



Outlook: Diagnostic labs market

Examine the trends and undercurrents that will redefine how the diagnostics laboratories market will look like in the near future

BY NAGESH JOSHI



"Innovation requires an ecosystem, where a consistent supply of talent is one of the key enablers."

— **Zoya Brar**,
Founder of CORE
Diagnostics

The starting point of any medical intervention is diagnostics. The importance of diagnostics to treatment of a disease has been known to man since time immemorial. The ancient Indian compendium on medicine and surgical practice, *Suśrutasaṃhitā*, dedicates an entire volume to "Nidana Sthana", a book that delves into the prognosis of diseases, their causes, symptoms, and pathogenesis (disease development). While ancient physicians relied heavily on their own experience and expertise for diagnosis, today, the diagnostic laboratories business has evolved into an independent industry within the gamut of healthcare.

Over the past few years, the diagnostic laboratories market in India has been witnessing a significant growth, driven by various factors such as the increasing burden of chronic diseases, growing awareness of early disease diagnosis, and rising demand for advanced diagnostic techniques. According to industry estimates, the current size of the market is about \$8-10 billion. Estimates suggest that the market will grow at a CAGR of 12-14 percent over the next five years and reach \$20 billion by 2026.



A quick scan

The diagnostic laboratories market in India is significantly under-penetrated, indicating ample room for growth. Pathology tests per 1,000 population in India stand at 1,111, much lower than countries like Brazil, Australia, and the US, highlighting the untapped potential for the industry.

A highly fragmented market, standalone diagnostic centers account for 48 percent, followed by hospital-based labs at 37 percent, and national chains at five percent in India. Among test types, the pathology segment contributes 57 percent to the market share, while radiology accounts for 43 percent, encompassing tests like CT scans, MRI, and ultrasound scans, according to estimates shared by industry leaders.

Top demand drivers

The diagnostic laboratories market in India is witnessing robust growth due to various demand drivers that shape the industry landscape. Industry leaders and experts have shared their insights on the key factors driving the demand for diagnostic services in the country. Let's delve into the top demand drivers that are fueling the growth of the diagnostic laboratories market in India.

The Indian government's initiatives to improve healthcare infrastructure, encourage investments, and promote public-private partnerships are also contributing to the growth of the diagnostic laboratories market. These initiatives aim to enhance healthcare accessibility, especially in rural and underserved areas, which presents new opportunities for market expansion.

Chronic diseases

The rise in lifestyle-related, chronic diseases such as diabetes, cardiovascular diseases, cancer, and respiratory disorders is a significant demand driver for diagnostic laboratories. With the aging population and the impact of unhealthy lifestyles, there is a growing need for accurate and timely diagnosis to guide effective treatment decisions.

Diagnostic tests such as blood glucose monitoring, lipid profiling, and cancer biomarker tests play a crucial role in early detection and management of these chronic diseases. Zoya Brar, Founder of CORE Diagnostics highlights that the availability of clinical services in complex disease areas, like Oncology, also drives the demand for testing services.

Preventive healthcare

Increasing awareness regarding the importance of preventive healthcare is driving the demand for diagnostic services. Urban populations, in particular, are willing to invest in specialized testing and health packages to enable early detection. Diagnostic laboratories offer a wide range of preventive healthcare services, including health checkups, cancer screenings, and genetic testing, which contribute to improved health outcomes. Venkata Suman Cherukuri, Chairman and MD, TRUSTlab Diagnostics notes: "People's inclination toward immediate test results and the early detection of illnesses contributes to the growing demand for diagnostic services."

Technological advancements

Technological advancements in diagnostic testing methods are revolutionizing the industry and driving demand for modern diagnostic services. Molecular diagnostics, next-generation sequencing, and point-of-care testing are some of the technological advancements that are gaining prominence in the laboratories market. These advanced tests offer faster, accurate, and cost-effective diagnosis, leading to increased adoption among patients and providers. Shiva Sriram, VP Marketing at Molbio Diagnostics observes: "The advancements in segments like molecular diagnostics, next-generation sequencing, and point-of-care testing are driving the growth of the diagnostic laboratories market in India."

Evolving patient- and provider-behaviors

The evolving behavior of patients, characterized by increased awareness and focus

on health and wellness, is contributing to the demand for diagnostic services. Urban consumers, in particular, are proactive in self-initiated tests and regular check-ups for early disease detection. Moreover, diagnostic laboratories are enhancing customer-centricity by offering value-added services such as affordable pricing, quicker access to reports, and home collection facilities. The convenience and reliability provided by diagnostic laboratories, including extensive lab and collection networks, are driving the demand for their services.

Abhimanyu Roy, Executive Director, Avalon Consulting, points out: "Evolving patient behavior, competition driving efficiencies, and customer-centricity are the key factors shaping this market. The providers are focusing on specialized tests like molecular diagnostics, genomics-based testing, immunochemistry, and histopathology."

Key issues

Dheeraj Jain, CEO, Redcliffe Labs highlights three major challenges faced by diagnostics laboratories in India. The first challenge is the shortage of skilled manpower. Addressing this issue requires a comprehensive approach involving collaborations between educational institutions, industry associations, and the government. Efforts should be



"Increase in lifestyle-related, chronic and infectious diseases, increased awareness, and lucrative offers by labs are the key demand drivers."
— Venkata Suman Cherukuri,
 Chairman and MD, TRUSTlab Diagnostics





"Greater investment in R&D would help foster innovation, the development of indigenous diagnostic technologies, and the growth of the sector."

— **Abhimanyu Roy**,
Executive Director,
Avalon Consulting

made to attract and train more professionals in the field of clinical laboratory technology to bridge this gap effectively.

The second challenge is infrastructure and resource constraints. Outdated or insufficient equipment in labs can lead to delays in test results and compromised accuracy. To overcome this challenge, increased investment in modern diagnostic equipment and the upgrade of existing facilities is essential. This will enhance the efficiency and reliability of diagnostics services.

The third challenge is accessibility, particularly in rural areas. Inequitable distribution of diagnostic facilities creates barriers for patients, preventing them from accessing the testing they require. To improve accessibility, the government needs to prioritize the establishment of diagnostic facilities in rural areas and bridge the gap between urban and rural healthcare infrastructure.

According to Zoya Brar of CORE Diagnostics, employee turnover and attrition is another major challenge. The constant departure of trained professionals affects the quality of work and hampers overall productivity of labs. To mitigate this challenge, industry players must focus on creating a conducive work environment and provide attractive career growth opportunities.



Aditya C Burman, Director, Oncquest Laboratories says that increasing competition and decreasing net realization pose a significant concern. "The industry needs to focus on value-based services and differentiate themselves through specialized offerings to maintain profitability." To this, Zoya Brar suggests that instead of price control, the Indian government should focus on implementing robust regulations to ensure and enforce quality standards. This would enable customers to make informed decisions and promote the growth of high-quality diagnostic providers.

The prices of imported reagents pose a significant challenge. Relying on overseas suppliers increases costs and creates dependency. To address this issue, open platforms that encourage local manufacturing and sourcing of reagents should be encouraged, state industry leaders. Besides reducing costs, it can foster domestic production and boost the economy.

The rapid advancement of wearable devices and self-monitoring tools raises questions about the readiness of the diagnostics sector to embrace these changes. Adapting to technological advancements and integrating them into diagnostic practices will be crucial for staying relevant in the evolving healthcare landscape.

Lastly, the industry must be mindful of the risks associated with debts, especially considering the impact of the COVID-19 pandemic. Diagnostic chains that expanded their infrastructure during this period must carefully manage their financial obligations while adapting to the evolving testing landscape.

The M&A factor

The diagnostics laboratory sector in India is undergoing a significant transformation with mergers and acquisitions (M&A) becoming a prominent trend. This consolidation has far-reaching implications for the industry.

Himanshu Tyagi, Business Head of



Sarvodaya Diagnostics, points out unified patient services, geographic expansion, and product/service diversification, as the key reasons behind M&As. Dheeraj Jain of Redcliffe Labs highlights the increased competition, changing demographics, advances in technology, and regulatory changes as key drivers of M&As in the healthcare and diagnostic segment. Presenting a contrarian viewpoint, Zoya Brar says, "Consolidation creates scale, which leads to economies of scale. This trend has been a reality in any fragmented free-market system, and the healthcare sector, including diagnostics, is no exception."

The impact of consolidation and the growing adoption of technology on small, local-level diagnostic laboratories is a subject of concern. Large players with extensive resources, advanced technology, and broader test menus pose challenges for smaller players. However, there are factors that can help small local laboratories survive and thrive amidst this changing landscape. Specialization and niche markets enable them to focus on unique areas of expertise, catering to specialized tests or rare diseases. Deep understanding of the local market dynamics and regional needs gives them a competitive advantage. Collaborations and

partnerships with larger players provide access to resources and technological advancements.

Active community engagement and building relationships with doctors through high-quality services at competitive prices may foster trust and loyalty. Adopting new technologies can enhance the services offered by small laboratories while reducing costs. These strategies can allow small players to differentiate themselves and continue serving their local communities effectively, state industry leaders.

Moreover, the small, local-level diagnostic laboratories play a crucial role in providing accessible diagnostic services, especially in remote areas. They possess an in-depth understanding of the local population's needs and can build strong relationships based on trust and proximity.

Role of the government

The diagnostic laboratories market in India benefits from various government policies and initiatives. The National Health Policy focuses on strengthening healthcare infrastructure and the Make in India initiative promotes domestic manufacturing and investment. The National Health Protection Scheme (Ayushman Bharat) increases the demand for diagnostic services. However, there are inadequacies in the regulatory framework, lack of standardization, compliance burden, limited R&D support, and a shortage of skilled professionals. Addressing these issues is crucial for the growth of the industry.

Government of India's Cabinet Committee approved the National Medical Devices Policy, 2023. The policy outlines a comprehensive framework covering regulatory mechanisms, standards, pricing, research and development (R&D), and ethics. According to Venkata Suman Cherukuri of TRUSTlab Diagnostics, the National Medical Devices Policy 2023 sets standards for medical devices, pricing, and marketing, ultimately enhancing health and wellness



"By focusing on unique areas of expertise, such as specialized tests, rare diseases, or personalized medicine, small, local-level diagnostic laboratories can stand out in a distinct position."
— Dheeraj Jain,
 CEO, Redcliffe Labs

BRIDGING THE URBAN-RURAL DIVIDE

India is home to about six-lakh villages where about 70 percent of her population resides. Out of nearly one-lakh diagnostic laboratories in the country, a majority caters to metros and tier-1 cities. The resultant gap in access to quality and affordable diagnostic services for the rural Indians, leading to delayed diagnosis, poor treatment outcomes, and increased disease burden. Several initiatives and innovations are underway to bridge this urban-rural divide. Some of the key drivers for this are:

Public-private partnerships (PPP): The government can partner with indigenous IVD manufacturers and private diagnostic laboratories to establish diagnostic centers in under-served areas. This can help to improve access to diagnostic services in rural areas while also creating business opportunities for private diagnostic laboratories.

Shiva Sriram, VP Marketing, Molbio Diagnostics, says, "Bridging the urban-rural divide in the diagnostic laboratory infrastructure is a complex issue that cannot be solved overnight. However, one key initiative that can help to address this issue is the establishment of public-private partnerships (PPP) to improve access to diagnostic services in rural areas."



Shiva Sriram,
VP Marketing,
Molbio Diagnostics

Point-of-care and mobile diagnostic solutions: The use of portable and adaptable systems that leverage digital technologies can help deliver services in remote areas and connect patients with healthcare providers remotely. Tools powered by artificial intelligence algorithms can automate the interpretation of test data and transfer it to qualified doctors and pathology professionals located in physical labs at major cities/hospitals.

Dr Kanury Rao, CSO & Co-Founder, PredOmix, says, "Digital technology has emerged as a game changer for various healthcare challenges in India. The Covid-19 pandemic allowed us to witness the reach of such technology as remote monitoring and home based diagnostic services became commonplace and necessary." Agreeing with him, Zoya Brar of CORE Diagnostics, says, "The divide is already being bridged. There are several drivers for this. First, the move towards point-of-care testing allows smaller labs that don't require highly skilled staff to be created in the rural communities. Second, telemedicine allows such point of care testing to work in conjunction with enabling easier access to clinicians. Finally, there is a clear downward trend in pricing. This will also help bridge the gap – at least in the mid-term."



Dr Kanury Rao,
CSO & Co-Founder,
PredOmix

Government initiatives and policies:

The government can provide incentives for diagnostic laboratories to establish centers in rural areas. This can include tax incentives, subsidies, and grants for diagnostic laboratories that establish centers in under-served areas. The government can also support the development and implementation of regulatory frameworks and quality standards for diagnostics. The National Essential Diagnostics List (NEDL) is one

such initiative that aims to provide a list of essential tests that should be available at different levels of healthcare facilities across the country.

Entrepreneurship and innovation: The emergence of indigenous IVD manufacturers and start-ups that offer innovative solutions for diagnostics can help bridge the gap between rural and urban areas. These players can offer low-cost, high-quality, and user-friendly products and services that cater to the needs of rural populations. Aditya C Burman, Director, Oncquest Laboratories Ltd, said, "Entrepreneurship is in the young India's blood and there will be many young entrepreneurs to help bridge these gaps in times to come."

The integration of digital technology and AI advancements can also be a game changer, as highlighted by Dr Vedam Ramprasad, CEO, MedGenome Labs. Automating the interpretation of test data through algorithms and devices allows for remote data transfer to qualified doctors and pathology professionals in major cities or hospitals. This addresses the shortage of trained personnel in rural areas and enhances accessibility and ease of use.



Dr Vedam Ramprasad, CEO,
MedGenome Labs

Abhimanyu Roy, Executive Director of Avalon Consulting, concludes by suggesting long-term and persistent efforts to address these issues. Government initiatives such as the Production-Linked Incentive (PLI) for medical devices can increase the availability of essential equipment. Creating awareness, educating the rural population, and building skilled labor around diagnostics are crucial steps. PPP models can also play a

significant role in increasing penetration and implementing mass awareness programs.

standards. The policy also addresses the issue of unregulated diagnostic laboratories by making accreditation mandatory, ensuring quality testing protocols. While the policy is expected to have a positive impact on the diagnostic laboratories market, industry leaders have highlighted certain inadequacies and shared their expectations regarding government support and industry growth. Venkata Suman Cherukuri emphasizes the need for stricter implementation of regulatory measures to maintain quality and keep unscrupulous operators out of the market.

Industry leaders recognize the positive impact of government initiatives such as Ayushman Bharat, which aims to provide health insurance coverage to the bottom 50 percent of the population. However, price caps on certain diagnostic tests, although beneficial for low-income consumers, can hinder investment in capital infrastructure for laboratories. Changes in import duties and the focus on health insurance are seen as positive stimulants for market growth.

Abhimanyu Roy, Executive Director of Avalon Consulting, highlights the need for short-term and long-term initiatives in medical equipment and in-vitro diagnostics (IVD) to support the diagnostics services industry. Global standards in design, development, and manufacturing should be adopted, along with increased collaboration with skill development councils and regulators. The industry expects the government to provide a fair and transparent price control mechanism, investment in R&D, and a focus on standardization and innovation.

Zoya Brar of CORE Diagnostics, emphasizes the importance of an ecosystem that fosters innovation. She points out that the rate-limiting factor for building a home-grown diagnostic equipment market is the lack of talent in biomedical engineering and biotechnology. However, the policy is expected to attract international companies to expand their manufacturing footprint

in India, creating job opportunities in the sector. Despite this, the immediate impact on diagnostic laboratories may be limited.

Specialized tests, including molecular pathology, are expected to be the key growth drivers in the diagnostic laboratories market. Molecular pathology, which is genetic-based DNA and RNA sequencing, is poised to grow at a significant rate of 35-40 percent year on year. Wellness tests, although currently a smaller segment, are also expected to experience growth, driven by general wellness and condition-specific monitoring packages.

Furthermore, the market trends indicate a shift toward digital advancements and technological innovations. Younger populations, who are digitally savvy, are increasingly availing themselves of home sample collection, specialized testing, and speedy delivery of results through digital platforms. The integration of digital technology has improved the accessibility, convenience, and accuracy of diagnostic services, leading to increased adoption and market growth.

The opportunities next

Technology stands at the forefront of the new opportunities in the diagnostic laboratory sector. Genomic testing, driven by the



"Entrepreneurship is in the young India's blood and there will be many young entrepreneurs to help bridge the urban-rural divide in diagnostics labs business in the times to come."

— **Aditya C Burman**,
Director, Oncquest
Laboratories





"With advancements in medical technology, there is a growing demand for advanced diagnostic tests that offer greater accuracy and faster results."

— **Himanshu Tyagi**,
Business Head
of Sarvodaya
Diagnostics

increasing demand for personalized medicine, offers diagnostic laboratory players the chance to provide disease risk assessment, diagnosis, and treatment planning on an individualized level. This approach enables more effective medical interventions and improved patient outcomes.

Artificial intelligence (AI) is another game-changer, revolutionizing data analysis and predictive diagnosis. With access to vast data sets, AI-powered tools enhance accuracy and enable the detection and prediction of abnormalities. The integration of AI into diagnostic testing holds immense potential to transform healthcare provision, offering improved efficiency and accuracy in diagnosis.

The emergence of specialized tests, particularly molecular diagnostics, is set to be a key growth driver in the Indian clinical testing market. Molecular pathology testing, such as genetic-based DNA and RNA sequencing, is witnessing significant demand and is projected to grow at an impressive rate. Companies like MedGenome Labs have pioneered the provision of specialized tests, catering to areas like reproductive, inherited, cancer, and infectious disease genetics.

Direct-to-consumer (DTC) tests are another promising area with tremendous

growth potential. By offering tests at the convenience of consumers' doorsteps, diagnostic laboratory players can empower individuals to take charge of their health. MedGenome's foray into the DTC space with tests like Genessense, which assesses heart disease risk and response to various drugs, exemplifies the growing demand for accessible and personalized diagnostics.

Moreover, the expansion into upcountry markets and underserved populations presents a significant opportunity for diagnostic laboratory players. By establishing facilities or partnering with local healthcare providers, laboratories can bridge the gap in healthcare accessibility. Mobile units equipped with essential testing equipment and the integration of diagnostic services with teleconsultations are key strategies to ensure patients in remote areas receive essential diagnostic care.

Diagnostic laboratory players in India are embracing innovative business models to cater to evolving patient needs. Direct-to-consumer testing, subscription-based packages, and telemedicine are among the emerging models that offer greater convenience and accessibility to patients. For instance, Redcliffe Labs' Mobile health app facilitates home-based diagnostic testing, connects users with qualified doctors, and provides comprehensive health insights.

Service diversification is another avenue for growth. Diagnostic laboratories can extend their service offerings to include occupational health services and preventive health packages. Additionally, home testing and mobile testing services are gaining traction, particularly among elderly or immobile patients. These services ensure that individuals can conveniently access diagnostic testing without the need for travel. Going forward, the diagnostics laboratories industry is poised for a tech-led revolutionary growth, tapping the untapped opportunity of lakhs of small towns and villages in India. 