

PRACA POGLĄDOWA  
REVIEW ARTICLE**PUBLIC-PRIVATE PARTNERSHIP AS AN INVESTMENT AND INNOVATION TOOL FOR MEDICAL FACILITIES: A CASE OF UKRAINIAN HEALTHCARE****Viktoriia I. Borshch, Yevgen I. Maslennikov, Vyacheslav I. Truba, Lyudmyla M. Tokarchuk**

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**ABSTRACT**

This paper summarizes the scientific discussion on the issue of public-private partnership in healthcare sector. The main purpose of research is to analyze the public-private partnership as the progressive form of innovative and investment mechanism in Ukrainian healthcare sector, taking into the consideration international experience in this sphere. The key methods used in the conducted research are data analysis, summarization and comparison. The data synthesis and analysis are the basic value-added elements of this research, which could help to find out the main prospective of PPP-model use in Ukrainian healthcare sector. The object of research is the group of countries such as USA, UK, Canada, and BRIC countries, because namely they are the most progressive in public-private partnership in health care. Practical importance of the scientific research results lies in defining the general principles of public-private partnerships and a set of criterion for its efficiency estimation. Also, the worldwide experience was analyzed in this research and main challenges for its implementation in Ukrainian healthcare practice were considered. It is important for the further development of the healthcare sphere, and improvement of the healthcare facilities' activity in Ukraine. Further research directions are aimed at study of the specific issue of public-private partnership, such as circumstances for creating alliances between private and public actors from a strategy perspective, explore the impact of incentive mechanisms and risk management procedures on health service performance throughout the extended project life-cycle, and to create conducive environments to foster inter-project learning.

**KEY WORDS:** public-private partnership, health management, health care, medical facility, innovative development

Wiad Lek 2019, 72, 11 cz. I, 2155-2160

**INTRODUCTION**

Nowadays innovation is usual phenomenon for most economic spheres, generally concentrating in private and industrial sectors. But nevertheless the modern society understands its role for public and social sectors, because of increased competition. As we know, social agencies are considered to be conservative, bureaucratic and slow-growing. Such situation is driven, inter alia, by its main goal, which is to increase the welfare of society, without taking into consideration the financial component.

In recent years the society began to recognize the necessity and the benefit of the close interaction between the private and public sectors, and healthcare is not an exception. We can see the notable examples, which are of great benefit to both parties – private and public.

**LITERATURE REVIEW**

Nowadays, public-private partnership (PPP) is one of the most promising models for financing successful healthcare innovations. By combining public interest with private-sector research and development, PPP can inject new life into stalled projects and delivered innovative solutions to numerous industries – especially healthcare.

A recent literature review of public-private partnership examined its emerging themes of interest for health re-

search [1]. The main argument for widespread use of PPP all around world and, especially, Europe, that by promoting increased diversity of provision and contestability, it allows to secure better quality of infrastructure and services at optimal cost and risk allocation [2].

Scientists and practitioners from different disciplines have focused on this topic, among which are the fields of health policy and management, accountancy, finance and public management, etc.

A. Venkat Raman and James Warner Björkman has proven the importance of PPPs in the healthcare sector as the political, financial and innovative tool, given the systemic deficiencies in government health programs as well as the spiraling costs of an expensive, inequitable, and often unregulated private sector [3]. They have focused on Indian healthcare sector, nevertheless they have shown the experience of other developing countries and how the private sector there is tapped to deliver healthcare services to poor and under-served sections of society through collaborative arrangements with the government.

We can mention the following significant studies on the public-private partnership in healthcare [4; 1; 5].

Among the national scientists we can point out the following scientific works [6; 7; 8; 9; 10; 11; 12; 13; 14; 15], in which legal, organizational, economic and financial gears of PPP are considered.

## THE AIM

The main goal of this paper is to analyze the public-private partnership as the progressive form of innovative and investment mechanism in Ukrainian healthcare sector, taking into the consideration the international experience in this sphere.

## MATERIALS AND METHODS

Our analysis was conducted in two parts. In Part 1 the international publications related to the PPP theme were researched, among which the experience of PPP in USA, Great Britain, India, and Canada was the central one. It was made with a purpose to analyze foreign experience and to learn what we can adopt in our Ukrainian realities. In Part 2 we focused on the scientific works of the domestic authors to analyze Ukrainian experience of building public-private partnerships, especially in healthcare field.

The key methods used in this research are data analysis, summarization and comparison. The data synthesis and analysis are the key value-added elements of this research, which could help to find out the main prospective of PPP-model use in Ukrainian healthcare sector.

## REVIEW AND DISCUSSION

### BASIC PRINCIPLES OF PUBLIC-PRIVATE PARTNERSHIPS

As it is defined in [16], the public-private partnership is “on-going agreement between government and private sectors organizations in which the private organization participates in the decision-making and production of a public good or service that has traditionally been provided by the public sector and in which the private sector shares the risk of that production”.

World Bank Institute defines public-private partnership as “a long-term contract between a private party and a government agency, for providing a public asset or service, in which the private party bears significant risk and management responsibility” [17].

If we research the category of “partnership”, we can say, it is a joint ownership of a program or proposal by two or more parties to achieve a common goal. Thus, it is a higher level of collaboration [18].

We can emphasize the following principles of public-private partnership: (a) joint action of both parties at all stages; (b) complimentary roles of the parties, which means expectation of each other are clarified and stabilized; (c) creation of the temporary system; (d) continuous open communication process; (e) collaborative activities used for policy development, program support and delivery of government programs; (f) contractual arrangements for long-term perspective. Usually PPP involves two or more parties.

The main feature of PPP, compared with the traditional approach to funding, is that it “bundles investment and service provision in a single long-term contract” [19]. Duration of such contract is usually 20 years or more. While this period, the parties can manage and control the assets, usually in exchange for user fees, which are its compensation for the investment and other costs [19].

An implication of PPP is that there is a cooperative investment of resources and therefore joint risk-taking, sharing of authority, and benefits for all parties.

Also we can state, that PPP is a relationship involving sharing of power, work, support and/or information with others for the achievement of joint goals and/or mutual benefits [20].

### PUBLIC-PRIVATE PARTNERSHIP'S ACTIVITY IN HEALTH CARE

Today governments spend increasing portions of their budgets on health care, since health spending is growing much faster than inflation. Exacerbated by the global recession and financial crisis, governments face frighteningly gaping deficits. Public health system is usually not able to provide significant investments to its sustainable development, to deliver healthcare infrastructure, including buildings, large-technology systems, clinical services, and associated non-clinical maintenance and facility-managements services immediately, thus it needs to seek for the different finding sources, among which the private funds are.

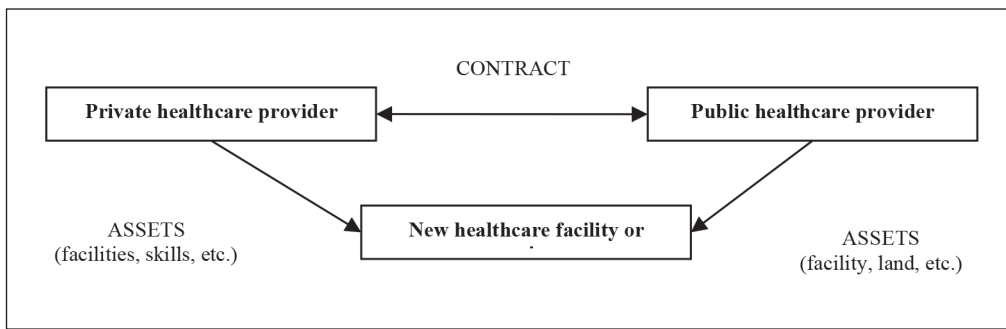
PPP in health care is a specific strategy to achieve better community health. Also the policy aim of PPPs is to achieve higher efficiency by bundling investments, infrastructure and medical services delivery [19], drawing on a business experience and financial resources of private sector. Additionally, it helps public healthcare sector to receive unique resources and capabilities for innovative activities and improving quality of health services. General model of PPP in healthcare is presented in fig. 1.

Literature review shows, that the potential benefits from the PPP in health care are: (1) freedom to allow public sector to concentrate on, for example, the provision of clinical services; (2) increased efficiency in project delivery realized by the private sector (Barlow et al., 2013); (3) solution for public-sector capital shortage; (4) value for money (VfM) consideration; (5) introduction of healthcare market efficiency; (6) risk transfer.

But nevertheless, we see that PPP can slow down the process and improvements because of (a) limited contractor capacity in comparison with project size; (b) high capital and transaction costs throughout the project life-cycle; (c) limited integration between clinical services model and infrastructure design and delivery; and (d) limited innovation in new-build healthcare PPPs [4]; (e) limited competition due to a small number of contractors; (f) relationship management problems; (g) inappropriate risk allocation. The main critic of PPP is that such partnerships are “essentially political symbols and political choices” [1].

Thus, the main challenges of PPP in health care are the following: (a) cost containment; (b) effective use of private resources; (c) logical diversion of public resources; (d) synergy to reduce duplication; (e) resource mobilization.

One of the main instruments for PPP's regulation is risk management. The issue of risk management in PPPs attracts much attention; moreover the questions of risk allocation between partners are urgent. Among other types of risk, which can arise while PPPs, are dysfunctional effects



**Figure 1.** General model of PPP in healthcare  
Source: (Health Research Institute, 2010).

**Table 1.** Typical set of players included in service-based PPP

Operations	Funding	Legislation	Monitoring / consulting organizations
Hospital Providers	Financial / Industrial	State health authorities	Independent consultancies
Insurers	Infrastructure funds	State health authorities	Non-governmental organizations
IT	Banks	Regional commissions	Financial
Medical devices		National health insurance boards	Legal
Pharmaceutical Companies		Members of the Legislative Assembly	Technical advisers
Construction			
Facilities management			

Source: (Health research institute, 2010).

of lengthy and expensive contracts negotiation periods, risk and benefit sharing between partnering organizations and across all PPP's network, quantification at the outset of inter-organizational relations and so on. Also the risk at the PPPs is related to a limited degree of market competition due to a small number of bidders and market entry barriers. Contracting parties could face barriers such as a lack of management and contract negotiation skills, high participation costs, high project values, project risks and demands on management time [1].

Each public-private partnership is defined by a set of the organizations involved. The dependencies among the partners must be considered thoroughly. Table 1 categorizes the range of players that are typically involved in a service-based PPP project in which clinical services are included.

These organizations all play critical roles in successful PPPs: from ensuring an appropriate legislative framework that allows PPPs to take place, to funding institutions prepared to invest in project companies, experienced advisory capability to assist both public and private sectors navigate these complex transactions, and strong service providers that are able to assume the service obligations and manage the risks associated with them [21].

### MAIN INDICATORS OF PUBLIC-PRIVATE PARTNERSHIP'S EFFICIENCY

Traditionally PPPs are measured by a common yardstick called Value for Money (VfM). In some cases, the calculation is called a Public Sector Comparator. Many governments are required to publish VfM calculations (both monetary value and percentages) to justify the value a PPP is delivering compared to traditional government procurement. Calculation procedures of this indicator are presented in table 2.

But, in our opinion, VfM should be one of a set of metrics used for comparing public-private partnership projects. As PPPs expand into improving care delivery and patient outcomes, governments and the private sector must agree upon more complex measurements that address both short-term and long-term goals. Such measures allow governments to target even larger savings and align quality goals. The problem is that the health production function is complex. This makes it difficult to demonstrate quality, or even effectiveness, in health care interventions.

Success factors can be clearly defined in the contracts, but they are often missing from many PPP contracts, and that leads to conflict. Table 3 provides a high-level view of types of performance metrics gathered through PPP projects globally.

**Table 2.** Value for Money calculation

<b>Estimated cost of the public sector delivering the project</b>	\$100 million
<b>Expected cost of private sector delivering the project</b>	\$95 million
<b>Difference in cost</b>	\$5 million
<b>Value for money</b>	5%

Source: (Health research institute, 2010).

**Table 3.** Examples of used PPP performance metrics

<b>Patient Satisfaction</b>	<b>Organisational / Clinical Performance Workforce</b>	<b>Performance</b>
Pain level after X amount of days following a procedure	Number of admissions, Surgeries	Timely reporting
Waiting times	Provider cancellation of elective care operation for non-clinical reasons	Average of sick days of staff
Evaluation of catering	Patient safety indicators	Ratio of credentialed staff
Evaluation of cleanliness	Infection rates	Diagnostic reporting within one week of test
Evaluation of interaction with staff	Emergency readmission rates	-
-	Wait times	-
-	Provider failure to ensure that "sufficient appointment slots"	-
-	Penalty for wrong-site surgery	-

Source: formed by authors.

However, performance metrics are meaningless without comparables. Wide variation exists in how medicine is practiced and how clinicians, drugs and medical resources are used, even within a single city.

**WORLDWIDE EXPERIENCE OF BUILDING PUBLIC-PRIVATE PARTNERSHIPS IN HEALTHCARE SECTOR**

Nowadays healthcare sector worldwide is under the pressure of increasing its efficiency and quality. It is seeking for the new ways of its development and new types of funding resources. Thereby, the public-private partnership model becomes in-demand in health care. It gives a lot of opportunities to the healthcare facilities at the different levels. The most important is it helps to build healthcare infrastructure faster, without great public finances losses.

Summarizing all existing world experience in healthcare PPPs, we can highlight next Most common models:

- Franchising;
- Leasing;
- Concessions;
- Build-operate-transfer;
- Branded clinics;
- Contracting out;
- Contracting in;
- Social marketing;

- Donations;
- Social club partnerships;
- Involvement of corporate sector.

The public-private partnership model is highly developed in the UK, USA and Canada. PPPs are particularly important in building healthcare infrastructure facing limited government financial funds. A Harvard Kennedy School Review report counts 48 major PPP infrastructure transactions in the USA between 2005 and 2014 with a worth of \$61 billion. Of these, 40 closed – that is more than 80% of the total, with a value of \$39 billion. In 2016, the U.K.'s National Audit Office reported a 15-year average of \$5.8 billion annually in PPP capital investment. Its economy is about one-sixth the size of the one in the USA [22].

Special attention is paid to health care. Thus, since 2012, spending on health care in the USA has risen to more than 17% of GDP, and it is expected to rise to about 20% by 2020 – reflecting an older population and an increase in requests for treatment, a rise in chronic conditions and expensive tests inspired by certain advances in technology [22].

In accordance with [22], Canada has also a strong record in health care PPPs: between 2003 and 2011, there were more than 50 public-private hospital projects, valued at \$12.3 billion. These partnerships enable a community to combine the resources and medical expertise of the public sector with the operational and environmental specialties of the private sector.

Thus, we are of the opinion of Marc Mitchell, professor at the Harvard School of Public Health, that “public-private partnerships in health care are inevitable”. It is because of “constantly rising prices, changing disease patterns and increasing use of sophisticated technology for diagnosis and treatment” [22]. PPP model allows public sector to share the risk of building healthcare infrastructure with private one.

According to PwC estimates, by 2020, infrastructure spending for OECD (Organization for Economic Cooperation and Development) and BRIC (Brazil, Russia, India, and China) will increase to \$ 397 billion, among which only 5% for healthcare infrastructure, and the biggest part is non-infrastructure spending.

Countries with the highest spending growth are China (166 %) and India (140%).

The examples of PPP in the global level of health care are:

- Global Alliance for Vaccine and Immunization;
- Global Polio Eradication Initiative;
- European Partnership Project on Tobacco Dependence;
- UNAIDS/Industry Drug Access Initiative;
- Stop TB Initiative;
- Roll Back Malaria;
- so on.

## MAIN CHALLENGES OF PUBLIC-PRIVATE PARTNERSHIP IN HEALTH CARE: LESSONS FOR UKRAINE

**I. Paying to entice competition:** In countries where government provides all or most of clinical services, private partners can be disruptive. And, private partners may avoid markets where government health systems have an inbuilt competitive advantage (such as subsidized pension benefits that cannot be replicated within the private sector). For that reason, government often may have to pay more initially to entice private partners to enter the market in the hope of gaining long-term savings.

*Example:* When the UK decided to create a PPP for select surgical procedures, it accepted that it had to pay private organizations more to spark their interest in competing with National Health Service’s providers. The idea was that competition would increase productivity and lower costs in the long run. It would also offer patients more choice. The initial strategy was successful as private partners captured about 20% of the market. The UK is now in the process of re-letting the first wave of contracts, estimated at £1.2 billion, and the rates paid will be the same as NHS.

**II. Labour costs:** When PPP projects include clinical services – or even if they do not – partners must confront workforce costs, which can be between 50% and 75% of health spending. Healthcare is a labour-intensive industry, and in many countries, it is heavily unionized with rigid compensation structures. In some countries, the public sector pays more or offers more benefits than the private sector. In others, the opposite is true (e.g., Ukraine). Labour markets must be addressed by both sides. Labour laws and unions may need to be more malleable to foster the growth of PPPs. To reach a high service quality, medical facilities need to attract the best physicians and academics and PPP

can support this by offering a more attractive working environment while minimizing the risk of brain drain.

*Example:* In Austria, 75% of hospital costs are in labour and nearly every hospital is owned by the government. Employees are civil servants who have a job for life, making PPPs difficult to implement, beyond the basic infrastructure model. The government opened a window of opportunity, however, with one PPP project, the Psychosomatic Centre in Eggenburg, because those services are outside the government healthcare plan.

**III. Transparency:** PPP players need to clearly articulate their motives and the benefits they can deliver. Strong partnerships require keeping both sides honest. Independent monitoring also helps keep the partnerships sustainable. The oversight function is critical for PPPs, especially in low-income countries. In the higher income countries, it’s less of a stretch for the public sector to hold up its end of the partnership. That’s not trivial, even when it’s just a building. But, when you get to a 20-year agreement to provide clinical services, the government has to be able to provide competent oversight of performance against very specific benchmarks over a long period of time. These functions are a challenge for all governments at all income levels. But, it’s even more of a challenge for low- and middle-income governments, where the capacity is sometimes fragile.

*Example:* In Australia, the Australian Council of Healthcare Standards publishes quality standards for all hospitals, allowing the public to review the performance of public, private and PPP facilities.

**IV. Technology:** Today’s world is one of robotic surgery, point-of-care diagnostics, and telehealth. Technology is moving so quickly that it can be difficult to forecast costs and demand. In service-based PPPs, private partners are required to provide the consistent levels of technology throughout the life of the contract. Benchmarking against a group of peer hospitals is one way of measuring and ensuring that consistency. The latest technology is a major cost driver, but one that both patients and physicians demand in PPPs that include the provision of clinical services. Under the PPP scope, long-term partnerships will drive a more efficient use of resources, including optimizing technology deployment, clinical training to end users, a wider use of professional services, all of which will aim to provide better quality of healthcare for the patients.

*Example:* Tongji University of Shanghai, Siemens Project Ventures and the German private hospital chain Asklepios have signed a PPP contract to construct a 250-bed hospital at a cost of more than €100 million. Once the license is approved, the hospital is expected to open within two years [21].

## CONCLUSIONS

In view of foregoing, we can make a conclusion that private-public partnership can combine the strengths of private organizations, such as innovation, technical knowledge and skills, managerial efficiency and entrepreneurial spirit, and the role of public organizations, including social responsibility and justice, public accountability and local knowledge, to create an enabling environment for delivering high quality healthcare infrastructure and services for the society. Through this partnership public and private sectors can realize benefits such as

creation of jobs, educational development, incentives for innovation and competition, and health infrastructure development.

Nowadays, in the modern Ukrainian realities public-private partnership is an efficient alternative to the traditional system – public provision, including outsourcing, performance agreements and management contracts, and privatization, including build-own-operate, divestiture by license, sale and private supply. Ukraine just needs to have a will to implement such worldwide experience and to follow the rules for building successful PPPs.

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### Conflict of interest:

The Authors declare no conflict of interest

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**Received:** 11.06.2019

**Accepted:** 03.09.2019