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Excellence in Diagnostic Care

Creating a value chain to
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customer experience



Introduction:

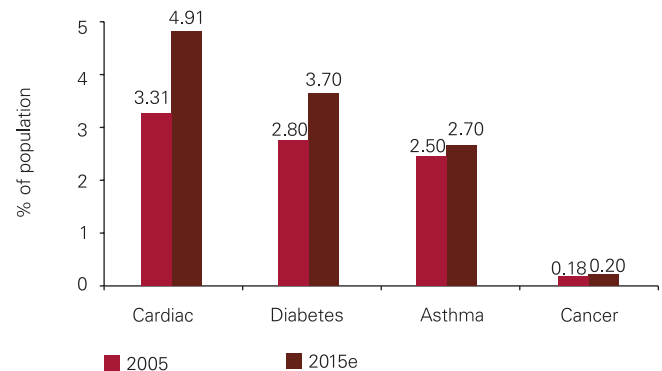
Overview of the Indian Diagnostics and Medical Devices industries

Heightened physician awareness to better clinical outcomes and increasing patient requirement to avail of high quality care, have made it imperative for providers to deliver targeted therapy. This has been made possible by the availability of sensitive and specific diagnostic tests, along with technologically advanced medical devices and equipments. These further enable healthcare providers to utilize material and human resources optimally.

Overall, the Indian healthcare industry is estimated to grow at a rate of 23 percent per annum, from the current size of USD 35 billion, to reach USD 77 billion by 2012.^{1,2} This growth will be driven by healthcare facilities, private-public projects, medical diagnostic and pathological laboratories, and the health insurance sector. The diagnostics sector is projected to contribute USD 2.5 billion, by 2012. An overview of the medical diagnostics and devices market, shows that as of FY 2008, the diagnostic and pathological laboratory (path lab) test services market holds 52.1 percent of share, followed by devices.^{1,2,3} Demand for these sectors has been spurred by a steady rise in:

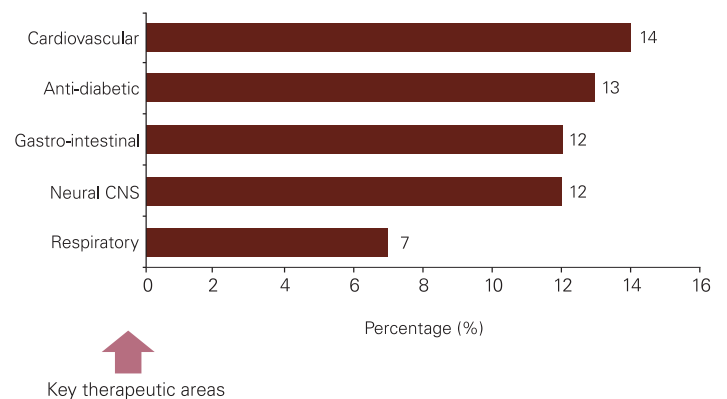
- healthcare spending, which accounts for over 5 percent of GDP. Of this, public spending will approximate 2.5 percent by 2011, compared to the existing level of 0.9 percent²
- increasing consumerism. With economic growth augmenting incomes of the middle and upper classes, their demand for accurate and timely medical care, is likely to increase. As a result, healthcare expenditure will command a greater share of the wallet. Indians are becoming more aware of their health, due to the improved availability and accessibility of better health-related information. Current trends include continuous monitoring of health status through regular checkups, and of health information by patients
- the dynamic healthcare landscape in the country will further augment the demand for effective therapeutic modalities. Trends include increasing incidence of lifestyle related diseases, greater awareness of health related concerns, growth of medical tourism, increasing penetration of health insurance in the country. Statistics indicate that there has been an approximately 25 percent increase in laboratory business due to screening and follow up for lipid profile³, blood glucose levels, glycosylated hemoglobin, speciality tests for thyroid hormone levels, basic cancer markers.

Prevalence of Lifestyle Diseases in India



Source: IBEF Healthcare; Businessworld Marketing Whitebook 2009-10; McKinsey analysis

Growth in Demand for Formulations (2006-11)



Source: IBEF Healthcare; Businessworld Marketing Whitebook 2009-10; McKinsey analysis

Despite the wide ranging issues and challenges mentioned above, these two sectors are slated to emerge as powerful healthcare players. The diagnostics and pathological lab test market has the potential to grow at a CAGR of 18.9 percent from FY 09-13, while on the other hand, the medical devices market is estimated to grow at 23.2 percent, over the same period.^{3,4}

1 YES Bank - ASSOCHAM Report "Healthcare Services in India - 2012: The Path Ahead"

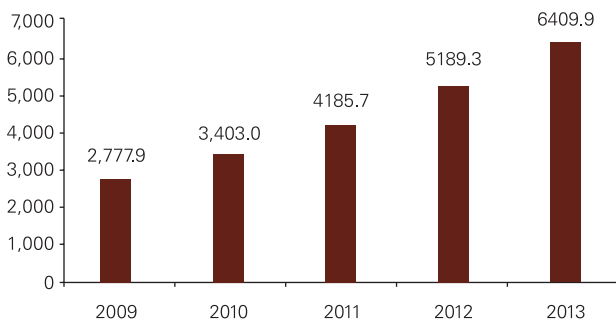
2 Cygnus Business Consulting & Research Pvt. Ltd. 2010: Quarterly Performance Analysis of Companies (July-September 2010)

3 Cygnus Business Consulting & Research Pvt. Ltd. 2009: Industry Insight- Diagnostics & Pathology Laboratory – Executive Summary

4 Medical Devices Market in India 2009-2013: technavio insights

Advancement in medical technology, substantial demand, coupled with ongoing standardization of regulation and accreditation, has made India an attractive destination for foreign companies to outsource manufacturing of high end devices. Imminent consolidation, international tie ups and the demand created by insurance industry will similarly aid diagnostic players to deliver world class services. It is anticipated that these developments will enable health care providers to synergize medical and service excellence, thus, enabling them to deliver need-based, high quality patient care.

Indian Medical Devices Size and Market Forecast (2009-13) in USD millions



Source: TechNavio Analysis







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1 On the growth path

The diagnostic landscape in our country is highly fragmented. Still largely populated by unorganized players, approximately 10 percent is constituted by organized entities. The diagnostic lab business has traditionally been considered a high margin, asset-intensive business. Thus, in an effort to match increasing demand, large players have endeavoured to increase pan-Indian presence, by building national networks, over the last few years. Simultaneously, the market has witnessed continuous mushrooming of foreign players as well as standalone regional players. In addition, market leaders have expressed intent to penetrate foreign markets such as the Middle East and Sri Lanka, whose economies are growing on par with India.

Growth has been pursued via a combination of the organic and inorganic route. A majority of growth in the organized sector has occurred through acquisitions and Brownfield projects, rather than setting up green field laboratories. Different approaches have included expansion via hub and spoke models (one reference lab - many collection centres), PPP initiatives, IPOs, and receiving funding from private equities.

Model description: Hub and spoke expansion

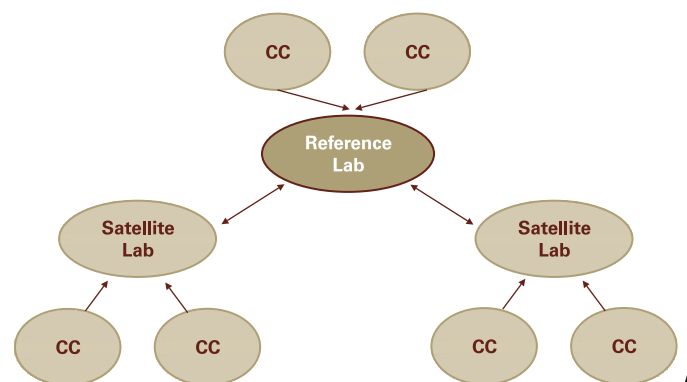
Tier II and III cities present an attractive opportunity for large corporate players. These cities represent an area of underserved need, with a growing need for improved health infrastructure. From the standpoint of large players, seeking to establish presence, expansion into these unexplored regions is associated with certain drivers and challenges, as listed below:

DRIVERS	<ul style="list-style-type: none"> • These are areas with huge unmet demand for diagnostic services • Improved accessibility of these areas due to building of new national/international airports for example: Nagpur, Vishakapatnam • Government is trying to open up these untapped markets through public private partnerships.
CHALLENGES	<ul style="list-style-type: none"> • Difficulty in recruiting and retaining medical and paramedical talent • Difficulty in patient recruitment and retention as business is based on credibility in local communities • Profitability of centres in Tier III cities restrains large players from entering them i.e, challenges exist around scale and price points.

Source: KPMG Analysis

It is thus easier for large players, to partner with a renowned local lab in the region which has got a good brand, accreditations, good quality and service. Thus, a hub and spoke model is a popular strategy and is typically established in the following manner:

1. Reference labs, which act as regional hubs, are set up in large metropolitan areas. They offer comprehensive and specialized testing capabilities.
2. Satellite labs feed reference labs, and offer a limited test menu. These can be either owned or franchised.
3. Collection centres are located in hospitals, nursing homes, pathology labs, doctors' clinics, etc. Here samples are collected and forwarded to either a satellite/reference lab.

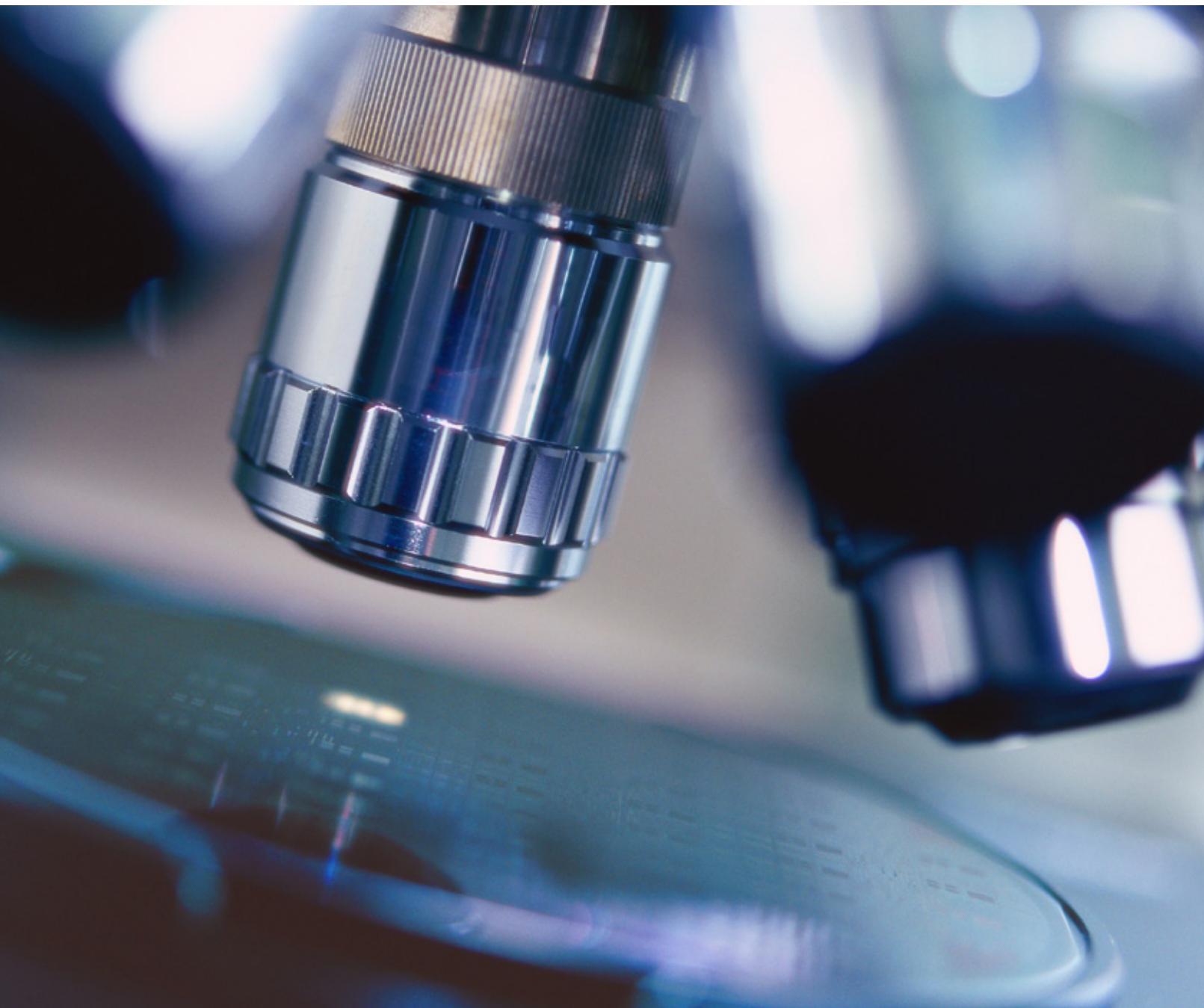


CC = Collection Centre

Source: <http://www.slideshare.net/vandalmax/medical-diagnostics-india-sample>

A common variation in the above model is the absence of satellite labs. This model offers several advantages. For the large diagnostic players (acquirers): (i) Potential for better leverage of capital expenditure by effective extension of catchment area by tapping regional/local network of acquired labs (ii) Referral to the hub is locked in, from the satellite labs/ collection centres (iii) satellite labs have a lower capital expenditure structure (iv) They can leverage the transportation and logistics network of the existing standalone labs. The duration of time taken to move the sample from site of collection to site of processing is of critical importance, since the turnaround time for reporting is proportionately influenced by the same.

On the other hand, this model prevents the smaller diagnostic players which get acquired, to (i) survive the competition offered by large players, in terms of a wider repertoire of tests (ii) they can leverage the technological infrastructure, including IT network of the acquirer. Again, this is another critical factor in minimizing the time lag for reporting since, for example, online reporting of laboratory diagnosis over a local area network significantly improves reporting time.



Diagnostic majors expanding via the Hub and Spoke model

Path Lab	Number of Labs	Collection Centres
Dr. Lal Path Labs	35	600
Metropolis	50	350
SRL Diagnostics	35	800
Piramal Diagnostic	104	300

Source: 2009 figures, <http://www.vccircle.com/500/news/diagnostic-chain-metropolis-acquires-two-labs-in-north>

The health insurance sector will also provide an additional boost to the diagnostics sector, since with an increase in the coverage provided, patients will not have to pay for many tests out of pocket and doctors will be able to prescribe the same, more liberally.

Timely diagnosis can mean the difference between life and death for a patient. It also has far reaching consequences on driving down the overall treatment costs/ healthcare spend. This can occur either via early recognition of an acute, life threatening condition or preventive screening of a chronic disease. However, in an emerging country, like India, few primary healthcare centres are located within the reach of well-equipped and staffed laboratories. Thus, easy to use, rapid and low cost devices, can improve access of

patients living in underserved areas, to healthcare testing and consequently disease specific treatment. Diagnosis of certain endemic/infectious/ viral diseases such as tuberculosis, malaria and dengue at a community level, can also facilitate reduction in disease burden and associated morbidity and mortality. Decentralization of diagnostic testing, from the lab to the immediate vicinity of the patient, is facilitated through point of care diagnostics. Point of care testing (POCT) makes it possible for physicians to receive test results of critically ill patients in real time, conveniently monitor patients suffering from a disease and enables patients to receive quicker results of their tests. Such technologies and devices if used as a complement, to central laboratory services can bring about a complete turnaround in clinical diagnostic testing. In recent years, rapid diagnostic tests (RDTs) have been used to carry out POCT. Immunochromatography based RDTs provide quick results (5-30 minutes), are simple, user-friendly, ready to use products that do not require instrumentation or trained manpower and have a long shelf life at ambient conditions.¹ They have significantly impacted diagnosis of diseases such as malaria and HIV. However, RDTs still have limitations of sensitivity and specificity for many conditions and hence, further refinement is required in this technology. The World Health Organization (WHO) is encouraging the use of more effective but expensive Invitro Diagnostic(IVD) tools by setting quality standards and evaluation criteria for ensuring the quality of IVDs by procurement agencies. Current research is focused on the development of novel, simple and inexpensive molecular platforms and other technologies such as microfluidics and nanotechnology, to maximize outreach of services to rural India.



¹ "Diagnostics for the Developing World- Challenges and constraints" by Natarajan Sriram (Director Tulip Group, Orchid Biomedical Systems, India) – Asian Hospital & Healthcare Management

Of note is the emerging home healthcare market in India. Two years ago, this niche segment was valued at USD 1.5 billion and includes: therapeutic devices, monitoring devices, interventional devices (including drug delivery mechanisms) and home services.² Players are international device companies as well as diagnostic majors who offer a wide range of tests at the doorstep: X-rays, ultrasound, ECG (electrocardiogram) besides an array of pathological tests. Infact the latter reported that on an average, more than 10 percent of patients opt for home service.² This phenomenon has been spurred by various factors:

- India has a growing elderly population, which is becoming more active in managing their own health and wellness. According to a United Nations (UN) report, India is expected to have 177 million elderly by 2025. Infact, in absolute numbers, India is second after China, in having the largest elderly population²
- Home health devices enable the chronically ill to avoid the time and effort associated with frequent hospitalizations and patients who have undergone major surgery to receive post operative care in the comfort of their homes
- Hospitals can free up more ICU beds and medical ventilators. The incidence of hospital acquired infections is reduced
- In home-healthcare, capital costs are largely negated as there aren't any land and structural costs. Manufacturers can expect a ROI in the range of 25-30 percent. Since this model is patient centric, manufacturers are also by renting able to redeem costs by renting out equipments directly to patients
- However, awareness needs to be increased among patients, and low cost products need to be developed to target the rural population
- The sector is characterized by fragmentation as the top 100 companies (by size) hold less than 20 percent share of the market.² They need to focus on strengthening their distribution channels.

Laboratory management in India is a super specialized arena. The need of the hour is to make dedicated investments in terms of sophisticated analytical technologies, and skilled human resources, equipments, reagents; comply with stringent accreditation guidelines; provide excellent customer service such as an exhaustive test menu, along with short and accurate reporting times. It is found that the cost of testing is inversely proportional to the workload and directly proportional to the overheads. Since a lab within a hospital is run as one of the many departments, it typically does not receive the necessary attention from hospital management.

This results in high inventory and costs, pilferage, inadequate quality / service turn-around-time causing dissatisfaction amongst clinicians and patients. In order to overcome these challenges, hospitals today are increasingly outsourcing lab management to external referral laboratories. This relatively new phenomenon is called Hospital Laboratory Management (HLM).

HLM allows hospitals to offer the best diagnostic care to their patients, while maintaining focus on providing their core healthcare services. At the outset, the hospital saves both time and cost to set up a full fledged, technologically advanced lab

- The referral lab carries out a wide range of clinical lab tests, and delivery time of results is reduced (by as much as 80 percent), as compared to manual workflow
- Expert opinion can be garnered from different fields such as Haematology, Clinical Pathology, Genetics, Molecular Biology, and Microbiology. Automation and other technology can be utilized effectively and efficiently. Thus, in-house laboratory experts can ensure that doctors are provided with associated clinical information to assist diagnosis, on reports
- The number of Hospital Staff can be reduced, as existing hospital staff can be supplemented by highly skilled and trained manpower from the external lab
- Hospital can leverage the IT (information technology) infrastructure of the external lab. This offers the following advantages: (i) Operational streamlining of lab processes: for example, bi directional interfacing with lab equipment reduces data entry errors, reduced staff and time dedicated to manual data entry and specimen tracking, real time status of each lab study allowing doctors to estimate the time of reporting without interrupting lab staff (ii) Seamless and relevant information becomes available across the hospital to support effective decision making for patient care, hospital administration and critical financial accounting. The lab management systems can be integrated with an electronic medical record (iii) This IT backbone can also help the hospital prepare itself as a centre for clinical trials, requisitioned by international pharmaceutical companies. Customer relationship management can also taken care of by the external lab
- HLM is being offered by diagnostics majors such as Metropolis,³ and is a boon especially for smaller hospitals (200-250 bed strength), who find it difficult to manage it themselves.

² Express Healthcare –June 2009- Healthcare Comes Home

³ Cygnus Business Consulting & Research Pvt. Ltd. 2009: Industry Insight- Diagnostics & Pathology Laboratory – Recent Trends

2 Current issues and opportunities in the Diagnostics and Devices sectors

In our country, the diagnostics and pathology laboratory industry comprises more than 100,000 labs. Test volumes serviced by them range from 3000 for major labs, to about 1000 samples/day for regional and hospital labs. Labs located in smaller towns may even service 50-100 odd samples on a daily basis.¹ As discussed previously, we also find a huge disparity, if we endeavour to classify labs at a working level. At one end of the spectrum, are high end accredited labs which provide top quality service, whereas on the other end are standalone establishments, which are not certified according to accrediting body standards.

Most of the larger laboratories have fully automated equipment and quality and statistical analyses are run daily on them. In addition, such players keep an internal check on quality controls using benchmarks provided for equipment calibration, standard of commercially available reagents, up gradation of staff skill sets; participate in external quality assurance programmes, and inter-laboratory quality assurance programmes. Stand alone labs are prevalent in metros, as well as smaller towns and cities. Their growth has flourished due to the fact that acquiring accreditation is not mandatory in our country. Since these labs have referral tie ups with physicians and offer cheaper services compared to high end labs, they end up catering to the majority of the population. While most of the labs in the private sector are shying away from accreditation, the public sector is taking the first steps towards the same. Excellent examples can be seen in the states of Gujarat and Tamil Nadu, which have taken the initiative to obtaining accreditation for the government hospitals from the National Accreditation Board for Hospitals and Healthcare Providers (NABH).² It is anticipated that similar efforts will be made in the area of diagnostics in the public sector.

- Thus, there is a wide variation in the performance of laboratories across the landscape. This is a pertinent issue, given the rising incidence of chronic ailments, which necessitate serial monitoring of disease specific blood/serum markers. Test results are critical for physicians to keep a track of blood sugar/ thyroid hormone levels and continually tailor the treatment protocols accordingly
- Quality measures undertaken by labs are a means to improve customer confidence in the reports issued, so that clinicians and through them patients, can feel assured of a lab's competence. However, in our country there are no legal regulations that specify rules for laboratories to follow. Therefore, quality could mean different things to different people. It could be equated with automation, quality controls, accreditation, etc., with different laboratories interpreting it in the way convenient to them and which allows them to cultivate a brand image for superceding competition.

Traditionally, diagnostic providers have optimized business processes around product lines. However, market forces are propelling organizations to focus more intensely on their customers.

Patients cannot be expected to know or understand the complexities of healthcare operations. Their expectations have increased dramatically in recent years. Along with a growing sense of entitlement towards healthcare services overall, patients expect that these services should be presented to them as a comprehensive yet cohesive portfolio. They expect to receive maximum value for money spent. Thus, diagnostic providers need to manage patient relationships effectively across the continuum of care and integrate their own workflows to deliver clinically useful patient information. Thus, customer relationship management (CRM) has become a necessity in this sector. CRM provides organizations with an integrated sales, service and marketing solution for capturing and organizing detailed knowledge about customers so that every customer-facing employee and process operates from the same set of information. It entails collaboration between different departments like marketing, sales, customer service and IT to reevaluate and optimize how a company most effectively interacts with its customers. Successful CRM organizations view every customer interaction as an opportunity to create value by offering the right product or service to the right person at the right time. A variety of customizable softwares are available in the market today.

1 Cygnus Business Consulting & Research Pvt. Ltd. 2009: Industry Insight-Diagnostics & Pathology Laboratory – Executive Summary

2 Express Healthcare – June 2009- Quality of Laboratory Services in India

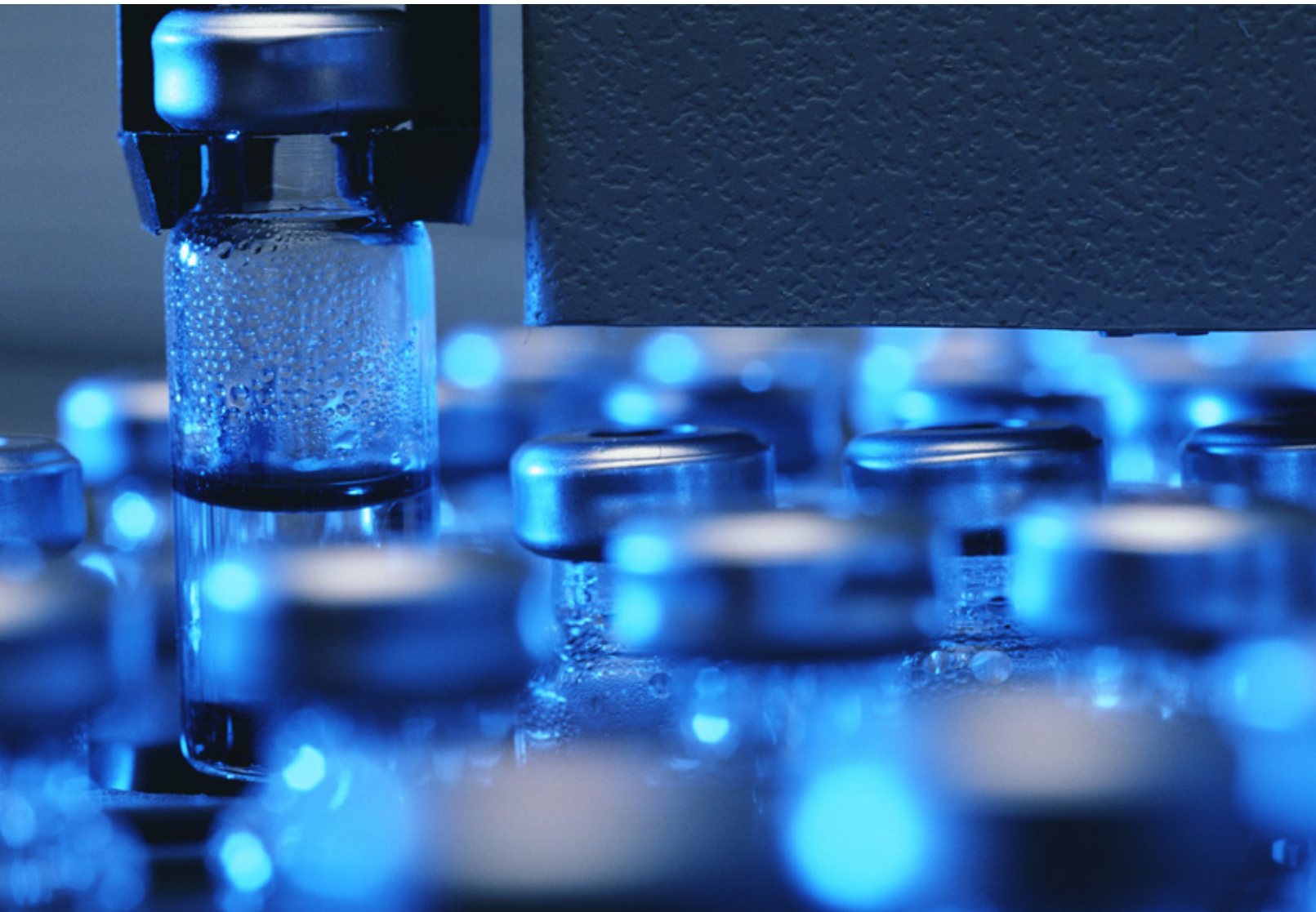
Benefits of CRM in the Diagnostics Sector:

- Systems can greatly speed up routine administrative functions such as billing, scheduling, referrals, and accounting by eliminating duplication of work and bypassing unnecessary steps, which can enhance patient satisfaction and reduce costs substantially
- Healthcare CRM Software can empower medical and paramedical staff to get a 360-degree view of a patient's personal and medical records with which it becomes easier for them to interpret and analyze test results, in light of current symptoms and future health concerns
- With the help of automated CRM processes, diagnostic organizations can easily ensure that all the necessary and critical safety procedures are strictly followed. Besides, CRM tools can also help in handling issues related to the privacy of patient's records and regulatory compliances
- With automatic processes and electronic data storage in place, physicians can access various important information such as treatment plans, relationship between symptoms and diagnosis, latest research materials and other case studies to provide quality health care to the patients
- Labs can use the repository of information within a CRM system to effectively segment customer types based on patients' demographic information, case history, data about chronic illnesses. Further, they can use this information to tailor service delivery, and launch targeted outreach campaigns to offer new services.

The Indian market for medical equipment and supplies ranks among the world's top 20 but,³ still, the market remains disproportionately small with very low per capita spending.⁴ The hi-tech end of the medical device market is dominated by imports, while Indian manufacturers of good quality mid/low tech products struggle with a stigma for unreliability. However, it has been estimated the market will grow by an average of 15.6 percent over the next few years, to around USD 4.8 billion by 2015. Detailed regulation of medical devices is still under consideration. Even though, this may deter sectoral growth, a significant opportunity is presented by the huge influx of foreign players which are consolidating operations in India. They are either entering joint ventures / licensing agreements to manufacture their products locally / employ local agents to distribute them. These collaborations have been boosted by exhibitions, trade fairs and seminars conducted by the government bodies and equipment manufacturers, to create awareness about their international standards of production and exhibit their products.

3 YES Bank - ASSOCHAM Report "Healthcare Services in India - 2012: The Path Ahead"

4 "Medical devices market in India to reach USD 1.7 billion by 2010: NIPER," from Dance With Shadows, June 8, 2009



Outsourcing/ Relocation of manufacturing facilities to India

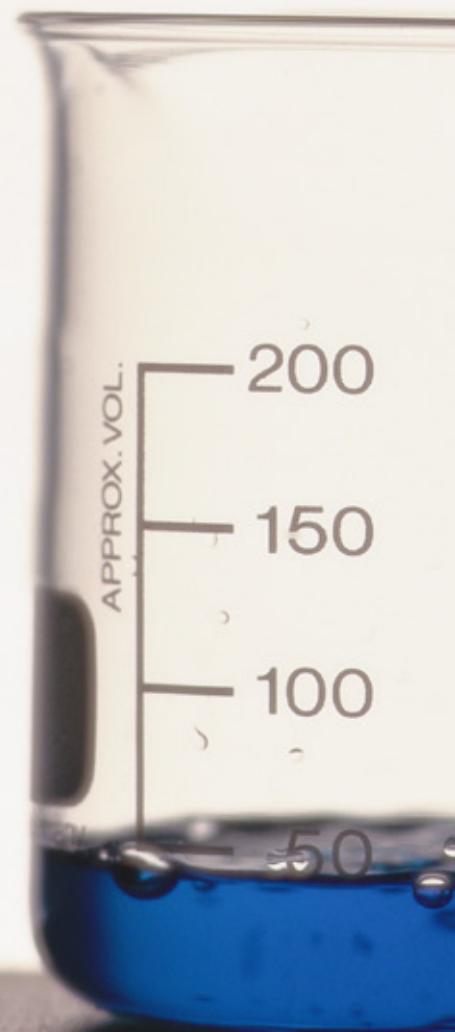
Company	Details
GE Healthcare	Setting up facility in Bangalore to refurbish devices
Siemens Healthcare	Manufactures X-ray systems, intensive care systems, hearing instruments, ultrasound instruments and nuclear medicine equipment at its Goa facility
Bayer Diagnostics	Manufactures chemical and immunochemical test systems, blood and serum analysers in India.

Source: IBEF Healthcare, Indian Law Offices "Indian Healthcare Sector"; Company websites; DNA India "In India for India: medical device makers plug in," Jul 2010; Livemint "GE sets up facility in Bangalore to refurbish medical equipment," May 2009; Express Healthcare Segment "Wide Open Space-The medical device Market in India"; Webpic "Proven Trade Contacts" Nov 2009; EconomicTimes June 2009

A snapshot of Joint Ventures and Tie ups between foreign and Indian device companies

Company	Details
Pyng Medical Corp.	Expanded its exclusive dealer network globally by adding vTitan Corp. (P) Ltd. in India
ET Trivitron Medical Technologies	Will manufacture and market Cardiac Diagnostic instruments by setting up Trivitron's Medical Technology Park in Chennai
Wipro GE Medical Systems	It is India's largest exporter of medical systems, pioneered manufacture of Ultrasound and Computed Tomography systems in the country
Proton Health Care	Tied-up with Delhi based SM Logistics for distributing its digital health monitoring devices such as blood pressure monitors, ultrasonic nebulisers, body fat scales and thermometers.

Source: IBEF Healthcare, Indian Law Offices "Indian Healthcare Sector"; Company websites; DNA India "In India for India: medical device makers plug in," Jul 2010; Livemint "GE sets up facility in Bangalore to refurbish medical equipment," May 2009; Express Healthcare Segment "Wide Open Space-The medical device Market in India"; Webpic "Proven Trade Contacts" Nov 2009; EconomicTimes June 2009



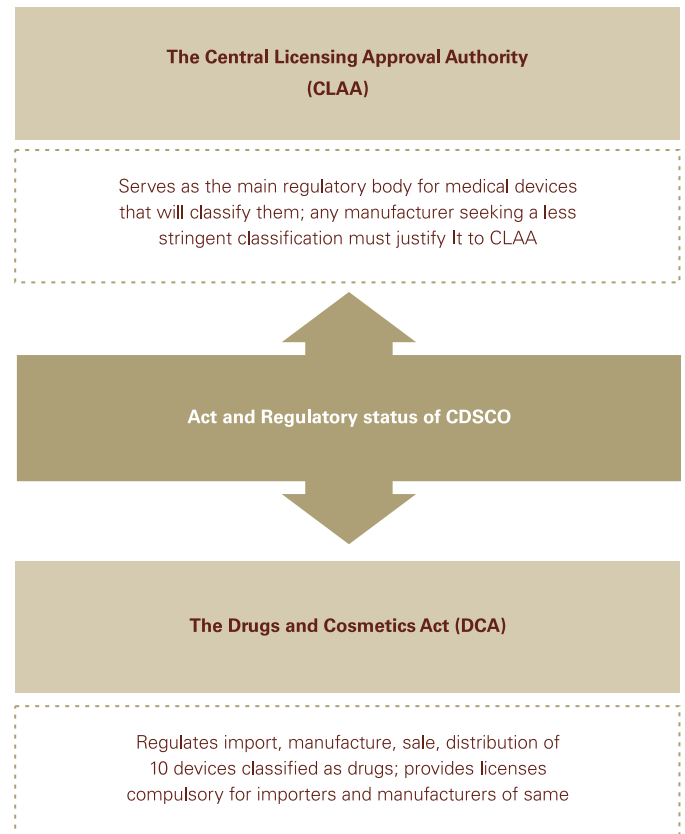


3 Surging ahead

The medical device consumer base is constituted by approximately 90 million people (middle class and richer social classes). This segment of the population is expected to grow by 17 percent annually for the next seven years, to exceed 268 million, by 2015. Even though, there are about 700 medical device makers in the country, India imports approximately 75 percent of devices.¹ Currently, most of the reputed healthcare institutes use foreign equipment for surgery, cancer diagnosis and for imaging. Government hospitals lack the funds to upgrade their equipment and cannot expand existing services since, domestic manufacturers cannot produce high technology equipment essential for such procedures. Many domestic manufacturers are turning into traders since it is more profitable for them to import devices from China to India. However, there has been a steady increase in dental, surgical and laboratory equipment exports to countries in the European Union, US, Korea, Bangladesh and Singapore.

In light of this scenario, the government has indeed been taking several steps to develop a clearly defined regulatory framework for the devices industry. Government bodies and associations such as the MoHFW (Ministry of Health and Family Welfare), and CDSCO (Central Drug Standard Control Organization), are working to promote indigenous production.

CDSCO works under the aegis of the MoHFW. It lays down rules, standards and approves import as well as manufacturing of drugs, diagnostics, devices, and cosmetics. All products must be registered with the CDSCO before they can be launched in the Indian market.

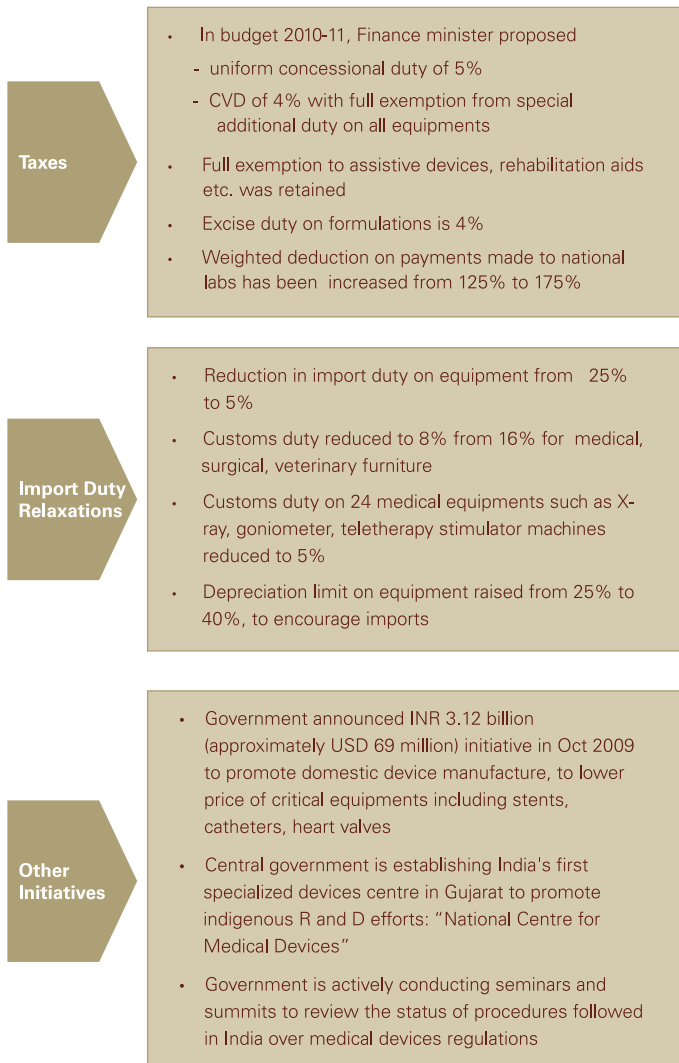


Source: CDSCO "Medical devices"; Dance with Shadows" Medical devices manufacturing guidelines finalized in India," Jun 2009; Netscribes report "Medical Devices Market in India 2010"

¹ Netscribes (researchonindia) report "Medical Devices Market in India 2010"



For the last three years, the Government has been working on a Medical Devices Regulation Bill, which proposes the formation of a single regulatory authority that will be empowered to fine and imprison defaulters. A snapshot of significant regulatory initiatives include:



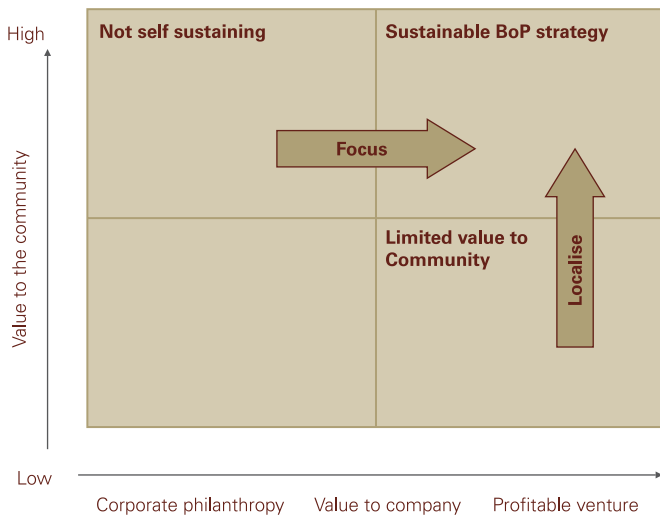
Source: IBEF Healthcare; Contract Pharma "Device outsourcing expects a booster from speeding growth," Jul 2009; India Today "Budget 2010-2011: Full text of Pranab's speech", Feb 2010, Netscribes report "Medical Devices Market in India 2010"

CII has been collaborating with the government since 2005, to bring pertinent industry issues to light. From the manufacturers' point of view, the market is intensely competitive, production has to be precision-centric and thus, requires a high degree of process automation. In order to increase the accessibility of affordable and reliable devices across India, it has become imperative for companies to manufacture low cost devices locally through sustained Research and Development (R&D) efforts. Entry into the Indian market also provides an opportunity to improve the lives of people who live at the bottom of the pyramid (BoP, approximately 4 billion people), by marrying community needs with corporate imperatives.²

The biggest challenge for a manufacturer while building a viable and scalable business at the BoP is to take the device to market at a price acceptable to healthcare institutions and affordable for the BoP patient. An equally significant issue is to develop an effective distribution channel via focused sales and marketing efforts. Ultimately, they would have to accept that per unit profit margin would be lower than those of their high end equipment. A sterling example of a company that got it right at the BoP is GE Healthcare. In November 2009, along with their local manufacturing partner Wipro and local financing partner, The State bank of India, they launched the latest version of their ECG machine, MAC I. This device has been designed especially for rural markets and has slashed the cost of an ECG to about six times lower than prevailing rates. It is also expected to garner USD 19-20 million in revenue. Driven by their phenomenal success, the company launched its USD 6 billion "healthymagination" campaign. Via this initiative they aim to develop atleast 100 innovative products by 2015 and drive healthcare IT in underserved, rural areas, globally.² They have successfully developed a value segment product line which can be sold to populations living on less than USD 2 / day.

² geostrategy PARTNERS – Getting It Right at the Bottom of the Pyramid: How GE Healthcare married Community Needs with Corporate Imperatives and Birthed a Business Segment and a Movement By Nancy Musselwhite, Senior Consultant

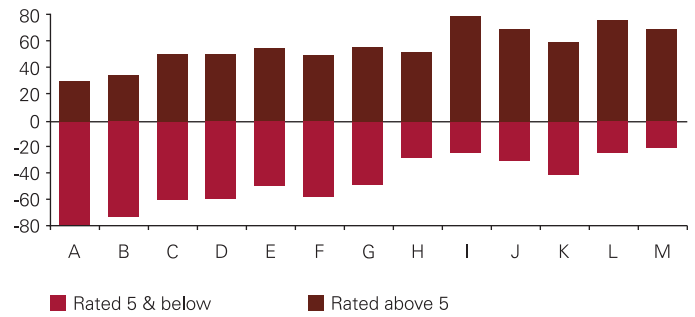
Moving to sustainable BoP strategies



Source: <http://www.geostrategypartners.com/GE%20Healthcare%20BOP%20Article.pdf>

The developed world is also looking towards India, as an outsourcing market for high-end laboratory and diagnostic testing. Specialized tests such as molecular diagnostics and hormone related diagnostics are about 70-80 percent cheaper than in the US.³ Diagnostic majors are already partnering with American and British hospitals, as well as insurance companies, for the same. Indian CROs (contract research organizations) are giving diagnostic majors an opportunity to tap into the USD 10 billion global market for clinical trials.³ Due to its large pool of proficient medical and paramedical professionals, cost advantages, and a huge pool of treatment-naïve patients, India has become a preferred destination for clinical trials.

Since April 2010, nearly USD192 million has been invested in segments spanning medical devices, affordable healthcare and diagnostic services according to data from Venture Intelligence, a research firm.⁴ Much of this activity has been in response to the growing demand for healthcare facilities across the country. According to a survey conducted in April-May 2009,⁵ across 60 private equity and venture capital firms, the most attractive sector for investment across the healthcare industry was identified as Diagnostic services, followed by medical devices/equipment.⁶ Further respondents rated each sector on a scale of 1-10, as shown below:



- A - Pharmaceuticals (generics)
- B - Drug Discovery and R&D
- C - Vaccines
- D - Telemedicine
- E - Alternative Medicine Chains
- F - Biotechnology
- G - Dental Chains
- H - Medical Tourism
- I - CROs
- J - Wellness Products & Services
- K - Hospital Chains
- L - Medical Devices
- M - Diagnostic Services

Continued investments will provide impetus for growth, despite related issues and challenges. In the coming years, it is anticipated that effective regulation and accreditation will further strengthen the foundations of these sectors

3 Cygnus Business Consulting & Research Pvt. Ltd. 2009: Industry Insight- Diagnostics & Pathology Laboratory – Growth Drivers

4 Healing business offers multi-million-dollar avenues by Archana Rai, Economic Times Bureau, 6 August, 2010

5 Venture Intelligence, July 2009: Private Equity Pulse on Healthcare & Life Sciences,

6 Key highlights of a poll conducted among Private Equity & Venture Capital firms during April-May 2009. Fund Managers from over 60 firms participated in the poll

About KPMG in India

KPMG is a global network of professional firms providing Audit, Tax and Advisory services. We operate in 146 countries and have 140,000 people working in member firms around the world. The independent member firms of the KPMG network are affiliated with KPMG International, a Swiss cooperative. Each KPMG firm is a legally distinct and separate entity and describes itself as such.

KPMG in India, the audit, tax and advisory firm, is the Indian member firm of KPMG International Cooperative (KPMG International) was established in September 1993. The firms in India have access to more than 3500 Indian and expatriate professionals, many of whom are internationally trained. As members of a cohesive business unit they respond to a client service environment by leveraging the resources of a global network of firms, providing detailed knowledge of local laws, regulations, markets and competition. KPMG has offices in India in Mumbai, Delhi, Bangalore, Chennai, Chandigarh, Hyderabad, Kolkata, Pune and Kochi. We strive to provide rapid, performance-based, industry-focused and technology-enabled services, which reflect a shared knowledge of global and local industries and our experience of the Indian business environment.

About CII

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the growth of industry in India, partnering industry and government alike through advisory and consultative processes.

CII is a non-government, not-for-profit, industry led and industry managed organisation, playing a proactive role in India's development process. Founded over 115 years ago, it is India's premier business association, with a direct membership of over 8100 organisations from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 90,000 companies from around 400 national and regional sectoral associations.

CII catalyses change by working closely with government on policy issues, enhancing efficiency, competitiveness and expanding business opportunities for industry through a range of specialised services and global linkages. It also provides a platform for sectoral consensus building and networking. Major emphasis is laid on projecting a positive image of business, assisting industry to identify and execute corporate citizenship programmes. Partnerships with over 120 NGOs across the country carry forward our initiatives in integrated and inclusive development, which include health, education, livelihood, diversity management, skill development and water, to name a few.

CII has taken up the agenda of "Business for Livelihood" for the year 2010-11. Businesses are part of civil society and creating livelihoods is the best act of corporate social responsibility. Looking ahead, the focus for 2010-11 would be on the four key Enablers for Sustainable Enterprises: Education, Employability, Innovation and Entrepreneurship. While Education and Employability help create a qualified and skilled workforce, Innovation and Entrepreneurship would drive growth and employment generation.

With 64 offices and 7 Centres of Excellence in India, and 7 overseas offices in Australia, China, France, Singapore, South Africa, UK, and USA, as well as institutional partnerships with 223 counterpart organisations in 90 countries, CII serves as a reference point for Indian industry and the international business community.

References

- <http://www.expresshealthcare.in/200906/market01.shtml>
- Cygnus Business Consulting & Research Pvt. Ltd. 2009 :Industry Insight-Indian Medical Devices & Equipments
- Cygnus Business Consulting & Research Pvt. Ltd. 2009 :Industry Insight-Diagnostics & Pathology Laboratory
- <http://www.metropolisindia.com/HLM.asp?service=hlm#b>
- <http://www.vccircle.com/500/news/diagnostic-chain-metropolis-acquires-two-labs-in-north-india>
- <http://www.indiaprwire.com/pressrelease/health-care/2010091061814.htm>
- <http://www.expresshealthcare.in/200906/labwatch12.shtml>
- <http://www.expresshealthcare.in/200906/labwatch11.shtml>
- <http://www.expresshealthcare.in/200906/labwatch14.shtml>
- <http://www.expresshealthcare.in/201012/hiispecial02.shtml>
- Netscribes report on Medical devices Market in India 2010 (researchonindia.com)
- <http://www.geostrategypartners.com/GE%20Heathcare%20BOP%20Article.pdf>
- <http://economictimes.indiatimes.com/opinion/india-emerging/Healing-business-offers-multi-million-dollar-avenues/articleshow/6263808.cms>

Acknowledgement

The KPMG team, which has contributed towards the content presented in this document, comprises of Vikram Hosangady, Abhishek Kapur and Dr. Kokil Tandon. A special note of thanks to Jiten Ganatra, Shweta Mhatre and Nisha Fernandes for bringing this report to its present layout and design.



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Printed in India.