



## Main Reasons for Using of PPP Contracts in Health Sector: An Analytical Study

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### Abstract

The health sector in Iraq had faced enormous challenges. The health care system suffered a catastrophic deterioration under the former regime. The 1991 Gulf war incurred Iraq's major infrastructures huge damages; includes health centers, clinics, hospitals, etc. The United Nations economic sanctions aggravated the deterioration process. The level of health care in Iraq has dropped markedly as the government budget allocated to the Ministry of Health (MOH) had decreased from \$450 million in 1970 to about \$250 million in 1985 then the annual total health budget for the ministry, a decade after the sanctions had fallen to \$ 22 million which is barely 5% of what it was in the 1970s. On the other hand, the conflict of 2003 destroyed an estimated 12 percent of hospitals. Moreover, the war at 2014 held on ISIS-led to almost total destruction in most hospitals in the Central and Northern provinces. All this requires a quick strategy to advance the health sector and create a sustainable health sector. The researchers in this study will demonstrate, what are the pros and cons of Public-Private Partnership (PPP) contracts, how can be used in the Iraqi health sector, the main causes of dependence the MOH to using the PPP contracts in the all existing and the unfinished hospitals.

*Keywords:* Ministry of Health (MOH); Public-Private Partnership (PPP); Health Sector in Iraq.

### 1. Introduction

MOH is mainly funding by the central government. In 1970, Iraq had one of the highest medical standards in the Middle East. During that period the annual total health budget was a little less than half of a billion dollars. On average, this number was the highest in the region. The precept of free and comprehensive health care, financed from public government revenues in Iraq, had been applied from 1921 to 1983, at that time, the services provided by the MOH was totally free [1]. In 1984 a low fee began to be charged from patients visiting public health clinics. During the same year, a fee in the US dollar was enforced from foreign visitors. In 1997, seven hospitals in Baghdad (the capital of Iraq) began to charge a higher fees and adopting a self-financing policy. In 1999 all the government hospitals and health centers adopted the self-financing policy. According to this strategy, hospitals and health centers had been taking wages from patients for medicine and treatment that were provided. This policy was canceled after 2003 and a comprehensive and free healthcare system had come back [2]. Public-Private Partnership (PPP) contracts are becoming an increasingly popular option for delivery of many projects. Under this approach, the private partner (concessioner) will be responsible

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for funding the scheme, while the capital investment will be recovered through the operation revenue over the concession period [3].

Development of infrastructure projects through (PPP) contracts route has become one of the commonly adopted procurement strategies in developed and developing countries. All over the world where PPP procurement has been using in one form or another, the way in which it is carried out has become an important issue. The partnership was mainly used in the fields of infrastructure such as (wireless communications, energy, water, roads...etc.), and was extending to the health sector and medical services [4]. It is common knowledge that these services were provided mainly by the public sector, especially in socialist countries. Perhaps the reasons for the increasing use of PPP contracts in the health field are the result of insufficient investment and increased pressure on government budgets and in addition to public concern about the inefficient services provided by government institutions [5].

In Iraq, the PPP concept is comparatively new to the Government of Iraq (GOI), where the creation of infrastructure and providing of services, especially healthcare services has traditionally been the responsibility of the government. This situation after 2003 had changed due to insufficient government investment and increasing demand for infrastructure projects. On the other hand the increase of the role of the private sector had become more involved in economic policy-making. Therefore, it was necessary to think about using partnership contracts as a means of providing health services, especially after the low global oil prices and the occurrence of the financial crisis in 2014 [1].

## 2. The Vision of MOH After 2003

In the second half of 2004, the MOH adopted a vision for the health situation and developed a four-year strategy in cooperation with the World Health Organization (WHO), for the rehabilitation and construction of the health sector based on a comprehensive analysis of the current situation. The recommendation of that conference was that Iraq needs to adopt an urgent reconstruction strategy with a cost estimated at least \$1 billion a year for ten years, in addition to the regular annual budget of the MOH. This represents the operating budget of the ministry, which is mostly paid to the medical staff working in the ministry formations as a salary and it was estimated at \$1 billion [2]. In light of this vision, there is a critical need for additional investment, not only to repair the devastation and the government neglecting of the health sector in the last three decades, but to counter other pressures stemming from other causes (increase in population, as an example) [6]. The MOH has embarked on the task of rebuilding the healthcare system and addressing the underlying causes of the deterioration of the health situation of citizens. The strategy adopted by the MOH focused on five priority areas:

- 1) Meet urgent needs and improve medical services.
- 2) Strengthening management.
- 3) Develop and implement a four-year reconstruction plan, continuously.
- 4) Training and capacity building.
- 5) Resource mobilization.

This vision of MOH received strong opposition because there wasn't in its clauses any notation to the role of the private sector in dealing with the Iraqi health sector. On the other hand, the mentioned vision didn't refer to the government responsibility to bear all the health expenses [7]. On the practical side, that responsibility is certainly not possible, because the government can't provide steady and increasing annual financial allocations to the MOH. Even if funds are available to carry out rehabilitation and construction work, the amount of funding for the health sector must be increased by 55% over the next 15 years just to keep up with the needs of the population [8]. Figure 1 shows the major changes in the financial support of the Iraqi health sector.



- 2) Achieving better value for money in terms of public spending, i.e., the optimal price for the client on the basis of cost over the duration of the contract, the quality of service provided, and the risks borne by the participant. The total price of the partnership's tender submitted by the partner must be less than the cost to the government if it provides the same level of service, including the additional costs of the risks (costs, delays, etc.) that the government can face [12].
- 3) The private sector offers to finance the capital, which the public sector might not be able to finance it alone.
- 4) Better risk allocation – the main principle of any PPP is the allocation of risk to the party best able to manage it at least cost [13].
- 5) Provides access to skill sets that are not available in the public sector. By knowledge transfer, the private sector brings its know-how, which not only improves its efficiency, but also the public sector working methods and knowledge [14].

## 5. Cons of PPP Contracts

Despite the many benefits of PPPs, but attention must be paid to the drawbacks of these types of contracts which can appeared in the partnership projects, or else the partnership will be not economically feasible or does not meet the required service:

1. The bidding and contractual phases needs a very long time and costs, especially in mega healthcare projects. Large bidding costs and time of the PPP projects act as a rejecting force for the private parties as they are unwilling to invest by a heavy deal in the bidding process just to be rejected later. What concerns the government, large preparation costs consist of feasibility studies, lawyers, experts, etc. Moreover, PPP projects are highly complicated, because these projects usually involve more than two parties: public, private, and banking sectors and all of these parties have their own contradicting aims. In order to construct a unified agreement, a long time and capital needs to be invested in complex negotiations [13-15].
2. Furthermore, PPP contracts are said to deliver benefits because they transfer a significant amount of risks to the private partner. Nevertheless, it should be kept in mind that even though most of the risks are transferred to the private partner, the final entity that is responsible for providing services to the public is the government. As a matter of fact, if the private partner goes bankrupt, merely the government has to deal with the consequences and try to find other expedients on how to keep delivering the service to the public. This implies that even though the risks are contractually transferred to the private partner, in practice, the government retains a large portion of them in case of the private partner's failure [16].
3. Considering that the private sector often gives an estimate for the costs of partnership projects by relying on its large expertise, the government might be unable to accurately assess the proposed costs [17].

## 6. Analysis of Need

Before thinking of referring specific health project to implementation using the partnership contract, there must be a total review for government's ability to finance, administration, service quality and compared with those in the private sector [18]. After that, the first step requires determining and understanding the main issues and problems related to the needs of the ministry (or the local government, related to the health) in hospital management services in a chosen site or area. These concerns will form a part of the bases of PPP in the hospital management project [19]. For instance, if the key problem is poor and unreliable hospital services in a particular locality, the PPP project should ensure that this problem is adequately addressed. Going further, the MOH should also have an idea on the scope of the PPP enterprise—for example, whether it should begin with just one hospital or immediately establish PPPs in hospital management projects in the whole province or country. Figure 2 demonstrated a simplified tool for determining the need for a Public-Private Partnership.

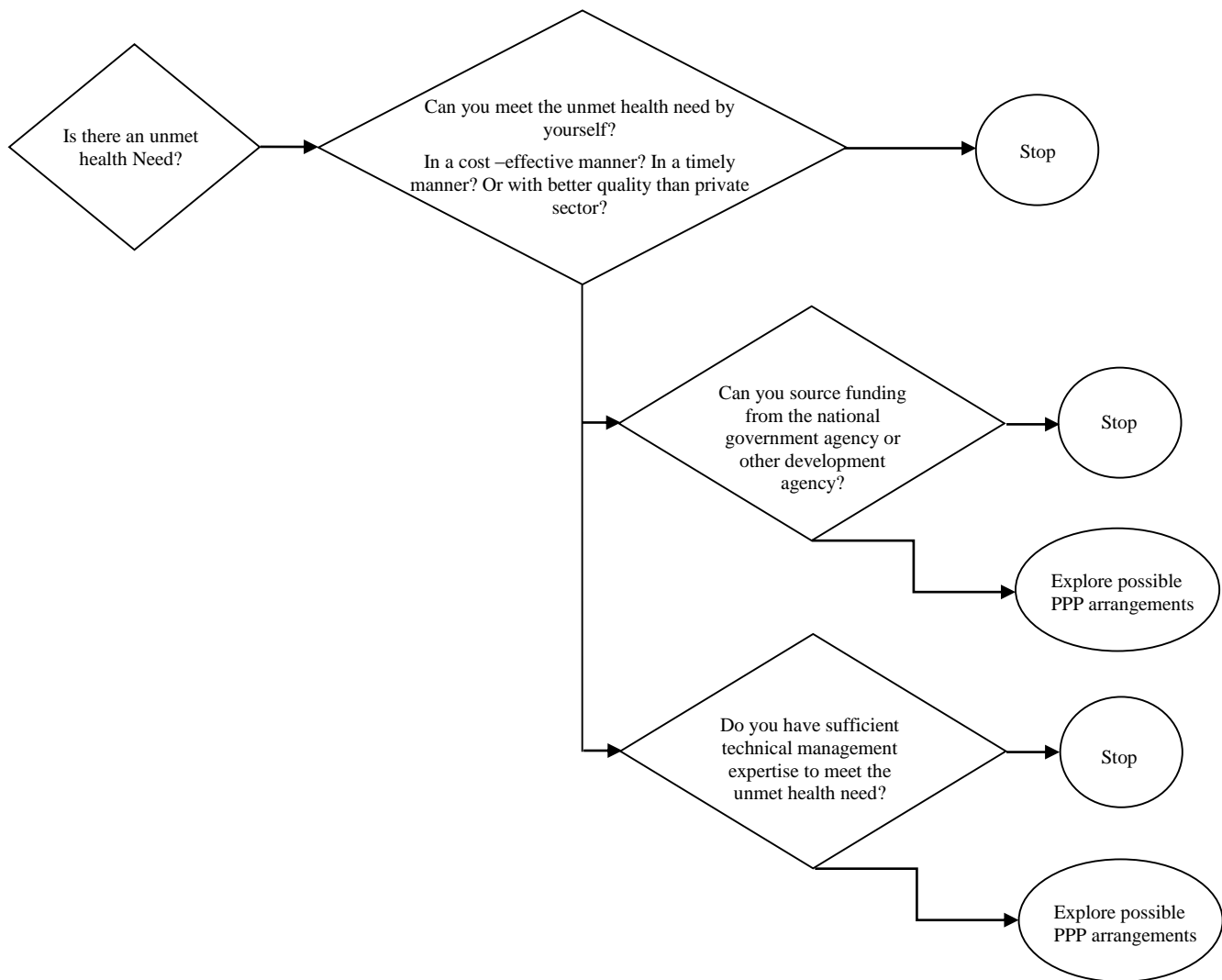


Figure 2. A simplified tool for determining the need for PPPs in healthcare

## 7. Classification of the Iraqi Health Facilities

Facilities that are concerned with the health of the population are numerous and can include most of the establishments in the country. However, the institutions responsible for the health of the population fall into two main categories: Direct and indirect facilities that providing health care to the population, [20].

### 7.1. Facilities Providing Indirect Healthcare to the Population

It is characterized by the fact that the patient does not go to it to receive health care, but they contribute effectively to maintain the health of the population. Examples include quarantine, food control, water purification plants, wastewater treatment, etc. [21].

### 7.2. Facilities Providing Direct Healthcare to the Population

It is characterized that the citizen goes to it to receive health care. This category is divided into three main types according to the level of health care received by the citizen as follows;

#### 7.2.1. Primary Healthcare (PHC)

- These services are often provided by assistant doctors and nurses working in health centers, dispensaries and public clinics. These services are the first point of entry into the health system, and the first line of contact with patients requesting service. Where the general physician assesses and treats cases in a manner consistent with his knowledge and skills and with the laws and regulations that define the limits of his practice. This is a very important level because the vast majority of cases at this level does not require the services of specialist physicians and thus can reduce the flow of patients and reduce overcrowding on specialist clinics in the second and tertiary level [22].

- These facilities are characterized by the fact that even in the case of the provision of medical treatment for simple cases, they contain one clinic or several clinics according to the size of the establishment, while not contain an internal section (sick beds) [23].
- Such facilities in Iraq are - PHC centres (dispensaries), popular clinics, health houses...etc. These facilities serve a population of 18-22 thousand people per unit of health in rural areas and 30-35 thousand for one health centre in urban areas [21].

### 7.2.2. Secondary Healthcare

- These facilities provide preventive, diagnostic, therapeutic and emergency services (for assignees from the PHC center, dispensaries and private clinics) this level of facilities provides an inpatient bed for staying after a surgical operation or for medical care [23].
- The branches of medicine are divided in most of these hospitals, whether in outpatient clinics or internal departments, to the four main branches (surgery - internal - women - children). There may be sub-specialties under these four disciplines - depending on the size of the hospital. For example, the specialty of the internal medicine may be divided into "general internal medicine, breast, heart, ear, nose, pathways" and surgery may be divided into general surgery, bone surgery..... and so on.
- This level serves a population between 100,000 and 250,000, meaning that it serves a residential district in an urban city or center of the governorate. These hospitals operate 24 hours in the week [24].
- Such hospitals in Iraq are: mental and neurological hospitals, women and children hospitals, general and University hospitals...etc.

### 7.2.3. Tertiary Healthcare

- This category of facilities includes super- specialty hospitals which offer - mainly - high healthcare specialization in therapeutic medicine [23].
- This category of hospitals offers three types of healthcare services: examination, diagnosis and treatment service (clinics, laboratories, and radiology) as well as the provision of an internal department (an inpatient beds) for patients [20].
- The branches of medicine in these super specialty hospitals, both in outer clinics and in the internal department, are divided into all sub-specialties that fall under the main branches of medicine according to the size of the hospital. The degree of specialization is higher than in secondary level hospitals. For example, if the internal specialization is divided at the secondary level to "diseases of the digestive system, chest, heart, nose, ear ..." in tertiary hospitals the specialty of diseases for the circulatory system is divided into subspecialties such as general heart diseases, blood vessels, blood diseases [21].
- Such hospitals in Iraq are - central hospital in a particular specialty, hospital of Cardiothoracic surgery, specialized hospital for diseases and kidney transplantation....etc.

From the above, It is clear that healthcare facilities can be formed as a hierarchical arrangement as in Figure 3, this arrangement corresponds to the classification of the WHO for healthcare services [22].

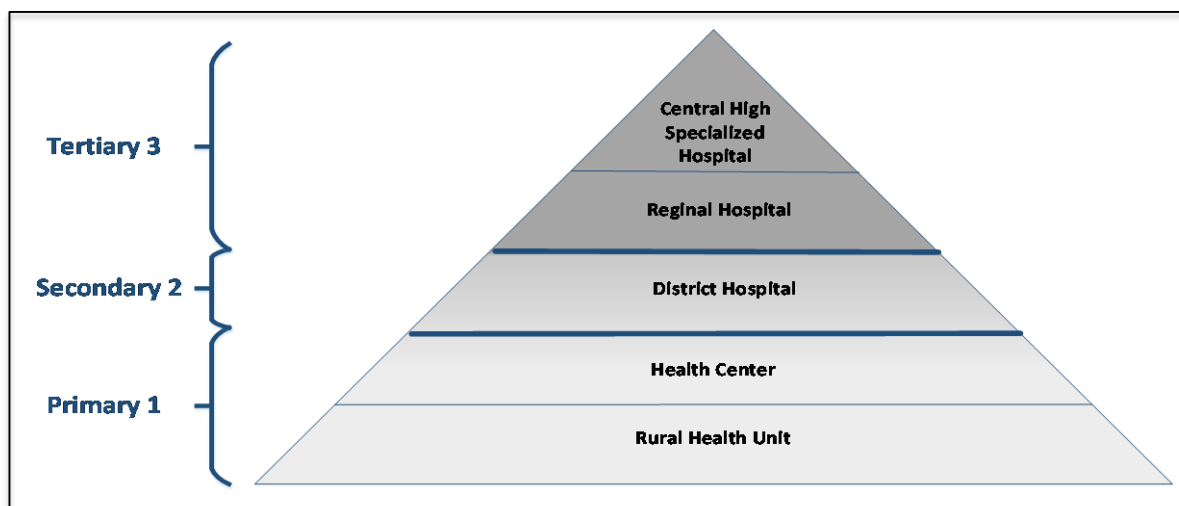


Figure 3. Healthcare facilities organization according to levels of healthcare

**Characteristics of the hierarchy formed for health services:**

- 1) Numerical gradient decreases as we move higher, sense that the most number of establishments are PHC that is followed by the secondary and the lowest tertiary.
- 2) The gradient is increasing in the area of geographical effect as we move higher, in the sense that the area of the first level effect is limited by a small geographical area - it may be one village or a group of villages - followed by the second level - area of the city - then the biggest impact for the tertiary level.
- 3) The gradual increase in the size of the building and the land area allocated to the health facility as we move up.
- 4) The gradient increase in the degree of experience and specialty of medical staff and the degree of technology and equipment in the health facilities as we move up.

**8. Challenges Facing Development of the Health Sector in Iraq**

The problems related to the development of health in the facilities in its three levels, will be discussed here and how these problems can be solved through cooperation with the private sector using various types of partnership contracts. First of all, according to the collected data for the numbers of PHC facilities, these figures in the last twenty years were adequate. In 2018 its number of PHC was (2,669) and the expected population of Iraq in 2018 was estimated to be (39,250,402), at a rate of 1 health facility for the PHC per (14,706) citizens. This percentage is within the proposed limits (1 PHC facility for every 20,000 citizens) [22]. Clearly, we can see in the Figure 4 that the available PHC units are much more than the requiring units. Therefore, the use partnerships in PHC will not be discussed because of the abundance of PHC clinics and dispensaries.

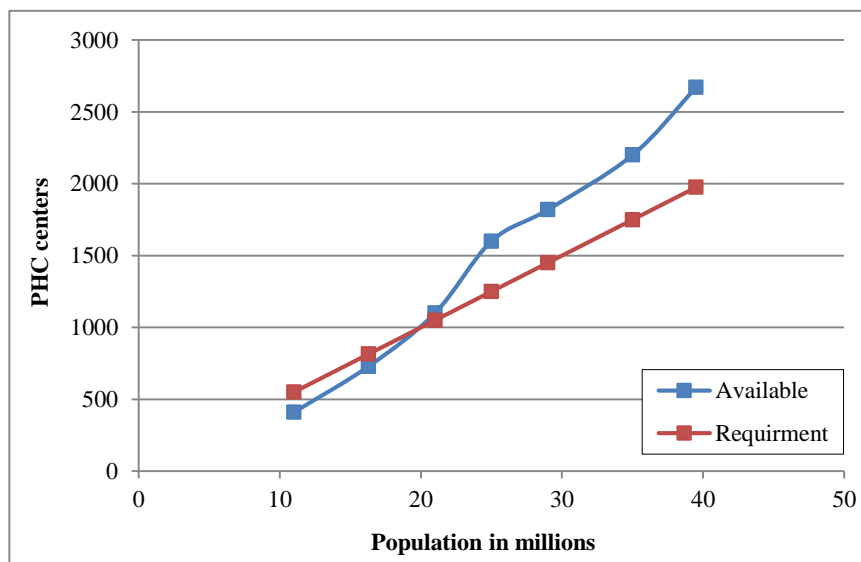


Figure 4. PHC units for the period (1973-1988-1993-1999-2004-2010-2018) respectively

**8.1. Deficiency in the Number of Hospitals**

According to MOH report in 2016, the number of governments' hospital in Iraq was 260 hospitals with a total number of beds 44821. On the other hand; the total number of private hospitals in Iraq do not exceed 80 with a bed capacity about 3000, this figure represents 6.7% of the total public sector beds [9]. The hospital bed is the only universal measurement for the size of hospitals, on that basis, the hospitals size are classified as ascending groups starting from A to F, as following; group A (<50 bed), group B (50-149 bed), group C (150-249 bed), group D (250-349 bed), group E (350-499) and finally group F (>500 bed) which form the massive hospitals. Iraqi MOH aspires to reach the clinical cover to the rate of 1.5 beds per 1000 Iraqi citizen, that rate adopted by the WHO [25]. It is worth to mention, that Iraq is one of the countries with high population growth rates (PGR) reach to 2.61% in 2017, this number can be calculated from the Equation 1.

$$P_{gr} = \frac{\bar{x}_2 - \bar{x}_1}{P_t} \times 100\% \tag{1}$$

P<sub>gr</sub>: Population growth rate at a specific measurement year

$\bar{X}_1$ : Total mortality rate in Iraq

$\bar{X}_2$ : Total birth rate in Iraq

P<sub>t</sub>: The population in Iraq in the measurement year

The following information from using the above equation was extracted:

- The average Pgr in the last ten year in Iraq is (2.84%), and this number is high compared to Arab countries such as Egypt (1.98%) and EU countries such as Germany (0.22%).
- When the results of this equation is lower than (one), it means that the community is decreasing (there is no need to establish new medical beds).
- According to WHO when Pgr is between (2.5%-3.5%), that means the community fertility rates are high and the MOH requires large financial and human resources to establish hospitals and present them with medical staff to keep pace with annual population growth.

On the other hand, the mean in the difference in population growth between 2016 and 2017 in Iraq was (1,072,046) citizen. To keep up with the annual population increase in Iraq, the MOH needs to set up approximately 1600 beds annually [26]. This figure will increase annually with the increase in the population of Iraq and it is possible to know the population in the next years by using (Geometric Growth Rate Method). Table 1 demonstrates the number of medical beds needed for each Iraqi governorate depending on their population (except the Kurdistan region) [22]. It was relied on Table 1, on equation 2, taking into account the population census in the previous two years instead of, one year and a correcting the coefficient as in other equations. That means that the accuracy of that equation is high.

$$\left. \begin{aligned} K_p &= \frac{\ln p_2 - \ln p_1}{t_2 - t_1} \\ \ln p &= \ln p_2 + k_p(t - t_2) \end{aligned} \right\} \quad (2)$$

Where:

P: Population in the target year

P<sub>1</sub>: population in the year prior to P<sub>2</sub>

P<sub>2</sub>: Population in the year prior to the target year

t<sub>2</sub>-t<sub>1</sub>: Difference in time between t<sub>1</sub> and t<sub>2</sub>

t-t<sub>2</sub>: Difference in time between t<sub>2</sub> and the target year

**Table 1. The deficit in the number of beds in the hospitals till 2018**

No.	Name of governorates	Population estimates for 2018*	Number of beds (already existing)**	The need of beds to reach the ratio (1.5 bed/1000 citizen)
1	Baghdad	8,318,695	11,984	494
2	Nineveh	3,793,986	2,364	3327
3	Basra	2,972,166	4,123	335
4	Babylon	2,093,413	2,428	712
5	Karbala	1,241,265	1,359	502
6	Najaf	1,500,523	1,196	1054
7	Qadisiyah	1,311,705	1,419	548
8	Muthanna	824,837	1,196	41
9	Wasait	1,401,436	1,762	340
10	Maysan	1,134,974	1,185	517
11	Thiqr	2,132,145	2,070	1128
12	Diyala	1,660,009	1,340	1150
13	Kirkuk	1,629,617	1,371	1073
14	Anbar	1,796,559	1,609	1085
15	Salahaddin	1,615,923	1,618	805
<b>Total</b>		<b>33,427,254</b>	<b>37,024</b>	<b>13,111</b>

\* Population estimates from Ministry of Planning, CSO.

\*\* The actual number of beds from the MOH.



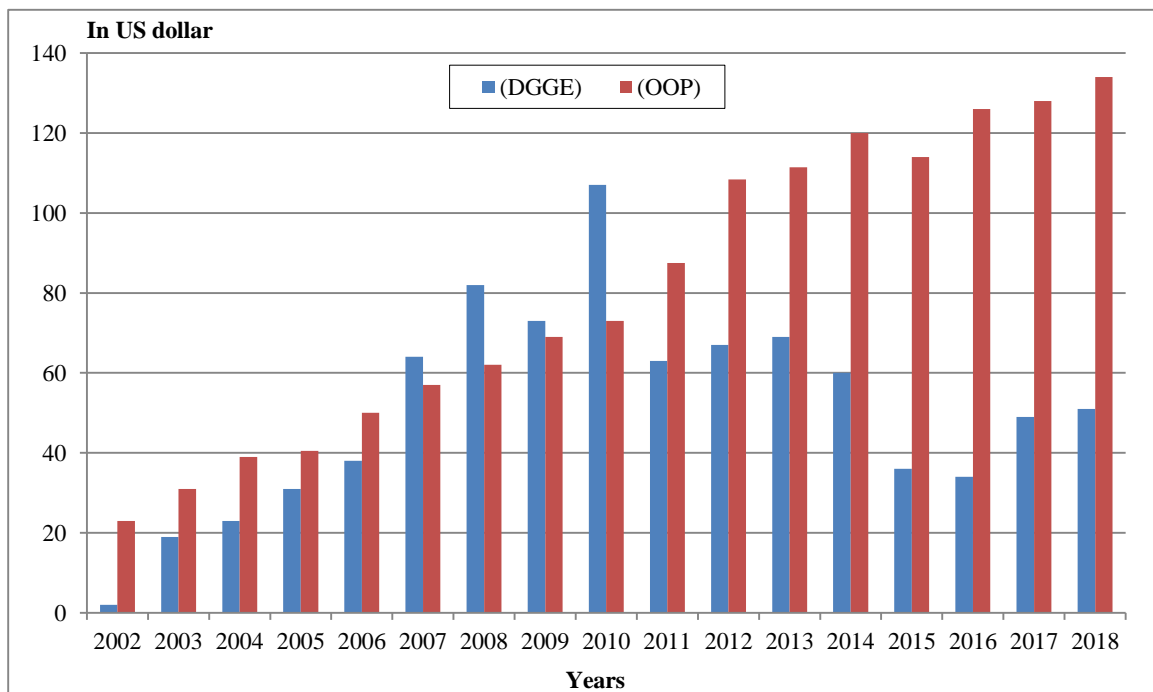
From the above table, it can be concluded that MOH needs to establish hospitals in all Iraq with a total capacity of 13,111 beds to cover the lack of clinical beds until 2018. After that, it needs to about 1,600 beds annually just to cover the need for beds due to the population’s increase; and this figure certainly increases on an annual basis.

**8.2. The Deficiency in Financing Healthcare Services**

Funding is considered the backbone of continuity for any service, healthcare services is one of these. After 2003, GOI undertook the finance the entire health sector, as well as a small ratio of fees collected from patients <1%, [9]. Despite the absence of any text in the Iraqi constitution that obliges the government to do so, the GOI allocates an annual budget to the MOH and the budget is divided into an operation and investment budget. Operating budget; is defined on a total or gross expenditure basis and includes salaries of staff, wages, operating expenditures, and minor capital expenditures, purchase of medicines and medical supplies and the annual cost of maintenance and durability. It was agreed here with the definition of the operational budget (all the expenditure required to operate the health establishments). Investment budget; investment payments consist of capital expenditure on acquisition of assets like land, buildings, machinery, and medical equipment [10]. Figure 5 shows the domestic general government expenditure on health per capita (DGGE) and the private health expenditure out-of-pocket-(OOP), for the period (2003-2018).

From the Figure 5 below, it can be concluded that:

- I. Despite the tremendous growth in health allocations per capita in Iraq, where the DGGE on health had risen from\$ 2 per capita in 2002 to \$24 in 2004, the public health sector can’t present steady and increasing financial payments continuously. A quick look at the figure below, we can infer the OOP per capita on the health sector in the last eight years is more than two times the government allocations. The government expenditure during this period, shown to be volatile due to the security and political situations experienced by the country added to the lack of serious vision to create a sustainable health sector.
- II. In Iraq, the average OOP expenditure per capita for health is around \$115 in the last eight years and this rate is low compared with some neighboring countries which reach \$304 in Saudi Arabia and \$220 in Iran. While in the European countries the average spending rate exceeds \$1,155 per capita. This price is high if compared to the individuals incomes and if we know that all this money goes only to the private medical sector because it is the only body that has the potential of medical and technical advanced to a certain extent - compared with the government. As a result of that, we can conclude that it is necessary to create a strong competitor to the private sector, through using PPP contracts to provide medical services by in governmental hospitals.



**Figure 5. Difference between domestic general government expenditures and out of pocket expenditure on health services per capita from 2002 to 2018**

- III. During this period we can see that the number of government’s financial allocations has fluctuated, as it reached to (\$107) in 2010 and this figure dropped sharply to (\$38) in 2017. This is due to the fact that the economy of the country is a rentier economy, oil export revenues forming the main financial component of the Iraqi budget. This type of economy is extremely dangerous, especially if the government adopts the funding of the health sector

completely because any deficiency within the resources of that budget will certainly affect directly to the number of allocations to this sector. Figure 6 below shows the essential components of the Iraqi budget [28].

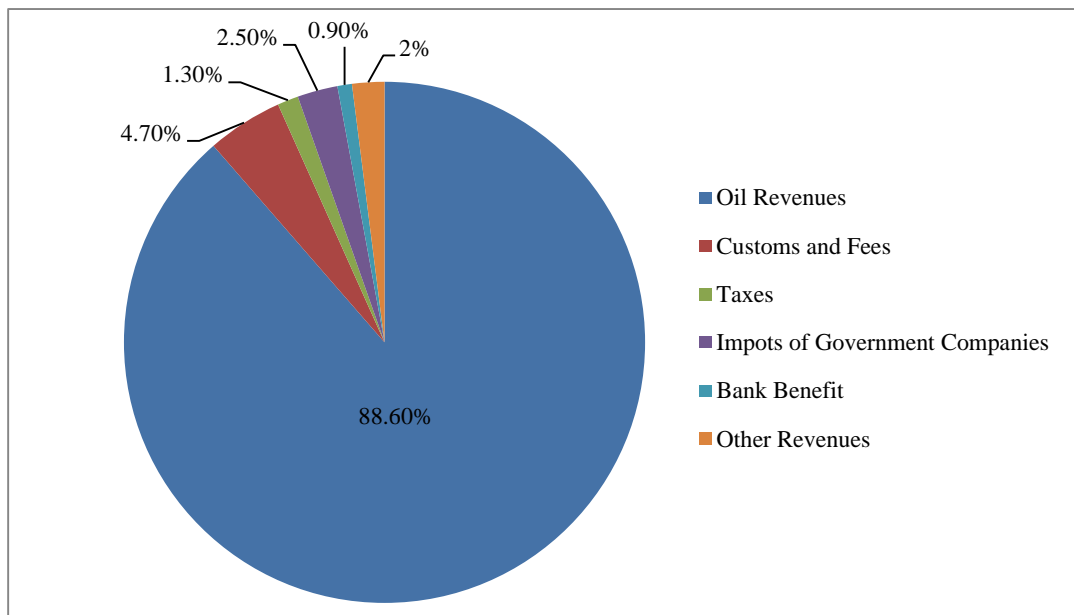


Figure 6. Revenues of the general budget of the GOI for the year 2017

IV. As shown in Figure 6 above, the amount of money -OOP- per capita on health in the last ten year had increased dramatically. In 2018 the private spent on healthcare form 5.2% from GDP. The main reasons for that are due to an increase in the amount of income for individuals and improve the potential of the private medical sector. We can conclude that the GOI had not been able to provide the necessary funding for the health sector; hence it is also unable to provide complete medical services. Therefore, the decision to resort to the private partner as a partner is imperative.

### 9. The Legal Framework for PPP in Iraq

The general Iraqi budget during 2015 and 2016 sequentially, included for the first time a paragraph committed the partnership with the private sector within section 15, which states:[ Expanding the opening door toward investment and partnership with the private sector by ministries and entities not affiliated with the ministries and governorates within the limits of its competence, and constitute for this purpose a committee by the Council of Ministers for the purpose of enabling it to submit its recommendations to the Council of Ministers for the purpose of issuing its own instructions [25].Accordingly, the General Secretariat of the Council of Ministers (GSCOM) issued resolution No. 36 of 2016, which provides for the formation of a higher committee for the implementation of article 15 of the general budget law [28]. Then, the GSCOM issued resolution No. 96 which approved the minutes and recommendations of the higher committee for the implementation of article 15. In the same year, the Ministry of Planning (MOP) had issued a guideline booklet for the contracts of the partnership. This guide is addressed to all ministries and (non-linked bodies) with central funding and all governorates. Figure 7 and 8 reveals the steps to issue the guidance booklet from the MOP and Philosophy of PPP projects according to the guideline booklet, respectively.

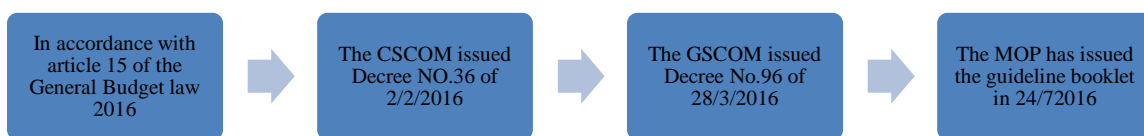


Figure 7. The legal sequence of issuing the guideline booklet for PPP contracts

**Step one;** done at the contracting authority which are any central or self-financed government agency shall propose the projects to be implemented using the PPP method.

**Step Two;** done at the PPP committee in MOP ,which is formed of professional legal and financial advisors. Receives the requests and priorities of PPP project from contracting authority ,studying it and raise the appropriate recommendation of them.

**Step Three;** done at the steering committee ,which is technical committee for registration and preparing the eligible PPP project in accordance with resolution 96 for 2016 issued by CSCOM.

**Step Four;** done at the General Secretariat of the Council of ministers.

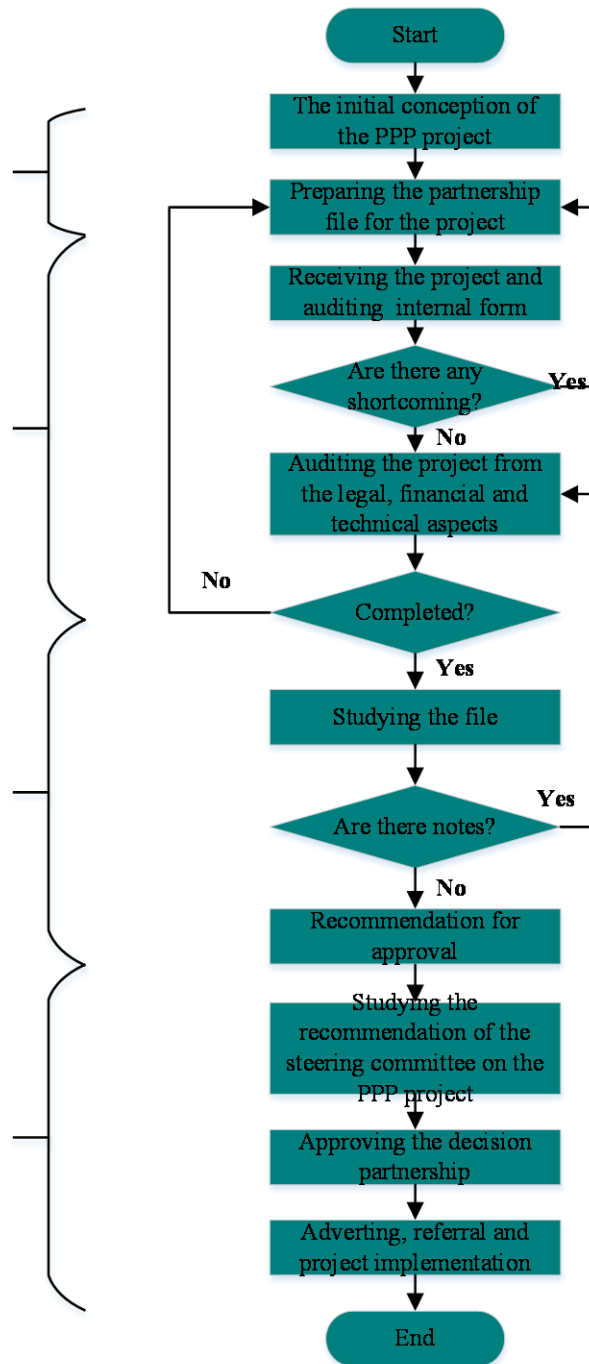


Figure 8. Philosophy of PPP projects according to the guideline booklet

### 10. Applying PPP Contracts on Unfinished Hospitals

The Iraqi MOH referred dozens of hospitals after 2003 to local and foreign companies, but no hospital has been completed till now due to many obstacles, including financial and administrative routine, and the lack of experience of talented cadres to supervise these projects. An example of these hospitals is 10 hospitals illustrated in Table 2. These 10 hospitals, each one containing 400 beds (with a current capacity of 492 beds after added the emergency and recovery beds), was referred in December 2008 to three foreign companies. Despite the fact, it was supposed to hand over those hospitals to MOH at the end of 2012 as a deadline, but unfortunately, none of them were completing till now. These hospitals were design as an educational (University) hospitals and contract type with foreign companies was on turn-key base. Five of them had referred to a Turkish consortium called "Universal Agrasen" in Babel, Karbala, Basra, Nasiriya, and Maysan. While the "GMS" -German company-had gave two hospitals, one in Mosul and the other in Najaf. In addition to that, three hospitals in Baghdad, Diyala, and Diwaniyah had referred to the Australian company - Arnold Construction. According to the available data of the legal and financial position, the Iraqi MOH can contract with the private sector as a partner to complete the construction and operation of hospitals. On condition, the ownership of these hospitals returned to the MOH after a period of time. The authors suggested that the Ministry hand over these

hospitals with the current rates of achievement to the private partner to provide fund, complete the construction and provide all types of medical services with supported wages.

**Table 2. The technical position of the ten hospitals**

No.	Project Name	Governorates	Implementing Company	Actual cost (According to contract) US dollars	Starting Date	Contract Duration (day)	Additional extensions	Actual completion %	Notes and project position
1	Construction project (5) 400-bed educational hospitals with cancer treatment centre	Basra	Turkish company Universal Agarsan	150,000,000	30/11/2017	900	2173	93.09 %	Work is almost suspended(Subject to Resolution 347)
2		Thiqr		150,000,000	30/11/2017	900	2173	90.97 %	Work is almost suspended(Subject to Resolution 347)
3		Babylon		150,000,000	30/9/2017	900	2112	95 %	Work continues,The emergency section is turned on
4		Karbala		150,000,000	30/11/2017	900	2173	91.16 %	Work is almost suspended(Subject to Resolution 347)
5		Maysan		150,000,000	30/11/2017	900	2173	88.54 %	Work is almost suspended(Subject to Resolution 347)
6	Construction project (2) 400 bed hospitals with cancer treatment centre	Najaf	Germany Medical Services	148,500,000	2/7/2009	915	2066	90.02 %	Work is almost suspended(Subject to Resolution 347)
7		Nineveh		148,500,000	2/7/2009	915	1335	33.81 %	Was suspended on 7/6/2014 due to military operations in the province (Subject to Resolution 347)
8	Construction hospitals with a capacity of 400 beds, with a cancer treatment centre in Baghdad	Baghdad/ Rusafa	Australian Company Alliance	145,000,000	1/7/2009	900	100	10.5 %	The work was withdrawn from the executing company under the letter of Contracts Department in MOH No. 5 on 2/1/2012
9		Diwanayah		135,000,000	1/7/2009	900	124	13.25 %	Work was withdrawn (the previous letter), and now MOH tries to re-announced the hospital as investment style by the Health Sector Division / Investment Division.
10		Diyala		135,000,000	1/7/2009	900	97	12.64 %	The work was withdrawn from the executing company under the letter of Contracts Department No. 5 on 2/1/2012

## 11. Conclusion

We can conclude that the Iraqi MOH needs annually to construct hospitals in all Iraqi provinces with bed capacity reach to more than 1600 beds only to keep up with the annual population increase. The minimum annual cost of construction these hospitals is more than \$640 million. As the average minimum cost to construct one medical bed is about \$ 400,000. Additional to that, the MOH also needs to set up hospitals with a medical bed capacity more than 13100 to cover the previous shortage of medical bed capacities in all Iraqi provinces (except Kurdistan region). All this is happening in the absence of sufficient funding for the MOH. The Iraqi government attributed this low funding- to the global low oil prices and the Iraqi federal budget that is adopted on oil with more than 88% as a main financial source. Also, Iraq's per capita spending rate on health in 2010 up to \$ 180 per capita was while the government spending was about \$ 107 although the world oil prices were the highest at that time- over \$ 100 - this is a very clear indication that the Iraqi government can't alone funding and management all the governmental hospital alone in isolation from the private sector. Therefore, authors conclude that there is sufficient justification for the Ministry of Health to enter the

private sector as a partner in the completion of the construction of hospitals and the provision of medical services and under the supervision and follow-up of the ministry. These justifications can be summarized as follows:

- Currently, there are more than twenty government hospitals unaccomplished, six of them with a completion rate of over 90% suffering from many obstructions mainly due to fiscal deficits, and there is no approvals on a methodology that specify the procedural methods for introducing the private sector as a partner to complete and operate these hospitals through PPPs contracts.
- The Iraqi financial budget for 2018 clearly states that Iraqi ministry is tending to expand the private investment and the participation with the private sector within the limit of its terms of reference whenever it's possible and with the approval of the Council of Ministers, in item 14B [28].
- A large defect in the Iraqi public budget is estimated by 125 billion dollars, which makes the government unable to construct and operate new hospital because of the recent fluctuation of international oil prices and dwindling revenues from oil sales, which comprised more than 86% of Iraq's total budget revenues.
- There isn't Iraqi studies dealing with the role of PPP contracts in the construction and operation of hospitals, also there is a lack of local and global studies on this subject.
- To stimulate decision-makers to apply the principles of PPPs for improving service quality and innovation through the use of private sector expertise and performance incentives;
- Enhanced prudent management of public expenditure and reduced corruption by the increase in accountability and transparency.

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## 13. Conflicts of Interest

The authors declare no conflict of interest.

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