

Evaluating public private partnerships in the healthcare sector: Scoping review

Évaluation des partenariats public privé dans le secteur de la santé: Revue de la portée

Khadija Salim^{1,2}, Amina Idrissi Azami¹, Belabbes Sanae³

1. Mohammed VI International School of Public Health, Mohammed VI University of Sciences and Health, Casablanca, Morocco

2. Regional Directorate of Health, Casablanca Settat, Morocco

3. Head of the Health Organisation Management Department, Head of the Hospital Management MBA Programme, Mohammed VI University of Science and Health, Casablanca, Morocco

ABSTRACT

Introduction: Governments faced efficiency crises in healthcare between the 1980s and 1990s, leading to the adoption of Public-Private Partnerships (PPPs) as innovative solutions. This study explores evaluation methodologies, criteria, and research gaps in the healthcare sector.

Methods: The study utilized Arksey and O'Malley's framework to conduct a scoping review of public-private partnerships in the health sector, identifying gaps, suggesting new research directions, and clarifying complex concepts using various databases and dictionaries.

Results: A study screened 21 255 papers for inclusion in an analysis, resulting in 26 studies selected for final review. The aim was to understand the contribution of Public-Private Partnerships (PPPs) to healthcare service quality, operational efficiency, and accessibility. The studies were categorized into four: access to quality care, strengthening health programs, improving communication, information, and awareness, and strengthening leadership and financial management. The studies were conducted in various countries, including Africa, Europe, Asia, North America, and South America.

Discussion: Public-private partnerships (PPPs) play a crucial role in the healthcare sector, improving efficiency and quality. They provide greater access to healthcare, especially for low-income populations, and reduce financial burdens. However, their success depends on effective governance, accountability, and equitable cost-sharing arrangements. Effective communication and promotion are essential for PPP success. Resilient strategies are needed to overcome service disruptions and ensure transparency.

Keywords: Public-private partnership, evaluation, healthcare system, Contribution.

RÉSUMÉ

Introduction : Face aux crises d'efficience des systèmes de santé dans les années 1980-1990, les gouvernements ont eu recours aux partenariats public-privé (PPP) comme solutions innovantes. Cette étude vise à explorer en profondeur les différentes méthodologies d'évaluation appliquées aux PPP dans le domaine de la santé.

Méthodes : Se basant sur le cadre d'Arksey et O'Malley nous avons mené une revue de la portée sur les PPP dans le secteur de la santé. Elle identifie les lacunes existantes, propose de nouvelles pistes de recherche et clarifie des concepts complexes à l'aide de bases de données et de dictionnaires spécialisés.

Résultats : Sur un total de 21 255 publications analysées, seules 26 ont été retenues. Ces études provenaient principalement d'Asie (10), d'Afrique (7), d'Europe (6), d'Amérique du Nord (2) et d'Amérique du Sud (1). Sur le plan méthodologique, 38,46 % étaient qualitatives, 23,07 % évaluatives, 11,54 % des cas pratiques, 11,54 % analytiques, 7,7 % mixtes, 3,85 % descriptives et 3,85 % ethnologiques. Les études ont été regroupées en quatre catégories : l'accès aux soins de qualité, le renforcement des programmes de santé, la communication et la sensibilisation, ainsi que la gouvernance et la gestion financière.

Discussion : Les PPP jouent un rôle central dans l'amélioration de l'efficacité et de la qualité des soins. Ils élargissent l'accès aux services, notamment pour les populations défavorisées, et réduisent les charges financières. Leur réussite dépend toutefois d'une gouvernance solide, d'une répartition équitable des coûts, d'une communication efficace et de mécanismes de transparence.

Mots clés : Partenariat public privé, évaluation, système de santé, contribution

Correspondance

Khadija Salim

Mohammed VI International School of Public Health, Mohammed VI University of Sciences and Health, Casablanca, Morocco

Email: ksalim@um6ss.ma

INTRODUCTION

Between the late 1980s and the early 1990s, several governments faced difficulties and experienced efficiency crises(1). The State no longer had the financial resources to meet the growing needs of the population, and this deficit was compounded by ever-increasing debts, leading the state into an efficiency crisis(2). Faced with this situation, governments are seeking to undertake reforms in the healthcare field to ensure equity in patient care and efficiency and effectiveness in the healthcare system, such as partnerships, which is one of the solutions(3).

In fact, partnerships with the private sector can only stimulate economic growth and strengthen the capacity of public infrastructure and services, as the private sector can bring innovation and experience that prudent public sector management lacks, thus improving the general interest and quality of life of the population(4).

Public Private Partnership (PPP) is defined as "A Public-Private Partnership (PPP) is a long-term agreement between a public entity and a private company for the provision of public services or infrastructure, where both parties share risks, responsibilities, and benefits."(5). PPPs are increasingly being adopted as innovative solutions to the challenges of financing and efficiency in the healthcare sector. To ensure their sustainability, PPP projects must comply with legislated management standards, from the identification of needs through evaluation, which is an essential stage in the management cycle of these projects. To this end, all partnership projects must be subject to an ex-post evaluation that provides important feedback, particularly on success factors and causes of failure. Some countries, such as Australia and the United Kingdom, have adopted specific methods for regular evaluation of the PPP process(6,7). In other countries, although partnerships are considered an "innovative" tool for financing and a choice for economic recovery by limiting recourse to debt, their evaluation remains weak in the management cycle(8). The main objective of this study is to explore in depth the various evaluation methodologies applied to public-private partnerships in the healthcare sector. It aimed to define the most suitable evaluation criteria, identify frequently used techniques, and highlight the deficits present in current academic research on this topic.

METHODS

In our study, we used Arksey and O'Malley's framework to conduct the present scoping review, comprising six key stages: formulation of the research question, identification of relevant studies, selection of studies, data mapping, data analysis, and writing up of results, as well as consultation exercises. This method provides an in-depth overview of a field of research, bringing together various studies without being restricted by strict inclusion criteria. Its flexibility makes it possible to identify gaps in the existing literature, suggest new research directions and clarify complex concepts, particularly in public health. It is particularly useful for tackling emerging areas or

subjects where evidence is limited, facilitating a broader and more diversified view of available knowledge. To this end, we attempted to answer the following question: What evaluation models are in use for the assessment of PPPs in the health sector? We examined the most current scientific databases available in the field of interest, and then gathered articles concerning the evaluation of public-private partnership projects in the healthcare field and closely related to patient care in terms of performance, impact, effectiveness and quality of delivery. High-quality peer-reviewed studies were used in databases such as PubMed, Scopus, Science Direct, Web of Science, Cairn, Google Scholar, the WHO website, and Library Genesis. We also used grey literature, hand-searching books, dictionaries, and government reports. Documents were classified on Zotero by creating folders and thematic collections to group similar articles, facilitating navigation and future reference. Next, essential information such as title, author, and year of publication was entered into an Excel file to optimize the efficiency of classification and data analysis.

Eligibility criteria

To ensure a complete and accurate analysis, we excluded studies based on the following criteria: books, book chapters, reports, conferences, systematic reviews, studies outside the human health sector, restricted access, titles, and abstracts. Documents were selected based on the following inclusion criteria: year of publication (2019-2023), language (French or English), and full text.

Keyword identification

Public private partnership - evaluation - healthcare system - Contribution.

The search equation is as follows

("evaluation" OR "assessment") AND ("public-private partnership" OR "PPP") AND ("contribution" OR "impact" OR "benefit") AND ("healthcare" OR "health system").

Selection of studies

Two members of the research team independently selected articles based on the Prisma method over the period [2019–2023], in three phases. In the 1st phase, selection according to the exclusion criteria is defined in the previous paragraph. This was followed by a 2ème phase of selection based on the titles and abstracts of the articles identified, enabling irrelevant studies to be eliminated, followed by a 3ème phase in which the full texts of the articles were read to identify and exclude studies meeting the exclusion criteria and presenting a weak correlation with the objectives of the study, which ended with the selection and inclusion of the articles to be included in the present review. References were managed using Zotero (Figure 1).

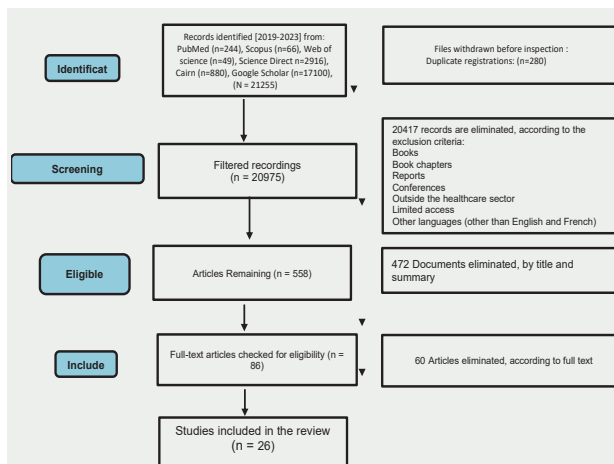


Figure 1. PRISMA diagram of the process for selecting studies to be included in the scope review.

RESULTS

Documentary research

A total of 21 255 papers were screened by title and abstract for possible inclusion in the analysis. After reviewing all titles and abstracts, the full text of 86 papers was examined for inclusion and exclusion criteria, and 26 studies were selected for final review.

Of the 26 studies selected, 7 were carried out in Africa, 6 in Europe, 10 in Asian countries, 2 in North America and one in South America. figure 2

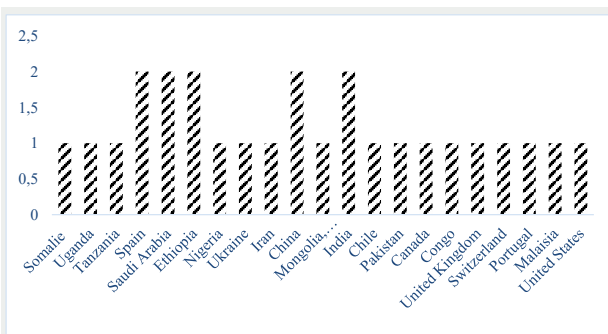


Figure 2. Breakdown of studies by country

Of the 26 studies reviewed, 10 (38.46%) were qualitative, 6 (23.07%) were evaluation studies, 3 (11.54%) were case studies, 3 (11.54%) were analytical studies, 2 (7.7%) were mixed studies (qualitative and quantitative), one (3.85%) was descriptive and (3.85%) was an ethnological study (Figure3).

Data-mapping

We began by collecting essential information such as journal of publication, author, year of publication, country of study, key words, target population, methodology adopted, indicators and evaluation criteria used, as well as the main findings and conclusions of each article We found that the reported PPPs fell into four categories:

PPPs for access to quality care, PPPs for strengthening health programs, PPPs for improving communication, information, and awareness, and PPPs for strengthening leadership and financial management.

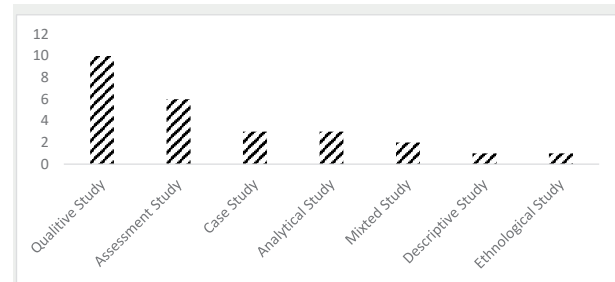


Figure 3. Breakdown of selected studies by type

PPP for access to quality care

This category covers 16 research articles, highlighting the use of PPPs to improve access, quality, and efficiency of healthcare services. Studies addressed chronic diseases, infrastructure improvements, and incentives and obstacles in partnerships. Collaboration between public and private sectors was emphasized for health service delivery, access to medicines, reduction of waiting lists and access to state-of-the-art medical equipment, and implementation of teleradiology programs. Articles also explored incentives and strategies for PPPs in various regions such as Spain, Saudi Arabia, India, Nigeria, Ukraine, and Taiwan.(9,11–23,25,32)

PPP to strengthening health programs

Research articles in this category focused on private sector involvement in areas like tuberculosis care, routine immunization, chronic disease prevention, and malaria control. In the Democratic Republic of Congo, collaborations improved immunization coverage despite challenges like the COVID-19 pandemic and health personnel strikes, necessitating robust strategies and improved coordination. In Canada, multisector partnerships for chronic disease prevention revealed effective management of uncertainty and benefits of shared funding, alongside challenges of complexity and resource needs. Studies also highlighted the role of the private sector in malaria control and the ethical arguments for protecting employees through integrated vector control programs, noting environmental challenges.(24,27,28)

PPP for Leadership and Financial Management Strengthening

The selected articles particularly highlight the leadership and financial management aspects, which are essential for the success and sustainability of these partnerships. Obstacles to PPP implementation in Ukraine included bureaucracy, lack of transparency, and inadequate regulatory frameworks, with proposed measures for state support and international arbitration. A study in

Spain showed improved efficiency and quality of care in PPPs but also challenges in cost management and patient satisfaction. Swiss studies on GP participation in PPPs revealed benefits for care coordination and patient outcomes, despite organizational and communication challenges. Research also indicates general user satisfaction with PPP quality, emphasizing the need for effective leadership and rigorous financial management to address concerns about accessibility and equity. Small-scale PPPs in Malaysia showed potential for equitable access to advanced medical technologies in underserved areas. A study in Tanzania on public hospital funding and financial management problems examined how perverse incentives can compromise healthcare service efficiency. (15,29–32).

PPP for health education and promotional activities

Two scientific papers addressed PPPs in healthcare with different approaches. The first proposed a technology-based PPP model to reduce public health inequalities, showing that integrated technologies can improve access to care for marginalized populations. It emphasized the importance of communication and promotion for adoption and effective use, highlighting the need for awareness and training. The second article explored Saudi doctors' perspectives on PPPs and Vision 2030, where doctors saw PPPs as an opportunity to modernize healthcare and improve quality. They stressed the crucial importance of communication, awareness campaigns, and transparent collaboration between public and private partners, while identifying challenges like the absence of a political strategy, weak institutional structure, and payment delays. Both articles underscore the importance of public-private collaboration, with the first highlighting success potential and the second focusing on current implementation challenges. (34,35)

DISCUSSION AND IMPLICATIONS OF THE RESULTS

The findings of this review highlight the decisive role of PPPs in the healthcare sector, illustrating a significant impact on the improvement of efficiency and quality in the services provided. PPPs have enabled greater access to healthcare, particularly for low-income populations, while reducing the financial burden on households through cost-sharing mechanisms(9,14,23,32). Similarly, the dialysis partnership model in Ethiopia demonstrates how PPPs can facilitate the modernization of medical infrastructure and deliver tangible benefits in terms of healthcare services(13). The articles analyzed demonstrate a range of contributions from PPPs adapted to the specific contexts of the studies. However, there are discrepancies in terms of the subjects addressed, which range from the fight against specific diseases to the integration of health services in diverse socioeconomic contexts. This is exemplified by the experience of integrating health services for universal health coverage in India(21). Moreover, in Saudi Arabia, the utilization

of teleradiology in PPPs has illustrated the significance of technology in surmounting geographical limitations and enhancing access to specialist care(23). Similarly, in Ukraine, PPPs have been identified as crucial innovation instruments for the advancement of medical infrastructure, emphasizing the importance of public and private investment in healthcare(36).

While there are numerous potential advantages of PPPs, a recent study conducted in Mongolia underscored the necessity for the development of more inclusive PPP models tailored to the specific requirements and context of the local environment(18). Furthermore, research conducted in China has demonstrated that the incentives and behavior of the private sector are of paramount importance in determining the success of PPPs (17). This finding suggests that supportive policies and clear incentives are necessary to encourage active participation. Also, Communication and promotion have emerged as key elements in the success of PPPs, necessitating the implementation of awareness campaigns, training programs, and transparent communication channels. Such an approach not only optimizes the benefits of PPPs, but also fosters mutual trust among various stakeholders. Cooperation between public and private hospitals in Tanzania to reduce waiting lists has illustrated the importance of transparent communication and productive partnerships in enhancing the efficiency of the healthcare system(20).

Policy implications

The results of this scoping review offer concrete policy implications for governments wishing to optimize the effectiveness and sustainability of PPPs in the health sector. Beyond general recommendations, it is imperative to adopt targeted strategies adapted to national and regional contexts(37).

First, robust and transparent regulatory and legislative frameworks are essential(38). The study found that obstacles such as bureaucracy and lack of transparency in Ukraine hinder the implementation of PPPs. Governments should therefore develop clear laws that define the roles and responsibilities of each party, mechanisms for sharing risks and benefits, and procedures for resolving disputes. This includes the creation of independent regulatory bodies to oversee PPPs and ensure compliance with contracts, as well as international arbitration mechanisms for transnational projects.

Second, it is crucial to develop specific financial and non-financial incentives to encourage private sector participation, especially in regions where private sector participation is low, as suggested by studies in China. These incentives could include tax breaks, upfront investment grants, loan guarantees, or performance-based payment mechanisms. At the same time, governments should promote a stable and predictable business environment to attract private investors.

Table 1. Main characteristics of the studies included in the review

Author,	Year	Country	Objectives)	Type of study	Services	Area of intervention	Stakeholders	Target group
MUNA M MAHFUD and. Al(9)	2021	Somalia	Explore and describe the informal public-private partnerships established by family doctors trained at Amoud University in Somaliland to improve clinical care and teaching; and Offer insights into how these partnerships could strengthen Somaliland's healthcare system.	Descriptive study: Sharing experience	Access to care: primary and specialized care	primary and specialized health care, with a focus on family medicine		the people of Somaliland, in particular those benefiting from primary and specialized health services
ANDREW K TUSUBIRA et. Al(11)	2020	Uganda	explore the barriers and facilitators to integrating hypertension screening and treatment into HIV clinics in Uganda. The study aimed to understand the specific challenges and identify the factors that could facilitate the implementation of such integration.	Qualitative study	Access to medicines	integration of hypertension screening and treatment (HTN) services into HIV clinics in Uganda		Adult outpatients, key informants health agents and patient association leaders
MICAELA COMENDEIRO-MAALØE et. Al(12)	2019	Spain	describe the process of transitioning healthcare provision from PPP (public-private partnership) model to direct public provision in the department of La Ribera, Spain, as well as providing background information to understand the underlying reasons for this policy development.	Descriptive and analytical study	Access to care	the provision of hospital and primary care to a population registered in the La Ribera health department, including the Alzira region in Spain	the regional health authorities of the Autonomous Community of Valencia, the private group Ribera Salud, which held the administrative concession to provide hospital and primary care, and various interested parties, including advocates of the Alzira PPP model and the left-wing regional government	residents registered in the La Ribera department, including the Alzira region of Spain, who have benefited from hospital and primary care provision under the PPP (public-private partnership) model, as well as those affected by the transition to direct public provision
Ora Paltiel , Ephrem Berhe , Amanuel Haile Aberha & all(13)	2020	Ethiopia	Explore whether public-private partnerships (PPPs) can serve as a model for access to high-quality care in low-resource environments, based on a study of a single PPP providing hemodialysis services in a remote setting, while examining the challenges and enabling factors encountered	Qualitative study	the provision of hemodialysis services in a low-resource environment, particularly for patients with acute kidney injury (AKI) and chronic kidney disease.			Patients with acute kidney injury (AKI) and chronic kidney disease in a low-resource region, particularly those served by a 500-bed hospital in northern Ethiopia, with a population catchment of 8 million.
Chidinma P. Anakwenze Akinfenwa ; Abiola Ibraheem, & all (14)	2021	Nigeria	To understand current radiotherapy capacity in Nigeria and the impact of public-private partnerships (PPPs) on radiotherapy availability and associated costs. The study aimed to assess how PPPs affect access to radiotherapy, as well as its cost to patients and the healthcare system.	Observational study	Access to care / acquisition, maintenance and repair of radiotherapy equipment	Acquisition, maintenance and repair of radiotherapy equipment (LINACs, brachytherapy machines, etc.) in radiotherapy centers in Nigeria. PPPs are used to enable the acquisition and maintenance of this equipment, thus ensuring the availability and quality of radiotherapy services.	public hospitals, companies or organizations involved in the acquisition, maintenance and management of radiotherapy equipment	patients in need of radiotherapy, healthcare providers involved in the delivery of radiotherapy services, health policy makers in Nigeria, managers of hospitals and radiotherapy centers, and private sector partners interested in PPPs in healthcare
Viktoriia I. Borshch, Yevgen I. Maslennikov, & all (15)	2019	Ukraine	analyze public-private partnerships as a progressive form of innovation and investment mechanism in the Ukrainian healthcare sector, taking into account international experience in this field.	Qualitative study	Access to care	health sector in Ukraine	public and private sector	players in the Ukrainian healthcare sector and international experience of public-private partnerships.
Akram Baniasadi1 , Ali Akbari Sari2 , & all(16)	2020	Iran	To explore the goals and incentives held by the public and private sectors in the provision of diagnostic services under PPP arrangements. The ultimate aim is to optimize these goals and incentives to maximize the effectiveness and efficiency of PPP projects.	Qualitative study	Access to care: the provision of medical diagnostic services.	The provision of medical diagnostic services.	the public sector, represented by hospitals and public health services, and the private sector, represented by private companies supplying equipment, diagnostic services and management solutions.	Public and private healthcare service providers involved in the provision of medical diagnostic services, as well as managers responsible for the implementation and governance of public-private partnerships (PPPs) in this specific field.
Jie Yang,1 Lingchuan Song , 1 Xiaoyi Yao,2 & all(17)	2020	China	To examine the influence and relative importance of factors critical to the intention and behavior of the private sector to participate in the Chinese healthcare market through public-private partnerships (PPPs). More specifically, the study aims to define hypotheses based on previous literature and build a theoretical model based on the modified theory of planned behavior to analyze these factors.	Mixed study	Access to care	China's healthcare sector, with a focus on private-sector involvement in the delivery of healthcare services	ection companies, real estate developers, pharmaceutical companies, private hospitals, asset management companies, and medical real estate investment companies in China	248 respondents from construction companies, real estate developers, pharmaceutical companies, private hospitals, asset management companies and medical real estate investment companies in China.
Peter S Azzopardi , Julie Hennegan & all(18)	2021	Mongolia, Myanmar, and the Philippines	Understand the current involvement of the private sector in the provision of adolescent health services and develop recommendations for strengthening public-private partnerships in this area.	Qualitative study	Access to care	the provision of healthcare services for adolescents, with a focus on improving the accessibility and quality of healthcare services for this specific population in the Asia-Pacific region.	Actors from the public sector, the private sector, NGOs, UN agencies, faith-based organizations, and advocates for young people aged 16 and over. These partners were involved in participatory workshops as well as face-to-face meetings.	teenagers, with particular emphasis on those aged 10 to 19

Table 2. Main characteristics of the studies included in the review(continued)

Author,	Year	Country	Objectives	Type of study	Services	Area of intervention	Stakeholders	Target group
Manju Rahi, Amit Sharma(19)	2022	India	propose that non-governmental and semi-governmental players play a vital role in malaria elimination efforts to 2030 and beyond. These partners must add value to the national program and have the potential to develop and test different models of malaria elimination in real environments, in a way that is sustainable for the government program.	Evaluation study	the delivery of health services related to the prevention, control and treatment of malaria, with a focus on eliminating malaria by 2030 in India. This includes improving the accessibility and quality of health services, as well as developing sustainable models for combating malaria	the fight against malaria, particularly with regard to the elimination of malaria by 2030 in India. The involvement of the private health sector in the provision of health services for the control and treatment of malaria is also discussed.	Public entities: Governments of districts with a high incidence of malaria, Private entities: Private organizations involved in malaria management and elimination projects, Non-governmental and semi-governmental players.	communities and districts with a high prevalence of malaria in India, particularly those where public-private partnerships have been successfully implemented to control and eliminate malaria
Jorge A. Acuna- Jose L. Zayas-Castro ' - Felipe Feijoo & all(20)	2021	Chile	"Propose and evaluate two innovative negotiation frameworks for reducing waiting lists in two-tier healthcare systems, with particular emphasis on the potential impact of patient exchange between hospitals and the introduction of private hospitals into healthcare provision.	Case study	Access to care	waiting list management in two-tier healthcare systems, involving both public and private hospitals	public and private hospitals participating in the two-tier healthcare system, as well as local and regional players involved in waiting list management.	patients on waiting lists for healthcare in two-tier systems, as well as the public and private hospitals involved in providing this care.
A. Venkat Raman , PhD Chandrakant Lahariya MD, MBA(21)	2023	India	assess the impact of public-private partnerships (PPPs) on health service delivery, access to and use of health services, quality of care, and health financing, in the context of different states (provinces) in India	Qualitative evaluation study	healthcare services such as high-value diagnostics (like CT scans and MRIs), surgery, medical consultations, outpatient care, laboratory tests, telemedicine, and possibly traditional Indian medicine services.	India's healthcare sector includes the provision of radiology-diagnostic services, laboratory services, call centers, telemedicine, fair-price medicine pharmacies, and traditional Indian medicine clinics. Other areas include contract management of medical equipment, disease control programs and community health centers, among others.	Indian state and territory governments, private healthcare providers, NGOs, development agencies, international donors, regulatory bodies, and possibly private-sector healthcare partners such as pharmaceutical companies and medical service providers.	various stakeholders in the Indian healthcare sector, including public and private healthcare providers, patients, policy-makers, program managers, non-governmental organizations (NGOs) working in the healthcare field, and representatives of the pharmaceutical industry.
Yuan-shie Hwang; Li-hsin Chuang(22)	2020	China	To explore the functioning and interaction of public sectors, non-profit organizations and grassroots groups in Taiwan's indigenous regions, and to identify their internal strengths, weaknesses, opportunities and threats affecting the provision of social services. The study also aims to propose strategies for activating public-private partnerships (PPPs) in the provision of social services in these indigenous regions.	Qualitative study	Access to care: provision of social services	providing social services in Taiwan's indigenous regions	public sectors, non-profit organizations and grassroots groups operating in Taiwan's indigenous regions.	residents of Taiwan's indigenous regions, as well as actors involved in the provision of social services in these regions, such as representatives of the public sector, non-profit organizations and grassroots groups
Khalid M. Alshamrani, Abdulkader Alkenawi(23)	2021	Saudi Arabia	1. Improve the quality and efficiency of healthcare services and medical imaging services in particular. 2. introduce private-sector participation in healthcare via public-private partnerships (PPPs). 3. Offer interconnected teleradiology services, particularly in remote areas that are currently underserved. 4. Ensure the efficiency and cost-effectiveness of medical imaging services through PPPs, compared with the current provision of medical imaging services by the public sector.	Descriptive study	teleradiology services. The public-private partnership aims to introduce interconnected teleradiology services, and to improve the efficiency and cost-effectiveness of these services compared with current public sector provision.	improving healthcare services, particularly medical imaging services, through private-sector involvement: Teleradiology	the Ministry of Health (MOH) of the Kingdom of Saudi Arabia, as well as private companies in the health sector	residents in all regions, with an emphasis on more remote and currently underserved areas.
Sameen Siddiqi ,1 Wafa Aftab,1,2 A Venkat Raman, 3 Agnès Soucat,4 Ala Alwan(24)	2021	Pakistan	Analyze the experiences of different countries regarding the role of the private sector in the provision of essential health services, in order to identify and share lessons learned.	A comparative analysis of experience	Access to care	maternal and child health services, primary care and reproductive, maternal, neonatal and child health interventions	International financing and development institutions, ministries of health, government agencies, non-governmental organizations and civil society organizations	Documents ///citizens in surveyed countries who have access to essential health services, including maternal and child health care, primary care and reproductive, maternal, newborn and child health interventions
DISHA ALI et. Al(25)	2022	Ethiopia	evaluate the performance of the Private Health Sector Program (PHSP) in Ethiopia, funded by the United States Agency for International Development (USAID), in areas such as leadership and governance, access to medicines, health management information systems, human resources, service delivery and finance	Evaluation study	Access to care	the fight against tuberculosis, malaria, HIV/AIDS and family planning.	the private health sector in Ethiopia, the public health sector, the USAID-funded Private Health Sector Program (PHSP) and local and international organizations involved in public-private health partnership projects in Ethiopia	communities and patients who have benefited from healthcare services provided under public-private partnerships in Ethiopia. It is also possible that healthcare providers, public health officials and policy-makers were included in the analysis of this evaluation
Lee M. Johnston , Laurie J. Goldsmith and Diane T. Finegood(26)	2020	Canada	Explore the experiences of Agency staff working with potential partners to develop program applications, so that we can learn from adopting this type of partnership approach.	Qualitative study	Development of health programs :t large-scale interventions for the prevention of chronic diseases, involving the mobilization of private sector resources to support these interventions.	chronic disease prevention.	overnment agencies, private-sector partners and non-profit organizations	Public Health Agency of Canada staff working in the Multisectoral Partnerships Program

Table 3. Main characteristics of the studies included in the review(continued)

Author,	Year	Country	Objectives	Type of study	Services	Area of intervention	Stakeholders	Target group
Patrick Banza Mpiongo , Jerry Kibanza b,&all(27)	2023	Congo	evaluate the impact of Memorandum of Understanding (MoU) agreements on routine immunization and immunization management in the provinces of Haut Lomami, Tanganyika and Lualaba in the Democratic Republic of Congo. Researchers are also examining the effectiveness of MoUs in reducing the circulation and transmission of polio vaccine-derived viruses (cVDPVs) and increasing vaccine equity.	Evaluation study	strengthening routine immunization and increasing immunization equity in these provinces	improving routine immunization (RI) coverage in the provinces of Haut Lomami, Tanganyika and Lualaba in the Democratic Republic of Congo. The PPP was set up to strengthen routine immunization and increase immunization equity.	World Health Organization (WHO), UNICEF, Gavi, the Vaccine Alliance, USAID, the World Bank, as well as provincial governors, provincial governments, including the Ministry of Health, the provincial health division, and the national EPI (Expanded Program on Immunization), and provincial technical partners from each of the consortium members who worked to improve capacity at provincial level.	residents of Haut Lomami, Tanganyika and Lualaba provinces in the Democratic Republic of Congo, who have benefited from initiatives to strengthen routine immunization and increase vaccine equity implemented through Memorandum of Understanding (MoU) agreements. This includes both children who have received vaccines and those who may have been exposed to outbreaks of polio vaccine-derived virus (cVDPV) in these provinces.
Robert T. Jones,1,2 Lucy S. Tusting,2 and all(28)	2020	United Kingdom	Explore the role and challenges of the private sector in the development of malaria control programs, emphasizing the need for close collaborations with the public sector to form the basis of national vector control programs or to support local healthcare systems more broadly.	Case study	indoor insecticide spraying, distribution of insecticide-treated mosquito nets, management of insecticide resistance, education, surveillance and treatment of malaria cases.	malaria control in a context of resource development, particularly in the mining, agriculture and construction sectors.	Private sector, including industrial companies, and public sector	workers and communities affected by private-sector industrial operations, particularly in mining, agriculture and construction, where they are exposed to an increased risk of malaria infection due to environmental changes favoring the transmission of vector-borne diseases
Micaela Comendeiro-Maaløe,a,b, & all(29).	2020	Spain	Compare the performance of public-private partnerships (PPPs) in the healthcare sector, study illustrating it with the case of the Alzira model, with public providers in the Spanish national healthcare system. The study seeks to assess the quality, technical efficiency and hospital expenditure efficiency of the PPP compared with public providers.	Evaluation	Hospital and primary care provided: hospital admissions, surgical care, medical treatment, and other forms of health care	s the provision of health services, in this case hospital and primary care services	healthcare providers, including hospitals and primary care providers,	patients receiving hospital and primary care in the Spanish national healthcare system, as well as providers of such care, including those involved in public-private partnership (PPP) models such as Alzira
Muriel Schütz Leuthold , Fatima El-Hakmaoui & all(30)	2023	Switzerland	Develop multidisciplinary teams and integrate nurses into GP practices.	Qualitative study	financing the integration of nurses into GP practices	the transformation of the primary care (PC) organizational model and the development of interdisciplinary PC teams. The PPP has made it possible to integrate nurses into GP practices and to finance these new practices via public resources.	General practitioners, public health authorities and the University Department of Family Medicine	general practitioners
João M. S. Carvalho , Nuno Rodrigues(31)	2022	Portugal	empirically analyze the Portuguese population's level of satisfaction with the quality of services provided by PPP and public management hospitals, and verify whether literacy levels, age, education and income moderate their opinions. The researchers also sought to assess whether education and literacy levels moderated the relationship between perceived quality and user satisfaction in PPP and publicly managed hospitals.	Mixed study	Satisfaction	management of public hospitals in Portugal. The PPP aims to improve the efficiency of resource management and maintain or improve the quality of services provided to users.	public hospitals managed under PPP (public-private partnership) and publicly managed hospitals (PMH). They are used to compare user satisfaction and the quality of services provided in these two hospital management models.	t the Portuguese population, in particular users of public hospitals managed under PPP and public management, located in the four regions served by the eight hospitals included in the study.
Vicknes Waran , Ramasamy Thillainathan & all(32)	2022	Malaysia	Explore the hypothesis that small-scale public-private partnerships (PPPs) could play a potential role in providing equitable and affordable access to advanced medical technologies for all patients in developing nations, particularly middle-income countries.	Evaluation study	the provision of advanced healthcare, such as complex neurosurgical and spinal procedures, as well as stereotactic and intensity-modulated radiation therapy	Establishment of the Centre for Image Guidance and Minimally Invasive Therapy (CIGMIT) at the University of Malaya to provide an integrated platform of high-quality care for Malaysian patients, both public and private, requiring complex neurosurgical and spinal procedures, as well as stereotactic and intensity-modulated radiotherapy.	University of Malaya, the Malaysian public healthcare system, private companies specializing in the supply of advanced medical equipment, as well as non-governmental organizations involved in the financial and practical support of international healthcare projects.	patients from developing countries, particularly middle-income countries
Noëlle Sullivan(33)	2020	TANZANIA	Examine the actions and perspectives of hospital administrators to understand how changes towards semiprivatization of public healthcare facilities are perceived as obvious solutions to funding shortfalls	Longitudinal ethnographic research	the impact of semi-privatization of public health establishments in Tanzania	financing healthcare systems, particularly in low-income countries	publicly funded administrators and healthcare facilities	Employees of a Tanzanian public hospital
Saad Majed Aldawsari , Mohammed Safar Alharbi(34)	2023	Saudi Arabia	to assess the existing level of awareness among physicians at different levels of the healthcare delivery system in Saudi Arabia regarding public-private partnerships (PPPs). The study also aimed to understand physicians' perceptions of the potential benefits and challenges of implementing PPPs in the Saudi healthcare system.	Qualitative study	Information Education et Communication	Saudi Arabia's healthcare system. PPP is envisaged as a promising mechanism for delivering high-quality healthcare services to Saudi citizens, with a focus on improving access to quality healthcare for the population.	health professionals, public and private health institutions, and the Saudi government	60 healthcare professionals, including consultants, specialists, residents and general practitioners, working in public and private healthcare facilities in Riyadh, Saudi Arabia
Angel Arnaout1 , Melina Oseguera-Arasmou , Nikeshe Mishra , Bennett M. Liu, Ahanjit Bhattacharya and David C. Rhew(35)	2023	United States	describe how technology was used to facilitate collaboration between public and private entities to combat health misinformation, reduce vaccine reluctance and improve access to primary care services in various disadvantaged communities during the COVID-19 pandemic. In addition, the study aims to identify the four key elements that enabled effective collaboration within the PPP model led by the Health Equity Consortium (HEC)	Case study	Access to healthcare and health information	public health, with a focus on reducing health inequalities, reducing vaccine mistrust and increasing access to primary care services for disadvantaged communities	t government, public entities and disadvantaged communities on the one hand, and private entities, such as the Health Equity Consortium (HEC), on the other. These partners have collaborated to invest in the delivery of public health services.	various disadvantaged communities that have been affected by healthcare inequalities, health misinformation, vaccine reluctance, and limited access to primary care services, particularly during the COVID-19 pandemic.

Third, governments need to invest in institutional and human capacity building in the public sector(37). Studies have shown that the success of PPPs depends on effective leadership and financial management. This involves training civil servants in PPP contract negotiation skills, project management, evaluation and monitoring. The creation of specialised units dedicated to PPPs within the ministries of health could facilitate this expertise(38). Fourthly, the integration of technology and innovation must be a political priority. The example of teleradiology in Saudi Arabia and technology-based models to reduce health inequalities demonstrate the potential of PPPs to modernize infrastructure and improve access to care. Governments should develop policies that encourage the uptake of digital and innovative solutions in health PPPs, facilitating access to digital infrastructure and supporting research and development in this area.(39–41)

Finally, a proactive communication and awareness-raising policy is essential. Studies have highlighted the importance of awareness campaigns and transparent communication for the success of PPPs. Governments should launch national initiatives to inform the public and health professionals about the benefits and functioning of PPPs, in order to build trust and ensure social acceptance. This also includes promoting ongoing dialogue among all stakeholders to identify and resolve challenges in real-time(37).

Limitations of the study

Existing research on public-private partnerships (PPPs) in healthcare is limited in several ways. A paucity of data exists regarding the long-term effects, particularly in the treatment of acute kidney injury and the fight against malaria(19). The financial viability of PPPs, particularly in low-resource environments, represents a significant challenge that is often exacerbated by reliance on charitable donations. The generalizability of the results is limited, in part due to the focus on specific regions, such as the Asia-Pacific region, or on particular age groups(18). Contextual and socioeconomic differences between regions render the application of findings in other contexts a challenging endeavor. Qualitative studies, although comprehensive, may be deficient in terms of large-scale representativeness(24). Moreover, studies tend to prioritize the purchase of services over the establishment of sustainable collaboration. Methodological limitations include reliance exclusively on questionnaires to assess user satisfaction, which may not fully capture the diverse experiences of patients. Additionally, there is often a disproportionate emphasis on theoretical and methodological aspects, with less attention being given to practical implementation challenges. Findings may also be based on a single example of PPP or a specific healthcare system, limiting their generalizability and transferability(13).

Recommendations

To improve the understanding and effectiveness of PPPs in the healthcare sector, the recommendations suggest that

governments put in place incentives to encourage private sector participation, particularly in contexts such as China. It is also crucial to strengthen collaboration between the public and private sectors, improve the training of healthcare professionals, and develop appropriate policies for the provision of services, particularly for adolescents. Ongoing studies and evaluations of existing PPPs, particularly in the fight against diseases such as malaria, are needed, along with guidelines for close collaboration between governmental, non-governmental and semi-governmental players. In India, it is recommended that robust monitoring and evaluation mechanisms be put in place to measure the impact of PPPs on access to care and quality of services, as well as strategies to strengthen cross-sectoral collaboration. In addition, it is essential to adopt a personalized approach and guarantee quality for the various healthcare service providers, with data for informed decision-making. Ongoing evaluation of the quality of services in PPP hospitals is also recommended, as well as increased awareness.

CONCLUSION

This study of public-private partnerships (PPPs) in healthcare highlights the variety of models and evaluation contexts. The results show that PPPs can improve the accessibility, efficiency and quality of care, but their success largely depends on good governance frameworks, transparent financing and communication mechanisms, and ongoing, rigorous evaluation. However, the diversity of analysis methods, the contextual limitations of the studies and the lack of standardised indicators make it difficult to generalise the results. To maximise the impact of PPPs on fairer, more efficient healthcare systems, it is crucial to harmonise evaluation tools, adapt models to local conditions and promote sustainable dialogue between the different sectors. This study therefore highlights the need to fill methodological and practical gaps in order to make PPPs a long-term strategic lever, rather than a temporary solution to structural problems in the public sector.

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