



Saudi Vision 2030 and Physician's Perception of Public-Private Partnerships in Healthcare

Saad Majed Aldawsari

Assistant Agency for Hospital Affairs
Ministry of Health, Kingdom of Saudi Arabia
Email: aldawsarisms@moh.gov.sa

Mohammed Safar Alharbi

Assistant Agency for Hospital Affairs
Ministry of Health, Kingdom of Saudi Arabia
Email: mosaalharbi2@moh.gov.sa

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ABSTRACT:

This research aimed to assess the existing level of awareness about PPPs among physicians' at different levels of health care delivery system and their perception on the benefits and potential challenges in implementation of PPPs in Saudi health care system. The study collected information from a total number of 60 health professionals including consultants, specialists, residents and general practitioners who were working in public and private health facilities in Riyadh city. The analysis showed that only one-thirds of respondents had complete understanding of the features of PPPs. About 33% of them identified most of the principles of PPP, whereas 50% of them could identify at least three principles. More than 70% of respondents identified improving access to quality health care to population as one of the major benefits of PPPs. Nearly 60% of them also highlighted that focus of PPP arrangements should be for providing primary health care and emergency care to the citizen. A significant percentage of physicians' also identified areas like specialist care, radiology services and other laboratory services as focus areas for PPP in Saudi Arabia. However, they perceived many challenges in implementing PPPs, significant of which includes lack of policy driven strategy for PPP and absence of appropriate institutional structure in managing PPPs. The study concludes that there exists a low level of awareness among physicians' on various aspects of PPPs in health care. The study recommends the need for improving awareness about PPPs among physicians, nurses, pharmacists, laboratory technicians and allied health professionals in the Kingdom.

Key words: Public-Private Partnerships, Physician's Perception, Healthcare, Saudi Arabia

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Introduction

Over the last few decades, the Kingdom of Saudi Arabia has made remarkable progress in health services delivery. As health care is a fundamental right of its citizens, a major part of health expenditure has been funded by the government mostly through its oil revenue via the Ministry of Health (MOH), which enhanced the health status of the population (Almalki, FitzGerald, & Clark, 2011). The government allocation to health and social development has increased to almost 15% of the annual budget in 2018 (Al-Hanawi, Khan, & Al-Borie, 2019). However, the increasing aging population, raising the burden of non-communicable and lifestyle diseases, and technological advancement have put tremendous pressure on government resources. Subsequently, the government realized that sole dependence on oil resources to fund the health services of the population is unsustainable in the long term. This led the government to consider various alternate financing mechanisms for the delivery of health care to its increasing population, which has generated debates on health system financing reforms. The government came out with a series of reforms in all strategic sectors through its vision -2030. One of the strategic objectives of the MOH is to increase private sector participation from 25% (2016) to 35% by 2020 (Khan & Iqbal, 2020). Saudi Vision-2030 envisaged several strategies to address the issues in the health sector, and most significantly, collaboration with the private sector as a means of delivering quality health care to the population. National Transformation Program-2020 (NTP) emphasizes the institutionalization of public public-private partnership (PPP) mechanism, which has been successfully implemented in many countries in meeting health system objectives (Khan & Iqbal, 2020).

In Saudi Arabia, there are a range of opportunities exist for the private sector in health care provision including health care delivery, financing, medicines and health supplies, and medical education. However, the Ministry of Health (MOH) needs to provide all favorable institutional arrangements for the effective implementation of PPP in the country. Globally, it has been shown that effective implementation of PPPs in health care can improve accessibility (Al-Hanawi & Qattan, 2019), availability, affordability (Almalki & Al-Hanawi, 2018), and quality of health care to the population (Hernandez-Aguado & Zaragoza, 2016). In Saudi Arabia, healthcare is delivered predominantly through a publicly funded health system. The Ministry of Health (MOH) is the key provider of health services through its network of 284 hospitals (43680 beds) and 2390 primary health centers spread across the country (Al-Hanawi, Alsharqi, Almazrou, & Vaidya, 2017). Apart from MOH, other ministries of the government such as the Ministry of Interior, Ministry of Defense, Ministry of Education, the Royal Commission of Jubail and Yanbu, and other government agencies together manage 47 hospitals (12662 beds) to deliver services. The private sector delivers health services through 163 hospitals (18883 beds), 1376 general polyclinics, 1546 specialized polyclinics, and 63 private clinics across the country (Al-Hanawi, Alsharqi, Almazrou, & Vaidya, 2017). Currently, there are 69294 physicians (including dentists), 141170 nurses, 6658 pharmacists, and 100387 allied health personnel working in various health institutions of the public sector whereas the private health sector employs 35481 physicians (including dentists), 43394 nurses, 22467 pharmacists and 23925 allied health personnel in hospitals and clinics (Al-Hanawi, Alsharqi, Almazrou, & Vaidya, 2017). MOH is responsible for the implementation of all public health programs, development of policies, and planning including regulations (Almalki, FitzGerald, & Clark, 2011).

Vision-2030 has given top priority to public-private partnerships (PPP) in health care, with the overall aim of providing high-quality health services to all citizens (Khan & Iqbal, 2020). Consequently, the healthcare service in the country is seen as a promising area for participation that requires a robust PPP initiative (8-9). PPPs are widespread and are considered an effective way to achieve better value for money in delivering healthcare. This research will focus on the perception of physicians in public hospitals on implementing PPP in the hospital sector. Saudi Arabia has witnessed a rapid expansion of the health services delivery system over a period of time, which led to drastic improvement in most health indicators. Despite having a strong healthcare delivery system, the country faces many challenges in delivering quality For Peer Review 4 healthcare is due to an increasing population, a rising proportion of old age people, and increasing incidence of non-communicable and lifestyle diseases (Almalki & Al-Hanawi, 2018). All these factors have significantly increased the demand for health care services in Saudi Arabia and thus put a burden on government resources on health care. To reduce the future financial burden, the government has identified additional mechanisms to fund health care in the Kingdom (Almalki & Al-Hanawi, 2018). Consequently, public-private partnership has been identified as one of the promising areas for health care delivery. Saudi Vision-2030 further reinforces the significance of private sector participation in healthcare, which requires the development of robust PPP

mechanisms (Khan & Iqbal, 2020). The implementation of a robust PPP mechanism will greatly be influenced by the experiences of ongoing initiatives in the Kingdom as well as international best practices. It would also be greatly affected by stakeholder's perception of different aspects of PPPs in health care (Bastani, Barati, Sadeghi, Ramandi, & Javan-Noughabi, 2019). In this context, the present research aimed to assess the existing level of awareness about PPPs among physicians at different levels of the healthcare delivery system and their perception of the benefits and potential challenges in the implementation of PPPs in the Saudi healthcare system. The overall aim of this research is to assess the existing level of knowledge and awareness about public-private partnerships among physicians working at different levels of healthcare delivery and highlight the benefits and potential challenges in the implementation of PPPs in healthcare in Saudi Arabia.

Method

The study population was physicians working at various levels of health care in the Saudi health system in Riyadh. The research tried to contact at least 80 health professionals through email and phone, but a total number of 60 health professionals were given their consent to participate in the study. They included consultants, specialists, residents, and general practitioners who were working in public and private health facilities in Riyadh city. Out of these 60 health professionals, 20 were from the private health sector. The online questionnaire was sent to these identified professionals with a request to fill it out and submit it at their convenience. The majority of data for the study was collected between 15th February - 14th March 2020. The data for the study was collected through a study questionnaire. The questionnaire consists of different sections. Apart from certain basic information about the respondents, the study questionnaire contains knowledge and awareness of respondents on various aspects of PPP in health care like basic features, principles and benefits of PPPs in health care, potential barriers in implementing PPPs in health care, role of public and private sectors, existing PPP initiatives in Saudi Arabian health system. The first section of the questionnaire collected basic information about each respondent.

The second section was about respondent's knowledge and awareness of PPPs, including principles and types of PPPs in health care. The third section included questions related to the benefits of PPP, the focus of PPPs in Saudi Arabia, and respondents' opinions on cost sharing, risk sharing, and resource sharing which are the most important aspects of PPPs. The fourth section is on challenges in the implementation of PPPs in health care and the fifth section covers the respondent's opinion on the roles of both the public and private sector in PPP arrangements.

The last section included questions on respondents' knowledge of the ongoing PPP mechanism in the Saudi healthcare system and their potential benefits to the Saudi population. It also included any additional information; the respondents would like to share with the research. The draft questionnaire thus developed was circulated to two experts in the area of PPP to review it. Based on the review by the experts, a few questions were modified, and two questions were deleted. Before finalizing the study questionnaire, an interview was conducted with 8 respondents for their responses, and based on the feedback of respondents; the questionnaire was again revised on a minor scale. Data for the study was collected through a pre-designed questionnaire sent to selected respondents through email. All ethical issues related to the study were considered before sending the questionnaire. Before considering the respondents, their consent was obtained telephonically or through email. After getting their consent, the online questionnaire was sent to them with the request to complete the questionnaire and submit it as early as possible. For this research, computer software was used to assist in analyzing the collected data from the respondents. Soft programs were used for the analysis of data. The analysis mainly includes descriptive statistics analysis and charts.

Ethics of study

The study was conducted following the Helsinki Declaration with written consent obtained from each participant. No identifying information of any respondent was obtained during the survey, and all collected data were exclusively used for statistical analysis. The responses of study participants were kept confidential. The study obtained ethical clearances from relevant Research Ethics Committees.

Results and Findings

Profile of Respondents

60 health professionals were interviewed in the study, out of which 20 (33.3%) were from private hospitals. Of all the respondents, 35 (58.3%) were specialists and consultants 25 (41.7%) were general practitioners. Out of all respondents, 16 (20%) were females (table 1).

Table 1

Profile of the respondents in the study

Category	Male	Female	Public sector	Private sector	Total
Specialists/consultants/ Gp	44	16	40	20	
Total	(80%)	(20%)	(66.6%)	(33.3%)	(100%)

General Awareness about PPP

As the present research focuses on PPP, the first question asked with respondents was about general awareness of the PPP concept, the respondents were asked to freely select the possible descriptive features of PPPs from the list provided to them (table 2).

Table 2

Respondent's awareness about public-private partnership in healthcare

S. No	Characteristics of PPP	n=60*	Percentage
1	Collaborative relationship between the public and private partners	43	71.6
2	The partnership has clear terms and conditions	34	56.6
3	Clear partner obligations	27	45.0
4	Clear Performance indicators	25	41.6
5	Risk allocation between partners	23	38.3
6	Long term contract	19	31.6
7	Overall Health Objectives	15	25.0
8	Government ownership of assets	13	21.6
9	Stipulated time period	12	20.0
10	Other	5	8.3

Note * multiple responses.

The descriptive features are collaborative partnership, clear terms and conditions, clear obligations of partners, clear performance indicators, risk allocation between partners, long-term contracts, achieving overall health objectives, government ownership of assets, and stipulated time-period. It was found that less than one-third of respondents had an understating of the major features of PPPs from the list. Table 2 gives details of responses given by the respondents.

Knowledge about the Principles of PPP

The respondents in the study were asked to mention various principles on which good PPP initiatives are working. A list of important principles such as partner autonomy, relative equality between partners, benefits to stakeholders, mutual commitment to health objectives, shared decision-making, and equitable returns. The analyses of findings showed that 30 percent of respondents could identify most of the principles of PPP, whereas 50% of them could identify at least three principles. The details of the findings are shown in Table 3.

Table 3

Respondents' knowledge about the Principles of public-private partnership

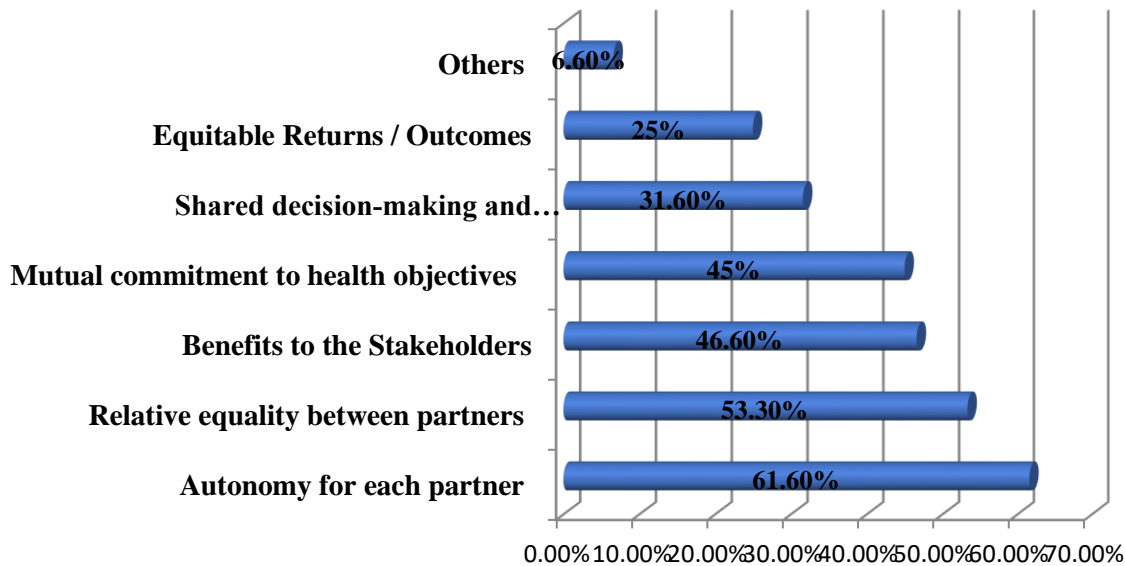
S. No	Responses	N = 60*	Percentage
1	Autonomy for each partner	37	61.6
2	Relative equality between partners	32	53.3
3	Benefits to the Stakeholders	28	46.6
4	Mutual commitment to health objectives	27	45.0
5	Shared decision-making and accountability	19	31.6
6	Equitable Returns / Outcomes	15	25.0
7	Others	4	6.6

Note * includes multiple responses

Figure 1 shows that autonomy for both partners as a principle was mentioned by the majority of the respondents (61.6%), which is followed by equality between partners by 53.3%, benefits to stakeholders mentioned by 46.6%, and mutual commitments to health objectives by 45% of respondents. While shared decision-making and accountability were reported by 31.6% of respondents, 25% of them mentioned equitable returns and outcomes as one of the objectives of PPP.

Figure 1

Health providers' knowledge about principles of PPP in healthcare



Types of PPPs in Healthcare

Depending on the objectives, different PPP models can be adopted. In the present study, the respondents were asked to identify the types of PPPs already known to exist in the health sector. In the questionnaire types of PPPs such as building or renovating health facilities, operation of IT and medical equipment, design of infrastructure and health care delivery model, delivery of specified clinical services, co-financing, and delivery of non-clinical services. It was found that only 25% of health providers were able to specify at least four models highlighted in Table 4. Almost 42% of them had identified more than three types prevalent in the health sector.

Table 4
Respondents' Knowledge about Types of Public Private Partnerships

S. No	Responses	n=60*	Percentage
1	Building or renovation of health facilities	39	65.0
2	Operate –medical equipment, IT, and management of nonclinical services	32	53.3
3	Design of the project/infrastructure/healthcare delivery model	22	36.6
4	Delivery of specified clinical services	18	30.0
5	Co-financing	14	23.3
6	Delivery of specified non-clinical services	13	21.6
7	Other types	2	3.3

Note * multiple responses

Benefits of PPPs in Healthcare

All respondents were asked to identify the benefits of PPPs in health care. They were provided with many potential benefits in terms of access to health care, efficiency of service provision, regulation, accountability, quality of services, cost of services distribution of risks, augment of resources, and equity. The respondents' opinion on the various benefits of PPPs is presented in Table 5. A majority of respondents identified factors such as improvement in access to care, improvement in efficiency, and quality of care.

Table 5
Respondents' opinion on the benefits of Public Private Partnerships in healthcare

S. No	Benefits of PPPs	N=60	Percentage
1	Improve access & reach	44	73.3
2	Improve the efficiency of services	39	65.0
3	Improve the quality of health services	33	55.0
4	Reduce the cost of services	27	45.0
5	Opportunity to regulate & accountability	27	45.0
6	Improve Equity	22	36.6
7	Diversify risks between public and private sectors	13	21.6
8	Augment Resources- Funds, Technology, HR	11	18.3
9	Others	2	3.3

Note: * multiple responses

Respondents Opinion on Sharing of Risks

Three types of risks can be shared between these sectors such as risk sharing, cost sharing, and resources sharing. The study questionnaire included responses related to physicians' opinions on risk sharing, cost sharing, and resource sharing under PPPs.

Risk Sharing under PPPs

One of the important features of any PPP is the sharing of risks between public and private sectors. This involves many aspects of risks that both parties have to meet during the operational stage of the PPP project. The major types of risks faced by the private sector are financial risks, performance risks, accountability risks, risks related to disagreement by stakeholders, and risks of maintaining reputation (Raman & Bjorkman, 2009). Even if the private sector is financially sound and flexible, any mistake from the public sector may disturb the operational aspects of PPP. Sometimes shortage of government budget may tend to terminate the contract with the private sector. Therefore

sharing of risks between public and private sectors is a significant step for effective implementation of sustainable PPPs. The study showed that 86% of the respondents perceived that risk sharing is important for the successful implementation of PPPs, whereas 13.3% of them did not respond on these aspects. This reflects the fact that the public sector needs to share some parts of its risks facing the private sector, particularly in building public health infrastructures. Almost all respondents in the private sector agreed that risk sharing should be a prerequisite for PPP arrangements.

Cost Sharing

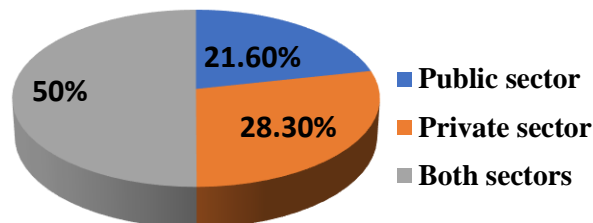
The majority of the respondents were of the view that the costs of health care have been increasing given the higher demand for health care services and the introduction of modern technologies in the medical field. Though PPPs can help to decrease the government's burden on financial resources, about 42 (70%) of respondents were of the view that costs under PPPs should be shared between the public and private sectors. While 12 (20%) respondents were against cost-sharing arrangements, 6 (10%) of the respondents did not respond to this question.

Resource Sharing

PPP arrangements in health care would help in sharing resources between the public and private sectors to deliver quality healthcare services to patients. However, in the present study, only 60% of respondents informed that sharing resources between the public and private sectors would be more beneficial than alone by one sector. Whereas 12 respondents (20%) did not agree with sharing of resources by 2 sectors and the other 20% of the respondents did not respond on this aspect. When asked about which of these three (risk sharing, cost sharing, and resource sharing) are beneficial among two partners, 50% of respondents reported that risk sharing would be beneficial for both parties, 21.6% of them reported that it would be beneficial public sector, whereas rest 28.3% informed that risk sharing would be beneficial to the private sector (Fig: 2).

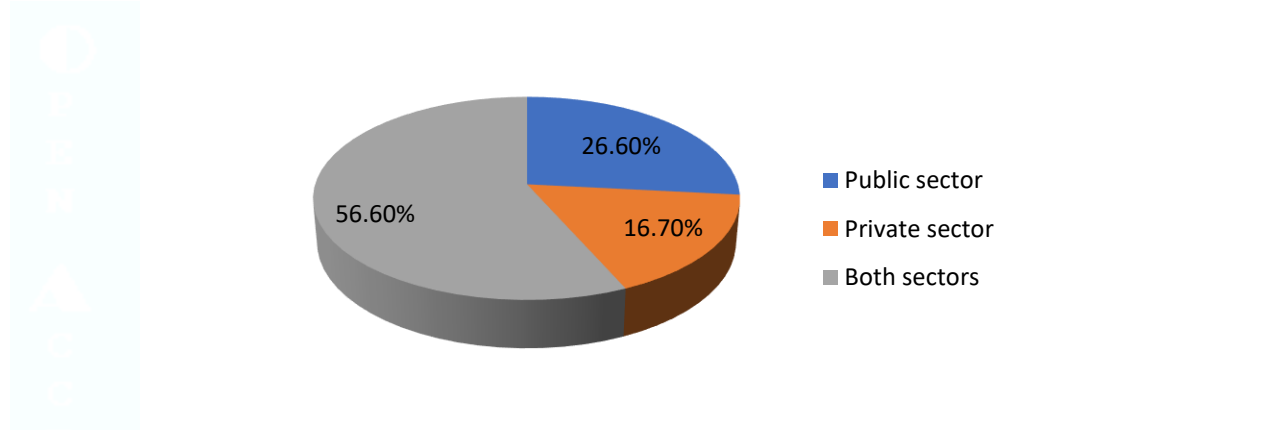
Figure 2

Respondents Opinion on Risk Sharing by Partners



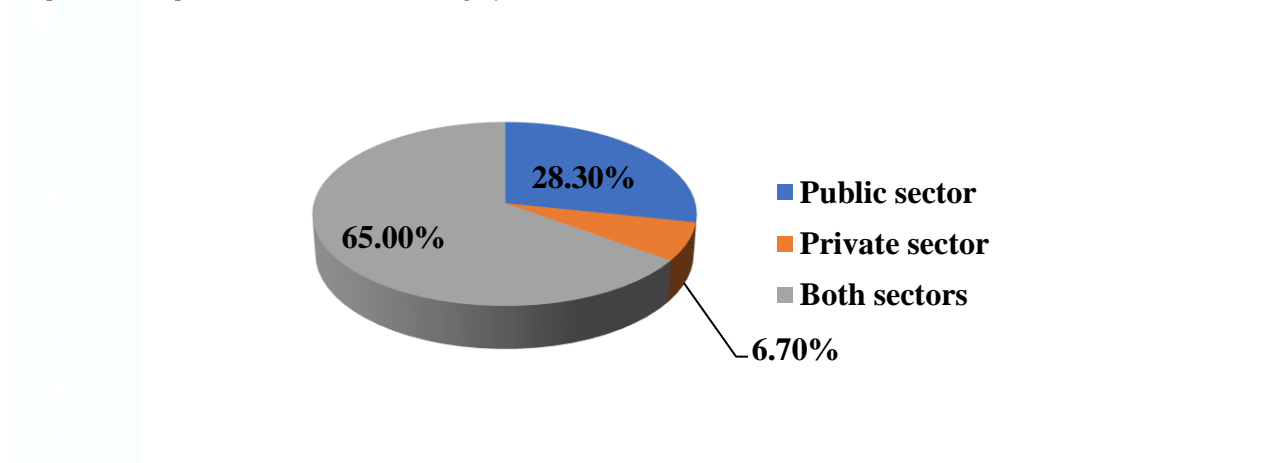
Concerning cost sharing, 56.6% of respondents informed that cost-sharing would be beneficial for both parties, 26.6% of them reported that it would be more beneficial to the government sector, and the rest 16.6% reported it would be beneficial to the private sector (Fig 3).

Figure 3
Respondents' Opinion on Cost Sharing by Partners



The respondents were also asked to give their opinion on resource sharing, of which 65% of them reported resource sharing would be beneficial to both parties. While 28.3% reported that it would be more beneficial to the government and the rest, 6.7% informed that resource, sharing will be more beneficial to the private sector (Fig 4).

Figure 4
Respondents' Opinion on Resource Sharing by Partners



The focus of PPPs in Saudi Health System

Based on the awareness and knowledge of PPPs, the respondents were asked to identify the focus areas for the implementation of PPPs in Saudi Arabia. Generally, PPPs are implemented in a variety of functions such as hospital services, primary care, specialist care, inpatient care, diagnostic services, emergency care, radiology services, lab services, Information technology, human resource development, pharmaceutical supplies, and so on. In the study, a majority of respondents highlighted primary health care and emergency care. A significant percentage of respondents also identified areas like specialist care and laboratory services. The findings of the study are shown in Table 6.

Table 6
Respondents Opinion on Major Focus of PPPs in Saudi Health System

S. No	Focus of PPPs	N=60	Percentage
1	Primary health care	35	58.3
2	Emergency care	32	53.3
3	Laboratory services	28	46.6
4	All hospital services	23	38.3
5	Delivering specialist care	20	33.3
6	Pharmaceutical and medical supplies	19	31.6
7	Health IT, technology	14	23.3
8	Healthcare Human resource development	12	20.0
9	Inpatient care	12	20.0
10	All diagnostic services	9	15.0
11	Radiology services	7	11.6
12	Others	1	1.7

Challenges in Implementing PPPs in Health Care

Many evaluations and studies in the field of PPPs in healthcare have shown potential challenges and barriers to implementing PPPs in various healthcare settings. Based on the literature review, a number of challenges have been identified and included in the study questionnaire. The respondents were asked to identify major challenges they perceived in implementing PPPs in the healthcare system in Saudi Arabia. A majority of respondents (68.3%) identified the lack of policy-driven strategy as the major challenge perceived by them. This is followed by the absence of any institutional structure in managing PPPs (56.6%), and delays in making payments to private parties (43.3%). According to 41.6% of the respondents, the private sector is always concerned with making money, which is one of the main challenges in implementing PPPs. Another challenge was top bureaucracy from the government as a barrier reported by 31.6% of respondents; lack of institutional capacity to design and monitor PPP contracts was mentioned as a barrier by 28.3%. The details of the responses are shown in Table 7.

Table 7
Respondents' Perception of Challenges in Implementing PPPs

S. No	Responses	N=60	Percentage
1	Lack of Policy-Driven Strategy	41	68.3
2	No organizational/ institutional structures to manage PPP	34	56.6
3	Delays in payment to private parties	26	43.3
4	The private sector is concerned with making money	25	41.6
5	Top bureaucracy from the government side:	19	31.6
6	Lack of institutional capacity to design and monitor contracts	17	28.3
7	Lack of effective regulation of the private sector	13	21.6
8	No grievance redressal mechanism	11	18.3
9	Issue of long-term sustainability	11	18.3
10	Lack of accreditation/quality standards	9	15.0
11	Cultural antipathy toward the Private sector	8	13.3
12	Others	2	3.3

Role of the Public Sector in PPPs

The respondents in the study were asked to mention the important role and responsibilities of the government while implementing any PPP arrangements in health care. They were asked to pick from various functions as provided in the questionnaire. According to a majority of respondents, selecting potential private partners (63.3%) and monitoring the performance of private partners are important responsibilities of the government. More than 50% of respondents

viewed monitoring the quality of services delivered by the private sector is also an important role of the government. Details of other responses by the participants in the study are given in Table 8.

Table 8
Respondents view on the role of Government in PPPs

S. No	Responses	N=60	Percentage
1	Selection of potential private partners	38	63.3
2	Performance monitoring	37	61.6
3	Monitoring quality of services	32	53.3
4	Awarding contracts	28	46.6
5	Sharing of risks (financial)	19	31.6
6	Deciding service legal agreements	17	28.3
7	Payment to private providers	15	25.0
8	Instituting legal & regulatory mechanisms	8	13.3
9	Others	7	11.6

Role of the Private Sector in PPPs

The respondents were also asked to mention the significant responsibilities of the private partner in any PPP arrangements in health care. They were asked to pick from various roles as provided in the questionnaire. According to a majority of respondents, adhering to the service legal agreements (60%) and maintaining the quality of health services are important responsibilities of the private partners. While 46.6% of respondents viewed accountability to patients in providing services, 35% of them viewed the provision of services as per agreed criteria, and 31.6% viewed improvement in performance for long-term sustainability as an important responsibility of private partners in PPPs (table 9).

Table 9
Respondents view on the role of private sector in PPPs

S. No	Responses	N=60*	Percentage
1	Adhering to service legal agreements	36	60.0
2	Maintaining quality of services	32	53.3
3	Accountability to patients	28	46.6
4	Provision of services as per agreed criteria	21	35.0
5	Performance improvement	19	31.6
6	Adherence to the time schedule	18	30.0
7	Adherence to budget	15	25.0
8	Miniating equity in service provision	13	21.6
9	Others	6	10.0

Note: *Multiple answers

On-going PPPs in the Saudi Health System

The respondents in the study were asked whether they were aware of ongoing PPPs in health care in the Kingdom of Saudi Arabia. The findings showed that 47 respondents (78.3%) reported that they were aware of some of the existing PPP arrangements, but most of them were not able to name them properly. However, they mentioned the objectives for which PPPs have been implemented in the health system. Figure 5 shows that 48.3% of respondents said they were aware of the government policy of management of hospitals by the private sector, 43.3% of them reported that PPP mechanisms have been implemented for the delivery of both outpatient and inpatient services, 35% of respondents reported that for development of e-health initiative the government has opted for PPPs. While 31.6% reported that for providing diagnostic services to population, the government opted for PPPs, 25% of them said for development of

human resources in the health sector the government has opted for PPPs and 20% of respondents reported that through PPP the government also aims to improve the delivery of radiological services in hospitals. A few number of respondents mentioned King Faisal Specialist Hospital International Holding Company and Al-Habib group in managing ICUs in some hospitals in the Kingdom. The respondents were also of the view that sharing risks, close supervision, and avoiding the bureaucratic nature of government may likely sustain the partnership between the public and private sectors. The primary goal of partnership should be to provide access to free, rapid, high-level quality health service. Sharing of costs and close supervision from the government side should aim to avoid abuse from the private sector and insurance companies.

The respondents in the study were asked to mention the perceived benefits of ongoing PPPs in health care. The findings in Table 10 showed that the majority i.e., 72.3% of respondents viewed improved access to health services throughout the country as a significant benefit of PPPs' improvement in the efficiency of health services. Which was reported by more than 50% of respondents (57.4%), a decrease in waiting time for treatment was highlighted by 38.3%, improvement in diagnostic facilities by 36.2%, improvement in information technology in health system delivery was reported by 29.7%; human resource development and availability of skilled personnel were reported by 23.4% of respondents respectively.

Figure 5
Respondents' Awareness of on-going PPPs in Saudi Health System

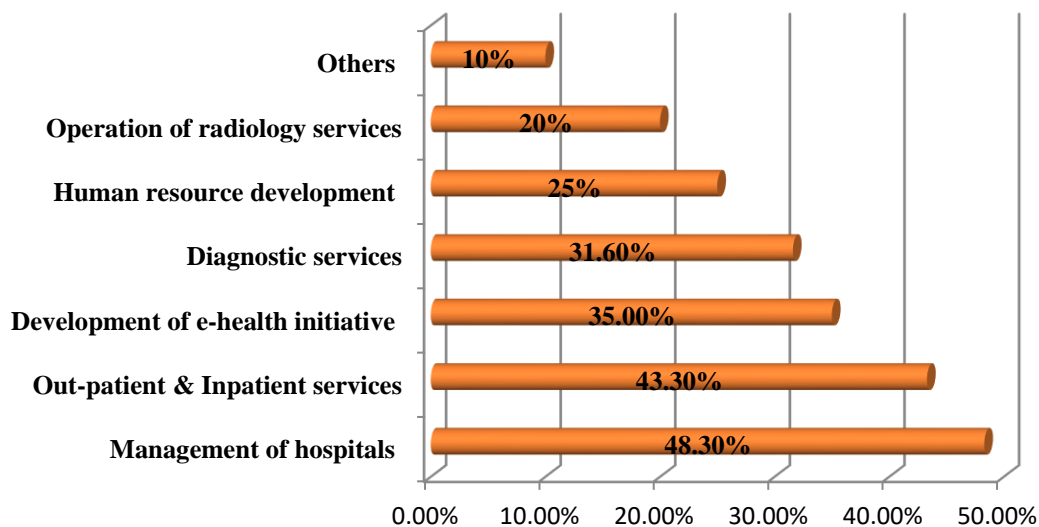


Table 10
Perceived benefits from ongoing public-private partnerships in health care in Saudi Arabia (those who were aware of PPPs in Saudi Arabia)

S. No	Responses	N= 47*	Percentage
1	Improve access to health services	34	72.3
2	Increase efficiency of services	27	57.4
3	Decrease waiting time for treatment	18	38.3
4	Improve diagnostic services	17	36.2
5	Improve IT services	14	29.7
6	Training and human resource development in health	11	23.4
7	Availability of skilled professionals	11	23.4
8	Others	9	19.1

Note: *multiple answers

Few of the respondents were of the view that PPPs in Saudi Arabia could improve supply of health work force such as doctors, nurses, and technicians. They also opined that the government should make partnerships with the private sector for both outpatient and inpatient services so that cases can be directly referred to these hospitals from the primary health centers.

Discussion

The study found a low level of awareness among physicians on various aspects of PPPs in health care. The analysis showed that only one-third of respondents had a complete understanding of the features of PPPs. Out of all respondents, 30 percent of respondents identified most of the principles of PPP, whereas 50% of them could identify at least three principles. Their awareness of different models was also low. The study found that only 25% of health providers were able to specify at least four models highlighted in the questionnaire. However, a majority of respondents identified benefits such as improvement in access to health care, improvement in efficiency, and quality of care as outcomes of PPPs in health care. These findings were similar to a few studies conducted in other countries (Gharaee, Tabrizi, Azami-Aghdash, Farahbakhsh, Karamouz, & Nosratnejad, 2019); the respondents attached more priority to sharing of risks, cost sharing, and resource sharing for successful PPPs, which was also highlighted by (Gharaee, Tabrizi, Azami-Aghdash, Farahbakhsh, Karamouz, & Nosratnejad, 2019).

The study showed that 86% of the respondents perceived that risk sharing is important for successful implementation of PPPs. This reflects the fact that the public sector needs to share some parts of its risks facing the private sector, particularly in building public health infrastructures. Almost all respondents in the private sector agreed that risk sharing should be a prerequisite for PPP arrangements. Though PPPs can help to decrease the government's burden on financial resources, more than 50% of respondents were of the view that costs under PPPs should be shared between public and private sectors. Nearly 60% of respondents were also of the view that sharing resources between the public and private sectors would be more beneficial than alone by one sector alone.

Literature on PPPs in health care has identified many challenges in implementing PPPs. Concerning perceived barriers in the implementation of PPPs in Saudi Arabia, a majority of respondents identified a lack of policy-driven strategy for PPP as the major challenge perceived them, which is followed by the absence of any institutional structure in managing PPPs. Few respondents also perceived inordinate delays by the government in making payments to private parties. They perceived the private sector's concern of making a profit might become a barrier to PPP implementation. Other barriers identified include the bureaucratic style of government functioning, and the lack of institutional capacity to design and monitor contractual arrangements, which are also highlighted by (Al-Hanawi & Qattan, 2019). Like other studies, this study also showed that selecting potential private partners, monitoring the performance of private partners and monitoring of quality of services delivered by the private sector are important responsibilities of the public sector under PPP arrangements. However, the private sector should be responsible for adhering to the service legal agreements, maintaining the quality of health services, and accountability to patients. These findings were also highlighted by other studies (Wong, Yeoh, Chau, Yam, Cheung, & Fung, 2015). According to the majority of them, partnership with the private sector would be able to decrease waiting time for treatment and improve the availability of diagnostic services to patients across the Kingdom. A significant number of physicians also indicated that PPPs can assist in information technology in health system delivery and the development of human resources for health in the country, thus making available skilled doctors, nurses, and technicians in the health system. The findings were also similar to a study conducted by (Caballer-Tarazona & Vivas-Consuelo, 2016).

Conclusion

Saudi Vision-2030 has given top priority to public-private partnership (PPP) in health care, with the overall aim of providing high-quality health services to all citizens. Consequently, the healthcare service in the country is seen as a promising area for participation that requires a robust PPP initiative. The implementation of a robust PPP mechanism will greatly be influenced by the experiences of ongoing initiatives in the Kingdom as well as international best practices. It would also be greatly affected by stakeholder's perception of different aspects of PPPs in health care. Physicians are one the key stakeholders in the implementation process of PPPs. The present research aimed to assess

the existing level of awareness about PPPs among physicians at different levels of the healthcare delivery system and their perception of the benefits and potential challenges in the implementation of PPPs in the Saudi healthcare system. The study found a low level of awareness among physicians on various aspects of PPPs in health care. However, a majority of respondents identified the benefits of PPPs in improving access to quality health care for the population. A majority of them also highlighted that the focus of PPP arrangements should be on providing primary health care and emergency care to the citizens. A significant percentage of physicians also identified areas like specialist care, radiology services, and other laboratory services as focus areas for PPP in Saudi Arabia, which are in tandem with the proposed objectives of Vision -2030 and NTP. However, they perceived many challenges in implementing PPPs, significant of which include a lack of policy-driven strategy for PPPs and the absence of appropriate institutional structure in managing PPPs. The findings of the research bring out the need to raise awareness about PPPs among physicians in the Kingdom. Raising awareness about PPPs can enhance the dialogue and cooperation between the public and private sectors at national, regional, and sub-regional levels and ensure support from other health professionals for this important initiative. To improve the awareness about PPPs among all health providers including physicians, nurses, laboratory technicians, pharmacists, and allied health professionals in the health system, the following steps have been recommended. Develop training modules on PPPs in healthcare, which include various models implemented in other countries with best practices. Conduct training of health providers at various levels of health care systems. Conduct seminars and workshops with the private health sector to discuss PPP mechanism in health care including other country experiences.

Recommendations

The findings of the research bring out the need to raise awareness about PPPs among physicians in the Kingdom. Raising awareness about PPPs can enhance the dialogue and cooperation between the public and private sectors at national, regional, and sub-regional levels and ensure support from other health professionals for this important initiative. To improve the awareness about PPPs among all health providers including physicians, nurses, laboratory technicians, pharmacists, and allied health professionals in the health system, the following steps have been recommended. Develop training modules on PPPs in healthcare, which include various models implemented in other countries with best practices. Conduct training of health providers at various levels of health care systems. Conduct seminars and workshops with the private health sector to discuss PPP mechanisms in healthcare including other country's experiences.

Declaration of Interest

The authors declare that there is no clash of interest.

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