CAHOCON 2022

Diagnostics : The Newer Trends

Walk the Talk : The 1000 Lab Journey

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Healthcare Industry

Indian Healthcare

		% GDP (FY'2018)
India	:	3.30
Russia	:	5.32
China	:	5.35
SA	:	8.25
Brazil	:	9.51
Developed Countries	:	10.0++

INDIA: Declining Trend
4.2% : 2004-05
3.3% : 2017-18

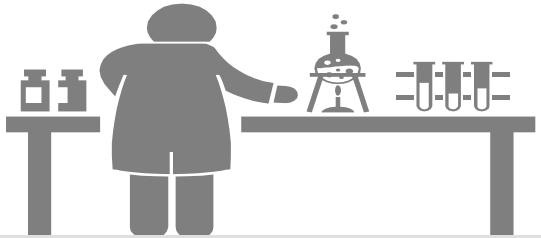
Source : https://www.deccanherald.com/opinion/india-s-health-accounts-public-policy-perspective-1081917.html

Diagnostics : Unique Dynamics

Source: Nathealth-PwC study 2019

The Indian laboratory diagnostics industry is characterised by high fragmentation, with the largest organised player having a market share of less than 5%

Snapshot of the Indian diagnostics market



Multiple delivery formats	• Total number of labs: 100,000–110,000 • Delivery formats: Hospital labs, stand-alone labs, national chains, regional chains
High fragmentation	• Market dominated by stand-alone centres with a large number of mom-and-pop shops • Low focus on accreditation, especially in the unorganised sector
High growth rate	• Market size: USD 5–6 billion • CAGR: ~13–14% (higher than overall healthcare industry growth)[9]

A USD 5–6 billion market, the Indian laboratory diagnostics market is characterised by high fragmentation and non-standardisation. The laboratory diagnostics industry is expected to grow at a CAGR of 13–14%, which is higher than the overall growth rate of the healthcare industry.

There are multiple delivery formats, with no single market leader or monopoly in the system. The largest of the organised players has a market share of less than 5%.[10]

Key characteristics of the Indian lab diagnostics market

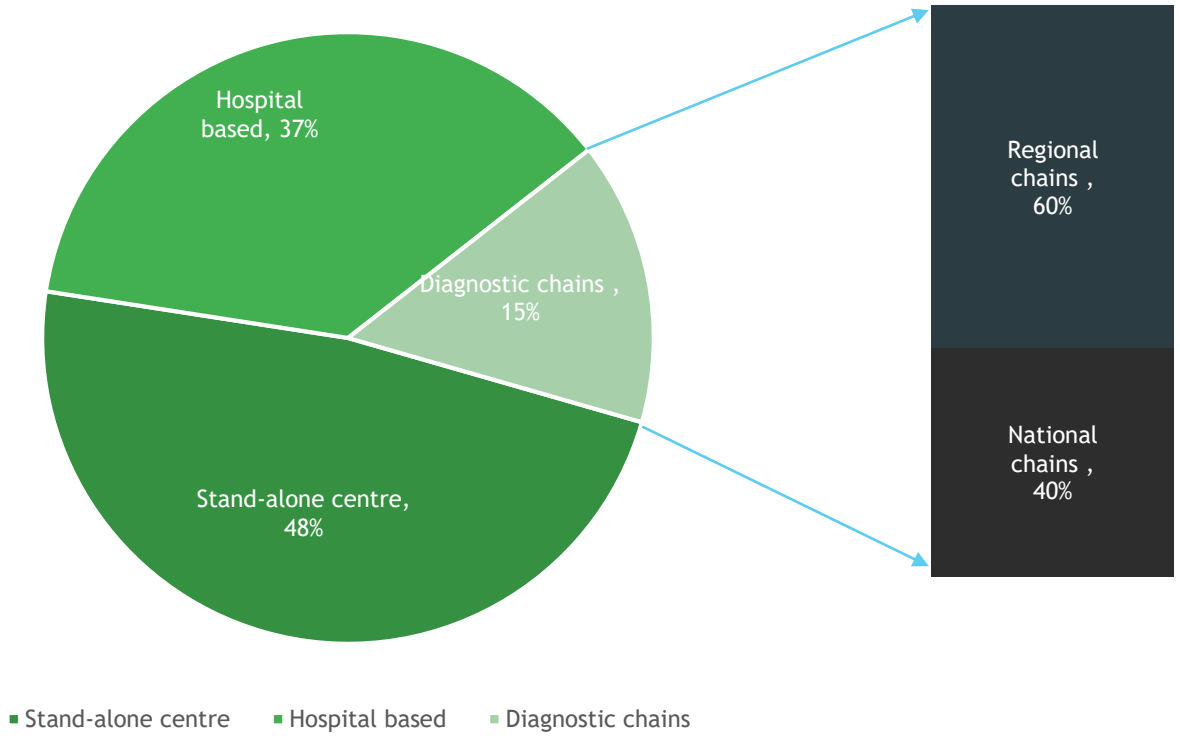
1. **Large number of firms**
2. **Free and perfect competition**
3. **Large number of buyers**
4. **Simple entry and exit barriers**
5. **No proprietary knowledge (no proprietary ownership of any medical tests)**
6. **Factors of production (labour, capital, entrepreneur and land) are freely mobile**
7. **Market governed by forces of supply and demand**

The market is governed by forces of supply and demand, with service quality driving market success.

Source: [9]Market Insights and [10]Industry discussion

Diagnostics chains are shaping the industry with a higher focus on service delivery and quality

Break-up of the Indian diagnostics laboratory market by provider type



Source: Industry discussions

Significance of diagnostics chains in the ecosystem

- ***Newer delivery models***: Laboratory diagnostics chains in India are instrumental in transforming the industry; these chains have played a critical role in shaping the new delivery models while focusing on quality and patient centricity.
- ***Technology focus***: These diagnostics chains have invested in the required advanced technology as well as training to bring the industry at par with developed countries while keeping costs in check.
- ***Comprehensive test menu***: Diagnostics chains have helped in expanding the test menu and offering sophisticated tests in India; these chains are acting as referral centres for hospitals and stand-alone labs in the country for advanced testing.
- ***Quality focus***: They have a greater focus more on quality, and are rapidly adopting accreditations and deploying some of the best standards like College of American Pathologists (CAP) accreditation, National Accreditation Board for Testing and Calibration Laboratories (NABL), and International Organization of Standardization (ISO) certification.

The medical diagnostics industry accounts for only 5% of the total health system cost, but it influences 95% of the remaining costs

5%

Spend on diagnostics labs as a percentage of total current healthcare expenditure[5]

70% of medical decisions are based on lab results[4]

2.5%

Ratio of average revenue per customer in a diagnostics lab and average hospitalisation cost[6]

Laboratory tests contribute 80% of the objective data in clinical records[6]

Operating at only 4-5% of the total healthcare expenditure, the medical diagnostics industry influences the remaining 95% of the cost[5]. Around 70% of medical decisions regarding early disease diagnosis, patient prognosis and treatment selection are based on laboratory diagnostic results. Along with treatment regime selection, diagnostic test results help in monitoring of the patient condition during recovery and follow-up. With these multiple touchpoints, laboratory tests contribute 80% of the objective data in clinical records. In modern medicine, with data analytics and AI taking centre stage, these clinical records will help in predictive analysis and disease prevention going forward.

[4]Report of the Review of NHS Pathology Services in England by Lord Carter of Coles, [5]NSSO data, [6]IIB data, industry discussions

Multiple growth drivers are contributing to the higher growth of this industry compared to the overall growth of the healthcare market

1

Growth in non-communicable disease (NCDs) and chronic diseases

Shift in disease profile, thus changing the level of interaction between doctors and patients from episodic to rhythmic.

2

Ageing population

India's population above 60 years was 104 million (2011 Census), and is expected to reach 200 million by 2025 and 300 million by 2050.[11]

3

Increasing focus on preventive medicine

There is a shift in focus from curative to preventive medicine which will give impetus to the consolidation of primary health and wellness centres.

4

Preference for evidence-based treatment

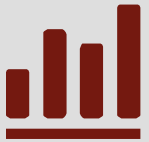
With growing patient participation in disease management, there is a noticeable shift towards evidence-based treatment.

5

Increasing per capita income

Per capita income in India will rise to USD 3,500 by 2020 from USD 1,826 in 2016.[12]

6



Increasing insurance cover

The number of lives insured has increased from 254 million in 2010 to 438 million in 2017.[13] The launch of the National Health Protection Scheme (NHPS) will lead to better affordability and accessibility.

7

Increase in awareness levels

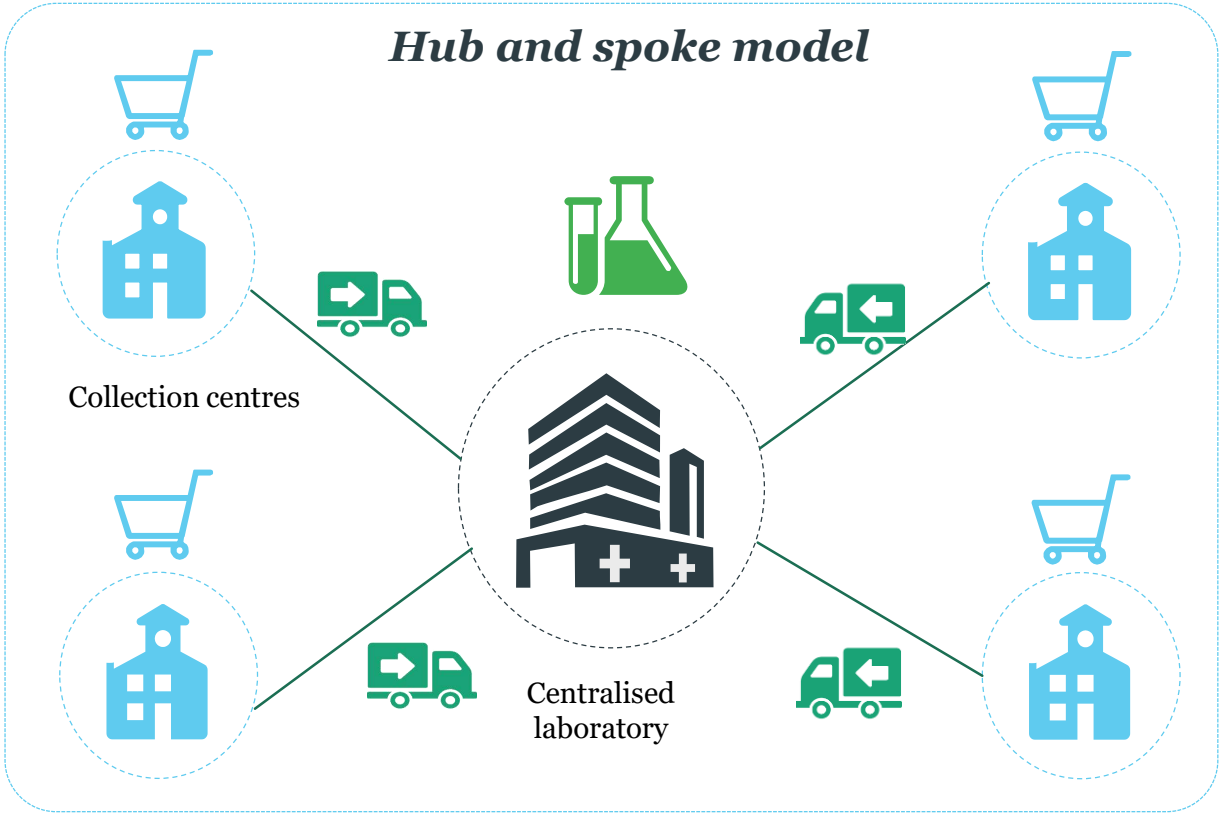
Awareness levels are increasing with an increase in media reach and Internet penetration.

Source: [11]World Population Ageing - United Nations, [12]World Bank estimates, [13]Insurance Regulatory and Development Authority

The diagnostics ecosystem has transformed into a service industry, bringing in additional benefits

How have diagnostics chains (both national and regional) transformed the diagnostics ecosystem in the country?

The industry has transformed itself into a service industry with logistics and retail costs accounting for a significant part of the cost component



Material component: Actual collection of sample, reagent and its processing

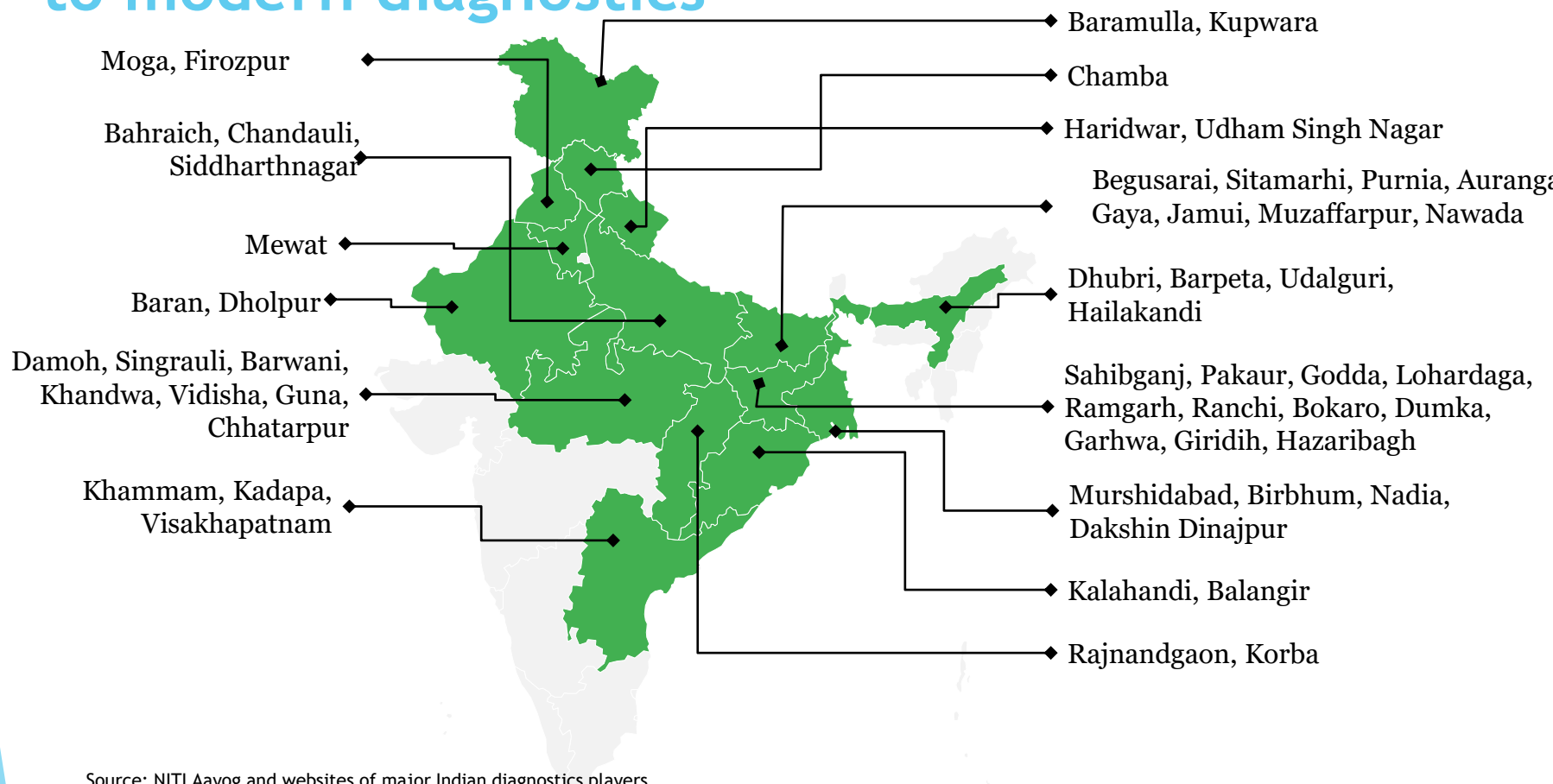
Retail component: Servicing a customer via billing, maintaining IT infrastructure, staff training, home collection service, maintaining accreditation, laboratory security, housekeeping, etc.

Logistics component: Transport of lab samples from collection centres to the main lab in a timely and environment controlled manner

It is argued that the industry is actually a service industry today. A modern diagnostics laboratory has three core operating functions, i.e. material, retail and logistics. Any comparison of the price of a test with the cost of a reagent used in the test is erroneous as the latter constitutes a minor part of the total cost.

Source: [18]Industry discussions

Even the most backward districts of India today have ready access to modern diagnostics



Source: NITI Aayog and websites of major Indian diagnostics players

List of the most backward districts of India where laboratory services are made available by one of the three leading laboratory chains in India

Diagnostics chains are making healthcare geographically accessible

The Indian medical diagnostics industry has been able to provide access to modern diagnostics facilities even to people living in remote areas.

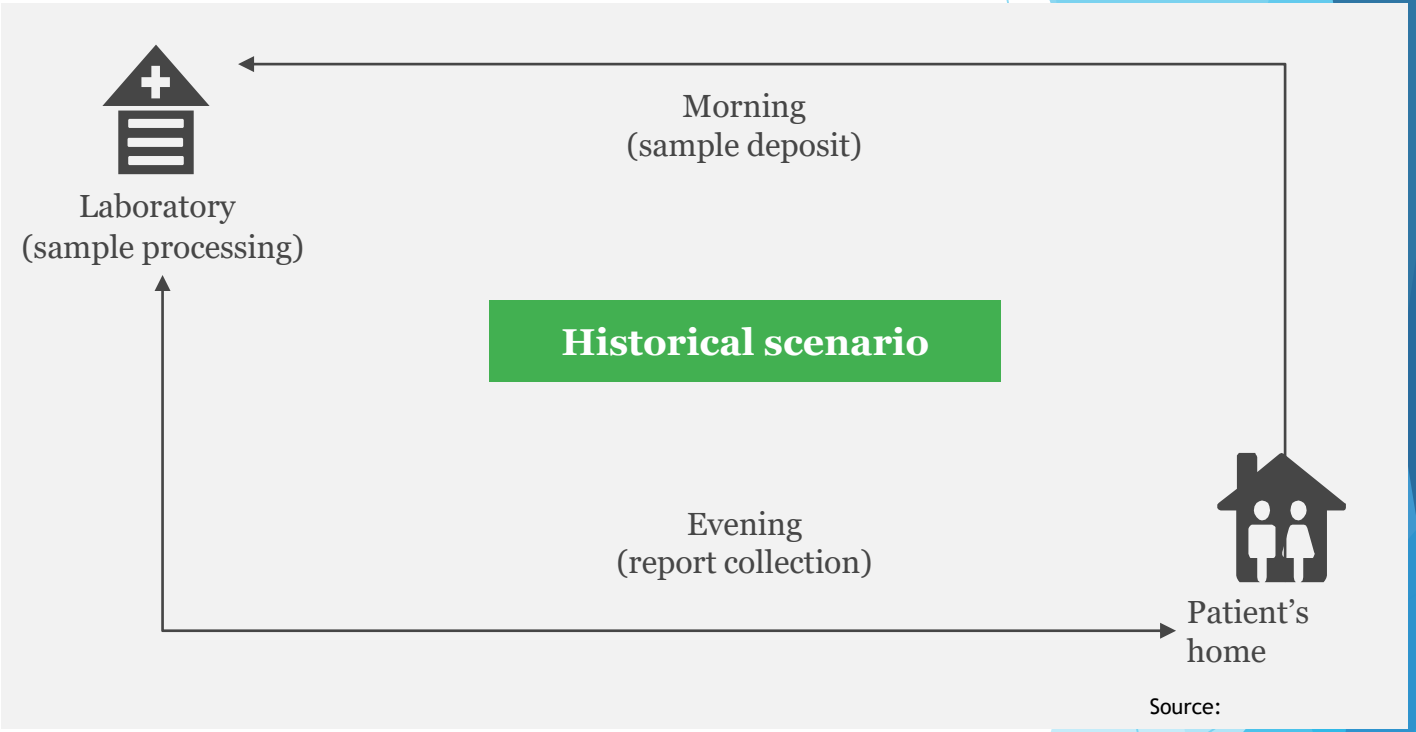
An analysis of the geographical presence of labs and sample collection centres of three of the largest organised chain players in the private sector reveals that more than 50% of the districts identified by NITI Aayog as aspirational districts and lacking most in terms of basic infrastructure are being served by one of these three players.

A patient had to spend substantial time and money to get a laboratory test done historically

Mr. Ram stays in a tier 3/4 city in India

He used to travel twice to the laboratory, in the morning to deposit the sample and in the evening or on the following day to collect his report:

- Used to ***travel 30–60 km*** to get high-end diagnostic tests done and collect his report[14]
- Used to ***spend 3–4 hours*** and ***INR 200–350*** on traveling[14]
- Used to incur a ***loss of daily wage[14]***
- Used to ***wait for 24 hours for report collection[14]***



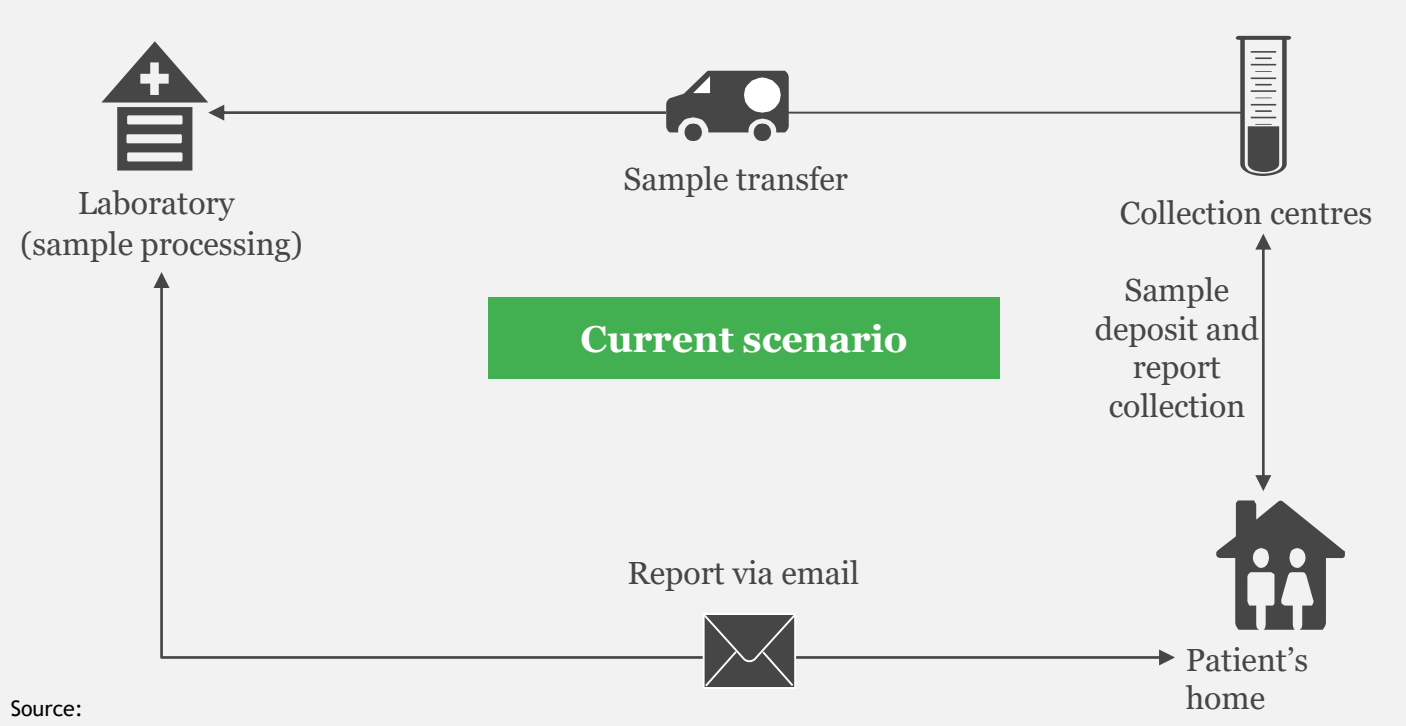
Source:

How has his journey changed over the years?

Historically, the focus was on clinical excellence for high-end tests, and patient centricity took a back seat. Patients used to travel long distances to get high-end tests done, thus resulting in high travelling cost, loss of a complete day (loss of wages) and higher wait time for these diagnostic tests. Through the use of technology, diagnostics chains have altered the business model and shifted the focus to patient comfort. The journey of a patient has changed in the current scenario.

[14]Industry discussions

With the evolution of this industry, patients are able to get the same tests done with ease and convenience



Source:

Over the years, due to the transformation of the business model with the setup of collection centers and availability of reports on app/email, Mr. Ram has saved on the following parameters:[15]

- ***70–80% fewer kilometres travelled***
- ***Saved 75–85% on travel time***
- ***Saved 65–75% on the cost of travel***
- ***No loss of daily wage***
- ***TAT has been reduced*** by 45–55% through more efficiencies in the ecosystem

Other value-added services that have eased the patient journey

Home sample collection

Mobile apps

In the present scenario, the focus has shifted towards patient centricity; the industry has innovated the service delivery model and is providing quality services. The innovations include collection centres and home sample collection, reduced turnaround time for report generation, and rapid alerts to customers. The evolution of the industry has brought in significant savings in time, thus preventing loss of wages for getting a diagnostic test conducted.

[15]Industry discussions

The specialised test menu has expanded significantly over the years, with a majority of medical tests done globally being offered in India

Test menu India

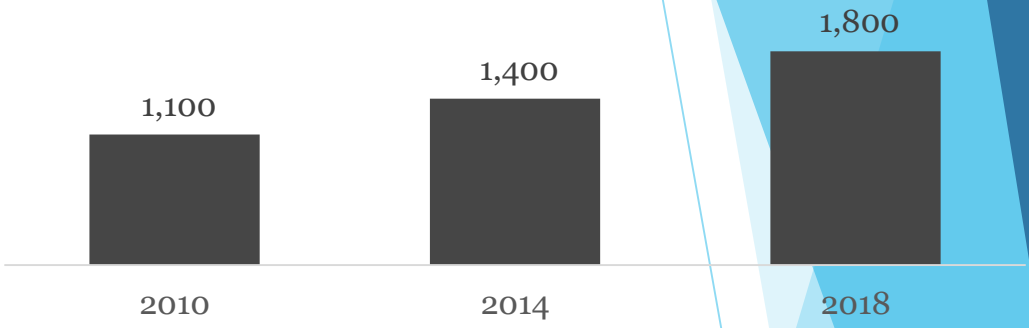
~3,500–4,500

Test menu provided by top diagnostics centres in India

The test menu has increased rapidly in the last 5 years

Source: Industry discussions

Increase in specialised test menu (2010–2018)[21]



Specialised tests	Molecular diagnostics, flow cytometry, genetics/cytogenetics and histopathology among others

National laboratories are moving towards high-end tests and advanced diagnostics and pathology

The industry offers almost all the tests available in modern medicine. With their focus on high-end tests, diagnostics chains have limited the number of samples going out of the country. This has, in turn, reduced the report delivery turnaround time for very high-end specialised tests.

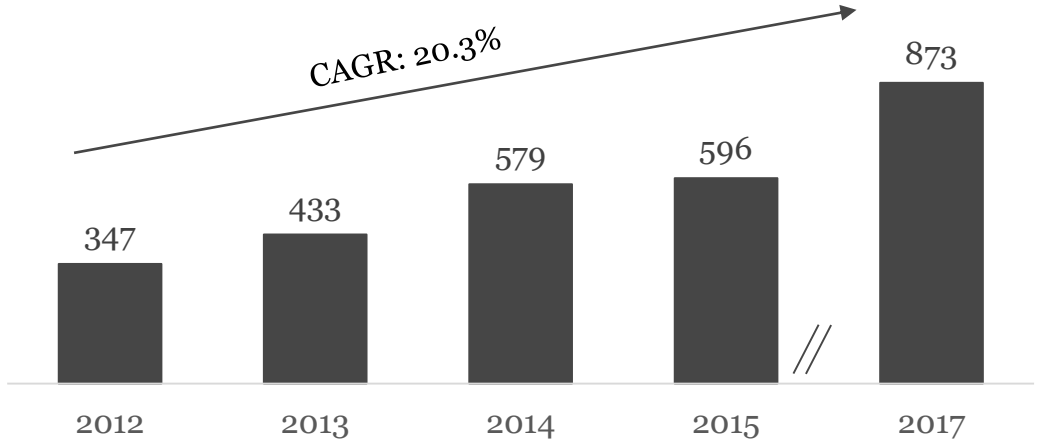
The latest medical technologies, skilled doctors and availability of high-end specialised diagnostics have helped India consolidate its position as a preferred destination for high-end medical tourism, including oncology, transplants, cardiology, etc.

Some national diagnostics chains have now started looking beyond India, and international business, which currently stands at 4–5% of total revenue, has also increased steadily over the last 5 years.

[21]Industry discussions

Indian diagnostics labs follow the best global industry standards and accreditations

Number of labs with NABL accreditation, 2012–2017[22]



Quality accreditation in India vs the USA

NABL

CAP ACCREDITED

CERTIFIED ISO 9001:2008 COMPANY

Source: and Industry discussions

Currently, only less than 1% of labs are NABL accredited; a majority of these labs are hospital-associated labs or labs from regional/national diagnostics chains. However, the number of accredited labs is increasing rapidly and the number of those with NABL accreditation has increased at a CAGR of around 20% between 2012–2017. In the next 5 years, many more laboratories in the country are expected to opt for accreditation.

Test quality has improved over the years with more automation and more sophisticated tests being performed. The industry is increasingly opting for accreditation and deploys some of the best standards like CAP accreditation, NABL and ISO certification.

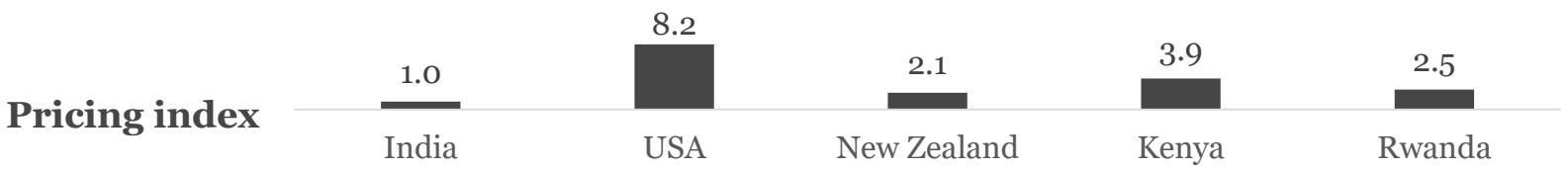
[22]NABL website

Price Trends

Prices of diagnostic tests in India are amongst the lowest in the world

Indexed laboratory prices in India vs the USA, New Zealand, Kenya and Rwanda[16]

	India	USA	New Zealand	Kenya	Rwanda
Urine culture	1.0	5.7	1.9	2.6	1.6
T3 (free)	1.0	9.5	3.1	10.4	3.5
T4 (free)	1.0	9.5	3.1	10.4	3.5
HIV I and II AB screening	1.0	13.6	2.2	1.1	3.3
Prolactin	1.0	7.4	2.8	3.3	3.0
Quantitative Hcg	1.0	9.0	1.9	2.5	2.3
PSA (total)	1.0	5.1	1.1	2.6	2.3
LFT	1.0	4.8	3.0	3.5	3.3
Lipid profile	1.0	14.9	1.5	1.5	1.2
HCV Ab	1.0	2.8	0.8	1.3	1.3



The modern diagnostics industry has not only ensured the availability of high-end tests in the country but also made these tests economical for people.

The industry operates at one of the lowest price points in the world. The uninsured rates for lab tests in the USA and New Zealand are around eight times and two times the test prices in India respectively.

Further, when compared to under-developed countries, laboratory test prices in India are significantly lower. Lab test prices in Kenya and Rwanda are around four times and two-and-a-half-times those in India respectively.

The industry has ensured low prices while innovating the delivery model and building in patient centricity.

[16]FairHealthConsumer.org
USD 1 = INR 68; data not indexed to PPP

In summary…

- Dream Big, Think Big and Act Big : Building scale creates a win-win platform for all stakeholders.
- Put yourself in your customer shoes – Quality, Affordability and Accessibility
- Create brand awareness
- Build a strong and capable team, learn to delegate
- At every level of scale, the challenges are different, continue to upgrade in every aspect
- Invest in Technology
- Execution is the Mantra of Success