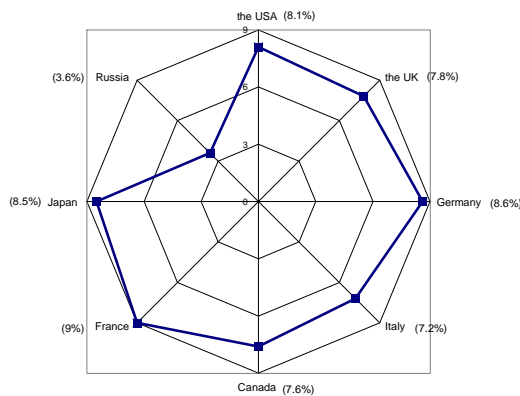


Fig. 2. The public expenditure on health care across the countries (measured as a percentage to GDP)

Source: created by the authors according to [5].

Nowadays the course, which aim is to attract private investment to the PPP projects, has been embodied in the law at the federal and regional levels. This investment is attracted in order to upgrade healthcare infrastructure, to increase financing of providing medical treatment and to improve the quality and availability of health services across Russia.

However, the current legislation and existing organizational, institutional, financial and economic, and other measures do not fully contribute to unlocking the potential of the public-private partnership. Consequently, there is a rise in the importance of research aimed at finding conditions and directions of effective PPP development which will ensure the competitiveness and stability of regional economies.

A.A. Valesyan [6], V.V. Gryb [7], V.G. Kuvatov [8], O.S. Petrova [9], V.A. Filchenkov [10] have made a significant contribution to the study of PPP in the social sphere, especially in health care. On the other hand, the analysis of the development of this field demonstrates the absence of unified approach to the realization of PPP projects in health care. This

absence does not allow regions to develop in full force in social and economic spheres.

Thus, the urgency and underdevelopment of the problem have set the aim (to devise practical recommendations for the development of PPP in health financing which will ensure the economic growth and competitiveness of a region) and objectives of this study (to conduct the analysis of statistical data and the SWOT-analysis of the PPP in health care, to define its prospective areas for development, models, forms and conditions for realization). The structure of this work was defined according to these aims and objectives.

The results of our study can be used by regional authorities when improving the PPP in health care as a social and economic development dimension.

II. MATERIALS AND METHODS (MODEL)

The methodological framework for the research is the set of theoretical and applied writings created by modern authors concerning the issues of the PPP development in health care, and the information presented in the press and global information network. This study is based on systematic, statistical and economic analyses, as well as dialectical method of cognition which was undertaken through conventional methods and practices (observation, synthesis, comparison, grouping, compilation of theoretical and practical material).

To analyze factors which limit the development of the PPP in the health care financing of a region we used the SWOT-analysis which enabled us to determine strengths and weaknesses, opportunities and threats to public and private partners, as well as region's economy.

III. RESULTS AND DISCUSSION

A. We have conducted the analysis of the statistical data [11] which characterize tendencies of the PPP development in the Russian health care system. According to this analysis we can draw conclusions as follows:

- At the beginning of 2017, 43 PPP projects were carried out through a concession. These projects account for 47% out of total number of completed PPP projects in health care and 2% out of total number of PPP projects in all economic spheres. Six projects were executed through PPP agreement what constitutes 7% out of total number of realized PPP projects in health care and 9% out of PPP projects in all economic spheres. These concession and agreement types are widely represented at the regional level (table I).

TABLE I. THE DYNAMICS OF COMPLETED PPP PROJECTS IN THE RUSSIAN HEALTHCARE SYSTEM

Levels of PPP projects implementation	Types of PPP projects					
	Concession			Agreement		
	Years		Change	Years		Change
	2016	2015		2016	2015	
Federal	1	1	-	-	-	-
Regional	34	22	+12	5	6	-1
Municipal	8	3	+5	1	3	-2
In total	43	26	+17	6	9	-3

Source: composed by the authors according to [10].

- At the end of 2017 total investment in the PPP projects in health care comprised 63bln roubles, with 56bln coming from private investors, what accounts for approximately 10% out of total investment in the PPP projects in all economic spheres; 124 PPP projects were carried out in health care, with 84 of them being in progress at that moment; 36 private initiatives to settle concession agreements in health care were filed and processed, which is 11 initiatives more than in 2016.
- Nowadays Tatarstan and Novosibirsk are among leading regions in the implementation of PPP financing in health care. These regions are currently carrying out 3 projects each (a healthcare center has already been built through PPP). Samara's Center of Extracorporeal hemocorrection and the network of healthcare centers and general practitioners in Ulyanovsk have proven to be the best PPP implementations.
- Since 2016 there has been the increase of the private investors' attention to the modernization of health-resort treatment. We can note the way of PPP implementation in Volgograd. In 2016 a concessionary agreement 'Design, production and operation of health-resort assets of Elton, Volgograd region' was set for the period of 30 years and with the cumulative investment accounting for 300mln roubles [12]. Regarding the contribution to the regional economy, it important to highlight that health-resort treatment decreases exacerbation of diseases among children and adults by 2-6 times. Patients who have received sanatorium after-treatment have by 2-3 decreased temporary incapacity or permanent disability to labour [13].

According to what we have stated we can draw the following conclusion. On the one hand, PPP serves as a means of attraction investment which is necessary for the effective functioning of the healthcare system. On the other hand, PPP is a means of interaction between public and private sectors and it contributes to a stable and competitive development of the regional economy.

B. The SWOT-analysis is used to analyze factors which prevent the full unleashing of the PPP potential as a means of health care financing. The SWOT-analysis defines strengths and weaknesses, opportunities and threats to public and private partners as well as to regional economies (table II).

TABLE II. THE SWOT-ANALYSIS OF THE PPP IN HEALTH CARE AS A REGION'S ECONOMIC DEVELOPMENT FACTOR

Strengths		Weaknesses	
For public partners	For private partners	For public partners	For private partners
<ul style="list-style-type: none"> the increasing transparency of the interaction with the private sector; quick management decision-making; the implementation of effective ways of managing and organizing of technological and production processes; the risk transfer to the private sector. 	<ul style="list-style-type: none"> long-term legally regulated relationship with authorities; the access to the limited resources. 	<ul style="list-style-type: none"> the underdevelopment of strategic policies in the healthcare system, in PPP particularly; drawbacks in the regional legislation; the lack of qualified managerial personnel who specialize in PPP. 	<ul style="list-style-type: none"> serious physical deterioration of the fixed assets of healthcare facilities; healthcare facilities have long payoff period and return on investment
Regional economy		Regional economy	
<ul style="list-style-type: none"> use of unique natural healing resources; depth of domestic historical experience of the healthcare system functioning. 	<ul style="list-style-type: none"> insufficient experience in the implementation of PPP projects in health care; the gap between the development of world and regional markets of medical services. 		

TABLE II. THE SWOT-ANALYSIS OF THE PPP IN HEALTH CARE AS A REGION'S ECONOMIC DEVELOPMENT FACTOR, CONT

Opportunities		Threats	
<i>For public partners</i>	<i>For private partners</i>	<i>For public partners</i>	<i>For private partners</i>
<ul style="list-style-type: none"> problems of creating (renovation, modernization) of healthcare facilities and infrastructure will be solved by the private sector; the optimization of the public expenditure; providing extra income to the budget. 	<ul style="list-style-type: none"> sustainable long-term income; creating positive public image of the company carrying out socially crucial projects. 	<ul style="list-style-type: none"> risks of private investors' non-performance and improper use of public funds; shadow businesses. 	<ul style="list-style-type: none"> risks of regional authorities' non-performance; administrative obstacles; schedule slippage in project work.
Regional economy		Regional economy	
<ul style="list-style-type: none"> attraction of private investment in health care; creating job opportunities in the region; providing affordability, diversity, and improved quality of medical services; the development of import substitution in health care; creation of sustainable investment tool in health care; creation of new 'growth points' of the regional economy. 		<ul style="list-style-type: none"> political, social, and macroeconomic risks; the instability of the healthcare regulation system; stricter requirements in health care. 	

Source: composed by the authors

C. In this SWOT-analysis we have defined the sufficient number of weaknesses and threats what proves the importance of taking measures to reduce their quantity in order to develop the practice of the PPP projects implementation in health care. We highlight the fact that it is crucial for the regional government to take steps and increase efforts in three key areas:

- Selection and launch of the PPP projects which are already possible to be carried out given the current legal fold. Irrespective of the model or type of a project the assessment of the regional market of medical services plays a significant role which takes place before the agreement. First of all, the market saturation of medical services under a compulsory health insurance (CHI) scheme should be taken into account. That is why a planned facility should be constructed there where the opportunity of providing medical services is constrained due to the lack of the public healthcare infrastructure. If there are technical obstacles which interfere with the reconstruction of existing public medical facilities, and if there is redundancy of healthcare facilities at the regional

level, the inventory, and the assessment of health services and equipment can be conducted. Such analysis will assess the effectiveness of medical services and will help decide if it is useful to create new facilities through PPP with the shutdown of outdated facilities, which can be handed over to the private investors for providing partial payback of investment.

- The assessment of the necessity of amendments to the current legislation according to the results of the regional PPP practice. When refining the regional legislative framework it is necessary to take into account some key aspects. First of all, to comprise a regional PPP law with the federal legislation. Then, to avoid general expressions and devise measures of encouragement and support of the private investors who are planning to or are already carrying out PPP projects in the priority areas of health care. Every change to the law demands predictive modeling in order to assess their regulating effect linked to particular PPP projects, and every decision to introduce changes should be preceded by a completed pioneer project.

- The establishment of institutional (plans to develop infrastructure, accounting of PPP tools in strategic planning papers of the regional health care development; the foundation of the state PPP management system; stimulation of private sector involvement in the PPP projects) and financial and economic (adding investment component to the CHI fares; adding long-term variables of private partner fare regulation or change of the fare validity; accounting of the private investor's capital cost when deciding on the funding; transforming of the CHI from the single payer system to a managed competition system where it would be possible to pay extra for medical services with private funds) tools of stimulating the development of PPP in health care.

According to the advanced foreign experience and the specific nature of Russian realities, we can determine three prospective areas of the PPP projects implementation as a means of social and economic regional development:

- Attraction of private investment to the development of the healthcare infrastructure, which is under the governmental jurisdiction.
- Attraction of the private partners to the CHI system.
- Transfer for outsourcing of certain functions or activities of public healthcare facilities to the private partners, especially technical ones (for instance, transport, cleaning).

We believe that following models have huge potential in this field:

- Private partners carry out reconstruction of healthcare facilities and acquire rights to use and maintain infrastructure of these facilities throughout the payback period. In this model it is possible to share funding between public and private investments, when at the beginning the 100% funding comes from the private

partner, and the public partner partially refunds for the investment after the commissioning of the facility.

- A healthcare facility is constructed by the government and then is handed over to a private investor as a trust property with a purchase option.

- A healthcare facility is constructed by the private investor according to the public conditions, and after the construction the private partner has a right to provide medical services and run the facility.

The underlying cause for the appeal of these models is the scarcity of regional financial resources for creation (reconstruction, modernization) of the healthcare facilities.

When deciding on the PPP implementation type the advantages of concession [14] and the PPP agreement [15] should be considered:

- The possibility to put several facilities into operation through budget payment by installments;

- The motivation of private investor to ensure effectiveness at all project stages is as high as possible;

- The possibility to attract long-term financing from the largest credit organizations;

- The experience of the PPP projects implementation which can be useful for other fields.

However, there are several problems: long periods of tender procedures, additional guarantee of minimal profitability of concessions, lack of practice of the PPP project implementation [16].

The success of stated practical recommendations of the development of public-private partnership in the health care financing (which will ensure sustainable and competitive development of the region's economy) relies on following several conditions:

- Sustainable political conjuncture in the region and the absence of visible risks, that can have bad impact on the PPP project implementation.

- The political willpower of the government and senior government officials to use PPP to develop the healthcare system.

- The high level of regional investment prospects, and stable social and economic growth.

- The Russian government should realize the necessity to create the effective system of public strategic planning in the regions.

- The governmental will to attract the private sector to the health care more actively, for instance, through the outsourcing tools in order to stimulate and develop the private operators market.

- The existence of qualified specialists who possess necessary knowledge and skills in the field of PPP in the executive authorities of regions practicing PPP in health care.

IV. CONCLUSION

A. The conducted analysis of the statistical data of the PPP development in health care in the Russian Federation over 2015-2017 has enabled us to draw following conclusions: the highest number of the PPP projects is implemented at the regional level in the form of concession; by the end of 2017 the total amount of private investment had accounted for approximately 10% out of total investment to the PPP projects in all economic spheres; since 2016 there has been an increase in the attention of the private investors to the modernization of health-resort facilities.

B. After conducting the SWOT-analysis we came to a conclusion that it is possible to attract investment to health care, and ensure the stable and competitive development of the regional economy provided the weaknesses and threats are diminished (eliminated) in the given field.

C. We suppose that to ensure the high quality of the results of the PPP project implementation in the health care financing it is necessary to: select and launch public-private partnership projects which are already possible to be carried out given the current legal fold; to conduct integrated assessment of the necessity for amendments to the existing legislation according to the results of the regional practice of the public-private partnership; to devise an effective institutional, and financial and economic incentive mechanism for the development of the public-private partnership.

We believe that prospective areas for the PPP projects implementation as a means of social and economic regional development are the attraction of private investment to the development of the healthcare infrastructure, which is under the governmental jurisdiction; the attraction of the private partners to the CHI system; transfer for outsourcing of certain functions or activities of public healthcare facilities to the private partners. In this area the following models can be regarded as highly prospective: private partners carrying out reconstruction of healthcare facilities and acquiring rights to use and maintain infrastructure of these facilities throughout the payback period; a healthcare facility is constructed by the regional government and then is handed over to a private investor as a trust property with a purchase option; a healthcare facility is constructed by the private investor according to the public conditions, and after the construction the private partner has a right to provide medical services and run the facility.

The implementation of the given recommendations relies on following certain conditions. Some of them are the sustainable political conjuncture in the region; the high level of regional investment prospects, and stable social and economic growth; the existence of qualified specialists who possess necessary knowledge and skills in the field of PPP.

References

- [1] Kankulova M.I. (2015). Investment in the social sphere: government and business // Budget. - № 1. - pp. 36 – 39.
- [2] Panova T.V. (2015). The experience of developed countries in the implementation of the PPP types and models in health care // Economic and Law Issues. - №11. – pp. 99-102.
- [3] Public-private partnership in health care: current trends [E-source]. Access: http://federalbook.ru/files/FSZ/soderghanie/Z_16/Z16-2015-Kraevoj.pdf (Accessed: 20.01.2018).
- [4] The World Health Organization [E-source]. Access: www.who.int.ru (Accessed: 20.01.2018).
- [5] Federal State Statistics Service [E-source]. Access: www.gks.ru (Accessed: 20.01.2018).
- [6] Valesyan A.A. (2009) The prospectives for the use of PPP techniques in the health care development in Russia (Doctoral dissertation).
- [7] Gryb V.V. and others (2011). Public-private partnership in the social sphere in the Russian Federation: current problems and solutions. - Moscow: Lawyer.
- [8] Kuvatov V.G. (2010). Creation and development of public-private partnership in the market of medical services (Doctoral dissertation).
- [9] Petrova O.S. (2014). The interaction between the government and business through public-private partnership in health care (Doctoral dissertation).
- [10] Filchenkov V.A. (2005). Creation of public-private partnership in the social sphere (Doctoral dissertation).
- [11] National PPP Center [E-source]. Access: pppcenter.ru (Accessed: 20.01.2018).
- [12] Volgograd's Investment portal [E-source]. Access: <https://investvlg.ru> (Accessed: 20.01.2018).
- [13] Experts of All Russia People's Front: it is important to focus on disease prevention when developing sanatoriums [E-source]. Access: <http://onf.ru/2018/01/30/eksperty-onf-pri-razvitii-sanatoriev-v-rossii-nuzhno-akcentirovat-vnimanie-na/> (Accessed: 20.01.2018).
- [14] Federal law on concession agreements of 21 July 2005 №115-FL [E-source]. Access: <http://www.pravo.gov.ru> (Accessed: 20.01.2018).
- [15] Federal law on public-private partnership, municipal-private partnership in the Russian Federation and making amendments to particular laws of the Russian Federation of 13 July 2015 №224-FL [E-source]. Access: <http://www.pravo.gov.ru> (Accessed: 20.01.2018).
- [16] Shor I.M., Shor D.M. (2017). Concession as a means of increasing the effectiveness of the regional budget expenditure. Volgograd State University. Volgograd: Volgograd Scientific publisher, 2017.