

Assessment of the healthcare delivery market in India

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1 Macroeconomic overview of India

1.1 A review of India's GDP growth

GDP grew at 6.6% CAGR from fiscals 2012-20

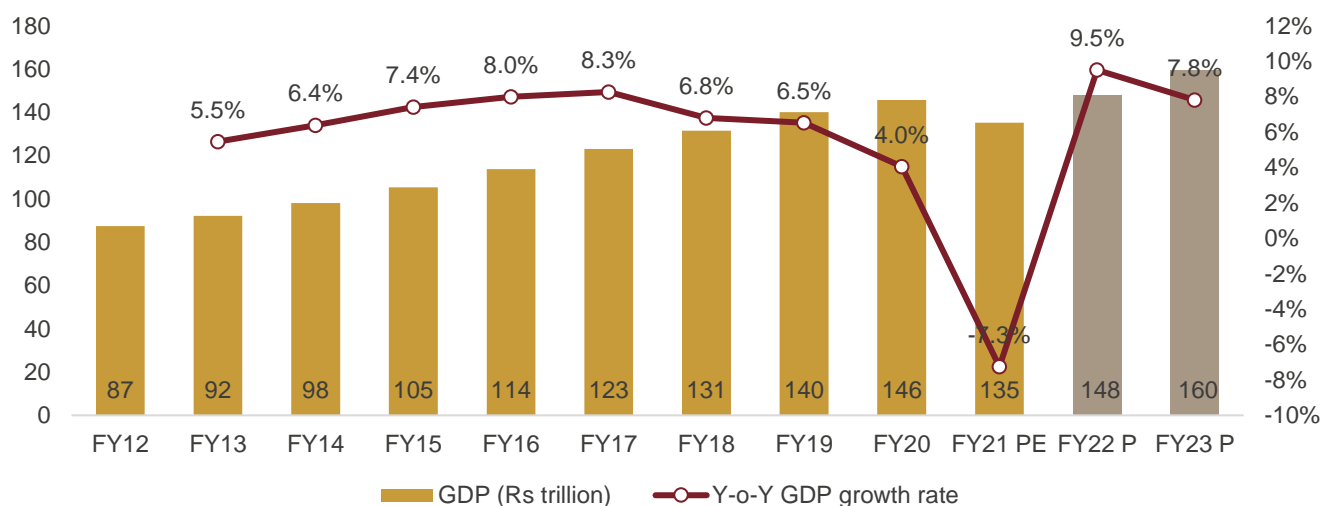
In 2015, the Ministry of Statistics and Programme Implementation (MoSPI) changed the base year for calculating India's GDP between fiscals 2005 and 2012. Based on this, the country's GDP increased at an eight-year CAGR of 6.6% to Rs 146 trillion in fiscal 2020 from Rs 87 trillion in fiscal 2012.

Fiscal 2021 has been a challenging year for the Indian economy, primarily due to COVID-19 pandemic. GDP contracted 7.3% (in real terms) in fiscal 2021, after growing 4.0% in fiscal 2020.

Fiscal 2022 base case GDP growth expected to be 9.5% followed by 7.8% growth in fiscal 2023

India is getting back on its feet slowly, with divergent growth trends. Though data suggests there has been some pick-up in recent months, recovery is weak and uneven.

Real GDP growth in India (new GDP series)



Note: PE: Provisional estimates P : Projection

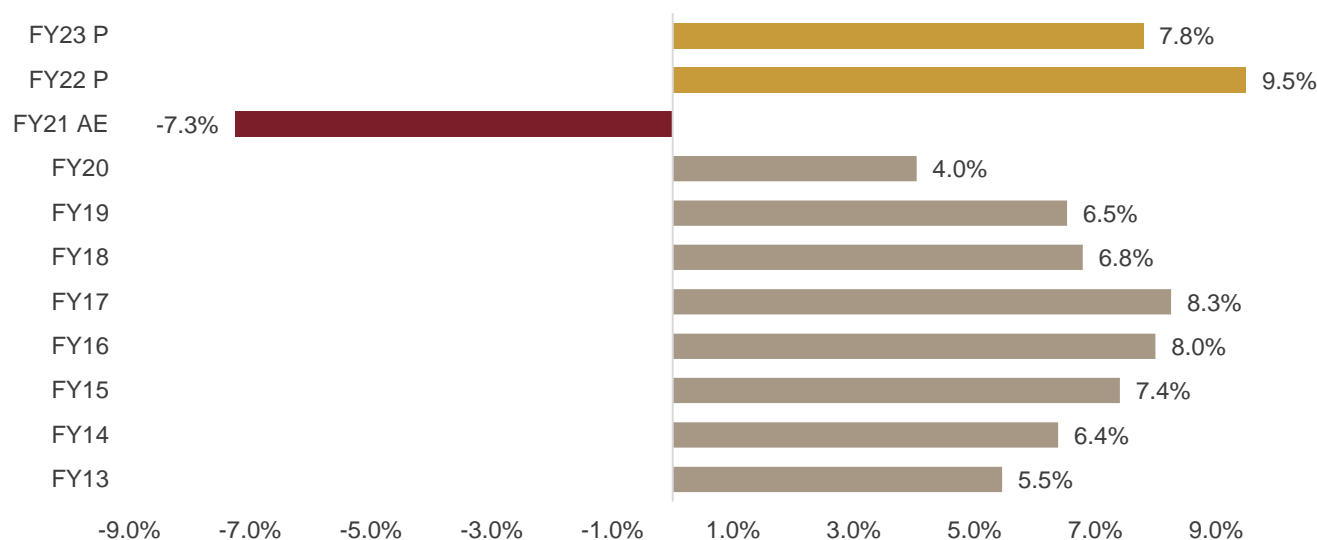
Source: Advance estimates of Annual National Income 2020-21, Central Statistics Office (CSO), MoSPI, CRISIL Research

Fiscal 2022 is also seen emerging as a story of two halves. The first half will be characterised by a base effect-driven recovery amid the challenge associated with resurgence in Covid-19 infections. But the second half should see a more broad-based growth, as vaccine rollout and herd immunity support sectors that are lagging. Monetary policy has begun normalising, and some tightness in domestic financial conditions is inevitable. Against this backdrop, policy support remains critical, apart from action in the external environment.

In fiscal 2021, the policy response to the pandemic focused more on damage control and measures to support the economy. In the current fiscal, the government is expected to normalise some of the extraordinary or unconventional policy moves, while trying to ensure there is smooth revival in growth. This will pertain to most of the services sectors, especially contact-based travel, tourism, and entertainment. Also, stronger global growth should support India's exports to some extent. Revival will not be uniform across sectors, though. So far, the rural economy has been more resilient than the urban.

The prospects for an economic recovery have brightened further with the Covid-19 caseload plunging and vaccinations moving at a healthy pace over the past several weeks. This is evident from the continued improvement in high-frequency indicators. The RBI's latest consumer confidence survey also indicated an improved sentiment

Real GDP growth (% on-year)



AE: Advance estimates; P: Projected by CRISIL Research;

Source: Provisional estimates of national income 2020-21, CSO, MoSPI, CRISIL Research

CRISIL forecasts India's GDP growth to rebound to 9.5% in fiscal 2022 as four drivers converge:

- 1. Weak base:** A 7.3% contraction in GDP in fiscal 2021 will provide a statistical push to growth next fiscal.
- 2. Global upturns:** Higher global growth in 2021, i.e., world GDP up by 5.0%, advanced economies 4.3%, emerging economies 6.3%, should lift exports.
- 3. Covid-19 curve:** India is witnessing the second wave of Covid-19 infections and at the same time learning to live with the virus, with the rollout of vaccines. These should broaden growth this fiscal, especially in the services and unorganised sectors.
- 4. Fiscal push:** Stretch in the fiscal glide path and focus of the Union Budget 2021-22 on capex are expected to have a multiplier effect on growth.

Risks to the fiscal 2022 forecast

The base case of 9.5% GDP growth assumes that Covid-19 restrictions will continue, and mobility will remain affected in some form or other during H2 fiscal 2022. The pace of economic recovery will also be a function of what the pace of vaccination is in the coming months. We find that countries with over 40% of their population vaccinated are seeing a faster and more broad-based economic recovery. The government plans to vaccinate India's entire adult population (68% of total population) by this December – a tall order even if there are sufficient vaccines available. CRISIL's base case is 70% of the adult population vaccinated by December. India has completed 28% population vaccinated by 2nd dose and 55% population covered with 1st dose of vaccination as of mid-November 2021.

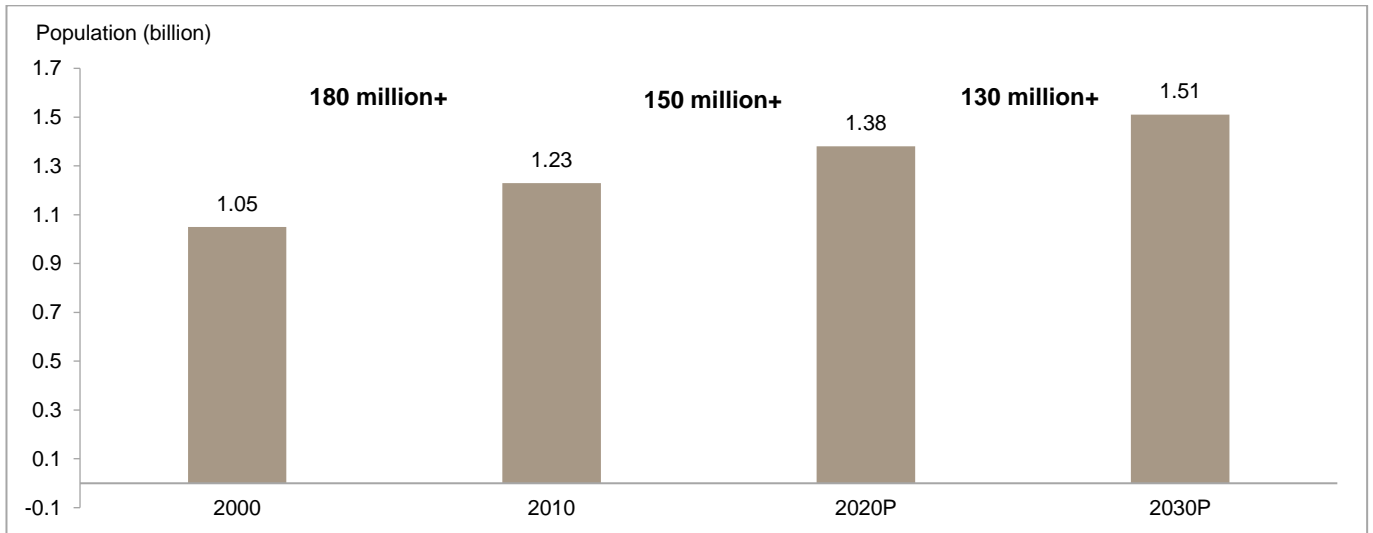
A third wave would pose a significant downside risk to the growth forecast, as would a slower-than-anticipated pace of vaccination. In such a pessimistic case, CRISIL sees GDP growing at 8% in fiscal 2022.

1.2 Fundamental growth drivers of GDP

By 2030, India’s population is projected to touch 1.51 billion

According to the ‘World Urbanization Prospects: The 2018 Revision’ by the United Nations, India and China, the top two countries in terms of population, accounted for nearly 37% of the world’s population in 2015. The report projects India’s population to increase at 1% CAGR to 1.5 billion by 2030, making it the world’s most populous country, surpassing China (with 1.4 billion people by 2030).

India’s population growth



P: Projected

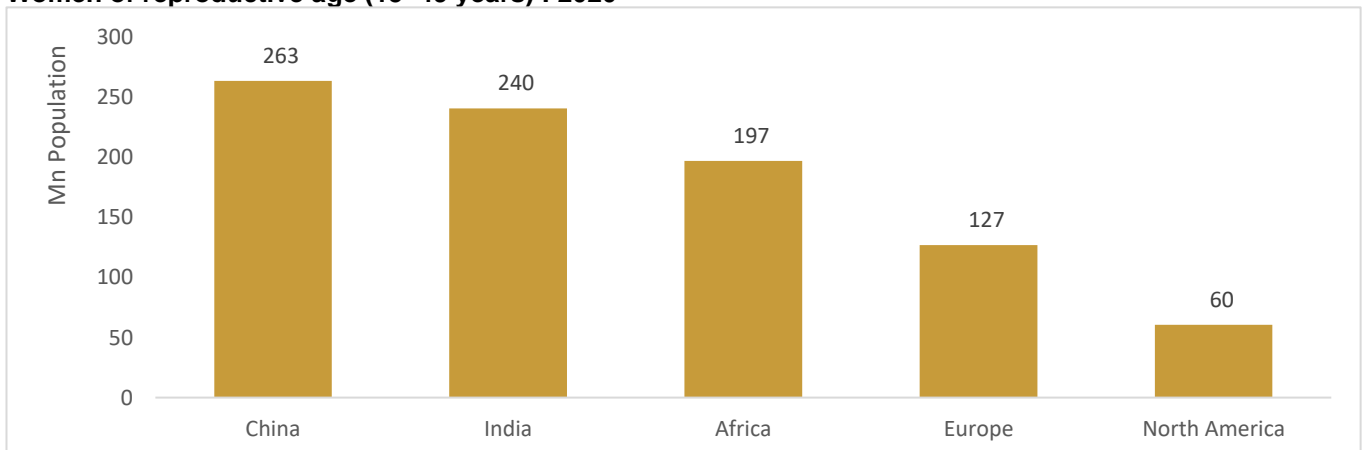
Source: World Urbanization Prospects: The 2018 Revision, United Nations, CRISIL Research

India has more female under reproductive age than whole of Africa or Europe region

India has a 924 females per 1,000 males for the year 2020, as per UN population estimates. This translates to female population share of 48% in the overall demographic.

India has nearly 240 million females in the reproductive age of 25-49 years and ranked second after China which reported 263 million females in the reproductive age of 25-49 years as of 2020. The demographic profile of India is still young with bulge in age group of 10-24 years in 2020. Over the next 30 years India will still continue to have higher number of young and mid-age people with the demographic profile changing to nearly equally distributed age groups with population increasing from 1.3 Bn in 2020 to 1.7 Bn in 2050. Thus India will continue to have higher number of young adults in reproductive age-group.

Women of reproductive age (15–49 years) : 2020

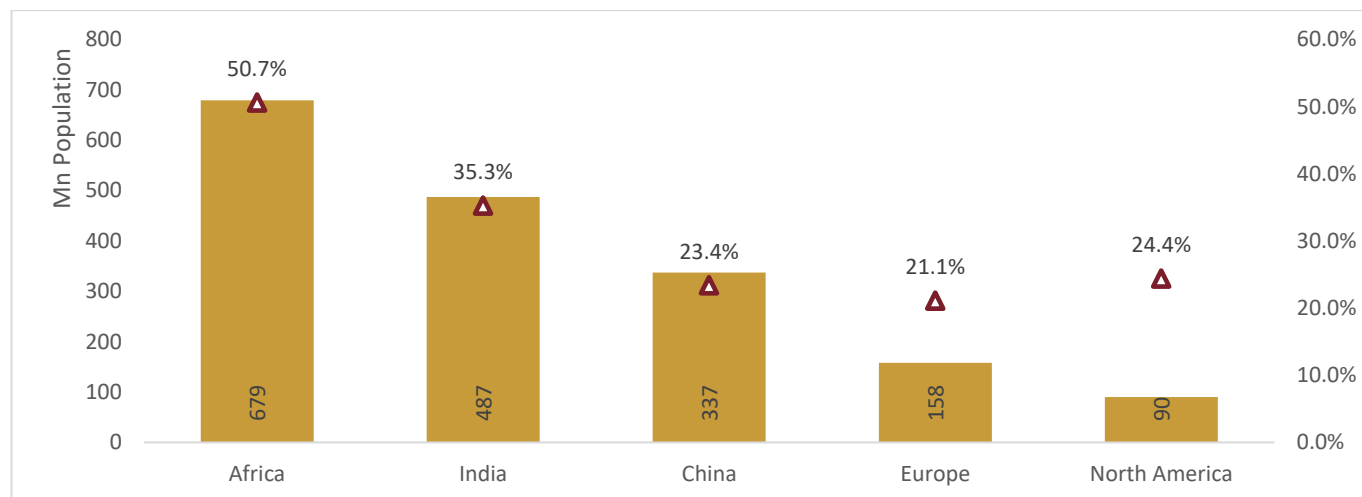


Source: UN World Population estimates, CRISIL Research

India has higher adolescents populations in comparison to China

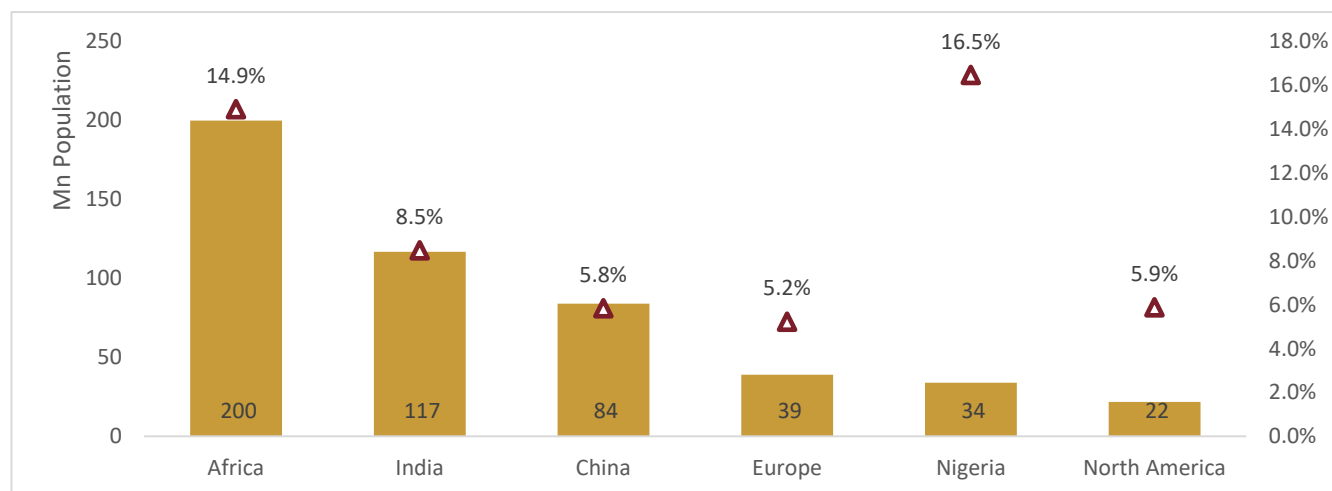
India ranks first among various countries in terms of adolescents population. When compared to regions, India ranks lower than Africa region in terms of adolescents population number and its share in overall population. India has total 487 Mn adolescents in the year 2020, whereas Africa reported adolescents population of 679 Mn for 2020. India reported 8.5% of the total population under the age of 5 (0-4yrs) in 2020 with 116 Mn kids. India registered 2.5-2.6 million live birth on annual basis over the last five to seven years period.

Adolescents age group in demographic profile : 2020



% share represents age group as a percentage of total population
Source: UN World Population estimates, CRISIL Research

Kids below the age of 5 years in demographic profile : 2020



% share represents age group as a percentage of total population
Source: UN World Population estimates, CRISIL Research

Urbanisation likely to reach 40% by 2030

According to 'World Urbanization Prospects: The share of India's urban population, in relation to its total population, has been rising over years and printed ~31% in 2010. This trend will continue, with the United Nations report projecting nearly 40% of the country's population will live in urban areas by 2030. India added 90 million urban population between 2010 and 2000 and another 10 million between 2010 and 2020. Thus, urban population has been growing faster. This trend is expected to continue and India will add another 120 million urban population by 2030.

The faster growth in urbanisation will benefit private healthcare spends with rise in wallet size for basic healthcare and increase in aspirational spends.

India's per capita income rose at a healthy pace between fiscals 2012 and 2020

India's per capita income, a broad indicator of living standards, rose from Rs 63,642 in fiscal 2012 to Rs 94,556 in fiscal 2020, at 5.1% CAGR. This growth was led by better job opportunities, propped up by overall GDP growth. Moreover, population growth remained fairly stable at ~1% CAGR.

Per capita net national income at constant prices

	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY12-20 CAGR	FY21AE
Per capita net national income (Rs)	63,462	65,538	68,572	72,805	77,659	82,931	87,828	92,241	94,556		85,929
On-year growth (%)	2.1	3.3	4.6	6.2	6.7	6.8	5.9	5.0	2.5	5.1	-9.1

AE: Advance estimates

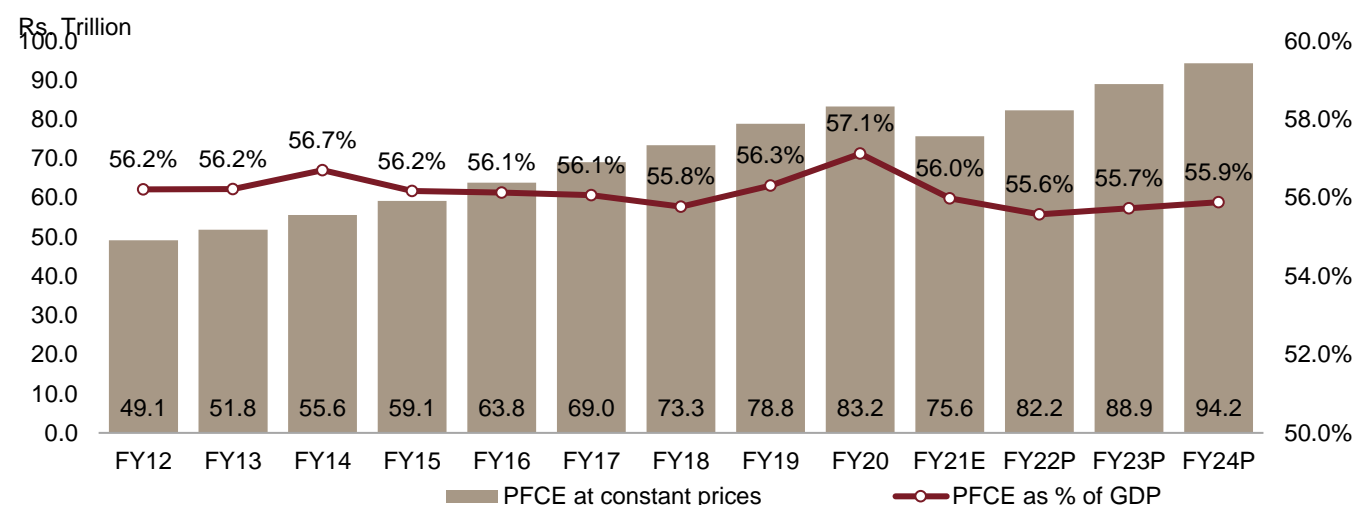
Source: Second advanced estimates of Annual National Income, 2020-21, CSO, MoSPI, CRISIL Research

1.3 Review of private final consumption growth

Private final consumption expenditure to maintain dominant share in GDP

Private final consumption expenditure (PFCE) at constant prices clocked 6.8% CAGR between fiscals 2012 and 2020, maintaining its dominant share in the GDP pie, at ~57% or Rs 83.3 trillion. Factors contributing to this growth included good monsoons, wage revisions due to the implementation of the Pay Commission's recommendations, benign interest rates, and low inflation. PFCE declined in fiscal 2021 on account of the pandemic, where consumption demand was impacted on account of strict lockdown, employment loss, limited disposable spending and disruption in demand-supply dynamics.

PFCE (at constant prices)



P: Projected E: Estimated

Source: Second advance estimates of national income 2020-21, CSO, MoSPI, CRISIL Research

Consumption expenditure on health increased at faster clip at 9.7% between FY12 and FY20

PFCE on health increased at 9.7% CAGR between fiscal 2012 and 2020 faster than overall PFCE growth at 6.7%. Share of Health PFCE in overall PFCE has increased from 3.7% in fiscal 2012 to 4.6% in fiscal 2020 at constant

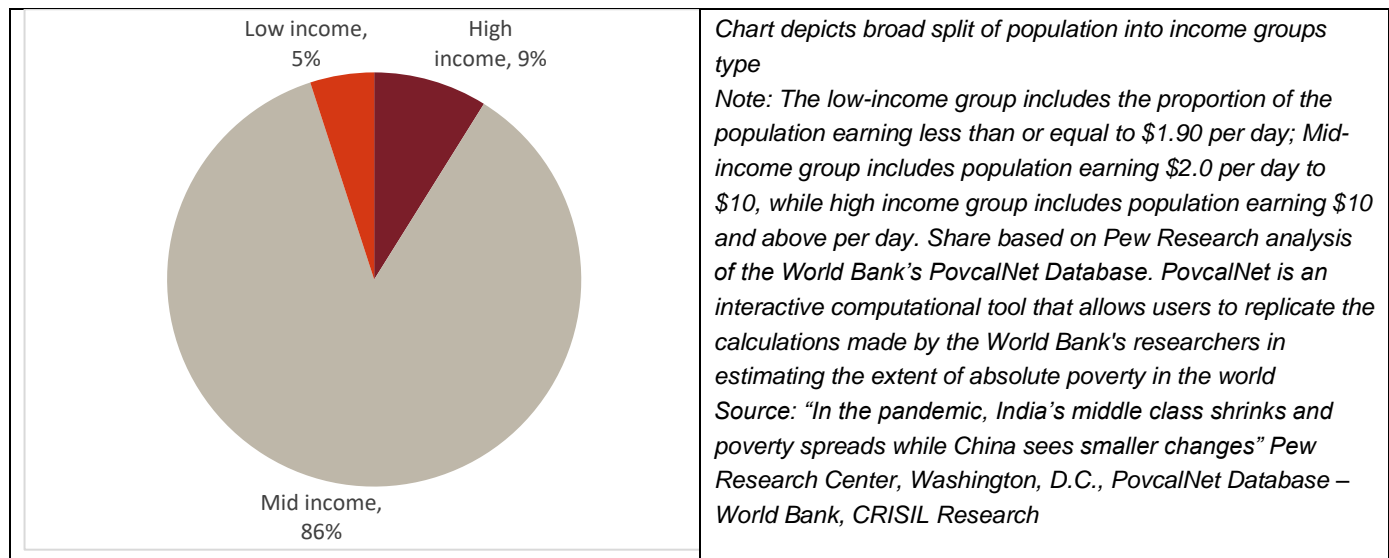
prices. Inflation rate for health sub-group has largely be in the range of 4-5% expect for fiscal 2019 and 2020, when the inflation rate was at 7.1% and 6.3%.

Decline in poverty levels indicates rise in middle- and high-income group in India

The World Bank, in its report Global Economic Prospects, January 2019, estimates the number of poor (defined as those living at or below the international poverty line of purchasing power parity of \$1.90 per day) in India dropped from 405 million people in 1981 to 175 million in 2015. The share of poor in India’s total population declined from 57.4% to ~13.4% over the period, and was estimated at 8.4% in 2018. Poverty has declined thanks to improvement in macroeconomic parameters such as growth of the economy, employment rate and income equality, and adoption of employment and other public welfare schemes by the government.

A positive economic outlook along with growth across key employment-generating sectors, such as real estate, infrastructure and automobiles, is expected to have a cascading effect on overall per capita income levels in the medium to long term. This will drive consumption expenditure as well as basic and discretionary spending.

95% of Indian population is in mid to high income group category



1.4 Overview of maternity and childbirth in India

India reported significant improvement in maternity care since fiscal 2015

India reports around 36-37 million pregnancies every year and roughly 70,000 live births every day representing one sixth of the world's child births. This translates to 25-26 million live births every year.

India saw an increase in women registered for antenatal care (ANC) from fiscal 2015 to fiscal 2020. Nearly 97% of registered pregnancies register for ANC. Total 79% of registered pregnancies had at least 4 antenatal care visits in fiscal 2020. In fiscal 2015 at pan-India level only 51.2% of registered pregnancies had at least 4 antenatal care visits.

Estimated annual pregnancies

Area	Value	FY 2014-15	FY 2019-20
Estimated number of annual pregnancies	Nos in Million	37.4	36.6
Pregnant women registered for ANC (reported pregnancies)	% of estimated annual pregnancies	95.5%	97.0%
Live births	Nos in Million	26.2	25.4

Source: United Nations Population Fund – UNPFA, Health Management Information System (HMIS), Govt. of India

Maternity Care

Maternity Care	FY 2015-16	FY2019-20
	%	%
Mothers who had an antenatal check-up in the 1st Trimester	58.6%	70.6%
Mothers who had an antenatal check-up least 4 antenatal care visits	51.2%	79.0%
Mothers who received postnatal care from a doctor/nurse/ LHV/ ANM/ midwife/other health personnel within 2 days of delivery	62.4%	75.3%

Source: National Family Health Survey (NFHS)- 4 and National Family Health Survey (NFHS)- 5

Average data of 17 states namely, Andhra Pradesh, Assam, Bihar, Goa, Gujarat, Himachal Pradesh, Karnataka

Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Telangana, Tripura, West Bengal for FY20 data

Top 50 districts in India have high potential in terms of number of pregnancies per 100 population

The metro cities contributes to 8-10% of the women registered for ANC in India whereas in terms of population the 6 metro cities contributes to 7.2% of India's population. Top 6 metro cities has 3 women registering for ANC per 100 population in metro cities. The next top 25 districts have share of 7-8% and top 50 districts have a share of 13-14% in total ANC registrations in India. Thus rest of India contributes to 76-79% of total registered ANCs in India. The top 50 districts in India have higher share of pregnancies and registered ANC indicating a potential market for gynecological and birthing services

India has one of the highest birth rates but also has highest maternal and neo natal mortality rate suggesting dire need to improve mother and baby care infrastructure

Crude birth rate (births per 1,000 population) 2015-2020

Countries	Crude birth rate (births per 1,000 population)	
South Africa	20.7	India reported fertility rate of 2.0 children per women in fiscal 2020. At global level, India reports 18.0 births per 1,000 population, 3rd highest in the world.
Afghanistan	32.9	
Global Average	18.5	
India	18.0	
Asia	16.4	

Brazil	14.1		
United States of America	12.0		
China	11.9		
Europe	10.4		
Japan	7.5		

Source: United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019

India reports the highest global number of pregnancies as of 2020, a high maternal mortality ratio and also a very high neonatal mortality rate (much higher than global average)

Global maternity health parameters

Countries	Total fertility rate, per woman (2015-2020)	No of pregnancies (2020)	Maternal mortality ratio maternal deaths per 100,000 live births (2017)	Neonatal mortality rate (deaths within 28 days per 1,000 live births) (2019)
India	2.0-2.2	36.7	145	22.7
China	1.7	28.6	29	4.3
Brazil	1.7	4.9	60	8.1
South Africa	2.3	1.4	119	10.7
United States	1.8	6.2	19	3.5
United Kingdom	1.8	1.2	7	2.6
Global average	2.4	-	211	17.5

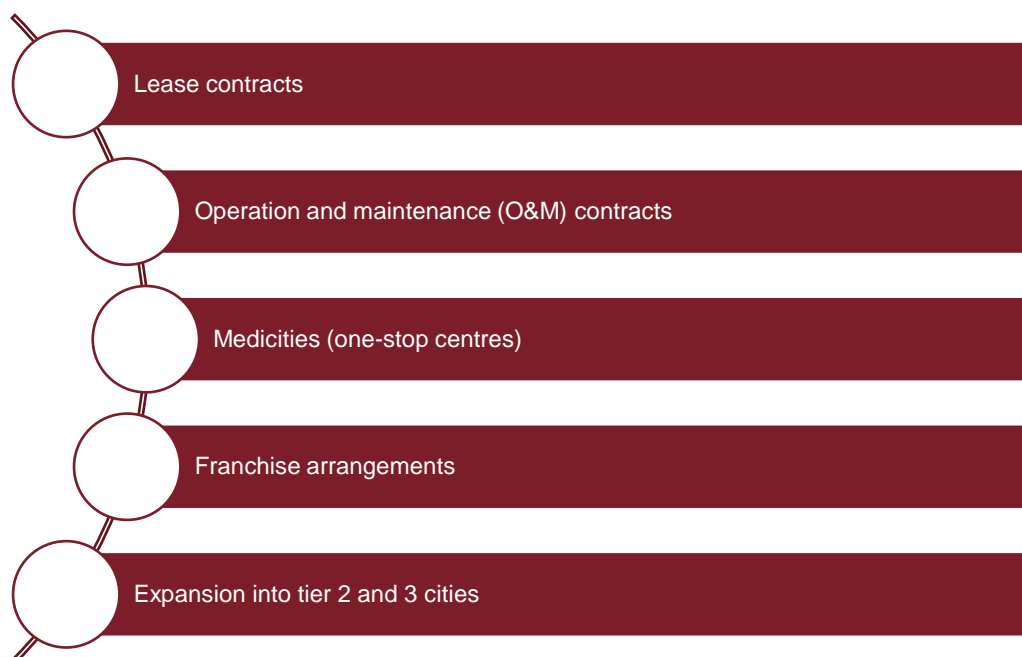
Note: The above data for neonatal mortality rate is for 2019 as per Estimates generated by the UN Inter-agency Group for Child Mortality Estimation (UN IGME) in 2020. The National Family Health Survey 2019-21 (NFHS-5) reports Neonatal mortality of 24.9 per 1,000 live birth for India. Maternal mortality ratio are modelled estimate, per 100,000 live birth reported by World Bank as per national estimated and data from WHO, UNICEF, UNFPA, World Bank Group, and the United Nations Population Division

Source: United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019

2 Emerging trends in the healthcare delivery industry in India

2.1 Review of business models for healthcare delivery

Emerging business models



Lease contracts

In the hospitals sector, the ownership model has become costly because of the sharp increase in land prices, especially in metros and tier 1 cities, over the past few years. This has compelled private players to look for alternative models such as lease contract. In a lease contract, the landowner develops the hospital building as per specifications given by the private player, who, in turn, enters into a long-term lease agreement with the landowner. For example, Apollo Hospitals has acquired land and building on lease from Orient Hospital, Madurai, for 60 years. This also allows players to contain upfront capital deployment, making expansion much faster

O&M contracts

Under this model, a large private player (or a hospital chain) undertakes a contract for managing a standalone hospital and overseeing functions such as marketing, operations, finance, and administration. In return, the private player receives a fixed annual management fee and share in revenue or profits from the standalone hospital's owners. Capital commitment by operator is typically very low and brand dilution takes place if operations are not managed efficiently by the operator.

Medicity (one-stop centres)

Medicity is an integrated township of super-speciality hospitals, diagnostic centres, medical colleges, research and development (R&D), ancillary, and supporting facilities. The concept of medicity is based on models already operating in countries such as Scotland, the US, France, and Algeria. In India we have Medanta (Gurgaon), Narayana Hrudayalaya (Bengaluru), and Chettinad Health City (Chennai). However, the success of a medicity depends on its location and the ability to attract patients. Due to large land requirements, health cities are often

located on the outskirts of a city and, hence, attracting patients could be a challenge unless transportation is available.

Franchise arrangements


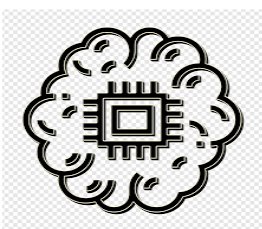




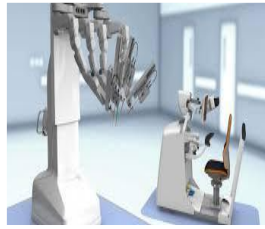

In this model, franchisees obtain the premises (owned or leased) and infuse capital (both fixed and working), while the franchisor lends the brand name to the healthcare facility for a fee. The franchisor has to ensure that the service quality is maintained across all healthcare centres that use its brand. It may also help the franchisee in training and recruiting staff, procuring equipment, designing the facility, etc. In India, Apollo Hospitals has expanded its network of primary clinics through this model.

Expansion into tier 2/ 3 cities through primary and secondary hospitals

Private players are now foraying into tier 2 and 3 cities as income levels in these cities are fast catching up with those in metros and tier I cities, and these regions hold a big share of unmet healthcare demand. Some of the major hospital chains are also expanding into these regions at different price formats, thereby creating a continuum of care, with provision of higher super specialty services in metros/ tier 1 locations. Apollo Hospitals expanded into Karaikudi and Karimnagar with its Apollo Reach brand (rates of which are lower than in the cities). ILS hospitals have also expanded to tier-II cities such as Agartala, Howrah and is expanding to Ranchi.

However, there are some chains that predominantly operate only in tier 2 and 3 cities, such as Paras Healthcare and Shalby Hospitals.

2.2 Emerging technologies are increasingly playing critical roles in healthcare delivery

 <p>Electronic Health Records</p>	 <p>Artificial Intelligence, Blockchain</p>	 <p>Radiology information system</p>	 <p>Clinical decision support system</p>
 <p>Mobile-based applications</p>	 <p>Telemedicine</p>	 <p>Robotic surgery</p>	 <p>Wearables and sensors</p>

The healthcare industry is constantly evolving in terms of technology. Developments in information technology have helped create systems that ensure faster and reliable services. While, on the one hand, these systems help increase reach and quality of healthcare delivery systems across the country, on the other, they enable healthcare delivery providers to improve efficiency by helping them in resource planning, maintaining patient records, etc.

CRISIL Research expects the advent of 5G, smartphone penetration, and increasing health-conscious population to deepen digital healthcare penetration.

Electronic health records

Designed to manage detailed medical profile and history of patients such as medication and allergies, immunisation status, laboratory test results, and radiology images. Information stored in EHRs can be in a combination of various formats including picture, voice, images, graphs, and videos. Besides storing information, EHRs have the capability of analysing data with respect to a specific ailment, generating customised reports, setting alarms and reminders, providing diagnostic decision support, etc. EHRs can be shared between multiple systems allowing doctors from various specialties and hospitals to share the same set of patient data.

Artificial Intelligence (AI) and blockchain

Healthcare establishments like hospitals are looking at opportunities to deploy AI or/and blockchain in improving their operating efficiency – scheduling appointments depending on the gravity of the issue, healthcare monitoring, etc, thereby minimising human error through technological intervention. For instance, NITI Aayog has extended its support to an AI-based project - Radiomics, which is also supported by Tata Memorial Centre Imaging Biobank.

Radiology information system

RIS is a tool that allows managing digital copies of medical imagery such as X-ray, MRI, ultrasound, and associated data on a network. RIS is used by doctors to access medical imagery data from multiple locations. It is connected to medical equipment such as X-ray, MRI and ultrasound machines, which generate diagnosis results in the form of images and graphs.

The RIS directly captures results and feeds them to EHRs, central databases or remote databases. RIS systems are integrated with a dedicated picture archiving and communication modules which ensures that the pictures are stored in a systematic manner and transferred accurately to the intended database or recipient.

Mobile-based application

Healthcare delivery is also seeing an influx of mobile-based applications (mobile apps) to assist doctors as well as patients. These apps provide features such as self-diagnosis, drug references, hospital/doctor search, appointment assistance, electronic prescriptions, etc. While certain apps allow doctors to obtain information on drugs, dosage, contradictions, disease/ condition references and procedures; others allow patients to locate doctors, fix appointments, and opt for video consultations. Furthermore, there are apps that help patients save their medical records and keep them updated regularly.

Telemedicine

Telemedicine is a technology designed to improve accessibility of healthcare services from remote locations. Telemedicine, through its extensive use of information technology, creates a connection between doctors at the main hospital and patients at remote locations or telemedicine centres. The doctor analyses the patient through telephonic conversation or video conferencing. This model is useful when there is a dearth of healthcare professionals in the country.

Robotic surgery

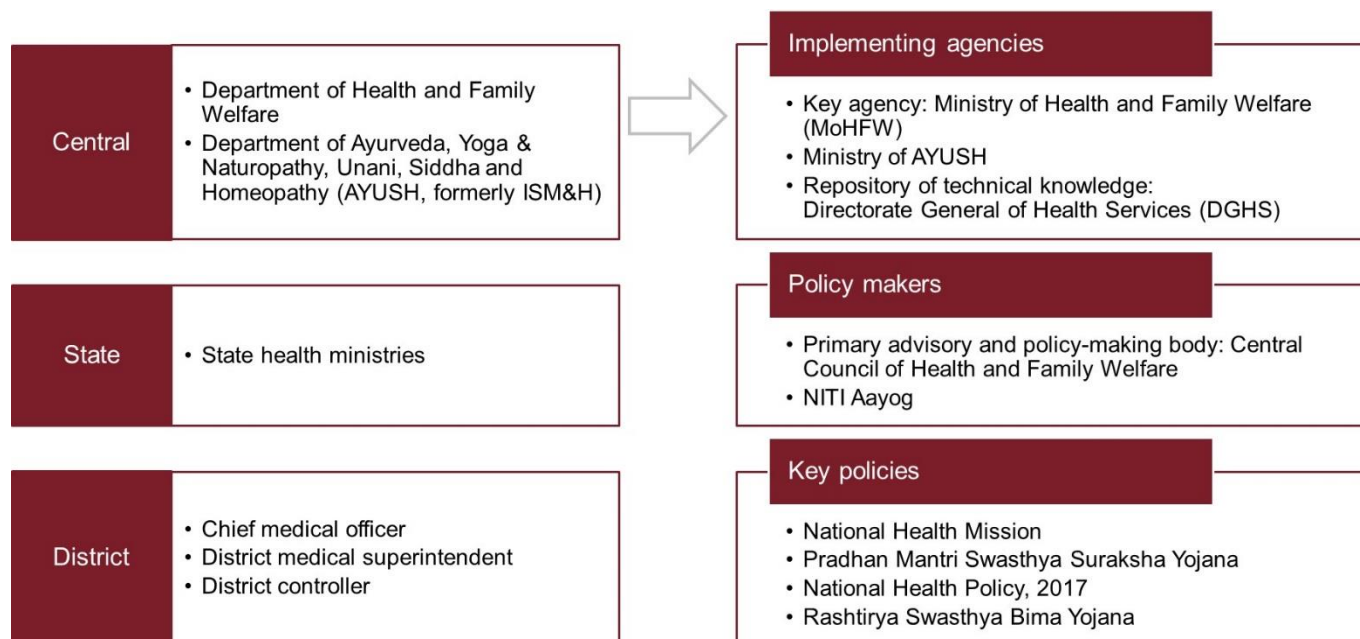
Robotic surgery or robot-assisted surgery (RAS) is a surgery conducted by using a robotic arm that is controlled electronically by a control pad. The pad may be located at a local or remote place and is equipped with high-definition cameras allowing surgeons to take a closer look at the areas being operated. Since RAS can be performed from remote locations, it allows patients to avail the treatment from the desired specialist surgeons across the globe without having to travel. RAS has been used to conduct general surgery, bypass surgery, colorectal surgery, gastrointestinal surgery, neurosurgery, orthopaedic surgery, etc.

Wearables and sensors

With awareness on healthcare increasing, people have started adopting wearables and sensors that keep a track of the vitals of the user. Wearables and sensors also have data about the user's historical health records and sends out alerts in case of any irregularities. Some sensors are used solely from a curative healthcare perspective, to lead a healthy life with a proper fitness routine.

2.3 Regulatory framework for hospitals and healthcare in India

Government framework for healthcare delivery



Source: Industry, CRISIL Research

The Union Ministry of Health and Family Welfare (MoHFW) is the key agency implementing healthcare programmes in India

The MoHFW is the central body responsible for implementing various healthcare and family planning programmes in India, aimed at the prevention and control of major communicable diseases such as AIDS, leprosy, etc. Further, awareness programmes on maternal health, paediatrics, and promotion of traditional and indigenous systems of medicines (such as ayurveda, unani, etc.) are also carried out.

Besides these, the ministry also assists states in preventing and controlling the spread of seasonal disease outbreaks (such as malaria, dengue, etc.), and epidemics through technical assistance (such as recommending measures to contain sudden epidemics). The MoHFW sponsors central schemes and provides grants-in-aids to various autonomous/statutory bodies and NGOs. In addition to the centrally sponsored schemes, the ministry formulates and implements various World Bank-assisted projects for controlling diseases such as AIDS, malaria, tuberculosis, etc.

The implementing agencies of the new healthcare assurance scheme, PMJAY, are the National Health Agency (NHA) at the central level and State Health Agency (SHA) at the state level for the states that have signed the MoU for participation into the scheme.

The assisted reproductive technology (regulation) bill, 2020 – intended to significantly improve regulatory compliance for the service providers and possibly help the sector get more organized

The Assisted Reproductive Technology (ART) Bill was passed by the Lok Sabha on December 1st, 2021. The bill sets the regulations for the assisted reproductive technology services in India. The regulation bill comes on the back drop of the rapidly growing ART centres in India. ART services form a significant segment of the medical tourism sector in India. The bill defines assisted reproductive technology as all the techniques that attempt to obtain a pregnancy by handling the sperm or the oocyte outside the human body and transferring the gamete or the

embryo into the reproductive system of a woman. The bill also sets down the eligibility criteria for semen and oocyte (egg cell) donors.

The bill mandates setting up of National Registry of Banks and Clinics of India where all the ART clinics and banks will need to register themselves in order to operate in this space. The entities will need to comply with the standard protocols of manpower, infrastructure and other facilities. The clinics and banks will also need to comply with the data protection and confidentiality norms set by the Bill. The bill also mandates the setting up of a National Board and State boards. The former will review the implementation of the regulations and suggest any policy changes and the latter will ensure the implementation of the guidelines set by the National board.

The bill dictates the rights of the child born through the ART, rights of the donor and the rights of the couple availing ART. The requisite manner of providing ART services along with the offences and penalties are also dictated by the bill.

The bill will have positive impact on the sector as the regulations will prevent unethical practices by clinics and banks. The authorities will have control on the quality of services offered by the clinics. Data protection has been ensured by the bill as well. This will lead to growth of the domestic sector and medical tourism as the various stakeholders such as couples, and donors will be ensured ethical and high-quality practices

Accreditation of hospitals

Accreditation of hospitals is a voluntary process, wherein an authorised agency evaluates and recognises health services according to a set of standards that are revised periodically. In developing countries such as India, where healthcare services are delivered mainly through private health providers, regulation is a vital instrument.

In India, hospitals are accredited by National Accreditation Board for Hospitals and Healthcare Providers (NABH). The NABH is a constituent board of Quality Control of India and a member of International Society for Quality in Health Care (ISQua). NABH accreditation is compulsory for hospitals to get empanelled under the Central Government Health Scheme (CGHS), which provides healthcare facilities to all central government employees.

Most organized healthcare service providers strive to attain such accreditations to establish the quality of their services.

International accreditation agencies include the International Organization for Standardization (ISO), Joint Commission International (JCI), and Trent Accreditation Scheme (TAS).

1. Regulations pertaining to price controls

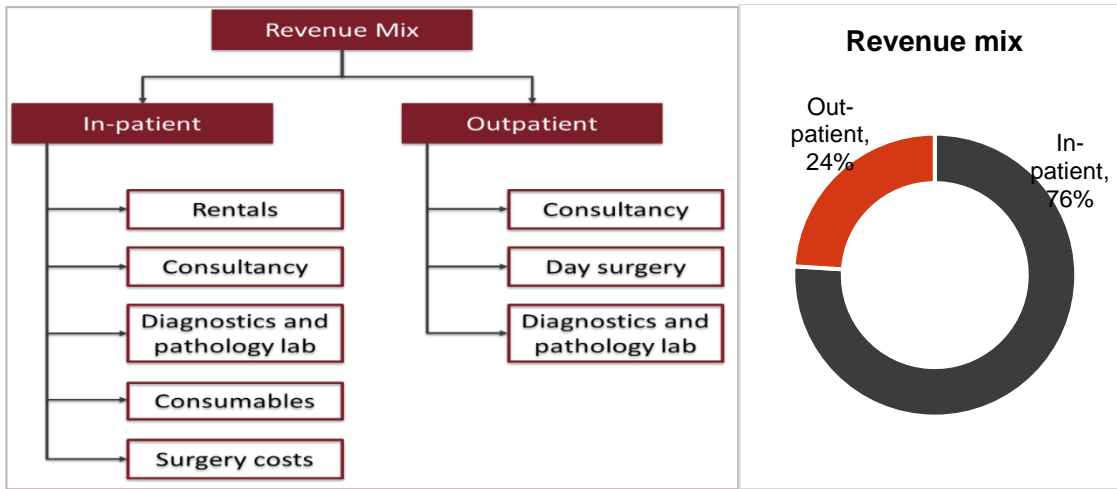
The National Pharmaceutical Pricing Authority (NPPA) regulates prices of drugs/ medicines by bringing them under the ambit of the National List of Essential Medicines (NLEM).

The activities of NPPA have been largely limited to pharma and medical consumable companies with an intent to make the lifesaving services delivery more affordable.

2.4 Revenue and cost structure review of hospitals

Hospitals derive bulk of their revenue from IPD

The primary revenue streams of hospitals are the IPD and out-patient department (OPD) segments. Typically in most hospitals, the OPD contributes to three-fourths of total volumes; whereas, the IPD accounts for as much as 76% of the overall revenue. This ratio could vary with hospitals, depending on the type of services rendered and the ailment mix. Surgeries and diagnostics account for the bulk of IPD revenue for most hospitals



Notes: 1) The IPD in a hospital generally consists of beds, operation theatre(s), intensive care unit, supportive services (such as nursing services, pharmaceutical services, laboratory and diagnostics centres) and central sterile and supply department (CSSD)

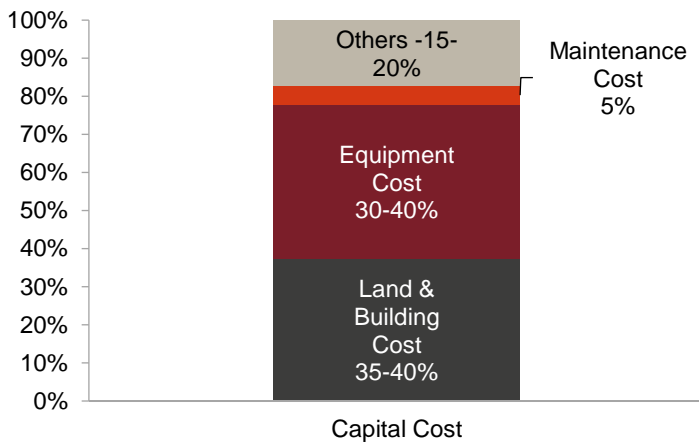
2) In the OPD, examination, diagnostics and day surgeries are included

Source: CRISIL Research

Capital costs

The table below depicts the capital cost per bed across tier-I, II & III cities for secondary and tertiary care hospitals.

Typical cost structure of hospitals



Capital cost / bed (excluding land cost)	Secondary care hospital	Tertiary/Quaternary care hospital
Tier - I	Rs 5-8 million	Rs 10 million+
Tier - II	Rs 2.5-5 million	Rs 5-8 million
Tier - III	Rs 1-2.5 million	Rs 2.5-5 million

Source: CRISIL Research

Owning the land and constructing the building attracts ~35-40% of the capital cost. Hence, players resorting to the leased model enables them to significantly reduce the capital cost and allows faster expansion.

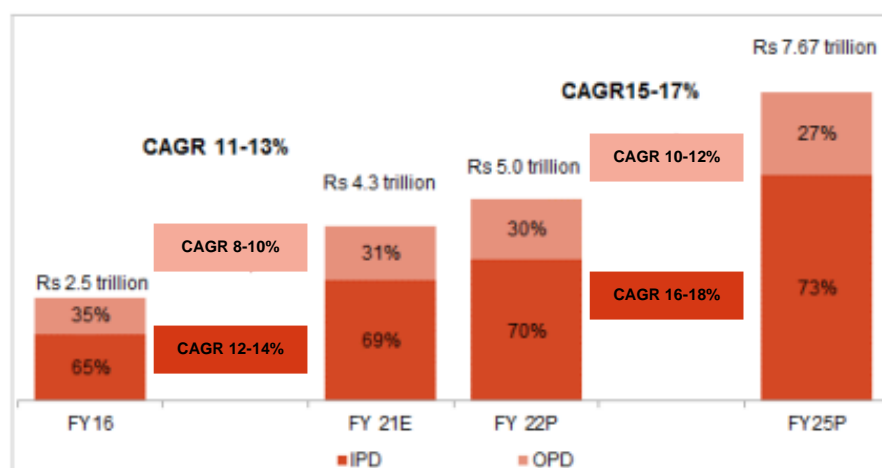
3 Assessment of India's hospital market

3.1 Review and outlook

Momentary blip for private hospitals this fiscal; but poised for robust growth in the medium term

Barring the momentary setbacks in fiscal 2021, CRISIL Research estimates the Indian healthcare delivery industry to post a healthy 15-17% CAGR between fiscals 2021 and 2025, driven by pent up demand coming back onto the system, strong fundamentals, increasing affordability and government programmes.

Overall healthcare delivery market in India



Note: IPD stands for in-patient department and OPD stands for out-patient department. According to CRISIL Research out-patients are those who are not required to stay at the hospital overnight. It includes consultancy, day surgeries at eye care centres, and diagnostics, and excludes pharmaceuticals purchased from standalone outlets.

Source: CRISIL Research

The Indian Healthcare delivery market is estimated to grow to ~Rs 5 trillion in fiscal 2022

CRISIL Research estimates the Indian healthcare delivery market to reach ~ Rs 5 trillion in value terms by end of fiscal 2022, with growth being contributed by low base and the pent-up demand from deferred treatments in fiscal 2021. A potential upside is also expected from covid treatments, especially for hospitals where occupancies were typically on the lower side. Within the overall healthcare delivery market, the in-patient department (IPD) is expected to account for nearly 70% (in value terms), while the balance is to be catered by the out-patient department (OPD). Though in terms of volumes, OPD volumes outweigh IPD volumes, with the latter contributes the bulk of the revenues to healthcare facilities.

Healthcare delivery industry to grow 15-17% over next four years

With renewed impetus from PMJAY and government focus shifting onto healthcare sector, the overall healthcare delivery market is expected to grow at 15-17% compounded annual growth rate (CAGR) and reach Rs 7.67 trillion in fiscal 2025.

Over the last four years, major hospital chains have added supply (~70% of their incremental supply during the period) in tier II and III locations, to create a referral network into their main centre by tapping into the underserved creamy tier II areas. The government is also expected to augment this via PM AtmaNirbhar Swasth Bharat for strengthening primary, secondary & tertiary healthcare infrastructure in the country.

The other contributors to the demand are more structural in nature, like, increase in lifestyle-related ailments, increasing medical tourism, rising incomes and changing demography.

Private players vs government, are expected to continue to hold majority share of treatments (in value terms). The share held by the private players is expected to increase from 58% in fiscal 2021 to nearly 73% in fiscal 2025,

Further, in fiscal 2021, CRISIL Research estimates revenues of private hospitals (including multispecialty chains) to have declined by 10-15% due to reduction in both outpatient and inpatient footfalls (with OR falling to 25-30% in April). However, the focused super specialized companies like Kids Clinic (Cloudnine), Motherhood saw better resilience with the revenue witnessing growth in FY21 vs FY20.







Low base and pent up demand to lead revenue growth of hospital firms by 20-25% in FY 22

In fiscal 2022, with pent up deferred procedures as well as some benign push from the low base of the preceding year, the revenues of hospital chains is expected to grow by 20-25% . Margins are also expected to bounce back to pre-covid levels owing to high realisation procedures being catered to, majorly in the second half. However, the pace of recovery is contingent on the resurgence of covid cases in the country.

3.2 Impact of Covid-19 on healthcare delivery market

- Hospitals focussed on maternity speciality services such as Kids Clinic (Cloudnine), Motherhood saw lot of resilience and saw much faster recovery in revenues
- Hospitals focussed on specific specialities such as oncology, orthopaedics, etc, will see faster recovery (catering to deferred essential surgeries)
- Dependence on medical tourists in Tier-1 cities to shave off revenues for hospitals this fiscal
- Volume-driven dependence on government schemes to aid volumes in the second half for empanelled hospitals
- Compliance and additional sanitary measures (such as PPE) along with testing of employees with lead to an increase of 3-5% in treatment costs

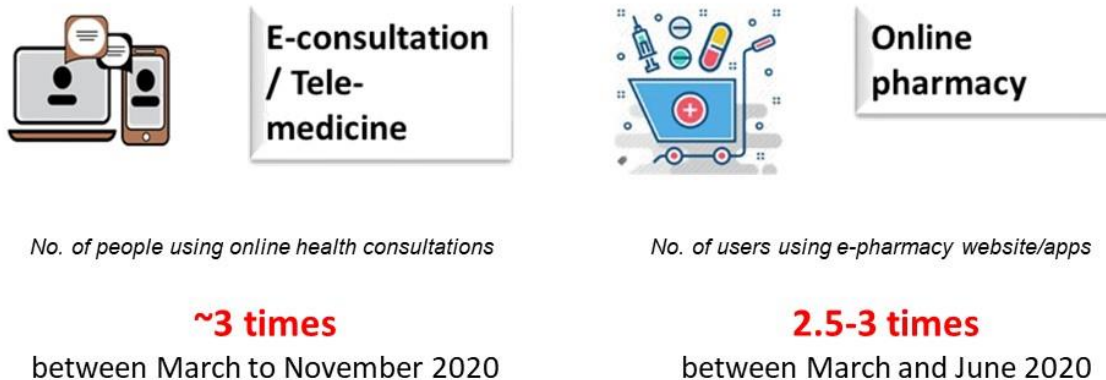
Consumers preference significantly moved in favour of convenient, affordable and personalised treatments with lot of involvement of technology

Emerging trends			
	M-health (health tracking apps)		Home healthcare services
	E-consultation / Tele-medicine		Online pharmacy
	Bio-Pharma		Artificial Intelligence

The need for social distancing and contactless services in the post-Covid world is changing consumer preferences.

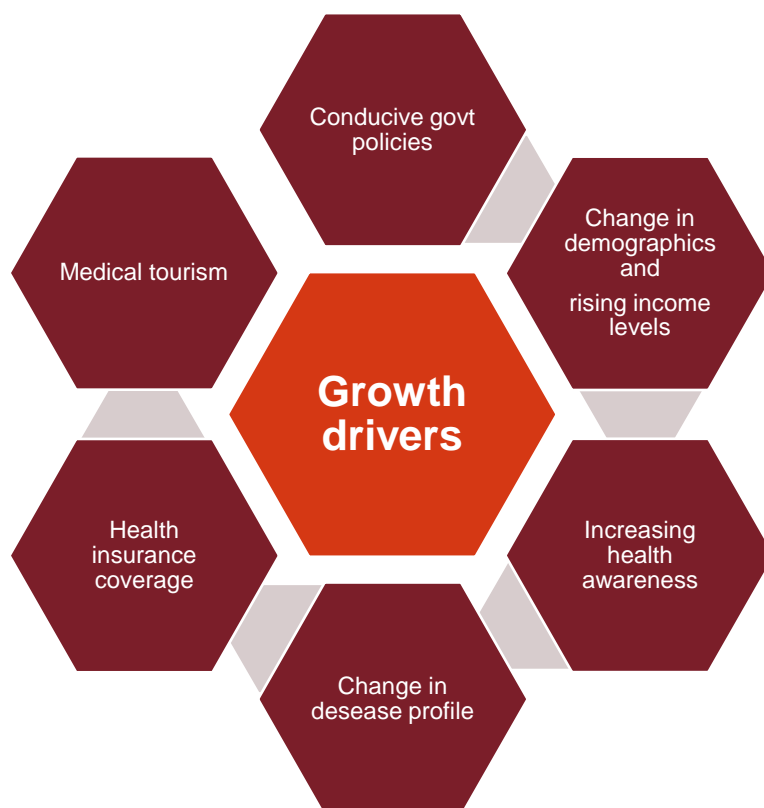
Already this has resulted in the growth of mobile health (M-health) with increased use of health-tracking apps apart from the growth in e-consultation and tele-medicine. Besides, home and healthcare services such as those provided by Cloudnine such as video consultation / telemedicine, Cloudnine Home Service for vaccination, home tests, delivery of medicines etc. have gained increase in demand.

Online spends towards healthcare sector on rise



3.3 Key growth drivers of healthcare delivery industry

A combination of economic and demographic factors is expected to drive healthcare demand in India. CRISIL Research believes the PMJAY scheme launched by the government would also support these drivers.



Source: CRISIL Research

Government policies to improve healthcare coverage

The government has raised its healthcare budget for fiscal 2022 to Rs 712.7 billion, although the incremental allocation in fiscal 2021 and fiscal 2022 is more for covid related expenditure (emergency aid and vaccination drive). Nonetheless, the focus seems to have shifted from curative aspect to preventive health and well-being under the ambit of holistic healthcare. The long-term goal is to raise its healthcare spending to 2.5% of GDP by 2025 under the National Health policy 2017 from the current 1.3% of the GDP

With life expectancy improving and changing demographic profile, healthcare services demand to continue to see surge

With improving life expectancy, the demographic profile of the country is also witnessing a change. As of 2011, nearly 8% of the Indian population was of 60 years or more, and this is expected to surge to 12.5% by 2026. The ageing population is going to require increasingly higher healthcare services.

According to the Report on Status of Elderly in Select States of India, 2011, published by the United Nations Population Fund (UNFPA) in November 2012, chronic ailments, such as arthritis, hypertension, diabetes, asthma, and heart diseases, were commonplace among the elderly, with ~66% of the respective population reporting at least one of these.

With the Indian population expected to grow to ~1.4 billion by 2026 and considering the above mentioned factors, the need to ensure healthcare services to this vast populace is imperative. This also provides a huge opportunity to expand into a space that bears enormous potential.

Rising income levels to make quality healthcare services more affordable

Though healthcare is considered a non-discretionary expense, considering that ~83% of households in India had an annual income of less than Rs 0.2 million in fiscal 2012, affordability of quality healthcare facilities remains a major constraint.

Growth in household incomes and, consequently, disposable incomes, are critical to the overall growth in demand for healthcare delivery services in India. The share of households falling in the income bracket above Rs 0.2 million is expected to go up to 35% in fiscal 2022 from 23% in fiscal 2017. They provide a potential target segment (with more paying capacity) for hospitals.

Fast rising Urban population with increasing health awareness to boost hospitalisation rate

Majority of healthcare enterprises in India are more concentrated in urban areas. With increasing urbanisation (migration of population from rural to urban areas), awareness among the general populace regarding presence and availability of healthcare services for both preventive and curative care is expected to increase.

Rising contribution of Non-communicable diseases is going to require more healthcare services

As opposed to the decreasing rate in communicable diseases, lifestyle-related illnesses or non-communicable diseases (NCDs) have been increasing rapidly in India over the past few years. The contribution of NCDs to the disease profile has risen from 30% in 1990 to 55% in 2016. Statistics show that these illnesses accounted for nearly 62% of all deaths in India in 2016.

As per the World Economic Forum, the world will lose nearly \$30 trillion by 2030 for NCD treatments and India's burden from this will be \$5.4 trillion..

CRISIL Research believes that NCDs exhibit a tendency to increase in tandem with rising income. WHO projects an increasing trend in NCDs by 2030, following which CRISIL forecasts demand for healthcare services associated with lifestyle-related diseases such as cardiac ailments, cancer and diabetes to rise.

Growing health insurance penetration to propel demand

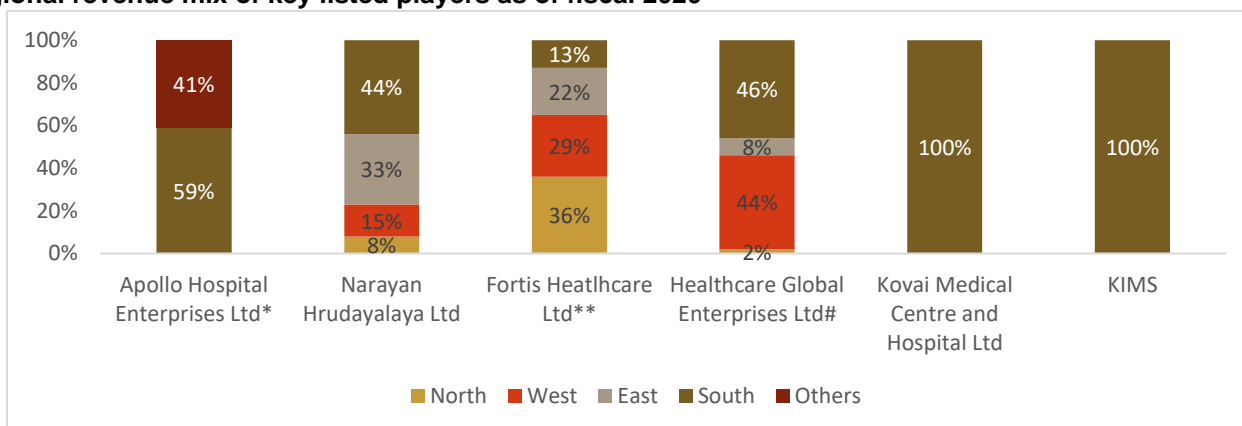
Low health-insurance penetration has been one of the major impediments to the growth of the healthcare delivery industry in India, as affordability of quality healthcare facilities by the lower-income groups remain an issue. However, the Health insurance coverage has significantly increased from 17% in fiscal 2012 to ~37% in fiscal 2020. As per the Insurance Regulatory and Development Authority (IRDA), nearly 499 million people have health insurance coverage in India (as of fiscal 2020), as against 288 million (in fiscal 2015).

With health insurance coverage in India set to increase, hospitalisation rates are likely to go up. In addition, health check-ups, which form a mandatory part of health insurance coverage, are also expected to increase, boosting demand for a robust healthcare delivery platform. Covid-19 has also accelerated the coverage and also online channels which make it easier to get insurance.

Regional focus gives hospital players an upper hand

Key listed healthcare delivery players in India have established themselves in regions across the country. Those with regional presence have an added advantage over those that don't.

Regional revenue mix of key listed players as of fiscal 2020



*For Apollo Hospitals Enterprise Ltd (AHEL), revenue from Tamil Nadu, Andhra Pradesh, Telangana, and Karnataka has been considered under the 'south' region. 'Others' includes revenue from 'significant subsidiaries/JVs/associates', as classified by AHEL in its earnings update PPT for Q4 FY20, which includes revenue from Bhubaneswar, Bilaspur, Nashik, Navi Mumbai, Ahmedabad, Kolkata, Delhi, Indore, Assam, and Lucknow.

**For Fortis Healthcare Ltd, revenue contribution from only Indian hospitals has been considered (i.e. excluding revenue from international hospitals).

#Regional mix only for HCGEL centres, which consist of 22 comprehensive cancer centres, 3 multispecialty hospitals, 3 diagnostic centres and 1 multispecialty hospital managed by HCGEL, as of March 31, 2020.

Source: Company annual reports/investor presentations, CRISIL Research

Even maternity players are focusing on regional presence – no. of hospitals / centres across regional zones in India

Players	North	West	South	East
Cloud nine	7	4	11	-
Motherhood	4	4	10	-
Apollo Cradle	7	1	15	-
Fortis La Femme	3	-	1	-
Ovum	-	-	4	-

Note: As per centres mentioned on apollo cradle and children hospital website excluding apollo clinics

Source: Company websites, CRISIL Research

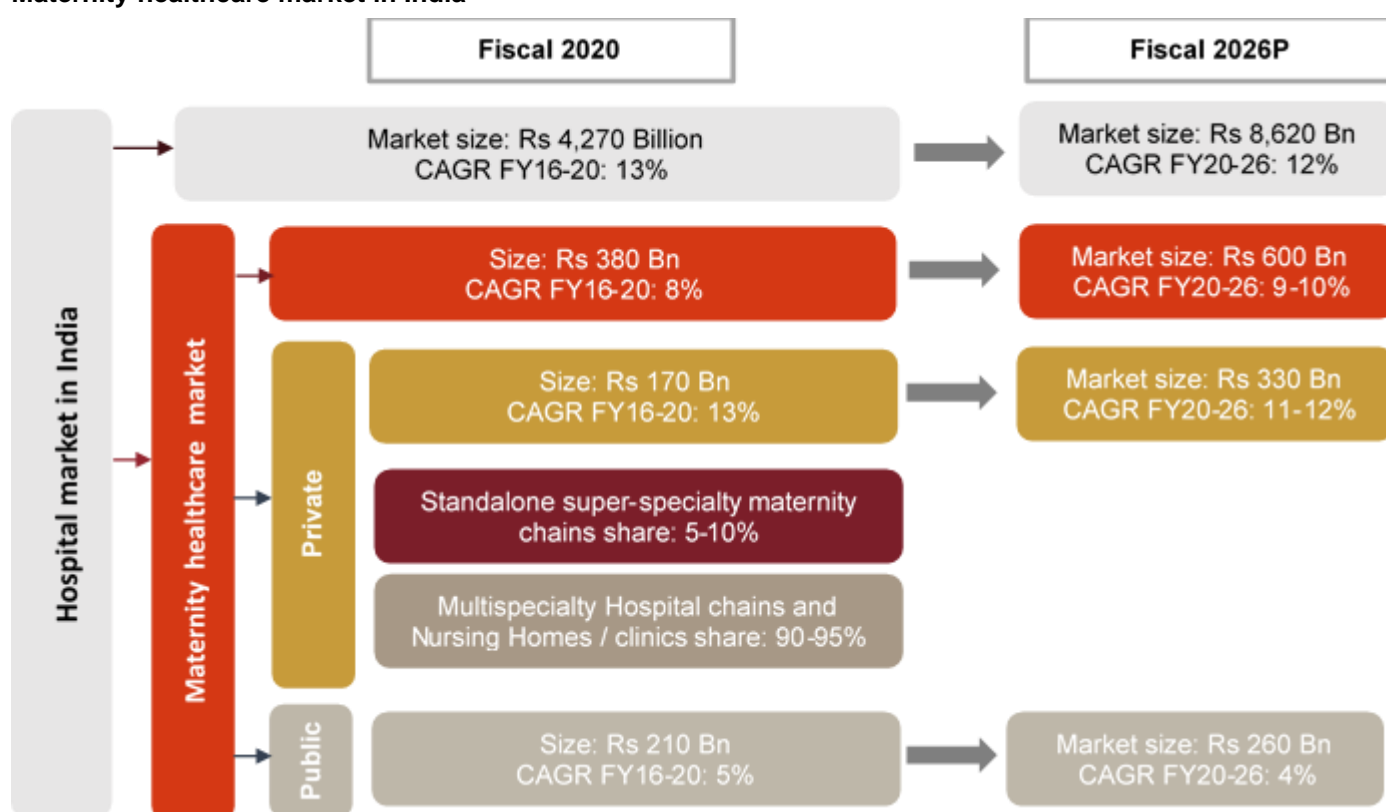
Some of the key advantages of having regional presence are as follows:

- **Understanding the mentality of people** (patients) in a particular region forms a crucial part of connecting and establishing long-term relationships for any hospital. Players with regional presence often have a strong grasp of the regional languages, food preferences, culture, and affordability, which helps them connect and bond with their patients from a long-term perspective.
- **Understanding the mentality of doctors** is also an important aspect for a hospital. Having regional presence not only gives players access to the key doctors in the region, but it also helps doctors tie up with a brand to enhance their portfolios.
- **Integrating talent from well-established allied workforce** such as lab technicians and nurses also augers well for established players. There are additional benefits for employees associated with a regional chain, such as easy location transfers for any personal reasons. Hence, workforce in such hospitals sticks longer.

4 Assessment of the maternity care industry in India

The private sector maternity market in India grew 11-12% between fiscal 2016 to 2020 while the overall maternity market grew 8% in the same period. Private sector is expected to grow faster on account of increased penetration of institutional deliveries, rising share of private hospitals in rural and urban areas, increase expenditure on maternity healthcare, and rise in treatment cost on account of delayed deliveries. Rise in spending wallet size of young couple, increased demand for comprehensive mother and baby care, rise in awareness about maternity planning and health check-up, increased complication during pregnancy, demand for hassle-free birthing experience are all expected to augur growth for the super-specialty mother and baby care hospitals. As of FY2020, mother and baby care contributes to 8-9% to the overall hospital market in India.

Maternity healthcare market in India



Source: CRISIL Research

Super-specialty obstetrics healthcare services are becoming more prevalent

Obstetrics is a medical specialty dealing with the fields of birth and related issues. Obstetrics involves care provided during pre-conception, pregnancy, childbirth, and immediately after delivery. Whereas Gynecology involves care of all other women's health issues.

An obstetrician is a physician who specializes in the surgical care of women and their children during pregnancy, childbirth, postpartum and post-natal care. They also perform regular ultrasounds during pregnancy to determine the health of the fetus, identify any complications and know the gestational period of the fetus. Identify if there are any high-risk factors in women during pregnancy, delivery and later.

Antenatal care is the routine health control of presumed healthy pregnant women without symptoms (screening), in order to diagnose diseases or complicating obstetric conditions without symptoms, and to provide information about lifestyle, pregnancy and delivery.

Urban Tier I and II cities are seeing rise in number of super-specialty mother and baby care offerings in country

Cities	Mother and baby care hospitals	Mother and baby care chains	Multi-specialty hospitals with maternity offerings
Metro cities			
Mumbai and Navi Mumbai	Nowrosjee Wadia Maternity Hospital, Currae Gynaec IVF Birthing Hospital	Cloudnine , Motherhood hospitals	Fortis Hospital, Sevenhills, Lilavati Hospital, Tata Memorial Hospital, Breach Candy, Kokilaben Dhirubai Ambani hospital, L Raheja Hospital, Hinduja Healthcare, Jaslok Hospital,
Bangalore	Dr Rao's maternity clinic, Offspring Maternity & Childcare	Cloudnine , Motherhood hospitals, Ovum hospitals, Kangaroo care	Fortis Hospital (The Nest), Apollo (Cradle) , Manipal Hospital, Mallya Hospitals, Aster- Women and Children, Rainbow Children's Hospital*
Delhi and NCR	Mother's Nest at Moolchand, SCI Hospital, Rose walk luxury hospital for women	Cloudnine , Motherhood hospitals, Mother's Nest - Moolchand Hospital	Fortis (La Femme), Artemis Women & Child Center, Columbia Asia, Adiva Super-specialty, Apollo hospitals, BLK Super Specialty Hospital, AIIMS, Indraprastha, Medantha Hospital, Max Healthcare, Columbia Asia, Sri Ganga Ram Hospital, Rainbow Children's Hospital*
Chennai	Kanchi Kamakoti CHILDS Trust Hospital	Cloudnine , Motherhood,	Gleneagles Global Health City, Apollo Speciality Hospital, Fortis Malar Hospital, Apollo Children's Hospitals, Billroth Hospitals

Hyderabad	Niloufer Hospital, Government Maternity Hospital in Koti, Nayapul and Sulthan Bazar, SBBB. Maternity Hospital	Cloudnine , Motherhood, LifeSpring Hospitals, Fernandez Hospital	Apollo Cradle Maternity & Children's Hospital, Rainbow hospital* , Medcover Hospital, KIMS cuddles
Other Tier I and II cities			
Pune	Gupte Hospitals,	Cloudnine , Motherhood hospitals	ONP Hospitals, Columbia Asia Hospital, Sahyadri Hospital, Ruby Hall Clinic, Deenanath Mangeshkar Hospitals and Research Center, Aditya Birla Memorial Hospital
Indore	Verma Nursing Home, Pranshu surgical & maternity center, Angel women's hospital	Cloudnine , Motherhood hospitals	Chothiram Hospital & Research Center, Arihant Hospital & Research Center, Jyoti Multi Speciality Hospital
Chandigarh	Dr Jagit Singh (Chandigarh Children & Maternity Hospital), Bedi Hospital, Chaitanya Hospital	Cloudnine , Motherhood hospitals	Ivy Hospital
Visakhapatnam	Krishna Children's Hospital, Padmavathi Nursing Home	Cloudnine , Lotus Hospitals	Medcover Hospitals (Woman & Child), Rainbow Children's Hospital*

* - Rainbow Children's Hospital is classified as maternity and paediatric multi-speciality chain

Note: The list of hospitals is not exhaustive

Source: CRISIL Research

New-age offering for mother care is gaining prominence in urban areas

Some of the new age offerings for expectant mothers includes personalized diet and nutrition consultancy, yoga classes, professional photography for mother and child to capture initial moments. The new age offering for expected mother revolves not only around ante-natal care and check-ups but also on experiential care and offerings to make the journey of being a mother comfortable, memorable and luxurious.

Preference for specialty private maternity hospitals have increased

Increasingly working women are preferring specialized standalone maternity hospitals and antenatal care services rather than traditional nursing homes for obstetrics healthcare services. The number of institutional deliveries in private hospitals have also increased from 29% in fiscal 2016 to 32% in fiscal 2020 as per HMIS database. Institutional births in urban areas prefer private hospitals more as compared to institutional births in rural areas. In 2020, among institutional childbirths, in rural areas, about 69% cases were in government hospitals and about 21% in private hospitals and, in urban areas, about 48% cases were in government hospitals and 52% were in private hospitals, thus urban areas have higher preference for private hospitals.

India is also witnessing rise in antenatal care awareness with government awareness programs and supportive healthcare policies. Share of pregnant women received 4 ANC checkups have gone up from 51.2% in fiscal 2016 to 79.4% in fiscal 2020

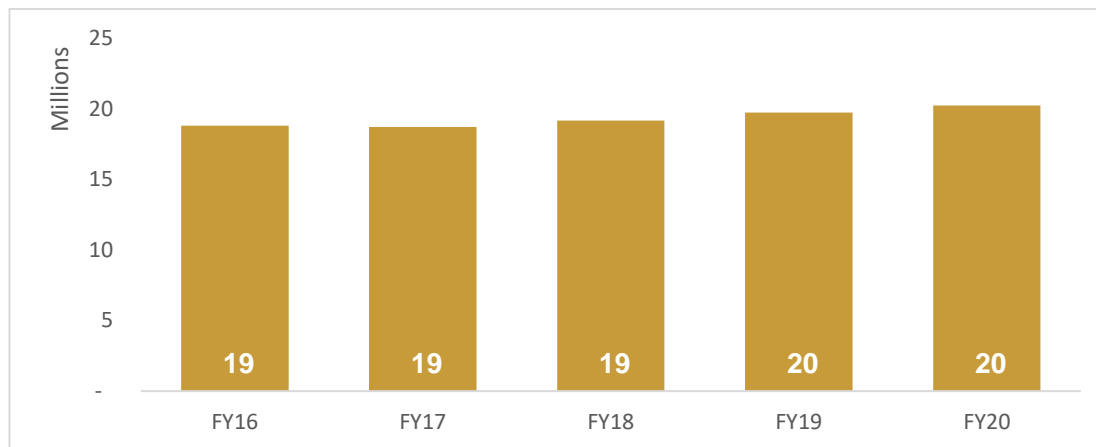
Mothers who had at least 4 antenatal care visits has been consistently and substantially increasing (%)

Pan-India	FY16	FY18	FY19	FY20
% Pregnant Woman received 4 ANC check ups	51.2%	63.5%	73.3%	79.4%

Source: CRISIL Research

Share of institutional deliveries have increased from increased from 66.6% in fiscal 2016 to 69.7% in fiscal 2020. This has resulted in rise in number of institutional deliveries from 18-19 million in fiscal 2016 to 19-20 million in fiscal 2020

Number of institutional deliveries conducted in India has seen rise from fiscal 2016 onwards



Source: HMIS, CRISIL Research

Share of C -Section deliveries performed in India as % of institutional deliveries increased from 18.7% in fiscal 2018 to 20.5% in fiscal 2020. This has been driven by rise in complication of pregnancies due lifestyle changes such as rise in sedentary lifestyle, rise in age of women for first-time pregnancies, etc. Gynecology- Hysterectomy surgeries contributes to 11-13% of total major surgeries performed in India, indicating potential demand for gynecology surgeries in India for maternity hospitals.

Share of total C -Section deliveries performed in India as % of institutional deliveries

Parameter	FY18	FY19	FY20
Share of c-section deliveries to reported institutional deliveries	18.7%	20%	20.5%

Source: CRISIL Research

Share of gynecology and hysterectomy surgeries in major operations in India

Parameter	FY18	FY19	FY20
Gynecology- Hysterectomy surgeries in total major surgeries reported	13%	12.6%	11.2%

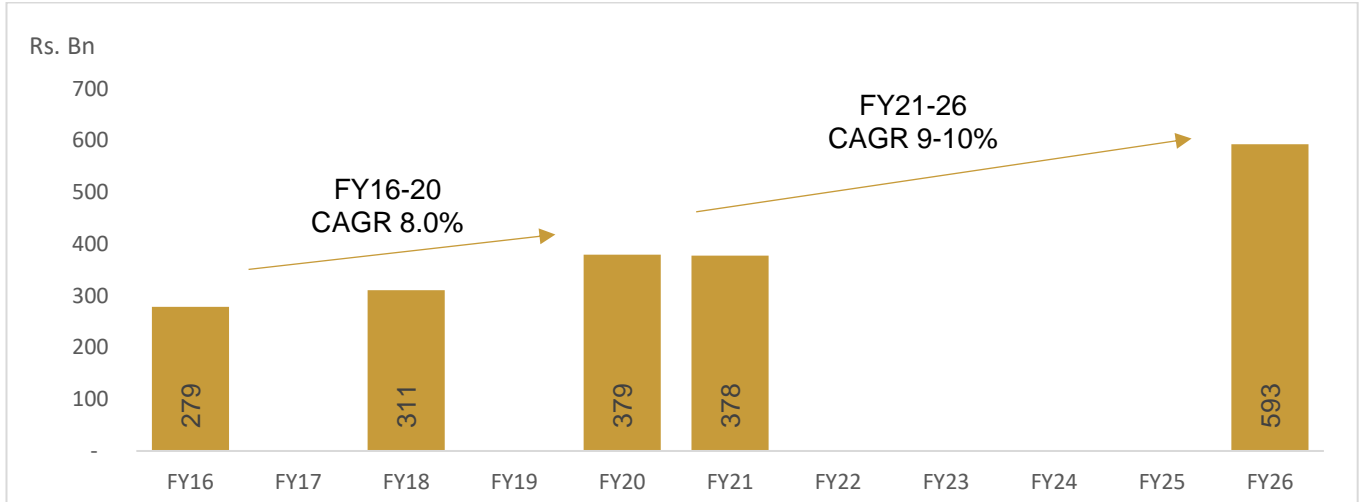
Source: CRISIL Research

Maternity care contributes to ~9% of overall healthcare delivery market in India

CRISIL Research estimates the maternity healthcare market at Rs. 380 billion in fiscal 2020. The overall maternity delivery market registered a growth of 8% from fiscal 2016 to fiscal 2020. Maternity care (obstetrics) is estimated to contribute to ~9% of overall healthcare delivery market. Going forward CRISIL Research expected the maternity healthcare market to reach Rs. 593 billion in fiscal 2026.

The growth in the market is largely driven by urban market with increase in average health expenditure on childbirth and related antenatal care and increased penetration of institutional pregnancies. This growth is driven by India's increasing aspirational middle-class population, increase in per capita income of urban India with considerable amount disposable income, increasing participation of women in the workforce which in turn has given rise to the count of dual income household and availability of multiple financing options increasing spending on insurance plans and medical services related to birthing. Birthing is an important moment in a couple's life, with increasing workload and sedentary activities, couples want to ensure the birthing experience is smooth, hassle-free, comfortable as well as memorable. New-age couples want to experience the birthing journey by having the best that is available in terms of treatment, hospital facilities, doctor consultancy, antenatal and post-natal physical well-being, etc. The rural market is driven by increased penetration of healthcare services and moderate increase in expenditure supported by growth in per capita income.

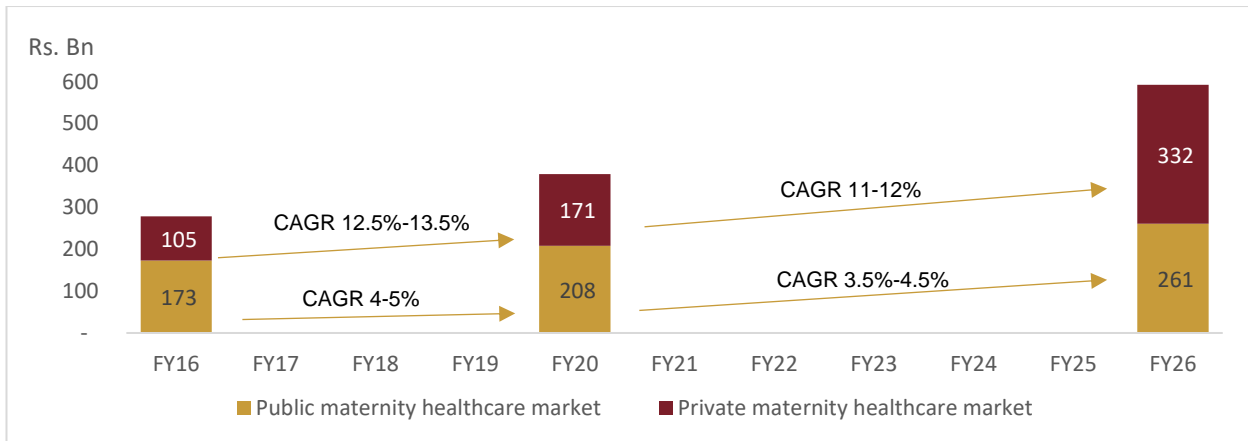
Maternity healthcare delivery services in India



Source: CRISIL Research

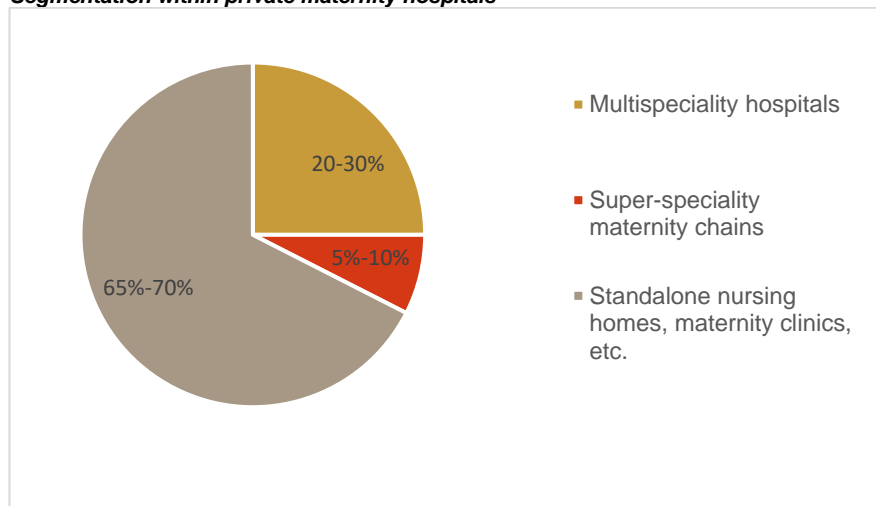
Private maternity care market is expected to grow at CAGR of 11-12% from fiscal 2021 to fiscal 2026

Private maternity healthcare market grew at 12.5-13.5% CAGR between fiscal 2016 and 2020 from Rs. 173 billion to Rs. 208 billion. The private maternity care market is expected to grow at CAGR of 11-12% from fiscal 2021 to fiscal 2026 to reach value of Rs. 261 billion in fiscal 2026. The growth in private hospitals is driven by increase in C-section deliveries driving up average revenue per patient, increased complication in pregnancies due to late pregnancies, and rise in demand for value added services. CRISIL Research estimates that standalone maternity chains have a share of 5-10% in overall maternity healthcare market, while local nursing homes and maternity clinics contributes to 20-30% of the maternity market in fiscal 2020.



Source: CRISIL Research

Segmentation within private maternity hospitals



Source: CRISIL Research

Maternity care still remains largely unorganized with standalone nursing homes and maternity clinics accounting for 65-70% of the market. Organized super-speciality mother and baby care chains like Cloudnine, Motherhood, Apollo cradle, Fortis La femme continue to eat into the market share of the unorganized by offering better experience, superior clinical outcome, contemporary customer reach out strategies and faster expansions. Private maternity healthcare market is expected to grow faster at 11-12% between fiscal 2020 and 2026 bringing in opportunities for growth for super-speciality mother and baby care hospitals

With India reporting under-penetration of quality specialized healthcare infrastructure, there is significant growth opportunities for super-specialty chains to provide integrated services in mother and baby care sector, as they currently have penetration of only 5-10% in private maternity care market as of fiscal 2021.

Overview of type of healthcare professional experts on panel with maternity hospitals

Doctor specialty	Description
Obstetrician	An obstetrician is a doctor who specializes in pregnancy, childbirth, and a woman's reproductive system to ensure health birthing and determine the health of the foetus, identify any complications and know the gestational period of the foetus.
Gynaecologist	A gynaecologist is a physician who specializes in the medical care of women and in health of the female reproductive system. They diagnose and treat issues related to the female reproductive tract. This includes the uterus, fallopian tubes, and ovaries and breast
Lactation Consultant	Lactation consultants or lactation specialists are nursing professionals who help new moms in their efforts to breastfeed
Paediatric intensivist	A paediatric intensivist, also called a paediatric critical (or intensive) care physician to treat children upto the age of 18. Critically ill infants and children who need high-level of monitoring are addressed by paediatric intensivist.
Neonatologist	A doctor who specialize in the care of new-borns, premature births. Diagnosing and treating new-borns with illness such as infections, birth defects, breathing conditions etc
Paediatrician	A doctor who specializes in children up to the age of 18 years. They diagnose and treat broad range of illnesses from minor to major health problems They advise parents on not only physical ailments but also behavioural and mental problem of their minor wards.
Paediatric Gastroenterologist, Hepatologist and Nutrition	A doctor who specializes in diagnosis and treatment of ailments related to digestion, liver and nutritional of children up to the age of 18 years. Gastroenterology refers to diagnosis and treatment of ailments related to the digestive system of children. Endoscopic procedures on the colon, oesophagus and stomach to identify related chronic ailments. Hepatology refers to the diagnosis and treatment of ailments related the liver,

	gallbladder, bile ducts and pancreas. Paediatric Nutritionists or dieticians refers to diagnosis and treatment of weight, growth and development related disorders.
Paediatric Dentist	A doctor who specializes in diagnosis and treatment of ailments related to dental problem and the overall oral health of children up to the age of 18 years.
Paediatric Ophthalmologist	A doctor who specializes in diagnosis and treatment of eyes conditions, vision problems of children up to the age of 18 years. They are also trained to perform eye surgeries.
Paediatrics Cardiologists	A doctor who specializes in diagnosis, prevention and treatment of ailments related to the heart of children up to the age of 18 years. They are trained to treat congenital heart disorders, defects, arrhythmias and other diseases and complications. However not all paediatric cardiologist are heart surgeons, although some are trained to perform invasive procedures.
Paediatric Orthopaedic Surgeon	A doctor who specializes in diagnosis and treatment of musculoskeletal ailments related to bone, joint and muscle of children up to the age of 18 years. Infections, broken bones, bone related diseases, sports injuries, trauma, bone development delays and birth defects are some problem addressed by an orthopaedic surgeon
Paediatric Neurologist	A doctor who specializes in diagnosis and treatment of ailments related to the spinal cord, the brain, the nervous system and the blood vessels of children up to the age of 18 years.
Paediatric Nephrologist	A doctor who specializes in diagnosis and treatment of ailments related to the kidney, urinary tract of children up to the age of 18 years. Conditions such as kidney stones, high blood pressure, congenital diseases and defects are addressed by an paediatric nephrologists
Paediatric Surgeon	A doctor who specializes in diagnosis, operative and post-operative surgical treatment of ailments related children up to the age of 18 years. Condition such as congenital, acquired anomalies and diseases are addressed by paediatric surgeons. They are trained to perform surgeries on foetuses, infants, children, adolescents and young adults.
Adolescent Endocrinologist	A doctor who specializes in diagnosis and treatment of endocrine ailments related to hormones and glands of children up to ages of 18. Conditions such as growth disorders, puberty, diabetes are addressed by an adolescent endocrinologist.

Source: CRISIL Research

Overview of children vaccination offering of private mother and baby care hospitals as extension of post-natal care

Maternity hospitals also provide post-natal care for newborn child. This includes check-ups at regular intervals to monitor healthy growth and development of the newborn and vaccination against communicable diseases. Immunization and vaccination for newborn and children are very vital for their health and prevention of communicable diseases. Vaccination helps to developed induced immunity against myriad of diseases and infections which may not have been developed naturally. Vaccinations helps the child's body to develop antibodies against infections.

Key vaccine recommendations for all children (0 -3) as per WHO position paper

Antigen	Age at 1 st dose	No. of doses	Average interval between doses
BCG	As soon as possible after birth	1	-
Hepatitis B	As soon as possible after birth (<24h)	3-4	4 weeks
Polio	6-14 weeks	3-5	4-8 weeks
DTP-containing vaccine	6 weeks (min)	3	4-8 weeks
Haemophilus influenzae type b	6 weeks (min)	2-3	4-8 weeks
Pneumococcal (Conjugate)	6 weeks (min)	2-3	4 weeks
Rotavirus	6 weeks (min)	2-3	4 weeks
Measles	9 or 12 months	2	4 weeks

Rubella	9 or 12 months	1	
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Source: WHO Position Papers, CRISIL Research

Fertility segment is emerging as another major offering for the mother and baby care focused players with huge growth potential

Assisted reproductive technology (ART) has witnessed strong growth in the last few years. Incidence of infertility in India is between 10 and 15% resulting in approximately 25 to 30 million couples are likely to be infertile in the country at any given time. As per industry sources India reports roughly 0.2- 0.25 million IVF cycles in a year in 2020.

The fertility market has witnessed strong growth in past few years due to:

- Delayed pregnancies increasing rate of infertility
- Rapid lifestyle changes, including rising stress level, that can potentially affect fertility
- With increasing income levels, increasing affordability for treatment
- Awareness campaigns by the private players
- Improvement in technology and success rates
- Fast expansion by private players allowing better proximity to customers
- Improving social acceptance of such measures

Overview of neo-natal care market in India

A neonatal intensive care unit (NICU), also known as an intensive care nursery (ICN), is an intensive care unit (ICU) specializing in the care of ill or premature new-born infants. Neonatal refers to the first 28 days of life. NICU is typically directed by one or more neonatologists and staffed by resident physicians, nurses, nurse practitioners, pharmacists, physician assistants, respiratory therapists, and dietitians. Many other ancillary disciplines and specialists are available at larger units.

Several attempts to strengthen new-born care in India have been made. Under the National Rural Health Mission, new-born care has become central to the child survival strategy both in community and facility level interventions. Hospital-based neonatal units are being strengthened in India to provide specialized treatment services, which are classified into different levels.

India follows 4-level NICU system based on weight and gestational age of neonate:

Level I care:

Neonates weighing more than 1,800 grams or having gestational maturity of 34 weeks or more are categorized under level I care. The care consists of basic care at birth, provision of warmth, maintaining asepsis and promotion of breastfeeding. This type of care can be given at home, sub-centre and primary health centre. Admissions in NBSUs would fall under level I care.

Level II care

Neonates weighing 1,200-1,800 grams or having gestational maturity of 30–34 weeks are categorized under level II care and are looked after by trained nurses and paediatricians. The equipment and facilities used for this level of care include equipment for resuscitation, maintenance of thermoneutral environment, intravenous infusion, gavage feeding, phototherapy and exchange blood transfusion. This type of care can be given at first referral units, district

hospitals, teaching institutions and nursing homes. Admissions in SNCUs at district public and private hospitals would fall under level II care.

Level III care

Neonates weighing less than 1,200 grams or having gestational maturity of less than 30 weeks are categorized under level III care. The care is provided at apex institutions and regional perinatal centres equipped with centralized oxygen and suction facilities, servo-controlled incubators, vital signs monitors, transcutaneous monitors, ventilators, infusion pumps etc. This type of care is provided by skilled nurses and neonatologists.

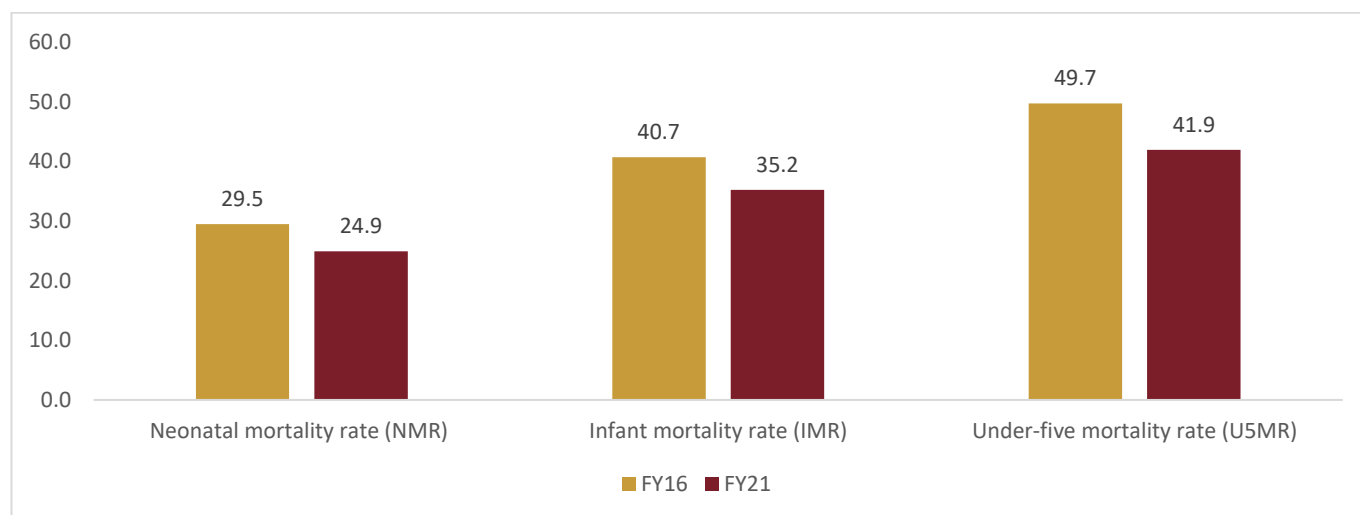
Level IV care

This is the highest standard of neonatal care, consisting of pediatric specialists, along with all the expert care providers and the specialised services of a Level III NICU. It also offers facilities like extra corporeal membrane oxygenation and transport services from hospital to home. Usually, a level IV NICU is a part of a large hospital with expertise in surgical repair of serious congenital or acquired conditions.

India still the biggest contributor in neonatal deaths globally

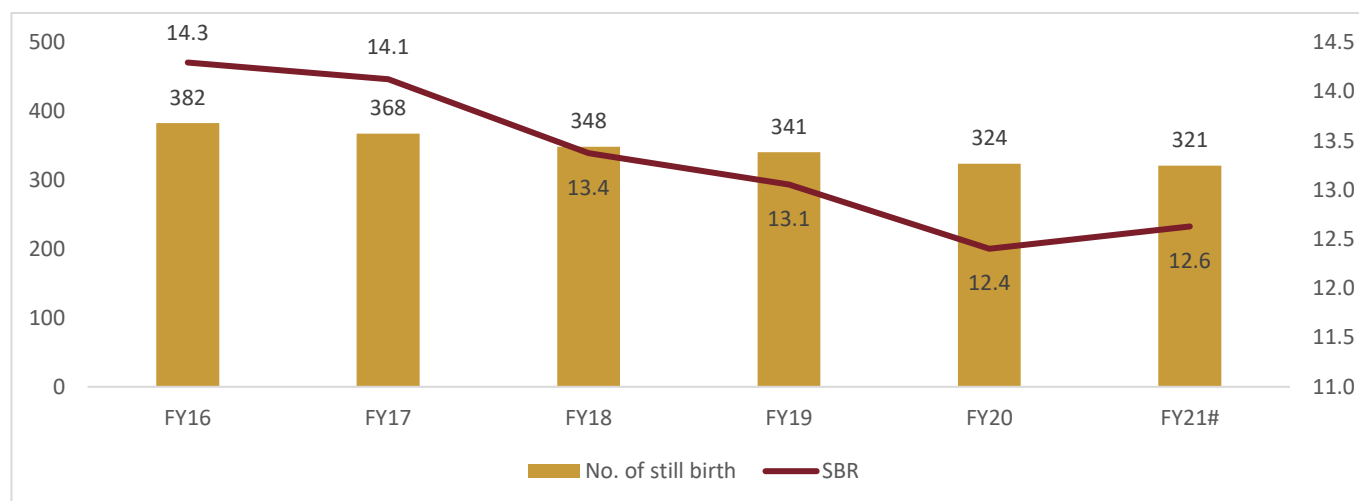
According to UNICEF, the share of India in the global neonatal deaths is over ~20%. To control the NMR and IMR, Indian government launched India New-born Action Plan (INAP) in fiscal 2015 with the objective of work towards attainment of the goals of “Single Digit NMR by 2030” and “Single Digit SBR (Still Birth Rate per 1000) by 2030.”

Mortality rates (per 1000 live births)



Source: National Family Health Survey (NFHS-5), CRISIL Research

Number of still birth* (in '000) and SBR (per 1000 live births)



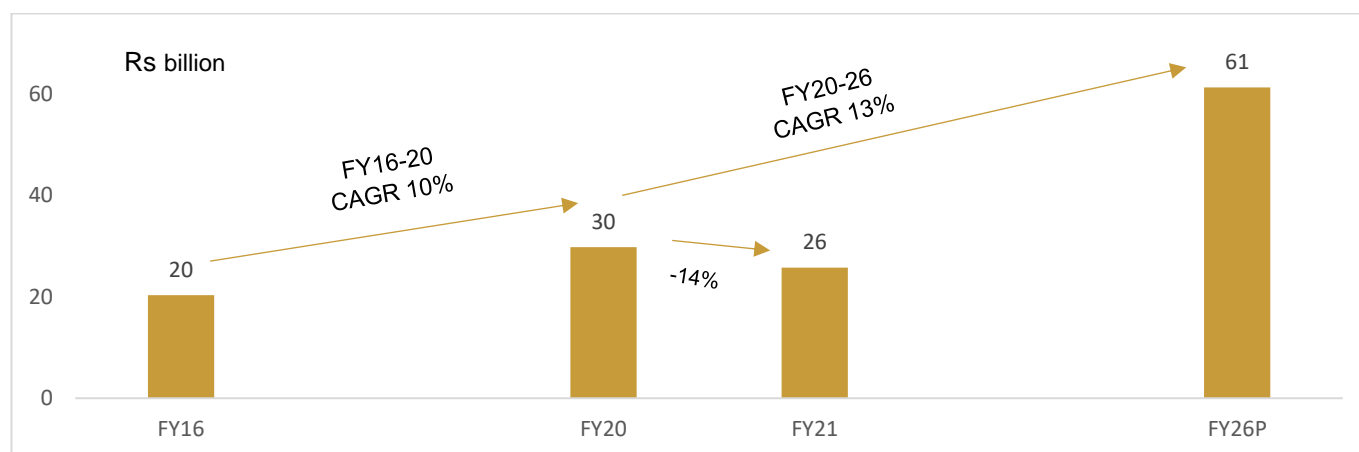
*Calculated using estimated live birth through HMIS; #Provisional data
Source: HMIS, CRISIL Research

NICU market expected to pose growth of CAGR 13% between fiscal 2020 and 2026

To arrive at NICU market size we have taken into consideration number of NBSU & level I admissions, number of SNCU at public & private facilities & level II admissions, and level III admissions at public & private facilities.

NICU market showed a similar trend as observed for paediatric healthcare market size except for the decline in fiscal 2021 due to Covid-19. The lower number of admissions in level II and level III NICUs led to the downfall of 13.7% in the NICU market. Continuous efforts by the government and emergence of private players in the tertiary care expected to drive the growth of the NICU market. CRISIL Research expects CAGR 13% NICU market growth between fiscal 2020 and 2026.

Market size of neonatal care (NICU) market in India



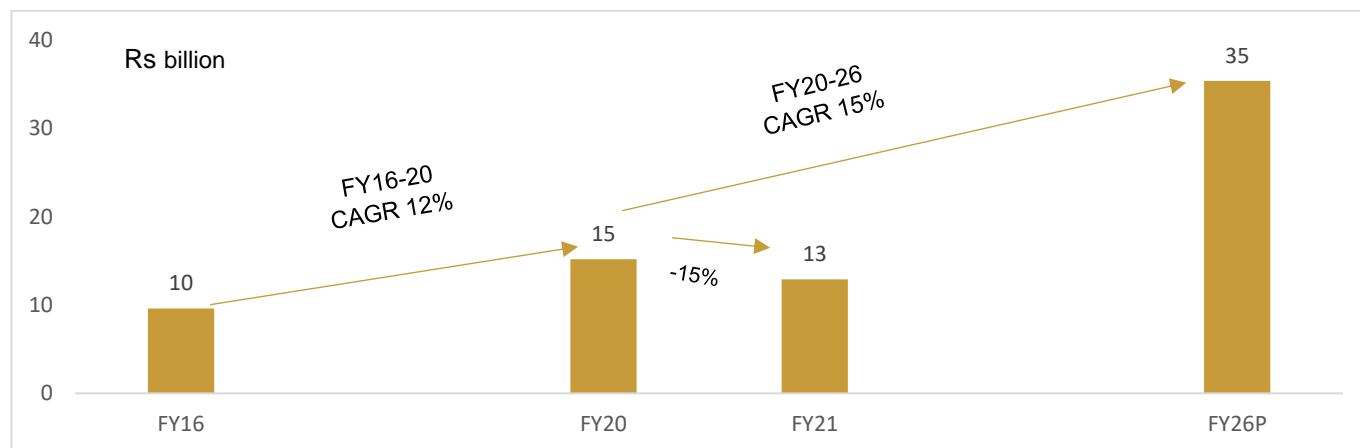
P: Projected
Source: CRISIL Research

CRISIL Research estimates that the number of NICU beds available in key cities – Bangalore, Mumbai, Delhi – NCR, Chennai, and Hyderabad would range from 3,500-4,500 inclusive of private and public facilities. With increasing disease complexity, it becomes difficult to treat the child with primary and sometimes secondary care, in such cases the patient is immediately referred to tertiary care. Key cities mentioned above account for a large share of overall NICU beds in the country. Other than in the metropolitan cities, the availability of quality neonatal care in urban India is also limited.

NICU private market expected to show relatively stronger growth

Private NICU market size is around half of the total NICU market size in fiscal 2021. The share of private NICU market is expected to increase in the upcoming fiscals as the segment is anticipated to show a higher growth. Technical advancements to cater to niche areas and emergence of new private players in the NICU market expected to boost the growth. CRISIL Research projects CAGR 15% between fiscal 2020 and 2026 in private NICU market.

Market size of private neonatal care (NICU) market in India



P: Projected

Source: CRISIL Research

New-born screening provides additional opportunity for early-stage detection of serious disorders

New-born screening (NBS) is the process by which new-borns are screened immediately after birth to determine if s/he is affected by an inborn error of metabolism and disorders that can cause severe illness or death. symptoms of such disorders are apparent at birth. If such disorders are undiagnosed and untreated many children develop mental retardation, learning disabilities, autism, dyslexia, behavioural abnormalities, and scholastic backwardness later in life. Early detection can aid treatment and reduce mortality rate for such disorders. Newborn screening can help to reduce infant mortality rate by providing earlier treatment for disorders.

The most rational and cost-effective way of preventing such disorders are earlier detection through a national NBS program which will detect most of the preventable or treatable, if not all IEMs and other genetic disorders. Hence, all hospitals in urban areas in India must have NBS at least for the common disorders: Congenital Hypothyroidism (CH), Congenital Adrenal Hyperplasia (CAH), and glucose-6-phosphate-dehydrogenase deficiency (G6PD) deficiency. NBS has not been accepted yet as a governmental policy in India.

In 2011, the national neonatology forum recommended CH, CAH, and G6PD as the screening panel to implement for NBS in India. Many small scale or pilot projects were started in India such as Chandigarh Program, Kerala State NBS program, and Goa NBS Program. Union territory of Chandigarh started NBS for CH, CAH, and G6PD in 2007. In 2008, Goa introduced mandatory expanded NBS for all newborns. In 2009, West Bengal and in 2011 Gujarat governments have approved to launch large scale NBS program. However, these programs remain yet to be implemented. The high cost of screening the first disorder is a barrier to starting a government sponsored program at national level.

There are no debates in the medical community questioning the benefits of screening; the consensus is that all babies need to be screened, but there is no coherent national strategy for implementing a universal screening program nor guidance on which disorders should be included in the screening panel. Currently many private hospitals and labs offer this facility although at a cost and there is no insurance or government funding for this. Private labs in newborn screening includes players such as Acquity Labs (Cloudnine / Kids Clinic India Ltd. have

majority stake holding in the company), Navigene, diagnostics players including SRL diagnostics, Dr. Path Labs, Metropolis, Throcare and other regional players. Growth drivers for maternity segment in India

In recent years the private antenatal hospitals have seen an uptake in demand from couples living in both small families and joint families.

Growth factors	Overview
Nuclearisation in family structure	Rise in nuclearization is pushing demand for comprehensive maternity care service under one roof. According to census data, the average household size of the country has come down to 4.91 in 2011, from 5.57 in 1991 indicating rise in nuclearization. This has also led to changing consumer behaviour, with less experience in parenting couples are moving towards professional care formats from traditional nursing practices
Changing lifestyle aspirations	Rise in per capita income and urbanization changing spending towards aspirational lifestyle. This has led to rise in demand for experiential value-added services
Changing consumer behaviour away from traditional maternity practices	Couples are increasing preferring professional services under one roof with dedicated maternity facilities separate from sick patient care while rural India is moving towards institutional births
Rise in working women population in urban areas	21.9% of women over 15 years of age were employed as of March 2020 in urban areas as against 20.5% of women over 15 years age of March 2011. With urbanization increasing from 31% to 35% from 2010 to 2020 the number of working women have increasing at faster rate than increase in urban population.
Rise in pregnancy age and complication during pregnancy	25-29 age group women contributed to 32% of the births in 2010-2015 period up from 28% in 2000-2005 period

Source: CRISIL Research

Value added services and longer customer lifecycle providing diverse revenue streams for standalone maternity chains

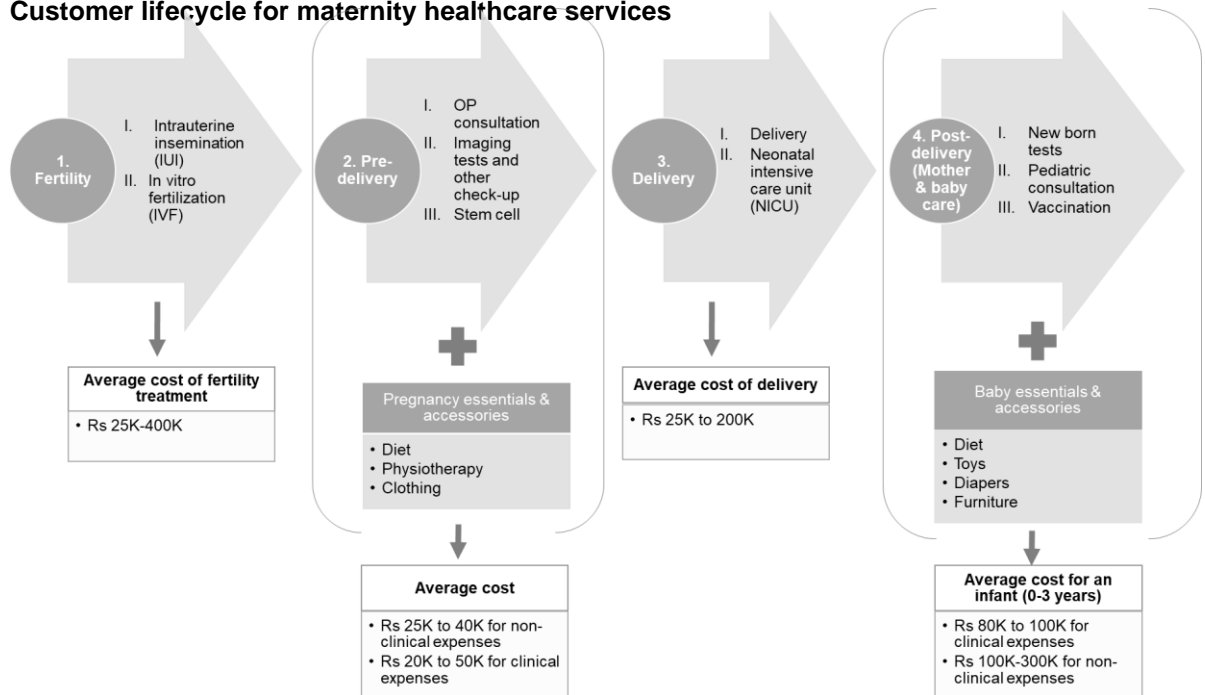
Maternity healthcare services have evolved over the years due to advent of innovative treatments, pregnancy planning etc. Traditionally a typical nursing home/maternity home provides clinical services like laboratory scans, consultations, delivery, and pharmaceuticals. Hospital chains specialized in the maternity healthcare services provide wide range of services and customizations which can be availed by the patient/customer. These value-added services include pregnancy planning with IUI and IVF, baby essentials like diapers, diet and furniture and accessories like toys and clothing. Customer shift towards the better experience and propensity to spend on healthcare services coupled with higher disposable income for working class have been driving the shift towards consumption of more quality maternity services in India.

Specialized and standalone maternity service chains are benefitting from shift in the consumption of services. With value added services, the customer lifecycle for these maternity chains is expanding. The typical customer lifecycle which lasts around 1-1.5 years for these chains consist of pregnancy planning, pregnancy, delivery, post-delivery stages along with other value-added services like baby accessories and essential. This customer lifecycles stages provides with differential revenue streams for the standalone maternity homes along with traditional clinical services revenue. The value-added services like IVF, NICU, baby essentials and baby accessories etc. mentioned in the

below mentioned chart costs on an average approximately Rs. 0.2 million to Rs. 1 million and can form the significant amount of revenue stream for players providing the value-added services.

In India, approximately 1 in 8 couples (10-15% of couples) require assistance with conception and 1 in 8 babies (as per HMIS data) are born pre-term, requiring special attention or NICU care.

Customer lifecycle for maternity healthcare services



(Source: Crisil Research)

5 Competition analysis in maternity and antenatal care in India

In this section, CRISIL Research has compared the key players across key hospital segments – Multispecialty, Paediatric focused multispecialty, Super-specialty maternity and baby-care, Fertility specialty.

We have obtained data in this section from publicly available sources, including annual reports and investor presentations of listed players, regulatory filings, rating rationales, and/or company websites, as relevant.

Companies	Players	Year of Establishment	Type of Establishment	Brand for Maternity care
Multispecialty hospital chains				
Apollo Hospitals Enterprise Ltd (AHEL)	Apollo Hospitals	1988 (Cradle - 2004)	Chain	Apollo Cradle
Fortis Healthcare Ltd	Fortis (with La Femme)	1996 (La Femme- 2004)	Chain	La femme + Mamma Mia
Max healthcare group	MHG	2001	Chain	-
Narayana Hrudayalaya Ltd	Narayana Hrudayalaya	2000	Chain	-
Krishna Institute Of Medical Sciences Ltd	KIMS Hospital	1973	Chain	-
Paediatric focused multispecialty hospital chains				
Rainbow Children's Medicare Pvt Ltd	Rainbow Hospital	1999	Chain	BirthRight
Surya Hospitals Pvt	Surya Hospital	1985	Chain	-
Super-specialty maternity and baby-care				
Kids Clinic India Ltd	Cloudnine	2005	Chain	Cloudnine
Rhea Healthcare Private Limited	Motherhood	2008	Chain	Motherhood
Lineage Healthcare Limited	Cocoon	2011	Standalone	Cocoon
Neonatal care & Research Institute Pvt Ltd	Ovum	2011	Standalone	Ovum
Fertility specialty players				
Nova Medical Centers Private Limited	Nova IVF	2009	Chain	N.A
Indira IVF Hospital Private Limited	Indira IVF	2015	Chain	N.A

* A player having 3 or more outlets across 3 or more cities is classified as hospital chain or else standalone entity
 Apollo Health & Lifestyle Limited – (AHL) is the company under which cradle brand is operational directly.

Classification of key players by core offering

Sr No	Players	Adult multi-specialities [^]					Super-speciality paediatrics (multi-speciality)	Super-speciality mother and baby-care	Fertility / IVF	Total Revenue – FY21 Rs. Million
		Cardiology	Oncology	Neurology	Orthopaedics	Gynaecology and Maternity care				
1	Apollo Hospitals (incl. Apollo Cradle)	✓	✓	✓	✓	✓		✓	✓	1,05,607
2	Fortis Hospitals (incl. La Femme)	✓	✓	✓	✓	✓		✓	✓	39,796
3	MHG	✓	✓	✓	✓	✓			✓	36,290
4	Narayana Hrudayalaya	✓	✓	✓	✓	✓			✓	25,910
5	KIMS Hospital	✓	✓	✓	✓	✓			✓	13,401
6	Rainbow Hospital					✓	✓		✓	6,501
7	Surya Hospital					✓	✓		✓	223
8	Cloudnine							✓	✓	5,546
9	Motherhood							✓	✓	2,910
10	Cocoon							✓		136*
11	Ovum							✓	✓	456*
12	Nova IVF								✓	2,268*
13	Indira IVF								✓	N.A

[^] Few key therapeutic areas, not exhaustive list * FY20 data

N.A : Not available ; incld: including

Note: The data given above is only indicative and not exhaustive. Apollo Health & Lifestyle Ltd have presence across retail healthcare offerings such as dialysis, infertility, diagnostics, diabetes, dental, maternity, surgery-related healthcare care services CRISIL Research has consider the players present in the red tile in the above table for competitive assessment of antenatal and maternity market competitive landscape

Note: CRISIL Research has defined maternity market as mother and baby care market covering ante-natal, post-natal healthcare services and healthcare service for babies age 0-3 years. Healthcare services for children aged 0-18.0 years of age is categorised as paediatric healthcare services. Hence paediatric healthcare service is divided into baby-care (0-3 years) and adolescents and teenagers (3 -18.0 years)

Source: Company annual reports/investor presentations/website, CRISIL Research

Overview of revenue of key players (Rs. Million)

Sr. no	Revenue for	FY19	FY20	FY21	Comments
Multi-specialty hospital chains					
1	Apollo	44,514	49,738	42,770	Top five therapeutic areas are cardiology (21%), oncology (11%), neurology (12%), orthopaedics (10%), and Gastroenterology (6%)
	AHLL	5,888	6,964	6,818	
	Apollo Cradle & Children's Hospital	Revenue for Cradle alone not available			
2	Fortis	35,920	37,532	31,237	Top five therapeutic areas are cardiology (17%), Oncology (10%), neurology (8%), orthopaedics (6%) and Gastroenterology (3%). IPD and other form 25% share in the revenue
	Gynaecology	N.A	1,877	1,249	
	Fortis La femme	Revenue for Fortis La Femme not available			
3	Max Healthcare	35,990	40,230	36,290	
4	Narayana Hrudayalaya	28,582	31,314	25,910	Top five therapeutic areas are cardiology (34%), Gastroenterology (14%), Oncology (13%), Renal (9%), neurology (8%), and orthopaedics (3%)
5	KIMS Hospital	9,239	11,287	13,401	Top five therapeutic areas are cardiology (18%), Renal (9%), neurology (13%), Mother and Childcare (6%) , Oncology (5.7%), orthopaedics (4.6%), and Gastroenterology (5.2%),
	Mother and Childcare			819	
Share of maternity / Gynaecology segment is 4-6% for key players such as Fortis and KIMS hospital, and is not among its top 5 therapeutics areas for players such as Apollo and Narayana Hrudayalaya					
Paediatric focused multi-specialty hospital chains					
6	Rainbow Hospital	5,428	7,194	6,501	
7	Surya Hospital	135	200	223	
Super-specialty mother and baby-care					
8	Cloudnine	4,219	5,163	5,546	Dedicated maternity and birthing hospitals providing traditional birthing maternity care plus complimentary new-age wellness, health and nurturing services
9	Motherhood ^{&}	1,838	2,849	2,901	
10	Ovum	373	456	N.A	
11	Cocoon - Jaipur	98	136	N.A	
Fertility speciality players					
12	Nova IVF	2,251	2,268	N.A	

N.A: Not available

Positive year-on-year growth in revenue
 Negative year-on-year growth in revenue

Apollo Health & Lifestyle Limited (AHLL) has numerous other businesses apart from maternity care in retail healthcare such as dialysis centers, diagnostic centers, sugar clinics, surgery clinics, fertility clinics and others

& - Rhea healthcare has adopted inorganic growth by acquisition of existing clinics and small hospitals and converting them into maternity hospitals

Pediatric care is defined as healthcare service for population aged between 0-18 years, baby care is considered for population aged between 0-3 years

Source: Company annual reports/investor presentations/website, rating rationale, CRISIL Research

Revenue of key players in FY21 (Rs. Million) - Multi-specialty players

Multi-specialty players	FY19	FY20	FY21	Y-o-Y growth FY21	CAGR FY19-21
Apollo Hospitals (AHEL)	44,514	49,738	42,770	-14.0%	-2%
AHLL	5,888	6,964	6,818	-2.1%	8%
Fortis Hospitals	35,920	37,532	31,237	-16.8%	-7%
Max Healthcare	35,990	40,230	36,290	-9.8%	0%
Narayana Hrudayalaya	28,582	31,314	25,910	-17.3%	-5%
KIMS Hospital	9,239	11,287	13,401	18.7%	20%

Source: Company annual reports/investor presentations/website, CRISIL Research

Revenue of key players in FY21 (Rs. Million) - Pediatric multi-specialty players

Pediatric multi-specialty players	FY19	FY20	FY21	Y-o-Y growth FY21	CAGR FY19-21
Rainbow Hospital	5,428	7,194	6,501	-9.6%	9%
Surya Hospital	135	200	223	11.4%	29%

Source: Company annual reports/investor presentations/website, CRISIL Research

Revenue of key players in FY21 (Rs. Million) - Super-specialty mother and baby-care

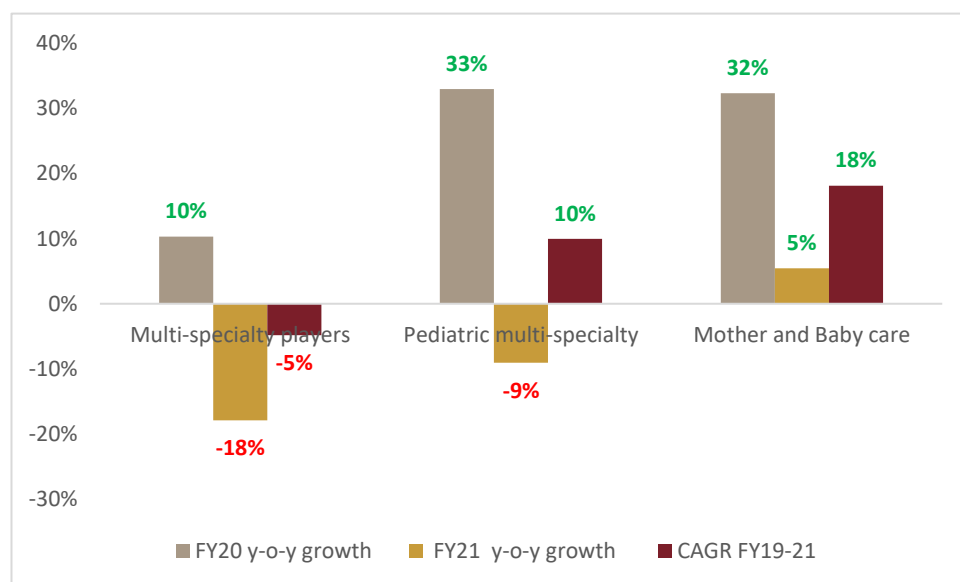
Super-specialty mother and baby-care	FY19	FY20	FY21	Y-o-Y growth FY21	CAGR FY19-21
Cloudnine	4,219	5,163	5,546	7.4%	15%
Motherhood	1,838	2,849	2,901	1.8%	26%

Note: RHEA healthcare has acquired few existing clinics and small hospitals and converted them into maternity hospital with the brand name "Motherhood" and increased number of hospitals from 5 in FY18 to 11-15 hospitals in FY21

Pediatric care is defined as healthcare service for population aged between 0-18 years, baby care is considered for population aged between 0-3 years

Source: Company annual reports/investor presentations/website, CRISIL Research

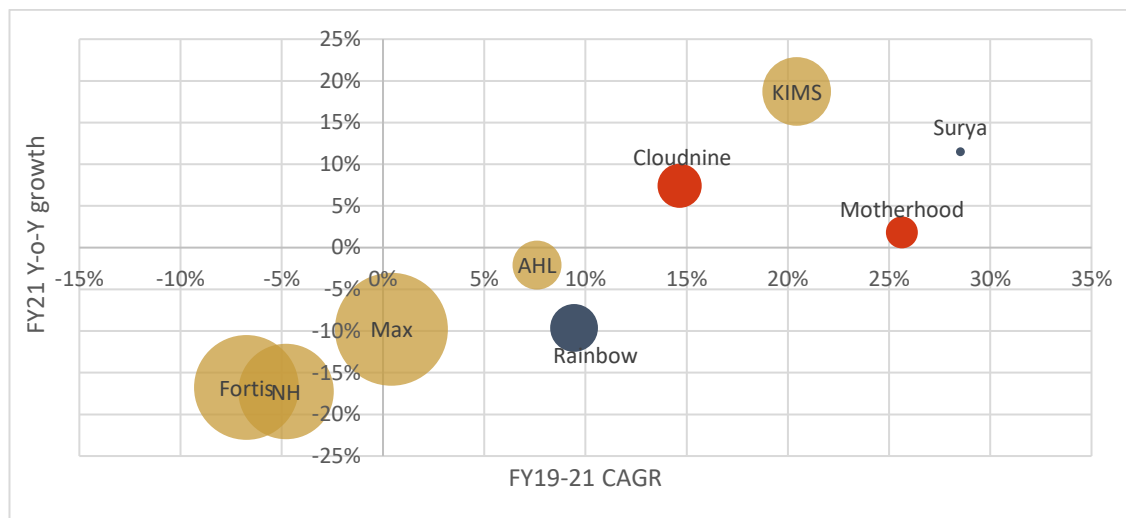
Hospital sector growth for specific segments - FY19-21 CAGR growth



Multi-specialty players include Apollo Hospitals (AHLL), Fortis Hospitals, Max Healthcare, Narayana Hrudayalaya, KIMS Hospital Paediatric multi-specialty players include Rainbow Hospital, Surya Hospital. Mother and Baby care players include Cloudnine, Motherhood

Source: Company annual reports/investor presentations/website, CRISIL Research

Mother & Baby care chains revenue not impacted by COVID-19 pandemic



■ Paediatric focused ■ Mother and baby-care ■ Multi-specialty

Source: Company annual reports/investor presentations/website, CRISIL Research

Operational Parameters- Scale of operation

Major focus	Super-specialty mother and baby-care					
Parameter for Brands	Cloudnine	Motherhood	Cocoon	Ovum	Fortis – La Femme	Cradle (AHLL)*
No. of Hospitals	22	15	1	3	2+2 ^{\$}	14
No. of Clinics	-	3	-	1	-	8
No. of Beds (Total)	900	411	-	90	110 ^{\$}	~470

IVF : In vitro fertilization; ART: Assisted reproductive technology

Note: The data given above is only indicative and not exhaustive

Pediatric care is defined as healthcare service for population aged between 0-18 years, baby care is considered for population aged between 0-3 years

\$: Beds capacity is for 2 hospitals in Delhi and Bengaluru. The other 2 centers are present with Fortis hospital healthcare offerings and not as standalone entity

* 11 cradle centers are owned by Apollo Health and Lifestyle

Source: Company annual reports/investor presentations/website, CRISIL Research

Operational Parameters- Scale of operation (Fertility players)

Parameter for Brands	Indira IVF	Nova IVF	Apollo Fertility	Cloudnine	Motherhood	Fortis
No. of clinics	102	42	33	24	10	6
Presence	20 states	17 states / 28 cities	10 states	7 states	5 states	2 states

Source: Company annual reports/investor presentations/website, CRISIL Research

Observations

- Maternity focused hospitals have seen positive growth in fiscal 2021, as maternity services continued to be in demand during pandemic as against decline in planned surgeries and IPDs
- Among the players mentioned above Cloudnine (Kids Clinic India Ltd) has the highest number of super-specialty hospitals focused on super specialty mother and baby-care chains as of fiscal 2021
- Cloudnine (Kids Clinic India Ltd) has highest number of beds among the above-mentioned super specialty mother and baby-care chains as of fiscal 2021
- Cloudnine has significant presence in fertility business as well, with presence across 7 states with 24 clinics and fertility segment contributing towards 10% of IPD segment for Cloudnine as of fiscal 2021

Overview of obstetrics offering

	Cloudnine	Motherhood	Ovum	Cocoon	Local nursing homes
PRE-NATAL / ANTE-NATAL					
Check-ups / Examinations					
Supplements Advice					
Immunization (TT & TD)					
Personalized diet & nutrition					
Antenatal Classes					
Yoga Classes					
Physiotherapy					
Labour and delivery classes					
Lamaze					
professional photography – capturing moments					
POST NATAL					
Breastfeeding & lactation classes					
Lactation consultation					
Baby foetal brain development classes					
Baby care sessions					
Mother health and fitness offerings					
BABY CARE POST-NATAL					
Intensive care					
Stem cell banking					

Lamaze involves psychological and physical preparation by the mother in order to reduce pain and facilitate delivery without unnecessary medical intervention

Geographic Presence (FY21)

Brands	Cloudnine	Motherhood	Apollo Cradle	Cocoon	Ovum	Fortis La Femme
North	✓	✓		✓		✓
South	✓	✓	✓		✓	✓
West	✓	✓	✓			
East						

Note: The data given above is only indicative and not exhaustive. Nova and Indira operations are mentioned by regional zones and not cities. The IVF clinics have presence across various cities in India.

Source: Company annual reports/investor presentations/website, CRISIL Research

Geographic Presence across cities in India (FY21)

Cities		Cloudnine	Motherhood	Apollo Cradle	Cocoon	Ovum	Fortis La Femme
	Brand						
Metropolitan	Mumbai	1					
	Navi Mumbai	1	1				
	Delhi	2		2			1H+1C
	Gurugram	2		2			

	Noida	1	1	1			
	Ghaziabad			1			
	Bengaluru	9	5H+3C	3H+9C		3H+1C	1
	Chennai	2	1	1			
	Kolkata						
	Hyderabad			2			
Tier I and II cities	Pune	2	2	1			
	Ahmedabad						
	Chandigarh	2	3				
	Jaipur				1		1
	Amritsar			1			
	Coimbatore		1				
	Indore		1				

Numbers in cell represent number of hospitals otherwise stated by H or C notation. H : Hospital; C : Centre / Clinic

Source: Company annual reports/investor presentations/website, CRISIL Research

Observations

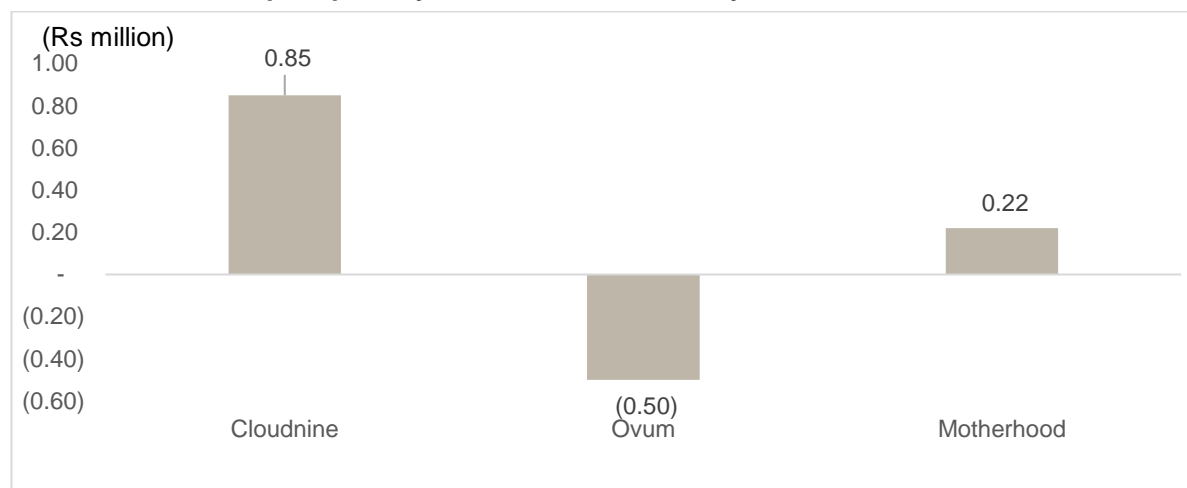
- Cloudnine and Motherhood have presence across north, south and west regions in India as of fiscal 2021.
- Cloudnine has largest presence in terms of number of hospitals across all major metros and tier-I cities across India as of March 2021
- Cloudnine emerges as the leading chain, in terms of revenue, in super-specialty mother and baby care hospital chain segment with revenue of Rs. 5,546 . Cloudnine also has highest number of hospitals across the major cities as of fiscal 2021 among the super-specialty mother and baby care hospitals. Cloudnine is followed by Motherhood for highest number of hospitals across the major cities as of fiscal 2021.
- Private maternity healthcare market is expected to grow faster at 11-12% between fiscal 2020 and 2026 bringing in opportunities for growth for super-specialty mother and baby care hospitals.
- In Fiscal 2021, Cloudnine registered a market share of 15-20% in super-specialty maternity chains market in India
- In Fiscal 2021, Cloudnine registered a market share of 1.5% in private maternity care market in India
- Cloudnine reported market share of 0.7% in maternity care market and market share of 15-20% in super-specialty maternity chains market in India in Fiscal 2021

Market share for Cloudnine

Parameters	FY20	FY21
Market share of Cloudnine in super-specialty maternity chains market (%)	14-19%	15-20%
Market share of Cloudnine in private maternity care market (%)	1.4%	1.5%
Market share of Cloudnine in total maternity care market (%)	0.6%	0.7%

IPD and OPD revenue for Maternity segment are considered for calculation of market share. Maternity share in IPD is used to arrive at estimated maternity revenue from OPD

Source: Company data, CRISIL Research

OPBDIT / Bed for super-specialty chains mother and baby care chains


Note: Total beds data for Lineage Healthcare Limited was not available.

#The OPBDIT for Apollo Health & Lifestyle is not calculated as the number of beds data is only available and applicable for Apollo Cradle. Apollo Health & Lifestyle has numerous other businesses in retail healthcare such as dialysis centers, diagnostic centers, sugar clinics, surgery clinics, fertility clinics and others

Ovum data is for FY20, as latest financials for FY21 is not available

Source: Companies' annual reports/investor presentations, CRISIL Research

Observations

- In terms of the OPBDIT per bed for FY20, Cloudnine earns 0.85 million operating profit per bed
- Apollo Health & Lifestyle followed by Kids Clinic India (Cloudnine) have the highest OPBDIT (FY21) among the super specialty mother and baby care players

Key financial parameters of major players
Key financial parameters – FY18-FY20

Key financials	FY20							
	Operating income		OPBDIT			PAT		
	Rs million	CAGR FY18 to FY20	Rs million	OPBDIT Margin	CAGR FY18 to FY20	Rs million	PAT margin	CAGR FY18 to FY20
Super-specialty maternity and baby care chains								
Cloudnine	5,163	21%	719	14%	n.m.	-331	-6%	n.m.
Motherhood ^{&}	2,849	97%	-282	-10%	n.m.	-539	-19%	n.m.
Cocoon	136	-4%	-11	-8%	n.m.	-96	-71%	n.m.
Ovum	456	24%	-44	-10%	n.m.	-74	-16%	n.m.
Multi-specialty players								
AHLL*	6,964	23%	656	9%	n.m.	-770	-11%	n.m.

*AHLL has numerous businesses and one of them is Apollo cradle and children's hospital. AHLL other businesses in retail healthcare include dialysis centers, diagnostic centers, sugar clinics, surgery clinics, fertility clinics and others

Financial data for Fortis La Femme is not available in public domain

& - Rhea healthcare has adopted inorganic growth by acquisition of existing clinics and small hospitals and converting them into maternity hospitals supporting growth in revenue

n.m.: Not meaningful; OPBDIT: Operating profit before depreciation, interest and tax; PAT: Profit after tax

Source: Company annual reports, CRISIL Research

Key financial parameters – FY18-FY21

Key financials	FY21							
	Operating income		OPBDIT			PAT		
	Rs million	CAGR FY18 to FY21	Rs million	OPBDIT Margin	CAGR FY18 to FY21	Rs million	PAT margin	CAGR FY18 to FY21
Super-specialty maternity and baby care chains								
Cloudnine	5,546	17%	765	14%	n.m.	385	-7%	n.m.
Motherhood	2,901	58%	90	3.1%	n.m.	N.A	N.A	N.A
Multi-specialty players								
AHLL*	6,818	14%	768	11.3%	n.m.	N.A	N.A	N.A

*Apollo Health & Lifestyle Ltd has numerous businesses and one of them is Apollo cradle and children's hospital. Financials are for Apollo Health & Lifestyle Ltd

Note: **Data for FY21 for the rest of the players is not available in public domain

n.m.: Not meaningful; OPBDIT: Operating profit before depreciation, interest and tax; PAT: Profit after tax

N.A: Not available

& - Rhea healthcare has adopted inorganic growth by acquisition of existing clinics and small hospitals and converting them into maternity hospitals

Source: Company annual reports, CRISIL Research

Key financial parameters – FY18-FY20

Key financials	FY20							
	Operating income		OPBDIT			PAT		
	Rs million	CAGR FY19 to FY20	Rs million	OPBDIT Margin	CAGR FY19 to FY20	Rs million	PAT margin	CAGR FY19 to FY20
Super-specialty maternity and baby care chains								
Cloudnine	5,163	22%	719	14%	n.m.	-331	-6%	n.m.
Motherhood ^{&}	2,849	55%	-282	-10%	n.m.	-539	-19%	n.m.
Cocoon	136	38%	-11	-8%	n.m.	-96	-71%	n.m.
Ovum	456	22%	-44	-10%	n.m.	-74	-16%	n.m.
Multi-specialty players								
AHLL*	6,964	18%	656	9%	n.m.	-770	-11%	n.m.

*AHLL has numerous businesses and one of them is Apollo cradle and children's hospital. AHLL other businesses in retail healthcare include dialysis centers, diagnostic centers, sugar clinics, surgery clinics, fertility clinics and others

Financial data for Fortis La Femme is not available in public domain

& - Rhea healthcare has adopted inorganic growth by acquisition of existing clinics and small hospitals and converting them into maternity hospitals supporting growth in revenue

n.m.: Not meaningful; OPBDIT: Operating profit before depreciation, interest and tax; PAT: Profit after tax

Source: Company annual reports, CRISIL Research

Key financial parameters – FY19-FY21

Key financials	FY21							
	Operating income		OPBDIT			PAT		
	Rs million	CAGR FY19 to FY21	Rs million	OPBDIT Margin	CAGR FY18 to FY21	Rs million	PAT margin	CAGR FY18 to FY21
Super-specialty maternity and baby care chains								
Cloudnine	5,546	15%	765	14%	n.m.	-385	-7%	n.m.
Motherhood	2,901	26%	90	3.1%	n.m.	N.A	N.A	N.A
Multi-specialty players								
AHLL*	6,818	8%	768	11.3%	n.m.	N.A	N.A	N.A

*Apollo Health & Lifestyle Ltd has numerous businesses and one of them is Apollo cradle and children's hospital. Financials are for Apollo Health & Lifestyle Ltd

Note: **Data for FY21 for the rest of the players is not available in public domain

n.m.: Not meaningful; OPBDIT: Operating profit before depreciation, interest and tax; PAT: Profit after tax

N.A: Not available

& - Rhea healthcare has adopted inorganic growth by acquisition of existing clinics and small hospitals and converting them into maternity hospitals

Source: Company annual reports, CRISIL Research

Key financial ratios of major players -

Key financial ratios (FY20)	OPBDIT margin (%)	Net profit margin (%)	RoCE (%)	Gearing (times)	Interest coverage (times)	Current ratio	Net cash accruals to debt	OPBDIT/ CFO
Super-specialty maternity and baby care chains								
Cloudnine	13.8%	-6.9%	4.6%	0.2	1.7	0.4	0.8	1.9
Motherhood	-9.9%	-18.9%	-28.8%	n.m.	(0.6)	0.3	(0.2)	0.8
Cocoon	-8.0%	-70.7%	n.m.	n.m.	(0.1)	0.1	(0.2)	0.1
Ovum	-9.6%	-16.3%	-34.1%	0.2	(23.3)	1.1	(1.3)	1.1
Multi-specialty players								
AHLL*	9.4%	-11.1%	-10.9%	n.m.	1.2	0.8	0.0	1.6

Note: Data for Fortis La Femme is not available in public domain

Key financial ratios (FY21)**	OPBDIT margin (%)	Net profit margin (%)	RoCE (%)	Gearing (times)	Interest coverage (times)	Current ratio	Net cash accruals to debt	OPBDIT/ CFO
Cloudnine	13.8	(6.9)	4.6	0.2	1.8	0.3	0.9	1.2

Note: **Data for FY21 for the rest of the players is not available in public domain

The above financials in the report for Surya Hospitals and Neonatal care & Research Institute are on standalone basis and the rest are on consolidated basis

*Apollo Health & Lifestyle Ltd has numerous businesses and one of them is Apollo cradle and children's hospital. Financials are for Apollo Health & Lifestyle Ltd

n.m.: Not meaningful; RoCE: Return on capital employed; NA: Not available due to insufficient data;

Ratios calculated as per CRISIL Research standards are described below:

- $OPBDIT\ margin = OPBDIT / operating\ income$
- $Net\ profit\ margin = Profit\ after\ tax / operating\ income$
- $RoCE = Profit\ before\ interest\ and\ tax\ (PBIT) / [total\ debt + adjusted\ net\ worth\ (includes\ only\ goodwill\ as\ part\ of\ intangible\ net\ worth) + deferred\ tax\ liability]$
- $Gearing\ ratio = Adjusted\ Debt / Adjusted\ Networkth$
- $Interest\ coverage\ ratio = Profit\ before\ depreciation,\ interest\ and\ tax / (interest + finance\ charges)$
- $Current\ ratio = Current\ assets / Current\ liabilities$
- $Net\ cash\ accruals\ to\ debt = Net\ Cash\ Accruals / Adjusted\ Debt$
- $Working\ capital\ days = Receivable\ days + inventory\ days - payable\ days$
- $OPBDIT/CFO = OPBDIT / Cash\ flow\ from\ operations$

CRISIL Research takes into account tangible net worth for calculation of gearing ratio.

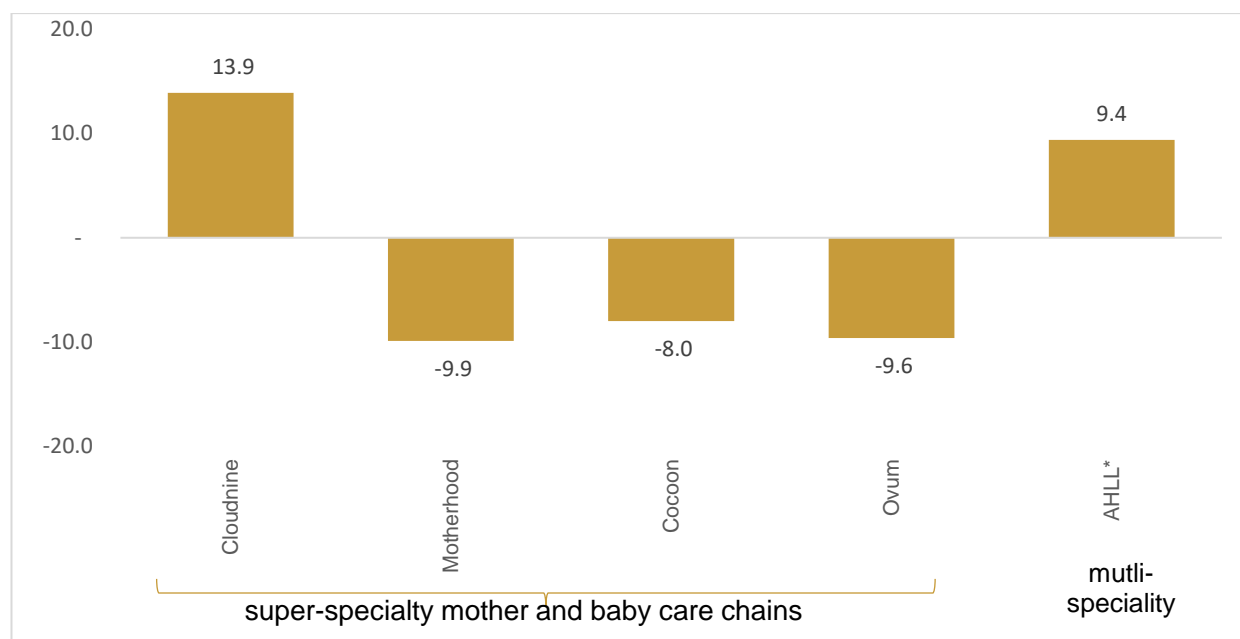
Source: Companies' annual reports, CRISIL Research

Key financial ratios of major players

Players	Cash flow from operations (Rs. Mn)	Inventory (Rs. Mn) (expected inflow)	Receivables (Rs. Mn) (expected inflow)	Payables (Rs. Mn) (expected outflow)	Working capital (Inv+Rec-Pay) (Rs. Mn)	Operating income (Rs. Mn)	Working capital / Op Income
Cloudnine	385	115	105	398	-177	5,163	-0.03
Motherhood	-341	67	88	349	-195	2,849	-0.07
Cocoon	-104	4	6	70	-60	136	-0.44
Ovum	-39	10	11	58	-37	456	-0.08
AHEL	408	252	-	1,538	-1,286	6,964	-0.18

Source: Companies' annual reports, CRISIL Research

OPBDIT margin – FY20



*Apollo Health & Lifestyle Ltd has numerous businesses and one of them is Apollo cradle and children's hospital. Financials are for Apollo Health & Lifestyle Ltd. CRISIL Research has considered only super-specialty maternity focused players in this analysis and not considered pediatric focused players

Source: Companies' annual reports, CRISIL Research

Observations

- Among the key players considered in the super specialty mother and baby care sector, as of FY20, Kids Clinic India Limited has the highest operating income at Rs 516.3 million. In terms of the CAGR for operating income from FY18-20, Rhea Healthcare Private Limited ranks 1st (97%), followed by Ovum (24%) and cloudnine (21%).
- In terms of the PAT, on account of losses, the CAGR for majority of the mother and baby care players considered is not meaningful as all players made loss in FY18 to FY20 period.
- Kids Clinic India (Cloudnine) reported a positive OPBDIT margin in FY20 as opposed to its other competitors in the super-specialty mother and baby care chains space, which reported negative OPBDIT margins
- Kids Clinic India (Cloudnine) reported a highest OPBDIT profit in FY20 of Rs. 719 million as opposed to its other competitors in the super-specialty mother and baby care chains space, which reported negative OPBDIT profits

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