



STATE OF INDIAN HEALTHCARE

Indian cities through the lens of healthcare

2021



Preface

The COVID-19 pandemic is a massive humanitarian crisis, that has led to more than 3.1 million deaths worldwide till now and brought the world economies to a screeching halt. As countries globally unite to flatten the curve, the second wave of this black swan pandemic that started in India in late February this year, is far more aggressive and devastating than what our country endured last year. Though according to the finance ministry, the economic impact of the second wave is expected to remain muted, the shattering surge is gravely compounded by India's limited healthcare infrastructure, that has brought to the forefront the economic and social ramifications of a health crisis of this magnitude for its 1.3 billion people.

Where developed countries such as the United States, the UK, Japan, Germany, and Canada expend nearly 10–18 percent of their Gross Domestic Product (GDP) on healthcare, India's spending on healthcare stands at a mere 3.5 percent of its GDP. The differences in healthcare experiences offered by countries is measured by parameters such as health expenditure, number of hospital beds and doctors, life expectancy, and mortality rates of which India sits at the lowest end amidst the top economies.

The gravity of the long road to tread is manifested in the not so encouraging statistics on the number of hospital beds available per thousand people in India, which is abysmally lower than the global average of 3.2 beds per 1,000 people – where India only has a 0.5 bed available in public hospitals for every thousand of its people. Even with the addition of the private hospitals this deficit fails to inch closer to the global average. India also has the lowest number of healthcare providers, 0.9 per 1,000 people, compared to other major economies where the doctor to people ratio ranges between 2–4 doctors per 1,000 population – thus highlighting the striking gap in the adequacy of the health infrastructure.. None of the larger states in India so far have managed to reach the global average of 3.2 beds per 1,000 population or even the 2 bed per 1,000 population standard in public healthcare delivery, as mentioned in the National Health Policy (2017). The glaring paucity of beds today poses a shortfall of 2.4 million beds (public + private) with Bihar, Orissa, and Chhattisgarh having the least number of hospital beds.

As the public healthcare system in India is tiered-based – primary, secondary, and tertiary, (divided as per population) the services included become more comprehensive as per the hierarchy. Under this structure, large hospital systems both public and private providing curative care have come up in the larger cities making them the healthcare nodes for the region. This, centralisation of curative care and the increasing pressure on these urban areas to accommodate the burgeoning many for economic opportunities has also subsequently put adverse pressure on their carrying capacity, in turn impacting their overall health parameters such as the air quality, water, and sanitation and most importantly, the availability of healthcare services for the populace. The pressure on the urban nodes can be ascertained from the fact that 69 percent of the total hospital beds in India are concentrated in urban areas.

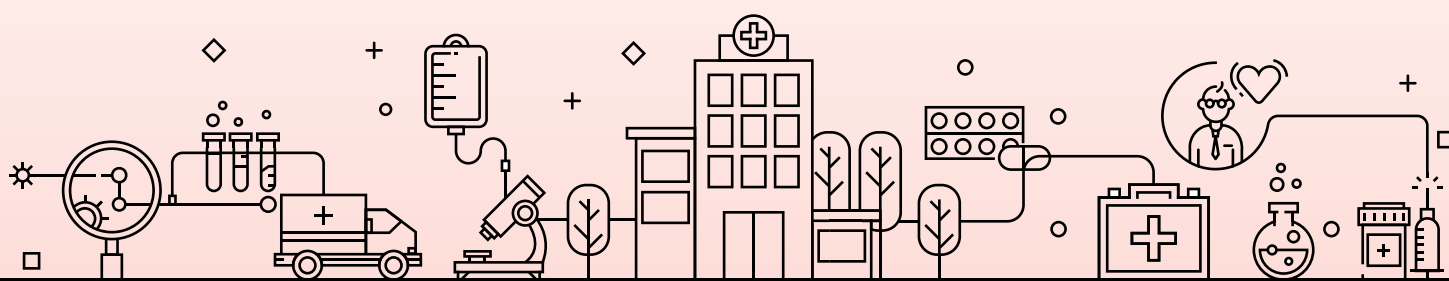
The second wave has exposed gaps in the unbalanced development of our cities and the overall healthcare infrastructure. Our Housing.com's City Health Card observes that residential development in the top eight cities is skewed, with the healthcare services not adequately complementing the scale and direction of residential development.

To summarise, the pandemic will bring about significant changes across the socio-economic fabric of the country and reinforce the importance of health and safety. In terms of the real estate sector, changes will be seen across asset classes with work-from-home guiding the residential and commercial segments design and offtake. Where retail will skew more towards experiential with emphasis on safe retailing and contactless delivery, warehousing will gain strength due to the e-commerce push and the rise in demand in small cities. Above all, considerations of health and safety will remain paramount to instill confidence amongst people across asset classes.



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Healthcare – the linchpin of economic growth

Health is not only the absence of illness but also one's ability to develop one's physical, mental and emotional potential during their entire lives. It is an asset which an individual possesses that has both intrinsic and instrumental value. Instrumental in the sense that the health of people influences economic growth in varied ways. For example, the workers' ill-health directly affects productivity, by increasing absenteeism rates and the economic burden of the illnesses. It was found in the United Kingdom (UK) that close to 131 million working days were lost to sickness absence every year.¹ While a World Health Organisation (WHO) study observed that loss of productivity due to mental health problems costs the global economy USD 1 trillion each year. The most recent example of a health crisis affecting countries' economies is the on-going COVID-19 pandemic, that has brought the world economies to a screeching halt.

In 2020, economies across the globe experienced severe headwinds due to the COVID-19 pandemic, which is a massive humanitarian crisis leading to more than 3.1 million deaths till date. During this exceptional year, the pandemic made us realise the importance of health infrastructure and its ramifications on the economy and the society. While the countries around the globe are trying to flatten the curve, India has been hit by the second wave of this black swan pandemic, overwhelming its health infrastructure and economy.

Considering the substantial role of health in economic growth and an individual's development, an entire ecosystem including healthcare providers, pharmaceuticals, medical finance services, care management, and many more have developed with the partaking of governments and international agencies such as WHO and private players.

Housing – a mainstay of a healthy population

Over the years, the global economic landscape has undergone profound changes. Industrialisation and urbanisation have changed the way we live by heavily altering the degree of access to resources, varying as per countries and regions. While health status is dependent on many factors such as the access to resources, healthcare, health infrastructure, affordability, and socioeconomic and environmental conditions, housing is at the centre of it.²

As also recognised by WHO³, housing is one of the mainstays of a healthy population. Its quality, location and environmental context are critical in reducing health risks and improving access to the healthcare facilities. Not only has the on-going global health crisis strongly reinforced the importance of access to healthcare, the ensuing lockdowns to control the virus spread restricted people to stay at home, demonstrating the deep

¹Health matters: health and work, Government of the United Kingdom, 2019

²General Health Care, WHO

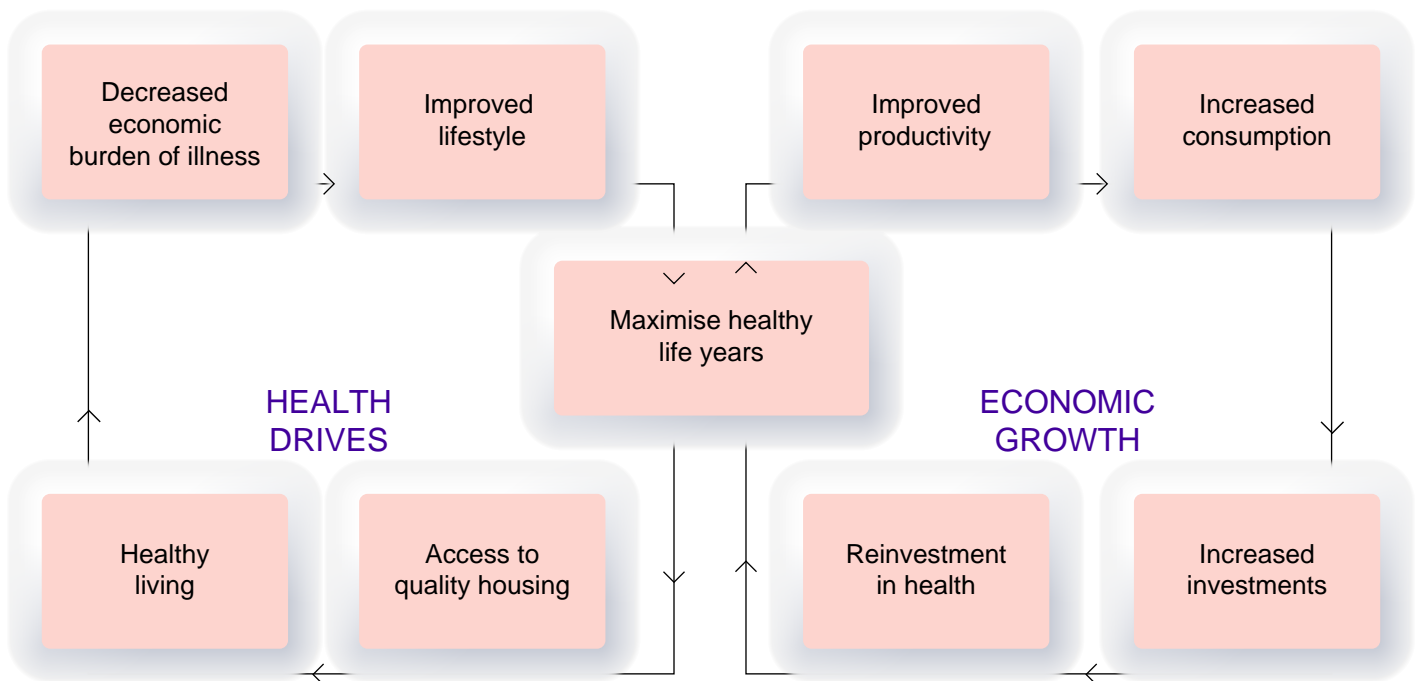
³WHO Housing and Health Guidelines 2018

connection between health and housing. The lockdown, lack of access to quality living conditions and healthcare facilities, have further exacerbated the impact of the pandemic.

As the world will look to rebuild and recover from the COVID-19 pandemic, healthcare and its underpinning services have and will take centre-stage in the future narratives of economic growth across the globe.

The everchanging demographics and altering needs for the services, the comparative trends of major world economies show that countries face different set of challenges in delivery of equitable, affordable, and quality healthcare services depending up on the level of economic development. The growing population is altering the demand for services everywhere and is constantly putting pressure on the social and physical infrastructure in any region. Nearly 68 percent (6.7 billion) of the world population is projected to live in urban areas by 2050.⁴

Health and economy share a symbiotic relationship



Source: Housing Research

⁴United Nations

Global picture

Healthcare across the globe is highly dependent on the demography and socio-economic development which leads to varying degrees of success in delivery and experience. The differences in healthcare experience offered by countries are reflected in the parameters such as health expenditure, number of hospital beds and doctors, life expectancy, and mortality rates.

Developed countries such as the United States, the UK, Japan, Germany, and Canada expend nearly 10-18 percent of their Gross Domestic Product (GDP) on healthcare. Some of the key drivers behind higher spending on healthcare in developed economies include the ageing population, rising incomes and innovative technologies.⁵ The widened access to quality healthcare and improving lifestyles have led to higher life expectancy in these major economies.

India and China spent a mere 3.5 percent and 5.4 percent, respectively, of their Gross Domestic Product (GDP) on healthcare (includes both public expenditure and out-of-pocket expenses on healthcare).

Developing countries such as Brazil, China, and India face their own set of challenges, including inequitable access to healthcare, lower public healthcare spending, and inadequate infrastructure. For instance, compared to developed countries, India and China spent a mere 3.5 percent and 5.4 percent, respectively, of their Gross Domestic Product (GDP) on healthcare. It is to be noted that this expenditure includes both public expenditure and out-of-pocket expenses on healthcare.

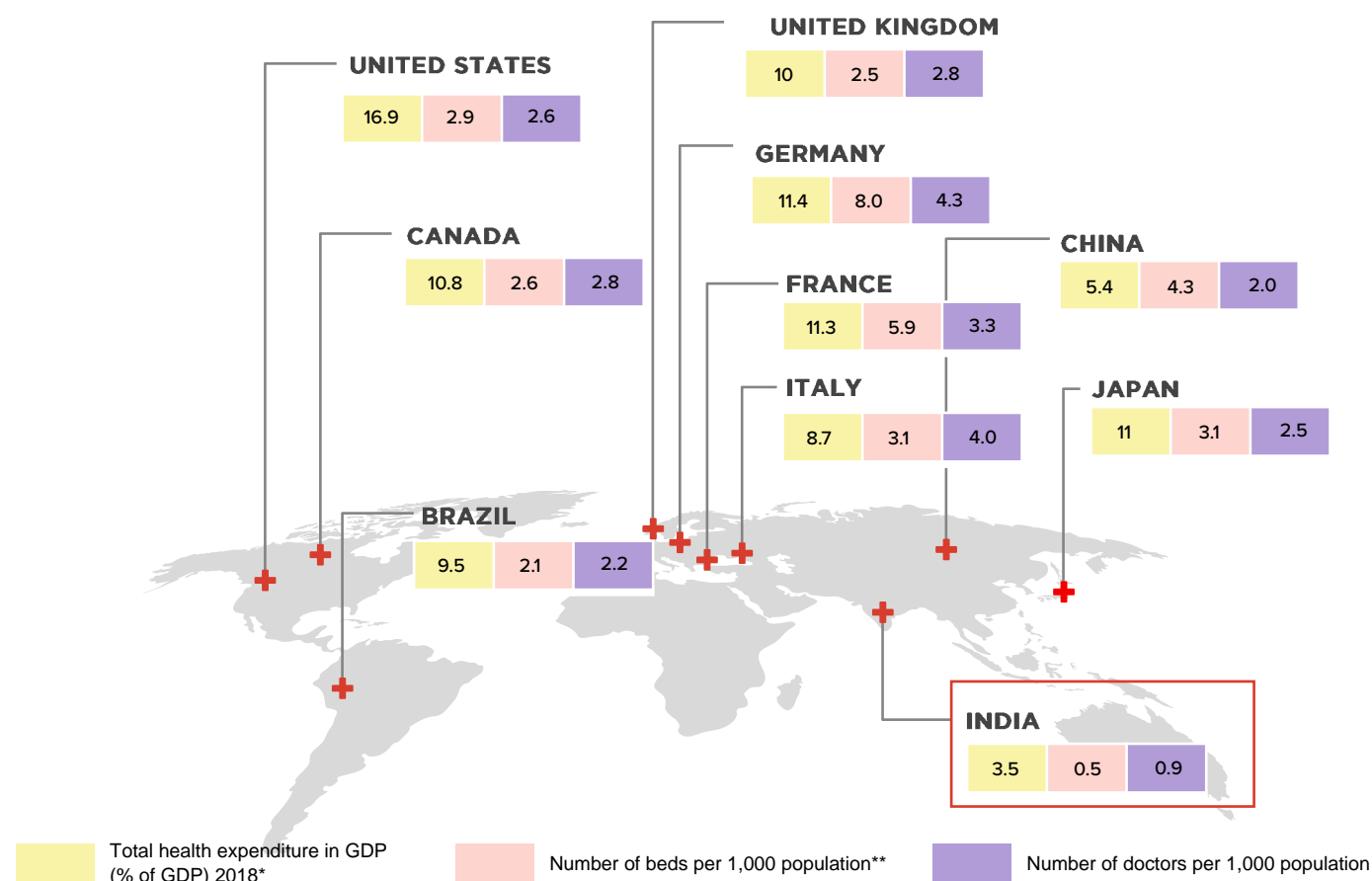
The gaps in the delivery of healthcare through public sources manifest themselves in the high out-of-pocket expenses (OOPE). Such expenses range between 45-70 percent in countries such as Brazil, China and India, compared to 15-30 percent spent in other major developed economies from the total expenditure on health.



⁵Health Care Spending Issues In Advanced Economies, International Monetary Fund

India sits at the bottom – lowest spending on healthcare

India spends the least on its healthcare and has the lowest number of beds (public hospitals) per 1,000 population (0.5). This means that only half a bed is available for 1,000 people in a public hospital in India.



Sr. No	Country	Total health expenditure in GDP (% of GDP) 2018	GDP (USD trillion) 2018	Estimated Population (in millions) 2019	Mortality rate (per 1,000 people) 2019	Ageing population% above 65 years (2019)	Life expectancy — age in years (2015—2020)
1	US	16.9	20.6	329	8.8	16.2	80
2	Germany	11.4	4.0	84	11.3	21.6	81
3	France	11.3	2.8	65	9.4	20.4	82
4	Japan	11.0	5.0	127	10.7	28.0	84
5	Canada	10.8	1.7	37	7.8	17.6	82
6	UK	10.0	2.9	68	9.4	18.5	81
7	Brazil	9.5	1.9	211	6.5	9.3	76
8	Italy	8.7	2.1	61	10.6	23.0	83
9	China	5.4	13.9	1,434	7.3	11.5	77
10	India	3.5	2.7	1,333	7.3	6.4	69

Source: World Bank, World Health Organisation (WHO), Housing Research

*The total health expenditure includes public healthcare expenditure and out-of-pocket expenditure

**Number of beds considered are for public hospitals only

Not only does India spend the least on its healthcare infrastructure and has the lowest number of beds (0.5 per 1,000 population), but it also has the lowest number of doctors (0.9) per 1,000 population.

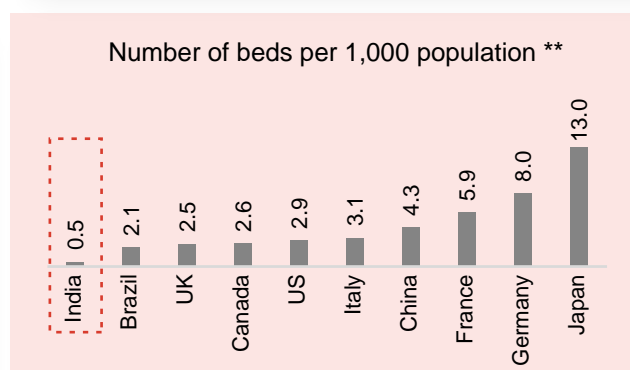
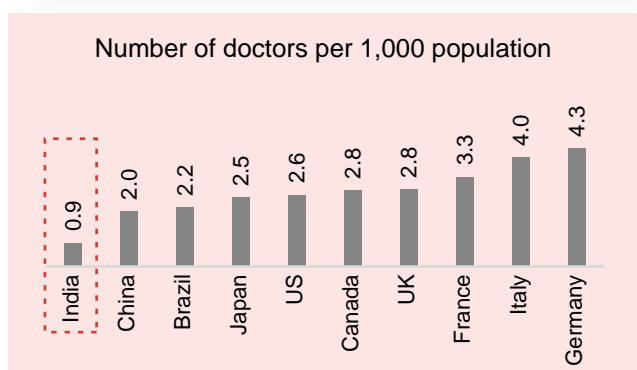
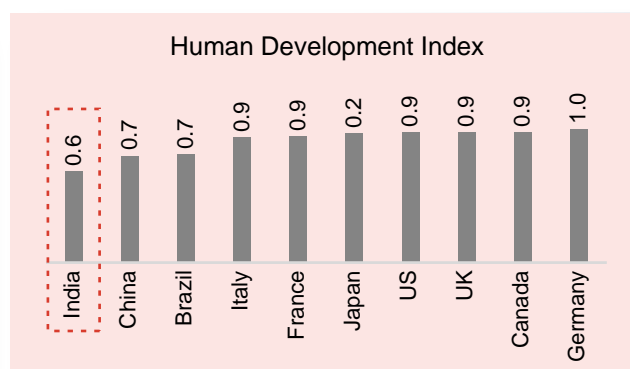
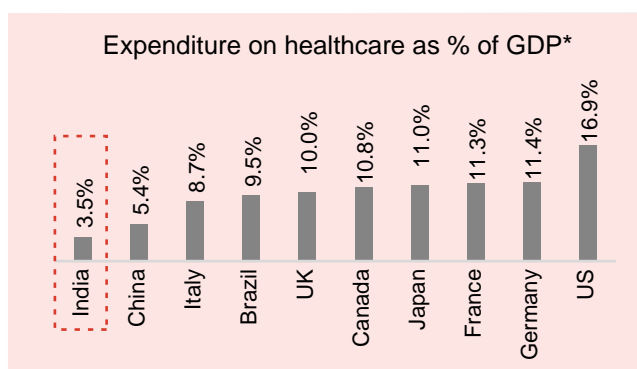
After the inclusion of private hospitals, the estimated total number of hospital beds (1.4) per 1,000 population still does not meet the benchmarks set by the major economies. Similarly, with only 0.86 doctors per 1,000 people, India has the lowest number of healthcare providers compared to other major economies where the doctor to population ratio ranges between 2–4 doctors for every 1,000 people. Despite being on the lower end in terms of important indicators, India has the lowest mortality rate, concurring with the fact that it has the lowest percentage of ageing population (above 65 years) among the top economies.

However, lack of equitable access, high out-of-pocket expenditure and low life expectancy reflect in the Human Development Index (2019)⁶ with India scoring the lowest among the top economies.

India has the lowest number of doctors (0.9 per 1,000 population) compared to other major economies where the doctor to population ratio ranges between 2–4 doctors per 1,000 population.

As a country which is home to nearly 18 percent (1.3 billion) of the world's population, India faces a massive challenge in building its healthcare infrastructure and has to take long strides in reducing the dichotomy of curative versus preventive and urban versus rural, in the delivery of healthcare services.

Globally India is at the lowest end on healthcare parameters



Source: World Bank, OECD Health statistics 2019, Housing Research

*The total health expenditure includes public healthcare expenditure and out-of-pocket expenditure.

**The number of beds per 1,000 population include public hospital beds.

⁶Human Development Index is an index developed by the United Nations which measures the achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living incorporating the parameters like life expectancy, education, and purchase power parity, indicating the gaps in current social and physical infrastructure.

The daunting India story

Inception

The foundation of India's public healthcare system is based on the recommendations of the 'Health Survey and Development Committee', also known as 'Bhore Committee' from 1946. As specified in the report, the public healthcare service in India is tiered-based – primary, secondary, and tertiary, divided as per population and the list of services become more comprehensive as per hierarchy. Over the years, large hospital systems both public and private providing curative care have come up in the bigger cities, vis-à-vis preventive services provided in the rural areas through disease control programmes.

None of the larger states today have reached the global average of 3.2 beds per 1,000 population or even the 2 beds per 1,000 population standard in public healthcare delivery, as mentioned in the National Health Policy (2017).

The economic liberalisation, which began in 1991, further gave a fillip to the private players providing quality healthcare services in India, driving focus away from public services. Moreover, the public expenditure on healthcare has been in the doldrums until recent years. Its share from total GDP, which was 1.0 percent in 2015, has reached 1.6 percent in 2019, showing a mere increase of 0.6 percent in the last four years, leading to no significant improvement in outcomes such as the number of beds, mortality rates or life expectancy. It is to be noted that the total expenditure on healthcare in India including OOPE was 3.5 percent in 2018, which is significantly low than major economies like the US, the UK and France, among others.

Government expenditure on public healthcare abysmally low Average spending as low as 1.3 percent of total GDP

Year	Public expenditure on health as percentage of GDP (%)	Total GDP (USD trillion)	Estimated population (in millions)	No. of public hospital beds per 1,000 people*	Mortality rate (%)	Life expectancy (age in years)
2014	0.9	2.0	1,258	0.5	7.2	68
2015	1.0	2.1	1,274	0.6	7.2	68
2016	1.2	2.3	1,290	0.5	7.2	69
2017	1.3	2.6	1,304	0.5	7.2	69
2018	1.5	2.7	1,318	0.5	7.2	69
2019	1.6	2.9	1,332	0.5	7.3	69

Glaring paucity of hospital beds in India

Global average* **3.2** HOSPITAL BEDS
PER 1,000 POPULATION

INDIA

Public Hospitals

0.5

HOSPITAL BEDS PER
1,000 POPULATION



SHORTFALL

3.5_{MN}

HOSPITAL BEDS

Public + Private Hospitals

1.4

HOSPITAL BEDS PER
1,000 POPULATION



SHORTFALL

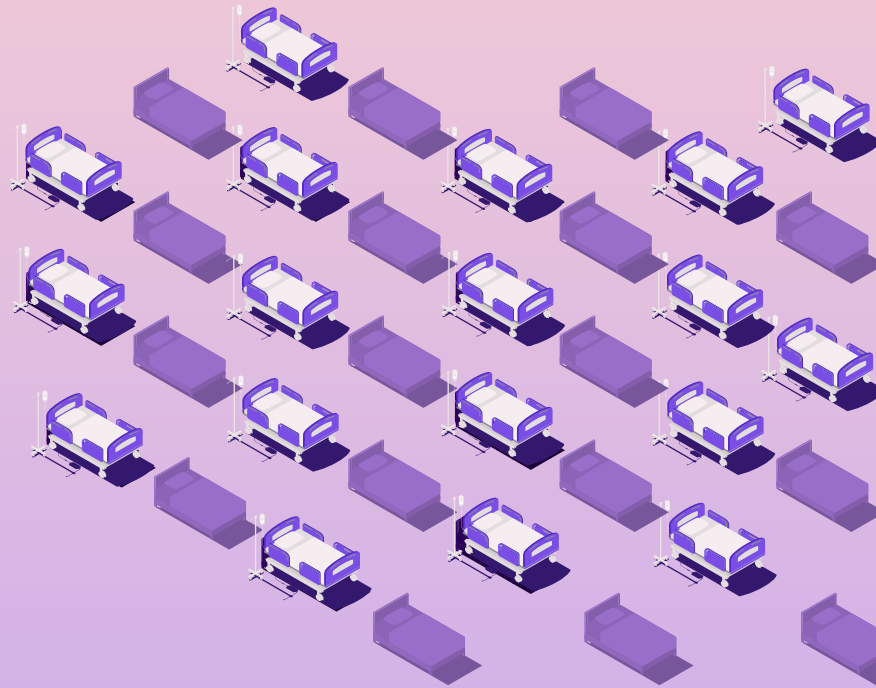
2.4_{MN}

HOSPITAL BEDS

Karnataka has maximum number of hospital beds; Bihar the least

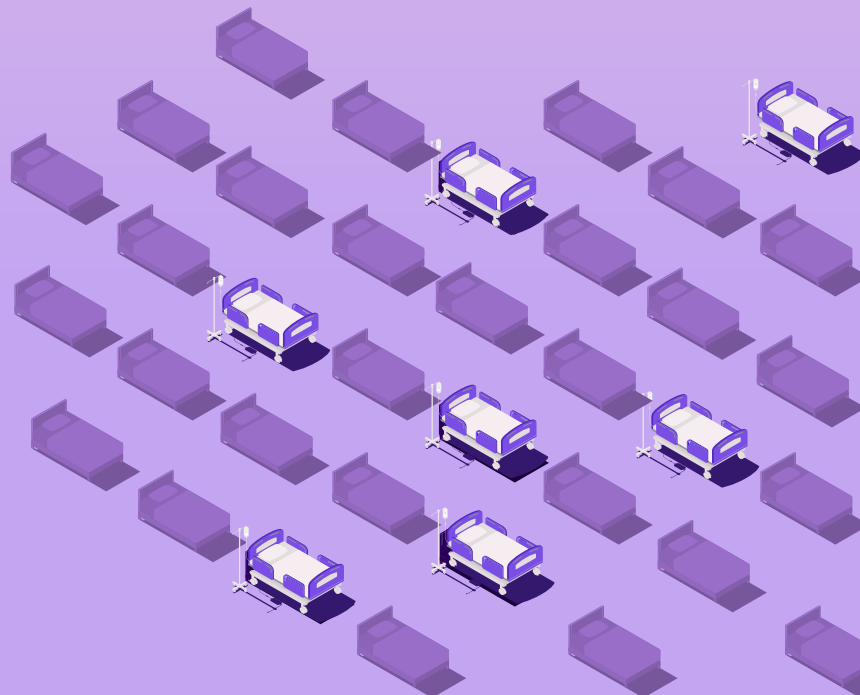
**Karnataka,
Telangana,
Kerala**

Have maximum number of hospital beds (public+private)



**Bihar,
Odisha,
Chhattisgarh**

Have the least number of hospital beds (public+private)



Private dominance

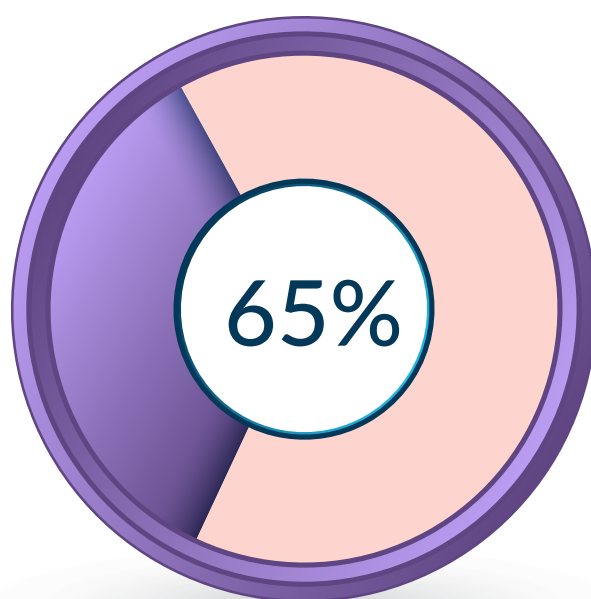
The reckoning of available public hospital beds suggests that India is still far from the global average⁷ of 3.2 beds per 1,000 population, falling short of nearly 3.5 million beds. Although well below the average, the shortfall reduces to 2.4 million with inclusion of private beds, highlighting the overarching presence of private healthcare services in India.

The prevalence of private healthcare in providing quality services is congruent with the high share of out-of-pocket expenditure. As per the National Health Profile (NHP) 2018, India is among the countries with the least public health spending and high out-of-pocket expenditure (OOPE). Also, the health financing profile (2017) by WHO shows nearly 67 percent of total expenditure on health in India was paid out of pocket, while the world average is just 18.2 percent. The flow of resources and services in case of public healthcare is also responsible for widening gaps and inequitable access to healthcare services.

Centre versus state

Constitutionally, the central government oversees defining of the healthcare policies, providing financial resources and medical education in the country, the states are responsible for the delivery of these services to the people through various channels. This decentralisation has its pros and cons and does cause incongruity in the quality and coverage of healthcare services amongst the states. For instance, larger states such as Karnataka, Telangana and Kerala had the maximum number of public and private beds per 1,000 population in 2019. However, the NITI Aayog's Health Index (2019) which takes into account the quality and delivery of services, as well as the health outcomes, had the states of Kerala, Andhra Pradesh, and Maharashtra ranked on top, thus emphasising the importance of both quality and reach of healthcare services.

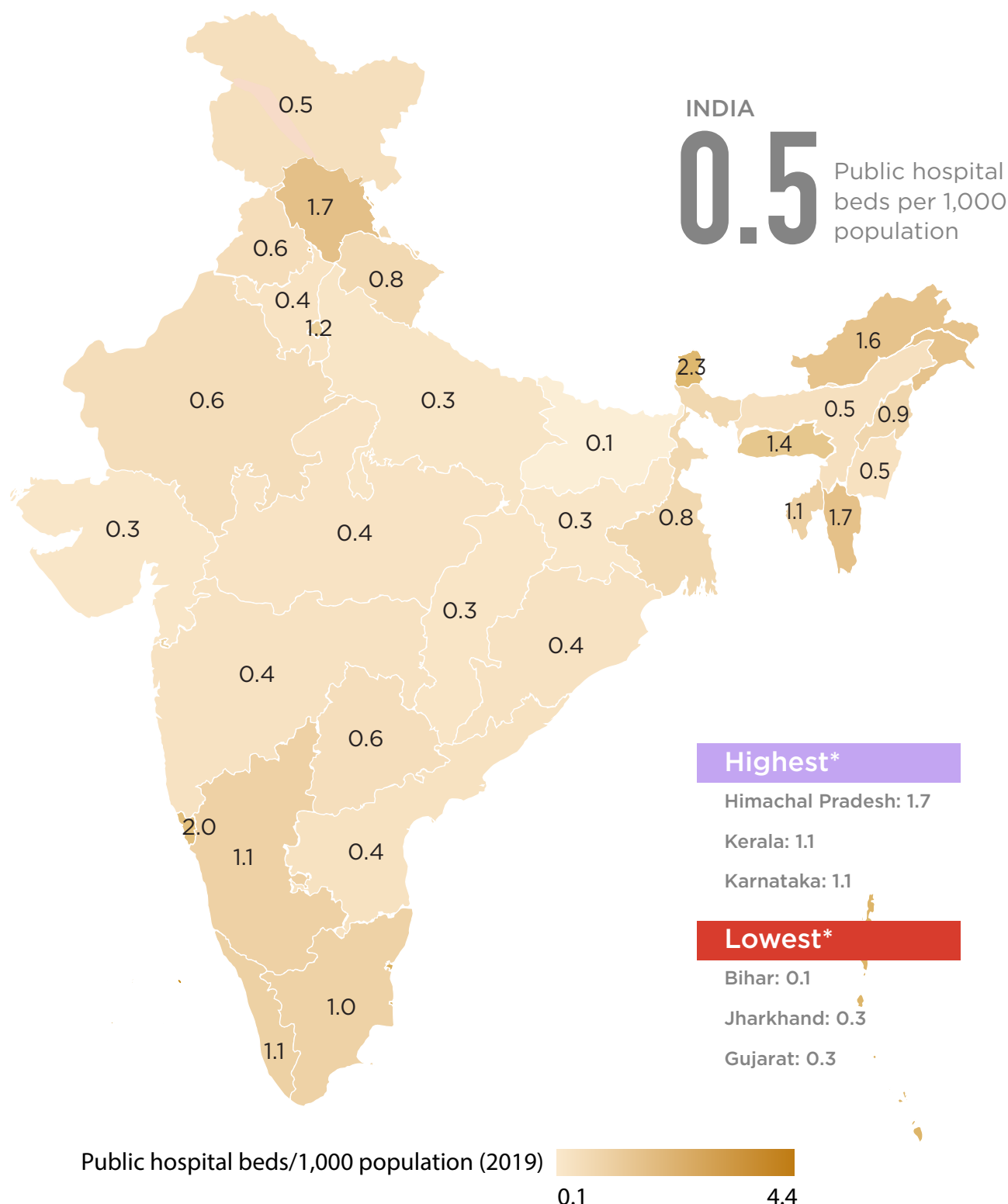
Private healthcare overarches public healthcare in India



65 percent of the total hospitalisation cases
in urban areas belong to private hospitals

Only half a bed is available for every 1,000 people in public hospitals

State-wise number of public beds per 1,000 population (2019)

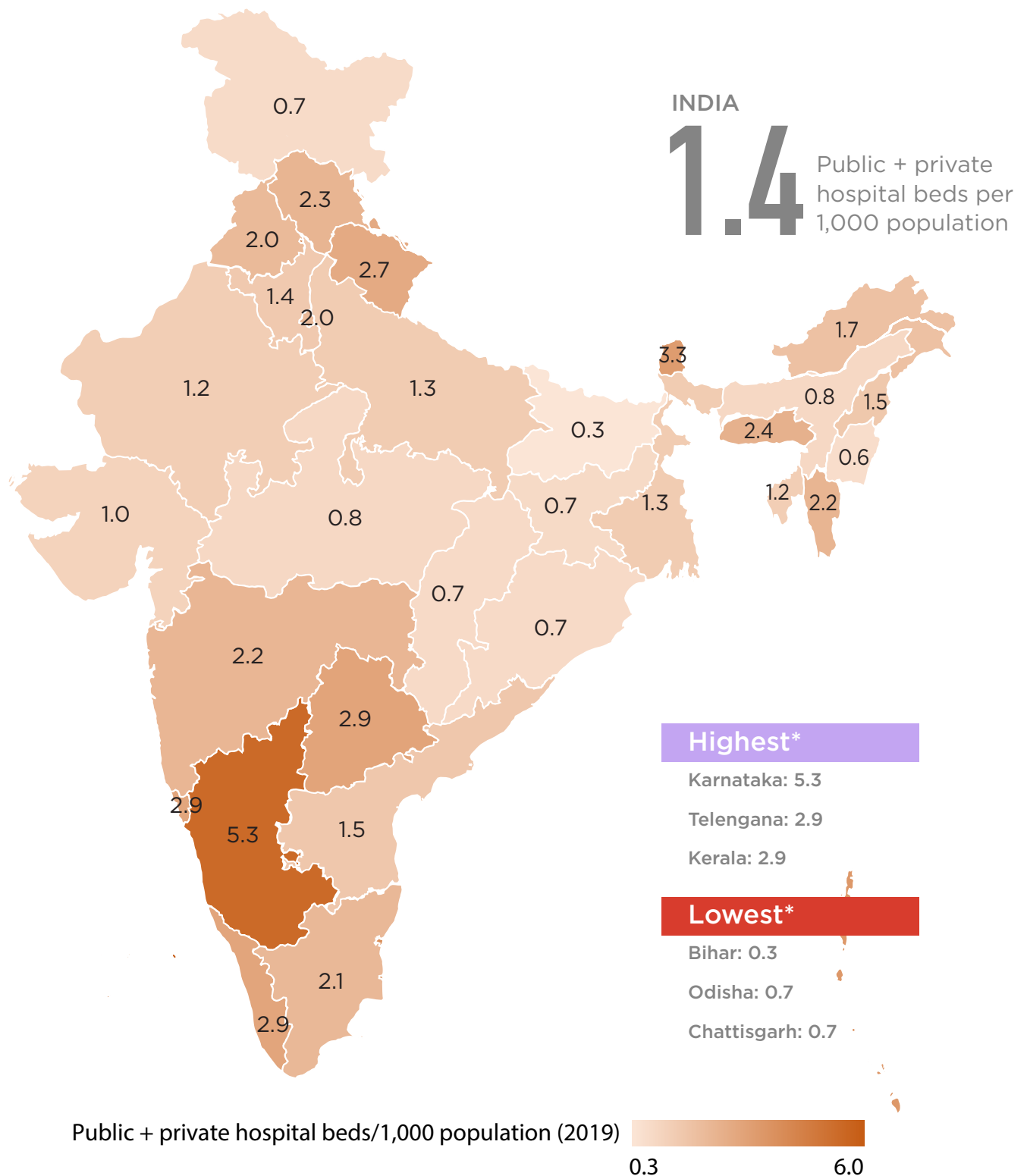


Source: Key Indicators of Social Consumption in India: Health, NSS Round 75th, National Health Profile 2019, Population Projection for India and States – Census of India, 2019, Housing Research

*Only states with population more than 50 lakhs are considered for assessing the highest and lowest ranks.

Even with the addition of private hospital beds, India remains in deficit

State-wise number of public + private hospital beds per 1,000 population (2019)

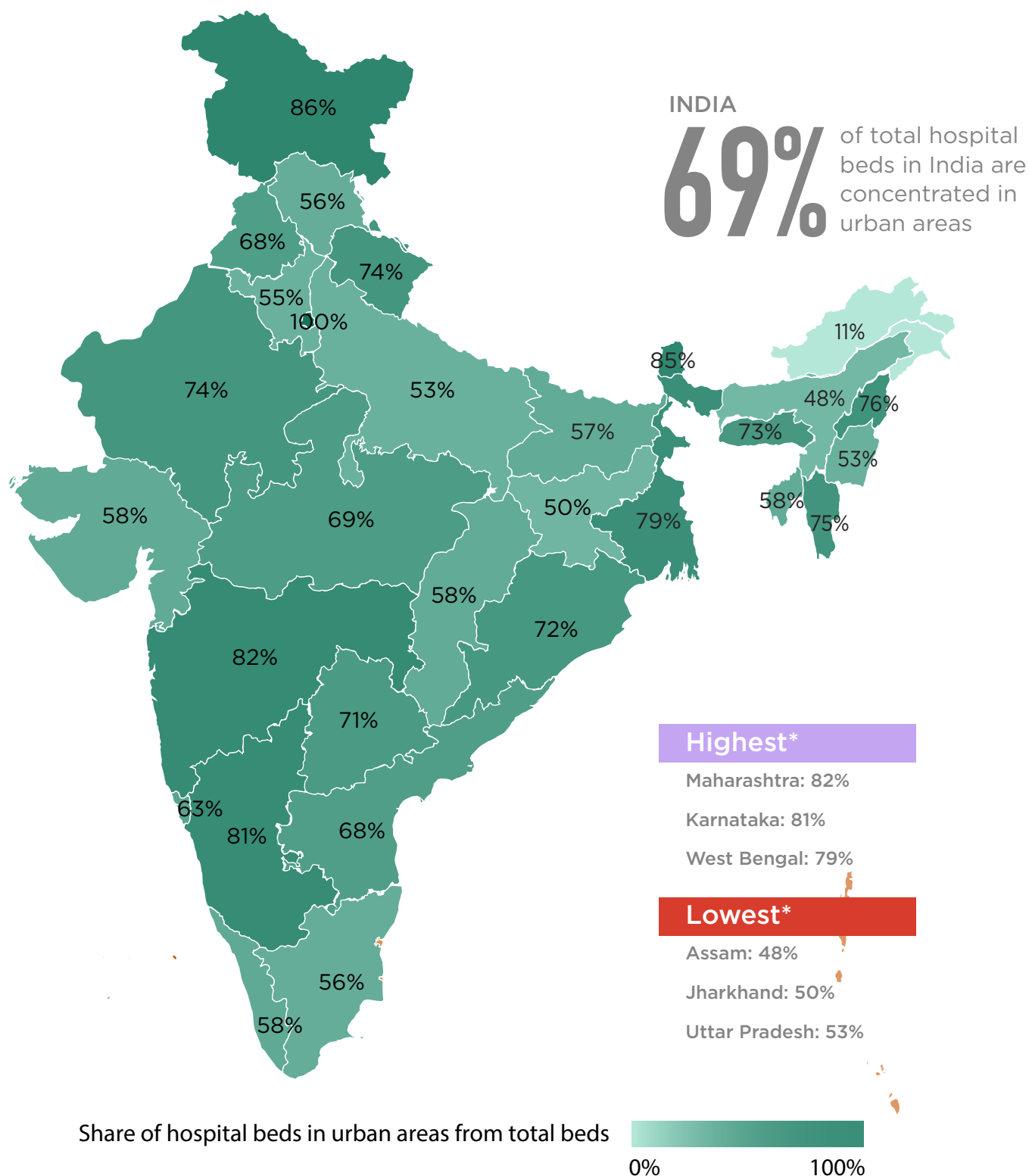


Source: Key Indicators of Social Consumption in India: Health, NSS Round 75th, National Health Profile 2019, Population Projection for India and States – Census of India, 2019, Housing Research

*Only states with population more than 50 lakhs are considered for assessing the highest and lowest ranks.

Healthcare only an urban privilege

State-wise share of public + private hospital beds in urban area from total beds (2019)



Source: Key Indicators of Social Consumption in India: Health, NSS Round 75th, National Health Profile 2019, Population Projection for India and States – Census of India, 2019, Housing Research

*Only states with population more than 50 lakhs are considered for assessing the highest and lowest ranks.

Karnataka, Telangana and Kerala have the maximum number of beds per 1,000 population (of public and private hospitals), but in terms of quality, delivery of services and health outcomes, Kerala, Andhra Pradesh, and Maharashtra top the NITI Aayog's National Health Index (2019).

None of the larger states today have even reached the 2 bed per 1,000 population standards in public healthcare delivery, as mentioned in the National Health Policy (2017). Even with private beds included, Karnataka, Telangana, Kerala, Uttarakhand, Himachal Pradesh, Maharashtra, Tamil Nadu, and Punjab manage to reach the desired standard with maximum (> 60 percent) number of beds concentrated in urban areas only.

Slow pace of healthcare initiatives

Over the years, several healthcare initiatives have been taken up by the Indian government to overcome the inadequacies of the current system but much needs to be done to address the glaring gaps. The National Health Policy (NHP) (2017) also recommends increasing healthcare expenditure up to 2.5 percent of GDP (currently it stands at 1.6 percent of the total GDP) and significantly reducing OoPE by 2025. Some of the recent initiatives, like Ayushman Bharat – a health insurance scheme, expected to cover approximately 500 million poor and vulnerable beneficiaries with coverage up to INR 0.5 million per family per year for secondary and tertiary care hospitalisation – have been steps in the right direction but implementation at the grass root level only will guarantee success.

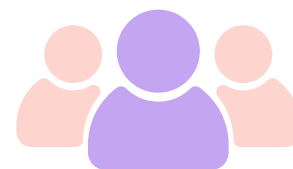
It is a matter of great concern that despite an impressive economic growth trajectory and healthcare initiatives, India continues to underperform compared to other countries. The skewed and unsatisfactory healthcare delivery and

glaring gaps are openly highlighted in the current dire times, with India having the second highest COVID-19 caseload in the world. In the face of this adversity and ensuing large-scale vaccination drive, the estimated budget outlay in FY 2021 for health and well-being has been increased 137 percent compared to previous year – INR 94,452 crore (USD 1.2 billion) to INR 2,23,846 crore (USD 3 billion).

Is India ready for the future?

To face similar challenges in the future, India's healthcare financing and infrastructure needs to improve significantly to adequately cater to the population which is expected to reach 1.47 billion by 2031. Moreover, as the demographics are shifting, share of population above 60 years of age is projected to grow from 10.1 percent in 2021 to 13.1 percent (0.2 billion).⁸ The dire need to spruce up our healthcare infrastructure and pay close attention to the growing cities is apparent from the fact that of the total population nearly 38 percent or 0.5 billion people will be residing in cities by 2031.

One in three people in India will be living in cities by 2031



In the backdrop of the growing population in urban areas, increasing share of aging population and healthcare taking centre place in the current pandemic, it becomes imperative to understand how equipped are our cities in terms of basic healthcare infrastructure.

⁸Population Projection for India and States – Census of India, 2019

Pune outranks other cities on health parameters; Delhi NCR sits at the bottom

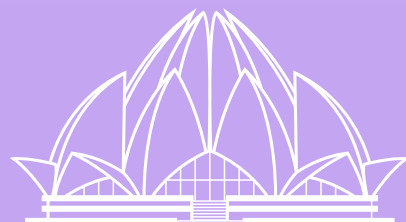
1st PUNE

is the healthiest city amongst the top eight cities, with parameters such as number of hospital beds, ease of living, water quality, and local body performance backing the rank.



8th DELHI NCR

ranks the lowest, as inadequate number of hospital beds, poor air quality and low score on the livability index pulls down the city's ranking.



Water scarcity looms large for Chennai; inadequate hospital beds concerns Mumbai

2nd
Rank

Ahmedabad

scores the highest on sanitation and solid waste management and the lowest on water quality and availability



3rd
Rank

Bengaluru

has the highest number of hospital beds, as compared to other top eight cities, but scores low on air quality and municipal performance



4th
Rank

Mumbai

number of hospital beds, air quality and livability index pull down the financial capital's ranking



5th
Rank

Hyderabad

scores low on number of hospital beds and ease of living, but fared well in air quality, sanitation and solid waste management



6th
Rank

Chennai

topped in air quality, looming water scarcity pulls down the overall rank



7th
Rank

Kolkata

sits at the lower end due to inadequate hospital beds and ease of living, but fared well in air quality and water availability



Indian cities through the lens of healthcare

Cities are the engines of growth for any country. Abuzz with economic activity, urban populace, the cities tell a story of a country's growth trajectory. In India, maximum socio-economic activity is concentrated in the top eight cities of Ahmedabad, Bengaluru, Chennai, Delhi NCR, Hyderabad, Kolkata, Mumbai (MMR), and Pune.

As of 2020, 101 million lived in the top eight cities, which had an average density of 3,000 persons per sq km, which meant only 4 sq ft space per person.

As per the Census of India projections, as of 2020, it is estimated that nearly a quarter of the total urban population was concentrated in these top eight cities. With the burgeoning office and commercial activity, the population in these major urban areas is only expected to grow and in fact, cities such as New Delhi, Mumbai, Hyderabad, and Pune are among the top 50 cities expected to see maximum population growth till 2030.⁹

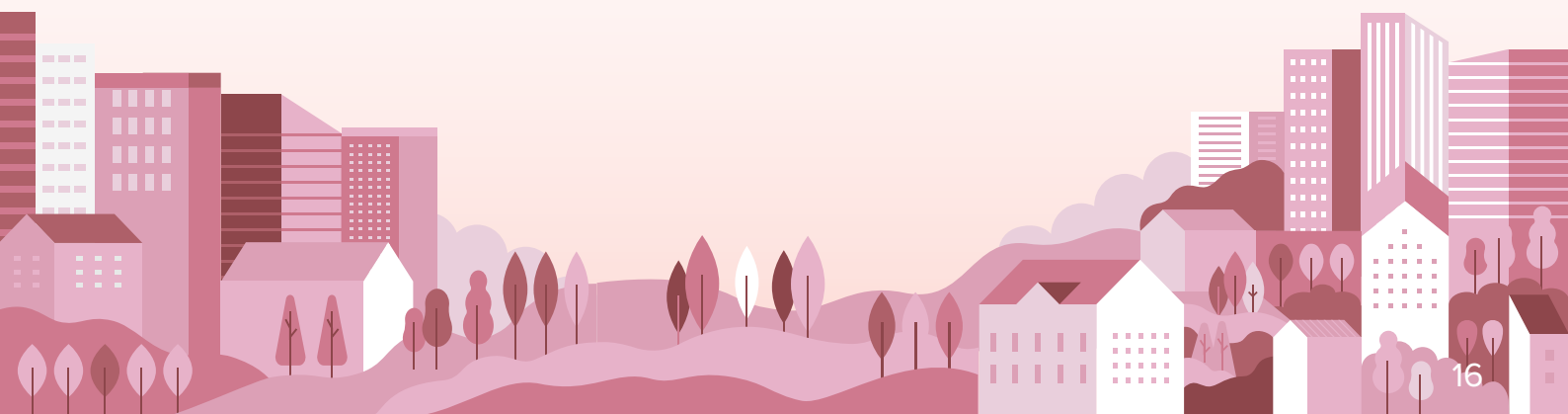
In response to the growing population and gaps in public services, many private hospitals, both small and big, have proliferated these cities. Over time, the quality healthcare provided by private players has seen even the regional population being dependent on these services. Excellent international connectivity and comparatively lower cost has turned major cities such as Chennai, Mumbai, Delhi and Bengaluru into prominent medical tourism spots in India.

However, buckling under the pressure of growing population, the infrastructure in the major cities is constantly being tested leading to increase in problems related to air quality, water supply, sanitation, waste management, etc. affecting the quality of life and consequently the health of its citizens. Moreover, with the healthcare scenario primarily dominated by private players, the OOPE in these cities is also very high for the public.

We looked at our top eight cities through the lens of healthcare to understand the livability in our metros that are engines of economic growth for our country, not only for real estate but across sectors. Gauging the city from a healthcare perspective a 'Housing.com City Health Card' has been prepared by benchmarking the top eight cities against important parameters such as number of hospital beds, air quality, water quality, sanitation, livability index, among others.

Although, it is to be noted that most of the private hospitals as well as tertiary public healthcare services are concentrated in these major urban centres. This pushes the average of number of beds significantly higher as compared to the national average in these cities -again highlighting the grave lopsided health infrastructure.

⁹Oxford Economics



What is Housing.com's City Health Card?

Housing.com's City Health Card is a comparative assessment of the top eight cities of Ahmedabad, Bengaluru, Chennai, Delhi NCR, Hyderabad, Kolkata, Mumbai and Pune, considering several parameters such as the number of hospital beds, air quality, water quality, ease of living, sanitation, waste management, performance and sustainable initiatives taken by the local government which influence the health scenario, and hence, the basic livability conditions of a city.

Each parameter is assigned a substantial weight depending upon the criticality of the parameter. The final arrived scores are used to determine the rank of a city.

Why is it important?

The need for the health card arises from limited or segregated information on the important health parameters of a city that make it ideal for living and mirrors its socio-economic growth. Currently, there is a glaring disconnect between the socio-economic growth and the basic livability parameters of our top cities.

Housing.com City Health Card summary

As per Housing.com's City Health Card, Pune is ranked on the top amongst all the cities, scoring significantly high on parameters such as the number of beds, ease of living, water quality and also performance and sustainable initiatives taken by its local government. On the other hand, Delhi NCR, which is an agglomeration of NCT of Delhi and the cities of Gurugram, Faridabad, Noida, Greater Noida and Ghaziabad, was ranked the lowest. The main reasons for Delhi NCR to be at the bottom of the list are deteriorating air quality, especially during winters, water quality and inadequate water supply. In fact, the cities of Ghaziabad, Noida, Greater Noida and Delhi NCT were ranked amongst the top 10 most polluted cities in the world.¹⁰

Mumbai, the financial capital of India, and its metropolitan region, which is also the largest residential real estate market in the country with a transactional value of USD 2.5 billion in the first quarter of 2021, was ranked fourth on the Housing.com City Health Card. Parameters such as the number of beds, air quality, and livability pulled down the city's overall score. Similarly, Bengaluru is ranked third despite a high number of hospital beds per 1,000 population and the top rank in ease of living index. The city scored low on air quality, water quality, sanitation and performance of the municipal body.

¹⁰World Air Quality Report (2019), IQAir – technology partner of UNEP and United Nations

Housing.com City Health Card

City health rank	City	No. of hospital beds/1,000 population	Air quality	Water quality and availability	Sanitation & solid waste management	Ease of Living Index (2020)	Municipal Performance Index (2020)	Sustainable initiatives
1	Pune	↑	↓	↑	↓	↑	↑	↑
2	Ahmedabad	↑	↓	↓	↑	↑	↓	↑
3	Bengaluru	↑	↓	↓	↓	↑	↓	↓
4	Mumbai	↓	↓	↑	↓	↓	↑	↑
5	Hyderabad	↓	↑	↓	↑	↓	↓	↑
6	Chennai	↓	↑	↓	↓	↓	↑	↓
7	Kolkata	↓	↑	↑	↓	↓	↓	↓
8	Delhi NCR	↓	↓	↓	↓	↓	↓	↑

Ranking for individual parameters



Source: Housing Research (refer Annexure 1 for methodology)

Note: Public and private hospitals with more than 100 beds are considered. The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

PUNE RANK 1



2020
2030E

Population

5.6 million
6.1 million



Area (sq km)*

7,256



Hospital beds (Public + Private)** (2020)

No. of beds /
1,000 population

3.5

State average

2.2

Total beds

18,000–20,000



Unsold inventory*** (2020)

1,31,870

▽ Pune, a well-known IT and education hub of India, ranks the highest on the City Health Card as it has the edge over other metros regarding the number of beds, water quality and availability, salubrious climate, adoption of digital initiatives through e-governance and ease of living index.

▽ The city's proximity to Mumbai and excellent regional and international connectivity has acted as a catalyst in making it an attractive commercial and residential centre. The city is also one of the best performing residential markets among the top eight metros.

▽ In response to the growing number of residents and global tech companies, many leading private hospital services have come up in Pune. Not only this, but the city is also becoming a hub for health tech startups due to the presence of a talent pool from high-quality medical and engineering institutes.

▽ Having said that, however, the city still struggles with public healthcare delivery, as is highlighted by the fact that Pune is one of the cities with high COVID-19 caseload.

▽ Currently, the city's healthcare facilities are concentrated in central areas and eastern areas. Although, the northern regions, such as the IT hub of Hinjewadi and Ravet, see significant residential traction, very few hospitals are located here.

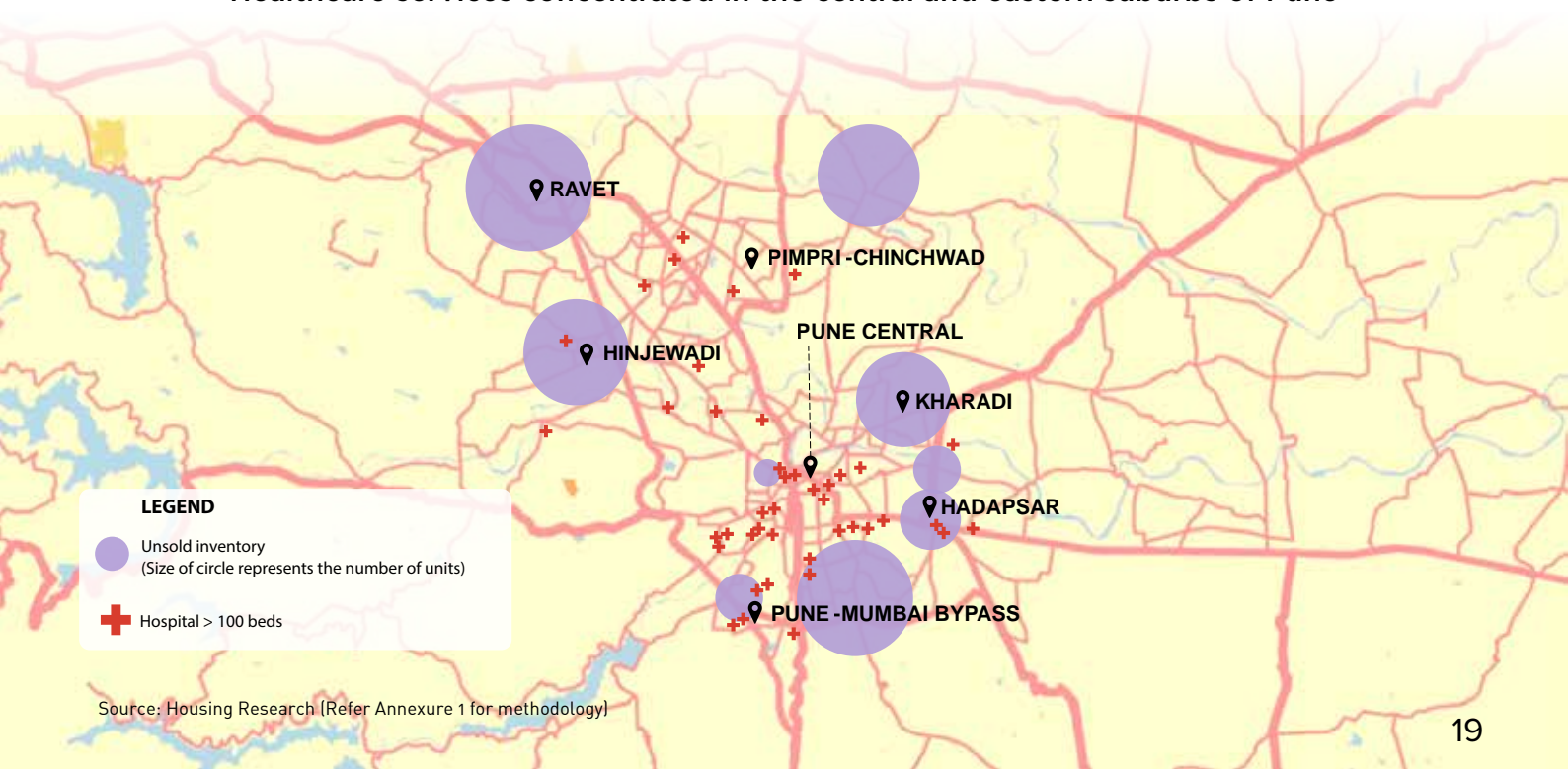
Source: Housing Research (Refer Annexure 1 for methodology)

*Metropolitan area

**The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

***Unsold inventory for apartment and villas available as of December 2020

Healthcare services concentrated in the central and eastern suburbs of Pune



Source: Housing Research (Refer Annexure 1 for methodology)

AHMEDABAD

RANK 2



2020
2030E

Population

7.1 million
7.7 million



Area (sq km)*

2,254



Hospital beds (Public + Private)** (2020)

No. of beds /
1,000 population

3.2

State average

1.0

Total beds

21,000–23,000



Unsold inventory*** (2020)

38,610

- ▽ Ahmedabad, the largest city of Gujarat, has seen significant economic growth in the last decade, due to the thriving textile, manufacturing, and chemical and petrochemicals industries.
- ▽ With its focus on inclusive and sustainable development, the city is taking strides in initiatives related to transport, solid waste management and sanitation. Ahmedabad stood at the third position in the 'Ease of Living Index 2020'.
- ▽ Currently, the commercial development is also concentrated in the western region, while industrial areas are mainly located in the eastern side.
- ▽ In line with this, the density of hospitals is more in the western and central suburbs compared to other regions. The city has nearly 3.2 hospital beds per 1,000 people.
- ▽ However, albeit sparse, the healthcare services have also come up in other localities such as Chandkheda, Nava Naroda and Vatva, which are also prominent residential hubs.

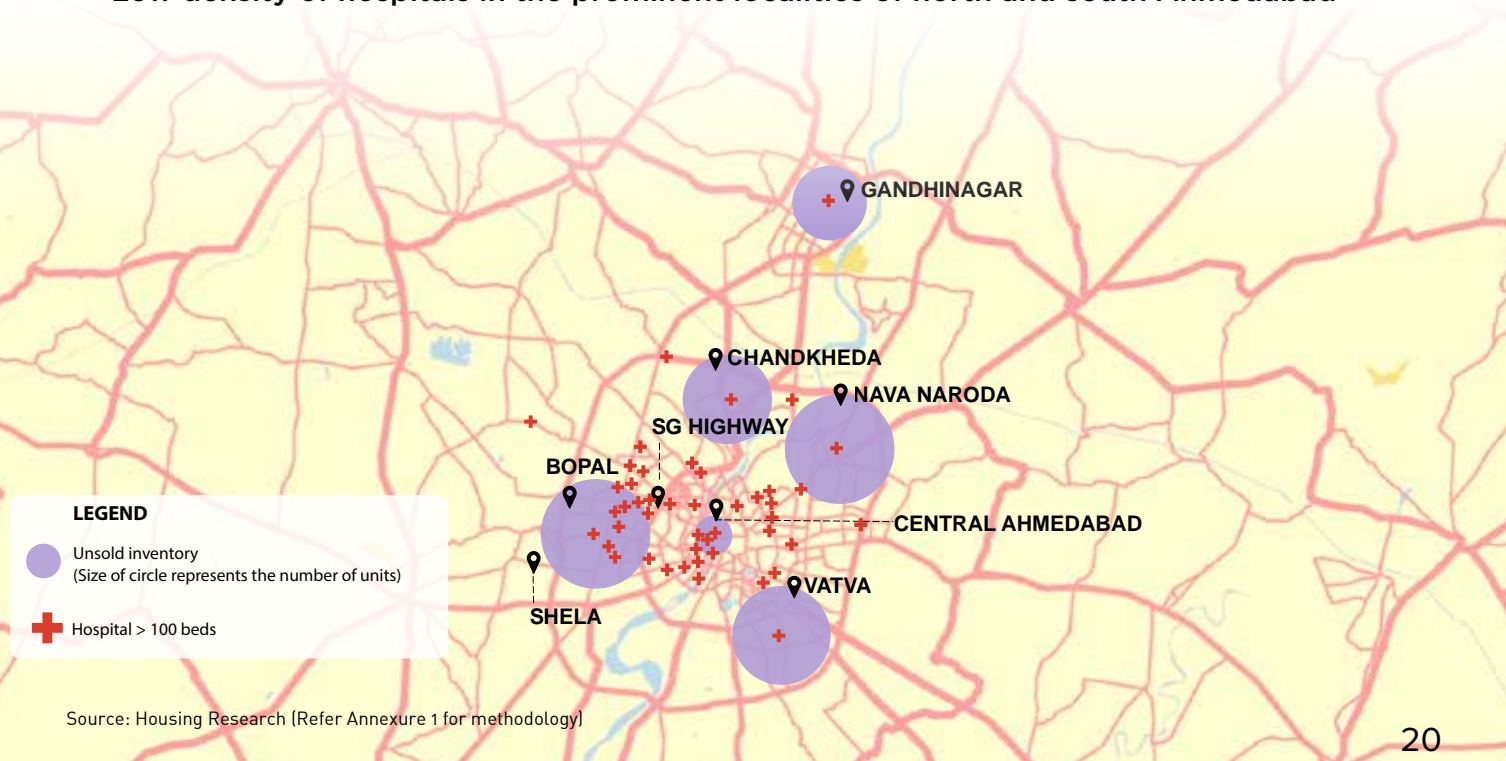
Source: Housing Research (Refer Annexure 1 for methodology)

*Includes area under Ahmedabad Urban Development Authority and Gandhinagar Development Authority

**The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

***Unsold inventory for apartment and villas available as of December 2020

Low density of hospitals in the prominent localities of north and south Ahmedabad



Source: Housing Research (Refer Annexure 1 for methodology)

BENGALURU

RANK 3



2020
2030E

Population

9.5 million
10.2 million



Area (sq km)*

8,005



Hospital beds (Public + Private)** (2020)

No. of beds /
1,000 population

3.6

State average

5.3

Total beds

33,000–35,000



Unsold inventory*** (2020)

71,200

Source: Housing Research (Refer Annexure 1 for methodology)

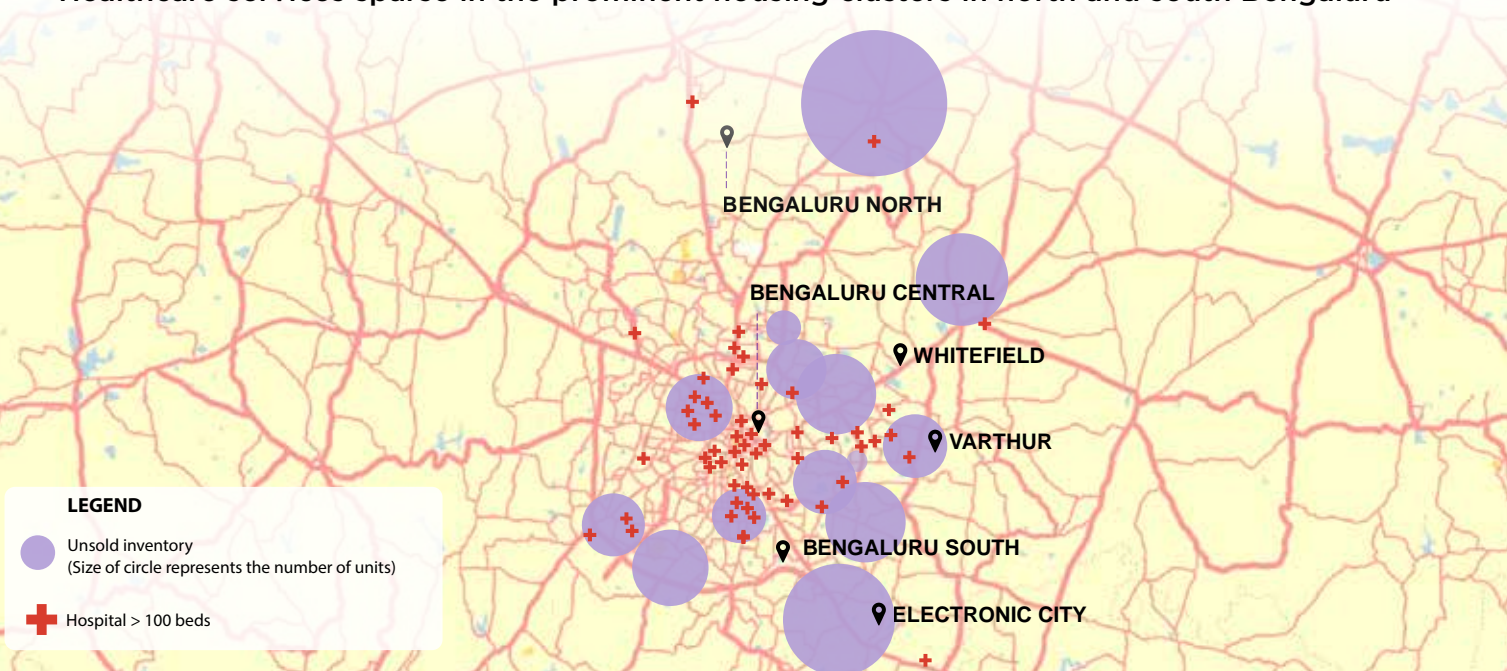
*Metropolitan area

**The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

***Unsold inventory for apartment and villas available as of December 2020

- Bengaluru, colloquially known as India's IT capital, has the highest number of beds (3.6) per 1,000 population among the metros, aligning with the overall scenario of the state of Karnataka having the maximum number of beds vis-à-vis the state's population.
- Over the years, the city has attracted a large-scale white collar migrant population with high spending propensity, leading to many prominent private healthcare providers setting up hospitals with world-class services. The city has also developed into a medical tourism hub due to robust international connectivity.
- Although the city has recently topped the charts in the Ease of Living Index (2020), the burgeoning population, over the years, has led to significant pressure on the water supply, environment, and transport infrastructure of the city.
- Currently, healthcare facilities are concentrated in the central and key IT hubs of western localities, with very few healthcare facilities in the north and south regions. Contrary to this, most of the residential stock is available in the northern and southern micro markets.

Healthcare services sparse in the prominent housing clusters in north and south Bengaluru



Source: Housing Research (Refer Annexure 1 for methodology)

MUMBAI

RANK 4



2020
2030E

Population

20.5 million
22.2 million



Area (sq km)*

6,640



Hospital beds (Public + Private)** (2020)

No. of beds /
1,000 population

2.2

State average

2.2

Total beds

43,000–45,000



Unsold inventory*** (2020)

2,63,990

- Mumbai, the financial capital of India, is the second-most populous city in the country after Delhi.
- The city has witnessed tremendous growth in economic activity over the years due to excellent national and international connectivity, attracting global service sector firms and working population along with it.
- The increasing population, lack of space and high capital values in the mainland of Mumbai has seen the residential activity move towards the suburbs of Thane, Navi Mumbai, Kalyan-Dombivli, etc.
- However, the public healthcare services have not been able to keep up with the changing demographics, which are still primarily concentrated in the central business district areas of Mumbai.
- To cater to the demand of people residing in suburbs, many small private hospitals and allied services have mushroomed over the years. Also, these suburbs have seen large healthcare companies setting up their multispecialty hospitals in response to the demand.

Source: Housing Research [Refer Annexure 1 for methodology]

*Metropolitan area

**The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

***Unsold inventory for apartment and villas available as of December 2020

Note: Mumbai Metropolitan Region (MMR) includes Mumbai, Navi Mumbai and Thane

Satellite cities to Mumbai falling behind in healthcare services



Source: Housing Research [Refer Annexure 1 for methodology]

HYDERABAD RANK 5



2020
2030E

Population

8.6 million
9.2 million



Area (sq km)*

7,257



Hospital beds (Public + Private)** (2020)

No. of beds /
1,000 population

2.9

State average

2.9

Total beds

24,000 – 26,000



Unsold inventory*** (2020)

39,300

- Hyderabad is ranked sixth in the City Health Card and the 24th best city to live in among 111 cities from the country, as per the Ease of Living Index (2020).
- The city also gained prominence as a global pharmaceutical hub in the on-going pandemic due to the presence of major firms developing a vaccine and international connectivity for export of the same.
- Along with pharmaceuticals, the IT industry has witnessed rapid growth in Hyderabad due to business-friendly policy initiatives such as the establishment of Telangana State Industrial Infrastructure Corporation Limited (TSIICL) and TS-iPass offering single-window clearances.
- As the office activity is mainly concentrated in the western suburbs, this region has seen tremendous commercial and residential growth compared to other areas.
- In terms of healthcare, most of the city's health infrastructure follows the residential footprints, with prominent services concentrated in the western and central suburbs.
- Although the city fares better than other metros in terms of air quality, sanitation and waste management, however, the rapid influx of population has added stress over the water supply, with demand exceeding the supply leading to water shortage.

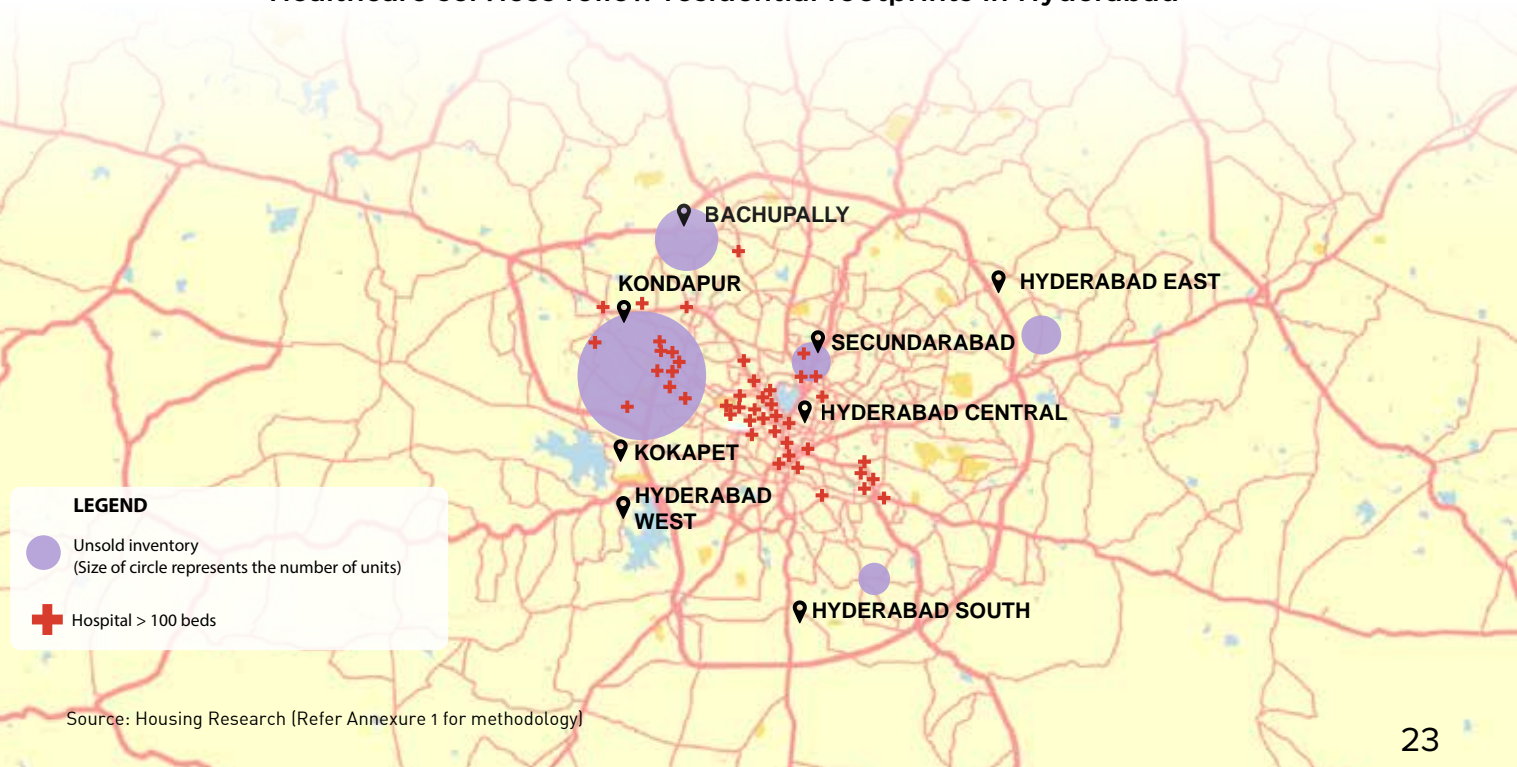
Source: Housing Research (Refer Annexure 1 for methodology)

*Metropolitan area

**The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

***Unsold inventory for apartment and villas available as of December 2020

Healthcare services follow residential footprints in Hyderabad



Source: Housing Research (Refer Annexure 1 for methodology)

CHENNAI

RANK 6



2020
2030E

Population

9.6 million
10.4 million



Area (sq km)*

1189



Hospital beds (Public + Private)** (2020)

No. of beds /
1,000 population

3.0

State average

2.1

Total beds

28,000–30,000



Unsold inventory*** (2020)

36,610

- Though in the Ease of Living Index, Chennai jumped to fourth rank in 2020 from 14th in 2018, our assessment of the various parameters placed the city in the sixth spot, due to poor sanitation, solid waste management and water supply.
- The city, albeit only once, had reached 'Day Zero' – a state where no water is left in the main reservoirs, in 2019, and is still suffering from acute water shortage.
- However, it is to be noted that Chennai currently has nearly three beds per 1,000 people, well above the national average of 1.4 beds.
- Over the years, Chennai has seen significant growth in the automobile and service sector, especially IT, amassing the working population from all over the country.
- It is also base for many prominent healthcare service providers and coupled with international connectivity; the city has become a desired place for medical tourism.
- Currently, most of the hospitals are located in the eastern suburbs. However, southern and western suburbs with dynamic IT, commercial and residential activity still fall short when it comes to multispecialty and super specialty healthcare services.

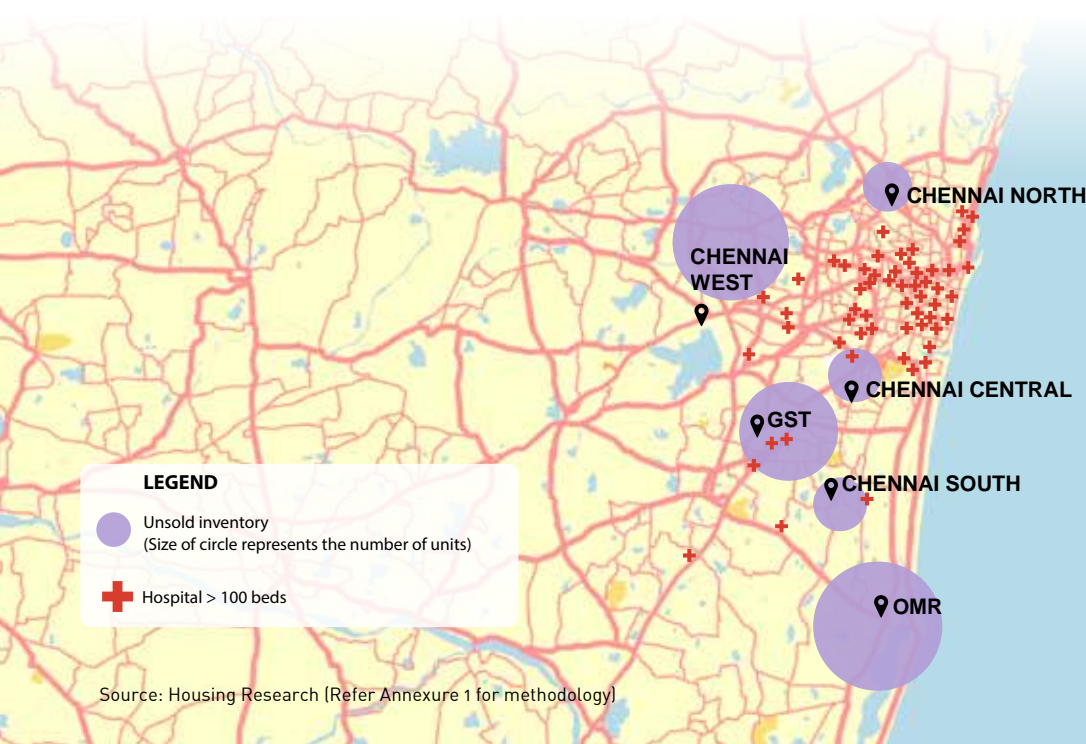
Source: Housing Research (Refer Annexure 1 for methodology)

*Metropolitan area

**The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

***Unsold inventory for apartment and villas available as of December 2020

Low concentration of healthcare facilities in prominent residential localities of OMR and GST



Source: Housing Research (Refer Annexure 1 for methodology)

KOLKATA

RANK 7



2020
2030E

Population

15.7 million
17.0 million



Area (sq km)*

1,851



Hospital beds (Public + Private)** (2020)

No. of beds /
1,000 population

2.0

State average

1.3

Total beds

32,000–34,000



Unsold inventory*** (2020)

30,210

- Kolkata lags in terms of delivery of healthcare services, sanitation and solid waste management compared to other cities putting it in the seventh spot.
- The city, which currently has a population of 15.7 million, has two beds per 1,000 people and requires an upgrade to cater to the growing population, estimated to reach 17 million by 2030.
- The hospital services are currently located in the central, eastern and southern areas of the city.
- The planned satellite areas of New Town and Salt Lake City in the east and upcoming IT hubs of Behala and Joka in the south also see maximum commercial and residential activity.
- However, no major healthcare services are currently located in the western and northern areas of the city.

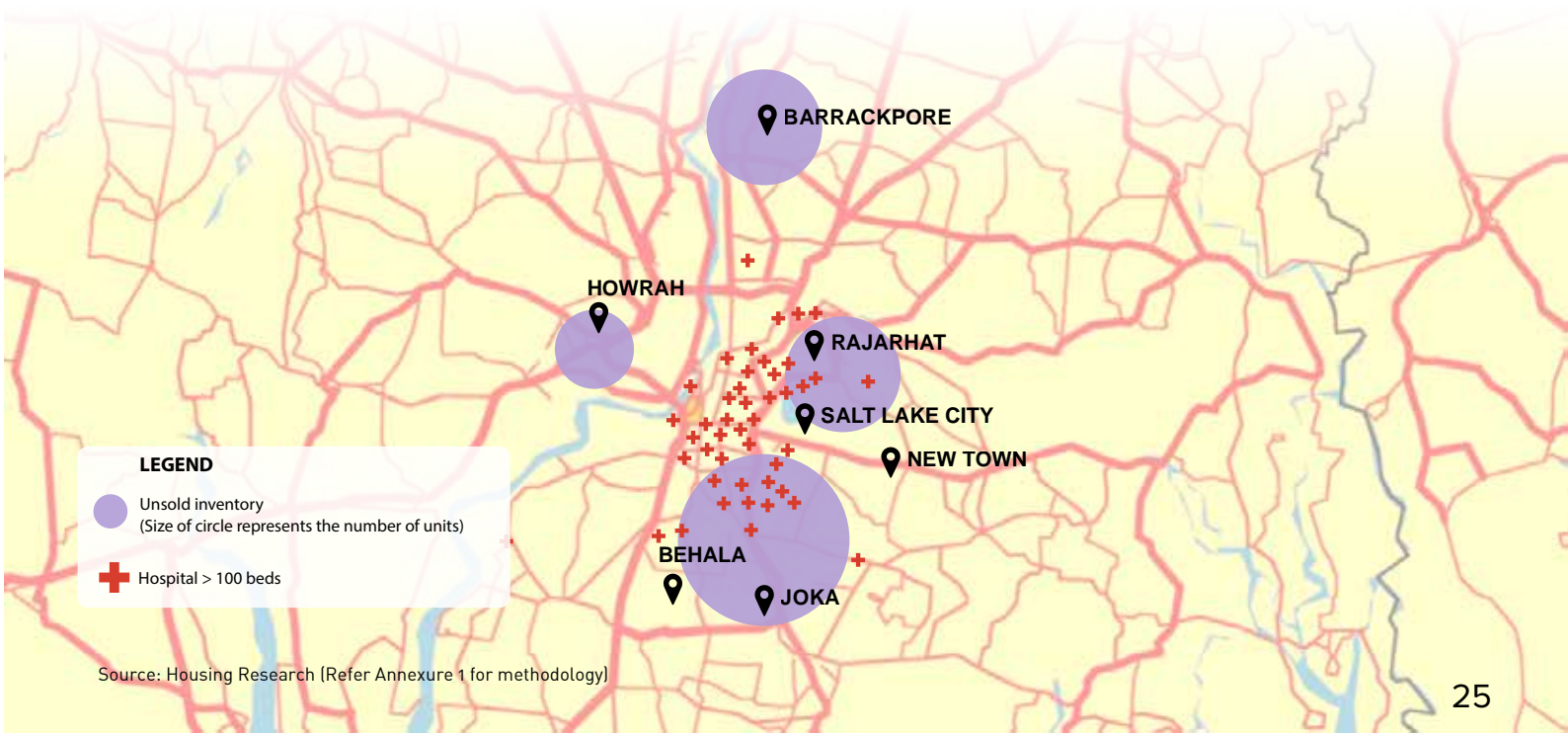
Source: Housing Research (Refer Annexure 1 for methodology)

*Metropolitan area

**The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

***Unsold inventory for apartment and villas available as of December 2020

Healthcare services are mainly located in the central, eastern and southern suburbs in Kolkata



Source: Housing Research (Refer Annexure 1 for methodology)

DELHI NCR

RANK 8



2020
2030E

Population

24.3 million
26.3 million



Area (sq km)*

3,381



Hospital beds (Public + Private)** (2020)

No. of beds /
1,000 population

2.0

State average

1.5

Total beds

48,000–50,000



Unsold inventory*** (2020)

1,06,690

- Being the capital of India, the National Capital Territory (NCT) of Delhi has several prominent public healthcare institutes such as the All India Institute of Medical Sciences (AIIMS). It is also a major hub of medical tourism due to leading super specialty and multispecialty private hospitals.
- However, Delhi (NCT & NCR) is ranked the lowest among the top eight cities of India as per our City Health Card due to factors such as deteriorating air quality, water supply, and poor solid waste management and sanitation.
- The density of hospitals is lower in the Ghaziabad and Greater Noida regions compared to Gurugram, Noida and Faridabad which also have higher levels of service sectors, warehousing and manufacturing activity.
- Even in Gurugram, Faridabad and Noida, the healthcare services mainly belong to the private sector, as public healthcare remains a straggler.
- In terms of residential market, all the cities of Delhi NCR, except Faridabad, hold almost equivalent volume of units.

Source: Housing Research (Refer Annexure 1 for methodology)

*Area includes Delhi NCT, Noida, Greater Noida, Ghaziabad, Gurugram and Faridabad

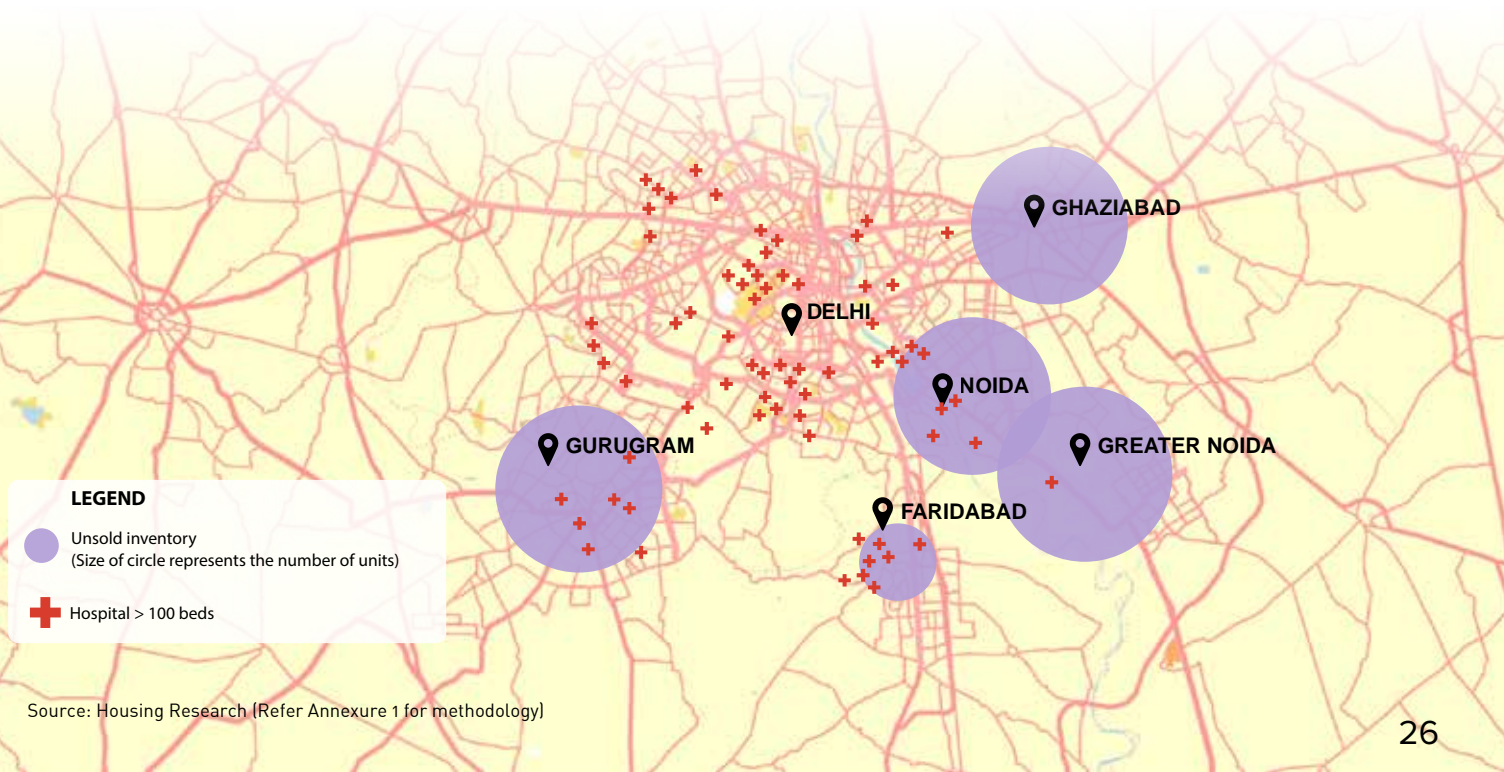
**The additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.

State average includes average bed density for Delhi NCT, Uttar Pradesh and Haryana

***Unsold inventory for apartment and villas available as of December 2020

Note: NCR includes Noida, Greater Noida, Ghaziabad, Gurugram and Faridabad

Ghaziabad and Greater Noida lag in healthcare services in Delhi NCR



Source: Housing Research (Refer Annexure 1 for methodology)

Trends in real estate in post-pandemic future

RESIDENTIAL

LARGER HOMES

Work-from-home altering the homebuyer's preference

TOWNSHIPS

with all amenities under one roof to be favoured

HEALTHY LIVING

now one of the top priority

TIE-UPS

between RWAs, hospitals and pharmacies

SENIOR LIVING
gets a boost

ONLINE HOMEBUYING

to increase multi-fold

HOMETOWNS

remote working to make smaller cities more attractive

OFFICE

HYBRID MODEL

combination of remote working and working from office to be preferred

RETHINKING DESIGN

more focus on design of office spaces to accommodate standards and norms

DOWNWARD
pressure on RENTS

FLEXIBLE

Spaces to offtake over traditional formats

SMART OFFICE

Technological augmentation of office space to maintain touchless surfaces and social distancing

HEALTH & SAFETY

of employees to be paramount

Trends in real estate in post-pandemic future

RETAIL

OMNI-CHANNEL

Retailers to shift to hybrid format of online and brick-and-mortar stores

**FOCUS on
DIGITAL
EXPERIENCE**

MALLS
to become
EXPERIENTIAL

‘SAFE’ RETAILING

safety considerations to motivate home-bound consumers

RELOOK at
PRODUCT MIX

**CONTACTLESS
TRANSACTIONS**

WAREHOUSING

E-COMMERCE PUSH

Robust development to meet sudden rise in e-commerce

AUTOMATION
to reduce human dependency

**INCREASE
CAPACITY**
to keep up with the
increasing demand

DECENTRALISE

to enhance last-mile connectivity

**EXPAND
FOOTPRINT**

to **SMALLER CITIES** to meet the demand

Key takeaways

Global benchmarks

- Advanced countries such as the United States, the UK, Japan, Germany, and Canada spent nearly 10–18 percent of their GDP on healthcare in 2019.
- In comparison, developing countries such as India and China expended only 3.5 percent and 5.4 percent, respectively, from the total GDP on healthcare. This includes both the public and out-of-pocket expenditure.
- The gaps in health infrastructure have manifested into high OOPEx in developed countries, such as Brazil, India and China, as expenses ranged between 45–70 percent in these countries compared to 15–30 percent spent in other major economies.

▽ The global average density of hospital beds is 3.2 beds per 1,000 people.

Daunting India story

- On average, India has spent only 1.3 percent of its total GDP on public healthcare between 2014 to 2019. Even after including OOPEx, the total expenditure, which was 3.5 percent in 2018, still stands at the lowest end as compared to other major economies.
- The National Health Policy (2017) recommends a standard of 2 beds per 1,000 population for public health services.
- India has an abysmally low 0.5 public hospital beds per 1,000 population and mere 1.4 beds, including public and private hospital beds per 1,000 persons.
- The healthcare services in India face a shortfall of 3.5 million hospital beds in terms of public hospitals. The shortfall is reduced to 2.4 million beds with the inclusion of private hospitals.
- The southern states of Karnataka, Telangana and Kerala have the maximum number of beds per 1,000 population (of public and private hospitals).
- On the other hand, states such as Bihar, Odisha, Chhattisgarh and Jharkhand lag behind and rank the lowest in hospital beds.
- Whereas in terms of quality, delivery of services and health outcomes, Kerala, Andhra Pradesh, and Maharashtra top the NITI Aayog's National Health Index (2019).

Struggling cities

- 101 million people lived in the top eight cities in 2020, which had an average density of 3,000 persons per sq km, which meant only 4 sq ft space per person.
- The concentration of private hospitals and tertiary public healthcare centres in major urban areas has pushed its hospital bed tally higher than the national average.
- In urban areas, 65 percent of the total hospitalisation cases belong to private hospitals, thus creating significant pressure on the healthcare infrastructure.

Housing.com City Health Card results

- Pune ranks the highest on the City Health Card, with the city scoring high on parameters such as the number of beds, ease of living index, water quality, and performance and sustainable initiatives taken by its local government.
- Delhi NCR ranks the lowest due to deteriorating air quality, especially during winters, water quality and inadequate water supply.
- Mumbai, India's financial capital and the largest residential market, was ranked fourth with parameters such as the number of beds, air quality, and livability pulling down the city's score.
- Although Bengaluru was ranked the highest in the Ease of Living Index (2020) and has a high number of hospital beds, the city secured the third rank due to low air quality, water quality, sanitation, and poor performance of the municipal body.
- Ahmedabad secured second place in the City Health Card and had significantly higher scores for the number of hospital beds, sanitation, ease of living and sustainable initiatives.
- Hyderabad, which has a low number of hospital beds, was ranked fifth, although the city fared well in air quality, sanitation and solid waste management.
- Ranked sixth, Chennai scored lower due to poor quality of water and inadequate water supply, as well as poor sanitation and solid waste management.

Annexure 1

City Health Card methodology

- The cities have been ranked among themselves as per weighted scores for parameters like the number of beds (public + private) / 1,000 population, air quality, water quality, sanitation and waste management, ease of living rank, municipal performance indicator and sustainable initiatives.
- Hospitals with more than 100 beds have been considered. The data available for each hospital has been taken from government sources and/or official hospital websites. It has been assumed that 80 percent of data is covered for cities with the list of hospitals available for public/private hospitals through government sources. In case of cities where data was tabulated from municipal websites, medical tourism website, official hospital websites and others relevant sources, it has been assumed that 60 percent data is covered. It is to be noted that, the additional bed infrastructure currently being augmented on a daily basis for COVID-19 have not been considered.
- Air quality has been assessed taking an average of pre-monsoon, post-monsoon and current AQI for each city as available through the official website of the Central Pollution Control Board.
- Water quality has been assessed by scoring cities as per weighted average as per the Bureau of Indian Standards rankings (2019) and Water Stress Index (2019) by Versik Maplecroft.
- Sanitation and waste management has been assessed as per the Swachh Sarvekshan Ranking of 2019.
- The sustainable initiatives have been ranked as per point system for each initiative, which includes healthcare expenditure as per city budgets, open green space, waste management and inclusive transport.
- Weights have been considered for calculating the final rank for individual cities for the City Health Card.
- The population for each city has been projected as per the Census of India (2011).

Annexure 2

List of countries considered for estimating global average for number of beds per 1,000 people

1	Afghanistan	44	Dominica	87	Korea, South	130	Russia
2	Albania	45	Dominican Republic	88	Kuwait	131	Saint Kitts and Nevis
3	Algeria	46	Ecuador	89	Kyrgyzstan	132	Saint Lucia
4	Andorra	47	Egypt	90	Laos	133	Saint Vincent and the Grenadines
5	Antigua and Barbuda	48	El Salvador	91	Latvia	134	San Marino
6	Argentina	49	Equatorial Guinea	92	Lebanon	135	Sao Tome and Principe
7	Armenia	50	Eritrea	93	Liberia	136	Saudi Arabia
8	Australia	51	Estonia	94	Libya	137	Senegal
9	Austria	52	Ethiopia	95	Lithuania	138	Serbia
10	Azerbaijan	53	Fiji	96	Luxembourg	139	Seychelles
11	Bahamas, The	54	Finland	97	Macedonia	140	Singapore
12	Bahrain	55	France	98	Madagascar	141	Slovakia
13	Bangladesh	56	Gabon	99	Malawi	142	Slovenia
14	Barbados	57	Gambia, The	100	Malaysia	143	Solomon Islands
15	Belarus	58	Georgia	101	Mali	144	Somalia
16	Belgium	59	Germany	102	Malta	145	South Africa
17	Belize	60	Ghana	103	Mauritius	146	Spain
18	Benin	61	Greece	104	Mexico	147	Sri Lanka
19	Bhutan	62	Greenland	105	Moldova	148	Sudan
20	Bolivia	63	Grenada	106	Monaco	149	Suriname
21	Bosnia and Herzegovina	64	Guatemala	107	Mongolia	150	Swaziland
22	Botswana	65	Guinea	108	Montenegro	151	Sweden
23	Brazil	66	Guinea-Bissau	109	Morocco	152	Switzerland
24	Brunei	67	Guyana	110	Mozambique	153	Syria
25	Bulgaria	68	Haiti	111	Namibia	154	Tajikistan
26	Burkina Faso	69	Honduras	112	Nauru	155	Tanzania
27	Burma	70	Hong Kong	113	Nepal	156	Thailand
28	Burundi	71	Hungary	114	Netherlands	157	Togo
29	Cambodia	72	Iceland	115	New Zealand	158	Tonga
30	Cameroon	73	India	116	Nicaragua	159	Trinidad and Tobago
31	Canada	74	Indonesia	117	Niger	160	Tunisia
32	Cape Verde	75	Iran	118	Norway	161	Turkey
33	Central African Republic	76	Iraq	119	Oman	162	Turkmenistan
34	Chile	77	Ireland	120	Pakistan	163	Uganda
35	China	78	Israel	121	Palau	164	Ukraine
36	Colombia	79	Italy	122	Panama	165	United Arab Emirates
37	Comoros	80	Jamaica	123	Paraguay	166	United Kingdom
38	Costa Rica	81	Japan	124	Peru	167	Uruguay
39	Croatia	82	Jordan	125	Philippines	168	Uzbekistan
40	Cuba	83	Kazakhstan	126	Poland	169	Venezuela
41	Czech Republic	84	Kenya	127	Portugal	170	Vietnam
42	Denmark	85	Kiribati	128	Qatar	171	Yemen
43	Djibouti	86	Korea, North	129	Romania	172	Zambia
						173	Zimbabwe

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