The Indian Healthcare System Needs an Overhaul

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While economic growth may be an important indicator of development, the quality of a country's public healthcare system better demonstrates the standard of living enjoyed by a wider spectrum of the population. The Covid-19 pandemic has served a stark reminder that economies can be brought to a grinding halt if public healthcare systems are inadequate, clearly demonstrating the need for increased investment in the sector.

Owing to rapid urbanization in recent decades, India faces a development paradox that is widely prevalent among the fast-growing global economies; basic necessities are either unavailable or unaffordable to the vast majority of urban dwellers and secondly, there is tremendous strain on public infrastructure as an increasing number of people chase a diminishing parcel of public goods. While India requires 15 doctors and 20 hospital beds per 10,000 people, we currently only have about half of that number. This translates to 700 million people underserved by the system. There's also a huge disparity between urban and rural areas in terms of access to specialised care. We urgently need to address this shortfall. Public expenditure on health needs to increase manifold so we can build a well-equipped and self-sufficient network of medical facilities quickly across our Tier II cities, towns, and villages, which will help reduce the burgeoning load on metropolitan healthcare infrastructure.

However, there are significant challenges. Achieving the build quality and maintenance standards of private healthcare projects is still an uphill challenge for government-funded healthcare buildings. A few common issues that plague current hospitals are inadequate day-lighting, poor ventilation systems leading to cross-infection, greater building widths leading to doubly-loaded corridors with no connection to the outside, high energy costs and maintenance problems. One solution to address these issues could be to design interactive facilities that draw from the ideas of biophilia: an innate human tendency to seek connections with nature and other forms of life. Such interventions place patient experience and wellbeing at the core, leading to swifter healing, while also reducing construction and building lifecycle costs.

Cross-infection and contamination can be tackled through design changes such as naturally-ventilated spaces that increase

the rate of natural air exchange, segregation of different functions by creating general, semi-sterile and sterile zones (for example, waiting areas to OPDs to ICUs) and creating buffer zones in between. Designing the building with an East-West orientation to improve daylight, providing centralized courtyard landscapes to provide passive evaporative cooling, and adding solar panels to reduce dependency on conventional forms of electricity, are some ways to optimise building energy consumption and improve efficiency. Also, designing decentralized micro-service zones that run parallel to various departments can help make regular servicing and maintenance easier and quicker.

Today, as our understanding of health and wellbeing evolves, new construction technologies provide limitless possibilities in this sector. Building Information Modeling (BIM), for example, which can help determine the optimal geometry of buildings in response to certain parameters, can aid in pre-empting problems and shortening the time of construction to save costs, while 'temporary and transformable' architecture has enabled emergency mitigation like never before. Imbibing such innovations within healthcare design holds the key to streamlining our systems for better performance — from accessibility of essential public services and improved patient care to the wellbeing of our economy.

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