EXPRESS HEALTHCARE

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Public Health

Dr Krishna Reddy Nallamalla, Country Director, ACCESS Health International, India

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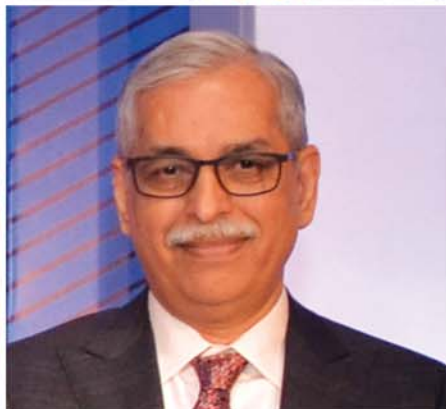# EXPRESS HEALTHCARE

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HEALTHCARE SENATE 2019 INSIDE

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Wishes all its readers Happy Independence Day

NMC Bill revives turf war between docs and bureaucracy

The draft National Medical Commission (NMC) Bill 2019 recently passed in the Lok Sabha and Rajya Sabha has divided the doctor community in India. While the Indian Medical Association (IMA) called for a strike on July 31 and says it will intensify the protests, other factions have hailed it as a fresh start.

The protesting doctors and associations hoped that there would be changes before it was passed by the Rajya Sabha. But except for two relatively minor amendments, which will go back to the Lok Sabha for the nod, the draft Bill is unchanged. Minister of Health and Family Welfare, Dr Harsh Vardhan maintained that the Bill would be "the biggest reform of the Narendra Modi government."

The draft NMC Bill seems to have a broad agenda to increase the number of medical personnel. But while IMA might agree with the diagnosis, it disagrees with the prescription. Claiming that Niti Aayog did not consult them during the framing of the draft NMC Bill, IMA said the Bill will result in lower standards of medical education and therefore endanger healthcare delivery.

For example, Dr KK Aggarwal, a past IMA president, points out that Section 32 of the draft Bill 'provides for licensing of unqualified non-medical persons enabling them to practice modern medicine.' Under the Bill, the NMC may grant a limited license to certain mid-level practitioners connected with the modern medical profession to practice medicine. These mid-level practitioners may prescribe specified medicines in primary and preventive healthcare. In any other cases, these practitioners may only prescribe medicines under the supervision of a registered medical practitioner.

But President (Elect) Dr BB Wadhwa and some past presidents of Delhi Medical Association who have supported the Bill, aver that mid-level health providers like nurses have been found useful in improving health outcomes all over the world.

We definitely need extra hands at the primary and preventive care levels. There is also the chance that AYUSH practitioners might be allowed to practice allopathy via bridge courses. But will this endanger the patient? Other countries might have evolved better systems to ensure that paramedical staff and crosspathy practitioners meet basic criteria to provide this care without putting the patient at risk.

> The draft NMC Bill seems to have the broad agenda to increase the number of medical personnel. But while IMA might agree with the diagnosis, it disagrees with the prescription

Secondly, Dr Wadhwa *et al* praise the changes in medical education proposed by the draft NMC Bill. The draft Bill does away with a licentiate exam and designates a common final year exam as the National Exit Test. It also proposes to empower the NMC to frame guidelines for determination of fees for up to 50 per cent of the seats in private medical institutions and deemed universities which are regulated under the Bill.

To counter this, Dr Neeraj Nagpal, Ex-President IMA Chandigarh points out that many parliamentarians have set up medical colleges and thus have a vested interest in pushing such a Bill through.

Patients and medical students are caught in the crossfire, as medicos and bureaucrats fight their turf battles. IMA as an association has yet to redeem itself from charges of corruption related to certification of colleges etc.

But the NMC could also go the same way, as members will not be elected but nominated. While the draft Bill provides for a search committee chaired by Cabinet Secretary and will have medical and non-medical experts along with one elected doctor, there is every chance that the same nexus between Council members and owners of medical colleges will arise.

Yet another key health-related policy is up for review: the National Digital Health Blueprint (NDHB). The blueprint recommends the set up of a purely government organisation with complete functional autonomy. It will adopt some features of existing National Information Utilities like UIDAI and GSTN.

The expected outcomes of the blueprint sound Utopian right now. It proposes that we will be able to access our electronic health records within five clicks. We would not need to duplicate any diagnostic test during the course of an illness, despite being treated by different health service providers. All this and more, while promising to protect the privacy of personal and health data.

With increasing instances of data theft, the NDHB needs to be discussed and debated by all stakeholders before being implemented. Else, it will go the same way as the NMC Bill 2019.

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cobas® pro integrated solutions: Roche Diagnostics new innovation for India

The cobas pro integrated solution is said to offer a range of innovative features that optimise the day-to-day working of laboratory professionals, helping them focus their time on the tasks that matter

It comes as no surprise that automation and digital technologies are transforming clinical laboratories and path labs today. These transformations have changed the way pathology and clinical lab function sharpening their focus on improved turnaround-time, accurate results and high efficiency in output. However, with increasing demand for path lab services within the country, labs are under constant pressure to perform, compete and at the same time control costs. Certain roadblocks such as resource inefficiencies and unexpected interruptions that delay in delivering timely results to patients; minimal space to manage growth and higher volumes of tests, time consuming and repetitive manual work that prevents laboratory personnel from focussing on the things that matter and the need to access innovations make path labs highly vulnerable to fatigue and breakdowns.

In keeping with the requirements of Indian path labs, Roche Diagnostics India has launched its latest diagnostic technology - cobas pro. It is a set of integrated solutions - which includes time-saving and efficiency-building features like automated maintenance and calibration and an on-the-fly reagent and consumables loading mechanism.

Solution for India

According to Roche Diagnostics, the cobas pro integrated solutions can seamlessly integrate into Roche and other lab automation systems making it attractive to lab management. It gives IVD labs an opportunity to experience the merits of digitalisation and automation, with the added benefit of Roche's support in upskilling their technicians.

Speaking about this new technology, Dr Shravan Subramanyam, MD, Roche Diagnostics India, added, "cobas pro in India addresses almost all of the challenges of today's labs — reduced turnaround time, maintaining testing efficiency in limited space settings, less fatigue and improved the productivity of lab personnel on account of automation and a single window into the industry's largest test portfolio. I am excited that some of the sustainability matrices of cobas pro integrated solutions are most relevant to India's needs. For instance, with cobas pro a lab uses one-third the amount of water required for a test in comparison to our earlier analysers."

This system is Roche's new generation of Serum Work Area solutions that endeavours to improve the speed and reliability of treatment decisions for patients and their families. They are designed to reduce the time between diagnosis and therapy management and to instil greater confidence in clinical decision making.

"In tangible terms, cobas pro reduces daily maintenance time to eight minutes only, whilst it has a proven reduction of up to 90 hours' hands-on time for calibration every year (as compared to cobas 6000), significantly improving the productivity of lab professionals. The ready-to-use reagents requiring no preparation time is another advantage for lab technicians to allocate their instrument and services time efficiently," Subramanyam adds.

Striking features

The cobas pro-integrated solution is said to offer a range of innovative features that optimise the day-to-day working of laboratory professionals, helping them focus their time on the tasks that matter and less time on hands-on, manual operations. The system focussed on the following aspects:

Saving time

The system is said to support lab technicians by helping them utilise their time wisely. The system delivers short and predictable turnaround times through high speed of analytical units, intelligent sample routing and short assay incubation times. According to experts, using time wisely also means that technicians have the ability to simplify the routine with minimal operator intervention. For this reason, the cobas pro has the following features:

1. Intelligent reagent loading
2. Automated maintenance
3. Automated calibration

Also, the cobas AutoCalUp leads to up to 56 per cent less calibration events saving up to 92 hours of hands-on time annually!

Space management
If you closely look at the growth momentum of the sector, it is evident that labs today are working to grow and increase revenue, by expanding their test offering or bringing more testing in-house. However, this means they need to be ready to handle higher volumes, often within the same space, without having to invest in additional platforms that are not used to their full capacity. Cobas green packs come along with a high filling volume to free up reagent positions and the broadest SWA menu on one consolidated platform supports the opportunity to expand testing services. This also helps to consolidate high and low throughput tests, minimise reagent waste and bring low volume testing in-house.

Team empowerment
True empowerment of employees lies in the fact that they can

KEY FEATURES

- Automated daily and weekly maintenance, to support reduced service efforts
- More tests per reagent pack with cobas c pack green and cobas e pack green, to allow for long walk-away times and less loading, ordering and handling events for reagents.
- Reagent on-board stability of up to four months for immunochemistry and up to six months for clinical chemistry to minimise operator intervention and maximise productivity
- Loading on-the-fly of reagents and consumables without interrupting the operation, so that reagents can be loaded at any time of the day
- Reduced calibration effort through cobas AutoCal, saving up to 92 hours of hands-on time annually
- Increased sample integrity and unprecedented levels of cleanliness through cobas SonicWash
- The broadest SWA assay menu consolidated on a single platform to help customers use their space efficiently

trust the accuracy of the results they are generating throughout their workday. The cobas pro offers various safety features to ensure sample integrity such as ultrasonic washing and contact-free mixing on CC as well as disposable tips on the Immunoanalyser. Ultrasonic washing is a new innovation on cobas pro integrated solutions, named cobas SonicWash. According to Roche, this system ensures

sample integrity through intelligent sample routing using high priority assays. With cobas pro, Roche is hence introducing an additional layer of safety through ultrasonic probe cleaning on CC and ISE. It reduces the number of clot events and can be used to dissolve clots. Additionally, cobas SonicWash cleans the probe thoroughly in a way that hardly any particles are leftover, assuring sample integrity.

Therefore, there is no need to route samples to immunochemistry first and then to clinical chemistry but any test can go to any device in any order, i.e. a more efficient and flexible sample routing.

Going forward
The above-mentioned characteristics show a lot of promise, but how does this system facilitate cost reduction and ensure sustainability in path labs?

"We have a proven track record of sustainable development. Using the industry's smallest sample volumes, we have built a strong focus and have invested immensely in providing medical value.

Roche knows that the future of sustainable healthcare depends on diagnostics to help facilitate cost reductions and decrease hospitalisation through improved disease management and patient care. To this end, Roche continues to evolve innovation to meet future laboratory and healthcare needs, which is exemplified by this latest solution," replied Subramanyam.

Since this system is extremely new to the market, understanding its true potential will take some time. Going forward, Roche will need to look at how it can create value to smaller path lab businesses as well. The fact that not all path labs can invest in automation and digital technologies, the question of affordability and cost-effectiveness will tend to arise. We will only have to wait and watch how Roche addresses these concerns.

INTERVIEW

The three A's of eyecare

Availability, affordability and awareness are the three key A's to help break down the barriers for addressing uncorrected refractive error (URE), tells **Ella Gudwin**, President, VisionSpring, to **Prathiba Raju**

Why do you think eye health should be a public health priority in a developing country like India?

Poor Vision remains number one unmet disability need worldwide and in India, too. According to a World Health Organisation (WHO) study (2013), over 550 million people in India need eyeglasses and 25 per cent of the world's blind population reside in India.

The problem in India needs attention right now. In a recent programme assessment for truck drivers, we found that 68 per cent of drivers had never undergone an eye examination prior to receiving or renewing their driving license. Across communities in India, we have found the first-time glasses wearer rate is between 50-70 per cent, i.e. for many in India, their first experience with preventive eye care is at a VisionSpring programme camp.

What are the barriers to Uncorrected Refractive Error (URE) and how can these be addressed?

Loss of clear vision is sometimes gradual and thus it is de-prioritised over others which are more urgent healthcare needs. Lack of awareness, lack of eye care infrastructure, minimal access to affordable eyewear and cost are the major barriers faced by low-income people globally. Moreover, these barriers are heightened for those who belong to rural communities. For rural communities, the cost of correcting vision includes income loss, travel costs to the nearest urban eye care centre, besides treatment and eyeglasses expenses. Also, social stigma continues to be a barrier, especially for young women who need corrective eye wear.

Access is comprised of the three key mantras we live by – availability, affordability and awareness. We believe these three A's are the key to help break down the barriers to address URE. Availability creates many points of distribution to increase the convenience and reduce the cost of getting glasses; affordability involves durable, attractive eyewear priced within one-to-two days' wages for low-income consumers and awareness increases end-consumers' knowledge about the eyeglasses for their personal use and stakeholder's understanding of eyeglasses as a powerful tool for increasing social and economic development.

Where does India stand when it comes to URE?

The Government of India had long recognised vision as a nodal health issue and had launched the National Programme for Control of Blindness and Visual Impairment (NPCBVI) in 1976. However, a lot remains to be done to build a system which can be effective, considering India's size. The Vision 2020 of 'The Right to Sight' initiative shared that there are about 18,000 ophthalmologists in India for its 1.3 billion population, resulting in a ratio of one ophthalmologist for every one lakh people. In rural India, this ratio is even worse: one ophthalmologist for every 250,000. The ratio of availability of qualified optometrists, approximately one for every 25,000 people, is also lower.

On one hand, India has world-class institutions like the Aravind Eye Hospital, renowned for their innovative low-cost eye care models, and then there are villages in Talaseri in Maharashtra where over 90 per cent villagers have never had their eyes tested, ever in their lives.

How does URE directly impact the socio-economic set up of the country?

URE is costing the global economy an estimated $227 billion with low-income countries disproportionately affected. 550 million Indians are needlessly suffering from poor vision, which can be easily fixed by a pair of eyeglasses. Women are disproportionately affected as they suffer from lack of access to healthcare or similar interventions. For a human resource-rich country like India, poor vision impacts at two levels – economic and human potential.

It is estimated by WHO that the impact of poor vision on the Indian economy is over Rs 2.5 lakh crores ($37 billion). Every person who does not have access to clear vision is not leveraging his or her full human potential – whether weaving or at a factory or farming, learning at school, mothers helping children with homework or cleaning rice or anybody being able to read text messages on mobile. The results of a recent study trial of tea pickers in Assam (which we undertook with Clearly, Queens University Belfast and Orbis) has shown that the provision of glasses improved their productivity by 21.7 per cent – and for those aged over 50, the increase was 31.6 per cent. This means if farmers and agri workers are provided eyeglasses, India's agri sector can be boosted by over Rs 14,000 crores ($20 billion). Imagine the impact that can be created if we provide preventive eye-care for workers, sector by sector, across India -- all with a pair of eyeglasses costing barely Rs 150 per pair.

What is VisionSpring's role in India? Do you have any specific targets?

The optical market is not meeting the needs of consumers earning fewer than Rs 280 per day. VisionSpring provides end-to-end services, including pre-screening, technical screening, training and eyeglasses on demand across India. We reach our customers using innovative B2B distribution models and advance our social impact along three themes: See to Earn, See to Learn, and See to be Safe. We focus on Bihar, Odisha, Madhya Pradesh, Uttar Pradesh and Rajasthan, in particular, to strengthen the existing healthcare infrastructure to provide preventive eye care.

We have the following projects:

Wholesale partnerships: We sell bulk quantities of eyeglasses coupled with training and marketing to a network of hospitals, eye care centres, NGOs and government partners. In 2019, over 300 organisations in India count on our quality product, timely delivery, favourable payment terms. Our partners are from across India -- Siliguri Greater Lions Eye Hospital, HV Desai Eye Hospital (Pune), Sri Sankaradeva Nethralaya (Guwahati), Tara Netralaya (Rajasthan and Delhi), Gandhi Eye hospital (Aligarh), LV Prasad Eye Institute, Akhand Jyoti Eye Hospital, etc.

Third-party subsidised vision access solutions: We bring eyeglasses to workplaces, schools and rural communities pairing philanthropic funds with the purchasing power of end-consumers and governments. Corporate social responsibility: In India, we have partnered with 35 CSR offices of major businesses to bring free-vision screenings and low-cost glasses to communities. These include programmes for the Bajaj Group, RPG Foundation, ICICI Foundation and Shell India, among others.

Clear vision workplaces: We work with an alliance of leading brands to dramatically increase eyeglasses coverage rates among low-income workers who produce textiles, garments, home goods, tea and coffee in their supply chain. Our 'clear vision workplaces' projects introduce worker well-being initiatives to these globally-recognised corporations like Levi Strauss, Target, VF, etc.

Government: We also collaborate with government agencies to reach low-income children and communities. Our partners include various government bodies like the National Health Mission (NHM), Government of Telangana; National Programme for Control of Blindness and Visual Impairment (NPCBVI), Artificial Limbs Manufacturing Corporation of India (ALIMCO) and AIIMS, New Delhi. We are conducting vision screening for one lakh weavers in Varanasi in partnership with the Smart City Varanasi.

In India alone, VisionSpring has distributed over three million eyeglasses. Over the past few years, we have executed projects in over 180 districts and 1,200 villages. In the last 12 months, we have screened 80,000 garment, handicraft workers and weavers, so that they can earn more; helped 30,000 drivers to drive safely and checked vision needs of over 2,50,000 school children, so that they can learn better. One of our goals is to normalise eyeglasses wearing among workers in the manufacturing and agricultural sectors by 2030.

Can you tell us about the subsidised glasses by VisionSpring and how has it helped people to recover from poor vision?
VisionSpring's mission is to create access to affordable eyewear, everywhere. We expand the optical market using innovative distribution strategies to sell radically affordable, durable and attractive eyeglasses. We pair philanthropic funds with the purchasing power of end-consumers, B2B clients, CSR and government partners.

For instance, Shell India and VisionSpring committed in July 2019 to help 3.65 lakh commercial drivers and allied transportation workers to see clearly and drive safer by the end of 2020. 20/20 being the measure of perfect vision, the '#DriveSafeIndia' initiative will accelerate access to vision correction and advance national goals to improve road safety. The Road Safety initiative follows a programme assessment conducted by VisionSpring which evidenced a deep need for eyeglasses among heavy and light commercial vehicle drivers who are driving with uncorrected blurry vision.

VisionSpring found that 25 per cent of drivers participating in the pilot phase of the programme failed to meet the standard required for a driver's license. It means that without eyeglasses, these drivers were unable to see road signs at 20-30 metres and meet the Indian Motor Vehicles Act eligibility requirement of 6/18 vision or better for both eyes. In the follow-up interviews with 385 drivers, 68 per cent reported that they never had a vision test which is required for a driving license or license renewal. After getting glasses for the first time in their lives, 76 per cent of the drivers articulated that driving safely and optimal job performance would be the most important results of their new clear vision.

Do you think innovation is critical when it comes to ophthalmology? Reasons?
Two-and-a-half billion people need eyeglasses and 624 million are visually impaired, costing the global economy an estimated $227 billion each year. The problem is too big to solve just with charity and philanthropy. It requires market-based approaches and collaboration with government.

Nevertheless, a number of things are happening in eye-care including technology innovations like hand-held refraction and telemedicine that are making it possible to serve many more people in areas with a limited number of eye care specialists. Innovations are changing the way we conduct school-screenings to reach more children – for example, by training teachers and other education advocates to identify students suspected of having a vision error so that they may be prioritised to see an optometrist or specialist. Also, organisations are working on a variety of business models that are creating market-based access to eyeglasses and other vision care.
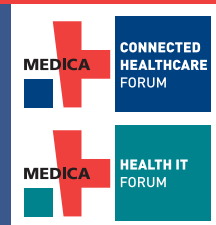
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How to make public health spending in India efficient and effective?

Dr Krishna Reddy Nallamalla, Country Director, ACCESS Health International, India gives an insight into certain policy levers that can make current health spending more efficient and effective

Public spending on health in India, at -1.3 per cent of GDP, is one of the lowest in the world. While the government is committed to increase it to 2.5 per cent over the next few years, there is an opportunity to make current spending more efficient (least cost per output) and effective (best outcomes in terms of access, quality, and dignity). It is estimated that nearly 20-40 per cent of current spend is wasted. There are no mechanisms to monitor whether this spend is improving health, reducing out of pocket expenses, and is responsive to health needs of people. This article reviews certain policy levers that can make current health spending more efficient and effective.

Allocation

The amount government can spend is limited. However, there is an opportunity to allocate these funds through a systematic process. Effectiveness of money spent decreases in the following order – social determinants of health (clean air, clean water, healthy diet, good habits, safe roads etc.), preventive (vaccination, antenatal care, school health programmes, screening for diabetes and hypertension etc.), curative and palliative care. For example, money spent on single heart transplantation can screen thousands of people for cardiovascular disease risk factors (diabetes, high blood pressure, smoking, high cholesterol, and obesity) and provide preventive care for those at risk. There are scientific tools (collectively termed as Health Technology Assess-
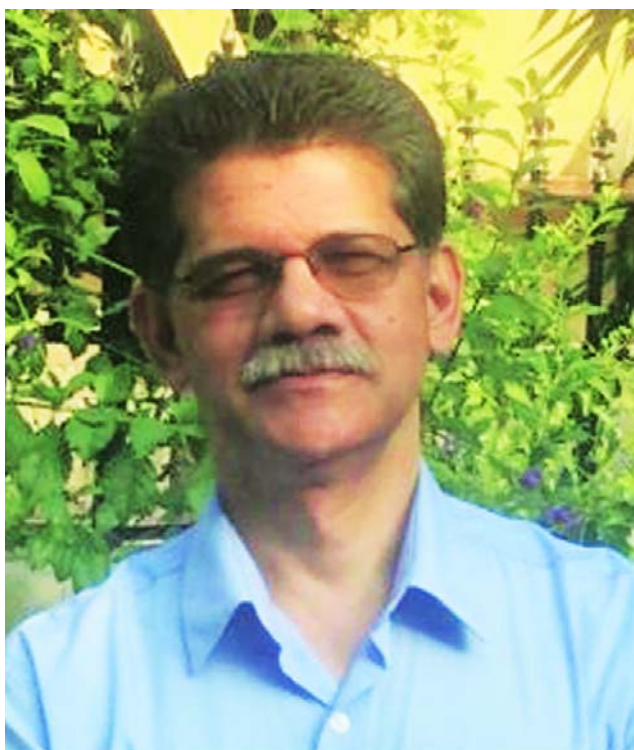
Dr Krishna Reddy Nallamalla, Country Director, ACCESS Health International, INDIA

ment or HTA) that undertake multidimensional analysis (cultural, social, political, and economical) to guide the government in proper allocation of its funds.

Spending smart

Government essentially purchases services, either from its own facilities or private providers. Every housewife knows how to make a smart bargain to get value for money.

Purchasing from its own facilities: Currently it allocates funds to public facilities on line-item (salaries, drugs, disposables etc.) basis without consideration of neither output (number of patients seen in outpatient or admitted or number procedures per-

formed) nor outcome (safety, clinical outcomes, patient experience etc.). Simple policy lever (a shift from 'passive' to 'active' purchasing) to fund for outputs and outcomes and not just for inputs will drive value. It requires that all inputs, outputs, and outcomes are actively monitored. Government can install standard hospital information system and medical record system across its provider network to simplify this. Penalties and Incentives can drive quality and efficiency. Quality Improvement (QI) tools can enable these facilities to continuously become safer with better clinical outcomes. Care Process Re-engineering (CPR) methods along with robust costing systems can improve

efficiency.

Purchasing from Private providers: Currently government has been purchasing various services from private providers for its employees (CGHS, ECHS, ESI, EHS etc) and beneficiaries (State and Central Public Health Insurance schemes like Arogyashree, RSBY, and PMJAY) through a process of empanelment. Payments are made on fee per service basis or bundled packages. Each programme has its own pricing and range of services that it covers. Each has its own referral systems. Each has its own payment system. Each of these programmes is administered separately. There is a great opportunity to make these systems more efficient and effective by adopting uniform systems. Benefit packages can be made uniform across programmes and designed scientifically using cost-accounting tools so that they are viable to providers. All programmes can share a common claims processing system and IT solution. Payment cycles can be improved. Viable benefit packages and timely payments will bridge the trust gap that exists between the government and private providers and encourage more private providers offer their services. In return, government can demand or incentivise quality and accountability from the providers. Robust medical audit and fraud detection systems will eliminate wasteful spending.

Strengthen Primary Care

Strong primary care can not only acts as a gate-keeper through mandated referral

policies, but also ensures continuity of care, especially for life-time diseases – all noncommunicable diseases (cardiovascular, lung, liver, kidney diseases, cancer, mental health etc.) and certain communicable diseases (CD) like HIV and hepatitis. In addition, it can reduce disease burden through proactive population-based preventive services. In this context, plans for 150,000 Health and Wellness Clinics announced by the government of India under Ayushman Bharat programme are in the right direction. However, the government can face challenges, both financial and operational, in implementing the plan. While it creates its own clinics, there is a case to leverage vast but highly fragmented private primary care provider network. It can purchase services on capitation method (per capita per annum for defined services). However, there is a great challenge of high variability in quality of services and fragmentation that exists in current system. If government is willing to purchase, private providers may come forward to take responsibility to aggregate fragmented provider network into clusters and ensure standards of care across these clusters. There are technology solutions akin to Uber or Amazon that can enable aggregation of highly fragmented providers. Defined care pathways, clinical practice guidelines, and robust medical record systems can minimise the variability in standard of care and maximise outcomes. Access to affordable and high quality essential drugs and diagnostics and innovative financing

methods like direct benefit transfer (DBT) are other solutions that can be considered.

Leverage Digital Health (DH)

Digital India policy gave thrust to quantum jump in digital applications in various aspects of social life. Broad

technology, Big data etc., if properly used, can leapfrog India overcoming current challenges in terms of human resources, access, monitoring etc.

Conclusion

India has articulated its Vision, Mission and Strategies

in its Health Policy document. Its most ambitious programme – Ayushman Bharat, that aims at financial protection to nearly half of population and 150,000 Health and Wellness Clinics that aim at strengthening preventive and primary care services – is being implemented towards

achieving its vision. System-wide reforms in terms of health financing and health provision, adopting proven strategies in similar contexts, leveraging digital health technologies to leap frog, along with participatory engagement of all stakeholders, have the ability to drive efficiency

and effectiveness thereby maximising the value for money India can afford given its other social priorities. India, that created Aadhar as a unique ID for entire population, UPI for digital payments revolution and GST for amalgamating all taxes, has the ability to do it.

Defined care pathways, clinical practice guidelines, and robust medical record systems can minimise the variability in standard of care and maximise outcomes

band penetration and affordable rates have enabled inclusion of even remote villages in the transformation. Central government is keen on evolving a national digital health policy given its potential to transform health systems. NITI Ayog had published a concept paper titled National Health Stack on its website. It articulates standards for unique person ID, common language (Health Data Dictionary/ HDD) and national registers for every provider constituting the backbone for a national digital architecture. Information systems for administration of healthcare provision (HIS) and health insurance (HIIS), electronic medical and health records (EMR and HER), personal health records (PHR) etc., will improve efficiency of entire system and provider robust monitoring systems to continuously assess health systems performance. Tele-medicine, e-consults, online services, aggregator technologies, point-of-care diagnostics, smartphone apps, Artificial Intelligence (AI), Block Chain

How Artificial Intelligence and Internet of Things can transform the Business of Saving Lives

Manish Sacheti, Chief Financial Officer, Ziqitza Health Care explains the inroads made by AI in the healthcare sector to ensure not just a quick turnaround, but also accessibility to those in dire need of medical aid and care

Technology, with its rapid evolution has been taking several industries across India by storm. Most experts in their field are welcoming developments like Artificial Intelligence (AI) and Internet of Things (IoT) due to their effectiveness and lack of human involvement in accomplishing a host of tasks.

With regards to the business of saving lives, this evolution is truly a relief, with speed being the biggest advantage, which the healthcare industry of the country is reliant on. AI has been making inroads in this sector to ensure not just a quick turnaround, but also accessibility to those in dire need of medical aid and care. IoT too, is gradually being recognised as a key contributor to cause a paradigm shift in the industry.

India's healthcare industry has its fair share of challenges, including a shortage of manpower; making it difficult to provide prompt relief during medical emergencies, especially in remote areas of the country. To this extent, researchers have huge expectations from AI and IoT, as they foresee the concept of 'futuristic hospitals', with a positive perspective on the shift from human processes to robotics.

Artificial Intelligence (AI)

AI, specially Machine Learning is expected to become an integral part of emergency medical care and healthcare in the near future. As per research, AI is already aiding the sector to a large extent in detecting potential diseases and ailments, along with offering support to develop their cures, through antidotes for almost 95 per cent of the world population. In India, in line with the budget announcement by the Finance Minister for 2018-19, making a proposal to develop a national strategy for the AI ecosystem is already underway by NITI Aayog.

With this, a number of medical practitioners are hopeful of AI contributing to increasing life expectancy via developments in sanitation facilities, as well as prompt medical services for urban and rural areas across the country. Sophisticated machine learning (ML) algorithms are being developed to let AI help scale, keeping the quality consistent. Experts believe that this will indeed be a big step towards sustainable healthcare, which will ensure quality and accessibility, along

image caption: Manish Sacheti, Chief Financial Officer, Ziqitza Health Care

> **AI's promise to enhance emergency care and healthcare via robot-assisted services, early detection, virtual medical professionals and more is a big ray of hope for India**

with affordability for all. AI's promise to enhance emergency care and healthcare via robot-assisted services, early detection, virtual medical professionals and more is a big ray of hope for India.

As the world is gradually transitioning from experience-based medicine to experience and evidence-based medicine, according to many studies, data will play a big role in the advancement of AI in India. Most importantly though, experts have inferred that the right blend of AI and a human touch will help in achieving the necessary transformation in healthcare and emergency care.

Internet of Things (IoT)

Along with AI, the evolution of IoT-enabled connectivity is touted to be the future of healthcare and emergency care revival. It already has a number of applications in healthcare, ranging from distant monitoring to smart sensors and remedial device integration. With this, not only does it assure the safety of patients, but also enhances the medical professional's ability to provide immediate care and relief.

When used effectively via advanced analytics and big data technologies, IoT has great potential to change the landscape of the country's emergency care sector. A number of trends like — predictive analytics to improve outcomes, real time monitoring of patients, value-based patient centric care and several others as part of IoT can be utilised to not only boost accuracy, but also cost-efficiency.

As a reliable tool for long-term health monitoring systems, 'wearable tech' is the next big thing. Wearable devices are garnering swift popularity across the healthcare and emergency care sector. These can update cloud based Electronic Health Records, thereby assisting medical professionals to implement prompt measures for their patients in case of emergencies.

Technological advancements primarily help improve the quality and accessibility of services by maintaining health records and a GPS tracking system in ambulances. With the right blend of its boons like AI and IoT, a bright future in the business of saving lives across India is not far away.

Our vision is to drive better health outcomes for the user

Rekuram Varadharaj, Co-founder, healthi, speaks to **Prabhat Prakash** on how the company intends to build a business model wherein all players in healthcare ecosystem can derive better outcomes

Since inception, healthi has grown 3x times with a retention rate of 90 per cent. What is the success mantra?
We believe that startups succeed when they focus on not just meeting customer expectations, but on increasing and exceeding them. Customer experience and expectations with healthcare have traditionally been low. Research from Accenture[1] shows that the average net promoter score (NPS) for healthcare, a measure of customer experience and expectations, is 9 on a 100-point scale. Due to poor user experience, users often get disengaged, leading in turn to poor compliance (studies show that at most 33 per cent users adhere to physicians' advice) and eventually poor health outcomes. At healthi, our vision is to drive better health outcomes for the user. Our innovations in personalisation algorithms, predictive analytics and user experience have driven breakthrough health outcomes, often driving 27x more impact than traditional approaches. When combined with extensive and convenient access to quality healthcare providers across 300+ cities in India, these innovations help our growing user base get better outcomes due to 2x better compliance rates than prior highs. This has, in turn, resulted in customer satisfaction and retention rates of 90 per cent + and an

NPS measure which is 8x compared to industry averages.

What is the uniqueness of your business model?
We wanted to create a business model where all players in the healthcare ecosystem derive better outcomes. With our model, users get better health outcomes due to better compliance and convenient/easy steerage. Health sponsors like employers and insurance can rely on a single partner to effectively manage the health of their populations and healthcare providers see lower customer acquisition costs and high retention.

What are the expansion plans for the next three years for the Indian market?
The company has been rapidly expanding its coverage and our signed user base has grown 12x between January 2018 and March 2019. We are all set to acquire over 2.5 million signed users by December 2019. Currently, the addressable market in India is about 2 million outpatient transactions with a value of about $28 billion annually and it is growing at a healthy 15 per cent growth rate pa.

How does healthi plan on expanding into the East and South-East Asian markets?
healthi is set to expand its digital health coverage to East and South-East Asian markets within the next 12 to

18 months.

What are the challenges faced by healthi in the Indian market in terms of expansion?
The biggest challenge before us was compliance. Quite often, there are a lot of points in a patient's journey where lack of clarity or understanding about the importance of the next step can lead to a patient dropping off. They might not visit the doctor for a follow up or leave the medication prescribed without completing the course. No more than 30 per cent of the people visit the doctor for the follow-up visits even if needed. We address this problem by using analytics and technology to make a user clearly understand his/her present medical condition, what is needed to be done, and why there is a need to do it. Then we guide them on how to do it. This is how we solved the problem of drop-offs and today we are proud to state that we have a compliance rate that is 2x better than prior industry highs.

What targets have been set for healthi by 2022 in terms of revenue, market share and brand visibility?
We plan to have 10 million active users on the platform within the next two years.

Reference
1.https://www.accenture.com/_a cnmedia/pdf-33/accenture-think-your-patients-are-loyal.pdf

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> **Currently, the addressable market in India is about 2 million outpatient transactions with a value of about $28 billion annually and it is growing at a healthy 15 per cent growth rate pa**

INTERVIEW

We intend to be present in 50 plus cities in India

In just four years, Zorgers, the home healthcare startup has recorded more than 7.5 million hours of caregiving and is now eyeing expansion across 50 plus Indian cities by 2025. **Varun Gupta**, Founder & CEO, Zorgers Home Healthcare, speaks about how they intend to create value for all in an interaction with **Raelene Kambli**

What is Zorgers' core business area in healthcare? Who are your funders?

Zorgers caters across a basic level of caregiving — called assistant living or companionship — for dependent elders and children to advanced services like intensive care setups at home for bedridden patients. We are three founders in the journey, myself, Anil Kumar (COO) and Abhinav Gupta (CTO). We started with this vision to organise the home healthcare service space. Finding a trustworthy and skilled caregiver near you with continuity of care is never easy.

Our target audience is mostly dependent elders, who may or may not be living alone, newborns and new mothers, bed-ridden patients, patients recently discharged from hospitals, and patients suffering from chronic illness who require on-demand support.

Caregiving is at the heart of our business, which means caregivers are the most important part of our business. The way we hire, train, and engage them on a day-to-day basis and, most importantly, retain them defines the success of Zorgers.

With a combined array of services, we are striving towards value creation, not just for healthcare professionals but also for the society and their clients. Our goal is to cater to the needs of half a million clients by 2025 and improve our gross total transaction value from Rs 150 million to Rs 7.5 billion by 2025.

What is your revenue model?

As a service provider, we make 25 per cent as gross margin in all billed transactions, and as an aggregator, we charge a success fee for all matured transactions.

Why did you choose to headquarter in Mohali?

We are based in Mohali, a city that is a part of the Punjab Tricity (Chandigarh, Panchkula, Mohali). This gives it a vantage point in terms of operating across Haryana, Himachal Pradesh, and Delhi-NCR. Incidentally, these regions are witnessing a high rate of migration.

They are also home to one of the largest affluent income groups in India, making Mohali the ideal place to pilot the business idea, the co-founder explains.

Our focus area is Tier II and III towns from where people mostly migrate to metros and Tier I cities. In this case, our consumers are in Tier II and III India, but buyers are in metros and Tier I or even NRIs.

Share your growth plan for 2020?-

We intend to be present in 15+ cities with a key focus on Tier 2 and Tier 3. We will help 75000 plus families in the journey with a team of 25000 plus caregivers

How has Zorgers created 3000 plus Jobs for in healthcare?

We are providing employment opportunities to the youth who is interested in caregiving as a profession. There are detailed skill set and soft skill training (3-5 weeks) that we impart before deputing them for a job. We have three start-of-the-art training centres in Mohali, Ludhiana and Jalandhar. All these 3000 plus caregivers are part of the journey where we have helped 10000 plus families.

You say that Zorgers' intends to create at least

one million jobs by the end of 2025. Can you explain your plan for the same? How will skilling add value to your home- healthcare business?

Home healthcare is all about quality and continuity of care. We treat caregivers as partners in the journey. The success of our business model is purely linked to how well we hire, train and retain caregivers. The vision of one million jobs is in line with our vision to be present in 50 plus cities in India and helping half a million families. Quality of caregiving can only be achieved by constant investment in skilling.

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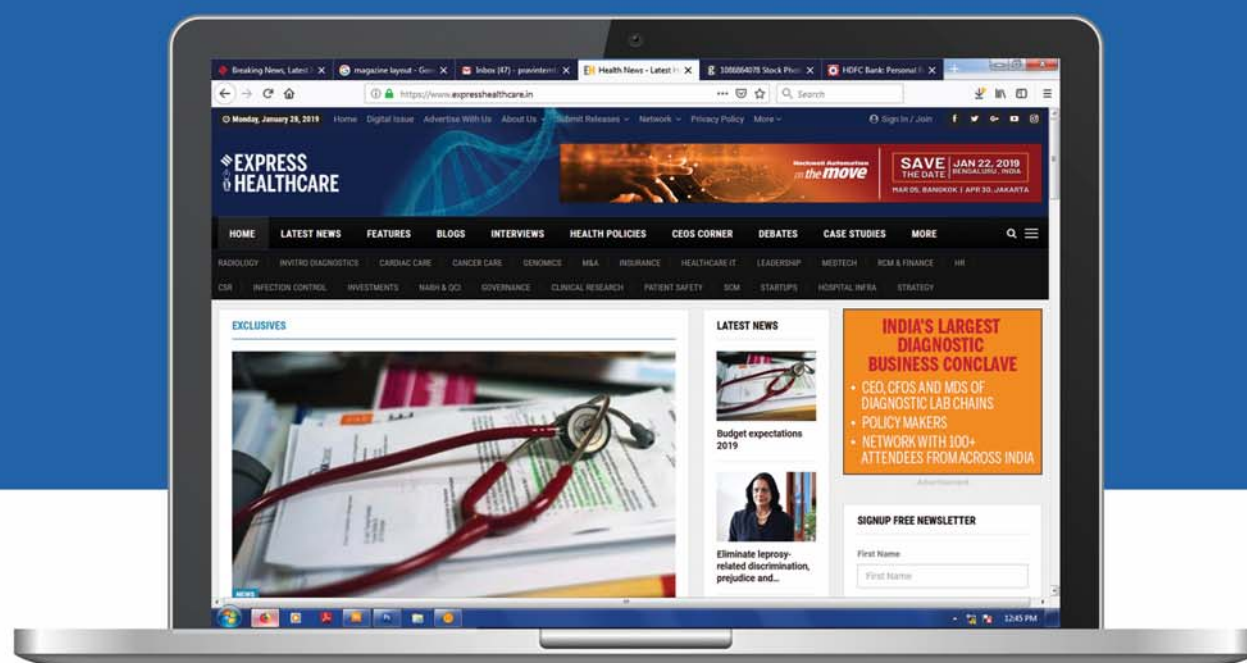
MAKING INDIA HEALTHCARE INC FINANCIALLY FIT, TECH EMPOWERED

Healthcare Senate 2019

▶Welcome address by Viveka Roychowdhury, Editor, Express Healthcare & inauguration ceremony

▶**Keynote address:** Name of the game: Collaboration, partnerships and more

▶India Healthcare Inc: Financially fit, tech empowered

▶**Special address:** Operation excellence: The X factor for business success

▶OT workflow improvements, customisation and profitability

▶**Panel discussion**: Change management and transformation leadership

▶Networking tea break

▶**Panel discussion:** Digital Health Enterprise, Reality or Myth!

▶Networking break

▶**Express Healthcare Excellence Awards 2019 ceremony**

▶Welcome address by Express Healthcare by Viveka Roychowdhury

▶**Chief guest address :** Dr Indu Bhushan, CEO, Ayushman Bharat

▶**Jury Chairperson's Address:** Bejon Misra, Founder- Patient Safety and Access Initiative of India
Foundation and Partnership for Safe Medicines (PSM) India Initiative

▶Express Healthcare Excellence Awards distribution

Welcome address

(L-R) Dr Tarang Gianchandani, HN Reliance Hospital; Dr Nandkumar Jairam, Columbia Asia; Shankar Kaul, Elsevier; Dr BS Ajaikumar, HCG; Bejon Misra, Patient Safety and Access Initiative of India Foundation; Dr Azad Moopen, Aster DM Healthcare and Viveka Roychowdhury, Express Healthcare

Over a hundred CEOs, CFOs, COOs, CIOs, supply chain heads and thought leaders gathered together at Healthcare Senate 2019 in New Delhi to deliberate on the prospects for business growth, financial stability and technological empowerment within the healthcare domain. They intro-

and by the industry. Featuring the movers and shakers, the good, the bad and sometimes the ugly side of this sector, we continue our quest to showcase the best of Indian healthcare to the world and bring the best global healthcare practices to India," she said.

She pointed out that the central theme of the event

Viveka Roychowdhury, Editor, Express Healthcare

spected on the prowess to tackle key trade challenges and tap potential opportunities.

The fourth edition of Healthcare Senate 2019 began with a welcome address by Viveka Roychowdhury, Editor Express Healthcare, who jogged the audience's memory about the past three editions. She further emphasised on how the forum has provided a platform to private healthcare providers for sharing their insights on business models that will work for India.

"Express Healthcare's core value has been to reflect on the pulse of the vibrant sector and firmly reinforce our credentials of the industry, for the industry

aims to explore and debate on 'India Healthcare Inc: Financially Fit, Tech Empowered', as Fintech is transforming each and every function of the healthcare value chain.

Followed by the welcome address, the event commenced on an auspicious note with the lamp-lighting ceremony by Dr Azad Moopen, Founder Chairman and MD, Aster DM Healthcare; Shankar Kaul, MD, Elsevier; Dr BS Ajaikumar, Chairman and CEO, HealthCare Global Eneterprise (HCG); Bejon Misra, Founder, Patient Safety and Access Initiative of India Foundation and Viveka Roychowdhury, Editor-Express Healthcare and Express Pharma.

Name of the game: Collaboration, partnerships and more

Speaking to an august gathering of top CEOs, CFOs, CIOs and private healthcare leaders, Moopen informed that public-private spend now is at 30:70 ratio. The government needs to increase healthcare spend to 17 per cent.

"The reality of Indian healthcare is that we have a very low supply side strength right from our GDP spend, doctors per patient and bed per patient ratio. Both the central and state governments should join hands with the private healthcare while initiating any big healthcare scheme. The recent budget allocation has been fairly good as compared to earlier times," he said.

Mentioning about Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) scheme, Moopen said, "For the successful implementation of

Dr Azad Moopen, Founder Chairman and MD, Aster DM Healthcare

the scheme, it needs to be supported by the private healthcare fraternity. The government should also provide viable fund gaps. The scheme has allocated Rs 6,400 crore, which is a minimal amount because the total healthcare spend of our country is Rs 64,000 crore. If we have to cover 10 crore families for Rs 5 lakh for a year, there should be a premium of Rs 8,000 to Rs 10,000. So, we need Rs 100 crore to run the scheme every year, which needs huge funding. Also, if we need to take the scheme to tier II and III cities, we should have tripartite agreement with the corporate hospitals as they can provide the infrastructure facility and medical equipment companies can provide their latest technologies."

Informing that accessibility, affordability and quality are the three pillars of a successful healthcare system, he stressed that innovative ways of structuring with an open mind will lead the road to success. "The future of healthcare in India needs to focus on preventive medicine. There is a huge demand-supply gap of healthcare professionals that needs to be met," he highlighted.

Drawing an example of Kerala Primary Healthcare (PHC) model, he informed that investment on healthcare education and tech-empowerment in rural areas is necessary. Appreciating the central government's plan to set up 1.5 lakh Health and Wellness Centres by 2022, he said,"The existing Rural Health Clinics (RHCs) and PHCs should be run by the locals instead of government and they should be converted into public-private partnership (PPP) models. The only way good healthcare can be provided is by leapfrogging towards technological upgradation."

Operational Excellence: The 'X' factor for business success

Informing that Indian private healthcare is suffering with cost of low cost, he said, "It is a testing time for private healthcare practitioners and there is no doubt about it. The question is how do we sustain, look at the margin and reinvest in technology. But the overarching goal of value for patients is not access, cost containment, convenience or customer service, it is a value-based framework of care and the trust factor between the patient, doctor and hospital. Private healthcare segment should understand that trust factor is combined with cost factor and it is not associated with the outcome factor. No one is looking for cost vs benefit," he said.

Sharing a global perspective, Dr Ajaikumar said, "Cost in healthcare in other countries are enormously different. The US spends $10,000 per person, most of the EU countries spend

Dr B S Ajaikumar, Chairman and CEO, Healthcare Global Enterprise (HCG)

$5000, China spends $500 and India spends $83 but we expect the same outcome as the other countries. As you start spending less, your outcomes are ought to be less. When HCG did a study of patients of colon cancer and breast cancer who took treatments under various central and state government schemes compared to those patients who had taken private insurance or paid cash, it brought out a startling fact that 44 per cent increase in morbidity and mortality was recurring in people who opted for treatment via the schemes unlike the latter. Clearly, there was a difference. Perhaps in the scheme-related treatment, the approvals were not timely or they had limitations in finance. But these things are not addressed as it is not palatable. At this junction, operational excellence becomes important to maintain a patient-centric environment and have productivity, efficiency, cost-effective and quality healthcare."

Informing that to bring about good outcome and reverse invasion, value-based medicine is the key, he said, "Indian healthcare providers are known for productivity optimisation, using the technology to the hilt and utilising the equipment to the maximum. For example, a linear accelerator is run from morning 5 am to next day 2 am in a hospital. When it comes for high efficiency, it is already in our system and we have very short waiting period compared to many other countries. Cost of the treatment is pittance here and still we are stuck with low-cost business. So, let's not beat down the cost, now we need to focus on increasing the quality of care and outcomes. Technology cost is high and government is certainly not helping in importing cost. With GST, we are actually paying more than other countries, even then we have mastered the technique on how to deliver low-cost healthcare."

Going forward, Kumar informed that evaluating and enhancing an organisation's operational processes is a must for achieving excellence.

Digital evolution to revolutionise the health sector

Speaking about the challenges and how digital evolution is revolutionising the healthcare, Shankar Kaul, MD, Elsevier said, "Currently, the healthcare sector is undergoing several disruptions and challenges. There is an increasing margin pressure on the corporate hospital chains. There could be several reasons behind this, including the significant price controls. But, disruptions also give birth to opportunities and hopefully Ayushman Bharat can be a great disruptor. The scheme holds a lot of promise which will result in significant investments both from the central and state governments."

"The sector has three priorities. The first is providing patient care with high quality while being cost effective, as a result of which we will be able to reduce variability and

Shankar Kaul, MD, Elsevier

improve coordination. Secondly, consistency in care delivery is critical, given the need for building robust mechanism sharing patient

and clinical information across multiple hands off in the healthcare segment. The third is to maximise the team performance where a CEO or

CXO gets to mould an effective workforce. In order to make this possible, we need to focus on people, process and technology," he said.

Highlighting that there has been a significant investment to bring technology into healthcare, Kaul said, "Latest technology is imbibed in diagnostics, radiology and cutting-edge procedures. There have been investments in IT infrastructure but there is a gap in the physician and clinician understanding about its relevance in clinical care. Technology is the key enabler in making sure that knowledge becomes more accessible when it is required at the point of care."

He added that with patient profiles and diseases evolving rapidly, the only way we can keep up with this evolution is by investing in technology. Standardisation of patient care through current, credible and evidence-based clinical decisions support will help the overall healthcare ecosystem.

OT workflow improvements, customisation and profitability

Elucidating the role of integrated operation theatres (OT), he said, " We develop specialist solutions in OTs that will help surgeons to enhance and improve their surgical workflow and also provide better patient care. Integrated theatres comprise features like audio, video, device control and patient data integration."

Informing that integration allows to offer better care, Aicher said, "In integrated OTs, the surgeons can access images and reference materials in the OTs, which lessens the stress and provides a better working environment. It also helps surgeons to consult with their colleagues during an operation, and in remote surgeries where specialists can oversee an operation being conducted miles away. Another area where integration helps is in the cases of

Ingo Aicher, Director, Sigma Jones

litigation where you can refer and review the surgeries."

"We believe in customising the design as per the speciality right from orthopaedics to neurology

since they have different requirements. Also, talking to OT team prior to building OT theatres will save a lot of money. If it is built without proper inputs from the specialists, the working environ-

ment gets affected. For example, in a large hospital in Norway, the chief surgeon went into the OT at the day of opening and said that he can't work in the OT and it was closed. It is one of the 15

hospitals that had closed the OTs and refurbished them. So, these things can be avoided with proper planning. Another element is future-proofing – the technology we implement today can be used up to 15 years," he said.

Listing out the advantages of future-proofing, he highlighted that it helps surgeons in better diagnosis, because they have better-quality image, removes the scope of human error and helps in remote surgeries where specialists can guide a surgeon miles away.

"Standardisation, integration and improving technology of OT is not about removing human factor, but empowering them, so that they can give better treatment. To reduce the stress and strain of surgeons, for shorter duration surgeries, you can use less consumables." he added.

Change management and transformation leadership

(L-R) Dr Dharminder Nagar, Paras Hospitals; Dr S Gurushankar, Meenakshi Mission Hospital and Research Centre; Dr Kishore Kumar, Cloudnine Hospitals; Dr Tarang Gianchandani, H N Reliance Hospital; Dr Ashutosh Raghuvanshi, Fortis Hospitals; Dr Nandkumar Jairam, Columbia Asia

Six top CEOs and Founder Chairmen from across India top healthcare leaders in this panel discussion examined how transformational leadership models can improve healthcare businesses.

The panel discussion saw experts stressing on critical elements that define transformational leadership in healthcare and the value created or business success caused by change management. They also mulled on the need to maintain better communication with patients and how leaders within organisations can drive change.

The panellistfor the session were Dr Tarang Gianchandani, CEO, H N Reliance Hospital (Moderator); Dr Ashutosh Raghuvanshi, CEO, Fortis Hospitals; Dr Nandkumar Jairam, CEO India, Columbia Asia Group; Dr Kishore Kumar, Founder Chairman, Cloudnine Hospitals; Dr S Gurushankar, Chairman, Meenakshi Mission Hospital and Research Centre (MMHRC) and Dr Dharminder Nagar, MD, Paras Hospitals.

Initiating the discussion, Gianchandani asked the panellist about transformational management. Answering to this, Jairam informed that healthcare is at an inflection point. Also, technology has found its way into every aspect of healthcare. The way in which the dynamics are changing, it is evident that patient-centric care is becoming the focal point today. This demands us to move into strong evidence-based practice and adequate documentation and communication."

Taking up the same question, Raghuvanshi responded, "Striking the right balance between a business and what the society needs is paramount. It is a difficult job, but we need to be practical and see how to deliver the same."

Throwing more light on the topic, Kumar said, "Transformation is important but we have a complicated healthcare system. Accountability and outcome is paramount, but we need to equate all of these into one basket."

"Hospitals can be different – be it private or government, but a patient's life remains the same. Any health scheme – be it central or a state-run – is initiated to attract vote banks, but do they pay enough to cover the pay cost? There hasn't been a single study done by the government to understand the cost of treatment for a particular procedure. As a entrepreneur, we should step out of our hospital boundaries and talk about a feasible way. Be it Ayushman Bharat or any other state-run scheme, the reimbursement amount should be equal to the cost incurred by the hospital, then it will be a win-win situation. We should all take up the leadership role," Gurushankar added.

Adding his views, Nagar, said, "Transformation is not a choice. Costing in healthcare is a humongously challenging task. Technology is not free and it comes with a price and we have to deal with it. We will not implement change until and unless we have shared values."

Further, the moderator asked, "As healthcare leaders, how do they want to bring in culture of transformation within their organisations by grooming people or opting a change agent from outside?"

To this, the panellistinformed that culture change is really hard. Change happens with acceptance and acknowledgement of faults. Leaders within organisations need to lead the change. They concluded the discussion with a view on the cultural change in healthcare which can be hard but we have to accept and acknowledge the reality. Also, the leadership should have the conviction to walk the talk.

KEY HIGHLIGHTS

- ◆ Healthcare is at an inflection point and therefore organisations need to move fast and accept change. Accountability is also paramount for transformation within organisations and healthcare systems
- ◆ There hasn't been a single study done by the government to understand the cost of treatment for a particular procedure. It is time for hospitals to step out of their comfort zones and do what was not done before
- ◆ There is a need for better documentation of cases and better knowledge on the professionals' part. The industry needs to step up and maintain better communication with patients
- ◆ If we need to get new thoughts and new ideas into a system, it is important to ignite the minds of next-generation leaders. Leaders should be groomed from within the organisations and not brought in from outside
- ◆ Culture change is really hard. Change happens with acceptance and acknowledgement of faults. Leaders within organisations need to lead the change

Digital health enterprise - Reality or Myth

(L-R) JP Dwivedi, Rajeev Gandhi Cancer Institute; Shilpa Saxena, Aakash Healthcare; Pradeep Saha, Max Health; Kapil Mehrotra, HCL Healthcare India; Munender Soperna, Dr Lal Path Labs

Top healthcare IT experts discussed and deliberated on how digital health is evolving rapidly and how they ease treatment follow ups, improve patient data analysis and increase patient satisfaction.

The session was moderated by Munender Soperna, CIO, Dr Lal Path Labs. The other panellistwho shared the dais were - KV Kumar, CIO, Narayana Health; Pradeep Saha, VP – IT, Max Health; Shilpa Saxena, CIO, Aakash Healthcare and JP Dwivedi, CIO, Rajeev Gandhi Cancer Institute.

Sharing his views, Dwivedi said, "Digital technology ensures error free work and it brings in operational efficiencies as well. There is a difference between digitisation and digitalisation. Digitalisation is making the entire process digital. There are four technologies, which have been constituted to be a part of the digital world called Social, Mobility, Analytics and Cloud (SMAC) and now there is a fifth dimension called blockchain. Digitalisation should never be the objective, rather it should be a means of providing service and achieving operational excellence. 90 per cent of the patients who have been registered in the past 12 to 15 months are the active patients, and if we build that data, it will help."

Going forward, the moderator asked, "What is your roadmap to digital transformation in healthcare?

Answering to it, Kumar said, "We are trying to upgrade the underlying infrastructure and become web-enabled. Developing a technology and solution is not enough but we also need to concentrate on the processes and need to know how to adopt it."

Citing examples on how digital health helps in hospitals, Saha said, "Many patients die due to wrong medication but bar-coding can be instrumental in guiding the nurse in providing the right medication and averting such mistakes. Similarly, IT helps doctors and paramedics to monitor critically ill patients on their vitals."

Touching upon the benefits of digitisation, Saxena informed that digital health enables hospitals to record data documentation and-analyse a patient record from anywhere at anytime. It enables them to improve treatment as documentation is more effective.

The panellist informed that digital health is a journey and we should have bottom up approach. The first step is to strengthen the basic digital infrastructure, second is managing ERP, procurement and inventory – these fundamental values should be taken care of. Thereafter comes the Hospital Information System (HIS) and the fourth level is the Electronic Health Record (EHR) where we have single longitudinal record of patients. Fifth or the top layer is digital layer where we talk about robotics, IoT and social media engagement. Adapting technology is not enough. Its adoption is tricky and it needs up-gradation of every underlying infrastructure.

KEY HIGHLIGHTS

- Digital hospitals ease treatment follow-up, improve patient data analysis and increase patient satisfaction
- They enable continuous improvement in treatment as documentation is done in a better manner
- Data documentation and analysis becomes difficult in cases where patients register in groups (like families)
- Having technology is not enough. Its adoption is tricky and it needs up-gradation of every underlying infrastructure
- Today's patients want choice and control, and digitalisation helps them manage chronic diseases better, thereby reducing stress or anxiety caused by it
- Bar-coding can help prevent cases of wrong medication which is rampant in the traditional healthcare setup

Private sector's active participation is crucial in AB- PMJAY : Dr Indu Bhushan, CEO, AB-PMJAY

Initiating an interactive discussion, Dr Indu Bhushan, CEO, Ayushman Bharat, answered the questions asked by the private healthcare leaders. He informed the private players on their crucial role for the success of Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY). He spoke on the various measures being undertaken by the government to increase the participation from the private health segment in the scheme.

"The vision of AB-PMJAY is to provide financial protection from hospitalisation costs to 40 per cent of poor people in the country. Active participation from private sector will be the key to success. We urge your cooperation for implementing and trying to evolve the scheme. We know that the private sector will not actively participate unless the rates are viable and we are working on it," Bhushan said.

He informed that in nine months, close to nine crore e-cards have been generated. About 33 lakh beneficiaries have taken treatment worth Rs 4,500 crores with complete portability available across 16,000 empanelled hospitals in the country. Eight thousand of these are private hospitals.

"Private sector has actively participated in the scheme and they have been part of the initial success of it. Even then, there is some reluctance in the segment and we have to jointly overcome that. As per our findings in the package rates – many are slightly generous which should be reduced, while some packages are unfairly low and we are looking at it carefully. Yet, with the overall existing rates, if a hospital is providing care based on mixed health conditions, they can gain, but we can further validate it," he said.

He also added that scheme has taken a big leap towards Universal Health Coverage (UHC) as 32 states/UTs are on board and at least 17 of these

Dr Indu Bhushan, CEO, AB-PMJAY

have decided to extend PM-JAY benefit package to their own state-sponsored categories. It has taken the current coverage through PM-JAY to more than 13 crores families which translates to roughly 65 crore people. About 1,400 health benefit packages across 23 specialities have been designed with rates.

Talking about making it a favourable bet for private hospitals, Bhushan said, "We might help with reducing cost as far as PMJAY is concerned. In years to come, we can do collective bargaining with the suppliers of devices and implants, also with the pharmaceutical industry where we will try to negotiate these inputs to the hospitals favourably. So far, we have got a good response from the industry. Thus, we can provide better rates which can help in reducing the cost. Cost can be segregated based on devices and procedures separately, so that we can ensure reducing the package rates."

Answering to a question on differential pricing being a pain point, he said, "We fully understand that differential pricing is an issue and we fully recognise it. It poses a big problem and layer complexity for us on how to determine prices at the national level. Prices across the country and health institution vary hugely. As a beginning, we have laid out certain conditions like if hospitals in metropolitan area, or hospitals which are NABH-certified or hospitals in an aspirational district, and hospitals which give training to doctors and paramedics, can get higher rate. This may not be enough. So, we are undertaking a review with the industry and other stakeholders. However, do not expect a huge change in the rates, as there is a trade between providing higher rates and sustainability of the scheme."

Informing that the scheme is to stay, Bhushan concluded, "It is just a modest beginning and when the scheme matures, we will have two crore new admissions every year. The vision is clearly laid out in front of us and the support of all stakeholders is imperative. This scheme is not a sprint, it is a marathon and there is no stopping. Initial progress has been encouraging and humbling but there is a long way to go."

1. PM-JAY is being implemented in the true spirit of cooperative federalism; convergence with the state schemes and the flexibilities being adopted by each implementing state. This puts PM-JAY in a unique proposition where it does remain as one scheme but an amalgamation of 32 different state schemes. At the central level, the objective of the scheme cannot be achieved without strengthening the digital ecosystem in the country. Thus, it was a challenge to design and develop an IT platform which was stable, inter-operable, secure and scalable.

2. A robust IT backbone has been developed and is being strengthened for success of the roll-out of the scheme across the country. The technology platform serves as a key enabler for ensuring that the scheme is implemented in a transparent and data-driven manner. IT platform enables in delivering portability across varied IT systems being used all empan-elled hospitals in the country. The data so generated immensely helps in data analytics and fraud control.

3. Three main IT solutions, backed by scalable and interoperable cloud based infrastructure, being utilised under Ayushman Bharat PM-JAY are as below:

a. Beneficiary Identification System (BIS): Used by hospitals/Common Service Centres to verify beneficiaries

a.i. Captures beneficiary demographics and matches against beneficiary list in backend

a.ii. Generates unique NHA ID to track patient utilisation and claims

b. Transaction Management System (TMS): Used by hospitals to manage patient cases

b.i. Captures transactions including pre-authorisation request, treatment plan, claims submission and payment

b.ii. Displays pre-authorisations and claims status for action

c. Hospital Empanelment Module (HEM): Used by states and hospitals to manage the empanelment process

c.i. Captures hospital information on infrastructure, medical staff, specialities, compliance etc.

c.ii. Generates unique Hospital ID to track service utilisation and claims

4. States using their own IT platforms are linked with PMJAY IT system through API integrations with their data made available in NHA data warehouse.

5. With this huge base servicing more than 50 per cent of India's families with portable benefits at any of 16,000 hospitals empanelled, currently the IT systems enables:

a. More than five beneficiaries per second are identified

b. More than 10 beneficiaries per minute are admitted to the hospitals

c. More than one lakh worth of treatment per minute is extended to the beneficiaries

How PM-JAY has the potential to revitalise the entire health ecosystem:

◆ **Continuum of care:** All Ayushman Bharat transactions are digitally recorded and stored in data warehouse under PMJAY. Thus, the programme not only provides an unprecedented opportunity to address the health needs of more than 50 crore citizens in a comprehensive manner but also to define the priorities for the health system as well as shape future policies by drawing insights from the large data sets that will be generated. Ayushman Bharat through the National Health Stack being envisioned by NITI Aayog, can go a long way in synergising the programmes with the help of backward and forward linkages of data to ensure continuum of care. In collaboration with NITI Aayog, NHA is also exploring the use of Artificial Intelligence / Machine Learning for fraud/abuse control and improving treatment protocols. This will eventually be path-breaking for bringing in efficiencies in healthcare financing in the country.

◆ **Improving the ecosystem of health insurance**: Joint working group of NHA and IRDAI has been formed to help synergise the data collection, analysis and actions taken in the health insurance sphere in the country.

The working group will also work on areas of - hospital network management, data standardisation and exchange, fraud and abuse control and National Health Claim Portal: common IT infrastructure for health insurance claims management. This will bring the entire industry to talk the same language and enable sharing of insights seamlessly.

◆ **Ensuring supply in a supply constrained country**: With big data analytics, government can efficiently manage healthcare support to the last mile and deploy automated systems and predictive analytics that will enhance the quality of health care in the country. Thus, information generated under Ayushman Bharat can pave the way for:

◆ Advancement of personalised medicine in the country

◆ Identification of gaps in availability of access to providers, health benefit packages and capacity building requirements

◆ Birth of innovative means to cater to the huge population (eg Artificial intellilgence and telemedicine) given the paucity of healthcare infrastructure at the last mile

◆ Bringing in efficiencies in management through automation and access to real time information using artificial intelligence and smart devices

◆ Building a strong feedback mechanism riding on the call centre and mobile app, thereby empowering the people

◆ **Improving quality and monitoring**: Ayushman Bharat can go a long way in improving the governance of health facilities by providing crucial data on the quality of care they offer which can also be substantiated by tracking and identification of fraud and abuse to plug leakages, saving misuse of government resources.

◆ **Promoting innovation and partnerships:** There is a need to find a way to balance the increasing care expectations of patients in a connected world and the facelessness of technology-driven healthcare. Cost effective technologies for improving quality of treatment/ quality of life is the way how Ayushman Bharat can further its cause. NHA is keen in promoting and partnering with innovative startups and academic institutions or any other relevant organisations.

Choice is going to be cornerstone for healthcare in future

Bejon Misra, Founder, Patient Safety and Access Initiative of India Foundation and Partnership for Safe Medicines (PSM) India Initiative in his address, thanked the jury members comprising Dr KK Kalra and Dr Ratna Devi for their support and guidance in deciding the deserving winners. He also appealed to all present at the occasion to file more nominations in the future and compete with each other to understand where they stand when it comes to healthcare delivery according to the parameters set by The Express Group.

Misra then lauded the hospitals who participated in the awards for their commendable work through the years. "India's private healthcare sector has been a great contributor to the country healthcare system. The healthcare scenario would have been in a worse state had it not been for the efforts of the private sector," he maintained.

He stated that the government doesn't even contribute 20 per cent of the country's

Bejon Misra, Founder- Patient Safety and Access Initiative of India Foundation and Partnership for Safe Medicines (PSM) India Initiative

healthcare delivery system. 80 per cent of the country's healthcare is delivered by the private sector. He then spoke about how everyone wants UHC and how Ayushman Bharat plays a crucial role in this mission. Ayushman Bharat's prime motive is to provide quality healthcare to all and how healthcare delivery cost is a very relative term. The most important parameter for healthcare is quality and

that the country must focus on building better regulations for quality standards..

Encouraging hospitals to seek accreditation, he said that NABH has brought in some kind of standard which certain hospitals have agreed to abide by. The numbers are very few and they definitely aren't very encouraging. He went on to say that, NABH today has become a differentiator for hospitals who have been accredited.

These standards help hospitals to become patient centric and focus on quality standards.

"Choice is going to be the fundamental cornerstone in the healthcare delivery system in the coming years. We as patients have always wanted an informed choice," Misra echoed. Talking about the government's proactive steps to improve healthcare funding and encouragng the private sector to partner with

the government, he said, "Now the government has increased the GDP spend on healthcare to 2.25 per cent. In due course of time it can be taken to 5-10 per cent. That money is going to trigger the change as that money is going to go to the private sector. The private sector has always claimed that they take care of the poor with free treatment of 5-10 per cent. Now Ayushman Bharat is going to pay for free treatments. He encouraged everyone to join the Ayushman Bharat scheme to understand losses, how money would be recovered for the losses."

He further added that we need to convince the government that 15 per cent incentive should be given to NABH accredited hospitals and 10 per cent for entry level hospitals which can be increased further as more hospitals get empanelled to NABH.

On an ending note he congratulated all the winners and thanked everyone for the tremendous work done by them for the healthcare industry.

EXPRESS HEALTHCARE EXCELLENCE AWARDS 2019

The Express Healthcare Excellence Awards into its fourth edition celebrated the contributions of leaders and pioneers in the Indian healthcare sector. Held alongside the Healthcare Senate, the awards seek to recognise the work and contributions of the private sector - to improve and set benchmarks in healthcare delivery. The awards have served as as platform for healthcare providers to showcase their innovative programmes and solutions for patient satisfaction, operational excellence, business improvement and better medical outcomes. These programmes are examples of how hospitals have achieved their goals of sustainability and profitability and helped strengthen India's healthcare system. The awards are majorly segregated into three main categories: Business Strategies, Operational Excellence and Social Footprint.

The evening began with an address by Viveka Roychowdhury, Editor, Express Healthcare, Express Pharma and Express Diagnostics who thanked the jury members Bejon Misra, Member of the Governing Board Member, QCI and NABH, Dr KK Kalra, Ex CEO, NABH and Dr Ratna Devi, CEO and Co-founder, DakshamA for their guidance in framing the parameters for selection and curating the best projects as winners.

Roychowdhury also elabo-

rated on how the awards are an effort by the Express Group to reward and recognise organisations who are striving to reach high patient satisfaction standards, high quality service provision while meeting sustainability and profitability. She further emphasised on how the awards can motivate even higher quality standards in hospitals and healthcare facilities in India.

The tone for the evening was set by the Chief Guest, Dr Indu Bhushan, CEO, Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana. Dr Bhushan fielded questions from the audience on the problems that private players face while incorporating the Ayushman Bharat scheme.

He elucidated that the vision of Ayushman Bharat is to make healthcare accessible to all and he went on to state that the scheme wasn't a sprint but a marathon. It would help achieve UHC for all eventually. "It is understandable that the private sector cannot effectively participate in Ayushman Bharat without facing some financial difficulties. The government is figuring out ways to help the private players adopt the scheme in a sustainable manner," he said. He also mentioned that the government is trying to negotiate with suppliers and the pharma industry on the prices of implants, devices and medicines to bring down financial burden of the scheme

on the private sector. He encouraged all in attendance to accept the national scheme as it is the future of healthcare in the country.

Bejon Misra thanked the efforts of the jury members for the awards in his address. He even urged more hospitals to participate in the awards and compete in the future. Misra further elaborated on the importance of raising and maintaining high standards of healthcare delivery. He urged organisations in attendance to join the Ayushman Bharat campaign. He concluded his address by congratulating the participants and winners.

The evening drew to a close on a happy note as the winners celebrated.

EXPRESS HEALTHCARE EXCELLENCE AWARDS

Category: Best brand evolution Award
Winner: Shalby Hospital, Ahmedabad

Category: Best Cost effectiveness solution Award
Winner: Vikram Hospital, Bengaluru

Category: Best Patient Satisfaction Programme Award
Winner 1: Vikram Hospital, Bengaluru
Winner 2: Apollo Speciality Hospitals, Vanagaram, Chennai

Category: Best IT enabled process Award
Winner 1: Columbia Asia Hospital, Sarjapur Road, Bangalore
Winner 2: Baby Memorial Hospital, I G Road, Kozhikode, Kerala

Category: Best Patient safety practices Award
Winner 1: Apollo Health City, Hyderabad
Winner 2: Aster DM Healthcare, Dubai, UAE

Category: Best CSR Initiative Award
Winner: Aster DM Healthcare, Dubai, UAE

Category: Best Green Hospital Award
Winner 1: Columbia Asia Hospital, Bangalore
Winner 2: Apollo Speciality Hospitals, Vanagaram

Category: Best Community Initiative Award:
Winner 1: Mercy Hospital, Kolkata
Winner 2: Malabar Institute of Medical Science Ltd. (Aster MIMS) Calicut

EXPRESS HEALTHCARE EXCELLENCE AWARDS 2019

Best brand evolution Award, Shalby Hospital, Ahmedabad

Best Cost effectiveness solution Award, Vikram Hospital, Bengaluru

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Healthcare Senate 2019

◗ Panel discussion
Revenue cycle intelligence: The need of the hour

◗ Philips Healthcare's vision in healthcare

◗ Digital patient experience journey

◗ Networking tea break

◗ Panel discussion
Patient Value: The key to success

◗ Cyber security in digital healthcare era

◗ Panel discussion
Developing a value-based supply chain within hospitals

◗Valedictory and Vote of Thanks by Express Healthcare

Power discussion

Dr Ujjwal Rao, Senior Clinical Specialist, Elsevier gave a brief on how knowledge-based solutions can help doctors boost treatment outcomes

Why hasn't IT been able to transform health yet? Why do clinicians 'usually' hate computer? How can we accelerate clinicians' adoption of IT? These were some of the questions which were addressed in the power discussion which was held on the second day of Express Healthcare's Health Senate 2019. Moderated by Dr Ujjwal Rao, Senior Clinical Specialist, Elsevier, the power discussion on the topic 'Accelerating technology adoption by clinicians' saw various industry experts and leaders explore how knowledge-based solutions can help doctors to boost treatment outcomes.

On why IT has not yet been able to transform healthcare, a participant pointed out that this could be because most known technologies, be it IT or otherwise, are more diagnosis oriented. That makes it bothersome for clinicians to indulge in such technologies, as at the stage of treatment they prove to be of little value.

Dr Rao, however, pointed out that indeed IT can assist clinicians by helping them reduce errors that occur during documentation while writing prescriptions and delivering care. "According to a Harvard study, around 52 lakh medical errors occur in India. About 10 per cent of them is fatal in nature. Smart implementation of IT can help clinicians minimise such incidents and positively influence the factors that affect the operational variability in the healthcare sector," he said.

"Care that is important is often not delivered, and the care that is often delivered is not important," further added Dr Rao as he explained that the latest software can help clinicians make smarter calls on the nature of treatment, verify if a medicine that has been prescribed is appropriate and provide an overall more proficient treatment.

Similarly, IT can also help doctors keep up with the ever-expanding knowledge base that the medical field offers. Talking about knowledge variability, Dr Rao pointed out that it gets difficult for clinicians to stay updated with the rapid changes taking place in the industry and IT can not only help them be aware of them but also help them keep this new information organised and ready to use when needed.

The discussion came to the deduction that doctors are not averse to the latest technology, but tend to avoid it as the current IT setup only adds to a clinician's exhaustion, wastes time in the little consultation time that a patient receives, and does not add much value to treatment.

On the other hand, a practically feasible information technology setup can assist clinicians in making the right treatment choices and delivering faster, better care to the patient. A smart IT structure should be easy to use, should ease a doctor or his team's workflow and enhance its user's knowledge, and thus, improve the final outcome, Dr Rao concluded.

Revenue cycle intelligence: The need of the hour

(L-R) Sumit Goel, KPMG, India; Dr Somesh Mittal, Vikram Hospitals; Manish Mehta, CK Birla Hospitals;Johar Sabuwala, HN Reliance Hospital

Each year when hospitals draft their budgets, hospital CFOs and financial leaders are challenged to find ways to cut costs while maintaining high-quality standards. As the healthcare business environment gets tougher, CFO and financial leaders are forced to be creative with the resources they have so that their organisations can accomplish their financial goals and ensure sustainability for their businesses. Healthcare Senate's panel discussion on Revenue cycle intelligence: The need of the hour, delved into understanding methods, tools and technologies that can help financial leaders to choose the right techniques for revenue cycle management within their organisations.

The panellists for the session were Sumit Goel, Partner, Healthcare Advisory at KPMG in India (Moderator), Dr Somesh Mittal, MD & CEO, Vikram Hospitals, Manish Mehta, Group CFO, CK Birla Hospitals and Johar Sabuwala, CFO, HN Reliance Hospital.

Experts on the panel discussed the financial drivers of a hospital's health and the role that revenue cycle management plays in healthcare. Dr Mittal explained how hospitals usually maintain their revenue cycles. He mentioned that most hospitals first concentrate on strengthening their toplines, manage the middle line costs in order to reach a certain level of profitability.

"Revenue cycle management has become an extremely important aspect in the present healthcare scenario because of the increased government interventions in streamlining healthcare costs and pricing policies. The hospitals need to look at how we can improve pricing strategies while maintaining the toplines and without over-charging. Secondly, it is paramount that we keep our costs low (be it manpower cost, pharmacy costs, power and fuel cost, marketing and material cost and more) while maintaining high quality. We cannot predict our topline revenue but we can certainly control the cost factors. Hospitals need to remember that if you maintain your costs, you will have enough cash flow to manage vendor payments and even get a good discount on procurements making it a win-win situation, Mittal maintained."

They also looked at the common holes and operational challenges in revenue cycle management. Mehta pointed out that in healthcare one of the biggest pain points for revenue cycle management is delayed payment and claim processes. "It is import to track the entire claim process to understand the error areas. Unless to come across the errors and fix it, problems for the revenue cycle can worsen. Abroad, this process tracking is done using digital technologies but in India, it still needs to be done manually," Mehta identified.

Similarly, the panellists also shared ideas to mitigate revenue leakages right from lead generation to care delivery within the hospital to care and engagement out of hospital (e.g. post discharge).

They also looked at addressing the billing and collection challenges. While discussing ways to track the revenue cycle system within organisations, the panellists also pointed out the responsibilities and accountability associated with revenue cycle management.

"Training for tracking and monitoring of all claim recovery processes is extremely important and this should be done among revenue-generating departments," suggested Sabuwala. In the end, the panellists spoke about ways and means to improve the revenue cycles using traditional and emerging technologies such as FinTech, AI and automation.

KEY HIGHLIGHTS

- The goal of revenue cycle management is to ensure smooth flow of cash for the hospital, improve payment systems and reduce unwanted cost variables
- Pricing of services is one of the most important aspects of revenue cycle management. Managing various cost components is also paramount. If costs are managed effectively, the cash flow within a hospital can be managed well
- Many hospitals end up taking many panel patients to increase top lines, but it is actually harmful and blocks cash flow. There should be a healthy mix of self payers, TPAs and more
- 70 per cent of claims get rejected because of human errors within hospitals. Therefore, hospitals need to train their staff in revenue cycle management as well. Today, insurance companies have come up with better deals in terms of payment disbursements methods, thereby making it beneficial for hospitals
- Ayushman Bharat is good. But, the threat for private players today is that this scheme may turn out to be another CGHS where getting money from the government becomes a never-ending challenge
- Standardised processes, better coordination among clinical and management staff as well as a proper tracking system for finance are very pivotal factors in effective revenue cycle management
- AI, cognitive automation can be effective tools to improve all functions of revenue cycle management

Philips Healthcare's vision in healthcare

Sachin Grover, Head Healthcare Solutions, Indian Subcontinent, Philips began his presentation by talking about the vision of the company for healthcare. He mentioned that Philips Healthcare has a goal of improving three billion lives every year from 2030 onwards. He spoke about how Philips intends to build partners from the hospitals and healthcare delivery sector in order to achieve its goal. Grower pointed out that Philips is trying to create shared value for all in this mission.

"In India, we have been operating for the last 88 years and now we want to completely focus on healthcare. Our other lighting businesses have been hived off so that we can focus more on the healthcare sector. So with that as our focus, we want a build a health contin-

Sachin Grover, Head Healthcare Solutions, Indian Subcontinent, Philips

uum where we want to create more value for our partners too. In healthcare we are looking at five areas: Healthy Living, Prevention, Diagnosis, Treatment and Home Care," he said.

Grover also spoke about how right outcomes are their priority, and how the company is helping healthcare professionals in strategising, designing and implementing correct treatment plans. He further spoke about Philips' Vital Health platform that provides patients access to their own data on a daily basis, thus helping them manage their diseases more efficiently. He went on to say, "We want to remove the limits of care by bringing data, technology and people together."

Grover, later spoke about Philips' new projects in the healthcare space. He cited a few examples of some hospital projects where they have helped them overcome operational challenges and improve workflows. In the end, he reiterated that the company is committed to healthcare and will continue to bring forward solutions that can facilitate providers to provide better care to their patients while making their internal process strong.

Digital patient experience journey

Ashokkan Somuveerappan, CIO, Columbia Asia in his presentation spoke about how digitalisation can help hospitals enhance patient experience and be beneficial for company growth. He began by explaining how hospitals can go about bring in digitalisation with a hospital. He first advised hospitals to thing from a patient perspective on when and how a patient will seek medical aid. He went to say that hospitals that provide superior patient experience generate 50 per cent more revenue. Patient experience journey is all about understanding the expectations of a patient and designing a platform that meets them superlatively.

He also mentioned that digital patient engagement channels can be beneficial to hospitals. He cited an exam-

Ashokkan Somuveerappan, CIO, Columbia Asia

ple of how he and his team had created a patient engagement platform for a hospital.

He further went on to say that digitalisation has to be a continuous process. Digital transformation within organisations will depend on key performance indicators based on business factors.

"Investment in digital mediums within hospitals depends on two major factors — cost variables and change management process within the organisation," he pointed out.

Somuveerappan also gave insights on the key factors that will drive digital transformations within healthcare organisations. He said that the primary factor that will govern digital transformation for hospitals is the business matrix on which organisation will need to report on. The three major parameters will be adoption, user experience and business performance. The industry will soon ask discussing on how we can change current business models using digital technologies.

Patient Value: The key to success

(L-R) Dr Ujjwal Rao, Elsevier; Dr Subhrojyoti Bhowmick, Peerless Hospital; Joy Chakraborty, PD Hinduja Hospital; Dr Harish Pillai, Aster Hospitals & Clinics, India; Gaurav Loria, Apollo Hospitals; Dr Priti Nanda, Mediiskool Health Services

We are currently living in the age of consumerism. While other industries have well trodden on this path, healthcare is still evolving in concepts that can be beneficial to the patients, partners and the organisation. With consumerism slowly seeping into healthcare, patient service, patient satisfaction, and patient loyalty becomes the North Star for organisations to centre their business strategies. This panel discussion centred around how hospitals today need to translate their organisational values and skills into patient satisfaction and patient loyalty.

The panelists were Joy Chakraborty, COO, PD Hinduja Hospital, Dr Harish Pillai, CEO, Aster Hospitals and Clinics (India), Gaurav Loria, Group Chief Quality Officer and Head Administration, Apollo Hospitals; Dr Subhrojyoti Bhowmick, Clinical Director, Academics, Quality and Research Depts, Peerless Hospital; Dr Ujjwal Rao, Senior Clinical Specialist, Elsevier and Dr Priti Nanda, Co-Founder and CEO, AB hospitals and Mediiskool health services. Experts on this panel outlined ways and means which hospitals can adopt to understand the create patient value and sensuring business success.

The discussion began with Chakraborty pointing out that every provider in India with or without Ayushman Bharat scheme has been trying to provide the maximum value to their patients since a very long time. "However, the issue is that very often we are not very clear on what this value is all about, how do you measure this value and whether what we perceive as value delivery is considered as value by patients," he stated. He also pointed out that measuring value in healthcare is a difficult task, but quoted the words of Micheal Potter, who in his book, *Redefining Healthcare* writes that value is the outcome achieved against per dollar spent by the patient. He then urged hospitals that it is important to follow this principal in order to measure value.

Chakraborty then set the tone for discussion by asking panellists to share their comprehension of value for patients and how do they meet the needs of the patients at their hospitals.

Loria highlighted that the biggest challenge in delivery of patient value are process inefficiencies and communication inefficiencies. He said, "Patients sometimes come across inefficiencies in processes right from the time they enter the hospital. Therefore, it is important for hospitals to study their processes, correct the inefficiencies, set targets for improvements and adopt best practices. We don't need to reinvent the wheel. A lot has already been done in these areas, we only need to look for efficient models, strategies and practices and replicate them in our organisations."

According to the National Healthcare Services, patient communication and cost play a key role in delivering value. Chakraborty elaborated on this important element too. Further, Dr Bhowmick spoke about the effectiveness of patient reporting and outcome tracking mechanisms. Explaining further on the same, Dr Bhowmick pointed out that the National Health Institute in the US has come out with a patient reporting and outcomes questionnaire that judges the physical, mental and social well-being of patients. India too needs to have similar methods for

patient reporting, he urged.

Dr Pillai spoke about how organisations need to align their human resources in a way that can positively impact the patient value chain. "To run a successful organisation, you need a formal structure of hierarchy but it is the informal structure of relationship within an organisation that will give you the X factor and this is sustainable for the long term. An empowered team is one of the key components to ensure better patient experiences," he shared.

Dr Nanda shared insights on how organisations can train and empower employees in providing value-based

healthcare to patients. "Compassionate communication, patient information and pain management as well as response of the patients, are crucial elements that employees need to be trained in," she said.

The discussion then went on to deliberate on the role of technology in enhancing patient value. "Ethics, equity and empathy are the core principals for patient care. If technology takes away the heavy lifting of patient information and deburden doctors and nurses, hospitals can then focus on these core principals to deliver value to patients," added Dr Rao.

The discussion further triggered some questions on which technologies can help in getting rid of inefficiencies and how hospitals can create platforms that enhance patient experiences.

Cyber security in the digital era

"It is only when a digital failure or a data breach happens, then do we realise the power of the machine and how it can cripple an organisation due to a vulnerability," expressed KV Kumar, CIO, Narayana Health in his presentation on how imperative it for healthcare organisations to have the right level of cyber security.

Kumar also pointed out that India does not have the precise account of all the data breaches happening in the healthcare sector when compared to the rest of the world.

Sharing some global data on cyber security last year, Kumar pointed out that the cost of a cyber security event globally has been close to $800 billion. At least four out of five physicians in the US have experienced some sort of a cyber security event. The cost of healthcare data breach has been around $408 billion. "Therefore, with increased penetration of technological systems in Indian healthcare, organisations will need to ensure that all cyber security essentials are met at their hospitals

KV Kumar, CIO, Narayana Health

and clinics," he highlighted.

He then went on to explain that hospitals deal with multiple partners — doctors, patients, insurance companies, technology companies and more. "Since healthcare has done digitalisation and digitisation, there is an expanded data flow. Moreover, hospitals have multiple players who interact with data. Now with increased penetration of digital technologies, hospital systems become more vulnerable. This raises many challenges to the security provider," Kumar alerted the audience.

He also raised an alarm on the rise of cyber security issues that stem for internal employees from within healthcare organisations, therefore urging healthcare leaders to ensure that their system is secured at all levels.

"Major hacks in privacy are due to privileged misuse; people must be educated to prevent such misuse. "Using a single source of identity, infrastructure monitoring, thoughtful password management and periodic audits help prevent cyber crimes," he maintained.

Moving forward, he spoke on frauds related to billing, pharmacy and more. He also urged the audience to educate hospital employees on these kind of fraud and create filters for the same. In the end, he stressed upon the fact that hospitals need to devise an effective cyber security strategy for their organisation to avoid huge loss and protect patient and hospital data.

Developing a value-based supply chain system

(L-R) Neeta Pawar, Godrej Hospital; Rakesh Kumar, Indian Spinal Injuries Centre, Delhi; Sojwal Vora, Manipal Hospitals, Manoj Ahlawat, Max Healthcare

Supply chain transformation is being viewed as a strategic enabler for health system improvement. Therefore, hospitals these days are moving from a fee for service model of operation to a more value-based model when it comes to their supply chain systems. In this panel discussion, Sojwal Vora, Group Supply Chain Head, Manipal Hospital(moderator); Manoj Ahlawat, General Manager-Supply Chain, Max Healthcare; Rakesh Kumar, Supply Chain Head,Indian Spinal Injuries Centre, Delhi and Neeta Pawar, Pharmacy, In-charge, Godrej Hospital examined ways and means on how organisations can align their supply chain processes in this direction and how they can benefit from it.

The panellists primarily deliberated on the focus and purpose of value-based supply chain, understanding the pre-requisites to develop a value-based supply chain, developing capabilities needed for the same, use of automation and technology and its impact on cost and profitability.

The discussion began with Vora asking hospitals to identify the kind of value their supply chain unit wants to bring to the business matrix, internal stakeholders, patients and partners. He spoke about the two areas through which a supply chain unit can bring value — through its suppliers which can be passed on to their business outcomes and by improving internal efficiencies. Pawar cited examples of how her organisation focusses on quality products while maintaining low costs. He said that at her pharmacy, they strictly follow the quality norms and ensure that at all level inefficiencies are negated. She further went on to say that focussing on patient-first approach, helps them to ensure the best quality and lower costs. This also becomes profitable to the business. "Even low-cost products have to be diligently checked for quality. Patient safety is of primary importance, be it the healthcare industry or the pharma industry," she said. Pawar also mentioned the need for good GMP practices within the supply chain domain.

Sharing his perspective from the procurement side, Kumar spoke about how it is important to lay stringent rules on QC/QA while procuring medicines, devices and medical supplies. "It is important to look for products that have FDA, DCG(I) and CDSCO approvals. While procuring medical implants and devices, it is important to conduct metal quality approval testing as well," he firmly said.

Ahlawat spoke on how organisations can create value with capital expenditure management. He informed the capital expenditure management has many dimensions. "Good capital expenditure management while balancing patient-centric values entails bringing the supplier on the same page and investing in technology that lasts long," he said.

The panel also delved into understanding how can hospitals systematically line up their contracts, inventory and other functions to ensure there is no wastage. They highlighted that inventory should be updated yearly, if not in every six months. In the end, experts reiterated that India suffers from a lack of regulation in the healthcare sector, therefore a quality conscious supply chain system is essential. They urged the audience to be self regulated and put patients at the heart of everything.

HIGHLIGHTS

◆ Even low-cost products have to be diligently checked for quality. Patient safety is of primary importance, be it the healthcare industry or the pharma industry
◆ Good capital expenditure management while balancing patient-centric values entails bringing the supplier on the same page and investing in   technology that lasts long
◆ Supply chain in the healthcare industry is less regulated than the pharma industry, so it is even more important to be value-conscious
◆ Always look for quality, statistics and certificates while selecting a product, especially when it comes to medical consumers
◆ Patient feedback should be given ample importance
◆ Put quality first always, it doesn't matter if you have to compromise on the cost
◆ Inventory should be updated yearly, if not in every six months

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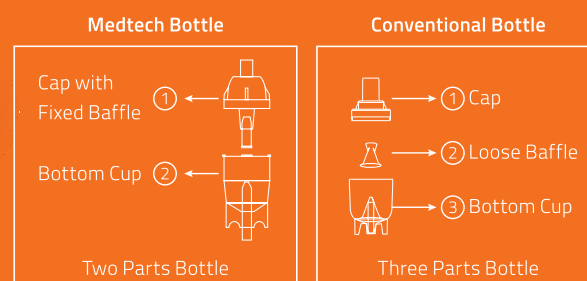## But losing some could risk your life!

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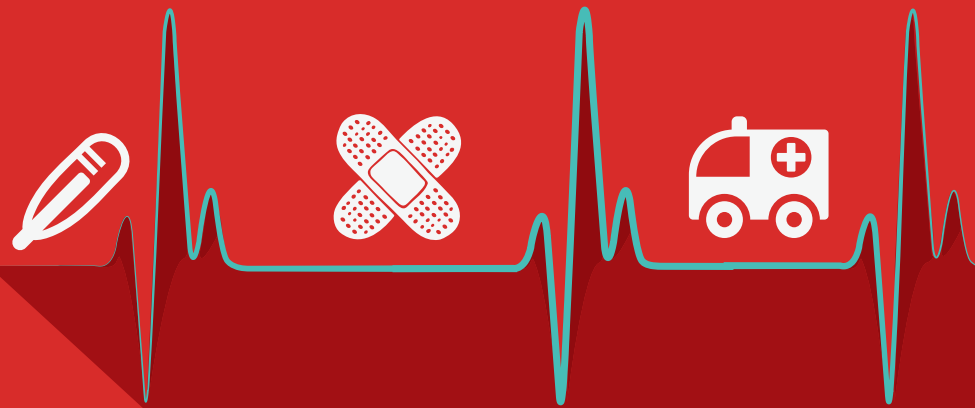
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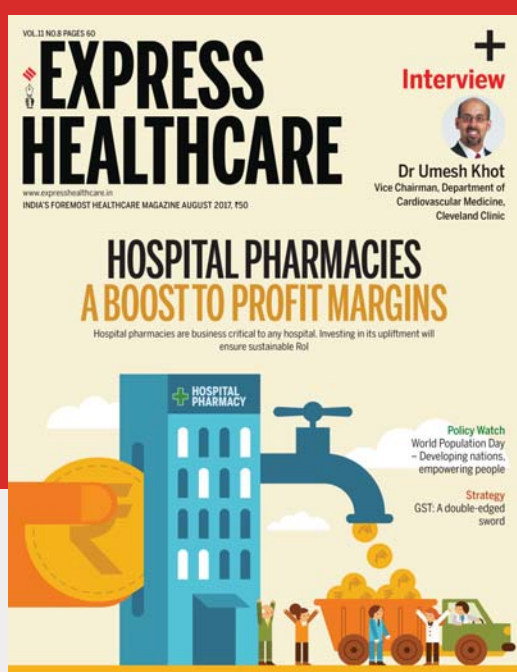
When it comes to nourishing this sector, experts prescribe a regular diet of Express Healthcare. The magazine has been the source of a healthy dose of expert information, incisive category analysis and remedies for industry ailments since 20 years, thereby earning the trust of industry professionals. It's no wonder then that the finest in the field trust the foremost in the field.

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Carestream increases digital footprint in public health sector

The move will help to equip government medical colleges and hospitals in India with innovative healthcare services and enhanced patient care

CARESTREAM Health is following an evolutionary path of making India a more healthcare friendly country. The Government of India has been adopting genuine efforts to enhance public healthcare services in India, through policy support and various other initiatives. The increasing installations of digital imaging equipment in various government hospitals is an affirmation of these efforts.

Carestream Health, a pioneer in introducing the world's first proven wireless digital radiographic detector, the first packaged X-ray film, the first medical dry laser imager and a unique new platform for mobile digital X-ray imaging, is proud to be part of this digital revolution.

Carestream has increased the footprint of their full room digital radiography equipment the DRX-Evolution Plus and the DRX-Ascendat various government hospitals and medical colleges in India. They have installations at key government sites such as Tata Memorial Hospital, Mumbai, Tata Hospital Varanasi (MP-MMCC), Indira Gandhi Institute of Medical Science(IGIMS) Patna, South Eastern Railway, Kolkata, All India Institute of Medical Science (AIIMS) Patna, Southern Railway Hospital, Madurai, Ernakulam Medical College, Alleppey Medical College,Sardar Vallabhbhai Patel Institute of Medical Sciences and Research, Ahemdabad and various other institutes.

"The increase in the government's expenditure on the health sector is a promising endeavour. We are witnessing a transformation of healthcare with the Indian government announcing policies such as the Ayushman Bharat and National Health Mission. As key stakeholders, we have a task ahead to make this vision possible," said Sushant Kinra, MD, Carestream Health India.

CARESTREAM's Full Room Digital Radiography Systems are designed to meet the needs of the growing healthcare sector of India. Their feature-rich solutions, scalable design and modular components can be configured as per one's requirements and budget. The image quality is exceptional and the positioning flexibility for all major exams is great, resulting in accelerated workflow and enhanced patient care.

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> The increase in the government's expenditure on the health sector is a promising endeavour. We are witnessing a transformation of healthcare with the Indian government announcing policies such as the Ayushman Bharat and National Health Mission

Transasia Bio-Medicals to setup manufacturing facility in Sikkim

Spread over two acres, the facility will produce 6000+ instruments monthly

TRANSASIA Bio-Medicals, an Indian in-vitro diagnostics company, announced a Rs 50-crore investment in the expansion of its manufacturing facility in Sikkim. The largest of its India manufacturing plants, Sikkim is the fourth one after Mumbai, Daman and Baddi. Also, the first ever diagnostics manufacturing facility in North-east, the expanded facility will significantly enhance Transasia's capacity to cater to the growing Indian and overseas market demands. Spread over two acres, the state-of-the-art facility can produce

6000+ instruments monthly including the complete range of semi-automated analysers.

Announcing the new facility, Suresh Vazirani, Chairman and Managing Director, Transasia Bio-Medicals said, "Sikkim is fast becoming a major hub for healthcare manufacturing with 14 major players already there. Transasia's new facility will further reinforce this besides providing employment to local youth who otherwise would need to move out of the state for such quality opportunities. With this addition of capacity, we are well placed to deliver to

the demand arising from continued growth posted by the company both in Indian and overseas markets."

Limited access to quality medical infrastructure, including skilled manpower and technologies have been the pain points of over 70 per cent of Indians who live in smaller towns and rural areas. Transasia addresses this through its competitive pricing, which makes diagnostics affordable besides having a sales and service network present nationwide.

EH News Bureau

Transasia unveils 'SAVIOUR' blood donation app

The app will empower those who have resources to acquire blood but lose out on timely help due to inadequate blood bank infrastructure

TRANSASIA Bio-Medicals, an Indian in-vitro diagnostic company, unveiled 'SAVIOUR', a location-based blood donation app that is available free to everyone. The new app is likely to empower those who have the resources to acquire blood but lose out on timely help due to inadequate blood bank infrastructure. It connects patients to the nearest donors and notifies the patient in real-time on the number of donors who accept the request.

Additionally, it sends out notifications to the registered donors on the need for blood-based on their type. Reminders sent by the app, ensure that the donors do not forget about their commitment. Once a donation has been made, a donor

is advised to not donate blood in the recovery period. At this time, the app goes into a precautionary dormant state, to ensure complete safety of the donor. Moreover, the app makes it very convenient for donors; they just need to check-in at the nearest hospital through the app, a step that helps save time and ensure credibility. Donors are incentivised with personal goodwill points, based on the number of donations and lives saved.

In his comments, Suresh Vazirani, CMD, Transasia Bio-Medicals, said, "Blood donation saves millions of lives. The new app is another by Transasia in line with our mission since inception, to make healthcare affordable and address

the limited access to quality medical infrastructure for the masses. As the name rightly connotes, 'SAVIOUR' has been developed with a vision to empower both donors and patients and to save them from unethical practices which have led to corruption and exploitation of the needy. We will invest heavily in promotion of the new app to facilitate its widespread use and save as many lives as possible. I would like to thank my team for their efforts in developing this app and ensuring it addresses most gaps with existing alternatives. I urge the healthy youth of our nation to register on the app as donors and share the light of their life."

Oxair's PSA equipment breathes new life into hospital

Choudhary Hospital in Bijapur district of Karnakata switches to PSA system from Oxair to guarantee constant supply of oxygen

OXAIR GAS Systems, a global specialist supplying advanced medical equipment from its base in Perth, has helped a series of hospitals in India to transform their oxygen supply set-up. The latest case was a hospital in the Bijapur district of Karnataka, after ventilators supporting patients' breathing had been idle for almost two years.
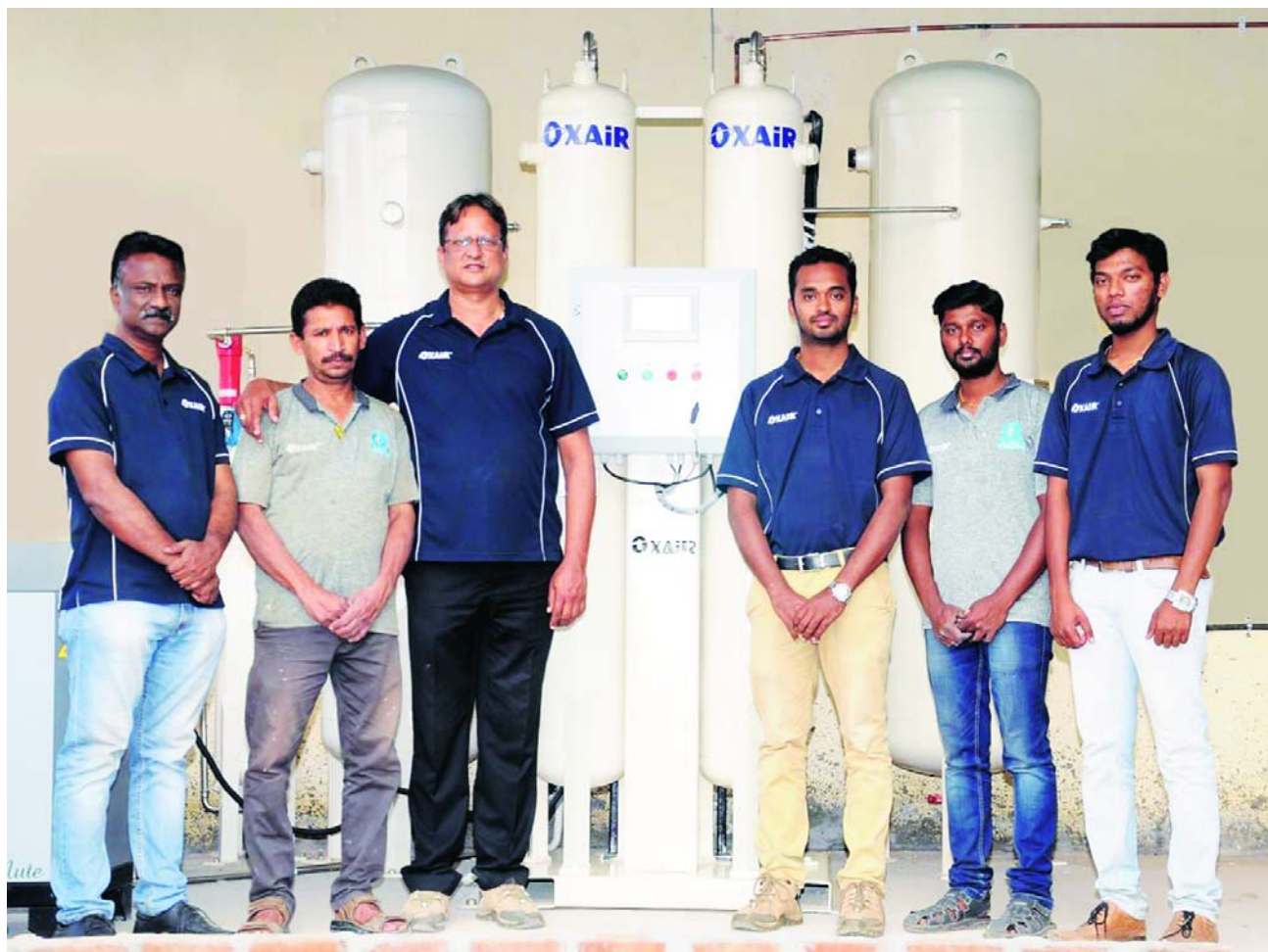
Piping issues were the cause of the problem for Choudhary Hospital, which was also reliant on outsourcing oxygen cylinders. Oxair's India agent Agastya restored the pipes to bring the ventilators back into operation before installing an Oxair Pressure Swing Adsorption (PSA) system to ensure a permanent supply of oxygen.

More and more medical facilities in India are installing PSA equipment to ensure cost-effective supplies of the life-saving gas rather than being at the mercy of deliveries of traditional cylinders, which can be affected by poor transport connectivity and extreme weather events.

To help eliminate possible future interruptions to its oxygen supply chain and reduce the requirement for staff to manhandle cylinders, the multi-specialty hospital switched to a PSA system from Oxair to guarantee constant, high purity oxygen on tap, with immediate back-up when needed.

Oxair is making inroads in what is one of the world's major healthcare markets, convincing many hospitals in India to discard the conventional method of importing oxygen cylinders in favour of an automated system. PSA delivery equipment offers a sustainable alternative directly where it's needed with constant purity of up to 93-94 per cent.

PSA is a unique process that separates oxygen from compressed air. The gas is then conditioned and filtered before being stored in a buffer tank to be piped directly to the end user on demand or to refill cylinders already in circulation.

Dr Ravikumar K Choudhary, General Surgeon, Founder, Choudhary Hospital in 2005, said, "The PSA system from Oxair is supporting eight patients through two ventilators. We can now release staff from the burden of shifting cylinders around and offer better patient care with a permanent flow of high-quality oxygen directly where it's needed."

Choudhary is following in the footsteps of other hospitals in the Indian medical fraternity that have realised the benefits of having their own source of oxygen, rather than counting on outside sources and the handling of cylinders.

Oxair's PSA units are quality medical devices designed to last and deliver consistent, high purity oxygen to hospitals and healthcare facilities in even the remotest locations around the globe. As well as India, hospitals worldwide are benefiting from Oxair's PSA units which have also been installed in Africa, the Philippines, Tonga and Indonesia to provide a reliable and sustainable supply of oxygen.

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> Oxair is making inroads in what is one of the world's major healthcare markets, convincing many hospitals in India to discard the conventional method of importing oxygen cylinders in favour of an automated system

AiMeD deeply disappointed by budget

First budget in three years with zero mention on healthcare

ALL INDIA Medical Devices (AiMeD) has expressed deep anguish over continued neglect of the domestic medical devices manufacturers by the government. Despite umpteen reminders, the Union Budget 2019-20 has not heeded to the suggestions on extending tax and non-tax protection to our industry, said Rajiv Nath, Forum Coordinator, Association of Indian Medical Device Industry.

"We at AIMED are shell shocked to see that no action has been taken by the government to stem the tsunami of imports of 24 per cent at Rs 38800 crore that's crushing Indian manufacturing."

"It is appalling to notice that since the last three years, it is the first budget with zero mention on healthcare not even higher allocation for Ayushman Bharat," said Nath.

Medium and Small Enterprises (MSME) dominated medical devices industry is staring the worst jolt ever thanks to GST as imports become 11 per cent cheaper and shoot up 24 per cent. Data from the Commerce Ministry and compiled by AiMeD shows imports of medical devices have increased by a record 24 per cent at Rs 7450 crore from Rs 31,386 crore in 2017-2018 to Rs 38,837 crore in 2018-2019.

"Since the market is barely growing at 10-12 per cent, a 24 per cent increase in imports would mean further erosion of 10-30 per cent in market share of domestic industry which may account for just 10 - 20 per cent market share," stated Nath.

In other words, the sunrise sector of medical devices faces sunset year with 24 per cent sharp rise in imports if the government does not take corrective measures to promote indigenous manufacturing.

This is indeed very sad, especially when the government is taking credit for resounding success of its flagship policy dispensation of 'Make In India', envisioned to promote higher GDP growth and employment generation.

It is appalling to notice that since the last three years, it is the first budget with zero mention on healthcare not even higher allocation for Ayushman Bharat

On the contrary, the government seems to be telling the domestic medical devices manufacturers 'Not To Make In India' as it is promoting large scale imports of medical devices.

There is an urgent need for the government to expedite steps to end the 80-90 per cent import dependence forced upon us and an ever-increasing import bill of over Rs 38,837 crore, expedite steps for patients' protection, stronger quality and safety regulations, price controls to make medical devices and quality treatment accessible and affordable and ethical indigenous manufacturing viable.

Nath claimed that after the goods and services tax (GST) on imported medical devices became cheaper by 11 per cent, the basic import tariff stands in the range of nil-to-7.5 per cent for most medical devices. Before the GST regime, imported medical devices attracted excise duty and special additional duty, over and above the import duty. After GST, only import duty and GST are levied. However, since one gets input credit in the GST regime, the effective taxation reduces, explained Nath.

While the Modi Government is touting the success of Make in India programme, the beleaguered medical devices domestic industry is focussing on exports as they continue to lose market share to imports on account of lack of adequate tariff protection, lack of non-tariff import barriers and unfair unethical market that favors perceived higher quality of familiar MNC brands with attractive trade margins and higher MRP vs unfamiliar unknown new Indian brands which even if lower-priced against European or American or Japanese brands, if not Chinese, do not adequately induce retailers and hospitals to push their products nor do they have the deep pockets to match the sales promotion, marketing budgets to sponsor events of celebrity doctors.

Even as medical device makers in America allege the regulatory environment in India has hindered the growth of their export, the data suggests otherwise. India imports around 80 per cent of its medical devices requirement and a fourth of that come from the US. The top five countries that India imports medical devices from are the US (21 per cent), Germany (14 per cent), Singapore (11 per cent), China (10 per cent) and Netherlands (7 per cent).

"Exports have gone up a record 29 per cent, Rs 2840 crore from Rs 9908 crore in 2017-18 to Rs 12749 crore in 2017-19 but the Rs 2840 crore gain is not enough to neutralise the Rs 7450-crore import increase. We are, however, happy to contribute another Rs 4610 crore to the negative trade imbalance of India. We are being globally competitive but not in our own market," said Nath.

We estimated the market size at the retail and institutional level to be over $15 billion with domestic products now at less than 20 per cent market share.Nath opined, "GoI needs to take policy decisions to give level playing field if not a strategic advantage to domestic manufacturing while safeguarding consumers or India will remain 80-90 per cent import-dependent."

We request the government:

▶ To encourage employment and Make in India of medical devices and address 70-90 per cent import dependency by a predictive nominal tariff protection policy as done for mobile phones to ensure a vibrant domestic industry and competitiveness and price stability driven by competing domestic players

▶ To protect consumers from exploitatively high MRP in medical devices by rationalised price controls and aid ethical marketing

▶ To regulate all medical devices under a Patients' Safety Medical Devices Law to protect patients and aid responsible manufacturing

▶ To incentivise quality in healthcare products in public healthcare procurements by preferential pricing for Q1 e.g. ICMED (QCI's Indian Certification for Medical Devices) instead of L1 (the lowest price) to ensure patients access acceptable quality

"We stress these are vital and strategic to meet the health-for-all national agenda of PM Modi and aligned to the Health Policy 2017, to make quality healthcare accessible and affordable for common masses and to enable placing India among the top five medical devices manufacturing hubs worldwide and end the 80-90 per cent import dependence forced upon us and an ever-increasing import bill of over Rs 38,837 crore! Pseudo manufacturing and unethical marketing are harming consumers and disallowing manufacturing to succeed in India by well-meaning investors. We can repeat the success story of mobile phones by replicating the same strategies," said Nath.

Sanrad Medical launches 'Made for India' series of CT scanners

These high-performance CT machines are today's answer to affordable CT imaging for many radiology clinics across India

SANRAD MEDICAL Systems has launched its own branded range of CT scanners recently in Mumbai. The company promises that this introduction will change the landscape of low-cost and high-efficiency CT imaging in India. These high-performance CT machines are today's answer to affordable CT imaging for many radiology clinics across India. Sanrad has entered into a technical collaboration with FMI Medical System, USA, a leading imaging tech company focussed on R&D and designing of high-end medical imaging machines. These scanners will be made available to the Indian market backed with a dedicated customer support service and easy spares part availability.

The company announced its plans to introduce 16 slice, 32 slice, 64 slice, 128 slice and 512 slice CT variants across the country. The CT 64 slice machines offer a tremendous advantage in terms of power-saving and low-cost maintenance. In India quality and stability play a major role in customer satisfaction. The company is targeting its 16 and 32 slice machines for tier 2 cities and 64, 128, and 512 slice machines for metros. The difference for both is the speed of acquisition and certain scans like angiography can be performed much faster in a higher-end system like 64 slice CT scan machine.

The 64 slice and 128 slice CT scan machines come in two variants viz without cardiac scan and with cardiac scan package. Cardiac CT imaging requires high acquisition speed for dynamic scanning like heart and blood flow wherein the imaging of heart has to be performed very quickly at high-speed rate.

Higher the speed, faster is the acquisition. Business wise, the scope of cardiac CT imaging in an individual diagnostic centre is not feasible because cardiac CT is an expensive proposition. Cardiologists have the option of doing a cardiac scan in cath labs because it is considered as the gold standard.

In the case of non–cardiac CT, the company has retained the same 64 slice and acquisition speed rate. They have removed the bulk hardware of the system like in this case is the size of the X-ray tube. By reducing the size of X-ray tube the company has reduced the cost by 40 per cent.

16 and 32 slice CT machine is an ideal product for conducting very good quality brain, chest, abdominal, renal, angio scan etc. As compared to the earlier system, the 16 and 32 slice machine consumes less power. The 16 and 32 slice consumes 50-60 kilo watt. Besides this, it using smaller sized X ray tube thereby reducing the overall consumables cost. It is designed for the Indian market without compromising the image quality. Newer hardware, software and design have been introduced to achieve the same quality at a lesser cost.

The machine can easily run for 8-10 years as far as operating efficiency is concerned. All the software available is inclusive in the original package of the machine and is comparable to the models of all leading manufacturers.

"We are going to grow our manufacturing base as we get to understand the regulatory environment in the country with the new medical device rules coming in. These CT scanners will be widely launched in major cities like Mumbai, Bengaluru, Ahmedabad, Pune, Hyderabad, Kochi, Chennai, Coimbatore, Rajkot via the company's distribution network. Sanrad is confident that these systems which are specially 'Made for India' will fulfil the company's mission of dedicating service to the community and building relationship for life with its customers.

> " Sanrad's partnership with FMI Medical System is going to cater to the India specific market with its unique design capability, its sound distribution channels and after-sales service.The products have been designed to offer them the durability and are competent to conduct high throughput scans in India and also successfully done in other countries"
>
> **DR HARRY JIANG**
> President, FMI Medical System

> " The cost-effectiveness of the CT Scan products of Sanrad can help cater to the routine diagnostics done in hospitals having a large volume. The break-even time is faster and is a value for money proposition due to its operating efficiency and cost-effectiveness. Sanrad has been very responsive to customers through its after-sales service to address the breakdowns in a very efficient manner"
>
> **DR SANDEEP BALLAL**
> Director, Radocs Diagnostics and Imaging, Bengaluru

Adoption of technology in public health has not kept pace with advancements in field of healthcare due to various limiting factors

Clinivantage NHS aims to build an ecosystem for the various stakeholders to come together and leverage services, information and infrastructure to accelerate impact

PUBLIC HEALTH primarily should focus on primary health care of citizens, preventive and promotive care- improving health seeking behaviour, prevention of diseases, and health system strengthening at a national level. An important question is: how can modern technology be deployed to improve quality and cost of health delivery?

During the past two decades, the world has seen profound changes in technology development, with the current innovations and advancements, healthcare technology must increasingly assume a central role in public health interventions - impacting affordability, quality, wider reach, simplicity and scalability. With communication devices available even in the remotest areas, brings a potential with these technologies to revolutionise health service delivery and act as a 'game changer' for an efficient and people-centered healthcare system in the 21st century.

Successful usage of technology in public health interventions are few and are not yet utilised to their full potential. Clinivantage's platform solution enables the pubic health system to build and execute a robust infrastructure for 'National Health Stack' using a technology platform that's scalable, execute clinical services that are customisable and leverage resources for improved accessibility across public and private healthcare ecosystem for its citizens.

Unfortunately, the adoption of technology in public health has not kept pace with the advancements in the field of healthcare due to various limiting factors, including the presence of various players with differing objectives; duplication of

Nilesh Jain, Co-Founder, Clinivantage Healthcare Technologies

uncoordinated efforts across multiple geographical areas, counteractive programmes, and even conflicts in some cases. The health ministries and governments can leverage solutions like Clinivantage to improve patient outcomes in public healthcare.

There are a number of reasons that we've seen for this low rate of adoption by various governments.

◗ Existing technologies are designed by people with little knowledge of the sector
◗ Lack of understanding between providers, implementers and government priorities on national health.
◗ Lack of information to integrate technology as a key component in development interventions
◗ State's not fully aware of the possibilities to use new technologies for national health programme design.
◗ Fear to lead change from tried and tested methods to innova-

tive methods: for example, moving from face to face doctor consultations to telemedicine.
◗ Lack of will and infrastructure to invest time to deploy new technology; for example, using a decision support and record keeping tool for maternal and neonatal care by midwives, v/s manually recording health information.

Clinivantage Healthcare Technology has worked on programmes with a focus on national health stack. Deployment of connected diagnostic devices, creating a decision support solution at state level, communication technology to process last mile care, these programmes attempt to provide solutions to a range of public health issues.

By working closely with some of these programmes, we have realised the need for a national platform deployment for such technology and partner with all other stakeholders to discuss and direct the space of

technology in the public health.

"Half of the world's population cannot access essential services. Women, children and adolescents are among the most vulnerable. 830 women still die every day during childbirth or from related complications. Every year, 5.6 million children die before their fifth birthday. Every year, 1.2 million adolescents die. These are not just numbers, they are people. UHC is a simple idea: that everyone should be able to access the health services they need, without suffering financial hardship,"said Nilesh Jain, Co-Founder, Clinivantage Healthcare Technologies

"Governments need to ensure that every citizen not only survives and thrives, but also transforms the health and human potential of all people in the society. This transformation can truly be bought to reality by leveraging technology, disrupted by innovation" further added Jain. Clinivantage NHS aims to build an ecosystem for the various stakeholders to come together and leverage services, information and infrastructure to accelerate impact. The TNHS (technology national health stack) implementation would not only see success stories, but can become a platform to address opportunities, failures, and issues faced while implementing solutions on the ground. Information on new cases of influenza from hospital settings as a part of online surveillance; updating of an emergency or an outbreak and carrying out clinical or bedside e-consultations regarding patients in remote or rural sites as a part of telemedicine are some of the applications where modern technology can modernise healthcare and bring in efficiency and quality.

In short, the national programme would aim at bridging the gap across different stakeholders, understand clinical outcomes, encourage collaboration and work towards a common goal of leveraging technology to accelerate public health outcomes.

A clear national health stack strategy can remove many barriers and challenges to the rapid use of modern technology and in the successful implementation of various initiatives and specific World Health Assembly resolutions. Concerns that investing in the use of modern technology comes at a high initial cost compared to basic health needs and other competing priorities are diminished when evaluating solutions like Clinivantage. Deployment of Platform comes at a very minimal upfront cost and is amortised over the transactional costs of services offered; demonstrating the cost-effectiveness of modern technology in promoting public health mission.

Technology when used appropriately can benefit with potential to improve efficiency, safety and quality of care in public health and to strengthen health systems at a national level. As recognised by the World Health Assembly, all countries must use the opportunities to build and strengthen their e-health systems as a part of health programmes thereby improving health services.

While governments have a key role in pushing the agenda, it will be important to strengthen collaboration with innovative technology organisations, like Clinivantage and other key stakeholders to build a national health stack. It is clear that enhancing the use of modern technology is an excellent investment for the future.

Medtronic launches VenaSeal Closure System

Patients suffering from chronic venous disease will be benefitted

INDIA MEDTRONIC, a wholly-owned subsidiary of Medtronic has launched the VenaSeal Closure System, which is a minimally invasive procedure that uses a proprietary medical adhesive to close the diseased vein in patients with chronic venous disease (CVD) – a condition affecting more than 190 million people globally.

"Medtronic is committed to developing smart products and procedural solutions in the area of minimally invasive innovation to improve the quality of life for all patients," said Madan Krishnan, VP and MD, India Medtronic. "VenaSeal is an innovative approach to vein closure and is designed to minimise patient discomfort and reduce recovery time. Thou-

sands of patients around the world have benefited from this therapy and we are pleased to now offer this advanced technology in India."

VenaSeal uses a medical adhesive to close the diseased vein, with high closure rates across three clinical trials.1-5 Using ultrasound, the physician guides a catheter through a small access site in the leg

and into the diseased area of the vein. Once in place, the physician administers the VenaSeal adhesive at various points in a segmental fashion, and with manual compression, closes the vein. Blood is rerouted through other healthy veins in the leg.

This unique approach eliminates the risk of burning or nerve injury that is sometimes

associated with thermal-based procedures. The procedure is administered without the use of tumescent anesthesia (multiple injections of a dilute local anesthetic), minimising the need for multiple needle sticks. In the VeClose trial, patients reported minimal to no pain or bruising, post procedure.
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