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VOL.12 NO.1 PAGES 72 www.expresshealthcare.in

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+

Policy watch

Anil Vij
Health Minister, Haryana

18th ANNIVERSARY SPECIAL

MODI SARKAR KE TEEN SAAL KYA HAIN DESH KE SEHAT KA HAAL?

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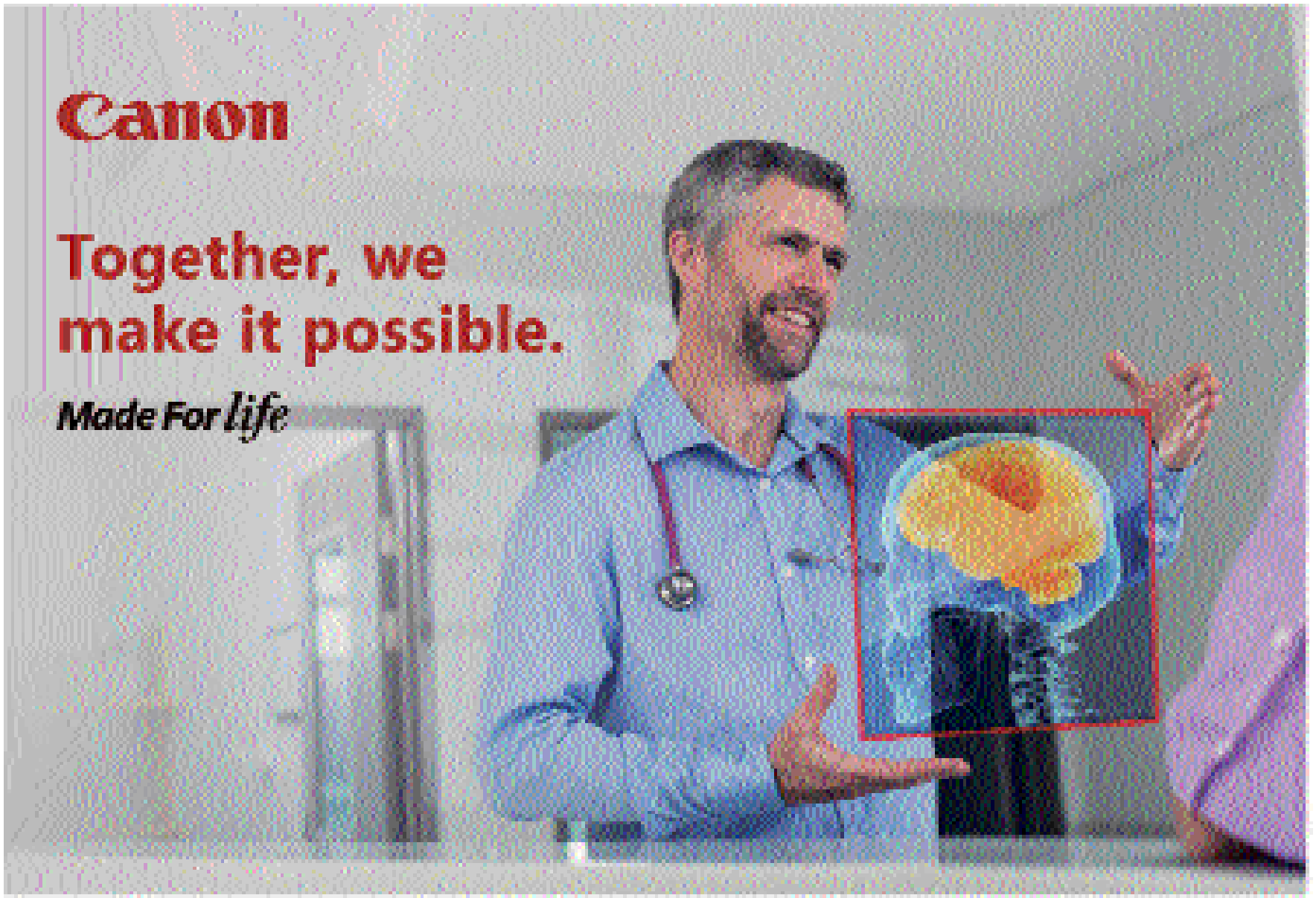

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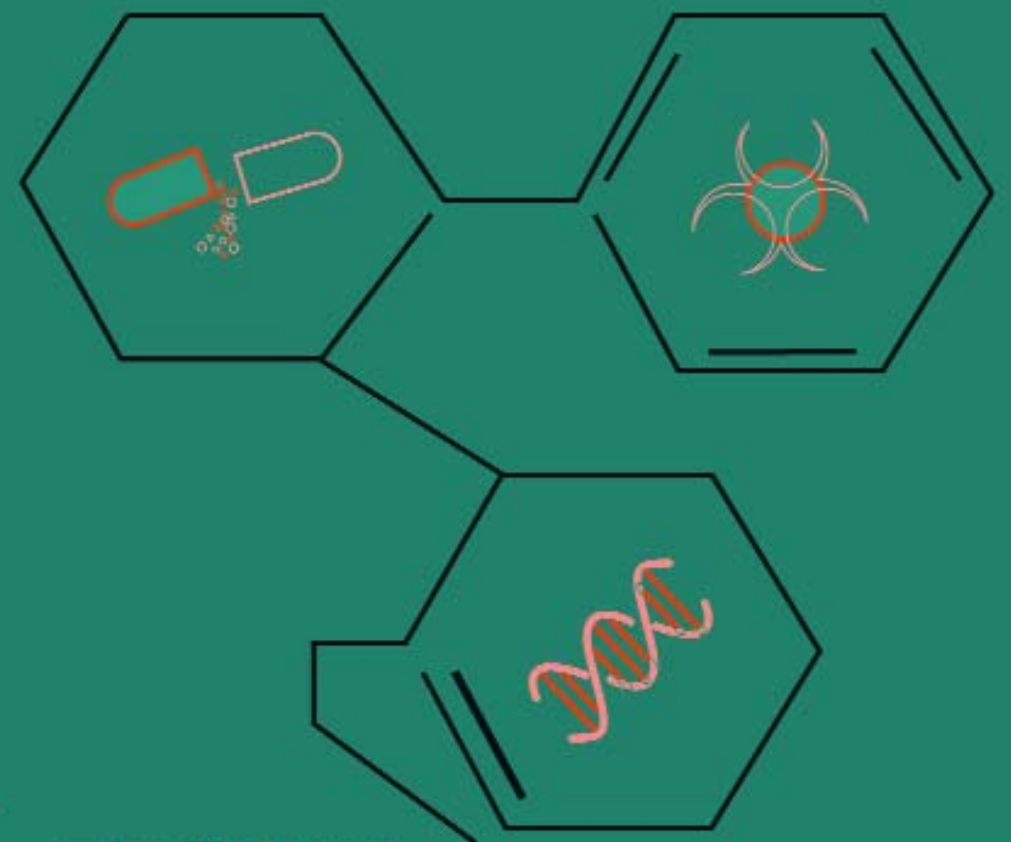

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EXPRESS HEALTHCARE
Vol 12. No 1, January 2018

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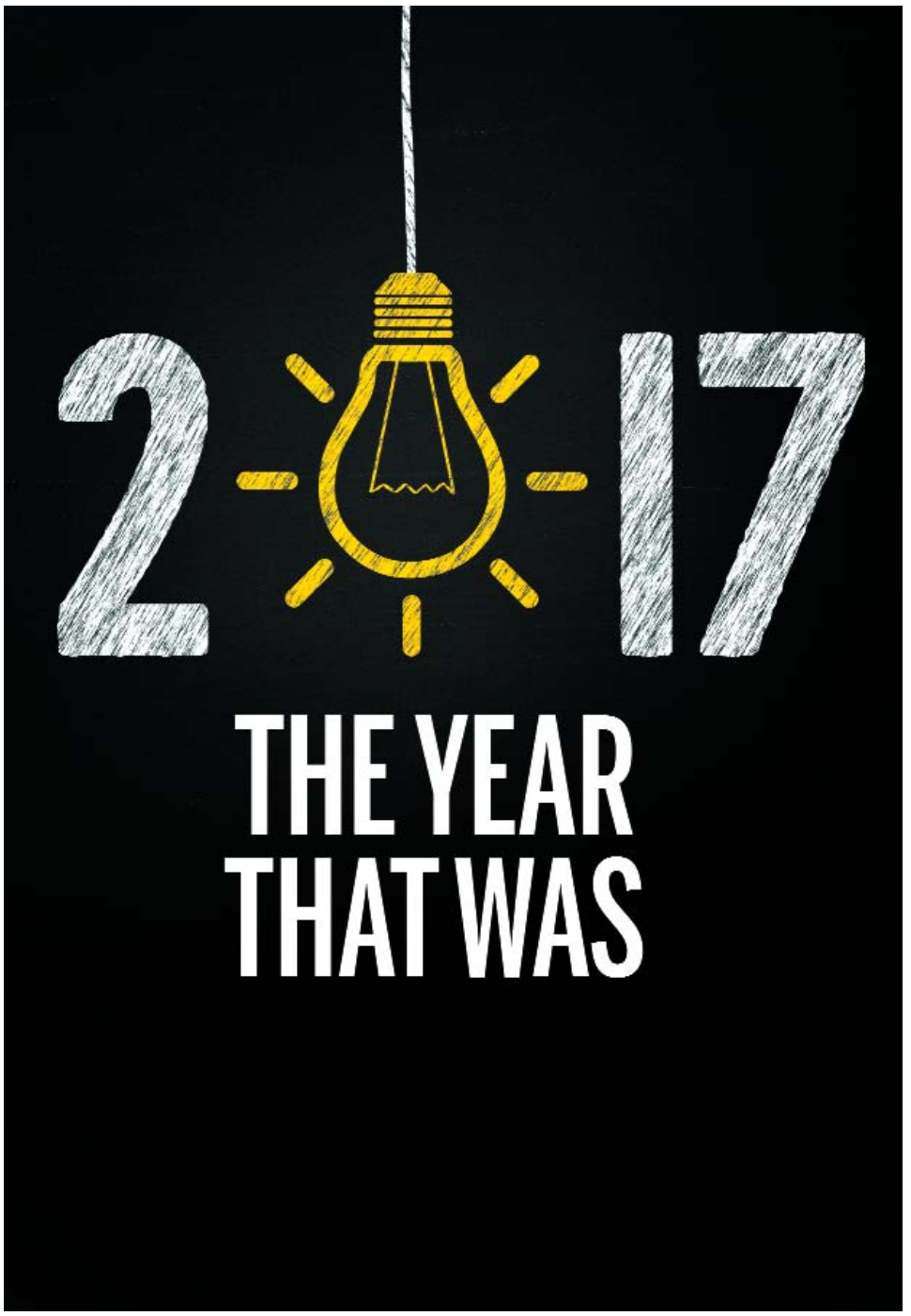

As we gear for a New Year, *Express Healthcare* presents a retrospective view of the articles carried in 2017. It is an initiative to make you to pause and ponder on the events, advancements and issues that were crucial to the healthcare sector last year. It would help us learn from the past and prepare for the new developments, innovations, trends and new challenges that will impact the industry in 2018 | P-13

POLICY WATCH

KNOWLEDGE

STRATEGY

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Patient interest vs political gains

If Big Data is the new Oil, then healthcare politics is the new pill to pop to win the hearts of your voters. Prime Minister Modi's almost Robin Hood style stance on pricing of medicines and medical devices won him kudos from patients, and now there are signs that manufacturers are also falling in line.

After high-end heart stents and orthopaedic implants, the NPPA has turned to medical consumables after its analysis of the Aadya Singh case, released on December 15 in response to a Right to Information Act application, opened a can of worms. While the mark up on procurement prices of formulations/medicines used to treat Aadya peaked at 914 per cent, the mark up on consumables was much more. For example, a three- way stop cock bivalve was procured by the hospital at ₹ 5.77 but billed to the patient at ₹ 106.00, a mark up of 1737 per cent.

In a meeting with syringe manufacturers on December 18, the pricing watch dog National Pharmaceutical Pricing Authority (NPPA) advised them to either voluntarily limit trade margins on MRP or it would have to step in to regulate them and cap prices. On December 22, the All India Syringes and Needles Manufacturers Association (AISNMA) announced that it had decided to voluntarily cap trade margins to maximum of 75 per cent on ex-factory prices (including GST) latest by January 26, 2018.

But the blame game continues. Rajiv Nath, President, AISNMA, claims that while manufacturers had been lowering the ex-factory or discounted ex-factory prices as they improved efficiencies in manufacturing, most hospitals did not pass on this benefit to end consumers, i.e. patients and pocketed the advantage. Manufacturers of syringes claim that they work on margins as low as 10 per cent, trying to shift the focus to hospitals.

But while AISNMA's diktat is appreciated as a first step, will this really make an impact? Or is it merely a savvy populist move? For one, it is facing opposition from within its ranks. Medical Technology Association of India (MTaI), which represents MNC medical device companies, has pointed out that of 26 manufacturers of syringes and needles only 12 companies had confirmed, with one member dissenting and others non confirming. Its argument is that "self-regulation based on decision of a small group is not sustainable", and hence it is advocating that the government focus on capping trade margins rather than MRP.

When politics and poll promises become the main force behind policies, we end up with short term gains and most likely long-term pain

Like MTaI, the All India Drug Action Network (AIDAN), a coalition of activist NGOs, also opposes AISNMA's move to self regulate s it does not guarantee compliance and cannot be enforced. AIDAN has called for the government to first publish data on the trade margins involved in medical devices and then impose price caps as the only appropriate and sustainable measure to ensure affordability of these critical devices.

Another attempt to regulate the healthcare sector, the National Medical Commission (NMC) Bill to replace the Medical Council of India (MCI), has also met with opposition. The Alliance of Doctors for Ethical Healthcare (ADEH) say a "technocratic, bureaucratic NMC is no solution to the ailment of the outdated, degenerate Medical Council of India." Dr KK Aggarwal, National President, IMA is also opposing the NMC Bill finding fault with the composition, the structure, and the fact that it aims to hand over power to administrators.

It is only to be expected that regulation will be resisted, as various segments strive to protect their turfs. 2018 will be about finding a middle path and balancing the interests of the various stakeholders. With the 2019 general elections in view, the Modi government has the opportunity to push through tough regulations citing public, and more specifically patient, interest. Health, rather the cost of health, is definitely going to be a powerful electoral plank in 2019. But when politics and poll promises become the main force behind policies, we end up with short-term gains and most likely, long-term pain.

Our 18th anniversary issue kicks off 2018 with regulators as well as the regulated analysing the fortunes of the healthcare sector over the past three years of Prime Minister Modi's regime. (*See cover: Modi Sarkar ke teen saal: Kya hain desh ke Sehat ka haal?*)While policy makers like Anupriya Patel, Minister of State, MoH&FW have listed out the successes, it's a mixed bag as far as industry is concerned. Will the last fiscal budget of the current administration, due to be presented on February 1, reduce or add to the pain?

VIVEKA ROYCHOWDHURY *Editor*
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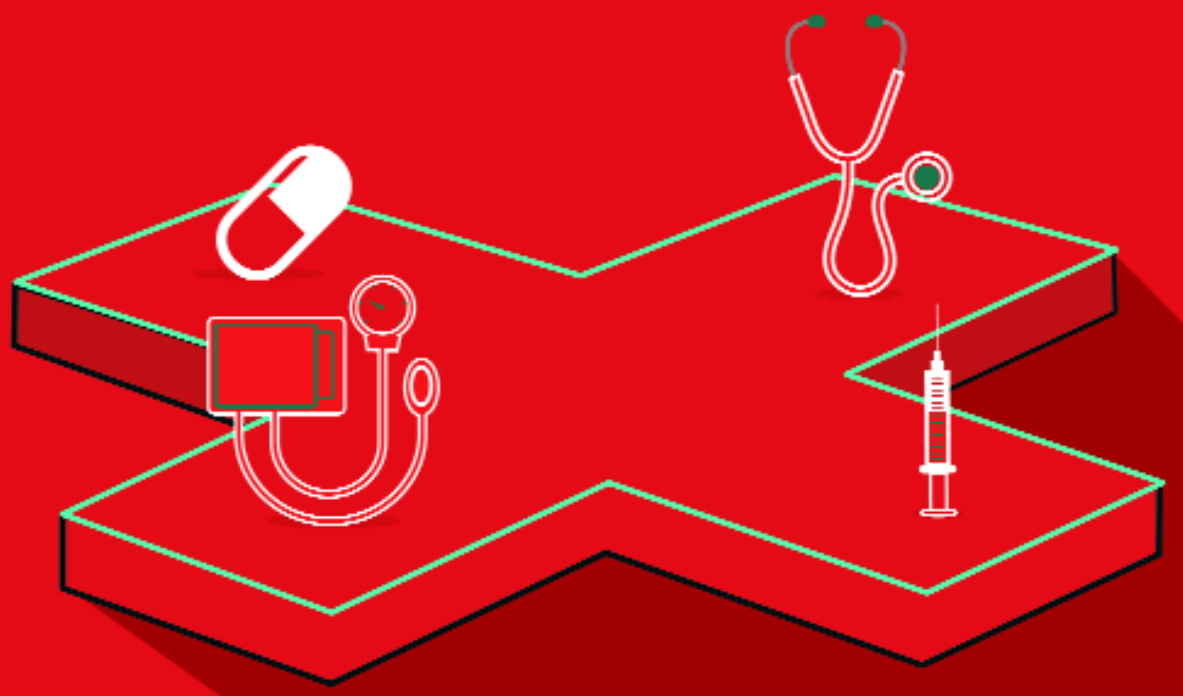

THE AID FOR THOSE WHO AID THE HEALTHCARE SECTOR

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EXPRESS HEALTHCARE

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INTERVIEW

'My intent is to provide preventive, promotive and curative care'

Anil Vij, Health Minister, Haryana, who is not known to mince his words, in a candid interview with **Prathiba Raju**, speaks on the healthcare status of the state explaining how he focusses to provide preventive, promotive and curative care to the state

What are the key policy decisions taken so far to enhance the public health?
My prime focus is to provide preventive, promotive and curative care to the people of Haryana via upgraded public health system. I have always emphasised that the work culture of the government hospitals, should be patient-friendly. This move has shown us significant changes and it has helped us to increase our OPD to 12 per cent and IPD to 20 per cent, in the last one year.

Hospital infrastructure has also been our focus. We are trying to upgrade at least 57 government hospitals and also trying to get NABH accreditation for hospitals. 20 hospitals are already accredited in areas like Panchkula, Faridabad. We want the grass-root level population to access high-quality diagnostic and imaging facilities. Thus, in each District Hospital (DH), we are trying to provide MRI and CT scan services, with 10 DHs already implementing it, while rest of the DHs will be covered. Apart from it, the dialysis centres are also set up in all the 22 DHs, out of which six DH hospitals already have the dialysis centres, the rest will come up in a phased manner.

We are coming up with four CATH labs in Ambala, Panchkula, Faridabad and Gurgaon for the benefit of heart patients. These labs will carry out cardiac stent operation which would cost ₹ 46,000. Already, Ambala districts' CATH lab have started treating patients and soon the facility will be provided to other three district and later throughout the state.

> I would give eight marks out of 10 for Haryana, when it comes to healthcare. We have made good progress and the footfall of patients in public hospitals has increased exponentially

In digitisation front, the state's 57 public hospitals, 20 district hospitals and three medical colleges will be linked via State Wide Area Network (SWAN). Once this is implemented, it will facilitate the patients in getting treatment in any hospital of the state without carrying any documents. Patients would be provided Unique ID number and an Electronic Health Record (EHR) would be maintained so that the medical history of the patient can be accessed anytime.

What are the efforts taken to improve the MMR/IMR, particularly the maternal and child health? Can you give us details on the seven high priority districts for improving the infant and maternal mortality rate in the state?
Yes, there is anaemia problem, especially in Mewat district and we are regularly giving iron tablets to the adolescent girls there. In every Primary Healthcare Centre (PHC), we identify the severely anaemic pregnant women and give them iron sucrose injection. Apart from it, we are trying to improve the maternal and child health. The Maternal Mortality Rate (MMR) and

Infant Mortality Rate (IMR) have improved in the state.

When we came to power, IMR was 42 -- higher than the average of the country. However, today, it has dropped to 36. The state has already achieved the Millennium Development Goal (MDG) of reduction in MMR to less than 139 by 2015. We are further taking steps to reduce the MMR by working towards establishing High Risk Pregnancy (HRP) policy, upgradation of labour rooms which includes infection prevention practices, availability of essential drugs, equipment and consumables, operationalisation of First Referral Units (FRU) and implementation of 'Zero Home Delivery Campaign'. As far as child health is concerned, a Special New Born Care Units (SNCUs) provides quality services. The state is adjudged as number one in the country by the central government based on the seven parameters listed in SNCU quality of care composite index (SQCI).

The doctor patient ratio in the state is 1: 1700, how are you trying to fill the gaps, the strategy used to increase the doctors and patients ratio?

Efforts are taken to fill the gap of doctor-patient ratio in the state. Since we came to power, we have appointed 946 doctors. We are trying to bridge the gap. As a step towards it, we have planned to appoint an MBBS doctor, a dentist and a BAMS doctor in every PHC. First, we will be appointing Bachelor of Ayurvedic Medicine and Surgery (BAMS) doctors, as they don't hesitate to work in remote areas. We are giving special incentives for the doctors and specialists who are willing to work in districts like Mewat and Morni. As per the WHO guideline, 1: 1000 is the ratio we want to achieve it and hence, are working towards it.

Out of 10, how much would you rate Haryana for its health performance? Why do patients from Haryana and the NCR areas prefer Delhi AIIMS and other public hospitals in the national capital?

I would give eight marks out of 10 for Haryana's performance in health. The reason behind it is that we have taken good, progressive health initiatives and the footfall of patients to public hospitals has increased exponentially. People of Haryana going to Delhi seeking healthcare will decrease gradually. Earlier, equipment and facilities like MRI, CT scan, dialysis centres were not available, so the doctors were referring them to Delhi. But, now these facilities are set up and they are available right from the DH level. So, the number of patients visiting any government hospitals in Delhi AIIMS or other hospitals in the national capital will definitely drop.

Haryana reportedly has a major share of cancer cases. The state had registered 16,180 cases of cancer last year, as per the information tabled in Haryana Assembly. What are the steps taken to combat the increasing cancer cases in and other non-communicable diseases (NCDs)in the state?

It is not just cancer, but we are trying to detect the other NCDs cases in the state by conducting screening tests door-to door. A total of 40 tests will be done, the programme will be implemented by state authorities and ASHAs (accredited social health activists) and ANMs (auxiliary nurse midwife). Mini testing machines and equipment will be carried to doorsteps, so the test can be conducted, or health camps, will be conducted for collecting samples. It is part of the 'Prevention, Screening and Control of Common Non-Communicable Diseases' part of the flagship National Health Mission (NHM).

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Becoming an extended arm for hospitals

You can think of us as a distributed hospital using the existing capacity in patient homes to take care of infrastructural gaps, immediately and cost effectively, says **Vivek Srivastava,** Co-Founder and CEO, HealthCare atHOME

■ How is Indian home healthcare growing?

According to estimates, the overall Indian healthcare market today is worth ₹ 7 lakh+ crores and is expected to grow to ₹ 18.7 lakh crores by 2020, a CAGR of 22.9 per cent. Globally, the segment of home healthcare comprises 3-6 per cent of the total healthcare pie, thus there is huge scope and potential in the Indian home healthcare market.

■ How is it going to address the shortage of few lakh hospitals beds?

We need over 6 lakh+ beds to cater to our population and home healthcare can help bridge this gap as it reduces the requirement of the hospitals beds, which can be provided to more needy patients. Since the shortage of beds are more in tier-II & III cities, the hospitals can extend their reach without building expensive infrastructure with a home healthcare partnership.

For example, patients residing in a tier III city at a distance of around 200 km from a tertiary care centre often discontinue their treatment in the middle due to rising costs and inconvenience. With home healthcare services, step-down care including complete ICU setup can be delivered right at their home at a fraction of cost.

■ How is HealthCare atHOME complementing the efforts of hospitals to provide quality healthcare delivery?

We work with the hospitals to widen their reach, by freeing the beds for new patients. You can think of us as a distributed hospital, we are using the existing capacity in patient homes to take care of infrastructural gaps, immediately and cost effectively. There are number of procedures where you do not need the hospital beds and these can be done at home. Then, our services reduce the average length of stay of patients at hospitals minimising the pressure on the hospital infrastructure, ensuring smooth transition from hospital to home, decreasing chances of re-admissions and offering personalised care and attention. We are focussing on services like critical care at home, cancer care, post-operative and rehabilitation care. We have successful tie-ups with leading corporate hospitals across the country in line with above business model. Second, we also improve patient satisfaction since personalised quality care is the key. Add to this, the main benefits of our services are improved safety and comfort for the patients and faster recovery because of familiar environment and proximity to near and dear ones.

Additionally, hospitals have long supported their communities, offering educational programs, health fairs and other such services. With HealthCare atHOME services, they can become more strategic in their community service enhancing footfalls by reaching out and offering community based services and specialised outreach programmes. Our programmes can improve patient satisfaction because the patients and the community starts realising that the hospital thinks about them even when they are not in hospital.

■ Can you elaborate on how you can increase capacity and what direct P&L advantages it can bring to hospitals?

The direct P&L advantages to hospitals are reduction in Average Length of Stay (ALOS) and Higher Average Revenue Per Operational Bed (ARPOB). Let me illustrate a case study of a critical care patient on prolonged ICU stay who has sepsis along with associated comorbidities. Such patients often have a prolonged recovery trajectory. Say he needs to stay in hospital ICU for 30 days, which will cost average ₹ 70,000 per day for first 10 days, ₹50,000 per day for subsequent 10 days and then ₹30,000 per day for the rest of the days. The total monthly revenue comes out to be Rs 15 lakhs for the hospital but almost, 64 per cent of the revenue will come in the first 15 days of the stay.

However, when stable, the patient can opt for our 'ICU atHOME' service on 16th day, which will cost him ₹ 15000 per day for next seven days, followed by ₹ 10,000 per day for next six days and ₹ 6000 for the remaining period. This entails for 15 days of hospital ICU stay and 15 days of ICU atHOME. The effective stay at hospital got reduced to 15 days which increases the number of such ICU patients admitted in hospital from one to two assuming 100 per cent capacity utilisation. This leads to an additional revenue of approx. ₹ 4 lakhs leading to a monthly revenue of ₹ 19 lakhs as compared to ₹ 15 lakhs (27 per cent increase in revenue).

More importantly, the financial burden on such patients who choose homecare as part of their total treatment reduces significantly from ₹ 15 lakhs to ₹ 11.57 lakhs (23 per cent reduction).

■ What are the challenges you are facing? How do you plan to overcome these challenges?

The general perception about home healthcare services is having a nurse at home or an attendant at home. We attempt to break this myth by showing evidence and experiences of existing consumers. By far, we've done over 25,000+ oncology/immunology procedures at-home, more than 20,000 ICU days at home and have looked after more than 4,00,000 patients across India and that too, with a high customer satisfaction rate (NPS >70 per cent) since 2012. Our success in reaching this goal is indicated with the fact that since our inception, revenues have grown by a multiple of 150x on a monthly basis. Additionally, now we are a 1200+ people organisation from five people when we started operations in 2012.

One of the major challenges that we face is the availability of trained clinical staff. There is a great need to ensure that clinical staff is effectively trained to be able to manage patient complication at home through an exhaustive induction programme, recurring on job trainings, refresher trainings and audits. We are putting a lot of investment and efforts in this direction to create a cadre of highly trained nurse-led multidisciplinary teams. We are also benchmarking our processes similar to CQC standards and JCI compliant setup.


2017
THE YEAR
THAT WAS . . .
As we gear for a New Year, *Express Healthcare* presents a retrospective view of the articles carried in 2017.
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TECHNOLOGY TRANSFORMATIONS

JUNE 2017

cover

AGE OF THE SMART DOCTOR

There is no doubt about the fact that doctors who are proficient in computer science do have an edge over others. These professionals can turn several ideas into reality, solve trivial healthcare concerns and will be ready for future digital disruption

BY RAELENE KAMBLI

At times when managing and integrating vast patient data to find better healthcare outcomes seems like a herculean task, where understanding the correlation between operational efficiencies and clinical outcomes becomes imperative for hospitals and where effective communication is paramount for a healthy doctor-patient relation, digital technologies are proven panacea for India's healthcare. Precisely this

The rise of tech doctors

In the US, doctors are increasingly attending coding bootcamps to enhance their software competencies and computer science and programming. All of which, these doctors are leveraging their combined knowledge of computer science and medicine to tackle healthcare problems.

For instance, doctors from the Yale University and Stanford Children's Hospital by learning computer coding have developed mobile apps for patients and the latter could help certain groups of people, such as young people with diabetes."

Dr Nagarjun Mishra, Co Founder, Chief Officer Hardware & Strategy, PurpleHealth speaks about the varied avenues where doctors who have added skilled coding and thinker-doer wisdom for healthcare. Citing the example of the achievement of doctor from the USA he explains, "Kidswording is UK Kevin Hall, for example, one of the first Amazon Inspire programmers in the

WHAT IS A CODING BOOTCAMP?

health industry, developed an iPhone-based clinical study using Apple's ResearchKit to gather information about the quality of life of patients who might have neurodegenerative disease. Dr Sai Pasham set up a medical IT consultancy and software development company (PathMedics). He says that doctors usually make great programmers. They are good at modeling complex systems such as the circulatory system, and comfortable with complex things. This is exactly what coding is about. Dr Phoebe Rahbar, a neurosurgeon and award-winning software developer for mobile applications and clinical decision support systems says that she wanted to make everything, and we realise our values. If we would remember 8 out of 10 times, we're great. In Myle cloud. However, we may ensure that errors be made for the last 10 % can be avoided. That is where his coded app 4 on WHO Surgical Safety Checklist and Improved decision support in national or rural spine surgery have helped him and many others to better practice."

Not just in the US, but even doctors from the National Health System, UK, Singapore and many European nations have been upgrading themselves with the knowledge of computer sciences and digital tech-nology for better diagnosis and their overall practice. And guess what, they have achieved remarkable results. Moreover in the west, you will find several healthcare digital start-ups set up by doctors which serves as an added advantage for their practitioners to connect to help patients or utilise their empty workspace opportunities other than help them provide healthcare like never before.

These medical sages believe that there is a huge gap between medicine and information technology which can be bridged by an integrated knowledge of medicine and computer science. Some of the doctors are of the opinion that there exist a lot of patient algorithms that can be written via computer codes.

START-UP CORNER

INTERVIEW

'3D printing technology plays an important role at every stage in healthcare'

The reliability and efficiency of 3D printing technology in clinical practice has been questioned several times by Indian practitioners. **Tanmay Shah**, Head of Innovations, Imaginarium Life, clears the air and talks about its potential, in an interaction with **Raelene Kambli**

> It's unfortunate that a lot of these regulations restrict 3D printing in exploring and fulfilling it's enormous potential

Technology was a major growth driver in 2017. It acted as a catalyst and a disruptor which led to significant transformations within the healthcare industry across the globe. While several patients received online video consultation without having to visit doctors' premises, thousands could use their mobile phones as diagnostic tools.

Digital technologies such as IOT, cloud computing, AI, 3D printing and more dominated several clinical and research applications. Several healthtech start-ups came into being and tried to make their mark in an industry which is undergoing a metamorphosis. The industry saw newer models of healthcare delivery as well as medical innovations that brought down the cost and enhanced the quality of healthcare. We, as a leading publication in this sector, analysed these trends and attempted to provide an in-depth understanding of how these technologies have facilitated the sector's progress.

To cite an example, our June issue's cover story focussed on the need for doctors to learn and adopt technology to efficiently deal with medical records, create apps to monitor their patients and leverage the potential of coding to tackle clinical problems.

In another instance, we interviewed 3D printing expert Tanmay Shah, Head of Innovations, Imaginarium Life. It helped in understanding more about the reliability and efficiency of 3D printing technology in clinical practice. It also aided in clearing the misconceptions and myths around this subject.

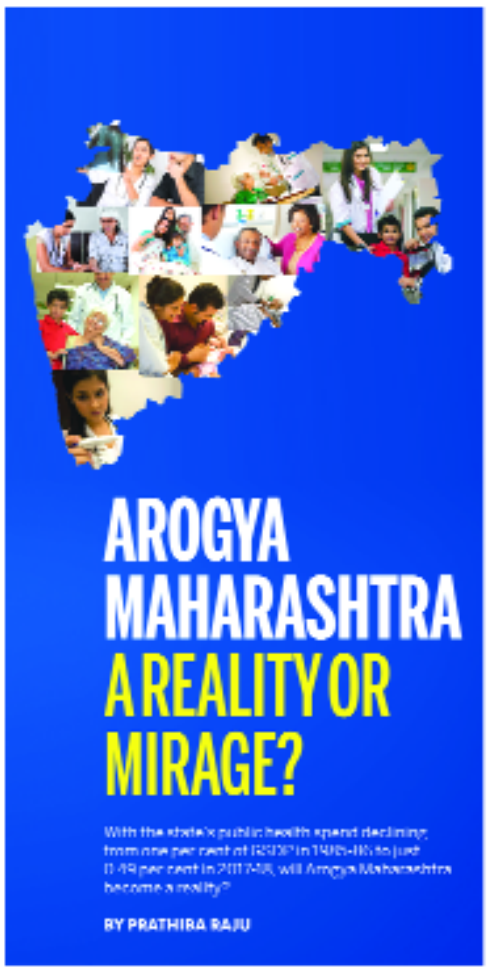
Our articles have also covered other technology trends such as growing relevance of AI in healthcare, use of blockchain technology to improve EHR management and much more.

In our other articles and interviews featuring key opinion leaders from the industry, we highlighted how linking Aadhaar data can give better healthcare outcomes and how the Indian healthcare sector is facing a huge challenge in improving the usability of big data. Thus, we looked at the opportunities offered by technology and the challenges that need to be tackled to unleash its benefits in healthcare.

PUBLIC HEALTH TRACKERS

MAY 2017

cover



Despite Maharashtra being one of the affluent states in the country with the highest Gross State Domestic Product (GSDP), contributing 14.15 per cent of India's GDP and ranking high on its Industrial Index, year after year the state's expenditure on public health has dipped as a proportion of the GSDP, declining from one per cent in 2015-16 to a dismal 0.99 per cent in 2017-18. The low levels of public health spending reflect the shortfalls in the public health system, be it health facilities, shortages of specialists and obstetricians, poor health infrastructure

The state's annual budget allocated for the fiscal was 3,0,151 crore in public health sector which was 3.4 per cent less than what was spent by the state last fiscal year, among eyebrows were also state government's commitment towards Arogya Maharashtra.

Cropping up health budget a pipe dream?

Stepping up investment in public healthcare is central to sustainable economic growth. Though Maharashtra's health indicators are better than the national averages they are certainly not equivalent to its own steady development, according to experts. A study by New Delhi based Environment Justice Management Research (EJMR) stated that the state needs to increase its health spending to over 7 per cent by 2020.

"Maharashtra's health budget needs to focus little more on infrastructure to overcome the lack of public health and medical facilities and fill in the gaps of huge vacancies in rural hospitals. PRIMARY health centres (PHCs) and other institutes as well. The annual budget allocated for the health sector has to be increased to address the rising cost of medical care, especially in view of the growing rate of urbanisation," the study stated

According to World Health Organisation (WHO), every state government should spend five per cent of the GSDP on healthcare.

Strong noughts make why Maharashtra should improve its health budget, Dr. I.H. Murgai, Hon. Secretary, Indian Medical Association's Health Administration may be taken than the national average and they are not commensurate with its overall development. Ironically, Maharashtra's health administration may be taken than the national average and they are not commensurate with its overall development. If the state has to maintain its urban economic hub status, it must invest in health and education. I cannot find any justification for the reduction of the health budget. On the contrary, if GDP shows it is supplying other funds, could the same justification, but I don't think that will explain this reduction. The only justification for the state government could be that they would have more unspent money on which they wanted healthcare and may be they would increase the budget in subsequent years. Moreover, in view

NOVEMBER 2017

cover

Against all odds

Improved hospital infrastructure, attractive incentives to doctors and paramedics are propelling the health parameters in Chhattisgarh's Bijapur district

BY PRATHIBA RAJU

Among the state's doctors and rough travelers in the hilarious districts of Chhattisgarh, thousands of tribals and locals lead a near-pleasureless existence and die of neglect. They are deprived of basic healthcare facilities due to shortage of doctors, staff nurses, proper hospital infrastructure. Telegram changing behavior and people residing in these areas rare have access to basic healthcare amenities. The public healthcare facilities in these tribal-dominated areas like Bijapur, Dantewada and Sukma are showing signs of improvement.

Till a year ago, pregnancy meant complication for tribal women of the interior districts of Chhattisgarh, as many pregnant women were treated as dhoka (a palanquin) for the nearby District Hospitals (DH). Many times, the deliveries took place in the village itself, as the local population feared sudden hurdles, roads blocked by tree trunks and invaders clog in general people's movement. With well equipped 108 and a shared hospital, ambulances, skilled medical officers, specialists like gynaecologists, paediatrician, nurses ... available round the clock and fulltime eyes by them in Community Health Centres (CHC), Primary Health Centres (PHC), many tribal women from various districts of Chhattisgarh are opting for institutional deliveries.

Among them, Bijapur district, one of the top five rural affected, home to 8 lakhs, got its first gynaecologist in July 2016. The DH has registered total delivery of 788 from January to September 2017. By the year end, it set to cross the 1000 mark. Bhanwarbala Dhikna, home to 10 lakh people, mostly tribal families, got its first gynaecologist recently from Telangana.

Achieving this progress in Bijapur was a step by step process, believes Dr Agraj Shendeli, District Collector, Bijapur. "The district known as the hardest for casual workers, with 74 per cent tribal population and not a single private practitioner, receiving the public health infrastructure, belonging to doctors, was not an easy task, but it was not impossible as well."

Building a robust public health system

The process of making healthcare available and deliv-

> Public health service should be as fully organised and as universally incorporated into our governmental system as is public education. The returns are a thousand fold in economic benefits, and infinitely more in reduction of suffering and promotion of human happiness
>
> *- Herbert Hoover , 31st President of the United States*

PUBLIC HEALTH TRACKERS

JULY 2017

MARCH 2017

In a country which is striving to extend the reach of healthcare services to over 1.2 billion citizens, the importance of an efficient public health system cannot be overemphasised. Express Healthcare, the leading chronicler of the healthcare industry in India, has therefore been committed towards fortifying the country's public healthcare sector and ensuring the welfare of the masses.

Hence, we have kept tabs on the various projects undertaken by the stakeholders, be it by government organisations or NGOs to monitor and facilitate progress. Time and again, we have featured various public health initiatives and examined their efficacy and effectiveness in achieving their goals.

Taking a step further, we have also launched a platform to drive a movement in public healthcare. Called Healthcare Sabha, it brings together the leaders, experts and veterans of the industry to enable thoughtleadership in ensuring universal healthcare coverage and augmenting the role of public healthcare to achieve this objective. Check out the exclusive coverage of the event in our March 2017 issue.

In another article, we analysed the provisions of theAarogya Maharashtra initiative and appraised its ability to achieve its objectives. It also carried recommendations that can help improve the project and augment its outcomes.

The next article drew attention to healthcare PSUs and their hitherto unleveraged potential to reform public healthcare in the country. It also looked at the steps that are already being implemented to enable PSUs to take their rightful place and play a significant role in the creation of a strong, effectively fuctioning healthcare system in India.

Likewise, the article, 'Against all Odds' was a very interesting piece on how improved hospital infrastructure and incentivising healthcare professionals are driving positive changes in a district in Chhattisgarh. Thus, noteworthy national and state endeavours have found a place in our articles and features throughout the year.

INDUSTRY TRACKER

DECEMBER 2017

FOCUS: MEDICAL TOURISM

A NEW HUB FOR MEDICAL TOURISM?

With leading healthcare players foraying into the state and the government's growing focus on the sector, Rajasthan may be the next go-to destination for medical tourists in the country

BY MANSHA GAGNEJA

JULY 2017

cover

INTERVIEW

HLL Lifecare will soon come out with a medipark in Chengelpet, Tamil Nadu, which will be spread across 330 acres in plug and play model. The development cost of the medipark is ₹ 160 crore. The facility will have a integrated vaccine complex in 100 acres, which will produce vaccines needed for UIP

'We provide project management consultancy for construction and upgradation of hospitals, medical colleges and labs'

RP Khandelwal, CMD, HLL Lifecare, in a wide-ranging interview, talks about the transformation of HLL Lifecare from a condom manufacturing company to a full-fledged healthcare delivery company, in an interaction with **Prathiba Raju**

The Indian healthcare industry is growing at a rapid pace. As a result, we are witnessing several transformations across various segments of healthcare, from data documentation to clinical practices. The year 2017 too saw the emergence of several trends which may eventually shape the industry in the future. As a critical industry, it has to continuously evolve to keep pace up with the changing demands, be it meeting patients expectations or changing disease profiles. From digitalisation to taking steps towards ensuring affordability with quality, the industry grew in multiple aspects. Express Healthcare never misses to keep a tab on these advancements. Be it meaningful collaborations between the private and the public sector or companies shaking off their shackles by coming up with IPOs, we have kept a track of all the latest happenings in the Indian healthcare space. Developments such as the rise of tech-enabled healthcare start-ups were also featured in our magazine to enable our readers to gain informative insights which would revolutionise both, preventive as well as curative care.

For instance, this year, we informed our readers about the evolving role of hospital pharmacies and how they can significantly impact a hospital's revenue cycle.

In yet another article, we highlighted the need for healthcare organisations to engage in talent management to be future ready. Express Healthcare has also attempted to foresee how the sector will be shaped in the coming times. To cite an example, we aimed to unravel the upcoming hubs for foreign tourists and identified Rajasthan as a potential medical tourism destination. Don't forget to read through the article on how PPP models like HLL seem essential to provide access to affordable care in a densely populated nation like India.

Express Healthcare, thus raised the curtain on the various future trends which could aid in transforming the healthcare sector.

POLICY INTERVENTIONS

JULY 2017

POLICY WATCH

INTERVIEW

'I would not tolerate corruption in the healthcare service delivery

On the completion of 100 days in office, the Uttar Pradesh government has given a major focus to revamp the healthcare system. In an exclusive interview, the state's Health Minister **Siddharth Nath Singh**, shared with **Mohd Ujaley** the state's initiatives to tackle the challenges such as shortage of doctors, and infrastructure

The state government will come up with many technology driven things, which will help us in delivering better healthcare services in the state

NOVEMBER 2017

POLICY WATCH

INTERVIEW

'Delhi govt's three-tier healthcare system will enhance public health'

Satyendar Jain, Minister of Health and Family Welfare Department, Government of NCT of Delhi, who is donning several other portfolios of Power, PWD, Industries in Aam Aadmi Party (AAP), in a candid and free wheeling exclusive interaction with **Prathiba Raju**, elucidates about Delhi government's three-tier healthcare system, mohalla clinics, polyclinics and multi-speciality hospitals and how it is improving the healthcare infrastructure of Delhi

The number of out patients in Delhi's government hospitals is increasing manifold every year. Earlier, the ratio of patients visiting from outside Delhi was 50 per cent, but nowadays over 70 to 80 per cent patients who approach Delhi government hospitals are outsiders

Evolution is the law of policies: Darwin said it, Socrates endorsed it, Cuvier proved it and established it for all time in his paper on 'The Survival of the Fittest.' These are illustrious names, this is a mighty doctrine: nothing can ever remove it from its firm base, nothing dissolve it, but evolution

- Mark Twain, American author and humorist

POLICY INTERVENTIONS

APRIL 2017

MAY 2017

MARKET

INSIGHT

Gagged Up

Reinstatement of the Global Gag Rule causes wide-spread fear that progress of maternal health in developing countries would be severely hit

INTERVIEW

'Government of Maharashtra has always been encouraging the PPP model in healthcare'

In a wide-ranging interview, **Dr Vijay Satbir Singh**, Additional Chief Secretary, Health, Government of Maharashtra, talks about various health initiatives of the state like the upcoming new Vision 2030 document on health, a new nutrition policy and a partnership with the software giant Microsoft to boost IT in the state in an exclusive interaction with **Prathiba Raju**

> Whenever an income of the state fluctuates, it leaves an impact on the allocation of funds to various sectors like health. At times, the state also has some unexpected expenditures which has its impact on the money made available for each sector

A governing body plays an integral role in the smooth running of any nation. More so, in a country as vast as India, the government shoulders immense responsibilities for providing and regulating an efficient healthcare delivery system.

Being a watchdog, every year, Express Healthcare notifies its readers about the amendments in regulations and policies. Collaborating with experts and healthcare leaders, we bring you the clarity on recent developments which will play a key role in reforming the healthcare scenario.

In 2017, we analysed how the government is taking steps to achieve better quality healthcare while working towards accessibility. Experts like Siddharth Nath Singh, Uttar Pradesh Health Minister and Satyendar Jain, Minister of Health and Family Welfare Department, Government of NCT, of Delhi elucidated about their states' initiatives, which will help to improve healthcare outcomes in their states.

In another interview with Dr Vijay Satbir Singh, Additional Chief Secretary, Health, Government of Maharashtra, we found out how they are aiming to achieve their vision of Arogya Maharashtra.

Express Healthcare also keeps a track of the international amendments in the regulations which will impact the Indian healthcare sector.

For instance, 2017 saw the reinstatement of Global Gag Rule by the US President, Donald Trump, which was anticipated to severely hamper access to legal abortion and the repercussions would be felt on family planning and reproductive health in developing countries.

Understanding its importance and how it will affect India, we brought our readers' expert opinions which will help shape their views on the subject.

POLICY INTERVENTIONS

APRIL 2017

POLICY WATCH

National Health Policy 2017

Industry gives a thumbs up

The Union Cabinet has approved the National Health Policy. Health Minister JP Nadda made a statement in this Parliament in order details of the new policy public. It reaffirms health as a fundamental right and the draft policy had envisaged. It urges short of a 'legislative backing for right to health'. A Right to Health legislation in the manner of Right to education would need a constitutional amendment to bring health in the concurrent list from where it currently lies in the state list.

In the current policy, health services are merely "incurred". It, however, talks of impending a health care mark like the national has even first was imposed after RTE was legislated. It talks of lowering pub lic responsibility on health to 2.5 per cent of GDP ... as demanded by experts have long time.

The draft also addressed the issues of universal health coverage, reducing maternal and infant mortality rate, as well as making drugs and diagnostics available free at least in the public healthcare systems of the country. It suggests that the Centre must amend laws to align them with the current health care scenario.

The policy has also sought specific quantifiable targets aimed at reduction of disease prevalence for children under three broad components viz

(a) health status and programme impact,

(b) health system performance and

(c) health systems strengthening, aligned to the policy objectives.

Industry stalwarts share their opinion on National Health Policy

STRATEGY

GST: A double-edged sword

Though it might usher more transparency, experts fear rise in healthcare costs due to trickle down effect. By **Prathiba Raju**

The roll out of Goods and Services Tax (GST), touted as the country's biggest tax reform, has evoked a mixed response from the healthcare sector. Though it is exempted from GST as a segment, experts foresee a trickle down effect and many fear rise in medical and hospitalisation costs as some services and healthcare products are taxed at 12-18 per cent.

Healthcare experts from diverse segments voiced that GST is a remarkable step taken by the government and ensuring healthcare from it will help the consumer in some extent. However, they have also cautioned that input taxes levied on products and services, will impact the costs for healthcare providers. The hospitals and the companies working in this domain will say and absorb the cost themselves to a certain point. Therefore, in the long run, consumers will have to pay the service cost.

The GST effect

Elaborating on the new tax regime, Malyavant Patel, CEO, Jupiter Hospital, said, "The healthcare sector in terms of hospitals were exempted from indirect taxes in the pre-GST era i.e. upto June 30. VAT and customs is be exempted under the GST regime. For the hospitals, input services which were used/consumed by the sector, like security and laundry were, however, earlier taxed at 12-15 per cent (as service tax) while it is proposed to be at 18 per cent.

"There shall be a proportionate incremental cost for the hospital. There are certain large equipment, which were taken on operational arrangement, with the vendors, where the payment due to vendors was on operational cost and was broadly subject to VAT at 5 per cent. In the GST, the same is now defined as a service, and hence will be charged at a much higher rate at 12 per cent. Hence, the result is that the taxes on input services of a hospital will go up."

Dr Jayesh Mehta, CEO, Columbia Asia Hospital, India, said, "The primary focus of healthcare providers are facing is on being classified as 'exempt from GST' by the government. Being exempt, hospitals would not be able to avail credit on inputs, primarily on service tax increases proposed by the legislation. Hence, these costs will have to be passed on to consumers of the service which will result in higher cost of healthcare."

Dr Amol Naikwadi, Joint MD, Indus Health Plus, said, "Healthcare will become expensive as the goods, products and services consumed by majority healthcare providers fall under 12-18 per cent category. Hence, in future, the end consumers will bear the brunt cost on healthcare delivery due to input taxes levied on them. Many companies having presence in multiple states will face challenges in state wise registrations with regards to compliances, documentation."

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Malyavant Patel,
CEO, Jupiter Hospital

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Jayesh Mehta,
CEO, Columbia Asia Hospital, India

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Amol Naikwadi,
Joint MD, Indus Health Plus

> The one who adapts his policy to the times prospers, and likewise that the one whose policy clashes with the demands of the times does not
>
> *- Niccolò Machiavelli, Italian diplomat and politician*

GROWTH STRATEGIES

OCTOBER 2017

HEALTHCARE SENATE 2017

PATH TO FUTURE READY HEALTHCARE

Healthcare leaders and experts congregate to drive reforms and accelerate progress at Healthcare Senate 2017. Exclusive coverage...

AUGUST 2017

cover

HOSPITAL PHARMACIES A BOOST TO PROFIT MARGINS

Hospital pharmacies are business critical to any hospital. Investing in its upliftment will ensure sustainable RoI

BY RAELENE KAMBLI

Building and sustaining a profitable as well as fast-growing business isn't a cake walk. All the more so for healthcare organisations and enterprises as they have to be sustainable and profitable without denting its image and appearing as a profiteering organisation.

Therefore, Express Healthcare makes it a point to identify and laud noteworthy growth strategies which healthcare companies have utilised to add value to their business. The above mentioned articles are cases in point.

Early this year we discovered that some of the major medtech players have opted to rebrand their businesses to focus on specific areas such as innovation, incubation and research. Some even hived off their healthcare businesses from the parent company as a growth strategy. Our observation was that there is a compelling link between strong brands and market performance. Which is why, all these moves proved to be fruitful to their businesses, adding to their profit margins and earning them good brand equity. However, the missing factor was the cost-effectiveness of products. Our April issue examined these strategies and raised pertinent questions on will medtech players be willing to consider price control to make medical devices and equipment affordable.

In our August issue, we looked at how onsite hospital pharmacies are business critical to any hospital and investing in its upliftment will ensure sustainable RoI .

In our September issue, we covered various initiatives taken by the private and public sectors to collaborate and come up with viable healthcare delivery models that would be accessible and affordable to all.

As India gears for future opportunities and challenges, we have also organised our annual healthcare business summit- Healthcare Senate 2017. It was attended by India's leading experts and key opinion leaders to enable the creation of a future ready healthcare sector for India. Check out the exclusive coverage of the event in the October issue of the 2017.

GROWTH STRATEGIES

APRIL 2017

cover

SEPTEMBER 2017

cover

FAST-TRACKING PPPs

Pragmatic PPP projects are the need of the hour to strengthen the healthcare ecosystem in the country

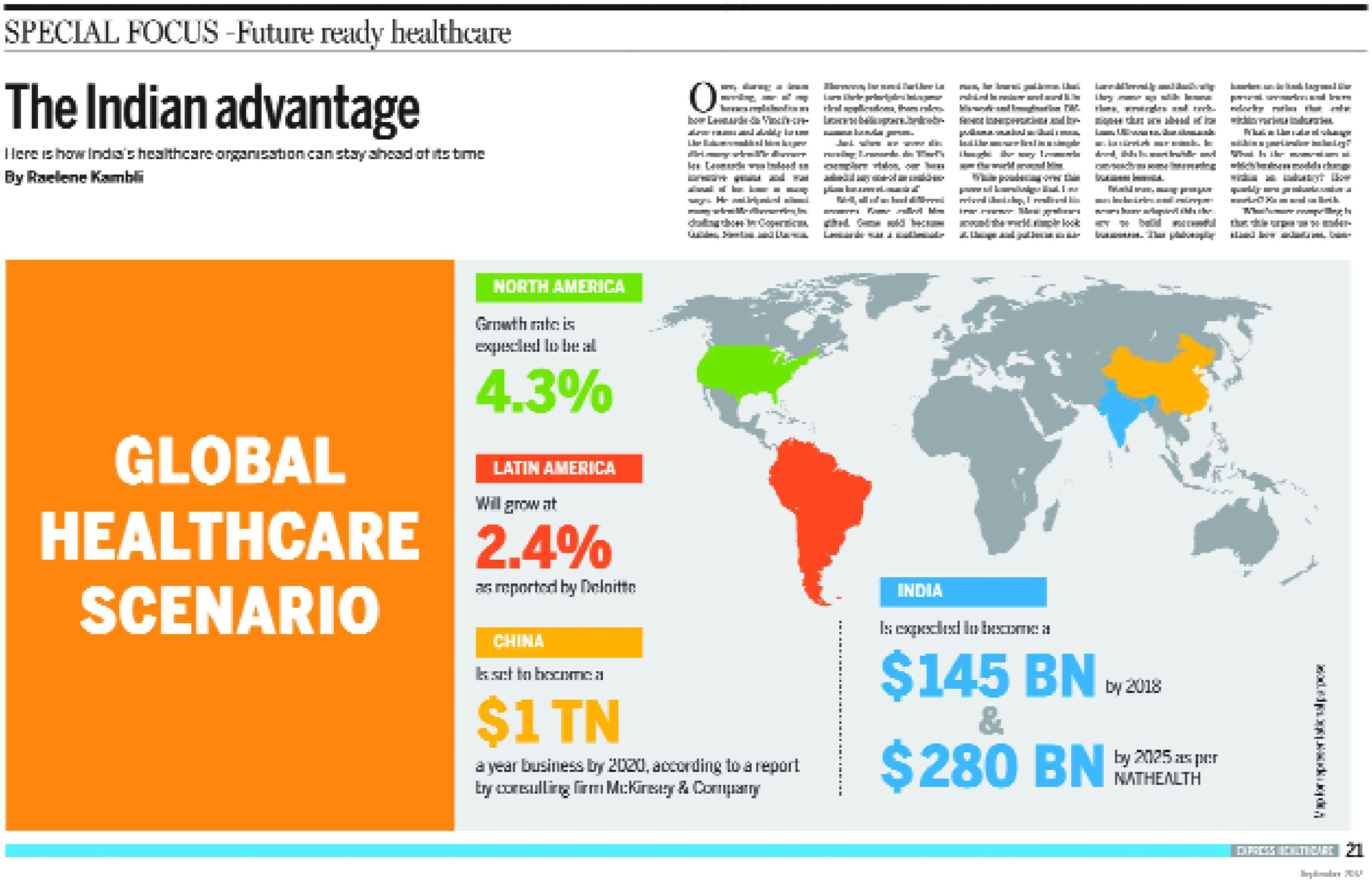
BY PRATHIBA RAJU

Incredible things in the business world are never made by a single person, but by a team

- Steve Jobs, Apple Co-founder

GROWTH STRATEGIES

SEPTEMBER2017



SPECIAL FOCUS -Future ready healthcare

The Indian advantage

Here is how India's healthcare organisation can stay ahead of its time

By Raelene Kambli

> Companies that grow for the sake of growth or that expand into areas outside their core business strategy often stumble. On the other hand, companies that build scale for the benefit of their customers and shareholders more often succeed over time
>
> *- Jamie Dimon, President, and CEO, JP Morgan Chase*

ISSUES

JANUARY 2017

TACKLING DOCTOR CRUNCH IN PUBLIC HEALTH

Despite several efforts, India still struggles with a severe shortage of doctors, especially in the rural areas. An analysis of the current situation and ways to solve the issue

BY RAELENE KAMBLI

More than **400** medical schools produce almost **50,000** MBBS doctors every year, yet there is only **ONE** government doctor for every **11,528** people in rural areas as per the Associated Chambers of Commerce and Industry (Assocham) Healthcare Vision 2015

In Nov, Andrea Diman, a 28-year-old woman from Dubai in Mumbai was pregnant with her second child and required a domestic help to look after the household chores. She approached a well-known agency located in her vicinity and hired Mukul (a fictitious name) a 19-year-old girl from a tribal village in Palghar district of Jharkhand, who had just come to Mumbai in search of a job.

In a matter of few days, Mukul adjusted to city life and Andrea's family. She managed the household job efficiently however, often complained of an acute stomach ache and frequent bellyaches. Initially Andrea thought help from her family doctor. But when Mukul's condition worsened, she got her admitted at Holy Family Hospital, Mumbai, where a slew of medical examinations brought to light that Mukul was suffering from stage 1 stomach cancer. Thereafter, Mukul underwent a surgery and currently leads a normal life. She still continues to work with Andrea and lives with her family back home.

When Mukul was cited her story to illustrate healthcare, she points out that her village has a primary health centre where she often visited with her mother, but most of the time the centre remained overburdened due to lack of doctors and other medical staff. It takes almost one to two hours to get to the district hospital in Palghar and therefore, the situation remains the same. She believed that doctors don't stay in the village for more than one month and often do leave calls. Here are no doctors or nurses at all. In fact, one reason why the parents decided to send him to Mumbai was that the could work and save money to treat her stomach ache.

Mukul's story is certainly not one of its kind but it certainly is a stark reality of the health care services available in the interiors of India. An array of our healthcare systems is made where the country with more than 400 medical schools that produce about 50,000 MBBS doctors every year yet there is only one government doctor for every 11,528 people in rural areas as per the National Health Profile 2015 report by India Spend on November 2015.

Mumbai-based data-driven science communications startup Accurate Advisory Services, which is working in public health, research healthcare sector, have held extensive studies in the last couple of years and have found that 70 per cent of the rural health care needs are addressed by the unqualified practitioners and 58 per cent of people in the country resort to self-medication in the event of illness. Further, the government has not provided enough incentives to make rural postings more attractive for doctors."

Dr Raj Lal, Director of International Institute for Population Sciences, Mumbai, Professor of International Mental Health, London School of Hygiene & Tropical Medicine, UK, "Working in public health sector is often demoralising experience for doctors because their professional aspirations are slightly laid at professional development opportunities, accountability and access to continuous medical education are necessary to perform an effective role."

Although some steps have been taken by the government such as compulsory rural postings, linking rural postings to postgraduate admissions and incentives/disincentives, there is a need for more structural changes and innovative solutions," he adds.

Dr Dileep Mavalankar, Director Indian Institute of Public Health, Gandhinagar, echoes the sentiment, health system in India is stunted by human resource. He said the systems that lack of political will and the support from the state.

"India is probably the health indicators not because we have shortage of doctors or hospitals, but because we do not have the needed political will, which translates in not having a well-developed national and state level public health services and public health cadre. Can we imagine Indian government without Indian Administrative Service, or Indian Army without Indian Military Academy? Even if we solved the military skills? But as a result, we do not believe in have a public health services, except, in Tamil Nadu and partially in Maharashtra and Mysuru. India produces one of the largest number of doctors in the world every year – about 60,000 MBBS, graduates, most are up-to-date practice as per government has not invested adequately in the public health services and not created enough posts of doctors as a result in the urban areas. The ratio even as we state FLN Medical Officers for 30,000 population. In most de-

Raising awareness versus raising alarm; the public can't be better informed if the information isn't better

- TK Naliaka

ISSUES

MAY 2017

cover

Think beyond a strike

Flaws in our medical system and uncertainty surrounding the security of medical professionals call for concrete measures to bring back trust among doctors and patients

BY RAELENE KAMBLI

DOCTORS' DEMAND WERE AS FOLLOWS:

SEPTEMBER 2017

POLICY WATCH

Could the Gorakhpur tragedy been averted?

CAG report had revealed irregularities in Baba Raghav Das (BRD) Medical College, Uttar Pradesh.
By Prathiba Raju

Express Healthcare has always been bold to speak its mind. Be it through our editorials or our analysis, each month we have put forward our views hoping to draw attention to all major issues faced by the healthcare sector in India. In January, we highlighted the biggest issue faced by the healthcare sector, both in the public health and the private sector domain- shortage of doctors. In our articles we analysed the current situation and asked experts to provide insights on ways to resolve the issue.

Ironically, in a country that is battling with the shortage of doctors, nurses and other healthcare professionals we continue to often experience events such as doctors and healthcare providers being assualted and resident doctors going on strike. Another article, 'Thinking beyond a strike,' highlighted those flaws in our medical system and the uncertainty surrounding the security of medical professionals call for concrete measures to bring back trust among doctors and patients. We also raised an alarm on the irregularities in Baba Raghav Das (BRD) Medical College, Uttar Pradesh based on a report published by the Comptroller and Auditor General (CAG). The article on 'Could the Gorakhpur tragedy been averted? ' decoded the CAG report and brought to light that four hospitals including BRD parked their funds in Lucknow's Kasturba Gandhi Medical Unit (KGMU) in violation of rules, resulting in delay in realisation of funds. The article also analysed other aspects such as the encephalitis angle and more to find out the root cause of the issue. Our editorials have taken a bold stand on the publicity hype on the Eqyptian medical tourism case of Eman Ahmed which led to an industry debate on how important it is for India's healthcare sector to build the right perception for the country. It also, pointed out the role of the media to be the disseminator of right and crucial information. Going forward, we also picked up one of the scariest threats that Indian healthcare could face — breach or hacking of health information. The article on 'Are you afraid of the dark?' pointed out that there is an urgent need to invest intensively in cyber security.

ISSUES

JUNE 2017

EDITOR'S NOTE

Hope vs hype

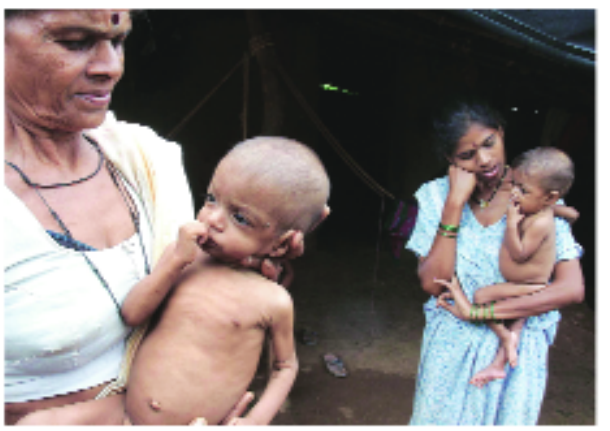
Hindsight is always 20/20 but these questions need to be asked, and answered, so that we do not fall the next Imran who comes to India seeking compassionate care

NOVEMBER 2017

STRATEGY

Tackling malnutrition in India

India is among those countries in the world with the highest recorded numbers of undernourished and malnourished people. As the country aspires to fulfil its economic and social development goals, how will we solve this humongous problem? By **Rashmi Kumbli**



It is impossible to progress without change, and those who do not change their minds can not change anything

- Sir George Bernard Shaw, Irish author, and playwright

ISSUES

DECEMBER 2017

IT@HEALTHCARE

Are you afraid of the dark web?

Digital technologies such as cloud-computing, block-chain and big data are changing the way government and industry use medical information in India. This calls for an urgent need to invest intensively in cyber security. Without data security and privacy laws, medical records in India are highly vulnerable

BY RAELENE KAMBLI

Way back in 2004, when Apple Inc's cofounder Steve Jobs announced about his unusually protracted journey for a company closure in abroad, this information hit every dividing city might have an adverse effect on its stocks and bound to... ago. Until the year 2003, specu... Indians about his ill health kept flooding; however, Jobs came out innovations subdued all rumour.

Then, Fortune magazine published a story on his illness in 2009 and how Jobs underwent a liver transplant as an effort to retain as much of his organ function as possible after his cancer had spread beyond the pancreas. Meanwhile the news broke out of his illness, Apple's stock fell by more than 10 per cent, even though a report published by the Wall Street Jobs Journal. Apple continued to keep mum about Jobs's health account. In no time, stock analysts was a safe bet for the company. Of course, after Jobs death Apple's stocks did plunge to a certain extent. Nevertheless, Jobs by then had already trained Tim Cook to take his place and strike company managed to hold on its strengths.

But, imagine what if Jobs' health information were leaked way back in 2004 when he was first diagnosed with cancer? How would the world react to this news? How would the company's stock perform then? Would people still have faith in the innovations Jobs introduced after his illness? Could the company afford to take that risk?

Well, experts believe that securing the information for some years was a good business decision. Moreover, knowing the investors that Jobs had never considered people first, it can be seen clear in media circle of privacy.

So, is there a trustworthy in-house/outside?

Primarily, there is an important lesson to learn about security of information from this example. Recovery and security of information enabled Apple to retain its position as a market leader in innovation. Although the company did witness a slight plunge in its stock when the news was broken out in 2009, Apple and Jobs still continued to influence the world in many ways. They also prevented the world from a sudden setback and held back investors' trust. Similarly, ownership of health information is paramount not only for large healthcare organisations or hospitals, rather people but for every individual, industry and economies at large. Looking it in perspective to the healthcare sector, security of health information is an extremely important subject to every healthcare provider. It is not just an IT responsibility but a business priority.

Alone we can do so little; together we can do so much

– Helen Keller

EXPERT OPINIONS & INSIGHT

FEBRUARY 2017

AUGUST 2017

cover

INSIGHT

Keeping the promise of patent bargain and affordable access to medicines in India

Yogesh Pai, Assistant Professor of Law and Co-Director, Centre for Innovation, IP and Competition, NLU Delhi, in an article which draws from his submissions to the UN High-Level Panel on Access to Medicines (2016), highlights India's current situation on access to patented medicines in the light of its compliance with IP laws, trade norms and public health

IT HAS been widely stated that India achieved self-sufficiency in pharma drugs by way of a combination of several policy instruments, including the withdrawal of product patents for pharma products (1972-2004, which facilitated strong local players in production with reverse engineering abilities). However, as of 2015, only 249 Indian generic firms were able to comply with the stringent GMP/FDA regulatory standards...

...medicines. It has led to a general assumption that patent-owning firms would be able to charge prices way beyond what is generally considered as 'reasonably affordable' for the Indian patient populations. A recent study, however, estimates, "a noticeable reversing a patent regime around an even age group accounts of just three to six per cent with larger revenues. In more recently developed molecules and the finance produced by just one firm where the patent system began." The study further notes, "the presence of tadalafil in the generic market ... [and] ... the pricing power of [these] ... patent owners has..."

...significant increase in prices may be understood with appropriate concerns and caution in the Indian context. This is not to deny that there could be a steady or significant price increase in specific cases in the future depending on the nature of the drug, nature of the technology, demand for the...

...alone in the Indian Patent Law that places significant constraints on the ability of patent-owning pharma firms to engage in drug pricing beyond what is considered as "reasonably affordable". These provisions have undoubtedly benefitted the Indian generics industry and the patient population at large. In fact, it is quite possible that the very threat of various regulations may have significant impact on the behaviour of pharma firms in exploiting their patents in any limited legitimate interest. India has remarkably emerged as a key country for experiments with models in balancing various issues by regarding the rubrics of "therapeutic efficacy" through Section 3(d) of the Patents Act, 1970. In...

...According to legal standards of patentability for a large class of incrementally modified inventions. The Indian Supreme Court has approved of such an approach in the famous case involving Novartis vs. Union of India (2013). However, it is a matter of fact that these provisions have recently been under considerations with other comparatively patentability tests, novelty, inventive step and industrial applicability. Although this provision is designed to contain 'evergreening', it has no doubt opened up costly entry of generic drugs in the Indian market. While Section 3(d) does become a cause of debate, how it plays out in subsidiaries is clearly manageable standard in terms of allowing helpful the

MARKET

INSIGHT

Health insurance sector: Less penetrated but more opportunities

Mayank Bathwal, CEO - Aditya Birla Health Insurance Co, elaborates on the importance of health insurance for Indian population and its future growth prospects

HEALTHCARE COSTS have remained a challenge in India for a very long time. A significant part of the population is ageing and the funds available for healthcare are lower than what is required. According to the Economic Survey (2016), the expenditure by the central and state governments on health as a percentage of GDP was 1.3 per cent. The World Health Organisation also suggest that India's per capita government expenditure on health in 2002 was 39$ while the US spend 5,711$.

While India has made significant gains in terms of health indicators - disease burden, infant mortality and epidemiological trends, it continues to struggle with severe challenges. The country is now in the midst of a dual disease burden of communicable and non-communicable diseases. This is coupled with spiralling health costs, high financial burden on the poor and reliance by them on out-of-pocket expenditure. The changing lifestyle patterns have made the Indian diseases more vulnerable to different ailments and the government's healthcare provide benefits to a large number of people.

Allied challenges to higher out-of-pocket health care expenses in the country. A large number of Indians still pay their medical bills by either borrowing money or by selling assets. There is very low penetration of the health insurance with only 28 per cent of the total population of India being covered under the various health insurance schemes. With the majority covered under either government or employer programmes and voluntary private health insurance has ensured these per core parameters of the country's population. Clearly, there is an urgent need to pay attention on increasing the penetration of health insurance policies in the country.

The health insurance sector in India is unable to keep up with the growth in GDP, which is one of the main reasons behind the sluggish. However, there are multiple opportunities that have led to the low penetration of health insurance policies in the country.

Low awareness: Lack of awareness is one of the key reasons behind the country being highly uninsured or under-insured. Surprisingly, most of the people are unaware of health insurance products and their benefits. Some people understand the significance of these products but...

...refer to the micropolicies to buy them. Their subplot is governed by their corporates but with the ceiling. India has only covered by their corporates but with the ceiling. India has only around 6 million-odd and there is a need to have adequate health insurance coverage. The insurance companies need to widen their reach for increasing awareness.

Inadequate coverage: Presently most Indian insurers are reluctant to cover people with chronic conditions because of the risks associated with them. Even if they are covered it is only for hospitalisation with a substantial waiting period and sub-limits. Since a big part of the medical expenditure goes uncovered, people end up paying out-of-pocket which isn't an ideal situation for them.

Perception of affordability: The rising cost of medical expenses has also led to the problem of affordability of the insurance policies for the common man, especially in the tier II/III cities. Moreover health insurance companies falter when they wedding insurance mainly as a tax saving instrument instead of risk covering instrument. This has also led to the formation of misconceptions as they people's perceptions about insurance products.

Potential for growth in this sector

There is immense potential for growth in the Indian market, highly under-penetrated and is vastly underexpanded in benefits of health insurance. Last decade and a half has seen very rapid expansion of health insurance coverage in India. There are increasing...

...probability. In recent times, the health insurance industry has evolved and there are insurers who, in addition to the...

...claim hassle. Incentivise their consumers for staying active and fit. There are cash equivalent rewards which can be used for health related expenses like buying medicines and pay for diagnostic tests, day care treatment, outpatient expenses (OPD), alternative treatments (which are traditionally excluded in most mediclaim policy) can use it towards the payment of their premiums.

Besides changing lifestyles that cause ailments like diabetes, hypertension, hypothyroidism and asthma.

Health insurance penetration is...

...spread awareness about the benefits of health insurance coverage enabling people meet the unmanaged expenses arising out of unexpected ailments.

The higher cost of medical expenses can also act as a trigger for growth in this space. This can be done through knowledge dissemination and promotion of risks and rewards of getting covered under policies. The companies can make sure that the patient gets to reap benefits of the National Health Policy (NHP) 2017 that has spoken about achieving Universal Health Coverage (UHC) by making sure that non-insured health insurance schemes. This policy recognises that universal coverage is a public health concern, which would be filled by 'ensuring purchasing.'

However, insurers should also come up with innovative marketing campaigns, workshops, seminars that enable the same. The respondents also conduct training and skill development programmes for increasing the effectiveness of the communications made by agents who sell in gullies. They can go in the rural and remote areas for the rural, dwell in IEC etc.

Thus, it is clear that there is a huge scope for the sector to innovate and introduce new products to engage and acquire new consumers. For years, India's insurable population is projected to reach 700 million; the life expectancy is expected to reach 73 years, and a large part of the working market is still untapped. There are various sets of opportunities available and all one needs to do is just make wise decisions.

Express Healthcare has consistently been the voice of many prominent experts who enjoy sharing their opinions with the industry. Over the years, Express Healthcare has emerged as the platform where all the stakeholders of the healthcare industry assert and affirm their stance about the various happenings in the sector. We have been relentless in our attempts to keep our readers abreast about a rapidly evolving sector. Thankfully, the dynamism of the industry and the fact that it is undergoing a transition has ensured the emergence of new-age leaders with *avantgarde* views.

Express Healthcare also interacted with multiple stakeholders associated to healthcare as they envisage the growth of the sector, be it globally or within India.

We present a few cases which proves our stance. In the first article, Yogesh Pai, Assistant Professor of Law and Co-Director, Centre for Innovation, IP and Competition, NLU Delhi elaborates on India's current situation on access to patented medicines in the light of its compliance with IP laws, trade norms and public health. He also highlights the need to create an ecosystem which will foster innovation as that would be pivotal to ensure continuous progress in the lifesciences sector.

In another instance, Mayank Bathwal, CEO, Aditya Birla Health Insurance draws attention to low penetration of insurance in the country and points out that extending the reach of medical insurance to its populace is essential for any country which is striving to enable Universal Health Coverage for its citizens. He also highlights multiple factors that have led to low penetration of health insurance in the nation, which in turn have led to steep costs of healthcare and out-of-pocket expenses.

These thoughtleaders through their invaluable insights have been instrumental in bringing about gradual reforms in the Indian healthcare sector. Express Healthcare has been the bridge between the leaders and readers, ensuring that the learnings gained get implemented for accelerated progress.

FUTURE TRENDS

MAY 2017

RADIOLOGY SPECIAL

Dawn of an AI era?

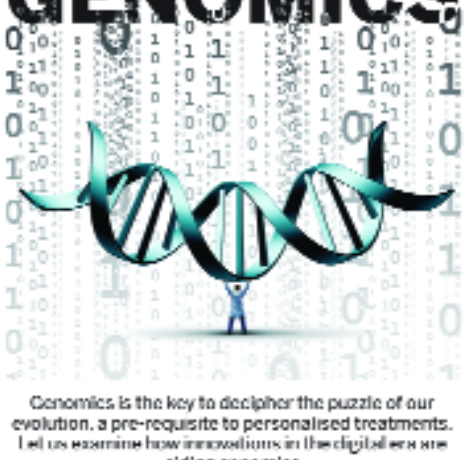
Healthcare sector is welcoming machine learning as it ushers accuracy and better predictive decisions. **Mansha Gagneja** catches up with **Dr Vidur Mahajan**, Associate Director, Mahajan Imaging to learn about AI's impact on the radiology sector and understand its adoption at his centre

VIDHUR MAHAJAN
Associate Director
Mahajan Imaging

JUNE 2017

cover

DECODING GENOMICS



Genomics is the key to decipher the puzzle of our evolution, a pre-requisite to personalised treatments. Let us examine how innovations in the digital era are aiding genomics

BY MANSHA GAGNEJA

In 2017, we witnessed the healthcare industry in India undergo a gradual shift from a curative to a value driven sector. All delivery models surrounded on providing value to patients rather than just providing cure for ailments. In the process of providing value, many unexplored areas of medical science took centre stage. Regenerative medicine, genomics, and many other areas of medical sciences were explored in order to improve clinical outcomes. Moreover, with convergence of digital technologies in healthcare, research in these areas gained more prominence.

Express Healthcare tracked these trends and sought to provide a deep understanding of its impact on the future. The above mentioned articles are examples of how digital technologies have enabled and augmented growth in some medical disciplines such as genomics and radiology.

The article on AI in radiology analysed its functions, benefits and disadvantages in diagnostic imaging. It also looked at how AI in imaging diagnostics can help bring down diagnostic costs.

The article on Decoding Genomics talked about various technologies that are currently being utilised in genome sequencing and examined how innovations in the digital era are aiding genomics. It said that Digital Genome, Artificial Intelligence and Genetic Engineering Techniques will be game-changers in the future. It also brought to light opportunities awaiting for Next Generation Sequencing (NGS), Big Data Analytics, Internet of Things and Cloud Computing to support the building of a grand database which could be significant in reducing the disease burden in the future.

In this way, Express Healthcare gave an insight into the new direction that healthcare delivery will take and highlighted the areas of growth.

NEW ENTRIES

APRIL 2017

START UP CORNER

CASE STUDY

Goqii: Treading its way to the top

VISHAL GONDAL
CEO and Founder,
GOQii

GOQii has emerged a leader in the fitness wearables segment by identifying white spaces in the industry and leveraging them effectively. **Mansha Gagneja** catches up with **Vishal Gondal,** CEO and Founder, GOQii to find out more about his plans to sustain the growth momentum of his start up and retain an edge over his counterparts in a very competitive arena

How does GoQii stand out?

MARKET

INTERVIEW

Our vision with MEITRA Hospital is to create a globally recognised healthcare delivery system

Dubai-based social enterprise KEF Holdings has recently forayed into the Indian healthcare space. It has launched its first hospital — MEITRA Hospital in Kerala and working towards establishing its next hospital project in Coimbatore. **Faizal E Kottikollon**, Founder and Chairman, KEF Holdings, explains the company's plans for India in an interview with **Raelene Kambli**

Tell us about KEF Holdings and its offerings across India, the Middle East and Singapore.

What are the key barriers that you experienced?

What is your take on the current Ayushman Bharat healthcare scheme?

Where do you see the sector in the next 5 years?

What is your approach to attract talent?

What is your take on the healthcare ecosystem in India?

Express Healthcare has always kept a track of the people and projects which are enabling progress. Throughout 18 years of our existence, we have covered the leaders and gamechangers in the sector. We have tracked the disruptors and the innovators. In 2017 as well, India's healthcare sector saw the rise of several new ventures helmed by smart and dynamic entrepreneurs who could be the newsmakers and leaders of tomorrow. Express Healthcare has made it a point to give them a platform to showcase their project and chronicle their progress.

The two articles above are examples of the same. The first one is a case study which tracks the potential of a fitness management start-up called Goqii and the vision of its founder, Vishal Gondal. The other one is about the foray of KEF Holdings, a major player in the Middle East into Indian healthcare. As they set-up their first hospital in Coimbatore, Express Healthcare spoke to their Founder and Chairman, Faizal E Kottikollan to understand their plans for the Indian market.

Both the articles also gave insights on the various growth strategies adopted by different players in the industry. While one sought to prevent and delay the onset of diseases through healthy living, the other one sought to enable world-class, tertiary care to patients.

Several such players and their ventures have been part of Express Healthcare's coverage in 2017. They showcased how Indian healthcare sector is brimming with growth potential and demonstrated how they have chosen to gain an edge in an increasingly competitive environment.

Thus, Express Healthcare, through its articles and interviews, has trained the spotlight on interesting and promising ventures as well as identified the trendsetters and the visionaries who could steer the sector towards growth and glory.

INTERVIEW

We must prioritise vision as part of the overall healthcare agenda

Jayanth Bhuvaraghan, Chief Mission Officer, Essilor International (EI), in an interaction with *Express Healthcare*, informs that awareness on uncorrected poor vision is the need of the hour and further elucidates that there should be an increased awareness by central and state governments amongst drivers on vision correction, regular eye checks for safe driving

Can you tell us what would be the complexities of uncorrected refractive error (URE)? Share a few global and national level statistics?
Uncorrected poor vision is the world's largest disability. An estimated 2.5 billion people globally, one in three people, suffer from uncorrected refractive errors, including myopia, hyperopia, presbyopia and astigmatism. For India, approximately 550 million people have refractive errors that remain uncorrected. Globally, the estimated cost in lost productivity for the economy due to uncorrected refractive error is $272 billion per year. In India, $37 billion is wasted in lost productivity. By 2050, an estimated five billion people, or half the world's population, will suffer from myopia. However, 80 per cent of uncorrected refractive error can be corrected or cured.

Why is uncorrected refractive error a big issue in India?
Globally, 23 per cent of drivers have uncorrected vision. In India, a whooping 42 per cent of drivers have uncorrected refractive errors. At a time when road accidents increased by 17.6 per cent between 2008-2012 and when there are 400 deaths per day due to road traffic accidents in India, it's time to take a hard look at the correlation between safer roads and checking your vision. We consider the primary barriers to good vision for everyone to be either lack of awareness about good vision or lack access to vision care.

Access to eye care differs across geographies. In India only seven optometrists are available per one million people. To put this into perspective, Spain has 365 optometrists, the US has 129 optometrists, and Australia has 216 optometrists per one million people. If there has to be a fundamental shift in access to care, we must be open to innovative solutions across the continuum of care and prioritise vision as part of the overall healthcare agenda.

Can you elaborate on the three-year partnership between Fédération Internationale de l'Automobile, governing body of motorsports events and EI. What is your key agenda in India?
Through this three-year partnership, EI and the FIA are combining two objectives into one common ambition for the greater good: ensuring safe mobility across the world by improving people's sight. The purpose of this partnership is to fight the lack of awareness on this global health issue and highlight the importance of regular eye checks for safe driving. Through the call to action, 'Check your vision' we aim to encourage people to visit an eye care practitioner for regular eye checks. We are delighted to have the support of the optical industry's governing body, World Council of Optometry for this partnership and important cause.

> In India, a whooping 42 per cent of drivers have uncorrected refractive errors

Earlier this year, FIA announced a new golden rule, 'Check your vision', which also represents a major step in raising awareness on poor vision as a major public health issue. It will add on to the FIA's existing golden rules for road safety on other key risk factors such as speed, alcohol, seatbelt (e.g. 'Obey the speed limit,' 'Never drink and drive,' 'Buckle up,' etc.).

What are your findings from the study conducted by Central Road Research Institute (CRRI) on visual limitations of commercial drivers in metropolitan cities in India? How do vision-related issues lead to road accidents?
The VII-CRRI preliminary study was conducted in Delhi on 627 commercial drivers and following were the findings:

- One in every three drivers had either marginal or poor far visual acuity
- Half the drivers surveyed had either marginal or poor near visual acuity
- 19 per cent were severely colour blind and 34 per cent were glare blind (discomfort in the eye due to bright light entering the field of vision, particularly when the eye is adapted to darkness, for e.g. night driving)
- 29 per cent drivers fall under unacceptable range in the depth perception test

The study highlights that there is a correlation between limited vision and accidents. 6 per cent with marginal or unacceptable near vision and 8 per cent who were detected with marginal or unacceptable far vision were involved in accidents.

Do you have any programme which focuses on drivers? Are you partnering or engaging with central government or state governments?
The VII is working closely with the central government in India to encourage education of commercial drivers about vision correction and its benefits and also to suggest policy changes as it relates to the license renewal for commercial drivers.

What kind of policies should be in place at the central level to help the state governments engage better?
We recommend the following tests that all drivers must go through while applying for a fresh license or renewal of license and to be included in the Form 1(A) of the license application:

- Binocular testing: All tests must be done with both eyes open to replicate everyday vision
- Far-point visual acuity: Test for distance vision
- Near-point visual acuity: Test for near vision
- Stereopsis: Test for depth perception
- Colour blindness: To test for deficiencies in colour perception
- Contrast sensitivity: To test low light / night vision

Efforts should be made by both the central and state government to increase awareness amongst drivers on importance of having periodic eye check-ups and on importance of wearing a prescribed spectacle while driving.

MODI SARKAR KE TEEN SAAL KYA HAIN DESH KE SEHAT KA HAAL?

Health has been one of the priority areas in the current government's manifesto. Prime Minister Narendra Modi's government, which came to power in May 2014, had pledged universal healthcare for all Indians and promised the much needed reforms in healthcare by way of improving public healthcare infrastructure, increasing doctor-patient ratio, ensuring better governance of health programmes, uprooting corruption, streamlining processes, framing new policies that would set high standards ensuring quality healthcare and, above all, revolutionising healthcare delivery with the help of digital technology.

It has been three years since the Modi administration officially commenced its functions. Till date, the administration has taken some significant steps towards achieving its goals yet a lot more needs to be done.

What will the 'Modi Sarkar' do next to bridge the gaps in healthcare? Has the government really brought about the change that they promised to bring? How has the government fared in terms of bringing in accessibility and affordable of healthcare for all?

Will Modi's ambitious goals see light or remain pipe dreams?

In this issue, stakeholders of the healthcare industry in India share their sentiments and opinions about these questions and review the reforms initiated by Modi Sarkar

There has been a paradigm shift in the approach, from sickness care to health and wellness care

After a gap of 15 years, the new National Health Policy 2017 has been enacted. It envisages the increase in public health expenditure to 2.5 per cent of the GDP by 2025. There has been a paradigm shift in the approach, from sickness care to health and wellness care, with focus on prevention and health promotion.

India was declared polio-free by WHO in March 2014 and we continue to maintain the status till date with the introduction of inactivated polio vaccine. India successfully validated maternal and neonatal tetanus elimination since May 2015, and it has become free from Yaws since 2016. India has successfully achieved the goal of elimination of Active Trachoma as specified by WHO under GET2020 programme, in December 2017. The government expresses commitment to make India free from kala azar, filariasis, leprosy and measles by 2020.

To reduce mortality and morbidity in children due to vaccine preventable diseases, Mission Indradhanush was launched with an aim to increase immunisation coverage to 90 per cent by 2020 through focus on hard to reach, high risk areas and pockets of low immunisation coverage. But, encouraged by the four phases of the mission, the target to achieve 90 per cent coverage was preponed to 2018 with the new form of the programme called Intensified Mission Indradhanush, was launched by the Prime Minister from Vadnagar in Gujarat on October 8, 2017. Over 1,70,000 lives are lost on account of rotavirus, diarrhoea and pneumococcal pneumonia, hence the government has introduced pneumococcal conjugate vaccine and rotavirus vaccine.

Overall under-five mortality has come down from 45 per 1000 live births in 2014 to 43 in 2017 with a dip in neonatal mortality rate from 26 to 25. This means 14.85 lakh under-five child deaths have been averted.

Pradhan Mantri Surakshit Matritva Abhiyan was launched in November 2016 to provide assured maternal and child health services on the ninth of every month through involvement of private sector. More than 90 lakh antenatal check-ups have been conducted and over five lakh high risk pregnancies identified.

ANUPRIYA PATEL
MINISTER OF STATE, MOH&FW

WHO Global TB Report 2017 shows a decreasing trend towards incidence and mortality estimates of tuberculosis in India. The government has decided to eliminate tuberculosis in India by 2025 which is five years ahead of the target set under the SDGs of UN.

The government will roll out free universal population screening and management of common NCDs amongst all aged 30 years and above to cover all districts by year 2022. As of now, the programme is in effect in 100 select districts of the country.

Pradhan Mantri National Dialysis Programme in a PPP mode under NHM provides support to states for free dialysis services to poor currently functional in 384 government facilities.

National Free Drugs & Diagnostics initiative has been started by the government with an aim to move towards health for all. Essential drugs are being provided free of cost in public health facilities in consonance with the National Health Policy, 100 SHCs are being upgraded to wellness centres and gradually all the SHCs shall be converted to wellness centres to make prevention a primary goal of health and family welfare.

The AMRIT initiative was started with outlets that provide drugs and implants for cancer patients and cardiovascular diseases at 60 to 90 per cent discount than the prevailing market rates. More than 42.41 lakh patients have been served by 105 stores which-

> WHO Global TB Report 2017 shows decrease in the incidence and mortality estimates of TB in India. The government intends to eliminate TB in India by 2025, which is five years ahead of the target set under the SDGs of the UN

has resulted in more than ₹222.06 crores savings to the patients.

As per GATS-2 Report, the absolute prevalence of tobacco use has decreased by six percentage points and it is a great step forward towards a healthier nation. India was conferred the WHO DG's Special Recognition Award of contribution to global tobacco control.

Through various interventions, it is proposed to achieve doctor-population ratio to 1:1272 by 2022. Nearly 13,000 MBBS seats and 7,000 PG new medical seats have been created. 56 new medical colleges were attached with existing district hospitals have been sanctioned. A uniform entrance examination NEET has been introduced for admission to all medical seats in the country. For the first time in any field of higher education common counselling for entrance to all medical seats has also been made mandatory. Medical PG Diploma courses run by college of physicians and surgeons, Mumbai have been granted all India recognition. For-profit companies registered under Companies Act have been allowed to set up medical colleges. Nurse practitioner courses have been launched to promote specialisation amongst nurses. The model curriculum for graduate courses in physiotherapy has been amended to include a full course on yoga. Out of 20 new AIIMS to be set up, 13 new AIIMS have been announced during last three years and cabinet approval for setting up of seven new AIIMS has already been accorded and work has started in five new AIIMS.

To promote Make in India, the government has streamlined the approval process for drug manufacturing licencing and clinical trials, etc. under SUGAM initiative that provides a single online window for multiple stakeholders like pharma industry, regulators, citizens etc.

1.5 lakh health sub-centres across the country will be transformed into health and wellness centres (HWCs) to provide comprehensive primary care services close to the community. The HWCs are envisaged to be managed by a team led by a mid-level care provider BSc (Community Health)/B.Sc Nursing or Ayurveda practitioner trained through an appropriate bridge course in public health and primary care.

Through enactment of Clinical Establishment Amendment Act 2016, the government has ensured proper check on the clinical establishments and bills charged by them so that they cannot exploit the common people approaching them for treatment of various diseases apart from compelling them to use expensive branded medicines. Taking cognisance of the grave medical negligence by Max Hospital, Union Health Minister has urged the states to adopt the Clinical Establishments Act so that regulatory authorities are operative and can oversee working and functioning of private institutions.

In order to provide for mental healthcare and services for persons with mental illness and to protect, promote and fulfill the rights of such persons during delivery of mental healthcare and services, the Mental Healthcare Act, 2017 has been enacted by the government.

The HIV/AIDS Prevention and Control Act, 2017 has been enacted to legally protect HIV-infected and affected persons from any social, medical, educational, employment and financial discrimination.

Hospital reforms and stringent regulations to rein in the private sector are urgently required

The Modi Government started off well by appointing Dr Harshvardhan as the Cabinet Minister of Health, who prioritised four issues: reforming medical education; launching a national health assurance programme; focussing on infectious disease control programmes; and focussing on prevention – reducing tobacco addiction, integrating yoga and ayurveda with modern medicine. His sudden shift to another ministry, however, signalled the falling importance of health. Budgets fell or stayed constant, even while accommodating new cost intensive initiatives such as outsourcing dialysis units in district hospitals; NACO merged as a routine activity of the ministry; and immunisation expanded exponentially under a programme called Indradhanush.

This last year has, however, been eventful with four critical policy initiatives that, if well designed and implemented, can be game-changers. The first was the release of the ambitious Third National Health Policy (NHP) that stands out for two important commitments:

1. Focussing on primary care by envisioning the strengthening of the sub centres located at 5000 population as wellness centres; and

2. Acknowledging the need to strategically purchase services from the private sector for expanding access. However, achieving the goals and the vision laid out in the NHP require an immediate trebling of public investment from the current level of 1.10 per cent of GDP. Inadequate resources can make the NHP a non-starter and India can stand to lose one more opportunity to make the much needed paradigm leap.

K SUJATHA RAO
FORMER SECY HEALTH, GOI

Impelled by the need to reduce cost of care, the second critical development is the capping of prices of essential drugs, consumables and devices like stents and mandating physicians to prescribe only generic drugs. This is a commendable and bold initiative. Its effective implementation will, however, require to be accompanied by strong regulations and an institutional capacity to enforce them.

The third and fourth are related to two noteworthy landmark legislations, pertaining to the Medical Council of India and Mental Health. Apropos to the scathing Report of the Parliamentary Standing Committee in 2014, the government has submitted the draft bill for Parliamentary approval, setting aside the elected MCI of 1932 with a government nominated National Medical Commission. Laws are but what one makes of them. If the right people are appointed, this body can contribute in bringing in a much greater sense of accountability in the sector and a rapid scale up of the country's potential. Fingers are crossed, since the inappropriate appointments made to the prestigious National Board of Examinations has caused deep concern. MCI reform can help the sector come out of the morass of corruption and nepotism that it has got trapped into. Therefore, the challenge before the government is to stand firm on merit alone being the sole criteria for consideration and not barter away the future of the health sector to political expediency. The second landmark legislation is related to making access to mental health services a right and in safeguarding the privacy and the dignity of those in need of help.

> The challenge before the government is to stand firm on merit alone being the sole criteria for consideration and not barter away health sector's future to political expediency

Alongside the above agenda, the government needs to be aggressively proactive on two critical issues – reducing the surging TB resistance and assuaging the growing anger among the people at the high cost of private care and the low quality of services in public hospitals. Hospital reforms and stringent regulations to rein in the private sector are urgently required.

Reconciling the conflicting stakeholder interests is problematic and requires full support of the political leadership. It is hoped that the government will work towards a well calibrated reform process that will encompass increased resources aimed towards universalising access to basic healthcare and health determinants like nutrition, tap water and sanitation, while at the same time, bring in institutional reform to improve efficiencies through better management and governance. Attention to these two aspects can improve health and well being by over 90 per cent - not by commercialising healthcare. 2018 can be a year to look forward to.

Making world-class healthcare available and affordable

Intent and seriousness of any government towards healthcare can be gauged by the spend that it dedicates for it. The current government has increased the overall health budget from ₹39879 crores to ₹48878 crores in the Union Budget 2017-18.

A lot has been done, and is being done, in terms of harmonising policies and rules for medical devices industry to encourage local manufacturing which will in turn lower their costs for patients. The Drugs & Cosmetics Act has been modified to promote generics and reduce the cost of medicines. New AIIMS are being set up. Short-term and medium-term targets have been set up to reduce the maternal mortality and infant mortality rates drastically. Action plans have been prepared to eradicate diseases like leprosy by 2018, measles by 2020 and TB by 2025.

What's more, the Indian government has approved the National Health Policy 2017 which provides policy framework for achieving universal health coverage. It has plans to set up a single window clearance system to encourage innovation in medical research. Government has also

DR AJAY RAJAN GUPTA
GROUP MD & CEO, INDO UK INSTITUTE OF HEALTH

come up with Intensified Mission Indradhanush (IMI) to enhance immunisation coverage in the country and reach every child under two years and scores of pregnant women who have not been a part of the regular immunisation programme.

The government has also been empowering citizens to access healthcare services using mobile and Internet besides bringing more and more people under the health insurance net. Under the Digital India Mission, the government has initiated digitisation of government hospitals and launched a National Health Portal as well for easy accessibility of quality healthcare to the masses. Various mobile apps like NHP Indradhanush, NHP Swasth Bharat and Mera Aspatal have been launched by Ministry of Health and Family Welfare.

However, one of the biggest achievements of the current government has been to encourage PPP projects in the healthcare space. Indo UK Institute of Health (IUIH) is the largest PPP project that will come up with 11 integrated IUIH Medicities in 11 Indian states with an investment of ₹17600 crores, benefitting 400 million Indians. It was included as a commercial announcement in the Joint Statement during Prime Minister's visit to the UK in November 2015.

We are working towards building a capacity of 11000 beds, 5000 doctors, 25000 nurses and generate direct and indirect employment for over 300000 Indians. Around 20 per cent patients will be given free treatment at IUIH facilities. We will bring in all major specialities and treatments; provide outreach programmes to rural and semi-urban areas; develop digital health initiatives by providing remote consultations, advice and monitoring; connect with local doctors and nursing homes; and deliver medical education, training and research to increase the number of skilled medical professionals.

Within two years of IUIH programme being announced, MoUs have been signed with eight state governments, land areas have been identified in six states, land has been acquired in three states, foundation stones have been laid in two states and construction work has started in one of the states. A bilateral India and UK task force involving government representatives is helping drive the initiative forward.

Clearly, if we desire to do something for India, the time is now for we have a progressive PM at the helm. It is his dynamism and vision that drove me to think of a venture of this scale and magnitude.

Policies need to be supported by action

The last three years have been rather eventful for family planning, not only in India but also globally. The Supreme Court of India's verdict on the Devika Biswas case prioritised quality of care in a rights-based framework with dignity for women, and three new contraceptives (centchroman, injectables, and progestin-only pills) were introduced into the basket of choice. Around the same time, China rescinded the severe one-child norm that had been a part of their coercive population policy for 35 years. Meanwhile, developing nations across the world were gearing up to meet the commitments made under the aegis of FP2020 and the sustainable development goals.

India's population policy has also gained momentum in the past year. The Ministry of Health and Family Welfare (MoH&FW) lead the roll out of Mission Parivar Vikas in 146 high fertility districts. The packaging for condoms and oral contraceptive pills (OCP) have also been redesigned to increase demand for these commodities, and social franchising

POONAM MUTTREJA
EXECUTIVE DIRECTOR, POPULATION FOUNDATION OF INDIA

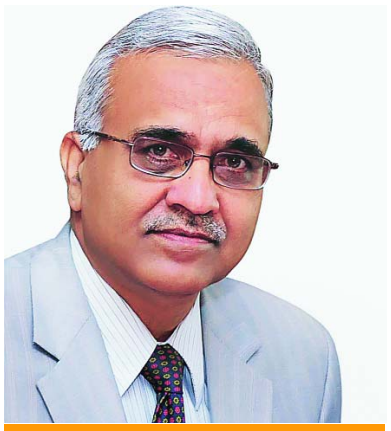
schemes were introduced in Uttar Pradesh and Bihar to boost the private sector's involvement in family planning. In a welcome move, the ministry, under Rashtriya Kishor Swasthya Karyakram (RKSK), launched the Saathiya Kit that addressed the needs of adolescents on sexual and reproductive health, among other issues concerning their age.

This year, India also made global headlines when the World Population Prospects 2015 said that the country's population would overtake that of China by 2024. And while the data shows that the total fertility rate (TFR) of the country has reduced from 2.7 to 2.2 in the last ten years, the distribution of fertility rates across the country is disproportionate. The more populous states of Bihar and Uttar Pradesh are burdened with 3.4 and 2.7 TFR respectively; and a huge unmet need for family planning – 21.2 per cent and 18.1 per cent respectively.

The fourth National Family Health Survey (NFHS), released this year, highlights that female sterilisation is still the most preferred method at 36 per cent, followed by condoms at a distant 5.6 per cent and male sterilisation at 0.3 per cent. Some states, like Assam, have also resorted to coercive measures like the two child policy, which is not only anti-women but also undemocratic. And for as long as social norms and traditions are stubbornly rooted in patriarchal norms that are discriminatory, women will continue to take the fall for family planning. .

In the coming years, we need to see greater commitment to rights of the couple, the status and dignity of women and the quality of care. Policies need to be supported by action with and through communities. Behaviour change communication (BCC) and entertainment education can challenge and change regressive norms. Population Foundation of India (PFI) has seen results with *Main Kuch Bhi Kar Sakti Hoon*, an entertainment-education programme that ran for two seasons on Doordarshan and All India Radio. With an effective communication strategy the burden of family planning can be shifted from women and will encourage male engagement. With BCC we can change behaviour and not only raise awareness about the benefits of family planning, but also make family planning a societal issue, an issue of social justice and human dignity.

Government is seen to be acting on making healthcare affordable



DR GIRDHAR GYANI
DIRECTOR GENERAL, ASSOCIATION OF HEALTHCARE PROVIDERS (INDIA)

The nation's progress has many indicators. Human Development Index (HDI) is one such indicator. India has poor track record as far as HDI score is concerned. Presently, India is ranked 131 out of 188 nations on HDI, in which healthcare and education are two main contributing factors. Every government in the past has spoken about implementing universal health coverage (UHC), to provide health cover to every citizen without undue financial burden. Sadly, we are nowhere near such a situation.

The NDA government in its manifesto had announced the National Health Assurance Mission. On August 15, 2016, the PM announced National Health Protection Scheme (NHPS). MoH&FW is working on it and we hope it gets rolled out soon, under which all BPL population will get cover of one-lakh per family. It will be a substantial hike over *Rashtriya Swasthya Bima Yojna* (RSBY), which has a cover limited to ₹30,000. This will be a major achievement of the Modi government.

The second achievement has been to bring out the National Health Policy, which has set in good initiatives including increase of GDP contribution progressively to 2.5 per cent. The government is seen to be acting on making healthcare affordable. Recent capping of stent and ortho implants price points in that direction. Similarly emphasis on providing cheaper medicines through chain of *Jan Aushadhi* stores has been hailed as a good step.

Reforms in health systems are closely linked with reforms in medical/nursing education of country. We had hardly 15000 PG seats against 50,000 of MBBS seats. This had resulted in huge shortage of specialists in the country. Official records show that there are more than 70 per cent vacancies in government CHCs, due to which India has a poor track record of IMR/MMR. The government has gradually increased PG seats in medical colleges and also through DNB programmes and now we have more than 20,000 PG seats. Recently, the government has taken a major step in recognising diploma programme run by College of Physicians and Surgeons, Mumbai in the entire country. This will enable large number of MBBS doctors to acquire an on-job diploma in various specialities in two years. This will have a huge impact in making good the shortage of specialist doctors. The government has moved the NMC bill in the Parliament to replace MCI. It will hopefully ensure an open and productive medical education system.

On the negative side, government has not been able to discourage violence against doctors. Knowing well that the private sector had invested about 3.7 per cent of GDP in healthcare as against 1.2 per cent by the government, it is the duty of the government to look after private sector doctors. Most government insurance schemes like CGHS, ECHS and ESI are operated through private hospitals; so is the case with state-run insurance schemes. A recent study shows that the government in Karnataka was reimbursing only 30-60 per cent of actual cost incurred by private hospitals on various schemes. This has pushed private hospitals to stage un-sustainability as against the perception that private hospitals were profiteering. The government must take private sector as a partner in letter and spirit and the two together can result in happy and healthy India.

On the healthcare front there has been little progress

AJIT DANGI
PRESIDENT & CEO, DANSSEN CONSULTING

If you objectively look at three years of Modi government, undoubtedly there has been a positive change in major policy making. Several reformative steps taken such as GST, IBC (Insolvency and Bankruptcy code), RERA, repealing of over 1200 laws which were relics of the License Raj, digitisation, Make in India, *Swacch Bharat* etc. will improve the governance in times to come.

On the healthcare front, however, there has been little progress. Government's spend on healthcare which hovers around 1.4 per cent of the GDP needs to be increased to at least four to five per cent of GDP. This low investment has resulted in lower access to essential medicines. The proposal to introduce UHC for all Indians, if implemented, will go a long way in improving this situation.

The new draft pharma policy has some good elements such as proposal to form a consultative body to monitor NPPA's activities which often hinge on 'guilty until proven innocent'. However, NPPA's recent action on hospitals and nursing homes charging disproportionate margins on medical devices and consumables has come as a welcome relief to patients and their families. But, the proposal to discontinue the universally accepted loan license/contract manufacturing system will not only affect the large Indian pharma majors but also MNCs who depend on contract manufacturing for many of the products for which a specialised manufacturing facility is required e.g. soft gelatine capsule, hormonal products etc. This system also creates several well paying jobs for the SME sector, as well as keeps manufacturing costs down due to lower overheads compared to large pharma companies and utilises the spare manufacturing capacity available. Despite a reasonably progressive IPR policy, enforcement is sketchy, for instance, an Indian company was allowed to market a copy product of an MNC's anti-diabetic molecule which had perfectly valid patent (and also priced at 1/5th US price) in India.

The regulatory system also needs to be strengthened. Lack of proper co ordination between State FDAs and DCG(I) has resulted in problems like ban on 344 Fixed Dose Combinations (FDCs). The controversy has cost the industry close to ₹3000 crores due to loss of sales.

The 'Generics Only ' proposal from the PMO's office while good in principle to make medicines affordable, is also going to affect companies who have built strong brands in spite of intense generic competition. With an oversight fromthe FDA, the quality and efficacy of many such generics will remain questionable. Digitisation of approvals, licences, permissions etc. by FDA has also helped to improve operational efficiency. It is noteworthy that many state FDAs like Gujarat have taken a lead in this area.

Rigid price control policies have reduced the industry's ability to invest in R&D, innovation, upgradation of manufacturing facilities to comply with latest trends in cGMP and automation to improve quality and productivity. We have already seen what has happened after 74 bulk drugs were placed under price control in 1995 DPCO. Most companies exited this category resulting in our over dependence on Chinese APIs for domestic formulation manufacture.

The 2013 DPCO hasn't fared any better, there has been shift towards making de-controlled products and fresh investment in pharma industry is sluggish. Recent GMP non-compliance and data integrity issues flagged by the US FDA as well as price cartelisation accusations have significantly impacted the market cap of export-oriented companies.

Overall, for the pharma industry, three years of Modi Sarkar is a mixed bag.

The government needs to look for ways to bring down the overall cost of providing healthcare without compromising on quality

Healthcare is central to economic, social, political and environmental prosperity of India and the country is moving towards providing accessible, available and equitable healthcare for all. Although health is a state subject, there has always been room for private providers who have matched the government's enthusiasm for bringing world class healthcare to India.

The well-crafted National Health Policy document released by the present government is a step in the right direction for moving the health agenda forward. The real challenge lies in scaling up the proposed measures and its effective implementation which requires close coordination between the Centre and the states to channelise their efforts together to deliver on this vision.

Building institutional capacity by establishing AIIMS like institutions across India is laudable, but without policy changes in medical education these large institutes will struggle for workforce and students alike. There is a pressing need to bring down the cost of medical education so that the intake of students at the undergraduate level increases. In addition, the government needs to look at equalising post-graduation seats with undergraduate seats. Each year, 150,000 man years are lost as young MBBS graduates spend time preparing for a handful of PG seats available.

DR ALEXANDER THOMAS
PRESIDENT, AHPI

These MBBS graduates are not able to contribute to the society and are desperately seeking PG seats as they are not allowed to do even simple procedures without a PG degree. Surgical procedures such as caesarean delivery, laparotomy and treatment of open fractures constitutes a large chunk of cases at any hospital. The government needs to focus on providing these surgical procedures at all CHC level hospitals as surgical conditions represent a significant proportion of the global burden of disease, and surgery is an essential component of health systems. There is a need for policy intervention to allow MBBS doctors to perform bellwether procedures.

> The National Health Policy document released by the present government is a step in the right direction for moving the health agenda forward. The real challenge lies in scaling up the proposed measures and its effective implementation

The glaring shortage of specialists at government hospitals is a result of the above stated problem. One way to solve this is by creating intermediate-specialists. The College of Physicians and Surgeons, Mumbai offers two-year diploma courses in a number of specialities like anaesthesia, paediatrics, obstetrics and gynaecology, orthopaedics, radiology etc,. This CPS diploma has now been recognised by the MCI and will help bridge the specialist gap in India. There is a need for more such institutes.

And lastly, the government needs to look for ways to bring down the overall cost of providing healthcare without compromising on quality. The government needs to approach the issue of costing in a very systematic and scientific manner. Recently, a unique study was conducted to look at the cost of medical procedures in Karnataka by IIM Bangalore, Association of Healthcare Providers India (AHPI), NABH and the Government of Karnataka along with other stakeholders. The study looks at the actual cost of 20 common procedures carried out in private, non-profit and government hospitals.

The clinical pathway for each of the procedures/surgeries was defined by the respective societies, which are independent clinical bodies. This is a first-of-its-kind study and a pilot to understand the actual cost-incurred while using a standard treatment protocol. Hopefully, more such studies will be carried out in future to bring in transparency in healthcare delivery. The capping of price of stents and orthopaedic implants is a welcome step in this regard. However, this has affected the booming medical value travel industry as some of the products have been withdrawn from the Indian market and patient who can afford the cost are now seeking treatments abroad.

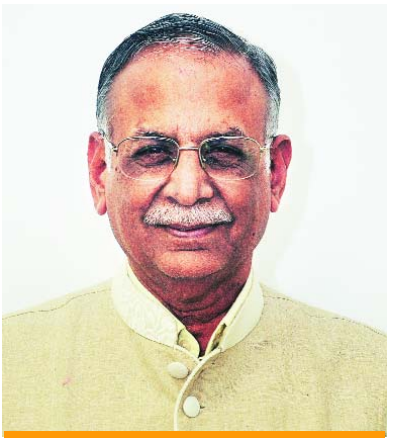
Some good initiatives but no major changes visible on the ground

Health was one of the priority areas of BJP's 2014 election manifesto. So expectations were high. The three years of the Modi government have seen some initiatives, but no major changes are visible on the ground.

● **New health policy:** The policy launched in March 2017 was developed with inputs from various stakeholders. Its highlights include
(i) Universal Healthcare,
(ii) Reforms in medical education,
(iii) Shift in health system to address NCDs and accidents and injuries: New cadre of mid-level health managers at expanded sub health centres called health and wellness centre,
(iv) Health in all policies to address social determinants of health,
(v) Increase in government health expenditure from 1.2 per cent (1.3 per cent in 1990) to 2.5 per cent of GDP; 70 per cent of it on primary care
(vi) Bringing together traditional systems of medicine to provide holistic care to the population. This needs to have an implementation framework with clear accountability in place.

● **Efforts to provide affordable healthcare:** Expenditure on healthcare has been shooting up and most of it is out of one's own pocket. To bring down the rising health expense, the government has taken a bold decision to promote generic medicines. This hopefully will bring down the cost of healthcare as two thirds of medical expense is on medicine alone. The recently launched initiative to provide free diagnostics and dialysis facilities are steps in the right direction. However, there are many challenges in the way of the implementation of these measures.

● **Reforms in medical education:** Reforms in medical education was long overdue. The government has initiated steps in this direction with the National Eligibility cum Entrance Test (NEET). It is hoped that it will make the admission process transparent and bring merit into the system. The Medical Commission Bill has been cleared by the Cabinet and will be presented in parliament. The Medical Commission when established will replace the Medical Council of India which has come in for a lot of flak.



SANJIV KUMAR
DIRECTOR, IIHMR, DELHI

● **Shortfalls:** The above initiatives while laudable are yet to bear fruits. There is hardly any evidence of improvement in the quality and accessibility of healthcare facilities in country.

● **No visible progress in universal healthcare:** The number of people going below the poverty line because of medical expenses has been rising over the years. It was 32 million in1999 and 94 million in 2014. Important schemes such as National Health Assurance Mission and National Health Protection Scheme have been on the drawing board for very long time. They need urgent attention. The Central allocation for health has declined and the presumption that with increase in state share to 42 per cent from the revenue pool will result in states increasing their health outlays as per the 14th Financial Commission has not happened.

● **Lack of integration of private sector in providing public healthcare:** The private sector as provider of healthcare is increasing. There is a need to engage and regulate this sector in providing affordable and quality healthcare. Off late, some private hospitals have been in the news for alleged negligence and overcharging. Poor governance and regulation manifest in such malpractices.

> The government has taken some good initiatives, but on the whole the approach seems fragmented. Health is a vital sector; it needs comprehensive planning and concerted efforts

● Poor management of public health facilities has lead to disasters like the Gorakhpur tragedy continues to dodge the public health system.

● Air pollution has emerged as a major killer, but is not getting the attention it deserves. Swachh air should get the same priority as Swachh Bharat, if not more. How can India be clean when the air we breathe is so foul and life-threatening?

The government has taken some good initiatives, but on the whole the approach seems fragmented. Health is a vital sector; it needs comprehensive planning and concerted efforts.

Health in a limbo

Governments come and go but the state of health in the country seems to remain the same. Consider the children who have been dying due to an unknown disease in Gorakhpur since 2005. The authorities are never prepared to provide adequate treatment and this year, more than 20 children died in one night due to lack of oxygen in the hospital.

Many of these deaths are attributed to Acute Encephalitis Syndrome (AES) and Japanese Encephalitis (JE). Provisional figures for 2017 put down the number of AES cases as 12806 and those of JE as 2033. In 2013, just before BJP took over, the number of AES cases was 2033 and that of JE was 1086. Experts and authorities are likely to attribute this increase to better reporting and data collection. But BJP's manifesto had proposed setting up of National Mosquito Control Mission and this is yet to be done. This could have made a difference as JE is transmitted by mosquitoes. The programme would also have protected from other mosquito borne diseases such as malaria, dengue fever and even Zika.

As promised in 2014 manifesto, the BJP government did release the National Health Policy 2017. However, the provisions in this seem more to promote privatisation of healthcare than strengthening of the country's health system. The policy suggests that services should be strategically purchased from the private sector. However, depending on private sector for something as basic and crucial as health does not seem advisable as private sector tends to overcharge for services. The government is not likely to have enough funds for purchasing all the services that are needed. The latest report National Health Accounts which assesses the health expenditures and flow of funds in country's health system provides the financial breakdown for the year 2014-2015 and shows that government health expenditure as per cent of total health expenditure has increased from 28.6 per cent in 2013-14 to merely 29 per cent in 2014-15. This puts undue burden on people who then have to pay from their own pockets. The intent to depend on private sector is also worrisome as the policy also did away with the provisions of Right to Health which was part of the draft policy. The reason for the omission was that the country did not have enough resources to implement this at present. The government has committed to raise public health expenditure progressively to 2.5 per cent of the Gross Domestic Product (GDP) by 2025. As of now, the government health expenditure is just 1.1 per cent of the GDP.

The government faces new hurdles as the disease profile of the country has changed. Lifestyle diseases have increased in the country and these require lifelong and expensive care. Many of diseases have environmental triggers and this puts the poor at a disadvantage and they would need support from the government. More work on ground is needed and this is something that the government should try to ensure in the remaining tenure.

Modi government has proved to be the much-needed antibiotic

PAVAN CHOUDARY
DIRECTOR GENERAL, MEDICAL TECHNOLOGY ASSOCIATION OF INDIA

Any account of how the Modi government has fared on this front should begin with what the BJP promised in the 2014 election manifesto and whether and to what extent has it been able to keep these promises. Staying within the area of my expertise, I will restrict my argument to the medical technology and hospital sector and assess the government's performance on some of the most important indices. These two sectors, coincidentally, are those where the government has been most active.

The BJP manifesto sets three goals for healthcare Services: Increase access, improve quality and lower cost.

The Term 'Access' in healthcare is customarily split into:

1. **Availability**: The government has not interrupted the reach of any technologies. On the addition of beds front its pace is no better than its predecessor. We need to find 1.8 million new beds by the year 2025. The annual addition still trails at a paltry 18,000 beds. Also, there seems little progress on the modernisation of government hospitals which is also an important goal from the manifesto.

2. **Accessibility:** There exists a shortage of 6.5 million healthcare workers and technicians. Institutional facilties to produce these technicians need augmentation and the global medtech companies then need to train them further to make them patient ready. Must say, that in my view, it is for the first time that the PMO is so mindful of the need for capacity increase on this front and is simultaneously encouraging the medtech industry to fulfil its role as a mega-surrogate-employer.

3. **Affordability:** On the affordability front, in January 2016, the government had raised the custom duty on medical technologies, almost across board by 7.3 per cent (which meant an effective duty increase of 62.7 per cent for most devices). Given that 70 per cent of medical devices are still imported, and most of these cannot be import substituted in the immediate term, this surely must have impacted affordability, since all the incremental costs, as is wont, get passed on to the patients.

The dominant move of the government towards the goal of providing increased affordability has been through price control.

Stents and knee implants have been brought under price control by the NPPA in February and August 2017, respectively. How much relief this brought to the patients is a moot point still as the procedure costs went up. But the NPPA through its detailed analyses has surely pointed out where the problems lie. So even though the prescription it has administered for stents may lack in the differentiation required and the one for knee implants may have inadvertently overreached to other ancillary devices, none can deny that this experience has given NPPA insights. And NPPA is surely busting any false propaganda in this sector. Another informed body of work generated under the Modi regime is the report of the committee on High Trade Margins in the Sale of Drugs by the Department of Pharmaceuticals (2015), which is in the public domain. Any government (Central or State) which tries to improve patient access through price control, should seriously consider the recommendations of this report.

Summing up my argument so far on affordability - Even when the intention of the government may seem right, its next steps have to be more informed.

A significant move of the government towards greater affordability is the launch of government's e market place (GeM) for Central Government purchases. Though the portal still needs upgrade and can provide better filters to ensure quality, its impersonal interface takes away the moral ambiguity often associated with government purchase. The transparency which e-procurement enables should dramatically bring down cost of government buying.

Another systemic move towards greater affordability is the roll out of the Clinical Establishments Act which the government is facilitating.

Healthcare is a business space where doing good is as important doing well. Having thus stressed the importance of doing good, I must quickly add that one can't feed from an empty vessel. So patient interest should surely be kept at the centre without casting off industry's reasonable concerns. Market unviability will drive away capital, healthcare worker training and quality, hurting patient interest irreparably.

4. Coming to quality- Quality is a function of human expertise, which I have already touched above, and medical technology. One of the important determinants of quality in the medical technology sector is FDI (and technology transfers which go hand in hand with it). This government had the foresight to bring FDI in the medical devices on the automatic route. This single noteworthy move, by encouraging the relevant public, made the FDI surge from an annual average of $63 Million to $161 million in 2015 and to $439 million in 2016. This ascending gradient continued in January-March 2017, however has fallen steeply since. That said unnuanced market interventions or the atmosphere of regulatory unpredictability and haste often drive away strategic investors.

In a nutshell, my verdict on the present government's performance in healthcare is markedly similar to what I would say of its performance overall. The Modi government has proved to be the much-needed antibiotic; but one must stay watchful of the side effects too. As responsible citizens, we must alert the government to these, as well as to dose titrations which may be needed.

Capping of prices for certain implants has reduced the cost burden on the patients

There is still a huge gap in demand and supply of quality healthcare manpower, with the shortage of doctors and lack of trained nursing and paramedical staff looming large in most hospitals. A lot more training and skilling needs to be facilitated by the National Skills Academy. Central and state clinical registrations of paramedical staff like physiotherapists needs to become mandatory for better quality control of their credentials.

While the Government makes its commitment to providing primary care to all very clear with

AMIT RASTOGI
CEO & DIRECTOR, AKTIVHEALTH

the new national healthcare policy 2017, it fails to share the financial burden that comes with critical secondary and tertiary care.

Also, arbitrary action, like license withdrawal and shutting premises without proper enquiry or adequate notice, against private Hospitals by State Governments needs to be better controlled by the Central Government, to avoid doctors strikes and so that patients at large do not suffer.

However, the Ayush Ministry has done a commendable work at promoting overall wellness and preventive healthcare through ayurveda, yoga, meditation as alternative forms of therapy. This has also helped in creating new jobs in this sunrise sector. Capping of prices for certain implants has reduced the cost burden on the patients.

Universal health insurance would be a massive wealth transfer from taxpayers to the private sector

Nobody reading this article is unaware of the tremendous disparities in Indian healthcare. Medical tourists from across the world get treated at internationally accredited private hospitals while most Indians wait for weeks to get treated, if at all, at overburdened district hospitals. The government has decided to provide universal healthcare through a combination of new policies, capital expenditure, regulatory coercion and advertising campaigns. In my opinion, this path takes us far away from truly universal healthcare and would saddle the nation with a first-world bureaucracy layered atop third-world infrastructure.

A few months ago, an international development agency sought my advice on a consulting project with the highway ministry. Their plan was to sell the NHAI on building a network of Level-3 Trauma centres that would attend to road accident victims. Great idea, I said, but wouldn't you have fewer accident victims if you spent that money on guard rails and better lighting? This country needs more hospitals, the benevolent imperialists interjected. We don't have enough doctors, I snapped back. They haven't gotten back to me since.

VIREN SHETTY
SENIOR VP - STRATEGY & PLANNING, NARAYANA HRUDAYALAYA HOSPITAL

One of the more ballyhooed measures towards health-for-all was the decision to cap implant prices. Stents used to subsidise the cost of procedures; when implant margins reduced, the procedure cost increased. It did nothing to reduce the overall cost of angioplasties and succeeded in driving away the latest generation of cardiac implants from the Indian market. If the government was keen on reducing angioplasty prices, they should have focussed on the real cost drivers – doctor salaries and imported cathlabs. There's an artificial shortage in both that can be solved by increasing supply.

The announced-but-yet-to-be-rolled-out universal health insurance could transform healthcare in this country. The problem is that since 70 per cent of beds are in private hospitals, UHI would be a massive wealth transfer from taxpayers to the private sector. Once you walk past the corpses of health activists who'll choke on their umbrage, you'll have to contend with the fact that there isn't enough taxpayer money to pay for everyone's healthcare. A more appropriate programme would mimic Singapore's mandatory Health Savings Account – the government contributes an amount that provides basic care, employers add more as part of the salary package, and consumers top it up when necessary. Insurance cover depends on contribution, and government hospitals, teaching hospitals, and private hospitals are all paid from the same account.

Another major government initiative was building AIIMS-like hospitals in every state. These clones cost around ₹1600 crores each (around twice the cost of a JCI-grade private hospital), and have struggled to get off the ground. Tertiary hospitals are the last, the most expensive link in the healthcare delivery chain. Focussing on nutrition, sanitation, and education will lead to better overall health outcomes than solving every healthcare issue with more infrastructure. With limited funds to spare, it behoves a responsible administration to choose interventions that offer more bang for the proverbial buck.

Riding the Make in India wave in the Indian IVD industry

Prime Minister's 'Make in India' initiative has been welcomed by the Indian IVD industry too. Creation of designated manufacturing zones for medical devices has further boosted it. The Andhra Pradesh MedTech Zone (AMTZ), the first step in this initiative, also happens to be the first of its kind in Asia. We understand Telengana, UP and some states will follow. With the Government of India having already notified the correction in inverted duty structure, the economics will shift even more favourably. Transasia recently set up a greenfield manufacturing facility in Sikkim- first ever medtech company in the state and will soon be the first exporter from Sikkim too!

Further to scale up the domestic

YS PRABHAKAR
CEO, TRANSASIA BIO-MEDICALS

capabilities, Indian government is providing 100 per cent FDI for greenfield operations under automatic route and 100 per cent FDI for brownfield operations via the Foreign Investment Promotion Board (FIPB). For medtech companies, this is a simpler process to infuse funds to set up a new plant. The campaign is expected to attract global companies to set up manufacturing base in India which will in turn build up the components ecosystem and enhance the manufacturing capabilities.

On the flip side, the FDI carries with it the risk of letting global companies monopolise the sector eventually ending all opportunities to develop indigenous technology. Secondly, there is some apprehension on the quality standards capabilities of the MSME sector which contributes nearly eight per cent of GDP and 45 per cent of manufactured output. There are hardly 50 manufacturers with ₹50 crores turnover in the Indian medtech industry. More MSMEs with high quality standards are required.

To mitigate these concerns, government is providing assistance but more is expected - given the lack of scale in many products, government can prioritise certain products for manufacturing. High volume, low-tech, labour intensive manufacturing sectors are easy picks and but should quickly graduate to more complex ones. Frugal innovation is a significant strength that India can of-

fer – encourage it.

The government needs to provide policy support for the demand side of the medical device industry to accelerate growth.

Some good initiatives of the government are: public-private partnerships (PPP) to support health for all; National Health Policy 2017. Under this policy, the government has announced 'Free Diagnostics Service Initiative' for providing a minimum set of diagnostics to the underserved people in India. Nearly 20 states have subsidised diagnostics and allowed (or will) PPP play.

> Government has also been actively encouraging implementation of the NHM, aimed at achieving universal access to healthcare by strengthening health systems, institutions and capabilities

The government has also been actively encouraging the implementation of the National Health Mission, aimed at achieving universal access to healthcare by strengthening health systems, institutions and capabilities. Its two sub-missions are: National Rural Health Mission and the National Urban Health Mission.

The policy aims to reduce the maternal mortality rate, infant and child death rate due to many non communicable and infectious diseases. Reduction in premature mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases by 25 per cent by 2025 is also targeted in this policy.

Each above rely heavily upon diagnostics. Today there is significant room to 'correct' the skewed GST on some of the diagnostics products. e.g. Instruments attract 18 per cent, Reagents/consumables at 12 per cent while diagnostic services are exempted. Such correction will only give further fillip to manufacturing in India.

As Indian med tech players gear up to ride the 'Make in India' wave, let's make for the emerging countries, let's make for the World!

Even with limitations, the Health Policy is forward-looking

Unveiling the National Health Policy 2017, the Union Health Minister called it a new milestone in India's public health history. He summarised it stating, a certain paradigm shift in the delivery of healthcare services in the country in terms of access, goals, financing and the modality itself.

The notable highlights of the health policy 'sick-care to wellness', prevention and health promotion, financial protection, stronger partnership with the private sector and raising public health expenditure to 2.5 per cent of the GDP 'in a time bound manner' among other things that usually make national health policies look respectable. However, what appeared less prominent was the promise of universal health coverage that guarantees free, cashless health services to all the citizens of the country irrespective of the type of care needed.

And what went completely missing was health as a fundamental right.

Universal Health Coverage (UHC), in which people receive healthcare without suffering financial hardship, is an ideal that many countries in the world are successfully moving towards. It's also a Sustainable Development Goal (SDG) that India has agreed to achieve by 2030, and a promise that the UPA government under Manmohan Singh reneged on. It's the new minimum in global health, without which no policy makes sense.

The new health policy indeed makes the right noises in identifying the pitfalls of India's healthcare situation, and which way the country should head. It does acknowledge the extremely poor spending by the state (roughly one per cent of the GDP), the catastrophic expenses people suffer because 70 per cent of their needs are met by the private sector, and how poor access to healthcare pulls down the country's development goals.

The policy does promise that it would buy services mostly from public hospitals; but would also use the private players. This is where people and civil society ought to be vigilant.

It does acknowledge that UHC is the way to go, but makes a clear commitment only in primary care. In secondary and tertiary care, which in fact accounts for most of the catastrophic expenses, that push people into poverty- some irreversibly - it's not as unequivocal. Frankly, its commitment is only partial.

While it promises 'assured comprehensive' primary care that has continuity with higher levels, for the secondary and tertiary care, 'improved access and affordability of services through a combination of public hospitals and strategic purchasing of services from the private health sector' is all that it would offer. It's not good enough.

DR RAJEEV BOUDHANKAR
CEO, BHATIA HOSPITAL

The new health policy indeed makes the right noises in identifying the pitfalls of India's healthcare situation, and which way the country should head

While access to primary care is extremely crucial, it cannot be compromised in secondary and tertiary care because of its disproportionately higher costs. Strengthening primary care will certainly reduce the burden of secondary and tertiary care, because of prevention and maintenance of overall wellness, but it wouldn't completely obviate it. The policy should have been as sweeping in secondary and tertiary care as well, as it's in primary care.

Even with such limitations, the Health Policy is forward-looking because it does seek to strengthen the infrastructure, capacity, financing and human resources, and envisages a complete overhaul of primary care in a way that will expand its scope and scale to ensure continuity with higher levels of care. The new idea of primary care will include some elements that had been part of secondary or even tertiary care earlier. It also seeks to harness the complementary results of the initiatives by other sectors - such as the cleanliness drive, reduction of train and road accidents, and action against gender-based violence - into the new plan for greater synergy, optimisation of resources and even a social movement for health called '*Swasth Nagrik Abhiyan*.'

In a country with a very poor public health legacy, and development-disparity, universal access across the board might seem unreasonable in the government's point of view; but being unreasonable is the key to transformation because health and education are the fundamental pillars of human development.

Probably, the government could have aimed higher, however unreasonable it may have sounded because a country in our neighbourhood, Thailand, has shown the rest of the world that even with poor resources, UHC is achievable.

Thailand began implementing UHC only in 2002, but in a decade, it had covered 98 per cent of the population. It was a rapid scale up backed by enormous political will, pressure from people and civil society groups, and strategic partnerships. It's completely financed by the government, through general tax, and covers nearly 80 per cent of the healthcare needs of people compared to India's 30 per cent. Obviously, the risk of health catastrophes has dramatically fallen and people feel safe and secure.

Even in its present form, the implementation of the policy will be fraught with formidable challenges because of the disparate health infrastructure landscape in the country.

The per capita expenditure on health in Thailand is nearly four times than that of India, but as a share of the GDP, it's only about 4.1 per cent as against India's 3.9 per cent. The crucial difference, or the secret of optimising costs, is that 80 per cent of this 4.1 per cent is government spending because it mostly uses public hospitals. Clearly, when the government 'purchases' services from public hospitals, the cost is very low.

India's new policy also speaks about a single purchaser or payer for health, which essentially means that the government would buy the healthcare services for its people, who need not worry about paying for them. The policy does promise that it would buy services mostly from public hospitals; but would also use the private players. This is where people and civil society ought to be vigilant - the government's priority should be strengthening public hospitals so that it doesn't need to depend much on the private sector except in unavoidable cases. In fact, this is the problem with most insurance based models that both the Government of India and some states promote. Instead of paying insurance companies, that too for incomplete services, the governments could have used the money to strengthen its hospitals and bought the services from them.

The most crucial element for the implementation of the new policy, even with its limited commitment on universal access to tertiary care, is a strong public health infrastructure. The policy builds its optimism on the perceived success of National Rural Health Mission (NRHM) which it believes has strengthened the infrastructure and trained thousands of people. In fact, besides the political will and strategic scale up, what made Thailand's attempt at UHC a success was its health infrastructure that had been built since the 1970s.

A lot has to be seen in real follow up action. Will there be a new national organisation or state organisations that will purchase all health services for the people? Without new legislation, will such an organisation (or organisations) have adequate mandate and power? How unlimited will be the access to tertiary care? How will the financing work - will the additional resources to meet the target of 2.5 per cent of the GDP will be completely met by the Centre?

Even in its present form, the implementation of the policy will be fraught with formidable challenges because of the disparate health infrastructure landscape in the country, particularly in the poor states, and the need for aligning existing systems in the states with a national plan of action. Constitutionally, public health is a state subject and providing healthcare is a responsibility of the states. Since most state governments are now run by the BJP, perhaps alignment will be easier. But that the new promise of spending 2.5 per cent of the GDP on health is 15 years old makes one a little sceptic.

Enhancement in health is the primary agenda

Major reforms have been outlined since the Modi government has come to power. Various improvements have been witnessed in important sectors to align the progress of India. A few reforms in the healthcare sector have been the introduction of common entrance test (NEET), the new health policy that focussed on sourcing of care from the private sector, an increase in the domestic manufacturing of medical equipment that lead to increase in its affordability and availability, launch of digital India campaign under which e-Health was one of the initiatives which has made receiving lab reports and OPD appointments quicker and simpler. To match the standards of international pharma companies, emphasis has been laid on investing more and more in our research and development.

DR SUSHIL SHAH
CHAIRMAN AND FOUNDER, METROPOLIS HEALTHCARE

These upgrades have constantly proved to be a sign of promising success. But as growth needs to be continuous, there are certain areas where attention is required. To talk of the same, we are yet to introduce guidelines in the regulatory space, as establishment of unauthorised laboratories has been witnessed lately. There have been inconsistencies in the Clinical Establishment Act as well. Hence, we require certain protocols to be strictly followed to curb the rise of dubious pathologists. This is essentially because our government is yet to set up appropriate governing and regulatory bodies for quality control.

Being a private authorised diagnostics company, we believe enhancement in health is the primary agenda, with private companies introducing the technology and the public sector letting in subsidies.

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INTERVIEW

‘Cybersecurity must move from a technology-centric view to one that understands human behaviour’

Understanding human behaviour is extremely important for cyber security providers in healthcare. Effective behaviourial analysis can help in controlling healthcare data breaches and cyber crimes. In keeping with this, Forcepoint has developed its IT solutions for healthcare organisations that offers better offer value. In a tête-à-tête with **Raelene Kambli**, **Harshil Doshi,** Strategic Security Solutions Consulting – India, Forcepoint, talks about the company’s vision in this direction and how this strategy is helping them provider better value

What is Forcepoint’s vision for the healthcare sector in India?
The healthcare sector holds tremendous amount of critical data like personal information, financial details and medical records of patients which offer potential long-term value to cyber criminals. Stealing healthcare records is emerging as a lucrative target for hackers. Healthcare organisations around the globe face a formidable task in defending their critical data and that of their patients against evolving cyber-attacks and data theft. Forcepoint solution identifies these challenges and provides a human-centric security approach in helping IT teams efficiently meet these challenges. Forcepoint focus is to help organisations understand the normal rhythm of users’ behaviour and the flow of data in and out of the organisation to identify and respond to risks in real-time.

What kind of cybersecurity solutions do you offer to the healthcare sector?
Cybersecurity must move from a technology-centric view to one that understands human behaviour and intent and employs systems that can effectively do the same. Forcepoint’s strategy is to look at people and protect against those behaviours that lead to critical data and IP loss. This people-centric vision drives Forcepoint’s security solutions capable of observing behaviour and deciphering intent in order to proactively protect users, critical data and, most importantly, the point at which they intersect. Such systems include products that can be easily integrated to provide a comprehensive view of risky behaviour and mitigate risks many steps before they turn into breaches.

> Instead of protecting a perimeter that is fast dissolving, organisations need to approach security through a human-centric lens that help them better understand indicators of normal cyber behaviour and quickly identify anomalous activity and operations

How will your solutions increase efficiency in healthcare systems and how will you provide security to the data generated in this process?
The threat landscape today has expanded with increasing digitalisation. Instead of protecting a perimeter that is fast dissolving, organisations need to approach security through a human-centric lens that help them better understand indicators of normal cyber behaviour and quickly identify anomalous activity and operations.

Forcepoint across its products like Forcepoint Data Loss Prevention (DLP), User and Entity Behaviour Analysis (UEBA) and Cloud Access Security Broker (CASB) provides features that enhance the understanding of user behaviour and data flow throughout an enterprise to rapidly identify and eliminate risk. These capabilities work together as an intelligent ‘Human Point System’ to protect the human point as people interact with data across disparate networks and increases efficiency of an organisation across all sectors.

How much does healthcare contribute to the company’s revenue?
The demand has been growing as compared previously. A large number of healthcare enterprises in India are realising the requirement of protecting patient records and critical business data, which is also propelled by rising compliance and regulations.

What is your strategy to tap the healthcare market in India?
We believe our solutions have the right technologies that will deliver the level of capabilities that the industry requires. Therefore, we continues to engage with companies across entire healthcare ecosystem including hospitals, labs, pharmaceutical and insurance companies to help them understand the need to protect data and importance of providing medical practitioners access to the right data whenever and wherever it’s needed.

You speak about behaviour science to understanding customer needs. How will you integrate this concept on offering solutions to the healthcare sector? How will the industry benefit from this concept
Behaviour analytics is being used by many organisations across various domains. Our security analytics platform provides unparalleled context by fusing structured and unstructured data to identify and disrupt malicious, compromised and negligent users. The solutions also monitor for high-risk behaviours inside the enterprise. This enables us to uncover critical problems such as compromised accounts, corporate espionage, intellectual property theft, and fraud.

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INTERVIEW

‘Our 586 health units help us serve the remotest parts of the country’

Dr Anil Kumar, IRMS, Director General, Railway Health Services (RHS) elucidates to **Prathiba Raju**, on how RHS has been imparting healthcare services to the largest rail network in Asia and the world’s second-largest network operated under a single management

Can you give details of the healthcare services of RHS?
The Indian Railway Medical Service (IRMS) provides comprehensive healthcare facilities to about 67 lakh beneficiaries through our 125 hospitals and 586 health units which are spread across India. We have 16 zonal hospitals at zonal headquarters, each division has a divisional hospital which is tertiary hospital with super-specialty facilities and around 600 beds. Each zonal hospital has four to five divisional hospitals with 150-200 beds. Each divisional hospital will have two to three sub divisional hospitals with 10-15 beds. We cater to the primary and secondary healthcare. We attend to over two crore out-patients and 2.6 lakh indoor patients in a year. Over two lakh surgeries are performed in our hospitals. We undertake periodic medical examination for the railway staff, and the candidates who are recruited are classified into A,B and C categories. Moreover, medical examination are performed for 48,850 candidates and 1,33,761 employees.

PERFORMANCE OF MEDICAL DEPARTMENT OF INDIAN RAILWAYS 2016-17

- No of hospitals – 125
- Health units – 586
- No of doctors – 2597
- No of paramedicals- 41000
- No of OPD patients per annum – 20734564
- No of IPD patients per annum – 469293
- No of surgical operations per annum – 151379
- Per capita expenditure per annum -Rs.5621
- No of trains having first aid boxes – 13313
- No of trains having augmented first aid boxes – 162

> We attend to over two crore out-patients and 2.6 lakh indoor patients in a year

With Indian Railways transporting more than 23 million people every day, how do you make sure that timely medical service are made available? What are the major challenges you face in this regard?
Apart from the railway employees, the 586 health units help us serve the remotest parts of the country. We have a robust system and we have had consistently put our efforts to improve the medical facilities provided in trains and stations. Every long distance trains’ superintendents and guards are provided augmented first aid boxes, which contain essential drugs, dressing materials and disposable medical materials. In addition to this, front line staff deployed on trains are trained in rendering first aid. We have attended 68,340 calls in trains this year. We try to put in our efforts to give immediate medical support during time of emergency.

The IR healthcare wings looks after the provision of safe food and water supplies to railway stations. Recently, a CAG audit report had indicated that the food served by the Indian Railways to its passengers is unfit for consumption by humans. Dirty water was being used for beverages like coffee, tea and soups. CAG has informed that complaint redress system is defunct. Your comments.

We monitor food safety and water quality. Per division, we have a food safety officer, and they keep monitoring the food and the water supplied. They take sample and test it to see if there is any adulteration and bring it to the notice of the the commercial department. The commercial department has to take a call as it gives the contract to the catering agencies. In past one year, we have done 18,102 food sampling and the water sampling has been done 68,617 times in last one year.

What is your opinion on outsourcing railway health services?
We have been maintaining it well and I don’t see a reason for the RHS to be outsourced.

On digitisation of IRMS?
The Centre for Railway Information System (CRIS) is developing the Hospital Information System (HIS) for us. All the hospitals will be connected. Initially, the HIS will be done in Northern Railways zone, later other zones will be connected. They are working on it. Once this is done, it will help us work more efficiently, and certainly data maintenance will be enhanced.

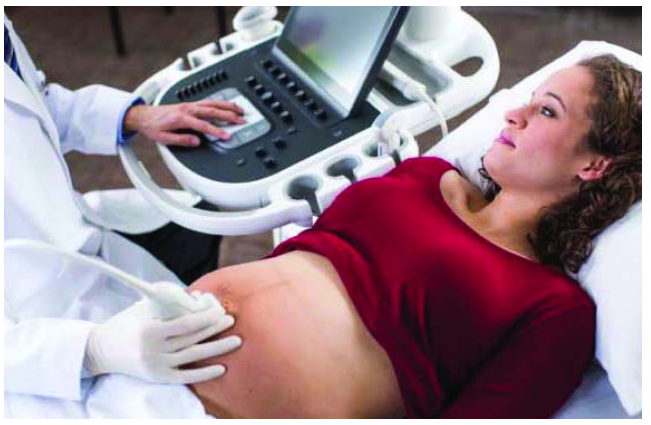
Among the 16 railway zones, which zone has performed well in terms of health services and hygiene?
A few zones are doing an outstanding job. Among them, BR Singh Hospital in Kolkata, Perambur Railway Hospital in Chennai and CR Byculla Hospital in Mumbai are doing an excellent job.

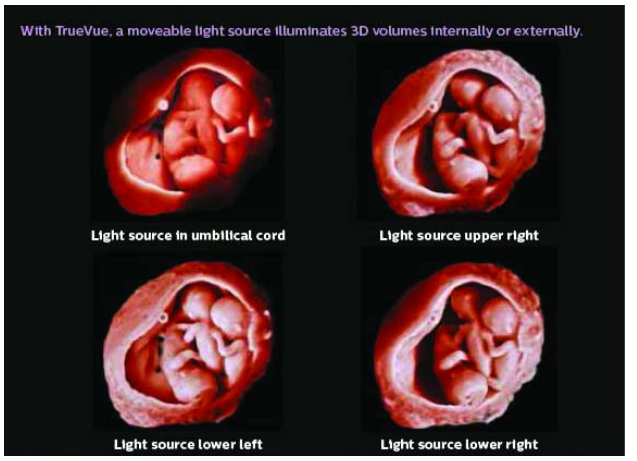
prathiba.raju@expressindia.com

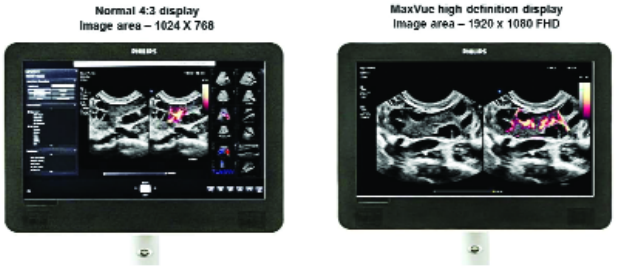
Philips ObGyn ultrasound solutions: Advance your diagnostic confidence

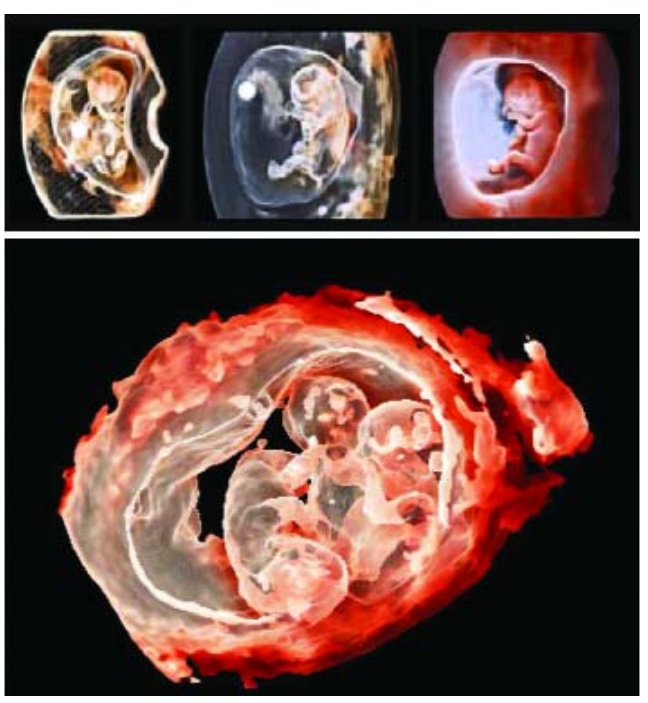
Carestream systems enhance reading of MR, CT, X-ray imaging studies; enable physicians to expedite delivery of diagnosis to patients

WITH A history of proven leadership and innovation fuelling exciting new chapters in ultrasound evolution, Philips' latest premium ultrasound platform is designed to meet changing healthcare needs and exceed its users' highest expectations. As we integrate new applications, improve workflow and produce groundbreaking capabilities, the company will continue to challenge how the industry defines ultrasound technology.









MaxVue high-definition display - Remarkable visualisation!

At the touch of a button, the new MaxVue high-definition display brings extraordinary visualisation of anatomy with 1,179,648 additional image pixels compared to a standard 4:3 display format mode. MaxVue enhances ultrasound viewing and provides 38 per cent more viewing area to optimise the display of dual, side/side, biplane, and scrolling imaging modes.

TrueVue - Making images more realistic

TrueVue creates images that are more realistic, appealing and at the same time providing more clinical information. TrueVue, with its virtual light source, is a proprietary advanced 3D ultrasound display method that delivers amazing lifelike 3D ultrasound images and gives the operator the ability to move the light source anywhere in the 3D volume.

GlassVue – Going beyond the surface

GlassVue goes beyond the surface to reveal bone, organs, and other internal structures.

GlassVue, with internal light source, provides an early, more transparent view of the foetal anatomy than traditional ultrasound.

aReveal – Revealing more details at a click of a button!

aReveal is an AIUS (Anatomical Intelligence Ultrasound) feature that automatically sculpts away the soft tissues that lie in front of the foetal face, revealing much better facial features. Thus diagnosing cleft lips or cleft palates becomes easier and faster.

Evolution 4.0 and Continuum 2.0

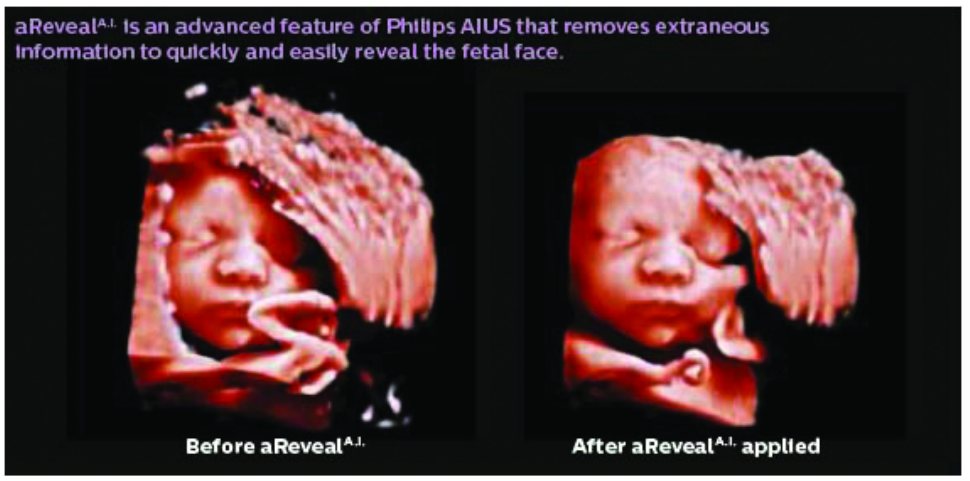
Philips ultrasound has been constantly bringing to the fore, innovative technologies that are practically useful in the daily clinical practice. These technologies are focussed towards improving the workflow while simultaneously delivering better clinical outcomes.

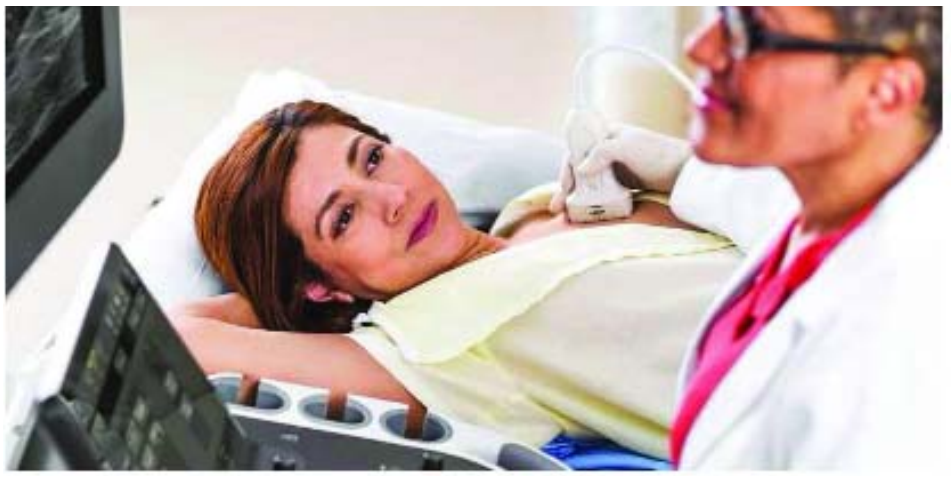
The latest evolution and continuum series further enhance our capabilities in the ObGyn ultrasound imaging.

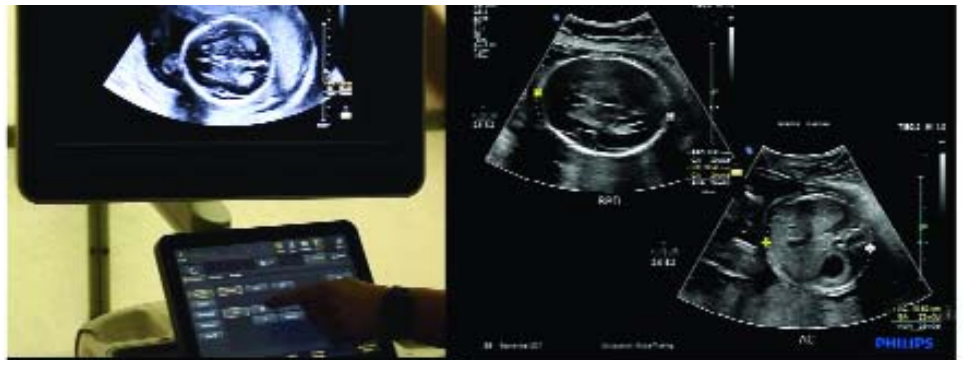
These include

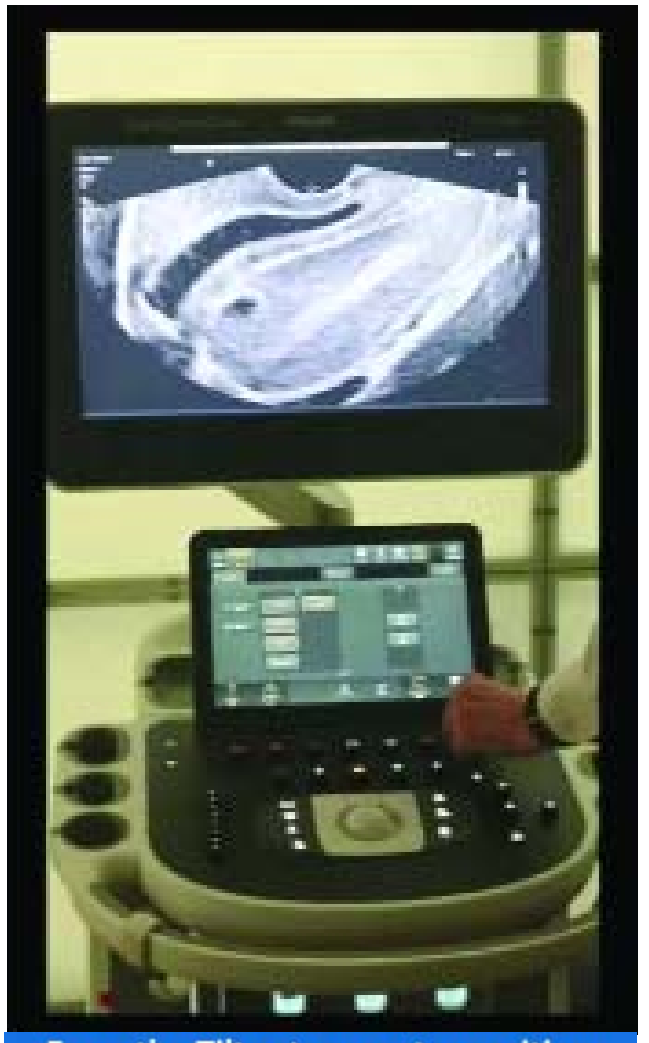
TouchVue (TrueVue 2.0) – With the Evolution 4.0 upgrade, TrueVue adds a new interactive interface called TouchVue. The TouchVue interface utilises the touch panel to allow fingertip control of both volume rotation and position of the internal light source directly on the TrueVue 3D image. This obviates the need to use the control panel - including track ball – for working on the 3D/4D images. Similarly, the GlassVue is also now available on the touch panel itself.

AI Breast – With this feature, anatomical intelligence is now applied for breast ultrasound for enhancing clinical efficiency, while simultaneously improving the ease of use. AI Breast allows visual mapping of screened anatomy, documenting full coverage of the breast during the acquisition phase. During acquisition, key images can be bookmarked for quick review. Images can be auto annotated and quick orthogonal views of anatomy can be retrieved easily for enhanced workflow and documentation.









aBiometry Assit– Virtually every obstetrical ultrasound examination includes standardized measurements of fetal structures to assess age and growth trends. aBiometry AssistA.I. uses anatomical intelligence of fetal anatomy to automatically preplace measurement cursors on selected structures, which users can quickly accept or edit. This helps reduce conventional measurement steps and streamlines obstetrical report generation. aBiometry AssistA.I. allows selection of auto measure function for BPD, HC, AC, and FL fetal structures.

Tilt – A new Tilt feature provides lateral steering of the 2D image plane to the right or left. 2D Tilt allows scanning access to anatomical structures that are off-axis without having to manually angle the transducer. This helps reduce the pain and discomfort to the patient, while allowing the user to scan a wider region of interest.

Contact details
For further information contact www.philips.co.in, 18004198844

Cancer imaging using PET-CT: Genesis and current state in India

Dr A Velumani, Creator, Nueclear Healthcare, shares his insights about PET-CT, a state-of-the-art imaging technology that allows for screening, diagnosis and monitoring of cancer

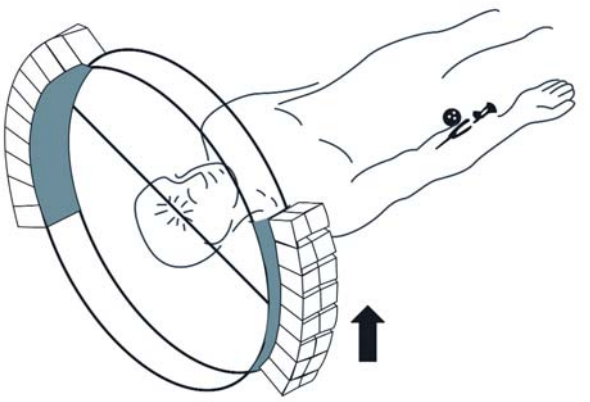


Fig 1: Traditional PET Scan – the block of detectors rotates around the patient

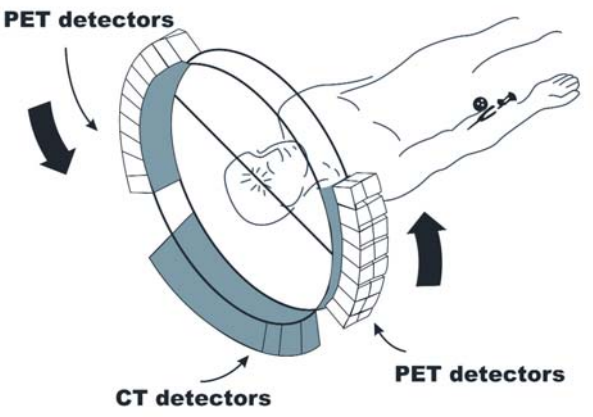


Fig 2: PET-CT Scan – a CT detector put between the blocks of PET Detectors creates a game-changing imaging modality.

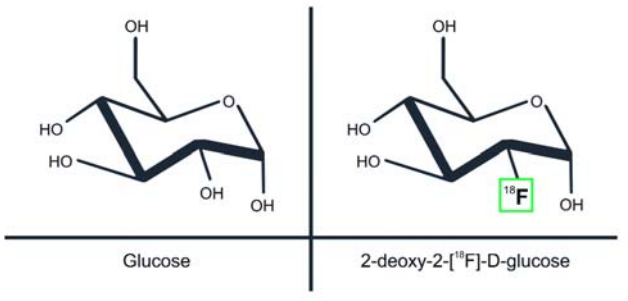


Fig 3: Differences between Normal and Radio-labelled Glucose Molecules

CANCER IS perhaps the most devastating word and disease known to mankind. Known from the times of ancient Egyptians, cancer has so far eluded understanding and remains largely uncured till this day. It leaves in its wake debilitating pain, severe physical and mental trauma, and financial ruin – not only for those suffering from it but also for their loved ones.

India, with a population of over 130 crore people, has had to bear its share of misery and despair caused by cancer – every year, 7 lakh new cases are registered in our country, and more than 70 per cent of these cases die because of late detection. Many cases are not even registered because of the speed of the disease.

When detected early, localised cancers can be managed and treated. They can be surgically excised, and the patients can be regularly monitored.

PET-CT is a state-of-the-art imaging technology that allows for screening, diagnosis and monitoring of cancer and helps in improving clinical outcomes and survival rates.

This technology is heavily under-penetrated in India – we have <200 PET-CTs in India, mostly concentrated in metro cities. India needs more than 1,000 machines spread across the country – The global WHO standard is 1 PET-CT Scanner per 500,000 people.

PET-CT – A history

While the CT scanner was invented in the 1972 and the first Positron Emission Tomography (PET) Scanner was developed in 1974. More than 25 years passed before Davis Townsend and Ronald Nutt built and installed the first PET-CT system at the University of Pittsburgh in 1998.

The first commercial systems were made available in 2001, in which year the

PET-CT scan was recognised by the TIME magazine on its cover as perhaps the most important medical invention over the previous decade.

In India, the first PET-CT was installed at the Radiation Medicine Centre of BARC in Mumbai.

What is PET-CT?

PET-CT is a fusion imaging technique in which a PET scanner and a CT scanner work together to acquire images of the human body, which are subsequently put together to give a more informed view of the state of the body to the doctors.

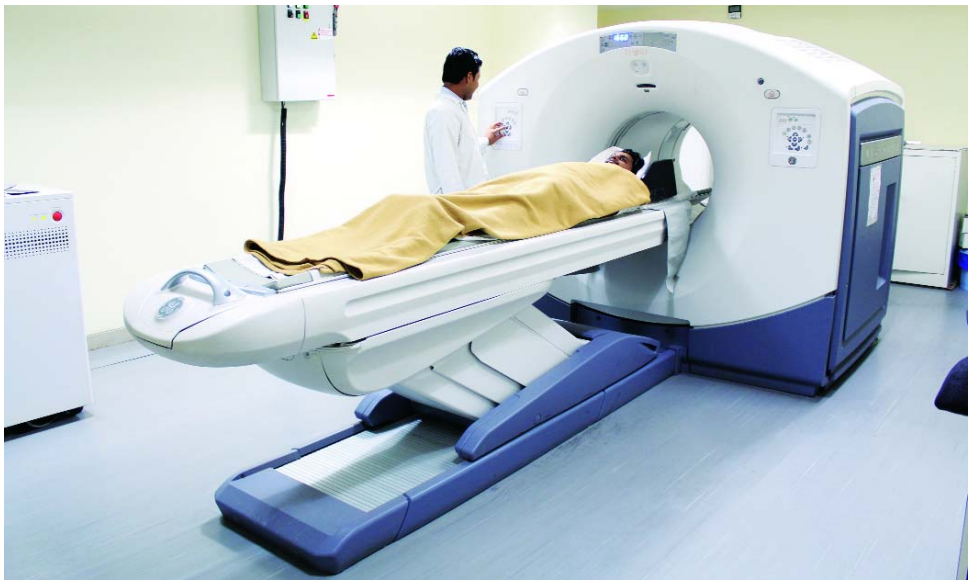
In one of the rare real-life situations where the whole is considerably more than the sum of its parts, the functional imaging obtained from the PET, which depicts the spatial distribution of metabolic or biochemical activity in the body can be more precisely aligned or correlated with anatomic imaging obtained by CT scanning.

PET-CT has revolutionised medical diagnosis in many fields, and has become the diagnostic imaging modality of choice for procedures in oncology, surgical planning, radiation therapy and cancer staging.

What is FDG?

While PET-CTs are almost miraculous in terms of what they can achieve, there is a significant obstacle to their widespread use. Production and transport of radio pharmaceuticals used for PET imaging is complicated, and extremely expensive.

The key radiotracer used for PET-CT scans is FDG



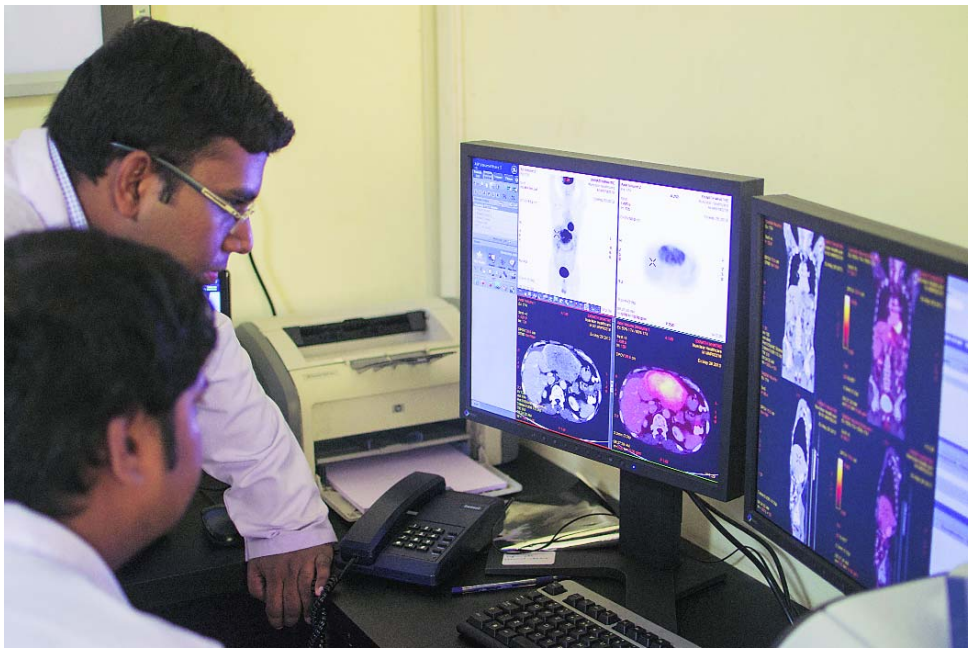


TABLE 1: ARITHMETIC OF PET-CT CENTERS

Scans per year	Annual cost	Per scan cost
1,000	2,00,00,000	20,000
2,000	2,05,00,000	10,250
3,000	2,10,00,000	7,000
4000	2,15,00,000	5,375
5,000	2,20,00,000	4,400
6,000	2,25,00,000	3,750
7,000	2,30,00,000	3,286
8,000	2,35,00,000	2,938

TABLE 2: CYCLOTRON DYNAMICS

Total curies produced	Annual cost	Cost Per Dose (10 mCi)
1,000	5,00,00,000	5,000
2,000	5,05,00,000	2,525
3,000	5,10,00,000	1,700
4,000	5,15,00,000	1,288
5,000	5,20,00,000	1,040
6,000	5,25,00,000	875
7,000	5,30,00,000	757
8,000	5,35,00,000	669

(FluoroDeoxyGlucose). It is a molecule of glucose in which one of the oxygen atoms has been replaced with a radioactive Fluorine-18 (^{18}F) atom. As this glucose is absorbed and metabolised by the body, the distribution of the glucose usage identifies cancers, which are effectively abnormal, uncontrolled growths consuming huge amounts of energy in the form of glucose.

The key challenge with FDG is the extremely short half-life of ^{18}F – approximately two hours. In practice, it means that every two hours of travel time between the cyclotron (which produces the FDG) to the PET-CT scanner doubles the costs of FDG – which are the single largest variable cost in any PET-CT business.

How does PET-CT help the patients?

When detected early, localised cancers can be managed and treated. They can be surgically excised, and the patients can be regularly monitored.

By diagnosing cancers early, PET-CT helps the doctors not only improve survivability, but also allows them to cheaply and efficiently monitor the impact of the treatment. For a disease whose treatment is effectively injecting high doses of chemicals whose speed of killing the cancer cells is only very slightly faster than the speed at which it kills the human body, this is critical.

Non-invasive, cheap and quick monitoring using PET-CT scans helps save the patients from over treatment and the debilitating effects of chemotherapy which are capable of significantly reducing quality of life.

Even after a successful treatment, cancers often return, and when they do, they are even harder to treat. Once again, early detection is the key to successful treatment. Regular monitoring through planned PET-CT scans allows the doctors to efficiently monitor the recurrence of the disease.

Economics of PET-CT Business

While the typical PET-CT Scanner costs anywhere between ₹7 to 10 crores, the Cyclotron, which produces the radio tracers, without which the PET-CT cannot function, costs more than ₹40 crores.

This creates a huge entry barrier in what is an otherwise simple business.

Most of the costs other than FDG in a PET-CT scan business are fixed and do not scale up significantly with the number of scans – which means that volumes are the single most critical factor determining the viability of a PET-CT business.

In a typical set-up, a PET-CT breaks even at ~10 scans per day, while it makes good returns at ~15 scans per day. However, given the high costs of FDG, most service providers are pricing PET-CT scans quite high, trading volumes for margins that only serves to reduce the accessibility of this lifesaving technology for those who need it the most.

The key then, is to also own the cyclotron, which allows one to control the costs of FDG, and smart network development that optimises costs of real estate, logistics and manpower to create an efficient hub and spoke model.

However, it is sad to see that most PET-CT scan services are priced very high, and seem to be either ignoring, or unaware of the volume benefits in this space.

The cost angle, and how Nueclear is tackling it

In India, 80 per cent of healthcare spending is private, effectively meaning that pricing is critical to the ability of a patient to afford a treatment or diagnostic modality.

For a disease like cancer, for which treatment costs can exceed ₹ 4-5 lakhs, the oncologist is often forced to treat the cancer aggressively, forgoing the information given by the scan because of the additional financial burden of the PET-CT scans, which are typically priced in India at ₹ 15,000 to ₹ 20,000. The high prices effectively make PET-CT Scans unaffordable for a very large strata of cancer patients. Nueclear Healthcare Limited (NHL) was created to challenge this status quo.

Nueclear has made a conscious decision to control every part of the value chain, right from the production of the FDG to owning the centres.

This allows NHL to offer tests at prices as low as INR 9999 – a discount of almost 50 per cent to the market. NHL uses state-of-the-art machines, employs some of the most qualified doctors in this field in India and provides unparalleled accuracy, affordability and accessibility to patients.

Nueclear is building a pan-Indian network of Cyclotrons and PET-CT centres. In the next three to five years, Nueclear will build a network of ~80 PET-CT machines and 4 cyclotrons serving the length and breadth of India.

Fig 4: Nueclear's Current and Planned PET-CT Network

Key challenges

The wider acceptance of PET-CT scans in India will be driven by the availability of qualified nuclear medicine doctors and better air connectivity linking cyclotrons with PET-CT machines. Airlines, AERB and the aviation regulator also need to work together to give priority handling to FDG – given its short half-life and life-saving potential.

Lastly, there is a conscious need for patients to be educated so that they are not blindly sent by doctors to specific centres, which have referral-based financial arrangements with the doctors. Such rent-seeking behaviour only harms them. Patients need to be informed that they have the right to choose any service provider of their choice, and that they should make this decision based on their convenience and affordability.

The way forward, and some personal thoughts

My personal journey with cancer has been one of trying to achieve a vision, and having first hand experienced the misery of cancer in my own family.

I have a small dream – that Nueclear performs one million scans in my lifetime. Nueclear has tremendous resources – capital, a driven and motivated team which is working tirelessly to achieve this vision, and the fact that we have performed ~60,000 scans over the last three years.

I invite anyone who wants to join hands with us to battle the scourge of cancer in our country to get in touch with us – we are looking for partners who share this vision, and I am confident that together, we will be able to reduce the suffering caused by this silent, deadly adversary.

Carestream spotlights new medical imaging, healthcare IT systems at radiology conference

Carestream systems enhance reading of MR, CT, X-ray imaging studies; enable physicians to expedite delivery of diagnosis to patients

CARESTREAM HEALTH demonstrated its expanding portfolio of medical imaging and healthcare IT systems designed to enhance the diagnostic review process for X-ray exams and expedite delivery of results to physicians and patients at the annual Radiological Society of North America (RSNA) tradeshow.

"We work closely with healthcare providers to develop new medical imaging systems that improve the quality of diagnostic information provided to clinicians," said Ted Taccardi, VP, Global Customer Care and Chief Operating Officer, Medical Digital, Carestream. "We also created an intelligent workflow for managing the reading of imaging exams, which can expedite delivery of a diagnosis to physicians and their patients."

New products on display include:

The CARESTREAM DRX-Revolution Nano Mobile X-ray System that uses carbon nanotube technology to deliver a smaller, lighter weight mobile X-ray system that is easier to move and position even in cramped patient care areas. (It is scheduled for availability in 2018; not currently available for sale.)

Carestream's Workflow Orchestrator module that streamlines the process of reading and reporting results for patients' CT, MR, X-ray and other types of imaging studies. It assesses each imaging study and routes it to the most appropriate general or specialty radiologist, while ensuring that all studies are read efficiently. This platform is available for order and is expected to begin shipping in the first quarter of 2018.

New metal artifact reduction software for Carestream's OnSight 3D Extremity System that can reduce the visual distortion caused by screws, implants, rods and other metal objects used in orthopaedic surgery to create improved diagnostic confidence. This software is pending FDA 510(k) Clearance.

The company's MyVue Center Self-Service Kiosk that equips patients to view and share their medical images and radiology reports with physicians, friends or family members.

Contact details
www.carestream.com/rsna

nice Neotech Medical Systems in expansion mode

Scouts for partnerships to collaborate both nationally and internationally

DUE TO the overwhelming response to nice Neotech Medical Systems' neonatal range of products from both domestic and international markets, the company is taking the business to the next level. The company is on the look out for like-minded partnerships to collaborate both nationally and internationally to promote its entire neonatal range of approximately 30+ products. The company is open to explore future partnership at different levels and different options.

All products have been manufactured at their manufacturing setup in Chennai, India under the supervision and able guidance of an excellent proficient leader, a pioneer in the neonatal industry for four decades.

nice Neotech Medical Systems was established in 1997, with 'nice' standing for 'Neonatal Intensive Care Equipment'. Since its inception, nice Neotech Medical Systems has established itself as one of the fastest growing, innovative healthcare solutions company in India, with in-depth knowledge and rich experience of its technical team. User friendly range of products, customised solutions, ethical business practices, stringent quality control management and complete customer satisfaction are the company's hallmarks.

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The R&D team maintains a 360-degree view to remain updated in all aspects by interacting with various professionals to keep track of modern technology. The marketing team has an incredible rapport with customers, while the after-sales service provided by the service team fulfills all the requirements of customers.

The equipment range includes Infant Incubator, Infant Open Care System, Infant Radiant Warmers, CFL Phototherapy, LED Phototherapy, Bubble CPAP, Respiratory Humidifier, Resuscitator, Transilluminator, Oxygen Analyser, Respiration Monitor, Infant Trolleys, Baby Weighing Scales, Oxygen hoods, Air Oxygen. Blender, Medical Air Compressor, Reusable/ Disposable Breathing Chamber, Reusable/ Disposable Breathing Circuit, Nasal Mask, Nasal Prongs, Head Bonnet, and Eye Mask etc.

nice Neotech is focusing its R&D efforts on making third generation Infusion pumps, Syringe pumps, Blood Warmer and Whole Body Cooling System.

The products are being also exported to different countries like Malaysia, Thailand, Sri Lanka, Bangladesh, Nepal, Bhutan, Indonesia, Phillipines, Kuwait, Saudi Arabia, and Japan. It has broken through the European and Middle East markets with exports to France, Georgia, Turkey and Belgium.

Absolute thoroughness at all levels, close co-operation with medical organisations, continual monitoring and updated technology have been the strengths of nice Neotech.

For more details,
www.niceneotech.com

INTERVIEW

Refurbished MRI Solutions are a booster for radiology business

Dr Deepak Patkar, Head, Department of Imaging, Nanavati Super Speciality Hospital, talks about quality diagnosis in radiology and how Phantom Healthcare has always provided best quality equipment

How has been your journey so far in the radiology business?
After finishing my M.D. Radiology and D.M.R.D from Nair Hospital and TN Medical College (Mumbai), I went for my training in advanced radiology to Guy's Hospital, London. Currently, I am the head of Imaging Department at Nanavati Super Speciality Hospital, Mumbai. Besides this, I am also non-working shareholder in few diagnostic centres in Navi-Mumbai, Pune and Nashik.

I also chair the position of Director of Telediagnosys Services, dealing in teleradiology with clients in the US, Africa and the Middle East. I have a keen interest in research and academic activities as well. I have over 150 publications in various national and international journals. I am also the present chairman of the Indian college of Radiology. I have been postgraduate teacher for CPS and DNB radiology since past 14 years.

What is the model you have chosen to provide quality diagnosis?
Quality diagnosis in radiology depends on two important factors, one is quality images and the second is expertise of the reporting radiologist. Out of these, acquiring optimal quality images is of prime importance, as the diagnosis cannot be made unless artefact free proper images are acquired. Radiology is one of the most rapidly evolving branches of medicine. One has to always keep their knowledge as well as machineries updated to cope with these advances. We have always ensured this as a part of our model in radiology practise by choosing high-end latest MRI, CT and ultrasound machines for our centres. There are various medical pathologies in which the diagnosis can only be made with application of advanced sequences like Arterial spin labelling, Diffusion Tensor Imaging, Metal artefact reduction sequences, time resolved imaging of contrast kinetics etc. These sequences require minimum field strength of 1.5 Tesla and show significant improvement with higher field strengths. In all our apex centres, we have installed 1.5T and 3.0Tesla MRI systems, minimum 16 slice CT scanners and Ultrasound Machines with good quality colour Doppler, 3D/4D facilities and with minimum 4-5 ultrasound probes of various frequency range. We do take care of our reporting radiologist by means of stringent selection criteria, baseline training programmes and uniform and elaborated reporting format. We do organise as well as encourage our radiologists to attend various national and international level conferences to keep their knowledge up to date.

What do you think are the advantages and disadvantages of using refurbished equipment in a hospital set-up?
There is rise and growth of this incredible market of high quality refurbished equipment. We have mainly used refurbished equipment in private diagnostic centre set-up rather than hospital set-up. The biggest advantage of refurbished equipment is availability of optimal quality scanners at affordable price. During a troubling economy, all types of business and organisations suffer, including hospitals and medical facilities. Purchasing equipment is inevitable at times, especially if the current equipment is broken with no chance of repairs or replacements to save it. Instead of turning to buying new equipment, hospitals can choose to purchase refurbished MRI & CT scanners to lighten the financial burden. Even though having the most technologically advanced equipment is ideal, refurbished MRIs & CT scanners perform just as well, if not better, and produce the same results as brand new equipment. Even lease facilities are available with this equipment, which could be specifically useful for hospital set-ups if they need the scanners on temporary basis.

> Refurbished MRI systems are a boon to private diagnostic centres. They fulfil the need of high quality upgraded scanning system at affordable price

The limitation with these systems may be that these might not be at par with the latest advanced scanners and sometimes software and hardware upgradation may be an issue. However, today with options like site planning, fresh factory painting, professional installation and comprehensive warranties along with software and hardware upgrades, refurbished MRI scanners are a very good cost-effective alternative.

What are your parameters when choosing refurbished equipment such as MRI, CT scanners?
For MRI, we always prefer 1.5 Tesla and higher field strength magnets. For CT minimum of 16 slice scanners are preferred. We intend to buy these capital intensive MRI machines with latest and updated software, comprehensive warranties and optimal image acquisition.

How does refurbished MRI equipment support your business model?
Refurbished MRI systems are a boon to private diagnostic centres. They fulfil the need of high quality upgraded scanning system at affordable price.

Does it help in increasing productivity of your department and how?
It surely does increase our productivity. These equipment are well covered with maintenance warranty and upgraded with latest software. Even one can plan of centre expansion by using 2-3 refurbished scanners rather than single new equipment at comparable expenses.

Which company/ companies provide you with these refurbished products?
For 1.5T MRI, we trust only Phantom Healthcare based in New Delhi.

Why did you choose to buy refurbished equipment from this particular company?
Phantom Healthcare has always provided best quality equipment at competitive prices. They have given us prompt and effective post purchase services and upgradations. Their engineers are technically qualified and installation quality is always superior.

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