# Challenges and Opportunities in Hospital Design in India

In a nation as populous and diverse as India, the delivery of healthcare presents a multifaceted challenge. With a population exceeding 1.4 billion and significant disparities in access to healthcare resources between urban centres and rural villages, the importance of strategic healthcare design cannot be overstated

While providing adequate facilities forms the first leg of the challenge, the other dimension concerns guaranteeing quality and comfort within these facilities. Ultimately, patient-centric design principles promoting comfort, privacy, and dignity are essential for enhancing the healthcare experience and improving overall health outcomes across the country.

URBAN - RURAL DIVIDE

Rural 25%
Urban 75%
HEALTHCARE INFRASTRUCTURE

Urban 27%
Rural 73%
POPULATION DISTRIBUTION
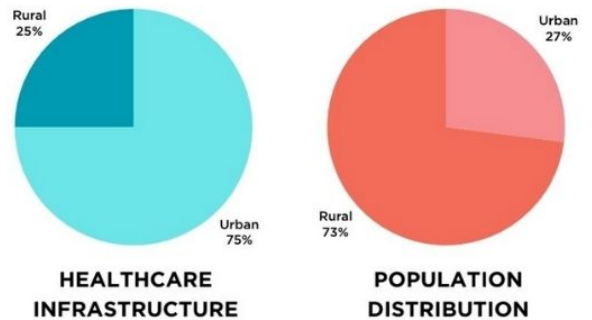
Data shows that 75% of healthcare infrastructure in India is concentrated in urban areas where only 27% of the population lives there, while 25% of healthcare resources serve the remaining 73% of Indians.
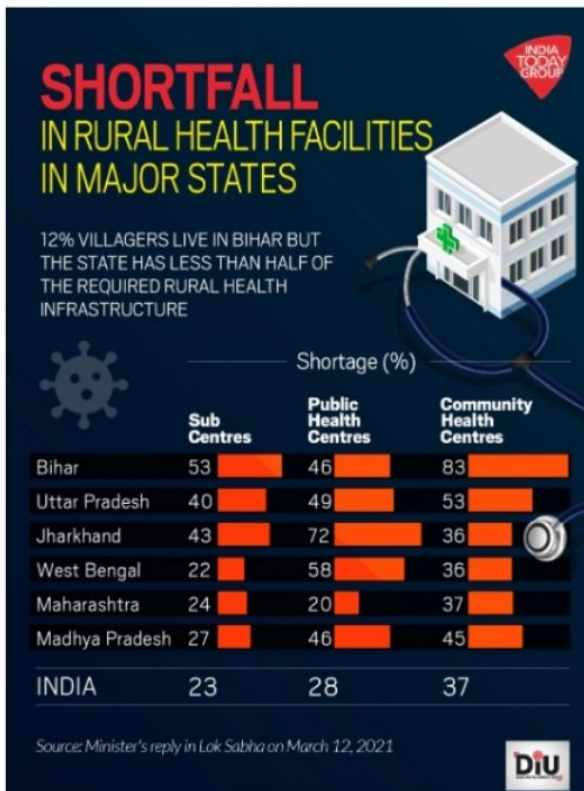
Source: Compassionate Patient Response | Ballard Brief

India's public healthcare: Moving from 'biggest' to 'finest' infrastructure a must - Firstpost

India's public healthcare system needs a shift of focus to address quality concerns in infrastructure.

Source: Firstpost

SHORTFALL
IN RURAL HEALTH FACILITIES IN MAJOR STATES

12% VILLAGERS LIVE IN BIHAR BUT THE STATE HAS LESS THAN HALF OF THE REQUIRED RURAL HEALTH INFRASTRUCTURE

	Sub Centres	Public Health Centres	Community Health Centres
	Shortage (%)		
Bihar	53	46	83
Uttar Pradesh	40	49	53
Jharkhand	43	72	36
West Bengal	22	58	36
Maharashtra	24	20	37
Madhya Pradesh	27	46	45
INDIA	23	28	37

Source: Minister's reply in Lok Sabha on March 12, 2021

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Critical shortages highlight urgent need for infrastructure development especially in rural India.

Source: India Today

Grassroots Initiatives for Equitable Access

The urban-rural resource gap in India highlights the urgent need for healthcare initiatives in tier II cities and towns. While rural areas have limited facilities, urban centres, even with high concentration of healthcare resources, often face overcrowding and strained facilities. To ensure equitable access to quality care, redistributing resources in smaller urban nodes and towns is imperative.

A potent solution lies in establishing grassroots facilities—multiple smaller-scale health centres designed to be easily set up even in rural environments. Initiatives like small-scale anganwadis and mohalla clinics effectively alleviate the burden on urban centres while improving accessibility within communities. These initiatives promote regular check-ups, preventive care, and community well-being.
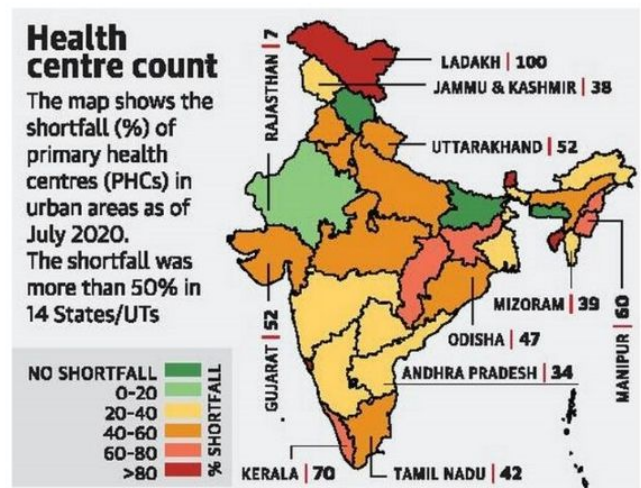
The Role of Design Innovation and Refurbishment

In a rapidly growing country like ours, infrastructure development must keep pace with population needs. Quick and effective scaling of healthcare infrastructure can be accomplished by refurbishing and upgrading existing facilities. Through such interventions, hospitals can metamorphose into welcoming, patient-friendly spaces, addressing the qualitative aspect of healthcare centres and encouraging utilisation. Integrating modern design into brownfield projects is a cost and resource-effective way to optimise patient well-being by creating healing environments. In such endeavours, architects and planners assume pivotal roles.

Health centre count

The map shows the shortfall (%) of primary health centres (PHCs) in urban areas as of July 2020. The shortfall was more than 50% in 14 States/UTs

RAJASTHAN | 7
LADAKH | 100
JAMMU & KASHMIR | 38
UTTARAKHAND | 52
MIZORAM | 39
MANIPUR | 60
GUJARAT | 52
ODISHA | 47
ANDHRA PRADESH | 34
KERALA | 70
TAMIL NADU | 42

NO SHORTFALL
0-20
20-40
40-60
60-80
>80
% SHORTFALL

A report released by Azim Premji University in collaboration with 17 regional NGOs found that there is a shortfall of more than 50% in 14 states/UTs in urban areas in India as of July 2020.

Source: The Hindu

For instance, our project, Ashirvad Hospital in Varanasi, revitalises an existing hospital and adds a new block, converting it into a leading healthcare provider in the city. Through thoughtful design interventions, we expanded its capacity from 50 to 150 beds and improved functionality, providing high standards of care to the city.

Our refurbishment and addition of a new block at the Ashirvad Hospital in Varanasi increased its capacity and upgraded its facilities to be able to provide better healthcare for the city.

Holistic Well-being Through Thoughtful Design
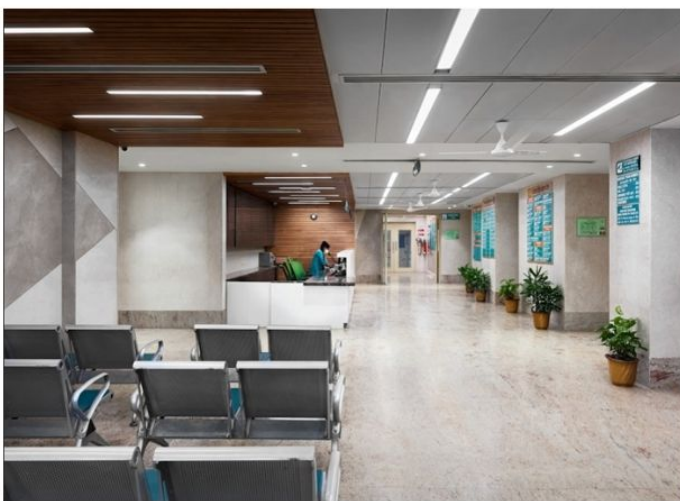
Our redesign strategy at Ashirvad Hospital, Varanasi, includes interventions that work to ease the patient experience and improve mental wellness.

> "Healthcare architecture is so impactful it should be held to the same standard as medications and surgical procedures."

Good design that prioritises patient well-being transforms healthcare spaces into inclusive environments, encouraging routine care. Elements like natural light and comfortable layouts impact patient recovery and mental health positively. Open spaces, comfortable waiting areas, a connection to nature, and intuitive wayfinding enhance the overall patient experience.

Building Resilience for the Future

Creating a robust healthcare system involves setting up infrastructure that endures, ensuring lasting benefits for communities. Sustainability is imperative to building future-forward healthcare facilities, ensuring long-term viability. By integrating renewable energy sources, optimising water and energy usage, and employing eco-friendly materials, healthcare facilities can mitigate their carbon footprint, promote environmental stewardship, and contribute to long-term cost savings. Designing for longevity involves creating adaptable spaces that minimise the need for frequent renovations, with flexible planning and the use of durable materials ensuring uninterrupted healthcare services.

We designed the AIIMS New OPD Block in a future-oriented manner, ensuring that it is well-serviced and fully equipped with automated smart labs.

Addressing the multifaceted challenges of healthcare delivery in India requires strategic design interventions, grassroots initiatives, and a commitment to sustainability. By prioritising patient-centric design, the nation can build resilient healthcare infrastructure that ensures equitable access to quality care and promotes holistic well-being for all.