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Commentary

Outsourcing diagnostics in public hospitals: boon or bane! Insights from Punjab's public-private partnerships experience

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ABSTRACT

The outsourcing of diagnostic services through public-private partnerships (PPPs) has emerged as a policy tool to address infrastructure and manpower gaps in India's public health sector. Punjab's Civil Hospital Mohali recently adopted this model, contracting a private provider to deliver advanced diagnostic services including MRI, CT, ultrasonography, and laboratory investigations. Drawing on data collected between December 2021 to February 2022, as part of the developing confident and critical thinkers case study writing program facilitated by the Mahatma Gandhi State Institute of Public Administration (MGSIPA) and the Chandler Institute of Governance (CIG), Singapore, this paper critically examines the outcomes of the PPP model. Early results suggest improved access, affordability, and efficiency. However, concerns related to equity, medical education, and sustainability have also surfaced. This commentary weighs the benefits and pitfalls of outsourcing diagnostics in public hospitals and highlights lessons for health policy and governance.

Keywords: PPP, Public Health, Health Diagnostics, Outsourcing

INTRODUCTION

Diagnostics form the backbone of clinical decision-making, with nearly 70% of medical decisions influenced by laboratory and imaging investigations.[1] Despite this central role, public hospitals across India continue to face persistent diagnostic constraints, including outdated equipment, shortages of trained personnel, and unreliable supply chains. As a result, patients frequently encounter long waiting times or are compelled to seek investigations in the private sector, leading to high out-of-pocket expenditure (OOPE), a major driver of medical impoverishment in India.[2]

Rising burden of non-communicable diseases (NCDs), trauma, and cancer has further intensified demand for timely and accurate diagnostic services.[3] Evidence suggests that delays/lack of access to diagnostics contribute substantially to poor health outcomes, including late-stage cancer detection and avoidable complications.[4]

In response to these systemic gaps, the Government of India and several state governments have increasingly adopted PPPs in healthcare delivery. Diagnostic PPPs are intended to leverage private sector capital, technology, and operational efficiency, while public hospitals contribute infrastructure, utilities, and assured patient volumes.[5] Although several Indian states have piloted diagnostic PPPs, outcomes have been mixed: while access and availability often improve, concerns persist regarding equity, sustainability, governance, and alignment with medical education mandates.[6,7]

Punjab represents an important case within this evolving policy landscape. Although plans to outsource diagnostics were approved as early as 2015, implementation was delayed until the COVID-19 pandemic underscored the urgency of strengthening diagnostic capacity.[8] Within five months of implementation (September 2021-February 2022), approximately 28,000 laboratory tests, 1,450 CT scans, and 850 MRI scans were performed, indicating rapid scale-up of service delivery.

This case study was documented between December 2021 and February 2022 as part of the developing confident and critical thinkers case study writing initiative jointly conducted by the Mahatma Gandhi State Institute of Public Administration (MGSIPA) and the CIG, Singapore. The initiative emphasized reflective case writing to strengthen policy learning and governance capacity among public officials and academics. Situating Punjab's PPP experience within this framework enables a critical examination of governance choices, stakeholder perspectives, and broader health policy implications.

This paper critically examines the Mohali PPP initiative and asks a central question: Is outsourcing diagnostics a boon or a bane for public healthcare systems?

THE PPP MODEL IN PUNJAB

In 2015, the Punjab government approved a policy to outsource diagnostic services across district hospitals; however, operationalization was delayed until the COVID-19 pandemic accelerated implementation. At Civil Hospital Mohali, a contract was awarded to Krsnaa diagnostics through a competitive bidding process, with tariffs linked to central government health scheme (CGHS) rates.

The partnership adopted a design-build-finance-operate (DBFO) model, wherein the private partner was responsible for equipment installation, operation, and maintenance, while the public hospital provided physical space, utilities, and patient flow.

Key features of the model included

Services

Included-MRI, CT, ultrasonography, and comprehensive laboratory testing.

Hub-and-spoke design

Enabling connectivity between peripheral facilities and the central diagnostic hub.

Pricing

CGHS-linked rates to ensure affordability relative to market prices.

Early outputs

Approximately 28,000 laboratory tests, 1,450 CT scans, and 850 MRI scans within five months.

Perceived benefits of outsourcing

Accessibility

Round-the-clock diagnostic services became available within a public hospital, reducing delays and dependence on private or distant tertiary facilities.

Affordability

CGHS-linked pricing significantly lowered diagnostic costs compared with private providers, benefiting many low-income households.

Efficiency

Faster investigations improved clinical decision-making, reduced bottlenecks, and eased pressure on tertiary hospitals.

Infrastructure and technology

Advanced diagnostic equipment, including 1.5 Tesla MRI scanners, was installed without large upfront public investment, addressing long-standing infrastructure gaps.

Concerns and emerging challenges

Clinical integration

Some clinicians expressed concerns regarding coordination, reporting formats, and medico-legal accountability when relying on outsourced diagnostic services.

Equity

Despite subsidized pricing, services were not universally free, raising concerns about affordability for the poorest patients.

Medical education

Outsourcing restricted trainee access in co-located medical colleges, conflicting with national medical commission (NMC) requirements for in-house diagnostic training.

Sustainability and oversight

Long-term success depends on robust contracts, routine audits, and effective regulation to prevent the cost escalation, quality dilution, and over-reliance on private providers.

BALANCING THE BOON AND THE BANE

The boon

Improved access to advanced diagnostics closer to home, reduced household expenditure compared with private markets, technological modernization of public hospitals and potential scalability across resource-limited settings.

The bane

Risk of commercial priorities overshadowing teaching as well as the research, potential erosion of the public sector diagnostic capacity, persistent equity concerns for the poorest populations and increased regulatory and governance burden on the state.

Table 1: Advantages and limitations.

Category	Key points
Perceived benefits	-24×7 availability of diagnostics -Affordable CGHS-linked pricing -Faster report turnaround -Advanced equipment without state investment
Emerging challenges	-Limited affordability for the poorest -Loss of clinician autonomy -Conflict with NMC teaching mandates -Sustainability of contracts
The boon	-Expanded access -Infrastructure modernization -Reduced tertiary referrals
The bane	-Risk of privatization creep -Long-term weakening of public sector capacity -Erosion of training opportunities

STAKEHOLDER PERSPECTIVES

The PPP experience at Civil Hospital Mohali brought together multiple stakeholders, each with distinct motivations, benefits, and concerns. Documenting these perspectives between December 2021 and February 2022 as part of the MGSIPA–Chandler Institute case study program provides a richer understanding of both the promise and tensions inherent in outsourcing diagnostics.

Patients' perspective

From the patients' viewpoint, the outsourcing of diagnostic services was largely perceived as a boon. Prior to the PPP, patients frequently experienced long waiting times, limited access to advanced imaging, and the need to travel to Chandigarh or private diagnostic centers. Following implementation of the PPP, accessibility improved substantially, with services such as MRI and CT made available within the Civil Hospital campus.

The round-the-clock availability of diagnostics was particularly valued in emergency situations, representing a significant improvement over the earlier restricted operating hours.

Patients also acknowledged improved affordability, as charges linked to CGHS tariffs were considerably lower than prevailing private-sector rates. However, despite this relative reduction, out-of-pocket expenditure remained a barrier for economically disadvantaged patients, for whom even subsidized rates were not negligible.

A prominent concern from the patients' perspective was the simultaneous functioning of public-sector laboratories and outsourced PPP diagnostic units within the same campus. Many patients reported uncertainty regarding which investigations were available completely free of cost through public laboratories and which required payment at the PPP facility. In the absence of clear guidance, signage, or dedicated counseling support, patients often relied on informal advice from hospital staff or other patients, leading to confusion and inconsistent information.

For poorer patients, this lack of clarity resulted in considerable stress and inconvenience. Some were referred for investigations without prior explanation of costs, only to learn later that payment was required. Others were directed between multiple diagnostic units, increasing physical exertion, waiting time, and indirect costs such as wage loss and transportation.

Patients also reported instances of duplicate or repeat testing, particularly during periods of high patient volume.

Delays in report availability or uncertainty about whether tests had already been conducted occasionally led to repeated investigations, adding to financial and emotional burden and, in some cases, delaying compliance with diagnostic advice.

Overall, patients appreciated the improved availability of advanced diagnostics within a public hospital setting.

Clinicians and hospital staff perspective

Clinicians and hospital staff expressed mixed views regarding the outsourcing of diagnostic services. While improvements in service availability were acknowledged, several clinical, administrative, and educational concerns emerged.

On the positive side, clinicians reported faster turnaround times for laboratory and radiological reports, which supported timely clinical decision-making. The availability of advanced imaging services at a district-level public hospital also reduced unnecessary referrals to tertiary centers, improving continuity of care.

However, a recurring concern related to the perceived discrepancy between diagnostic reports and clinical findings. Under the hub-and-spoke model, reports were often generated at centralized locations with limited familiarity with individual patient contexts. Clinicians noted that the lack of direct interaction between reporting radiologists or pathologists and treating physicians sometimes resulted in reports that were insufficiently correlated with clinical presentations, necessitating repeat investigations or additional clarification.

The hub-and-spoke structure itself was viewed as a challenge to integrated care. Treating doctors emphasized that opportunities for real-time discussion-traditionally possible in in-house public-sector diagnostic facilities-were constrained, particularly affecting decision-making in complex or borderline cases.

Concerns were also raised regarding the transparency of charges, especially for advanced imaging such as CT scans. Although tariffs were officially capped at CGHS rates, clinicians reported patient complaints about additional or perceived "hidden" charges related to films, contrast agents, or repeat scans. These issues undermined patient trust and placed clinicians in difficult positions when counseling patients.

Many clinicians also expressed a sense of reduced professional autonomy, as the PPP operator exercised control over scheduling, machine operation, and reporting. Limited oversight of diagnostic processes contributed to perceptions that clinical judgment was sometimes undermined.

Teaching faculty in the attached medical college highlighted additional challenges. Restricted access to diagnostic equipment-operated by private technicians under contractual arrangements-limited hands-on exposure for postgraduate trainees, creating a conflict with national medical commission (NMC) requirements for in-house diagnostic facilities in teaching hospitals.

Hospital staff further highlighted administrative and procedural barriers in facilitating free or subsidized diagnostics for economically disadvantaged patients. Although exemption provisions existed, accessing them often required multiple levels of approval involving the senior medical officer (SMO) in-charge and, where applicable, the medical superintendent (MS) of the medical college. While intended to ensure accountability, this multi-tier process frequently resulted in delays, increased documentation, and additional workload, particularly in high-volume outpatient and emergency settings.

Collectively, these experiences reinforced the perception that while outsourcing improved diagnostic availability, it also introduced fragmentation in care delivery, accountability, and training functions. Strengthening clinical integration, improving transparency, and streamlining administrative processes were widely viewed as essential to aligning PPP diagnostic models with public-sector clinical and educational priorities.

Government and policy makers' perspective

From the perspective of the Punjab Health Department, the adoption of a PPP model for diagnostic services was viewed as a pragmatic and timely governance response to long-standing infrastructural, financial, and human resource constraints in the public health system. The partnership enabled the rapid deployment of state-of-the-art diagnostic equipment without substantial upfront capital investment, addressing gaps that had persisted despite repeated budgetary allocations.

Policy makers emphasized that outsourcing diagnostics helped reduce administrative bottlenecks, particularly those related to public procurement, equipment maintenance, and staff recruitment. By transferring operational responsibilities to a private provider, the government was able to focus on service oversight rather than day-to-day management. The visible improvement in service availability during the post-COVID-19 recovery phase was perceived as a tangible governance success, reinforcing public confidence in the health system's responsiveness.

At the same time, officials acknowledged the political and institutional sensitivities associated with outsourcing services within public hospitals. Concerns were expressed regarding the perception of privatization of public assets, especially in teaching hospitals. Ongoing policy deliberations centered on ensuring transparent bidding processes, tariff sustainability, robust monitoring mechanisms, and compliance with medical education regulations, particularly those mandated by the national medical commission (NMC). These debates underscored the need for balancing efficiency gains with public accountability and long-term system capacity.

Private partner perspective (Krsnaa Diagnostics)

For the private partner, Krsnaa Diagnostics, the Mohali PPP project represented both a strategic business

opportunity and an opportunity to demonstrate operational capacity within a public-sector setting. The scale of the partnership allowed the company to leverage economies of scale, including centralized procurement, standardized protocols, and hub-and-spoke reporting models, thereby lowering per-test operational costs.

The private partner highlighted strengths such as rapid installation of equipment, high machine uptime, standardized reporting formats, and predictable turnaround times, positioning these as advantages of private-sector efficiency. From their viewpoint, the PPP model illustrated how private operators could complement public systems by delivering advanced diagnostics within cost-recovery and tariff-controlled frameworks.

However, the private partner also articulated concerns related to timely reimbursements, regulatory uncertainty, and political risk. Changes in government or policy priorities were perceived as potential threats to contract stability, with implications for long-term investment planning. These concerns reflected the inherent tension in PPP arrangements, where financial sustainability for private providers must coexist with affordability and public accountability.

Medical educators and trainees' perspective

Medical educators and trainees emerged as one of the most conflicted stakeholder groups, particularly in a hospital setting attached to a medical college. Faculty from clinical, pre-clinical, and para-medical disciplines expressed concern that outsourcing diagnostic services limited hands-on training opportunities for undergraduate and postgraduate students.

Educators noted that while students could observe diagnostic outputs, their direct exposure to equipment operation, quality control processes, and interpretative discussions was significantly reduced, as machines were operated by private technicians under contractual constraints. This affected not only clinical specialties such as radiology, pathology, and medicine, but also pre-clinical departments (anatomy, physiology, biochemistry) and para-medical programs, where diagnostic interpretation forms a critical component of integrated medical education.

There was also apprehension that outsourcing models prioritize service delivery metrics over academic and training objectives, potentially creating a long-term skills gap in the public sector workforce. Faculty emphasized that the absence of structured academic access, joint teaching sessions, or research collaboration within PPP frameworks undermines the teaching hospital's mandate.

These concerns carried particular weight in light of NMC regulations, which explicitly require in-house diagnostic facilities for the recognition and accreditation of medical colleges. Educators cautioned that without explicit contractual provisions for training and academic engagement, PPP diagnostic models risk compromising both educational quality and regulatory compliance.

Broader public and civil society perspective

Civil society organizations, public health advocates, and health rights groups expressed a cautiously ambivalent stance toward the outsourcing of diagnostic services under the PPP model. On one hand, they acknowledged that the initiative had significantly improved access to advanced diagnostics for the average patient, particularly by reducing waiting times and geographical barriers that previously forced patients to seek care in distant tertiary or private facilities.

On the other hand, civil society actors cautioned that such outsourcing arrangements may represent a gradual shift toward privatization within public hospitals, potentially weakening the long-term diagnostic capacity of the public sector. There was concern that sustained reliance on private providers could disincentivize investment in public laboratories, equipment, and workforce development, thereby eroding institutional self-reliance.

A central issue raised was the continued presence of user charges, even when capped at subsidized rates. Several groups argued that essential diagnostic services should be free at the point of care, particularly for vulnerable populations, and warned that out-of-pocket payments-however modest-are inconsistent with the principles of universal health coverage (UHC) and financial risk protection.

Civil society representatives also echoed concerns regarding governance and accountability within the outsourced diagnostic model. The absence of visible, hospital-level oversight mechanisms beyond contractual provisions was viewed as a systemic weakness. Unlike traditional public-sector diagnostic services, there were limited platforms for routine review of service quality, report accuracy, patient grievances, or adherence to clinical and ethical standards.

The lack of a formal quality improvement framework, including periodic clinical audits, discrepancy resolution meetings, and structured feedback between treating clinicians and diagnostic providers, was perceived as limiting transparency and continuous service improvement. Additionally, concerns were raised about the managerial orientation of outsourced services, which were largely overseen by administrative or human resource personnel without clinical backgrounds. This, according to respondents, risked prioritizing operational efficiency over patient safety and clinical integration. Collectively, these issues contributed to a perception of fragmented accountability, wherein clinical responsibility remained with public-sector physicians, while operational control rested with private providers. Civil society groups

emphasized that without joint governance structures, including clinician and community representation, clear escalation pathways, and regular performance reviews, PPP diagnostic models risk misalignment with public health objectives. Strengthening oversight and embedding equity safeguards were viewed as essential to ensuring that efficiency gains do not come at the cost of transparency, trust, and long-term system resilience.

Table 2: Stakeholders: perceptions and concerns.

Stakeholder	Perceived benefits	Concerns/ challenges
Patients	-Access to advanced tests (MRI, CT, labs) locally -Lower costs with CGHS-linked pricing -24×7 availability	-Even CGHS rates unaffordable for the poorest -Risk of hidden or additional costs
Clinicians and hospital staff	-Faster report turnaround improved clinical decisions-reduced need for tertiary referrals	-Reduced professional autonomy -Limited oversight of diagnostic processes -Medico-legal accountability unclear
Medical educators and trainees	-Access to standardized diagnostic services indirectly improves clinical exposure of students	-Restricted hands-on training on equipment -Conflicts with NMC norms for in-house facilities
Government/policy makers	-Modern equipment without upfront state investment -Reduced administrative burden -Political visibility as a governance success	-Political sensitivity around privatization -Sustainability of contracts and tariffs -Ensuring transparency and accountability
Private partner (Krsnaa diagnostics)	-Business opportunity with economies of scale -Ability to showcase efficiency and reporting speed -Stable revenue from CGHS-linked services	-Risk of delayed reimbursements -Political/regime changes affecting contracts -Pressure to balance cost recovery and affordability
Civil society/public advocates	-Improved access for average patients -Visible modernization of public hospitals	-Fear of creeping privatization- Demand for diagnostics to be free at point of care- Long-term weakening of public sector capacity

PERSPECTIVES

The experience of outsourcing diagnostic services at Civil Hospital Mohali underscores that PPPs are not merely technical or contractual arrangements, but deeply political and social negotiations embedded within the public health system. While the partnership expanded access to advanced diagnostics and improved service efficiency, it also revealed competing priorities and tensions among key stakeholders.

Patients largely perceived the initiative as beneficial, valuing improved availability, reduced waiting times, and lower costs compared with private diagnostic centers. For many, particularly those from peri-urban and rural areas, the availability of advanced imaging within a public hospital reduced both financial and logistical burdens. However, these gains were uneven, as even subsidized CGHS-linked charges remained challenging for the poorest households, raising concerns about financial protection and equity.

Clinicians and teaching faculty expressed more nuanced views. Although faster diagnostic turnaround times supported clinical decision-making, concerns were raised regarding reduced professional autonomy, limited oversight of outsourced services, and constraints on postgraduate training. These concerns reflect broader anxieties about the alignment of PPP models with the mandates of public hospitals that serve simultaneously as service delivery and teaching institutions.

From the government's perspective, the Mohali PPP represented a pragmatic governance response to long-standing infrastructural and manpower constraints, particularly in the post-COVID recovery period. The model enabled rapid deployment of advanced technology without substantial upfront public investment and offered visible improvements in service delivery. At the same time, policymakers remained cognizant of the political sensitivity surrounding outsourcing and the need to balance efficiency with equity, accountability, and regulatory compliance.

Private partners viewed the arrangement primarily through the lens of operational efficiency and financial sustainability, emphasizing economies of scale, standardized reporting, and continuous equipment uptime. Their perspective highlighted the importance of predictable policy environments and timely reimbursements for sustaining long-term partnerships.

Civil society and public health advocates, while welcoming improved access, emphasized the need for stronger oversight, transparency, and safeguards against incremental privatization of essential services.

The insights presented in this article draw on structured stakeholder engagement conducted between December 2021 and February 2022 as part of the developing confident and critical thinkers case study writing program facilitated by the Mahatma Gandhi State Institute of Public Administration (MGSIPA) and the CIG. These engagements included informal in-depth discussions with patients, clinicians, administrators, and policymakers. Through iterative reflection and synthesis, recurring issues were identified and are presented here as thematic perspectives, intended to offer contextual policy insights rather than formal qualitative inference.

Taken together, the Mohali case illustrates that the success of PPPs in diagnostics depends not only on technical design and cost efficiency, but also on the careful reconciliation of stakeholder expectations. Addressing concerns related to equity, medical education, governance integration, and patient navigation will be critical if such partnerships are to contribute meaningfully to sustainable and inclusive health system strengthening.

DISCUSSION

The outsourcing of diagnostic services at Civil Hospital Mohali provides a timely case study on the role of PPPs in strengthening healthcare delivery in resource-constrained settings. Conducted between December 2021 and February 2022, the study coincided with India's post-COVID-19 recovery phase, when diagnostic bottlenecks were particularly pronounced. Examining this initiative through the MGSIPA-Chandler Institute case study framework further situates it as both a policy intervention and a reflective governance exercise.

Punjab's experience aligns with similar PPP initiatives across India. Rajasthan's large-scale outsourcing of pathology services using a hub-and-spoke model expanded coverage but revealed shortcomings in quality assurance, contract enforcement, and patient satisfaction.[14] Karnataka's experience under the Rashtriya Swasthya Bima Yojana improved access through private laboratory partnerships, yet faced challenges related to clinical integration and long-term financial sustainability.[2] In Andhra Pradesh, PPPs enabled rapid deployment of advanced radiological equipment, though monitoring service quality and ensuring equity remained problematic.[3]

The Mohali model reflects these mixed outcomes-demonstrating impressive early utilization (approximately 28,000 laboratory tests and 2,300 imaging procedures within five months), while simultaneously raising concerns related to equity, professional autonomy, and compatibility with medical education requirements. International evidence mirrors these findings. Radiology PPPs in Kenya improved turnaround times and patient satisfaction but suffered from weak regulatory oversight.[16] In Bangladesh, PPP laboratory networks enhanced rural access, yet financial barriers persisted for the poorest populations.[17] Similarly, South Africa's experience highlighted improved availability alongside concerns about erosion of public-sector capacity.[18] Collectively, these examples suggest that PPP effectiveness depends heavily on governance capacity, contract design, and political commitment.

Equity and financial protection

Equity emerged as a central concern in Punjab's model. Although diagnostic charges were capped at CGHS rates, services were not universally free. For many low-income patients, even subsidized fees remained prohibitive-particularly in a health system where out-of-pocket expenditure exceeds 60% of total health spending and is a major driver of impoverishment.[7] The Mohali case thus illustrates a paradox: diagnostics became more available, but not fully affordable. For PPPs to advance UHC, essential diagnostics must be publicly financed or comprehensively covered under schemes such as Ayushman Bharat-PMJAY.

Medical education: a critical blind spot

A significant tension identified in this case relates to medical education. The National Medical Commission mandates in-house diagnostic facilities for training and accreditation.[10] Outsourcing diagnostics in a teaching hospital constrained postgraduate trainees' hands-on exposure to advanced equipment, creating a regulatory and pedagogical mismatch. This highlights a broader blind spot in PPP design, where service delivery objectives often overshadow workforce development. Explicit contractual provisions for training access, faculty involvement, and research collaboration are essential for PPPs operating within teaching institutions.

Governance and accountability

PPP sustainability is closely linked to governance quality. Punjab's linkage of tariffs to CGHS rates introduced transparency; however, several governance gaps remain. These include limited mechanisms for independent quality audits, weak grievance redressal systems for patients, and uncertainties regarding contract adaptability in the face of inflation and technological change. As observed elsewhere, PPPs cannot function as "fire-and-forget" solutions and require continuous oversight by capable public institutions.[9]

Sustainability and political economy

Beyond financial considerations, sustainability depends on political commitment and public trust. In India, changes in political leadership have occasionally disrupted PPP arrangements. While the Mohali initiative benefitted from strong political will during the pandemic recovery phase, sustaining momentum will require bipartisan support, transparency, and periodic contract review. For private partners, sustainability hinges on

economies of scale and policy predictability; for the government, it requires balancing efficiency with equity and educational mandates.

Governance as a learning process

A distinctive strength of this study lies in its documentation through the MGSIPA-Chandler Institute case writing initiative, which emphasizes governance learning and critical reflection. Framing the Mohali PPP as a case study enables policymakers to examine both intended and unintended consequences, fostering adaptive, evidence-informed decision-making.

Balancing the boon and the bane

Punjab's experience reinforces that PPPs are neither inherently beneficial nor inherently harmful; their impact depends on design and governance. As a boon, the Mohali PPP expanded access, reduced dependence on private markets, and modernized diagnostic infrastructure without substantial public capital investment. As a bane, it risked exacerbating inequities, disrupting medical education, and raising questions of long-term sustainability.

Moving forward, a balanced approach is required: universalizing access to essential diagnostics through public financing; embedding training and academic integration within PPP contracts; strengthening independent monitoring and accountability mechanisms; and adopting hybrid models in which core diagnostics remain public while advanced modalities are selectively outsourced.

The experience of Civil Hospital Mohali demonstrates that PPPs in diagnostics can be powerful instruments for expanding access in resource-constrained settings, particularly in the post-COVID context. However, without deliberate safeguards for equity, medical education, and long-term sustainability, such models risk creating parallel systems that deliver short-term gains while weakening public sector capacity over time.

By situating the Mohali PPP within the MGSIPA-Chandler Institute case study framework, this analysis contributes not only to the assessment of a single institutional initiative but also to broader debates on health system governance, policy design, and capacity-building in India.

Limitations

This analysis has several limitations. First, the relatively short study period (December 2021-February 2022) captures only early implementation experiences and does not allow assessment of long-term outcomes or system adaptation over time. Second, the study did not include longitudinal follow-up of patient health outcomes, cost trajectories, or service sustainability, limiting conclusions about enduring impact. Third, as a single-institution case study, findings may not be directly generalizable to other settings, particularly those with different governance structures, population profiles, or levels of health system capacity. Nevertheless, the Mohali experience provides valuable contextual insights for policy learning and comparative analysis.

Future directions

Future research should prioritize longitudinal evaluations of PPP diagnostic models to assess patient outcomes, financial protection, service quality, and workforce implications over time. There is a need to explore hybrid PPP frameworks that integrate service delivery with medical, pre-clinical, and para-medical teaching functions, particularly in public teaching hospitals. At the policy level, the development of nationally harmonized PPP guidelines aligned with UHC goals and medical education requirements would strengthen coherence and accountability. Linking outsourced diagnostic services more explicitly with public insurance mechanisms such as Ayushman Bharat-PMJAY could further enhance financial protection for vulnerable populations.

CONCLUSION

The outsourcing of diagnostic services at Civil Hospital Mohali illustrates that PPPs in diagnostics can function as both a boon and a bane. While they enable rapid expansion of access, improved efficiency, and technological modernization, they also risk exacerbating inequities and disrupting medical education if inadequately regulated. Ensuring sustainability requires embedding PPPs within broader health financing and governance reforms, with explicit safeguards for equity, training, and public sector capacity. By situating the Mohali experience within the MGSIPA-Chandler Institute case study framework, this article contributes not only to health policy discourse but also to governance learning and institutional reflection. PPPs in diagnostics should therefore be viewed not as ends in themselves, but as carefully governed instruments in India's broader journey toward UHC.

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