

Ivanyuk A. V. Public-private partnership as a mechanism for improving cardiological assistance to the population at the regional level. *Journal of Education, Health and Sport*. 2020;10(7):421-428. eISSN 2391-8306. DOI <http://dx.doi.org/10.12775/JEHS.2020.10.07.043> <https://apcz.umk.pl/czasopisma/index.php/JEHS/article/view/JEHS.2020.10.07.043> <https://zenodo.org/record/4201101>

The journal has had 5 points in Ministry of Science and Higher Education parametric evaluation. § 8. 2) and § 12. 1. 2) 22.02.2019.
© The Authors 2020;

This article is published with open access at Licensee Open Journal Systems of Nicolaus Copernicus University in Torun, Poland
Open Access. This article is distributed under the terms of the Creative Commons Attribution Noncommercial License which permits any noncommercial use, distribution, and reproduction in any medium, provided the original author (s) and source are credited. This is an open access article licensed under the terms of the Creative Commons Attribution Non commercial license Share alike. (<http://creativecommons.org/licenses/by-nc-sa/4.0/>) which permits unrestricted, non commercial use, distribution and reproduction in any medium, provided the work is properly cited.
The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 19.06.2020. Revised: 09.07.2020. Accepted: 31.07.2020.

PUBLIC-PRIVATE PARTNERSHIP AS A MECHANISM FOR IMPROVING CARDIOLOGICAL ASSISTANCE TO THE POPULATION AT THE REGIONAL LEVEL

A. V. Ivanyuk

Kyiv Regional Clinical Hospital, Ukraine

Abstract

Objective: to substantiate the feasibility of forming a modern regional center for cardiology and cardiac surgery predicated on the basis of public-private partnership (PPP) mechanisms. **Materials and methods.** The research is performed with the use of the method of system approach and analysis, sociological and statistical methods are used as well. The scientific works of specialists in the field of health care and management, regulatory documents on the problem and the results of our own sociological researches were used as informational base for its implementation. **Results.** According to the analysis of resource provision of the cardiac service in Kyiv region, as well as a sociological survey of 829 patients with circulatory system diseases who applied to regional outpatient clinics, and 352 cardiologists from all regions of Ukraine survey, a comprehensive description of the conditions, problems and ways of improvement of cardiac care rendering to rural population was obtained. It is shown that a promising direction of development of cardiac care regional system is the formation of a new organizational model of the regional center for cardiology and cardiac surgery predicated on PPP principles. The article presents the legal framework for the use of PPP mechanisms, reveals the prospects and benefits of forming a model of a regional center for cardiology and cardiac surgery principled on PPP, identifies external and

internal conditions for the model development, outlines the necessary practical measures for its implementation. **Conclusions.** The materials presented in the article prove that a promising direction of regional level cardiac care improvement is the formation of a new organizational model of the regional center for cardiology and cardiac surgery predicated on the principles of PPP.

Key words: regional center for cardiology and cardiac surgery; rural population; public-private partnership.

Introduction. Circulatory system diseases (CSD) hold key position in the structure of diseases prevalence, primary disability and overall mortality in Ukraine. Over the past 10 years, the prevalence of CSD has been steadily increasing, which was due to negative trends in the dynamics of coronary heart disease, hypertension and cerebrovascular pathology [1]. Chronic non-infectious diseases, among which CSD are classified, condition the greater part (to 84%) of fatalities with the prevalence among working age men. CSD mortality rate in Ukraine (749 per 100 thousand of population) is significantly higher than the world average (539 per 100 thousand population). More than 85.0 million applications are made to health care facilities annually, a third of which are caused by CSD [2]. Thus, CSD in Ukraine remains a significant medical and social problem.

Under the conditions of limited financial resources and the state budget deficit, as evidenced by the data of the National Bank of Ukraine, technical wear and obsolescence of infrastructure, Ukraine's economy needs to attract investment resources in the country's infrastructure [2]. Budget financing of the health care system in Ukraine is extremely insufficient these days and does not provide quality and affordable medical care. Therefore, it is necessary to search for alternative organizational and economic technologies to improve the organization of medical care for CSD patients.

World history is rich in examples of the organization of such alternative form of financing as public-private partnership (PPP). Scientific understanding of the interaction between the state and the private sector contributed to the concept of "public private partnership" [4]. Today it is becoming clear that the modernization of the public sector of the health care system, its financing and management, can be effective only when integrating the interests of the state, business and patients [5, 6, 7].

Objective: to substantiate the feasibility of forming a modern regional center for cardiology and cardiac surgery, based on the mechanisms of public-private partnership (PPP).

Materials and methods. The research study was performed with the use of systematic

approach and analysis method as well as sociological and statistical methods. The information base of the study were the scientific works of specialists in the organization and management of health care, regulatory documents on the problem, as well as the results of our own surveys. The analysis of the state and organizational problems of cardiac care rendering to the population is carried out on the basis of Kyiv region materials. The data of Kiev Region health care institutions statistical reporting for 2015-2019 were analyzed, as well as the results of a specially organized sociological survey of 829 CSD patients who in 2020 applied to outpatient clinics of Kiev region. The survey was also conducted among 352 cardiologists from all regions of Ukraine who provide medical care to patients with CSD in medical institutions of various levels.

Results of the research. A comprehensive medical and organizational analysis, carried out on the basis of official statistical reports, as well as the results of CSD patients and cardiologists sociological survey, highlighted a number of problems in the organization of cardiac care for the population of Kyiv region.

In particular, the material and technical base and staffing of the cardiology service of the region are insufficient. Among the 29 districts of Kyiv region, 10 districts are provided with minimal diagnostic equipment for the diagnosis of cardiac pathology, they have only electrocardiographs. In 14 districts there are no echocardiographs, in 20 districts there are no bicycle ergometers. Holter ECG and blood pressure monitoring of the patients can be performed only in 3 districts of the region. There are no cardiologists in Polissya and Stavyschansky districts and towns of Berezan and Rzhyshev.

According to the sociological survey of CSD patients applied to outpatient clinics in Kyiv region, it was found that only 15.8% of them are completely satisfied with medical care, half of patients (52.8%) are partially satisfied and one third (31.4%) - completely dissatisfied.

In the patients under survey opinion, to improve the organization of cardiac care to the population it is necessary to optimize the organization of admission ($51.4 \pm 1.7\%$), increase the number of cardiologists ($67.5 \pm 1.6\%$), improve hospital facilities ($52.3 \pm 1.7\%$), ensure the possibility of conducting all laboratory tests prescribed by a doctor ($45.9 \pm 1.7\%$), expand the types of diagnostic tests ($45.8 \pm 1.7\%$).

The problem of cardiac care improvement goes beyond Kiev region as evidenced by the results of a survey of 352 cardiologists from all regions of Ukraine who provide medical care to CSD patients in medical settings of different levels. In their opinion, rural medical link is underfunded, it has uneven staffing of doctors and nurses, low level of remuneration, high workload, insufficient equipment of health care facilities with medical equipment, weakness

of preventive work.

The main directions of improving the organization of cardiac care for the rural population cardiologists see in increasing the funding of health care ($91.5 \pm 1.5\%$) sector and the level of wages ($87.2 \pm 1.8\%$); in introduction of compulsory health insurance ($81.8 \pm 2.1\%$), mechanisms of the staff's economic motivation ($89.8 \pm 1.6\%$); equipping of medical care units with modern medical and diagnostic equipment ($73.9 \pm 2.3\%$); improving the quality of cardiologists' postgraduate training ($78.2 \pm 1.9\%$); introduction of medical care monitoring system ($66.9 \pm 4.9\%$), as well as in increasing the economic and legal independence of medical care units ($78.1 \pm 2.2\%$) and introduction of public-private partnership mechanisms with the preservation of the units in state ownership ($79.3 \pm 2.2\%$).

Thus, the results of a comprehensive medical and social characteristics of cardiac care organization in the Kiev region showed the need to justify ways to improve it.

Under current Ukrainian conditions, the need has arisen for institutional reforms and transformations aimed at changing the general paradigm of economic and investment policy in health care sector in order to overcome the existing negative structural changes.

The problem of public policy is the formation of the legal framework aimed at regulating new forms of economic cooperation between private business and the state in the health care sector, in order to attract a private partner to participate in the development of social projects. The strategic task is to create conditions for economic sustainability and development of medical care units, the activities of which will primarily ensure the reduction of morbidity of the working population, protection of maternal and child health, affordable high-tech medical care to the population.

Public-private partnerships have been a successful way of reforming the health care system in the west countries. For the past three decades it has been the most popular way to manage competition in a market economy. To date, in developed countries, 60% of health care projects are implemented in the form of PPP, which indicates its viability [8].

Thus, papers' analysis for a topic, scientific understanding of the interaction between the state and private sector, successful application of PPP mechanism in the field of health care world practice confirm the feasibility of PPP tools in developing a conceptual model of regional center of cardiology and cardiac surgery for Kiev Region population. This Center will take over the organizational and methodological guidance of the cardiology service of the region.

Ukraine has created a legal framework for the use of PPP mechanisms in health care. It includes Law of Ukraine dated 01.07.2010 № 2404-VI "On public-private partnership" [9];

Law of Ukraine of 24.11.2015 № 817-VIII "On Amendments to Certain Laws of Ukraine on Elimination of Regulatory Barriers to the Development of Public-Private Partnerships and Stimulation of Investments in Ukraine" [10]; Law of Ukraine dated 06.04.2017 № 2002-VIII "On Amendments to Certain Legislative Acts of Ukraine Concerning the Improvement of Legislation on the Activities of Health Care Institutions" [11].

Cardiology and cardiosurgery centre model based on the principles of PPP should become a legally and economically independent institution with private capital, which will unite public and private investors and ensure the operation of the center as a production unit. The center will operate on a business basis, and its activities will be determined not only by the charter, but also by the management, which is based on objective data and the desire to satisfy the consumer of services.

This model will guarantee concentration of efforts and resources on achieving a specific result, achieving socio-economic efficiency of the project, the distribution of responsibilities and risks between the state and the private partner; maintaining of the state control and monitoring of the project realization, the profile of the center as a health care unit, the capacity and types of medical care offered to the population, as well as ensuring the availability and quality of medical care for all segments of population, providing both paid services and free medical care to be provided under the state guarantee program.

The functions of the state include strategic management and payment of services provided by the center to the population on the basis of contracts and orders

Financing instruments are private business, budget financing, voluntary health insurance, private investment, state guarantees.

Technology includes a set of methods, processes used in production activities with the use of modern technologies for the production of services, which are consistent with the latest advances in science.

Institutions contain state laws on PPP, target programs, regional programs.

Benefits from the implementation of the model are as following: for the population - quality increase, capacity and availability of cardiac services.

For the state it involves reduction of budget expenditures; project financing without increasing the budget deficit and communal debt; increase efficiency and reduce the cost of implementation, the use of more efficient technologies, including in the field of management.

For the private investor it lies in expansion of activity that is especially actual under the conditions of the saturated market outlets; guaranteed profit for the future, which, in its turn, is a guarantee of business stability; opportunities to attract loans on more favorable

terms under state guarantees.

Also an important feature of the center will be the financial planning of activities, in accordance with the principle of coordination of the volume and structure of cardiac services with the expected inflow of financial resources. This principle differs significantly from the planning of medical care units activities on the basis of standards.

The necessary conditions must be created for the effective integration of the interests of the state and business in the form of PPP.

External conditions include:

- introduction of compulsory health insurance as a form of social protection of the population's interests in health care, which will guarantee the citizen free provision of a certain amount of medical services when an insured event occurs (health disorders);
- creation of equal competitive opportunities, uniform requirements to the medical care units regardless of their form of ownership, refusal of administrative attachment;
- changes in tariff policy (inclusion of all cost items in the tariff, single-channel financing at the expense of local self-government, economically justified value of the tariff);
- distribution of risks between the state and the entrepreneur.

The internal conditions include:

- effective management in resource and cost ruling;
- selection of qualified personnel, creation of an attractive environment for them;
- equipping with modern high-tech medical equipment and development of information infrastructure;
- meeting the needs of patients by improving the quality of care and creating an attractive environment and service in the center.

To stimulate the development of PPP, it is also necessary to carry out a number of practical measures, in particular:

- Development of institutional, legal, organizational and economic base for medical care units on PPP principles;
- Development of a state strategy for the management of medical care units on PPP principles from the standpoint of a systematic approach;
- Training of managers for medical care units on PPP principles, who will have professional competencies in this area;
- Formation of favorable public opinion before the emergence of a new form of medical care units on PPP principles.

Conclusions:

The ways of the regional system of cardiac care development has been revealed; the feasibility of forming a regional center of cardiology and cardiac surgery based on public-private partnership principles substantiated.

Regional centre for cardiology and cardio surgery through the partnership of the state with a private investor will receive the necessary funding, ensure targeted use of resources, improve the quality and accessibility of cardiac care to the rural population. Formation of new organizational and economic forms of medical care units on PPP principles with integration of state, business and patients interests health will allow to improve present day situation in health care sector through the use of additional sources of investment and cost optimization. This will create conditions for technological breakthrough and stable development of medical care units, which will lead to improved quality and availability of medical care.

Prospects for further research are to use the experience gained in the development of an optimized model of the regional centre for cardiology and cardio surgery on public-private partnership principles.

References:

1. Handzyuk V. A. Dynamika zakhvoryuvanosti ta poshyrenosti khvorob systemy krovoobihu sered naseleण्या Ukrayiny na suchasnomu etapi: natsional'nyy ta rehional'nyy aspekty. / V. A. Handzyuk // Visnyk sotsial'noyi hihiyeny ta orhanizatsiyi okhorony zdorov'ya Ukrayiny. 2014. №2(60) - S. 74 - 79.
2. Terenda N. O. Khvoroby systemy krovoobihu ta sotsial'no-ekolohichni faktory ryzyku / N. O. Terenda, N. O. Slobodyan, K. Ye. Yuriyiv // Zdobutky klinichnoyi i eksperymental'noyi medytsyny. 2017. № 3. - S. 158 - 165.
3. Zvit pro finansovu stabil'nist' / Natsional'nyy bank Ukrayiny [Elektronnyy resurs]. Rezhym dostupu: <https://bank.gov.ua/doccatalog/document?id=32241744>.
4. Varnavskyy V. H. Novaya kontseptsyya hosudarstvenno-chastnoho partnerstva v Velykobrytany. /V. H. Varnavskyy // Myrovaya ékonomyka y mezhdunarodnye otnoshenyya. - 2014. - № 8. - S. 67-75.
5. Vovk S. M. Instytutsiyni definitysiyi rozuminnyya derzhavno-pryvatnoho partnerstva v medytsyni. / S. M. Vovk // Derzhava ta rehiony. Seriya: Derzhavne upravlinnya. 2016. № 3 (55). S. 23-27.
6. Harbarynina V. Yu. Sutnist' i pryntsyipy vprovadzhennya derzhavno-pryvatnoho partnerstva v Ukrayini / V. Yu. Harbarynina // Aktual'ni problemy derzhavnoho upravlinnya. – 2014. – № 2. – S. 43-49.

7. Zapatrina I. Derzhavno-pryvatne partnerstvo yak faktor ekonomichnoho zrostannya ta problemy yoho rozvytku v Ukrayini / I. Zapatrina, T. Lebeda // Ekonomist. - 2011. - №3. - S. 52-58.

8. Rodnyanskyy D. V. Hosudarstvenno-chastnoe partnerstvo v sfere zdravookhranenyia: rehyonal'nyy analiz / D. V. Rodnyanskyy //Mezhdunarodnyy zhurnal prykladnykh nauk y tekhnolohyy «Integral» 2019. №1 S. 133-139.

9. Zakon Ukraїni ot 01.07.2010 № 2404-VI «Pro derzhavno-privatne partnerstvo» [Yelektronniy resurs] Rezhim dostupu: <https://zakon.rada.gov.ua/laws/show/2404-17#Text>

10. Zakon Ukrainy ot 24.11.2015 № 817-VIII «O vnesenii izmeneniy v zakonodatel'nyye akty Ukrainy» [Yelektronniy resurs] Rezhim dostupa: [https://zakon.rada.gov.ua / law / show / 817-19. # Tekst](https://zakon.rada.gov.ua/law/show/817-19.#Tekst)

11. Zakon Ukraїni ot 06.04.2017 № 2002-VIII «O vneseni izmín do deyakik hzakonodatel'nykh aktov Ukrainy». [Yelektronniy resurs] Rezhim dostupu: <https://zakon.rada.gov.ua/laws/show/2002-19#Text>