

PUBLIC-PRIVATE PARTNERSHIP IN HEALTHCARE IS A NECESSITY IN DIFFICULT TIMES: A CASE STUDY

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ABSTRACT

Healthcare delivery is a risky enterprise for both public and private systems which may face adversity in a volatile, uncertain, complex, and ambiguous world. There has been a global emergence of Public-Private Partnership (PPP) hospitals to enhance delivery of sustainable healthcare, although its existence in developing countries remains limited. Risk management strongly influences PPP success; few PPP hospitals were able to meet contractually specified quality and performance requirements, creating debate regarding merits of the PPP model. Conversely, we present a case study of the first PPP hospital operated by not-for-profit organisation in New South Wales, Australia, to successfully complete the contract period. A Continuous Quality and Performance Improvement Framework was applied at five stages of organisational growth during the contract term. This case study demonstrates adaptive leadership and just organisational culture are equally important in providing high quality healthcare services to the community. We show the future potential of PPP model for service delivery as a third option to pure public or private sector hospitals, even in the post COVID-19 era when there is likelihood of financial instability in many settings.

KEYWORDS

Public-Private Partnership (PPP), Health Services, Continuous Quality and Performance Improvement Framework (CQPIF)

INTRODUCTION

The Australian healthcare system is acknowledged as one of the best in safety of patient care in the Organisation for Economic Co-operation and Development (OECD) countries [1]. However, challenges including the growing burden of chronic disease and an ageing population, have underlined inefficiencies of the current system such as wasteful spending, lack of healthcare accessibility, high out of pocket expenses, extended hospital waiting lists, unacceptable inequities in health outcomes, and substandard quality and safety outcomes [1]. These inefficiencies indicate that reforms are needed to better

support a strong and effective healthcare sector in Australia.

In developing countries, access to effective healthcare is a major problem; most struggle to establish and maintain well-functioning public health systems to promote health and complete management of the sick [2]. When the quality of healthcare is compromised, leaving its effectiveness well short of potential efficacy; hence, it is not surprising there may be gross under or inappropriate utilisation of these services by those who are able to access them. Private sector dominance is observed in many low to

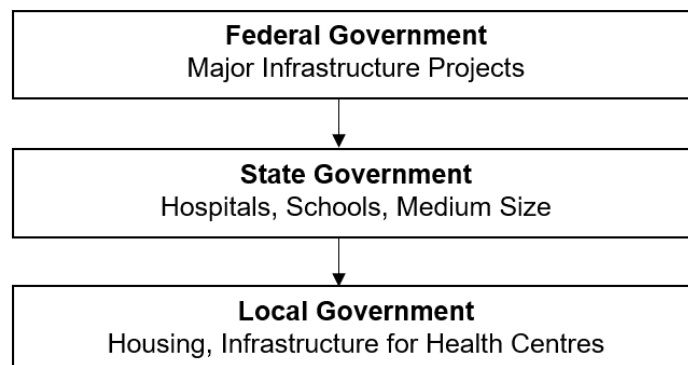
middle income countries (LMICs) for health service delivery that is usually accessible by the rich only [3]. Rising incomes and failure of public services to meet expectations has driven an increase in the number of private providers leading to the suggestion they should be harnessed to address the physical inaccessibility of services, staff shortage and maldistribution, and inadequate drug and supply stocks [4]. It has been argued that given the failure or capacity limitations of public sector efforts, the more formal private sector can be contracted to manage services such as hospital facilities on behalf of the public sector [5].

It is important to understand the changing nature of healthcare expenditures, financing and sources of funding, especially during the period of post Second World War free market economy [6, 7]. Over the last 50 years, health expenditure has mostly outpaced economic growth across OECD countries. Although projections show that per capita health spending will essentially be slower than its growth in history, it is predicted to continue to be greater than the economic growth of these countries, reaching 10.2% of the Gross Domestic Product (GDP) in 2030 increasing from 8.8% of GDP in 2015 [8]. Achieving greater value for money from health spending is imperative to better health outcomes, higher quality of care, reduced waste, and improved access to health services [9].

Although, the free market health economy was established for serving humans with respect, dignity, the common good, subsidiarity and solidarity in medicine [10], it may not be a sustainable option due to market failures in a volatile, uncertain, complex and ambiguous world. Governments also fail due to economic conditions, populism about efficiency, consumer satisfaction, poor planning, low implementation, lack of supervision capacity and capture by lobbies. Engagement of the private sector may be viewed as inviting privatisation of healthcare, however when the capacity of the public sector is limited, seeking a mix of public and private provision of services can be seen as a pragmatic approach [4, 11]. Subsequently, market failure in post 1970 OPEC oil embargo period has driven the emergence of public-private partnership (PPP) globally [12]. This PPP concept, based on the federated system of government in Australia is demonstrated in Figure 1, was thought to be an alternative to attract funding for significant ageing infrastructure projects such as, hospitals, roads and schools, etc., from private sectors in difficult economic times. As a result, the birth of PPP projects from

Europe scaled up around the world, as well as in Australia in early 1990 [13].

FIGURE 1. CONCEPT OF THE PPP SERVICE DELIVERY.



Schematic diagram of the PPP model of service delivery in Australia. PPP – public-private partnership

A risk-sharing relationship is based upon a shared aspiration between the public sector and one or more partners from the private and/or voluntary sectors to deliver a publicly agreed outcome and/or service [14]. The standard definition does not recognise the diversity of PPP models and the contracts; PPP models of contract vary from complete contract that is fully outsourced to an incomplete contract that includes collaboration and cooperation. This incomplete form of PPP service provision is adapted in many public hospital settings.

PPPs have some distinguishing features compared to pure public or private provision. Private finance is involved in the following [15]:

1. Project and delivery cost of the service.
2. Pay for performance of the service.
3. Long term contracts (>25 years).
4. Risk transfer from public to private sector.
5. Value for money.
6. Output specifications.
7. Bankability shows evidence to generate revenue from using facilities and services by third parties.
8. Hard and soft facilities management during the contract period.

While the NSW State Government views private sector borrowing to be more costly, it may, however, compensate by providing better value for money in many ways such as [15]:

1. Private sector is more innovative in design, construction, maintenance, and operation over the life of the contract.

2. Creates better efficiencies and synergies between design and operation.
3. Invests in quality of the asset to improve long term maintenance and operating cost.
4. Advanced risk management.
5. Capacity for providing safe, efficient, quality health service as public hospitals.

Leaving alone the economic and political agenda, NSW Treasury Department's control of public spending brought about the alternative views to justify the policy.

- Public services can be delivered by private sectors.
- Private management is efficient.
- Makes sense to differentiate between the purchases and providers.
- Fair competition.
- Focus on outcomes rather than ownership.
- Does not matter who provides, as long as it is value based [15].

It is important that the discussion on PPP also focuses on service outcomes. The debate should be extended to consider public service provision with pragmatic accountability and delivering good quality services for societal needs. There are claims that this service delivery model is not suitable or able to fulfil contractual obligations. Early Australian experience of contract failure risks are highlighted in several case studies [16].

While the PPP model of service delivery has created debate as to its merits in the community, this case study, conducted for an Australian hospital, specifically highlights the successful completion of the contract period with several positive outcomes and sets an example for future PPP projects of this nature. This includes PPPs in developed countries, but also the potential and implication for PPPs in LMICs.

The aim of reporting this case study is to demonstrate sustainable economic model of high quality, evidence-based health care delivery in difficult economic conditions.

METHODS

A case study was used to demonstrate the success and different other aspects of a PPP model of healthcare delivery from its conceptual/birth stage through to the maturation stage.

SETTING

This case study is based on and set in the first PPP hospital operated by a not-for-profit organisation in one of the District Health Services (the Case Study Health Services), in NSW, Australia.

This case study presents retrospective analysis of publicly available data and the hands-on experience of the corresponding author. The methodologies behind the success of this PPP model of health service delivery would be invaluable for other settings.

ETHICAL APPROVAL

The study did not require ethical approval as it was considered a quality improvement activity. The corresponding author was the Director of Medical Services of the Case Study Hospital and it was a requirement to conduct such a study for completing his Fellowship in Medical Administration from the Royal Australian College of Medical Administrators (RACMA).

REPORTING OUTCOMES

The study involved a Continuous Quality and Performance Improvement Framework (CQPIF) methodology for reporting outcomes. The hospital adapted the Institute of Medicine USA's six domains of quality improvement framework at each stage of the project during the contract period to deliver quality services to the community: patient safety, timely care, efficiency of the service, effectiveness of the service, patient participation and equity, and patient centeredness [17]. CQPIF methodologies were implemented in the case hospital for improving services (Table 1). Strengths, weaknesses, opportunities and threats (SWOT) methodology [18] was adopted at each stage of organisation's growth. Also, the study presents anecdotal experience of the corresponding author who served The Case Study Health Services as the Executive Director of Medical Services between 2002 and 2017.

RISK MITIGATION

The risk mitigation process in this study is entirely based on the NSW Health risk management and framework policy directive (Table 2) [20]. Risks such as Operating Costs, Performance Risk, Industry Relations Risk, Compliance to Law and Statutory Regulations, Demand Risk, Clinical Risk and Contractual Risks are managed using this directive at each stage.

TABLE 1. STAGES OF CONTINUOUS QUALITY AND PERFORMANCE IMPROVEMENT FRAMEWORK (CQPIF) [17]

Stages	Tools (examples)	Utility of the Tools
Identification of issues	Press Ganey Survey, Staff Satisfaction Surveys and reports from clinical Quality Management Reports	Survey results were used to identify the issues and problems
Develop clear project plan including (SMART Goals[19])	Specific, Measurable, Achievable, Relevant, Timebound	Progress of project outcomes per plan and timeliness
Diagnostic Phase	Conceptual flow	Operational model to run the health services
	Customer grid	Customer centric service provisions
	Fishbone diagram	To diagnose the root cause of any problems and finding the best possible solutions
	Pareto chart	Identify and work on the most impactful factors to provide quality services
	Run chart	Look back to the data to evaluate performance and identify any trend for either poor or better performance
	Root cause analysis	Identify causal factors that may contribute to system failure or impede providing quality care
	Fault mode analysis	Identify the system failure potential, their causes and effects to prevent them to occur
	Surveys	Identify all the factors for improving overall system functionality and quality of care
	Chart audits	Identify shortcomings in patient care and build confidence of the leadership team to discuss and implement changes
	Focus groups	Discuss with small group of staff from each technical and general category and consumer representatives to improve quality of services
Intervention phase	Market research	Analyses of patient reported experience and outcome data to improve their satisfaction
	Plan a change	Identify the best available solution to the challenges
	Do it a small test	Implement the best solution at small scale
	Study its effects	Measure the outcome
	Act on result	Implement the outcome at large scale
Measure impact	Repeat as required	Monitor the progress and repeat the above steps to sustain the improvement
	Run chart	Evaluate the data to improve performance
Sustain improvement	Ongoing monitoring of information	Continuous improvement of care and services

TABLE 2. RISK RATINGS AND THEIR MITIGATION STRATEGIES [20]

Risk rating	Action required
Red = Extreme	Escalate to Chief Executive or head of health service -Implement a detailed action plan to reduce risk rating
Orange = High	Escalate to senior management -Implement a detailed action plan to reduce risk rating
Yellow = Medium	Specify management accountability and responsibility -Monitor trends and plan for improvement
Green = Low	Manage by routine procedure -Monitor trends

The Policy Directive advised a stepwise methodological approach for mitigation of risks in health service management. These steps are communication and consultation, establishes the context, identify, analyse, evaluate, and treat risks, monitor and review after treatment.

RESULTS AND DISCUSSION

The Case Study Health Services is the first PPP hospital operated by not-for-profit organisation in NSW to complete the full term of contract. The project outlines identification of five stages of the organisation's growth.

BIRTH STAGE (1993-1996)

The Case Study Health Services began in late 1993 when the NSW Government called for tender by an NGO to build a new hospital to serve the community in the Case Study Hospital Local Government Area (LGA) [21]. The call was in an era when the second oldest hospital in the nation, then with 200 years of history, needed urgent infrastructure renewal. There was debate between community and government at that time as to whether the Government would rebuild the Case Study hospital or involve the private sector as a component of re-development. The Government decided upon the PPP model of expression of interest awarding the contract arrangement to an NGO Healthcare Services. Hospital construction began in 1994 under a consortium model. Private sector partners were The Case Study Health Services (not-for-profit) owned and controlled by the NGO Healthcare Services and a Private Limited Constructions Company. The contract value was \$AUD 46.7 million. Hospital operations began on 7th August 1996. The hospital was role delineated as a Level 4 district general hospital [22], licensed as a private hospital with NSW Health Private Licensing Branch and accredited by Australian Council on Healthcare Standards (ACHS).

The consortium arrangements were modelled in three different potential legal types: Lead Provider Model, Managing Agent Model, and Hub and Spoke Model. The NGO Healthcare Services was established as a Hub and Spoke model with five key features: 1) a new legal entity for setting up the consortium, 2) the consortium members become owners, 3) the new entity would take on the risks, 4) service delivery could be outsourced to members and external companies, and 5) has six member partners. The NGO Healthcare Services Consortium was a new start-up legal entity for this purpose. The Consortium means few church groups join together to form a parent body to apply for the tender, bid for and won the tender for rebuilding the old Hospital in the Case Study Hospital LGA, with the following rationale:

1. A green-field development of a regional hospital for the community.
2. Entrepreneurship model and believed that there is a role for NGO to provide health service in Australia.
3. In the early 1990s, when private hospitals were targeting Christian Hospitals for acquisitions [22], the religious orders had concern they couldn't sustain their facilities if they worked alone.
4. NSW Government called a tender to build a new hospital to replace the ageing Windsor hospital by a not-for-profit provider.
5. In 1994, members of the Consortium encouraged The NGO Healthcare Services to bid for the tender.

The PPP contractual arrangement was for a 20-year period that commenced in 1996 with a provision of additional 5 years extension. Each year, The Case Study Health Services submit a funding claim based on inpatient and outpatient services provided, costs for salaries and wages, award increases and Consumer Price Index (CPI) escalations. Through the annual budget setting process, both parties

can negotiate various elements listed under the contract to address the community needs of the Hawkesbury LGA.

EARLY DEVELOPMENT STAGE (1996-2002)

The Case Study Health Services started operating in 1996 with a lean management structure comprising an executive and clinical leadership team. Similar to other hospital operational processes during those days, The Case Study Health Services operated on a financial forecast basis and remained closed in a controlled environment.

Contextually during this liminal period [23], a few key outcome measures indicated some intervention needs for sustainable quality health service delivery and to avoid risk of organisational failure. Using the CQPIF methodology, two independent reviews were undertaken in 1997 and 1999 to address the important issues identified in those reviews. The first issue was staff culture; a change from pure public to a public-private mixed system, there was a blame and shame culture (expected during liminal state). As a result, staff turnover was high with difficulty in recruitment and retention. This reflected in the cost and financial performance with the organisation running into deficit of the annual budget.

Secondly, clinical indicators highlighted that elective access to surgical services could be improved and the emergency department performance on triage categories to treatment time and response time for deteriorating patients could also be improved. The CQPIF methodology provided diagnostics for the hospital to act on the following issues: cost pressures, workforce pressures, clinical safety issues, clinical access issues and other service measures (like organisational culture). This led to a period when the executive team was redesigned to implement the necessary change management interventions.

THE TRANSITION STAGE (2002 -2005)

During this phase, the project addressed improvement of patient access. An integrated model of service delivery was adapted with LHD hospitals. This enabled a smoother patient transfer pathway from The Case Study Health Services to Nepean and Westmead Hospitals. This laid the foundation for increasing elective surgical work at The

Case Study Health Services and improved the emergency department service quality for deteriorating and high-risk patients.

Clinical guidelines, policies and clinical governance framework were implemented in alignment with the Nepean/Westmead LHD Public Hospital System to ensure that the patients received identical clinical care as per other public hospitals. Every month The Case Study Health Services conducted peer review for complex patient's management of complex patient's care, mortality, and morbidity review related to each clinical speciality. These in turn attracted a more stable clinical workforce to provide better quality and safe healthcare services and contained workforce costs that were spiralling out due to locum agency usage costs.

Subsequently The Case Study Health Services developed its workforce plan and implemented it in the following manner:

1. Recruit required specialists and multi-skilled medical officers from overseas under the area of needs provisions.
2. Hospital was accredited for postgraduate medical training by the relevant Colleges and the Postgraduate Medical Council of NSW (Health Education Training Institute-HETI).
3. Registrar training programs in each speciality.
4. Interns' program for each clinical area.
5. As a long-term strategy, starting a multidisciplinary clinical school, so the clinical workforce is trained locally.
6. Multiskilling the clinical workforce by starting innovative education programs such as for hospital skills program, simulation education, leadership, and team building.
7. Reviewed private enterprise bargaining agreement.

Patient satisfaction survey results were promising during transition period (Table 3).

TABLE 3. MEAN SCORE OF PATIENT SATISFACTION SURVEY AFTER THE CONCEPTION OF PPP MODEL AT THE CASE STUDY HEALTH SERVICES

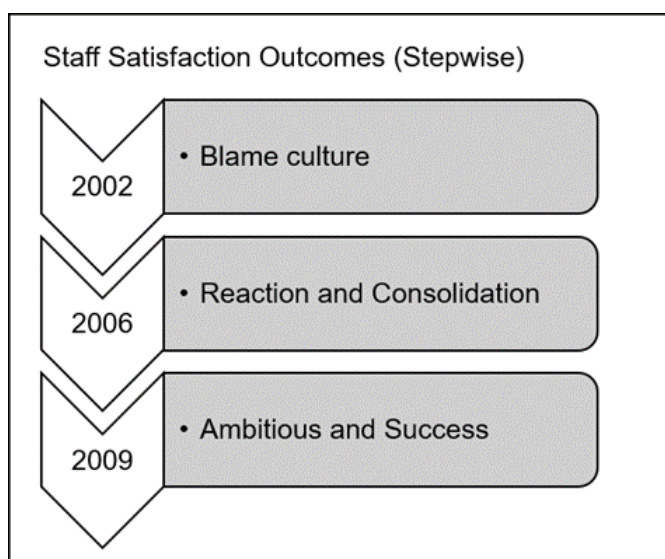
Indicators	May 2003	Sept 2004	Sept 2005
Mean Score the Case Study Health Services	82.8%	81.6%	82.0%
Peer ranking percentile in other NSW hospitals	56.0%	50.0%	53.0%
Likelihood of recommending The Case Study Health Services	90.0%	89.0%	89.4%

THE GROWTH STAGE (2005-2016)

After implementing the recommendations of the CQPIF reviews, there was supplementary funding by service level agreements from LHDs. This eased cost pressures, clinical governance processes were strengthened, quality outcomes were very satisfactory, and staff culture improved moving from 'blame and shame' to 'reaction and consolidation'. In 2006 and 2009 there was ambitious and celebrated success of clinical delivery programs, financial stewardship, new service models, and better clinical education. The notable outcomes were:

1. The Case Study Health Service became the centre for elective surgery for the whole health district.
2. Agreement for approximately 100-140 orthopaedic patients to be treated per year were commenced as part of the State Surgical Access Plan.
3. Improvement in hospital culture (Figure 2).
4. Improvement in clinical quality and community feedback on clinical services that benchmarked with peer groups.

FIGURE 2. PROGRESS OF CULTURAL CHANGE IN THE CASE STUDY HEALTH SERVICES.



Schematic diagram representing stages of the organisation's cultural development at different time points of the project.

All of these identified outcomes assisted The Case Study Health Service to become a centre for multidisciplinary clinical teaching including simulation teaching, medical trainee teaching, and establishment of a University of Notre Dame Medical School.

The NGO Healthcare Services also recognised the need for improving aged care services and established an aged care specific services spectrum in the Case Study Health Services and neighbouring health districts. This was primarily used to facilitate the flow of patients from the hospital. This benefited the aged care services to grow as it is predicted that the country will face huge challenges in providing aged care services in the near future.

Furthermore, the Case Study Health Services, working in partnership with general practitioners (GPs) commenced an "afterhours" GP service co-located within the Case Study Health Service premises. This GP service helped the nursing homes and other vulnerable members of the community in accessing necessary services also contributing to improved access performance of the hospital's emergency department.

All of these growth initiatives and initiatives attracted extra State and Federal Government funding and the organisation's financial strength grew progressively.

THE MATURATION STAGE (2016-2021)

The patient satisfaction in each care area is identified as 'very good' as indicated by the most recent healthcare quarterly survey conducted by the Health Department [24]. In comparison to the early stages of the hospital's operation, these results show how important the service experience is to the community [25]. Patient data in both emergency and elective care are comparable to peer facilities in the state and this service delivery model has delivered what was expected from the beginning of the project.

By the end of the initial 20 years of project phase the Consortium developed other services like aged care

services, community care services to complement acute services for wider benefit to the community as an integrated care model at the Case Study Hospital.

This case study has outlined the observations and challenges during each of these stages and how they were addressed, including strategies for minimising risk, growth of the organisation to the full potential, value for money, and quality of services to the community. Community participation through a Community Board of Advice and promoting a just organisational culture [26] focussing on compassionate care played a vital role in the growth of the organisation. Additionally, excellent contract management skills, appropriate negotiations with NSW Health and LHDs have put the organisation at the forefront of financial governance, continuum of care and risk management. Contract management is an ongoing operational issue, and it is important to have such relationships to successfully implement contractual components and develop additional service level agreements. The continuing success of this PPP project was endorsed by successful periodic ACHS accreditation and Health Department audits.

CONCLUSION

This case study demonstrated that PPP model of service can deliver comparable health services to peer organisations using standard parameters such as patient satisfaction.

The quality dimensions examined covered patient safety, timely care, efficiency and effectiveness of the service, patient participation and equity, the project was successful. The organisation functioning as a network of service made a huge impact on service delivery and understood that service delivery is not a linear model but a complex adaptive systematic model [27]. The operator consortium based on a hub and spoke model is important for sustainability, entrepreneurship and sharing risks. Engagement with the community through a Board of Advice has benefited the organisation in delivering the community needs at all stages. The organisational values of the hospital for compassionate, open transparent care and respect to every individual served at all stages made the staff and patient satisfaction to grow. Risk mitigation tools, continuous quality improvement processes, tools and an emotional intelligence framework and appropriate power

made transition from each stage smoothly with successes sustained over time.

These sustained achievements and effective hospital operations illustrate the future potential for adoption and successful implementation of PPP models of healthcare delivery in appropriate settings. Furthermore, although PPP existence in the developing world is very limited, this case study highlights the potential for adoption of PPP projects into LMICs for better healthcare and in reducing the deficit in standards of care between developed and developing countries.

CONFLICTS OF INTEREST/COMPETING INTERESTS:

The authors declare no conflict of interests.

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