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Review Article

Exploring the Role of and Factors Affecting Public-Private Partnership in Health Care Systems: A Scoping Review

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Abstract

Background: Public-private partnerships (PPPs) address issues of access, quality, and innovation in health care. This paper assesses the impact of various PPP models on health care delivery and explores factors influencing their success. We aimed to deepen policymakers' and practitioners' understanding of PPP dynamics, challenges, and opportunities.

Methods: A scoping review was conducted using a systematic approach to identify relevant literature on PPPs in health care from 2000 to 2024. Searches were performed in PubMed, Scopus, and Web of Science using specific search terms and inclusion criteria. Data from selected articles were analyzed to identify key themes, drivers, and outcomes related to PPP implementation and impact.

Results: The review covered 37 PPP studies from multiple countries, revealing mixed results and challenges. Successful PPPs in China, Iran, and Kenya improved health care delivery, efficiency, and patient satisfaction. However, challenges such as regulatory barriers, financial constraints, and integration issues persist. In Spain and Portugal, PPPs often face public rejection due to perceived financial unsustainability. Legal and regulatory frameworks in Iran and Tanzania hinder effective PPP implementation.

Conclusion: PPPs have significant potential to transform health systems, especially in resource-limited settings. Their success relies on careful planning, strong governance, and adapting to local contexts. For PPPs to be effective, they must prioritize equity and sustainability in their design and execution.

Keywords: Public-private partnerships; Healthcare services; Partnership models; Scoping review

Background

During the past few decades, the availability of healthcare services has undergone a significant transformation, mainly driven by an increasing understanding of the complexities of modern healthcare (1). As a result of this transformative journey, it has become increasingly apparent that the traditional division between the public and private sectors cannot effectively address the wide range of challenges facing healthcare delivery today (2). Public-Private Partnerships (PPPs) mechanisms are becoming increasingly crucial for enhancing collaboration and synergy between the public and private sectors, aiming to combine

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their strengths to improve accessibility, efficiency, and healthcare quality (3).

PPP models include Build-Operate-Transfer (BOT), where a private entity builds and operates a project before transferring it to the government (4); Build-Own-Operate (BOO), where the private entity retains ownership and operation indefinitely (5); Build-Operate-Lease-Transfer (BOLT), where the project is leased to the government after being built and operated by the private entity (6); Design-Build-Operate-Transfer (DBFOT), which integrates design, construction, operation, and eventual transfer to the government (7, 8); Lease-Develop-Operate (LDO), where the private entity leases, develops, and operates an existing facility (9); and Operate-Maintain-Transfer (OMT), where the private entity operates and maintains a government-owned facility before transferring it back (10).

Each model features distinct configurations of risk-sharing, ownership, and operational responsibility, tailored to specific policy environments and sectoral needs. For instance, BOT models typically involve private entities constructing and operating facilities for a set period before transferring ownership to the public sector, while BOO arrangements allow private partners to retain ownership indefinitely, often prioritizing long-term efficiency. In contrast, public sector-led models rely heavily on government funding and control, which can limit flexibility but ensure broader access. These differences highlight varied participation: private partners often bring innovation, capital, and operational expertise, whereas public entities ensure regulatory oversight and equitable service distribution (11).

This scoping review examined the landscape of PPP models in healthcare service provision, including the various types of partnerships developed across diverse contexts and settings. Using existing research to synthesize findings, this review aims to identify the key factors influencing PPPs' development, implementation, and outcomes in healthcare. As a result of combining findings from evaluative studies and case studies, the review aims to identify the advantages, limitations, and unintended consequences of PPP initiatives in healthcare.

Methods

Search strategy

This study utilized a scoping review methodology to identify and synthesize relevant literature on PPPs in healthcare from 2010 to 2023. Various electronic databases, including PubMed, Scopus, and Web of Science, were searched based on predetermined search terms and inclusion criteria. The search strategy includes a combination of free text keywords and MeSH (Medical Subject Headings) terms where applicable, ensuring a thorough retrieval of qualitative and quantitative studies. Keywords were combined using Boolean operators to expand or narrow the search as needed. The search terms focused on various aspects of public-private partnerships, such as different models, structures, and frameworks employed in healthcare services, as well as the outcomes, effectiveness, and impact of these partnerships on healthcare delivery, quality of care, patient satisfaction, and cost-efficiency (Table 1).

Inclusion and exclusion criteria

For inclusion in this scoping review, a comprehensive range of factors was considered to ensure that the literature synthesized was relevant, thorough, and high quality. Studies eligible for inclusion focused on populations served by healthcare services delivered through PPPs across diverse demographic, socioeconomic, and geographical contexts. These studies examined various models of PPPs in healthcare service provision, including joint ventures, outsourcing agreements, concession contracts, and performance-based arrangements, and compared their effectiveness and impact on healthcare outcomes against traditional delivery methods. Studies that were eligible assessed outcomes such as access to healthcare services, quality of care, patient satisfaction, cost-effectiveness, equity, and health outcomes, utilizing various study design approaches, such as quantitative, qualitative, and mixed methods.

Grey literature, including conference proceedings, reports, dissertations, and working papers, was considered alongside peer-reviewed publications. The study had a global perspective and included studies from low-, middle-, and high-income countries. The quality of these studies was evaluated during the quality appraisal process to ensure that the conclusions drawn in the review were trustworthy and accurate. These extensive eligibility criteria were designed to encompass a broad range of relevant literature and offer a detailed examination of PPP models in healthcare service delivery. This allowed for uncovering essential insights and trends while maintaining relevance and inclusivity. According to the Joanna Briggs Institute (JBI), this scoping review adhered to a structured framework that built upon previous guidance provided by Levac et al. (12). A systematic approach was advocated by the JBI framework, which distinguished nine distinct stages that can be used to guide the review process. First and foremost, the objectives and questions of the review were precisely defined and were aligned to ensure clarity and coherence throughout the process. A clear roadmap for the inquiry was provided during this initial stage, which served as the basis for future methodological decisions.

Table 1: Keywords and search terms related to public-private partnerships in healthcare are used in the current study.

Category	Keywords and Search Terms
Public-Private Partnerships (PPP)	"Public-Private Partnership", "PPP", "Public-Private Collaboration", "Public-Private Cooperation", "Public-Private Sector Partnership", "Public-Private Sector Collaboration", "Public-Private Sector Cooperation", "Private Sector Engagement in Healthcare", "Private Sector Involvement in Healthcare"
Healthcare Services Provision	"Healthcare Services", "Health Services", "Medical Services", "Healthcare Delivery", "Health Service Provision", "Healthcare Provision", "Health Care Systems", "Health Care Service Models", "Health System Delivery Models"
Models and Frameworks	"Models of PPP", "PPP Framework", "Partnership Models", "Partnership Frameworks", "Collaboration Models", "Cooperation Models", "Public-Private Partnership Models", "Public-Private Partnership Frameworks", "Health Service Delivery Models"
Impact and Outcomes	"Impact of PPP", "Outcomes of PPP", "Effectiveness of PPP", "Quality of Care in PPP", "Healthcare Outcomes", "Patient Outcomes", "Cost-Efficiency of PPP", "Health System Performance", "Patient Satisfaction in PPP", "Healthcare Quality"
Factors Influencing PPP	"Success Factors in PPP", "Challenges in PPP", "Barriers to PPP", "Facilitators of PPP", "Regulatory Frameworks", "Policy Environment", "Stakeholder Engagement", "Financial Models in PPP", "Socio-Economic Context of PPP", "Governance in PPP"
General Terms	"Health", "Public Health", "Healthcare", "Health Services Research", "Health Policy", "Health Systems", "Health Sector"

Data analysis

Following the identification of potential sources, the evidence selection stage involved screening and assessing the eligibility of studies for inclusion in the review according to predefined inclusion and exclusion criteria. In this manner, the review findings were ensured to be valid and credible. After identifying relevant evidence, data extraction was undertaken to capture critical information from selected studies systematically. In this process, pertinent information was extracted, such as study characteristics, methodology, and results, facilitating the synthesis and analysis of data. Organizing the evidence entailed organizing the extracted data into a coherent framework, which allowed researchers to identify patterns, themes, and relationships in the literature. Consequently, the evidence synthesis was structured, and critical insights pertinent to the review objectives were elucidated.

The predefined objectives and questions were summarized based on the synthesized evidence, providing a comprehensive overview of existing knowledge and insights. Various information sources were combined during this phase to form valuable conclusions and suggestions. Stakeholders were regularly involved in the review process to allow for continuous input and enhance the quality of the results. The process was constantly refined to adapt to changing perspectives and feedback from essential individuals. While the JBI framework was used as a foundation for the scoping review, the PRISMA extension for scoping reviews was also implemented to increase transparency and ensure thoroughness. Through standardized reporting, best practices in scoping review methodology were followed, and findings were disseminated to a broad audience.

Results

Fig. 1 shows the number of inclusion criteria in the current study.

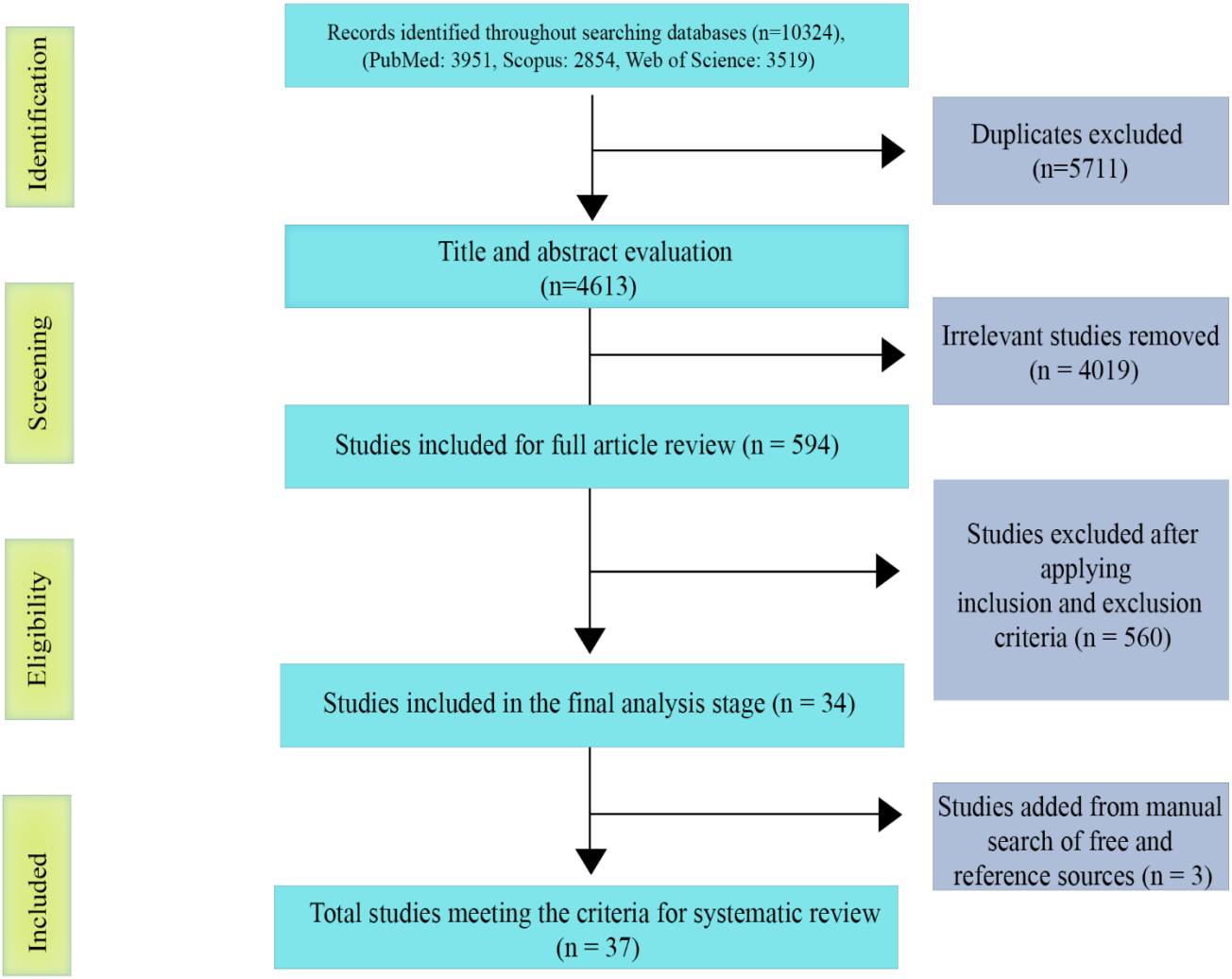

Fig. 1: A report with a PRISMA flow diagram depicts the study selection process

Basabih et al. investigated the impact of PPP on hospital performance indicators and implementation challenges. Indicators of improved hospital performance include diagnosis, therapy, waiting

times, length of stay, referral rates, mortality, and patient satisfaction (13). The insights provided by Nduhura et al. are extremely valuable for PPP experts, health policy designers, and implementers, especially in light of the COVID-19 outbreak and its challenges (14).

Despite their potential role in improving system resilience, PPPs have encountered challenges in integrating finance, management, and innovation into the NHS context, leading to provider withdrawal from such arrangements (15). Although PPPs are intended to reduce financial pressure on the public treasury and ensure sustainability, concerns remain regarding PPP hospitals' clinical response capacity and social performance (16). According to Kang et al., five broad categories of factors impact the success of PPP initiatives in these contexts, including political, economic, legislative, financial, and management requirements (17). Amović et al. identified four key factors for establishing sustainable PPPs in transitional economies: establishing a central PPP unit, the compatibility of the legal/regulatory framework with the national PPP policy, and the standardization/transparency of the PPP process (18).

Regulatory changes favoring public provision were prompted by the termination of the administrative concession held by Ribera Salud in the La Ribera Health Department (19).

As described by Ovcharova and Grabowska, this study investigates the development of PPPs in healthcare to identify key elements and conditions leading to successful implementation. However, current practices often fail to achieve the desired results. It identifies risks and challenges associated with PPP implementation in healthcare and proposes a structural and target model for developing PPPs (20). The study carried out by Strasser et al. examines the sustainability of PPP within the context of PEPFAR-funded projects aimed at treating HIV/AIDS and strengthening laboratory systems. It is essential to understand these dynamics to optimize PPP outcomes and ensure a lasting impact on global public health initiatives (21). Although the public sector is more familiar with PPP and is more inclined to participate, both sectors identify challenges in meeting the requirements for a successful PPP in Shiraz, Iran (22). According to hospital economics in Europe, outsourcing clinical services results in significant cost savings. Since the global financial crisis, PPPs have faced challenges in terms of financing (23).

Based on Asadi et al.'s study findings, different PPP models, such as Design, Build, Finance, Operate Contracts, and Private Finance Initiatives, are suitable for various aspects of hospital services (24). In India, regulatory weaknesses and contractual breaches have been identified, as well as low enrollment rates and limited accessibility to services (25). Several factors, including education level, income, health status, and rural or urban residency, influence intentions to share costs in China (26). Ma and colleagues believe this contributes to understanding the relationship between public investment and project sustainability, providing insights into the decision-making processes and governance considerations for PPPs (27).

CSFs must be understood and nuanced to enhance the outcomes of current and future PPP projects (28). Moreover, the PPP model effectively improved healthcare services, financial efficiency, and educational opportunities within hospital settings in Tehran, Iran (29). Barzegar et al. sought to identify key aspects of PPPs for hospital building in Iran by conducting a comparative analysis of PPP implementation in seven countries. Five key dimensions were identified: legislation, policy-making, finance, capacity building, and social orientation (30). Several contextual variables, subject to policy intervention, are significant factors affecting the outcome of the implementation of PPPs in healthcare management (31) (Tables 2 and 3).

Table 2: Recent studies explore models of public-private partnership in healthcare services provision

Reference	Country	Types of Applied Model	Results and Challenges
Nzioka (32)	Kenya	Healthcare Service Delivery	Improved delivery and financial management; support for management and staff recommended
Rodrigues &Carvalho (33)	Portugal	Economic and Financial Performance of PPP Hospitals	Perceived more as political instruments, discusses the practical implications of healthcare management
Castelblanco (34)	Italy	Concession Periods in Social Infrastructure PPPs	Insights into project planning and regulation, influencing factors include risk, revenue, and bankability.
Luo (35)	China	Public Participation in PPP Projects	Insights for policymakers to enhance public participation
Joudyian (36)	Iran	PPP in Primary Health Care (PHC)	Promising PHC strategy, further development needed
Ahmad (37)	Malaysia	PPP in Healthcare	Identified dimensions of success: time, cost, quality, stakeholder satisfaction
Ferreira & Marques (16)	Portugal	Bundled Hospital Infrastructure & Clinical Services	Reduced financial pressure, but concerns about clinical response and social performance
Adamou (15)	UK	PPP in NHS	Challenges in integrating finance, management, and innovation; provider withdrawal
Cherkos (10)	India	PPP Models in Road Projects	Conceptual framework validated for enhancing project value and reducing failure risk
Nuhu (38)	Tanzania	PPP Institutional Arrangements	Emphasizes better implementation practices and adherence to policies
Tabrizi (39)	Iran	PPP in Primary Health Care (PHC)	Promising PHC strategy, further development needed
Yang (40)	China	PPP in Healthcare Market	Positive correlation with attitude, subjective norm, perceived control, and intention
Sadeghi (22)	Iran	PPP in Hospital Services	Identifies challenges and the feasibility of PPP implementation in Shiraz
Comendeiro-Maaløe (19)	Spain	Alzira's Model in SNHS	Mixed performance, significant improvements in certain areas
Gharaee (41)	Iran	PPP in Primary Health Care (PHC)	Promising strategy in East Azerbaijan Province
Wright (23)	Europe	PPPs in the Healthcare Sector	Reasonably good performance, but risks such as entrenchment and inflexibility; the greatest cost savings from clinical service outsourcing
Wang & Zhang (26)	China	Recognition of PPPs in Healthcare	Influences include education, income, health status, and residency
Khetrapal (25)	India	Rashtriya Swasthya Bima Yojana (RSBY)	Regulatory weaknesses, contractual breaches, low enrollment, and limited-service accessibility
Maosa & Muturi (42)	Kenya	Huduma PPPs	Governance systems are the most influential and need uniform policies
Kosycarz (43)	Poland	PPP in Public Hospitals	Requires changes to payer contracts, stable conditions, risk allocation, and experienced partners
Fabre & Straub (44)	Various	PPP in Various Sectors	Mixed evidence on productivity, quality, coverage, and affordability
Comendeiro-Maaløe (45)	Spain	The transition from PPPs to Public Provision	Regulatory changes prompted by the administrative concession termination
Al-Hanawi & Qattan (46)	Saudi Arabia	Healthcare PPPs	A potential solution for funding and improving standards, caution is needed
Sadeghi (47)	Various	PPP for Hospital Services	Highlights significant benefits and achievements in multiple countries
Shadpour (29)	Iran	PPP at Hashemi Nejad Kidney Center	Effective in improving healthcare services, financial efficiency, and educational opportunities
Nikjoo (48)	Iran	PPP Models in Public Hospitals	Identifies KPIs and prioritizes clinical outsourcing, management privatization, BOO, and non-clinical outsourcing
Sciulli (49)	Australia	PPP in Casey Hospital	Examines reasons for adopting PPP, success criteria, and contributing factors

Table 3: This table captures the main challenges related to financial arrangements, governance, equality of access, quality standards, and sustainability of healthcare PPPs

Category	Challenges	Details
Financial Arrangements	Uncertainty and Cost Overruns	- Complex financial structures, risk-sharing mechanisms, and funding arrangements are often developed.
		- Difficulty in predicting costs accurately and ensuring financial sustainability.
		- Expense overruns may lead to renegotiations and disputes between partners, affecting services and the quality of care.
Governance and Accountability	Complexity of Stakeholder Involvement	- Multiple stakeholders with varying goals make governance and accountability challenging.
	Transparency and Decision-Making	- Public-private collaboration complicates ensuring transparency, effective decision-making, and accountability mechanisms.
	Public Interest Misalignment	- Distribution of responsibilities and decision-making authority may need to align with the public interest, raising regulatory oversight and ethics issues.
Equality of Access	Disparities in Healthcare Access	- Privatization within PPP models may exacerbate disparities, prioritizing profitable services over those for marginalized or underserved populations.
	Barriers to Universal Health Coverage	- Inequalities in access to essential services persist, preventing universal health coverage and worsening social determinants of health.
Quality Standards	Inconsistent Quality Across Sectors	- Different regulatory frameworks and incentives between the public and private sectors lead to variations in service quality and patient outcomes.
	Challenges in Monitoring and Evaluation	- Difficulty ensuring adherence to agreed-upon standards without adequate monitoring, potentially compromising patient safety and satisfaction.
Sustainability	Challenges to Long-term Sustainability	- Political priorities, market dynamics, and healthcare needs are shifting, affecting PPP sustainability.
	Complexities in Adaptation	- The inherent complexities and uncertainties of PPPs impair their ability to adapt, risking long-term viability and effectiveness in delivering healthcare.

Discussion

This scoping review highlights the growing importance of PPPs in healthcare, especially in low- and middle-income countries (LMICs). While these partnerships have a lot of potential, their success is highly dependent on the context in which they are implemented. Factors like governance, regulatory frameworks, and the engagement of all stakeholders play a huge role in determining whether these collaborations succeed or fall short.

What Works and What Does not

Numerous studies show that PPPs can have a positive impact on primary healthcare. For example, Tabrizi et al. found that PPPs in PHC helped improve access to services and healthcare outcomes in a variety of settings (39). Fanelli et al. took this further, identifying key factors that make PPPs work in LMICs, such as the need for strong governance, proper resource allocation, and effective co-production of services between public and private sectors (50). But the reality is that these partnerships are not without their challenges. For instance, Joudyian et al. highlighted some of the hurdles PPPs face, such as inadequate funding, weak healthcare infrastructure, and limited human resources, all of which can prevent the full potential of PPPs from being realized (36).

Why Context Matters

The success of PPPs in healthcare often comes down to local context. Okeke et al. studied private sector engagement in Nigeria and found that

elements like industry expertise, the state of the economy, and the strength of the health system were crucial in shaping the outcome of PPPs (51). This shows that what works in one country or region may not work in another, underscoring the importance of tailoring PPPs to local conditions. Similarly, understanding the specific challenges and opportunities within a given healthcare system is key to designing a successful PPP model (14).

Equity and Sustainability: The Big Questions

One of the biggest concerns surrounding PPPs is equity. While PPPs can improve healthcare access and quality, there's a risk that they may worsen disparities if not managed carefully. As Fanelli et al. pointed out, there's always a possibility that the private sector might prioritize profitable services over the needs of marginalized populations (50). This is a serious concern that needs to be addressed through thoughtful policy design and regulation. Sustainability is another major issue. McGuire et al. analyzed a PPP in Lesotho and showed how important it is to build flexible contracts and keep investing in healthcare infrastructure and human resources. Without this long-term commitment, PPPs are at risk of failing when initial funding runs out or when political priorities change (52).

PPP Implementation in Iran

PPPs in Iran face several challenges to effective implementation, including weak regulatory frameworks, political and bureaucratic barriers, a lack of transparency, and a lack of financial and institutional capacity (53-55). To address these issues and to facilitate the successful implementation of PPPs in Iran, strengthening good governance, clarifying legal frameworks, improving stakeholder involvement, and adopting better risk- and funding models are recommended (56, 57). Globally, the results of PPPs are mixed: some projects fail because of poor planning and unclear contracts, but others succeed because of strong supervision, transparency, and co-operation (58, 59). In Iran, most PPP initiatives are still limited or nascent, with only a few fully successful pilot projects. However, pilot projects show potential if backed up by better policies and institutional reforms (60, 61).

Limitations

Although this review is implemented for the first time, it has some limitations including; 1) some reviewed studies lacked detailed methodological and contextual transparency that resulted in imperfect appraisal, 2) we only reviewed studies published in English, which may have excluded significant research reported in other languages and 3) limited access to some of full articles despite efforts of the researchers for preparing them through the university's library.

Conclusion

While PPPs can be a game-changer in improving healthcare systems, especially in resource-limited settings, their success is not guaranteed. It takes careful planning, strong governance, and a deep understanding of local contexts. If PPPs are to work, they need to be built with equity and sustainability in mind, ensuring that they truly benefit everyone, not just the wealthiest or most profitable sectors. Besides many countries that try to benefit from PPP to improve the quantity and quality of healthcare, Iran also applies different models of PPP. However, several strategies, such as strengthening good governance, clarifying legal frameworks, improving stakeholder involvement, and adopting better risk- and funding models, are recommended to achieve optimal outcomes.

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Conflict of interest

The authors have no conflicts of interest related to this review article.

References

1. Dash S, Shakyawar SK, Sharma M, Kaushik S (2019). Big data in healthcare: management, analysis and future prospects. *J Big Data,* 6 :54.
2. Tortorella GL, Fogliatto FS, Mac Cawley Vergara A, Vassolo R, Sawhney R (2020). Healthcare 4.0: trends, challenges and research directions. *Production Planning & Control,* 31 (15):1245-1260.
3. Mallat A, Vrontis D, Thrassou A (2021). Patient satisfaction in the context of public–private partnerships. *Int J Organ Anal,* 29 (6):1395-1422.
4. Yang J, Nisar TM, Prabhakar GP (2017). Critical success factors for build–operate–transfer (BOT) projects in China. *Ir J Manag,* 36 (3):147-161.
5. Akhtar M, Mufti NA, Mubin S, Saleem MQ, Zahoor S, Ullah S (2023). Identification of Various Execution Modes and Their Respective Risks for Public–Private Partnership (PPP) Infrastructure Projects. *Buildings,* 13 (8):1889.
6. Garg S, Garg S (2017). Rethinking public-private partnerships: An unbundling approach. *Transp Res Procedia,* 25:3789-3807.
7. Sitharamaraju K, Yelne SA, Kumar BS, Narayanaswami S (2020). *PPP in Indian railways: models, framework, and policies*. ed. Indian Institute of Management, Ahmedabad.
8. Verweij S, van Meerkerk I, Casady CB (2022). The performance advantage of public-private partnerships: does it exist or not? *S. Verweij, IF van Meerkerk & CB Casady (red.), Assessing the performance advantage of PPPs: A comparative perspective, Cheltenham: Edward Elgar*:1-26.
9. Kim MJ (2023). Toward Coherence: A Space Sector Public-Private Partnership Typology. *Space Policy,* 64:101549.
10. Cherkos FD, Jha KN, Singh A (2020). Framework to select public–private partnership modalities. *J Leg Aff Disput Resolut Eng Constr,* 12 (4):04520034.
11. Roehrich JK, Lewis MA, George G (2014). Are public-private partnerships a healthy option? A systematic literature review. *Soc Sci Med,* 113:110-9.
12. Levac D, Colquhoun H, O'brien KK (2010). Scoping studies: advancing the methodology. *Implement Sci,* 5:69.
13. Basabih M, Prasojo E, Rahayu AYS (2022). Hospital services under public-private partnerships, outcomes and, challenges: A literature review. *J Public Health Res,* 11 (3):22799036221115781.
14. Nduhura A, Nuwagaba I, Settumba J, Molokwane T, Lukamba M (2020). Public private partnerships: systematic review of available models for improving health care services. International Conference on Public Administration and Development Alternatives.
15. Adamou M, Kyriakidou N, Connolly J (2021). Evolution of public-private partnership: The UK perspective through a case study approach. *Int J Organ Anal,* 29 (6):1455-1466.
16. Ferreira DC, Marques RC (2021). Public-private partnerships in health care services: Do they outperform public hospitals regarding quality and access? Evidence from Portugal. *Socio-Econ Plan Sci,* 73:100798.
17. Kang S, Mulaphong D, Hwang E, Chang C-K (2019). Public-private partnerships in developing countries: Factors for successful adoption and implementation. *Int J Public Sect Manag,* 32 (4):334-351.
18. Amović G, Maksimović R, Bunčić S (2020). Critical success factors for sustainable public-private partnership (PPP) in transition conditions: An empirical study in Bosnia and Herzegovina. *Sustainability,* 12 (17):7121.
19. Comendeiro-Maaløe M, Ridao-López M, Gorgemans S, Bernal-Delgado E (2019). Public-private partnerships in the Spanish National Health System: The reversion of the Alzira model. *Health Policy,* 123 (4):408-411.
20. Ovcharova NV, Grabowska M (2022). Implementation of public-private partnership in the healthcare management system. *Health Economics and Management Review*, 3 (1):86-95.
21. Strasser S, Stauber C, Shrivastava R, Riley P, O'Quin K (2021). Collective insights of public-private partnership impacts and sustainability: A qualitative analysis. *PLoS One,* 16 (7):e0254495.
22. Sadeghi A, Barati O, Bastani P, Daneshjafari D, Etemadian M (2020). Feasibility of implementing public–private partnership

(PPP) in the development of hospital services and optimizing resource allocation in Iran. *Cost Eff Resour Alloc,* 18:25.
23. Wright S, Barlow J, Roehrich JK (2019). Public-private partnerships for health services: Construction, protection and rehabilitation of critical healthcare infrastructure in Europe. In: *Clark, R.M., Hakim, S.* (eds) Public Private Partnerships. Competitive Government: Public Private Partnerships. Springer, Cham.
24. Asadi P, Bavi S, Bajoulvand R, et al (2018). Models of" public-private partnership" and their effects on hospital mid-indicators: a critical review. *Journal of Health Administration*, 21 (73): 89-105.
25. Khetrapal S, Acharya A, Mills A (2019). Assessment of the public-private-partnerships model of a national health insurance scheme in India. *Soc Sci Med,* 243:112634.
26. Wang Y, Zhang L (2019). Status of public–private partnership recognition and willingness to pay for private health care in China. *Int J Health Plann Manage,* 34 (2):e1188-e1199.
27. Ma H, Zeng S, Lin H, Zeng R (2020). Impact of public sector on sustainability of public–private partnership projects. *J Constr Eng Manag,* 146 (2):04019104.
28. Muhammad Z, Sik KK, Johar F, Sabri S (2016). An overview of critical success factors of public private partnership in the delivery of urban infrastructure and services. *Plan Malays,* (4).
29. Shadpour P, Barzegar M, Afzal E (2013). Study on the impact of implementing public-private partnership (PPP) at Hasheminejad Kidney Center. *Int J Hosp Res,* 2 (4):195-200.
30. Barzegar M, Tabibi SJ, Maleki MR, Nasiripour AA (2016). Designing a Public-Private Partnership Model for Public Hospitals in Iran. *Int J Hosp Res,* 5 (1):41-45.
31. Hellowell M (2016). The price of certainty: Benefits and costs of public–private partnerships for healthcare infrastructure and related services. *Health Serv Manage Res,* 29 (1-2):35-39.
32. Nzioka WM, Njoroge K, Kyalo CK (2023). Influence of public-private partnership on healthcare service delivery in Nairobi County, Kenya. *IAJHMN,* 2 (1):341-362.
33. Rodrigues NJP, Carvalho JM (2023). Public-private partnership in the Portuguese health sector. *Heliyon,* 9 (8): e19122.
34. Castelblanco G, Safari P, De Marco A (2023). Driving Factors of Concession Period in Healthcare Public Private Partnerships. *Buildings,* 13 (10):2452.
35. Luo Z, Li J, Wu Z, Li S, Bi G (2022). Investigating the Driving Factors of Public Participation in Public-Private Partnership (PPP) Projects—A Case Study of China. *Int J Environ Res Public Health,* 19 (9):5192.
36. Joudyian N, Doshmangir L, Mahdavi M, Tabrizi JS, Gordeev VS (2021). Public-private partnerships in primary health care: a scoping review. *BMC Health Serv Res,* 21 (1):4.
37. Ahmad U, Waqas H, Akram K (2021). Relationship between project success and the success factors in public–private partnership projects: A structural equation model. *Cogent Bus Manag,* 8 (1):1927468.
38. Nuhu S, Mpambije CJ, Ngussa K (2020). Challenges in health service delivery under public-private partnership in Tanzania: stakeholders' views from Dar es Salaam region. *BMC Health Serv Res,* 20: 765.
39. Tabrizi JS, Azami-Aghdash S, Gharaee H (2020). Public-private partnership policy in primary health care: a scoping review. *J Prim Care Community Health,* 11:2150132720943769.
40. Yang J, Song L, Yao X, et al (2020). Evaluating the intention and behaviour of private sector participation in healthcare service delivery via public-private partnership: evidence from China. *J Healthc Eng,* 2020: 5834532.
41. Gharaee H, Tabrizi JS, Azami-Aghdash S, et al (2019). Analysis of public-private partnership in providing primary health care policy: an experience from Iran. *J Prim Care Community Health,* 10:2150132719881507.
42. Maosa RO, Muturi WM (2019). Factors Influencing Performance Of Public-Private Partnerships In Healthcare Provision In Kenya; The Case Of Nyamira County. *IJSSIT,* 5 (5):202-213.
43. Kosycarz EA, Nowakowska BA, Mikołajczyk MM (2019). Evaluating opportunities for successful public–private partnership in the healthcare sector in Poland. *J Public Health,* 27:1-9.

44. Fabre A, Straub S (2019). The economic impact of public private partnerships (PPPs) in infrastructure, health and education: A review. *Toulous School of Economics*. Working paper, (986): 1-108.
45. Comendeiro-Maaløe M, Ridao-López M, Gorgemans S, Bernal-Delgado E (2019). A comparative performance analysis of a renowned public private partnership for health care provision in Spain between 2003 and 2015. *Health Policy,* 123 (4):412-418.
46. Al-Hanawi MK, Qattan AM (2019). An analysis of public-private partnerships and sustainable health care provision in the Kingdom of Saudi Arabia. *Health Serv Insights,* 12:1178632919859008.
47. Sadeghi A, Barati O, Bastani P, et al (2016). Experiences of selected countries in the use of public-private partnership in hospital services provision. *J Pak Med Assoc,* 66 (11):1401-1406.
48. Nikjoo RG, Beyrami HJ, Jannati A, et al (2012). Prioritizing public-private partnership models for public hospitals of Iran based on performance indicators. *Health Promot Perspect,* 2 (2):251-264.
49. Sciulli N (2008). Public private partnerships: an exploratory study in health care. *Asian Rev Account,* 16 (1):21-38.
50. Fanelli S, Salvatore FP, De Pascale G, Faccilongo N (2020). Insights for the future of health system partnerships in low-and middle-income countries: a systematic literature review. *BMC Health Serv Res,* 20 (1):571.
51. Okeke C, Eigbiremolen GO, Uzochukwu B, et al (2022). The Role of Contextual Factors in Private Sector Engagement: A Case Study of Private Sector Contribution to COVID-19 Mitigation in Nigeria. *Front Public Health*,10:915330.
52. McGuire CM, Kaiser JL, Vian T, et al (2024). Learning from the end of the public-private partnership for Lesotho's National Referral Hospital network. *Ann Glob Health,* 90 (1):19.
53. Salehi-Amiri A SA (2019). Challenges of PPP in Iran's infrastructure projects: A case study. *J Constr Eng Manag,* 145 (5):04019026.
54. Eslami S ZJ (2021). Institutional barriers to PPPs in Iran: A health sector perspective. *Int J Health Plann Manage,* 36 (3):835-848.
55. Ahmadi-Javid A MS (2020). Barriers to public-private partnership implementation in Iran's healthcare system. *Health Policy,* 124 (8):850-858.
56. Mirzabeigi M NM (2022). Recommendations for improving PPP frameworks in Iran. *Public Adm Rev,* 82 (4):720-729.
57. Dehghan A SM (2021). Financial and regulatory reforms to support PPP projects in Iran. *Journal of Public Budgeting Accounting and Financial Management,* 33 (1):67-82.
58. Grimsey D LM (2005). Are Public Private Partnerships value for money? Evaluating alternative approaches and comparing academic and practitioner views. *Account Forum,* 29 (4):345-378.
59. ER Y (2018). *PPPs for Infrastructure: Public-Private Partnerships for Infrastructure: Principles of Policy and Finance*. Amazon.
60. Najafi M M-AZ (2018). Evaluating PPP project outcomes in developing countries: The case of Iran. *Journal of Data Analysis,* 52 (2):119-136.
61. Hosseini M GR (2023). Status of PPP projects in Iran's health sector: Lessons learned. *Int J Health Serv,* 53 (1):45-57.