

Experiences of selected countries in the use of public-private partnership in hospital services provision

Ahmad Sadeghi,¹ Omid Barati,² Peivand Bastani,³ Davood Danesh Jafari,⁴ Masoud Etemadian⁵

Abstract

Objective: To review the experiences of selected countries in the use of public-private partnership in the provision of hospital services.

Methods: This comparative study was conducted in 2015 in Iran. To collect data, valid databases as well as articles, theses, reports and related books in the field of private-sector partnership in hospital services were employed. Using purposive sampling, countries such as the United Kingdom, Spain, Canada, Turkey, Australia and Lesotho, which had successful experiences in the field of application of the public-private partnership in hospital services, were included. Likewise, the only experience in Iran in this field was also reviewed. Studies done between 1980 and 2015 were examined. The results obtained from each country were compared.

Results: Implementing public-private partnership had great and valuable outcomes and achievements for governmental hospitals. Moreover, clinical and nonclinical service delivery, hospital utilisation and management along with building, repairing and supportive operations through public-private partnership contracts can be differently divided among the partners. Furthermore, duration of the projects ranged from 12 to 40 years in different countries, depending on the type of the model used.

Conclusion: A successful experience in the use of the public-private partnership in the provision of hospital services was observed.

Keywords: Public-private partnership (PPP), Hospital services, Comparative study. (JPMA 66: 1401; 2016)

Introduction

Hospitals, being the most significant healthcare organisations, play an important role in promoting health in society, and their coordinated action with a set of political, social, and cultural factors leads to the community's health. Since this sector is the consumer of a large part of the healthcare budget in each country, full attention to its performance and costs is of utmost importance.¹ While financing by the government cannot be responsive to the growing costs in a health system, pressure to finance through the public sector as well as increasing costs has forced the public-sector hospitals to reduce possible costs.²

These factors have led the governments to look for various approaches to solve these problems as well as methods to limit the costs, increase the investment, and

finally have access to more desirable health outcomes via more partnerships and activity of the private sector in the provision of services and financing this sector.³ To benefit from the capabilities of public and private sectors in the form of a combined model, the public-private partnership (PPP), which was introduced in 1990, has been increasingly used in several countries to reform the healthcare sector constructively.⁴ The PPP is considered as one of the effective approaches to deal with the enormous challenges to which the health sector is faced in the 21st century.⁵ The PPP is trying to employ some of the principles of the private sector, including economic balance and revenues, through a rigorous financial management to tackle some of the major problems in the public sector.⁶ It should be noted that the public and private sectors are in a natural competition for the provision of health services seeking to attract the healthcare and collect revenues. This competition in the PPP model can change into cooperation and partnership to overcome the limitations of each sector.⁷

Koppenjan considered the PPP as a form of structured cooperation between public and private partners in design, construction or operation of infrastructure facilities in which risks, costs, benefits, resources, and responsibilities have been shared or reallocated.⁸ The PPP has been also defined as the risk-sharing relationship

¹Department of Health Services Management, School of Management and Medical Information Sciences, Shiraz University of Medical Sciences, Shiraz,

^{2,3}Health Human Resources Research Center, School of Management & Information Sciences, Shiraz University of Medical Sciences, Shiraz,

⁴Department of Economics, Allameh Tabataba'i University, Tehran,

⁵Hasheminejad Kidney Center, Hospital Management Research Center, Iran University of Medical Sciences (IUMS), Tehran, Iran.

Correspondence: Omid Barati. Email: omidbarati40@gmail.com

between public and private sectors to achieve the desired results of the public sector. Reduction of public affairs and adding to the government's power for planning, setting standards, financing, making legislations, taking the responsibility of financing investments from the government, using the element of competition to increase efficiency and effectiveness, enhancing self-management, and decentralising decision-making to the executives are some of the interests of benefiting the PPP in the hospital sector.^{9,10} If such a partnership is precisely planned and organised, it can be a powerful tool not only for the survival and maintenance of public hospitals but also for the identification of cost and investment challenges, improved efficiency and quality of service, increased expertise, attraction of human investments in infrastructure and new medical technologies, and the use and retention of staff.¹¹

Private-sector partnership in public hospitals has different forms ranging from the contracts for support services to the complex process of design, construction and management of facilities in the hospitals. In each of these models, the types of ownership and management of hospitals, responsibility for the design, construction and investment, business risks, and the duration of the contract are different.¹²⁻¹⁵ It is believed that the recognition of the types of the PPP models as well as the use of the experiences of successful countries in this regard could pave the way for the establishment and development of the PPP in the health sector, particularly in hospital systems, in other countries.

The current study was planned to review the types of PPP models and its effects and implications in the hospital systems of selected countries in a comparative manner.

Methods

This comparative study was conducted in 2015 in Iran. The data associated with the application and implementation of the PPP in the development of hospital services in successful countries in this study was collected through library method and database search. To this end, the related studies done between 1980 (the formation and emergence of the PPP models) and 2015 were examined. The study population consisted of countries with successful experiences in the field of the PPP in their health and hospital systems, and available references and articles in this regard. There was an attempt to select countries sporadically and from different continents. These countries included the United Kingdom (UK), Spain, Canada, Turkey, Australia and Lesotho.¹⁶⁻²⁰ The only experience in the implementation of the PPP in the hospital sector in Iran was also reviewed and compared

with the experiences in other countries.

To collect data related to the countries, a data abstraction form was used which was designed based on the purpose of the study. To this end, databases, reference books, published reports by the World Health Organisation (WHO) and the World Bank, universities and research centres, as well as databases including PubMed, Web of Science, Science Direct, Elsevier, Proquest, Scopus, Cochran library, and Google Scholar using keywords such as 'Public-Private Partnership', 'Public-Private Relationship', 'Private Sector Contracting', 'Partnership Models', 'PPP', 'Private Finance Initiative (PFI)' were employed. Data concerning Iran's hospital experiences^{21,22} was collected, summarised and classified through visits to hospitals, talks with senior officials in the hospitals, as well as the study and review of the agreements and contracts of the private sector with universities.

Articles and selected literature were carefully examined after recovery and inclusion in the study, and relevant findings and tables were entered into data summarisation forms. After reviewing the extracted findings and evaluation of the similarities between the summarised findings, four variables were employed as the main categories. These were: commonly used model of the PPP in the hospital, manner of partnership, division of responsibilities between public and private partners, and achievements and outcomes of the implementation of the PPP in the hospital sector.

Results

Data from all relevant studies related to the selected countries as well as from Iran was compared (Table). In the UK, PPPs are normally regulated under the PFI and they usually include supplies between public and private organisations to provide for hospitals, i.e. design, construction, financing, and maintenance of the private sector. Private organisations' services by public services are repaid based on the services provided in the hospital. Many PFI-PPP contracts are signed for a time period much longer than 25 years. National Health Services by the University College London Hospital (UCLH) is one of the largest providers of healthcare, medical research, and education across London which was provided in old, outdated and small buildings. A private consortium as a partner to the private sector was selected under the contract of Design-Build-Finance-Operate (DBFO) to replace old buildings and build new hospitals. Under a 40-year contract, the private partner was responsible for all the stages of the hospital project to provide public services. In addition, the private partner was responsible

Table: Comparison of research variables in selected countries and Iran

Countries	Criteria evaluated				
	PPP common model and contract duration	Standard and pioneering example	Manner of partnership by the private sector	Manner of partnership by the government	Achievements and outcomes
The UK	PFI or DBFO for a time period of 40 years	University College London Hospital (UCLH)	-Designing facilities (based on the requirements set by the NHS), construction (on time and with definite and fixed costs), financing and its operation, and management of non-clinical services	-Providing clinical services -Paying salary to the private partner for the management of non-clinical services	- Saving in the construction and operation of the hospital - People' higher access to healthcare - Full risk transfer to the private sector and subsequently greater certainty of costs for the government
Spain	ALZIRA 20-15 years	Hospital de La Ribera, Valencia (UHR)	- Financing, designing, construction, and operation of the hospital - Providing clinical (primary and specialized healthcare) and non-clinical services - Recruiting medical personnel - Hospital management	- Paying an annual amount of money to the private partner for the residents of the area covered	- Integration of the hospital and primary care (community) - More access to high-quality services - Reduction in the waiting time for outpatient services and surgeries - Increased surgical procedures and reduction in the length of stay compared with public hospitals
Canada	DBFM for 25 years	Brampton Hospital, Ontario	-Designing, building, and financing a new hospital along with providing definite non-clinical services - Planning and operation of the facilities for a 25-year time period	-Provision of clinical services -Paying a monthly wage to the private partner for the provision of services	- Monetary value creation, providing services on time and within the budget, initiative and innovation in hospital services
Turkey	PFI (inspired by the British model) Concession for a period of 3 years since construction and 25 years since operation	Most hospitals in the country	-Construction, equipping, provision, operation and maintenance of the hospital - clinical support services (including building maintenance, cleaning, facilities management, information management, property maintenance, reception, parking services, sewage management, laundry and catering services)	- Provision of clinical and medical services	- Increase in the number of hospital beds - Development of medical tourism - Improving the quality of tourist services in public hospitals
Australia	BOOT 20 years	Joondalup Hospital	-Design, construction, management of the hospital, monitoring the medical team, and the hospital management - Providing medical services such as services to hospitalized patients, emergency care and mental health care, as well as non-medical services	- Paying amounts of money as the access fees to the private partner to compensate for the capital costs	- Providing high-quality services without increasing costs -Providing a complete package of services including medical and non-medical services for the population covered
Lesotho	DBFO 18 years	Queen Memorial Hospital, Mamohato	-Design, construction and operation of the referral hospital - Modernization and equipping of primary healthcare clinics - Recruiting and employment of medical personnel - Clinical and non-clinical services	- Annual payment for clinical services for specific guarantees of inpatient and outpatient services - Monitoring the activities and performance of the private sector	- Having facilities, medical services and high-quality medical care services without increasing the costs to the government - Protection of financing, operational and legal risks
Iran	Co-location and DBFLO 12 years	Moheb Mehr Hospital Hasheminejad Hospital	-Management of the private wing of the hospital and provision of services to public patients - Purchase of services from the nearby public hospital (Hasheminejad Hospital)	- Management of the public wing of the hospital and provision of services to the public hospital - Provision of support services to the private partner (Moheb Hospital)	-Modernization and equipping of Hasheminejad Hospital - Improvement of hospital performance indicators - No need to refer patients to other centers

for investment, operation, management and provision of non-clinical services as well as provision of major services of the hospital to the public sector.

In Spain, Hospital de La Ribera located in ALZIRA in Valencia was the first hospital built under a PPP project. The model used for the first wave of the PPP healthcare projects was recognised as the ALZIRA model. According to this model, a private consortium took over the responsibility for the construction and operation of public hospitals in accordance with a contract in order to provide services to a defined population in relation to the per capita payment. The given contract was similar to an administrative privilege because it included outsourcing the responsibility for the construction, financing and management of the hospital. The private partner was in charge of providing healthcare and primary care services. The duration of the initial contract was 10 years. After renegotiation, the contract duration turned into 15 years, and it was allowed to continue for 20 years.

In Canada, because of the population growth due to immigration, there was a need to build a new hospital in the city of Brampton in the early 1990s. Meanwhile, the government and the Ministry of Finance announced that the new hospital would be built using the PPP model. Brampton Hospital was a PPP pilot hospital which was constructed under the Design-Build-Finance-Maintenance (DBFM) pattern. Under the agreement, a private partner assumed the responsibility for the design, construction, financing and maintenance of the project.

The PPP in Turkey is inspired by the British PFI projects which started in 2006 for 15 integrated projects with more than 2,500 hospital beds and the capital cost of more than \$5 billion. In the model used in this country, financing, construction (or reconstruction), equipping, service delivery, operation, and maintenance of the hospital was conceded to the private investors, and the hospital has been run for 28 years (3 years for construction and 25 years for operation) by the private sector. The private company in charge of the project was responsible for support services and the Ministry of Health was responsible for providing medical care.

In Australia, the government of Western Australia awarded a PPP contract in 1996 to one of the leading profit groups in the field of healthcare in terms of design, construction, management and provision of clinical and non-clinical services in the Joondalup health camp. The contract followed the model of Build-Own-Operate-Transfer (BOOT) that included improving structural facilities and healthcare services up to 20 years. The hospital was opened with 365 beds in 1998 and now has

379 beds. Sixty per cent of the beds are public and they are payable by the government with an equivalent cost. The government pays "access fees" to the private partner in these 20 years in order to compensate for the cost of capital and ultimately complete the process of purchasing the hospital. During the concession period, the hospital is in practice owned by the private sector, but the land on which the hospital is located is owned by the government. At the end of the 20-year contract, the general components of these assets will be returned to the government ownership. The private sectors (medical centre and private patients sector) will be returned to the government after 40 years. The government also pays an annual amount of money for per unit of service consumed and the size of the level of services for 135 public beds.

In Lesotho, the government launched a project in 2006 to promote the citizens' healthcare. To maximise the use of limited health resources and ensure long-term improvement of healthcare services and facilities, the government operated a PPP to build a 425-bed hospital to replace the national referral hospital with an old one. This pioneering PPP began to serve as a model to increase private-sector partnership in the health sector in Sub-Saharan Africa. In addition to the hospital, the project included a clinic nearby, renovation of strategic clinics, private management of facilities and equipment, and provision of clinical care services for patients under 18 years of age. Moreover, it included a clinical education sector to improve access to trained healthcare professionals. In addition to the design, the construction and the full operation of the hospital and the relevant health facilities, the private sector will provide all clinical services with high quality and at affordable costs.^{17,20}

In Iran, Moheb Mehr Hospital, adjacent to Hasheminejad Hospital, is a public-private hospital run by Moheb Institution and in accordance with the co-location model. Both hospitals, together in a complex, serve patients. The co-location is a collaborative model in which a private wing is placed inside or next to a public hospital. Both sections have an independent management and patients have the right to choose to refer to each section. Equipment, staff and costs can be shared by both under a contract. Investment in the construction of Moheb Mehr Hospital included design, construction, equipment, financing, leasing and operation of the hospital which were set under the framework of the Design-Build-Finance-Lease-Operate (DBFLO) contract. The duration of the contract was 12 years since the start of the construction and 9 years since operation.

Discussion

Public hospitals around the world are faced with a

financial crisis; moreover, rising costs and budget constraints of the government have put them under pressure. The PPP can be a powerful political tool for improving the survival and quality of services in public hospitals.⁴ Although private companies have long been engaged in providing public services, the definition of the PPP in the early 1990s provided new perspectives for the partnership of the private sector. During the 1990s and 2000s, more countries turned to provide public services using the given method. The first PPP began in the UK in early 1980, and now this strategy is used in many countries.^{23,24} Successful experiences in the use of the PPP in the provision of hospital services have been observed in the UK, Spain, Canada, Turkey, Australia and Lesotho. Recently in Iran, the PPP has been implemented in the health sector and in particular in the provision of hospital services and the partnership model of Hasheminejad Hospital and Moheb Institution has been a relatively successful example in this regard.

The PPP aims at designing, planning, financing, constructing, operating, maintaining and managing of projects.²⁵ The use of the PPP models has several different forms in different countries, and these models differ in the way that hospital design and construction, financing, management and ownership of the hospital are performed by a specific sector and time duration of the contract. Government's decision to choose the best option of the PPP in the hospital depends on the hospital's internal and external conditions, government's capacity for legislation and control, effective care quality, and agreement of the whole government for reforms.¹³

There are several reasons behind the factors and variables causing the public and private sectors move towards the PPP and use such a model. For example, in a study by Li et al. (2005), the important factors for the use of the PPP in the UK were the risks transferred to the private sector as well as solutions to problems related to budget constraints.²⁶ In another study conducted in Hong Kong and Australia (2005), these factors included providing an integrated solution for public services, facilitating creative and innovative approaches, solving the problems of the public-sector budget constraints, and time-saving in project delivery.²⁷

In the PPP, duties and responsibilities are divided between private and public partners. In all the countries reviewed, design, construction, equipping and maintenance was the responsibility of the private-sector partner. In the UK and Canada, financing the project was also the duty of the private partner. Provision of non-clinical services in the UK, Spain, Canada and Turkey, and provision of clinical

and non-clinical services in Australia and Lesotho was the responsibility of the private partner. In terms of Iran's experience, Hasheminejad Public Hospital and Moheb Mehr Private Hospital, which were adjacent to each other on the pattern of co-location, provided distinct clinical and non-clinical services, and each had an independent management.

In each of the countries studied, the use of the PPP model has had outcomes and achievements for governments, people and health sectors. In the health sector, partnership can show its value as an influential method of managerial and technical skills (performance-based monitoring) and as a stimulation to transfer technology which can lead to improved quality. Furthermore, partnership can bring about a reduction or better allocation of the risks. So, the better convergence of interests and expertise in the PPP in practice may lead to better management of the projects.¹¹

There are also numerous studies that have experimentally evaluated the financial and non-financial performance of the PPP projects. In terms of financial performance, the National Audit Office (1999) reviewed seven PPP projects in the UK in which the average cost savings were 20 per cent. Furthermore, there is evidence that these types of projects resulted in cost savings as much as 17 per cent. In terms of non-financial aspects, positive results were observed in the PPP projects so that the construction work of the projects was delivered in the precise time. In a review of 37 PPP projects in the UK in various sectors, it was indicated that the projects have been finished precisely on the due time and with good quality.²⁸ The results of a study in Sao Paulo in Brazil revealed that the PPP hospitals had better efficiency and performance in terms of bed circulation, bed occupancy, length of stay and mortality compared with other hospitals.²⁹ A study by Shadpour et al. showed that the implementation of the PPP leads to a significant growth in the provision of hospital services in Hasheminejad Hospital. In fact, as a result of partnership with a private partner (Moheb Institution), there is no longer a need to refer patients to other centres, and the waiting time for services is also declined which increases the number of customers and the reduction of pay from their pockets.³⁰

Conclusion

The implementation of the PPP model in the hospital sector had positive implications. The model was found to be a powerful and efficient tool for the survival of public hospitals and improved quality of services in today's changing environments. In the past, lots of individuals were in favour of provision of healthcare services by a centralised

public sector, but nowadays they believe that the private sector is an indispensable part of a national programme for the provision of healthcare services and the use of various methods of private-sector partnership will effectively contribute to improved quality, reduced costs, better management of resources and more efficiency.

Acknowledgments

We are grateful to the Research Vice-Chancellor of Shiraz University of Medical Sciences for financial assistance, and to all those who helped us conduct this research.

Disclaimer: The present article was extracted from the PhD thesis written by Ahmad Sadeghi.

Conflict of Interest: None.

Source of Funding: This study was financially supported by Shiraz University of Medical Sciences.

References

1. Ferdosi M, Farahabadi S, Mofid M, Rejalian F, Haghghat M, Naghdi P. Evaluating the Outsourcing of Nursing Services in Kashani Hospital, Isfahan. *Health Inform Manage* 2012; 9: 989-96.
2. WHO (World Health Organization). *World Health Report 2000*, Geneva: 2000.
3. Barrows D, Macdonald L, Supapal A, Dalton-Jez O, Harvey-Rioux S. Public Private Partnerships In Canadian Healthcare: A Case Study Of The Brampton Civic Hospital. Prepared For The OECD, March 2011.
4. Taylor R, Blair S. Public policy for the private sector; Options for Reform through Public-Private Partnerships: The World Bank's Private Sector and Infrastructure Network: United States, Washington: 2002; 1-4.
5. A preliminary reflection on the best practice in PPP in healthcare sector: A review of different PPP case studies and experiences. *PPPs in Health Manila* 2012; Manila, Philippines: 2012.
6. Mckee M, Edwards N, Atun R. Public Private Partnerships for Hospitals. *Bull World Health Organ* 2006; 84: 896-0.
7. Weiner BJ, Alexander JA. The Challenges of Governing Public Private Community Health Partnerships. *Health Care Manag Rev* 1998; 23: 39-55.
8. Koppenjan J. The Formation of Public/Private Partnerships: Lessons from Nine Transport Infrastructure Projects in The Netherlands. *Public Administration* 2005; 83: 135-57.
9. Alfen H, Kalidindi S, Ogunlana S, Wang S, Abednego M, Frank-Jungbecker A, et al. Public-Private Partnership in Infrastructure Development Case Studies from Asia and Europe. 1st ed. Weimar: Bauhaus-University 2009; 42-152.
10. Levison D. Review of Hartford Hospital's Controls to Ensure Accuracy of Wage Data Used for Calculating Inpatient Prospective Payment System Wage Indexes. Department of Health & Human Services. United States. Washington: 2006; 2-9.
11. Nikolic IA, Maikisch H. Public-private partnerships and collaboration in the health sector: an overview with case studies from recent European experience. HNP Discussion paper series. Washington, DC: World Bank; 2006.
12. Ministry of Foreign Affairs of the Netherlands. *Public-Private Partnerships in developing countries: A systematic literature review*; No 378, 2013.
13. Jabbari Beyrami H, Gholamzadeh Nikjoo R, Jannati A, Dadgar E. Introducing Public-Private Partnership Options in Public Hospitals. *Hakim Res J* 2013; 16: 201-10.
14. Bovis C. Public-private partnerships in the 21st century. *ERA Forum* 2010; 11: 379-98.
15. International Bank for Reconstruction and Development / International Development Association or the World Bank. *Public-Private Partnerships: Reference Guide*. Washington DC; 2012.
16. Hellowell M Pollock A. The Private Financing of NHS Hospitals: Politics, Policy and Practice. *J Inst Econ Aff* 2009; 29: 13-9.
17. The Global Health Group. *Public-Private Investment Partnerships for Health: An Atlas of Innovation*. San Francisco: The Global Health Group, Global Health Sciences, University of California, San Francisco; 2010.
18. Barrows D, Macdonald L, Supapal A, Dalton-Jez O, Harvey-Rioux S. *Public Private Partnerships In Canadian Healthcare: A Case Study Of The Brampton Civic Hospital*. Prepared For The OECD; March 2011.
19. Group Law Firm. Summary of healthcare PPP program of republic of Turkey. Istanbul: September 2013.
20. World Bank. *Handshake: IFC's quarterly journal on public-private partnerships*. Washington DC: World Bank Group 2011; 3: 25-33.
21. Etemadian M, Shadpour P, Soleimani MJ, Biglar M, Hadi RM, Jarrahi M. Iranian-Islamic Model of Public-Private Partnership in Hospital Management: Introducing Moheb Hospital Model. *Int J Hosp Res* 2013; 2: 95-8.
22. Moheb: Different Pathway. Iran: Tehran: Moheb Institution; 2013.
23. Sadka E. Public-Private Partnership; A public economics perspective. *Cesifo Economic Studies* 2007; 53: 466-90.
24. Renda A, Schrefler L. Public - Private Partnership - National Experiences in the European Union European Parliament's Committee on Internal Market and Consumer Protection; 2006: 369-859.
25. Paul HK. Development of Public Private Partnerships (PPPs) in China. *Surveyors Times* 2006; 15: 1-5.
26. Li B, Akintoye A, Edwards PJ, Hardcastle C. Perceptions of positive and negative factors influencing the attractiveness of PPP/PFI procurement for construction projects in the UK: Findings from a questionnaire survey. *Engineering, Construction and Architectural Management* 2005; 12: 125-48.
27. Cheung E, Chan APC, Kajewski S. Reasons for implementing public private partnership projects: Perspective from Hong Kong, Australian and British practitioners. *J Property Investment Finance* 2009; 27: 81-95.
28. Ismail S. Factors Attracting the Use of Public Private Partnership in Malaysia. *J Construction Develop Count* 2013; 18: 95-108.
29. La Forgia GM, Harding A. Public-private partnerships and public hospital performance in São Paulo, Brazil. *Health Affairs* 2009; 28: 1114-26.
30. Shadpour P, Barzegar M, Afzal E. Study on the Impact of Implementing Public-Private Partnership (PPP) at Hasheminejad Kidney Center. *Int J Hosp Res* 2013; 2: 195-200.