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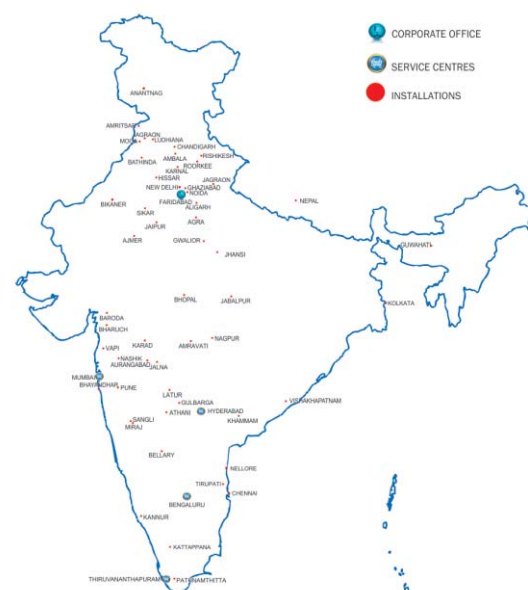


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## CONTENTS



## FIVE REASONS HEALTHCARE INSTITUTIONS NEED DATA LOSS PREVENTION

Filip Cotfas, Channel Manager, CoSoSys gives plenty of reasons to invest in data protection to secure patient data and also prevent organisations from becoming insolvent | P-36

### POST EVENT



**13** **NMC BILL WILL PROVIDE PRIVATE MEDICAL EDUCATION TO ECONOMICALLY-WEAKER STUDENTS: ASHWINI KUMAR CHOUBEY**



**15** **APOLLO HOSPITALS INTERNATIONAL HEALTH DIALOGUE BRINGS OVER 3,000 DELEGATES TOGETHER FROM ACROSS THE WORLD IN THE CITY OF PEARLS**

### POLICY



**P23: INTERVIEW**  
**RAVI MATHUR**  
CEO,  
GS1 India

### STRATEGY



**P26: INTERVIEW**  
**ROHIT SATHE**  
President - Philips India  
Healthcare

### INFRASTRUCTURE



**P30: INTERVIEW**  
**SAMEER JOSHI**  
Associate VP Marketing,  
Godrej Interio



**P28: INTERVIEW**  
**AAYUSH RAI**  
CEO and Co-founder,  
Inito

### KNOWLEDGE



**P34: INTERVIEW**  
**INGE KAUER**  
Associate VP Marketing,  
Godrej Interio



**P29: INTERVIEW**  
**NIKHILESH TIWARI**  
Founder & Director  
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# Ayushman Bharat in marathon mode

**T**his is not a sprint but a marathon. "This was the sign off message of Dr Indu Bhushan, CEO, National Health Authority (NHA) at *Express Healthcare's* Healthcare Senate 2019 this July. It is now clear that Dr Indu Bhushan was referring to the overhaul in India's universal health coverage scheme, the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY).

As a follow up to his comment two months later, this became more evident as the NHA unveiled its revamped AB PM-JAY scheme with important course corrections. The success of AB PM-JAY depends on collaborations at different levels. While policy makers and the NHA at the centre put the strategy in place, they are dependent on various states and union territories to convert this strategy into practice. Similarly, at another level, both the central and state governments as the payor/financier of these health schemes have to collaborate with healthcare providers, both public and private hospitals, to deliver this care.

The NHA may need collaborators but it is clear that they will weed out rogue elements. Dr Harsh Vardhan, Union Minister of Health and Family Welfare spoke of 'a zero-tolerance approach towards any kind of fraud', with the anti-fraud framework resting on three key pillars of prevention, detection and deterrence. He warned that 111 hospitals have already been de-empanelled on charges of corruption and fraud. The NHA is already working on PM-JAY 2.0, the new and upgraded IT ecosystem, which will make it tougher to slip through the cracks. Thus, learnings from the first year are already being used to tweak strategy, plug loopholes and improve efficiency. But will this carrot-and-stick approach work?

According to official statistics, private hospitals accounted for more than half (53 per cent) of the 46.5 lakh hospital treatments provided in the first year of the scheme, corresponding to claims worth Rs 7,490 crores treatments. 60 per cent were for tertiary care. Clearly, the revisions are aimed at attracting more private sector participation. As Dr Harsh Vardhan, commented they 'are confident that with the revision in the Health Benefit Packages of AB PM-JAY, many new private hospitals will get empanelled with the scheme.'

Bigger private hospital chains are still holding out for better package rates, the rationale being that the AB PM-JAY rates do not meet their expenses, especially in metro cities where the costs are much higher. Delhi based Medanta has reportedly signed up while Apollo Hospitals will test the waters by setting aside five per cent of its bed capacity in tier-II and tier-III cities for the scheme. But with the NHA in marathon-mode, all stakeholders will need to re-calibrate their responses.

For its part, the NHA has selectively revised the existing 1393 Health Benefit Packages (HBP) of the scheme. The 'restructuring and rationalisation' exercise has resulted in 469 packages remaining unchanged, 554 packages being discontinued, and rate



Will revised rates, standardised nomenclature and a soon-to-be introduced upgraded IT ecosystem make the scheme more attractive to the private sector?

cuts in 57 packages. A NHA press note specified that these cuts would not compromise 'the range of treatment covered under PM-JAY', and were 'a conscious attempt ... to keep the price of abuse prone packages at the minimum level to minimise incentives for abuse.'

That's the NHA signaling that they will not hesitate to crack down on abuse of the AB PM-JAY. While 270 packages will see rate increases, 237 new packages have been added and 43 stratified packages have been adopted.

The three step weeding out process started with specialist committees red flagging 'aberrations and anomalies' like 'inconsistencies in the nomenclature and pricing' in respective specialties HBPs. These were then examined and moderated by the review committee, consisting of the NHA, the Department of Health Research (DHR), Indian Council of Medical Research (ICMR) and Tata Memorial Hospital. In the third step, recommendations of the review committee were put up to the Governing Board of the NHA for approval.

The revamping exercise tried to take care of two of the trickiest part of any health scheme: ensuring the right package is selected and monitoring price of each component of the HBPs.

On the selection front, the revised version of AB PM-JAY aims for more standardisation of the nomenclature and definitions of packages. The NHA has chosen to lean on global practices, by initiating the process to align AB's HBPs with the World Health Organization (WHO)'s International Classification of Health Interventions (ICHI) and International Classification of Diseases (ICD). According to the NHA, when completed, India may become the first country to use ICHI in its HBP list. This will no doubt be a significant achievement.

Pricing is another sore point, with the NHA detecting many cases of fraud in the first year. The pricing of medical devices has always been a hot-button issue and is now a key bargaining chip in the trade discussions between India and the US, the largest exporter of such devices to India. Hinting at this volatility, the NHA has said that 'in preparation for the future, it is planning to configure the cost of implants / high-end consumables in its IT system separately at the back-end. This will be useful whenever there is a movement in the price of these significant components of a package cost.'

Reading between the lines, it is clear that the NHA will work to make the pricing more transparent in future versions of AB, so that a change in the prices of these devices will not be compensated by a corresponding change in the prices of other components of the HBPs. Given the government's commitment, the private sector will have no choice but to join AB PM-JAY in this marathon towards universal health coverage. The only question is when.

VIVEKA ROYCHOWDHURY *Editor*  
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# CahoTech 2019: An effort to bridge the healthcare technology gap

Experts present at the conference were unanimous that cutting-edge technology remains the key to increase operational efficiency and profitability of healthcare providers and is the driving force behind quality healthcare, helping increase provider capabilities and enabling them to offer better patient care



India healthcare Inc is on the cusp of technology transformations. Amidst the challenges of lack of access to healthcare, underspend public healthcare and rising burden of non-communicable diseases, the sector is witnessing an unparalleled growth in terms innovation in medical technology, diagnostics and research. It is therefore emerging as an opportune destination for investment as well.

In consonance with this, the recently held 4th International

Healthcare Technology Conference of Consortium of Accredited Healthcare Organisations in Chennai, attracted healthcare tech leaders, clinical technology experts, health tech innovators, administrators, biomedical engineers, scientists, researchers, and students to share and utilise combined experiences that can guide medical practitioners and technology developers towards continuous technological development.

The two-day gathering,

showcased latest technologies and products related to the healthcare sector. The programme included pre-conference workshops and masterclasses, technology show and a technology summit for experts to deliberate on the opportunities, challenges and technical know-how of the latest technologies available in India. Experts present at the conference were unanimous that cutting-edge technology remains the key to increase operational efficiency and prof-

itability of healthcare providers and is the driving force behind quality healthcare, helping increase provider capabilities and enabling them to offer better patient care. However, key challenges associated with reliability, replicability, precision, quality of data and privacy will need to be addressed. Some of the experts present at the conference were Som Mittal, Former President & Chairman, NASSCOM, Dr Gagandeep Kang, Christian Medical College, Lakshmi

Narayanan Co-founder, Cognizant Technology Solutions, Josh Foulger, Foxconn International Holding, Arun Jain, Founder - Polaris, Dr Bhaskar Ramamurthi, Director - IIT Madras; Dr Yoon Kyoung Cho, Ulsan National Institute of Science and Technology, Dr Hooshmand Palany, ASEAN - Business Advisory Council, Ravindran B, Professor, IIT Madras, and Anil Relia, Principal Advisor, Quality Council of India.

Dr Vijay Agarwal, President,



CAHO said, "By bringing dozens of healthcare organisations and technology companies under one roof, CAHOTECH 2019 proved to be the biggest and most definitive event of the country that connected healthcare with technology through innovations, investments and best practices. The latest and more evolved technology-based solutions presented over the two-day will go a long way in empowering hospitals to maximise their efficiencies and profitability. An important aspect of the event was the sharing of experiences and key learnings regarding technological innovations already functional at some hospitals around the country."

Sameer Mehta, Organising Chairman, CAHOTECH 2019 said, "Technology is disrupting healthcare delivery rapidly. CAHOTECH 2019 provided healthcare providers an opportunity to learn about the recent advances and make them ready for futuristic trends in the field of information technology, medical equipment, machinery, processes, etc. The event helped develop a healthy and positive relationship between technology developers, innovators and stakeholders in healthcare delivery. It looked at solutions to make modern healthcare accessible, available and affordable to all."

The first day of the programme had workshops that covered topics related to point of care technology, ways to en-

able e-governance with hospital set-ups, cyber security, optimal utilisation of technologies and more. The programme also included a pitch fest for start-ups wherein technology innovators presented their ideas to investors in order to pitch for funding. Investors and venture capitalists participating in CAHOTECH 2019 invested Rs 20 lakh in various promising startups based on a contest. Many startups were also offered opportunities for incubation, and beta-testing of their new health technology products in alliance with hospitals.

The second day saw healthcare tech leaders, key hospital administrators, laboratory experts, research experts, clinicians and scientists deliberating on some key topics that impact the future healthcare technology in India.

The discussions began with understanding the true potential of AI in healthcare. Som Mittal, Former President and Chairman, NASSCOM; Bharathi Reddy, Managing Trustee & CEO, Vijaya Group of Hospitals Chennai; Ranga Shetty, Mentor for Healthcare technology start-ups; Dr Karthik Srinivasan, Vitreoretinal Surgeon, Aravind Eye Hospital, Chennai and Nishant Jaiswal, General Manager - Operations, Nanavati Super Specialty Hospital, Mumbai spoke on various ways in which hospitals can leverage AI in their enhancing patient expe-

riences, clinical practice and more. Experts informed that 90 per cent of healthcare data in India is generated by using AI. They spoke on how AI has the ability to perform a single task extremely well giving rise to immense opportunities of narrow AI in healthcare. Ranga Shetty identified seven patterns in AI where professionals can benefit some of these benefits include recognition in the medical imaging space and identifying patterns and anomalies based on behavioural sciences. They also highlighted that in it is important to start sharing data in the most appropriate manner in order to maintain patient privacy.

Prof Ravindran B, Professor, Computer Science and Engineering and Head, Robert Bosch Centre for Data Science and AI, IIT-Madras, in his talk on healthcare technology warned the audience on the challenges associated with technologies such as AI and IoT. He mentioned that the technologies have indeed transformed healthcare delivery, yet some AI applications have not yet achieved 100 per cent precision. He said that predictive analytics and decision making has improved using AI, but there is a need to streamline touch points to improve efficiencies and precision.

In the session, discussion point of care technologies, Dr Narendranath V, Chief Administrator, MS Ramiah Medical

College, Bengaluru; Dr Alexander Thomas, President AHPI; Dr Yoon-Kyoung Cho, Group Leader, Centre for Soft and Living Matter, Ulsan National Institute of Science and Technology (UNIST), Korea ; Dr R Sivakumar, Senior Consultant-Dept of Cardiology, Meenakshi Mission Hospital, Madurai cited examples how POC technologies are changing the way the diagnosis of complex medical problem can be achieved. Dr Kyoung spoke about her research in POC technologies for cancer diagnostics as well.


Dr Raju Sivasamy, Vice President-Medical Services, SIMS Hospital, Chennai; Dr Girish CM, Asst Prof, Centre for Nanosciences and Molecular Medicine, Amrita Institute of Medical Sciences and Research Centre, Kochi and Dr Niranjana Thomas Abraham William, Professor and Head of Unit, Dept of Neonatology, Christian Medical College Hospital, Vellore presented case studies on their respective innovations using nanotechnology and spoke of how necessities give rise to innovations that can be cost effective too. Dr Niranjana gave an example of his innovations MiraCradle urged clinicians to think beyond clinical practice and be a source for innovation and innovative ideas for cost-effective healthcare solutions. "If you have an idea, it must translate into research. After which you must collaborate with industry to develop solu-

tions in order to solve healthcare problems in India," he recommended.

The other sessions included discussions on IoT, iOMT in Intensive Care and efficient electronic medical records systems. At the end, experts pointed out that India needs innovation in order to become one of the best healthcare destinations of the world. They maintained that innovation drives economic growth and so the Indian healthcare Inc must follow the innovation route.


### Key highlights:

- ▶ Apple is investing heavily in healthcare technology development
- ▶ Data labelling is essential to the success of AI application
- ▶ Opportunities lie in narrow AI
- ▶ Medical communities need to work together to overcome challenges associated with digital technologies
- ▶ Indian government is devising an AI policy in healthcare
- ▶ It is important to check for the reliability of AI systems in order to check its robustness
- ▶ Medication errors are not tracked properly in India. We do not have a single mechanism to understand medication side effects
- ▶ Optimal image-based solutions can have answers to many complex medical conditions
- ▶ Innovation will drive economic growth for Indian healthcare




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# Americares India organises 10th Spirit of Humanity Awards

The event witnessed 24 NGO finalists that were shortlisted from over 300 entries



Winners of 10th Spirit of Humanity Awards along with the national Juries pose with their Trophies and Certificates

**SPIRIT OF** Humanity, an initiative by Americares India recognised and rewarded six NGOs within various categories in its finale held recently in Mumbai. The event witnessed 24 NGO finalists that were shortlisted from over 300 entries.

The participating organisations underwent three rigorous rounds of short-listing and, following the national round in the afternoon, the winners were declared in a grand award ceremony hosted in the evening.

This year, the Spirit of Humanity Awards reserved five categories for NGOs with an annual budget of up to Rs 3 crore. These categories were - child care, disability, education, health and women's empowerment. One category was reserved for NGOs with an annual budget of Rs 3 crore and above. This category was social Impact.

Spirit of Humanity is a national-level platform for collaboration, capacity building and recognition within the social sector in India. The finale of the 9th Spirit of Humanity Awards was a melting pot of not-for-profit organisations, academia, government authorities,



(L-R) Viveka Roychowdhury, Editor, Express Pharma, Express Healthcare and Express Diagnostics and Dr Manoj Chawla a well-known diabetologist in Mumbai

**The winner in each award category were:**

CATEGORY	WINNING NGO
CHILD CARE	Karm Marg Charitable Society, Faridabad
DISABILITY	Adventures Beyond Barriers, Pune
EDUCATION	Jhamtse Gatsal Childrens Community, Arunachal Pradesh
HEALTH	Shree Sai Healing Trust, Chennai
WOMEN EMPOWERMENT	Jabala Action Research Organisation, Kolkata
SOCIAL IMPACT	Sense International India, Ahmedabad

thought leaders and corporations.

Talking about the event this year, Shripad Desai, MD and

Country Director, Americares India said, "It gives me im-

mense pleasure to bring the 10th edition of the Spirit of Humanity. Over the years, this platform has evolved and extended its scope. Like each year, we are thrilled to receive an encouraging response from all the participants. We only hope and thrive to grow this platform further and encourage services of many in the future".

Apart from celebrating the NGOs' successes, the event aided sustained engagement and cross learning.

The guest of honour for the event was Dr Manoj Chawla a well-known diabetologist in Mumbai was in conversation Viveka Roychowdhury, Editor, Express Pharma, Express Healthcare and Express Diagnostics. Dr Chawla discussed about the growing dual-disease burden of NCDs and infectious diseases among the urban poor and stressed on the need for all stakeholders to have collaborative approach.

The winners of the award received a cash donation, trophy and certificate of excellence from thought-leaders and industry experts. They also received opportunities to share their work with numerous CSR heads.



## POST EVENT

# NMC Bill will provide private medical education to economically-weaker students: Ashwini Kumar Choubey

The Bill received the consent from President Ram Nath Kovind recently

**T**he National Medical Commission Bill, which became an act recently after receiving the consent of President Ram Nath Kovind, will bring parity in medical education, and will be beneficial for meritorious, but economically-weaker students, Minister of State for Health and Family Welfare, Ashwini Kumar Choubey said recently at CME Excellence Summit and Awards organised by Integrated Health and Wellbeing Council (IHW).

"Through this Bill, we are also encouraging the medical colleges which were closing down, they will also progress and will help prevent the fall in the number of medical schools. We have decided on the various aspects of the act after discussing with doctors from hospitals across the country. There were confusions and oppositions to the act but we have explained the provisions to them satisfactorily," said Choubey.

Earlier in the day, Secretary of the Department of Pharmaceuticals, Dr PD Vaghela said the stringent sampling and testing rules in India and the low failures indicate at the good quality of generic medicines and fixing the price ceiling for medicines has been immensely beneficial. "My request to the doctors is to prescribe generic medicines to at least to the poor patients. The generic medicines are like the branded medicines. The drug pricing control order (DPCO) in 2017 has made medicines more affordable and has brought a saving of more than Rs 12,400 crore. Jan Aushadhi stores have generated a saving of Rs 315 crore and Rs 2,000 crore for consumers in the last financial year," he claimed.

"Those doctors who are ignoring CME are doing at their own peril. Though we cannot rule out information bias of pharmaceutical giants in CME,





# 'CME essential for maintaining quality of doctors'

With the advancing healthcare scenario, CME becomes essential for maintaining the quality of doctors at every level of the healthcare ecosystem, informs **Kamal Narayan Omer**, CEO, IHW Council, to **Akanki Sharma**

## What led you to quit your career in journalism and establish IHW Council?

Journalism gave me an opportunity to explore various facets of life across strata of the society, and this experience brought me closer to health-related discourse and experience in public life. During the time, a spirit for entrepreneurship and an increasing passion for health issues drove me towards creating initiatives for advocacy and awareness on health-related matters. The Integrated Health and Wellbeing (IHW) Council came into being as a think tank working to drive critical thinking and solutions through multi-lateral engagement, publishing and education, health communication, campaign and events, consultancy and other domains, especially in the health space. Our endeavours are to engage with everything connected to health and well-being of human enterprise and existence.

## What is the current status of continuing medical education in India?

CME is not necessarily organised in Universities and Colleges, but is hosted by medical societies, hospitals, councils, etc. As per the code of ethics which was earlier established by



Medical Council of India, every member should complete 30 hours of CME in every five years. Some developed countries have made around 200-credit hours mandatory. With the advancing healthcare scenario, CME becomes essential for maintaining the quality of doctors at every level of the healthcare ecosystem. A focussed push to the industry would also mean creation of more jobs that are engaged to imparting CME. Apart from the programme coordinators, subject matter experts, CME managers, and so on, growth in the industry will open

avenues for technical roles for software developers, designers and others.

## What, according to you, are the major issues that need to be addressed in the sector of medical education and how can those be resolved?

There are several issues that need attention not only from the government, but from all sectors. The recent passing of NMC Bill is a welcome step from the government, as this has definitely brought the upskilling of medical workforce to the

forefront as one of the key issues. I see this development positively because we can now have a raging debate on one of the vital subjects related to health which was on the back burner for years now. The other issues include mapping ways and means to increase penetration of CME in the Indian healthcare systems in tier II cities and below, making CME affordable and accessible, encouraging more players in the industry, and reformulating CME certification guidelines.

## How far are people aware of CME? Any message for those who work in this segment?

The public is generally not aware whether the doctor who is treating them is updated with the latest in the medical world. This is why periodic CME certification should be made mandatory. There is definitely room for more awareness and education to the general masses and to the industry.

We should continue to further CME efforts, recognise the impact makers and open avenues to conduct more discourse and push for action. Keep up the good work is what I will convey to those working in the segment.

*akanki.sharma@expressindia.com*

I believe including nurses and other support staff will make it more effective. We may also partner with IHW to develop CME programmes," he added.

The effectiveness of medicines depends not only on its quality, but also on the doctors who are administering it, said Kamal Narayan, CEO, Integrated Health and Wellbeing (IHW) Council. "I believe supply of medicine is going to be important as the supply of basic necessities for healthy life – good air, water and food, are insufficient. Producing good medicine, however, does not guaran-

## The MCI established a code of ethics stating that members should complete 30 hours of CME every five years in order to re-register as doctors

tee food health, we need to make sure that the doctors have the knowledge to implement the upgradations," he said.

Dr Arun Kumar Gupta, President, Delhi Medical Council highlighted the importance of including knowledge about rules and regulations that is required in day-to-day practice.

"We have launched our CME programmes recently, but that is not enough. A doctor needs to deal with 28 laws to run a small clinic and as many as 100 laws to run a hospital. However, nowhere is a doctor taught about this. The doctors know the science of medicines but we need to teach them the art of it –

teach empathy for patients. Besides, financial management and good self-care should also be a part of the CME curriculum for the doctors," Dr Gupta said.

CME courses in India are funded by a wide range of organisations like Ministry of Health and Family Welfare

(MOHF&W) and the Medical Council of India (MCI), as well as international organisations such as UNICEF. The MCI established a code of ethics stating that members should complete 30 hours of CME every five years in order to re-register as doctors but due to low literacy levels and poor awareness of good medical practice at the community level, there is little pressure from patients to motivate doctors to participate in CME programmes, despite what he referred to as the 'dismal quality' of the medical service.

# Apollo Hospitals International Health Dialogue brings over 3,000 delegates together from across the world in the City of Pearls

Experts debate and discuss solutions to global healthcare challenges

**OVER 2500** delegates from 120 countries attended the eight edition of the International Patient Safety Conference (IPSC) and the ninth edition of the International Transforming Healthcare with IT (THIT) conference in Hyderabad recently. The twin conferences were held under the aegis of the Apollo Hospitals Group's International Health Dialogue, a platform that brings together international hospital leaders, medical and information technology companies, and public policy makers to debate and discuss solutions to global challenges in healthcare.

Inaugurating the conferences, Dr Prathap C Reddy, Chairman, Apollo Hospitals Group said, "It has always been our vision to bring the best of world-class healthcare for the benefits of patients in India, and over the decades we have successfully been at the forefront of ensuring healthcare that is comparable to the best globally for our patients. At the same time, it is important to build a model of global collaboration with a platform where healthcare stakeholders from all over the world can come together for healthy dialogue and discussions, share best practices and exchange ideas and experiences. The International Health Dialogue is such a platform and we look forward to more such conferences in the future to ensure that we are prepared for the changing face of disease with the rising 'tsunami' of non-communicable diseases or NCDs. With modern



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## POST EVENT

technology and AI taking centre place, we need to keep abreast of the latest developments and ways to harness it for delivering the best of healthcare services to patients. At the same time, we must not lose sight of patient safety, which is an important factor affecting healthcare outcomes. I am thankful to the Government of Telangana for their support in this important mission."

The IPSC is a not-for-profit initiative, which addresses critical issues in patient safety with global experts discussing the role of proactive practices and streamlined systems in improving patient safety. The 9th THIT organised by the Apollo Telemedicine Networking Foundation and Apollo Hospitals Group had over 50 eminent speakers from India and abroad who participated in interactive sessions, educational programmes, and a trade exhibition showcasing the latest products, technology, services and industry information.

With sessions based on this year's theme of 'Imagine, Innovate, Inspire', IPSC provided an opportunity to learn from patient safety and quality experts from across the world. The discussions at the conference ranged from debates on technology versus touch; the healthcare workforce of the future; overall patient safety aspects including infection control, medication management, radiation safety to facility safety and accreditations.

Reportedly, THIT had over 500 decision-makers from 10 countries in the nascent healthcare and IT industry, comprising leading IT companies and leading healthcare institutions in attendance. National organisations like the Indian Medical Association, Telemedicine Society of India, Computer Society of India, Indian Association for Medical Informatics and several government organisations also participated in the event.

The occasion also saw the national launch of preview of AI CVD Risk Score developed in joint collaboration by Apollo Hospitals and Microsoft India. As part of Microsoft's AI Network for Healthcare initiative, Microsoft India and Apollo Hos-



Lamp lighting ceremony



Dr K Hari Prasad, President, Apollo Hospitals (extreme left) moderating a panel discussion on 'The media effect- what patients want'.

The panellists were (from left to right) Sriram Karri, Resident Editor, Deccan Chronicle Holdings, Dr Ratna Devi, Chair- International Alliance of Patient Organisations, Founder, Indian Alliance of Patient Groups, Viveka Roychowdhury, Editor, Express Healthcare and Sharad Malhotra, actor and performer

pitals Group have set up a National Clinical Coordination Committee (NCCC) for the Cardiovascular Disease Risk Score, consisting of leading doctors from Apollo Hospitals; All India Institute of Medical Sciences, New Delhi and King George's Medical University, Lucknow.

The AI-powered Cardiovascular Disease Risk Score API is an Intelligent Platform that can predict cardiovascular disease risk score in the Indian population. With over 2,00,000 people screened using the AI-driven API on Microsoft Azure across

Apollo Hospitals over the last one year, the platform has been successful in allowing physicians to predict the risk score of patients 5-7 years in advance. With the national launch of the platform, doctors across the Apollo network of hospitals as well as doctors in other leading Indian hospitals will be able to access and leverage this AI-powered API to predict risk of CVD and drive preventive cardiac care in patients across the country.

One of the panel discussions in the plenary session on day 2

focussed on 'The media effect- what patients want'. Dr K Hari Prasad, President, Apollo Hospitals moderated the discussion between the panel members consisting of Sharad Malhotra, Actor Performer, Dr Ratna Devi, Chair- International Alliance of Patient Organisations, Founder, Indian Alliance of Patient Groups, Sriram Karri, Resident Editor, Deccan Chronicle Holdings and Viveka Roychowdhury, Editor, Express Healthcare. Each member shared their perspectives. While Malhotra spoke about his

realisation that he was more than an actor but a role model and would strive to live up to this responsibility, Karri spoke about balancing priorities in a mainline publication when it came to health news. Roychowdhury said the media is a reflection of society and therefore would need to be a watch dog and report on industry practices as well as a bridge to build trust between the various stakeholders. Dr Devi emphasised that the patient's needs should be central to such discussions.



# 24th edition of Medically to be held in Mumbai

More than 750 exhibiting companies, 30000 healthcare and trade professionals will take part in the event from across 20 countries

The 24<sup>th</sup> edition of Medically will be held in Mumbai from December 13-15, 2019. The event aims to serve as a marketing platform wherein the equipment companies will showcase their products and services to hospital owners and decision makers. Reportedly, over 750 exhibiting companies, 30000 healthcare and trade professionals will take part in the event from across 20 countries. Around 60 seminars will be held during the three-day event.

The exposition will be attended by doctors – physicians and surgeons, hospitals owners and decision makers, dealers distributors and manufacturers of medical equipment, owners of diagnostic and other healthcare centres, medical directors, academicians,

all dealers, distributors, importers and exporters who are looking to connect with key

industry players, sales and business development professionals who are tasked with

expanding their product portfolios and entrepreneurs hoping to source the next 'big product'

to supply in their country. +91 7305 789 789 info@medically.in

The event will provide a beneficial experience to all stakeholders of the healthcare fraternity

biomedical engineers, key policy makers from the governmental sectors, purchase managers, healthcare professionals and paramedical staff and healthcare consultants.

Born of an idea to share knowledge and expertise within the medical fraternity, the event is organised by Medexpert Business Consultants, promoted by Dr Manivannan, Joint Managing Director, Kauvery Hospital.

The event will provide a beneficial experience for



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A DIGITAL DISRUPTION FOR

# ASHA WORKERS

Using digital tools to train, connect and empower ASHAs is paramount to improve efficiencies in India's primary health system

By Prathiba Raju





**C**lad in a pink saree, 34-year-old Phool Kumari Devi, in Block Oranjhi from Ranchi district, 30-year-old Bharati from Uttarakhand and 40-year-old Geeta Verma from Himachal Pradesh, Mandi district are Accredited Social Health Activist (ASHAs) who work in difficult terrains across the country providing basic healthcare facilities, assisting expectant mothers and women on reproductive health, amid others. Looked upon as guarding angels, they mostly work without their magic wands – without the help of digital innovations and solutions. Acknowledging and addressing Devis and Bharatis as digital health assistants is the need of the hour.

#### ASHAs – Sheras of primary healthcare

ASHAs inclusion as a Community Health worker in India's healthcare domain dates back

to the National Rural Health Mission (NRHM) introduced in 2015 wherein they were responsible to motivate women for institutional deliveries, bring children to immunisation clinics, encourage family planning – both terminal and temporary methods, treat basic illness and injury with first aid, keep demographic records and improve village sanitation, among others. Today, nearly 900,000 ASHAs, are mostly the first point of contact in the health system, play a critical role in the early diagnosis of diseases and their prevention. They have played a pivotal role in bringing down infant mortality rate (IMR) from over 58 deaths per 1000 live births in 2005 -- when ASHA was launched under NRHM -- to 33 deaths per 1000 live births in 2017. Maternal mortality ratio (MMR) was 254 maternal deaths per 1,00,000 live births during 2004-06 which has declined to 130 ma-

ternal deaths per 1,00,000 live births in 2014-16.

Phool Kumari Devi, a farmer and ASHA worker, informs that her work demands 24x7 commitment and at times she has no time to eat her meals and has to fulfill her duties on an empty stomach.

"Though my work is towards promoting healthy behaviours in my community, it leaves me with little time for my own family and children. During the sowing and harvesting season, I too need to balance time between my work and farming. Apart from that, when sometimes untoward incidents happen due to various factors like traditional mindset of the community or lack of awareness, or delay in accessing health services as I am a direct contact for my community members, I face criticism. This affects me for some days, but due to the motivation of my department and well wishers, I

try to work even harder. If we have digital help like mobile apps, it will help us to ease our work load," informed Devi. When it comes to Primary Healthcare Centres (PHCs), ASHAs can be a potential digital disruptor. Since there is a scarcity of doctors and paramedics, digital empowerment to these sahiyas can transform the grass-root healthcare service, inform experts.

#### Train, connect and empower

Training, connecting and empowering ASHAs by leveraging technology is a necessity at the moment, and the key to better healthcare. If last-mile health can be digitally empowered, ASHAs can bring in a sea change in primary and tertiary care.

Informing that ASHAs are only empowered to some extent, Dr Rajna Mishra, Senior Research Scientist, Public

Health Foundation of India (PHFI) said, "Though not completely, ASHAs are digitally empowered to some extent. The spread of mobile technology and its priority in healthcare has created a new field of eHealth i.e., "mHealth", which has the capability to provide individually-tailored and customised services to underserved people. Mobile phone as a media is now comparable to the popular media like radio and television which have been used for spreading healthcare awareness messages for decades. mHealth could be used by ASHAs, especially for point-of-care services, provision of health information, counselling, drug adherence, data collection and monitoring. Besides, during home visits for identification and referral of cases, in case ASHAs face problems, digital empowerment would be ideal, so that they could get an expert opinion which would help them



in indecisive situations. However, it is to be noted that the capacities of ASHAs have to be built and they need to be trained on the digital health tools."

Speaking about one such project, Ritika Pandey, Project Head, Digital Green, said, "It is a United States Agency for International Development (US-AID)-funded project where ASHA workers are trained on community-based video production as well as dissemination skills. Videos are locally produced by the community members showcasing good practices in health, nutrition and family planning targeting local myths, taboos, misconceptions and practices around maternal and child health and family planning. This video-based approach has increased the effectiveness of behavioural communications by ASHA, but it also brings along high level of efficacy and efficiency. In many areas, ASHAs were able to reach hardly 10-20 households in a month. Now, with video-based approach, they are able to cover 300-400 households in a month. In areas where population distribution is highly scattered, video dissemination approach has been highly helpful as now they can cater to 20-30 women in one screening session. Video dissemination has also proved helpful in mobilising women. It works as a pull factor for generating demand among women and other community members to attend the screening and increased attendance on these platforms. Many state governments have been showing their interest in community video approach by allocating funds for the same."

Devi, an ASHA worker who has participated in one such project, informed that Pico projectors have helped her in mobilising the community members and the practices are easily understood by them leading to an increase in uptake of practice.

"Earlier, I conducted meetings in which I had to verbally explain about health, nutrition and family planning topics to my community. Sometimes, I



Digital empowerment would be ideal for ASHAs as that they could get an expert opinion, which would help them in indecisive situations. However, it is to be noted that the capacities of ASHAs have to be built and they need to be trained on the digital health tools

### Dr Rajna Mishra

Senior Research Scientist, Public Health Foundation of India (PHFI)



Though my work is towards promoting healthy behaviours in my community, it leaves me with little time for my own family and children. During the agriculture season, since I am a farmer too, I need to balance time between my work and agriculture. If we have digital help like mobile apps, it will help us to ease our work load

### Phool Kumari Devi

Block Oranji from Ranchi district



Digital health has already envisaged design, development and implementation of a National Frontline Health Worker Registry which will help in identifying every ASHA uniquely and will assign a unique identifier. ASHAs' health worker ID will be seeded with Aadhaar number or any alternate government ID and will help in authenticating the activities performed by them, and any training requirements to further add power to them

### Dr Krishna Reddy

Country Director, ACCESS Health India



We get to know that many mobile apps and digital initiatives by the state or central government are not reaching us. For example, we attend few digital programmes and projects organised by NGOs that do not sustain. We do not gain much out of such programmes

### Bharati

ASHA worker, Uttarakhand

used to forget to communicate the entire information. However, after I was trained by NHM and Digital Green using the projector, I started disseminating videos on a variety of topics like care during pregnancy, IFA, ANC, complementary feeding, washing hands, family planning. The entire information gets delivered to all community members effectively. Project SAMVAD has enabled the community members to carry discussions about health and family planning issues, as videos depict the issues of our locality, made in the local language featuring the local community members," she added.

Many ASHA workers inform that digital projects are run by few NGOs are temporary. Also, certain projects that are led by National Health Mission (NHM) or state governments associated with NGOs, mostly end abruptly, or within a year. Thus, they are unable to understand or benefit from it.

Bharati, a 31-year-old ASHA worker from Uttarakhand, said, "Many mobile apps and digital initiatives by the state or central government are not reaching us. For example, we attend few digital programmes and projects organised by NGOs that do not sustain. We do not gain much out of such programmes."

Observations from the field reveal that qualified ASHAs perform well. However, older ASHAs and less educated ones seem to be facing problems with digital tools, including Android-based mobile phones. 'ASHA SOFT' has been used in the state of Rajasthan in which the work done by ASHAs is captured including her visits, payments/incentives to ensure that it is done promptly in a transparent and easy manner. Evidence suggests that this has reduced the time taken for payment of ASHA incentives in the state. 'ASHA SOFT' is also linked to the existing PCTS - Pregnancy, Child Tracking and Health Services Management System which is an online software used as an effective planning and management tool by Medical, Health and Family

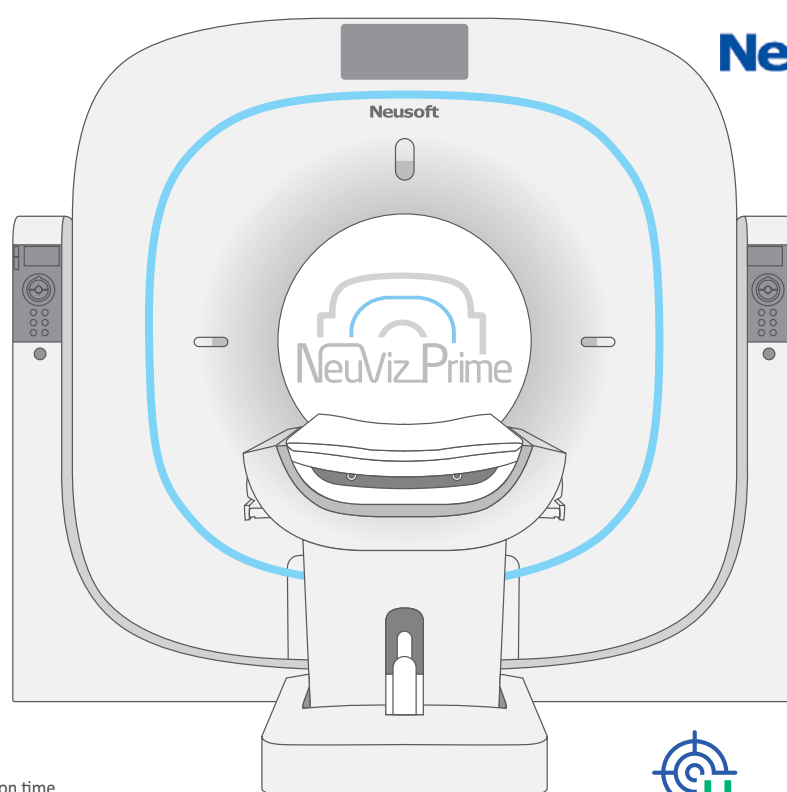
Welfare Department, Government of Rajasthan. The system maintains online data of more than 13,000 government health institutions in the state. mSakhi project in Maharashtra aims to collect data, monitor and evalu-

ate the ante-natal and post-natal healthcare and nutrition of infants up to six months.

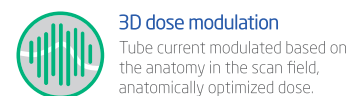
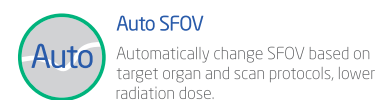
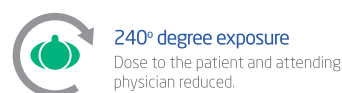
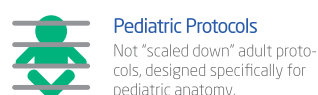
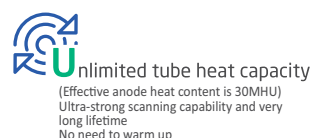
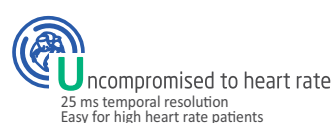
In 2016, the Government of India launched four mHealth initiatives - Kilkari, Mobile Academy, M-Cessation and TB

Missed Call under its Digital India programme. Under the Kilkari programme, a woman receives free, weekly and time appropriate audio messages about pregnancy, child birth and child care from second

trimester of pregnancy till the child becomes one-year-old. This has been launched in Odisha, Jharkhand, Uttar Pradesh and some parts of Madhya Pradesh and Rajasthan.



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"Apart from the apps which have already been initiated in various government programmes which is run only in certain states, Mobiles apps such as a ASHA Reporting App, Home Based Post Natal Care App, Home Based Infant and Young Child Care App, Apps for Communication and Counselling should be available pan-India for a more cohesive IT system for strengthening ASHAs," informed Mishra.

"Many here have mobile phones, including me, but they are not Android based and at times we are not able to access the mobile Apps. Even if we have smartphones, due to power and connectivity issues and high Internet package rates, we unable to access these apps. Many ASHAs in Uttarakhand and Uttar Pradesh are still maintaining the 94-column register, which involves cumbersome paperwork," Bharati pointed out.

As per industry experts, with implementation of Ayushman Bharat - Prime Minister - Jan Arogya Yojana and Health

## Real-time data sharing by ASHAs to the HWC will bring in a sea change into the healthcare delivery system and it is essential. There are various innovative mobile technologies used in different states and ASHAs are trained to use them, but they are fragmented, which needs to be addressed

Wellness Centres (HWC) a conscious attempt by the central government to address healthcare issue holistically, enabling frontline workers, particularly ASHAs as digital health assistants is crucial.

### Digital disruptors

Real-time data sharing by ASHAs to the HWC will bring in a sea change into the healthcare delivery system and it is essential. There are various innovative mobile technologies used in different states and ASHAs are trained to use them, but they are fragmented, which needs to be addressed.

"The central government should envisage a strong IT

platform or model which would integrate the data capture from the registration of the patient to tracking service delivery and measuring outcomes. The model should implement a digital format of the family health records which is currently in paper format. The key role of implementing individual health records at the village level will be through ASHAs. This can be implemented only in a phased manner taking into consideration human resource capacity, connectivity issues and resource availability," said Dr Krishna Reddy, Country Director, ACCESS Health India.

Reddy also informed that ASHA workers are the con-

necting link between the community and primary healthcare and have a significant role to improve overall community health outcomes.

Implementation of an ASHA registry has become critically important to empower and appreciate ASHAs for the work they are doing for the society.

"Digital health has already envisaged design, development and implementation of a National Frontline Health Worker Registry which will help in identifying every ASHA uniquely and will assign a unique identifier. ASHAs' health worker ID will be seeded with Aadhaar number or any alternate gov-

ernment ID and will help in authenticating the activities performed by them and further training will empower them. This unique identifier will facilitate interlinking of different programme-specific IDs and will streamline the incentivisation and payment workflow for them. It will also help to track these sahiyas' complete workload life-cycle and will facilitate creation of dashboards and MIS reports, that will reflect the workload analysis on the basis of the real data collected for any particular ASHA worker," added Reddy.

As we debate on how can we bring more digital power to the Devis, Bharatis and Geetas of our country, these unsung sheros continue to relentlessly serve the nation with their undeterred spirit of caregiving. With this hope that in future we will see more empowerment among ASHA workers, the government must also provide them with better pay scales, education and other facilities.

*prathiba.raju@expressindia.com*

## INTERVIEW

# Implementing GLN for hospitals needs a mind set change: Ravi Mathur, CEO, GS1 India

**Ravi Mathur**, CEO, GS1 India speaks to **Viveka Roychowdhury** on the importance of each healthcare provider having a Global Location Number (GLN), linked to a national hospital registry. The GLN system ensures patients get more transparent information about the prices and services available and also helps detect and prevent medical insurance fraud



### Give us some background on GS1 and its responsibilities in India.

GS1 India is the India affiliate of GS1, an international standards body headquartered out of Brussels. GS1 has a direct point of presence in 140 countries. Our job in India is to connect companies from the Indian market place as well as introduce the Indian industry to the existing global practices in terms of the identification standards and to assist the industry in implementing those standards from a perspective of firstly, compliance with regulatory requirements, both in India as well as overseas, Secondly to meet industry requirements for identification standards. For instance, for manufacturers this would mean barcoding and identification standards on products at retailers as well as e-tailers across the world.

We are responsible for GS1 operations in India. We are set up by the Ministry of Commerce and Industry, Government of India. Our founding members are apex trade bodies like CII, FICCI, ASSOCHAM, FIEO, IMC, BIS, APEDA, and IIP. We help the industry in adopting global GS1 standards in their supply chains to enhance efficiency and profitability. GS1 India is headed by an additional secretary in the Ministry of Commerce.

In the past 21 years of our existence in India, retail has become more organised and modernised through big retail chains, all products now incorporate barcode and have a unique number called the GS1 number, which has a unique identity across the world. By scanning a consumer product at the point of sale, what we capture is this unique code which gives all information about that product in the point of sale (PoS) system of the retailer or e-tailer. Through this we are able to do consumer billing, stock management, etc. capturing the information in the system in a very accurate and immediate fashion. The same thing also applies to pharmacies and chemists across the world.

Incorporation of GS1 standards has been a relatively recent phenomenon in India, though it was incorporated by the Director General of Foreign Trade (DGFT) as early as 2011 for medicines being exported. The perspective was that trace and trace and authentication mechanisms were required due to the large incidence of spurious drugs in the market. It was necessary to protect the brand image of India across the world with GS1 standards in line with global practice. Therefore it was mandated that Indian medicines for exports should also



By scanning a consumer product at the point of sale, what we capture is this unique code which gives all information about that product in the point of sale (PoS) system of the retailer or e-tailer



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incorporate barcodes using GS1 standards and the data on all the daily production should be loaded onto the Drug Authentication and Verification Application (DAVA) portal, run by National Informatics Centre (NIC). More than 380 large and medium sized pharma companies currently upload their daily production data to the DAVA portal.

What has taken time is for the same thing to happen for medicines domestically sold in India. This has taken time because there hasn't been a complete congruence of views between the Department of Pharmaceuticals, the Ministry of Health and the Drug Controller's office. There has been a lot of conversations that have been happening. GS1's view was that it should be aligned with what's happening for exports. There should be no difference because it's the same pharma companies, whether they supply to India or export it anywhere in the world. By and large, 75 per cent of those companies are common. This also prevent errors at the retail level because even different strengths of the same medicine would have different unique codes. So having different GS1 codes would make it quite difficult for a chemist to make a mistake. This would reduce the consequences of such medication errors.

Though they have not yet

taken a call on this at an industry level, some organisations have been doing it independently of the directives from the Ministry of Health & Family Welfare, or the Department of Pharmaceuticals or the Drug Controller General (India) (DCGI) office. For instance, the hospitals belonging to the Army have already gone ahead (they receive the material by scanning the GS1 barcode applied by suppliers).

For instance, as per Tender Ref. No.: BPPI/LTD./DRUG-105/2019 dated July 3 this year, one of the eligibility criteria to apply for the Bureau of Pharma PSUs of India (BPPI) tender is that the tenderer is required to incorporate barcodes as per GS1 standards at various packaging levels (primary, secondary and tertiary) (Annexure I) and they are required to submit valid registration certificate from GS1 India for such barcoding.

The BPPI has mandated barcoding medicines at the manufacturer end at the tertiary packaging, secondary and primary level before it reaches the warehouses for the Jan Aushadhi outlets. The consignments are inwarded by scanning the tertiary level as they are received into the BPPI warehouses. The objective for barcoding at secondary and primary level is to scan and outward from

## BPPI has mandated barcoding medicines at the manufacturer end at the tertiary packaging, secondary and primary level before it reaches the warehouses for the Jan Aushadhi outlets

warehouse and Jan Aushadhi Kendra's. Ideally this is done by the manufacturers, the pharma companies, like the way it is done by all consumer products, at the primary, secondary and tertiary packaging levels. This is a system they have put into place until such time that the DCGI mandates a notification or domestic market.

If the parent-child relationship at all three levels cannot be mapped, then someone can duplicate the label. Duplication is normally happening by copying the label and the barcode, etc at the primary level. But what

cannot be duplicated is the mapping between the parent and the child. Because the person trying to duplicate does not have the mapping information which is captured at the manufacturer level. The manufacturer can use technology in the factory that the counterfeiter will not have access to. This is why parent-child tracking is very important.

### What is the process to tag hospitals with a Global Location Number (GLN) and how does ROHINI, the National Registry of unique Indian hospitals, play into this process?

The GLN is the unique identification of a legal entity that is a private hospital. Prior to this unique identity, every hospital follows its own system of identification which is not uniform. The issue arises when insurance companies have to settle claims. Media reports have highlighted that national insurance companies are incurring huge losses due to frauds. There is a proposal to merge all these insurance companies due to these heavy losses.

Frauds are happening at two levels. One, in many of the insurance claims cases found to be fraudulent, these hospitals do not even physically exist. Secondly, even if the hospitals exist, the medical claims are false.

The challenge was, there was no way for the insurance

companies to do a physical check if the hospital existed or not for each claim raised by the 40000-50000 private hospitals in India.

Now each hospital can be given a unique identity location number, the GLN, which is also the way hospitals all over the world are identified. Each hospital can be uniquely identified by this GLN. This is like the Aadhaar number. No one person can have two Aadhaar numbers. We can have two ration cards or even two PAN numbers but only one Aadhaar number. This is what the location number does. The same number will not be given to any other hospital. This number can be linked to its GPS coordinates as well as an image of the hospital. Thus we are also capturing the geotag position and linking it to GLN.

When the Insurance Regulatory Development Authority of India (IRDAI) first decided to set up a hospital registry in the country, they had a consultation with us to understand the best way to uniquely identify a hospital. We shared the GLN as the best global practice for this task. This number can be referred to by any hospital in the world.

The IRDAI decides what are the reasonable prices of various surgeries in private hospitals across the country, by considering the prices across hospitals and arriving



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at an average price. Insurance companies reimburse patient claims, as part of mediclaim, upto the amounts which have been approved by IRDAI.

IRDAI gets complete visibility as well as of the treatment costs at each hospitals. This helps IRDAI evaluate the correct price for each treatment.

And from a consumer/patient angle, you can get complete transparency of the treatment costs at different hospitals before availing medical facilities. But for that you need a hospital registry which needs a unique identification system of hospitals. And that is what we provide. IRDAI launched ROHINI, the national registry of Indian hospitals, in November 2015.

## What percentage of the total hospitals in India are part of the network? What are the plans to increase this number?

It currently lists approximately 33000 unique hospitals and medical day-care centres, which is approximately 50 per cent if you consider that India has a total of 50000-60000 private hospitals. The Insurance Information Bureau of India (IIB), headquartered out of Hyderabad, promoted by IRDAI, is responsible for running ROHINI. The mandate is to get all private hospitals in the country to join the registry. They have a programme to get them progressively on board.

## What are the other uses of the GLN system?

The GLN is also very useful if you want to build a repository of other entities offering medical services like say, all laboratories or blood banks in the country. I think this is another thing which should be done at a government or regulator level. Having each of these medical facilities uniquely identified would make it easy for the government to manage them.

## How would such a

## GLN/unique identifier system benefit Ayushman Bharat (AB), where the NHA has detected huge frauds?

From an AB perspective, which involves both public as well as private hospitals, having a common identification system would make it very easy for the government to have data on treatment costs. The funding allocated for AB is quite substantial and this system will give them access to data to conduct deep analytics in terms of say, how many patients in which such uniquely tagged hospitals are availing of what treatments. Such rich analytics can help the government do very targeted transfers and allocation of funds. This can even be drilled down to medicines and medical devices. Imagine if all the data on medicines, medical devices used, treatments done for all patients in all hospitals are linked and captured.

Pharmaceutical companies too would get to know the consumption and usage patterns of medicines across the country. This would be able to give information of shortages or excesses of medicines, etc.

## As of now ROHINI covers only private hospitals, the public government hospitals are not part of this initiative, right?

Yes, because unfortunately the government has been following their own system for government hospitals. But there really should not be two different systems. It should be one system.

As of now there is no direct connection to AB but we have represented all these benefits to the National Health Agency, the NHA, that it would be very beneficial if they were to issue instructions that this system should be used.

This has been the current global practice for the past 40-45 years so we are not suggesting anything new for India. It will help international patient

referrals as well; both international patients coming to India for treatment as well as patients from India going overseas. Even electronic health records (EHRs) need to be identified uniquely as per a globally standardised system. This is what GS1 is involved in: standardisation and unique identification of medicines, medical devices, hospitals and EHRs. This would make them all interoperable globally. The benefits range from counterfeit detection, to track and trace for product recalls. These are the kind of things that can be done if such standardisation is adopted.

## The Ministry of MSME used to give financial support to MSME pharma companies to implement these (barcoding) measures but unfortunately this has been discontinued in the last few years. Is there any funding for hospitals to go through this process?

No, this scheme is not available for hospitals. The annual cost of a hospital joining the ROHINI network is just Rs 1000 so cost should not be a show stopper.

In the case of the pharma sector, the cost of GS1 barcoding is a very small cost of the overall cost of a pharma plant. The major capital costs and investment of pharma companies is putting up the process manufacturing plant. In comparison, putting barcodes to meet standards are smaller incremental costs. It is a one time cost and work involved to equip the production lines to deposit these barcoding machines. So I don't think that should be a show stopper for even the smallest of pharma companies.

The other thing is, the industry is saying that the parent-child tracking is difficult to do. Yes, this does call for some discipline to record (match) the batch numbers on the products being put into outer boxes. The argument that this needs a lot of cost is not a fair

argument. Logically, manufacturers should have been doing it anyway, right? At the end of the day, this is what is required to stop duplication, address the counterfeit problem, for product recalls, authentication. I think that is a small cost to pay which the industry should bear. That's the benefit for the consumer, for the common good, not just in India but all across the world. For exports, you in any case don't have a choice. So why shouldn't you do it also for India? That's our perspective.

I think implementing GLN needs a mind set change. And if it is for the benefit of the consumer/patient, I think the mindset should change.

## How does GLN help to reduce medical data errors and redundancy in the records?

At the global level they have a lot of things coming out from the patient safety angle, for instance on EHRs. As the European Union is one single block, they are able to do a lot of things across the 46 EU countries. The other thing that was presented to the government was on medical device identification and creation of implant registries in the country. Today we don't know which medical device like a stent or implant like a orthopaedic implant was given to which patient and where. Worldwide, these are covered by GS1 standards so the regulators know which patient in which hospital has which implant/device. Most medical devices in India are imported. This is why we suggested that the same GS1 standards in use for medicines should be used for medical devices as well.

You don't need to re invent the wheel, but to integrate with the rest of the world.

If the regulator keeps giving concessions to local industries to defer/ delay such moves, it will be counterproductive. In the long run India will get isolated as a country. And that's not in our interests.

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## INTERVIEW

# ‘Focussing on quadruple aim by putting patients first’

**Rohit Sathe**, President – Philips India Healthcare, shares his insights with **Prathiba Raju** on how healthcare ecosystem in India is progressing with the latest technology and further elucidates on how the company is focussing on patient-centric approach



**Even though we are home to advanced innovations in healthcare delivery and technology, yet our public healthcare is in a dismal state. How do you see the Indian healthcare system? How can digital evolution help in changing this scenario?**

Indian healthcare system has different kinds of set ups like private and public healthcare. Within hospitals also, we have tertiary care, primary care and nursing segment which are not much organised. In patients' perspective, there are people who can afford, or not afford, or use medical insurance, but it's minimal. From equipment and diagnostic imaging perspective, the nuances of the technology we offer are suitable to any form of healthcare set up, be it a private healthcare establishment, tertiary hospital, diagnostic centres or medical colleges.

**What are the pain points or challenges you face serving the Indian healthcare system compared to other Asian countries?**

One of the key challenges facing the Indian healthcare ecosystem is the affordability of the hospitals and other healthcare institutions that buy medical equipment. It includes the total cost as well as the ownership of the equipment — configuration, software and the customer services, which extends up to 10 years. Besides, there is also a need to ensure an adequate



The government is getting more involved in healthcare ecosystem with a vision like Ayushman Bharat being announced. The industry itself has a lot of consolidation and professionalism coming in terms of equipment they want and the protocols they seek for the patients. We want to be aligned with all these changes happening in the healthcare landscape and this can happen only if we keep the patient in the centre

supply of skilled manpower, their training and ability to provide service on a consistent basis.

At Philips, we remain focussed on improving healthcare in the country by developing quality health tech solutions that are affordable and accessible. Our India strategy is anchored around catering to all our customers' needs and driving a shift to value-based healthcare — a system that aims to increase access to care and improve patient outcomes.

**So, why did Philips India come up with Future Health Index (FHI) to address global health challenges and build sustainable, fit for purpose, national health systems? How was the data put into use and what's its purpose?**

FHI survey is a barometer, which gives a holistic understanding of the stakeholders involved in creating solution success and it helps us to benchmark what happens globally. It also helps us to get our strategies aligned. Some of the other things FHI pointed out is that Indian patients have good understanding and acceptance of wearable device and Electronic Health Record (EHR). We got to know that there is a robust mobile connectivity and it helps in remote diagnosis and the patient population appreciate it. So, we are looking out on how to facilitate them with devices. For example, eICU can enable the remote connectivity but what is important is how we equip them and digitally capture the vital statistics, real time data. Information Technology (IT) helps us to automatically check seven to eight vital parameters. We need to equip hospitals with such equipment, which can avail robust automation or digitalisation.

**Can you brief us about your PPPs and how are these evolving? How can technology be a key driver in tier I and tier II cities?**

We have about 85 PPPs with

## At this point of time, medical devices are not treated separately, it is under the Ministry of Chemicals and Fertilisers and Department of Pharmaceuticals and it does becomes a challenge

different state governments. We are headquartered in Gurugram and we have a PPP set up in this region. We think PPP is a good way for the government to treat its patient load. So, PPPs are an important way to treat the untouched patient flow and it comprises a proper combination because we provide the technology and somebody provides the clinical diagnostics and business acumen for running the whole setup. Now, we are into opening new cath labs, equipped with more latest technology, and the first centre will be in Bihar.

**How do technology players like you help to bridge in the knowledge gap in healthcare industry?**

We do lot of Continuing Medical Education (CME) in different cities and forums. These are important as we bring in key opinion leaders for various subjects. For example, in cardiology, we get experts from ultrasound space. They give the discourse of the key and latest developments in clinical outcome-based and evidence-based medicine perspective. Even webcast is done.

**How do you see digitisation in the evolution of precision radiology and imaging? How is this reflected in your products and research innovation?**

Digitisation is nothing but the availability of data. We are able to collect a lot of data that can be digitised and magnified, and focus on different areas. Even transportation of data has become easy. Once you get

large sets of data you are able to study different trends -- be it clinical trials or detecting health trends. Next is Artificial Intelligence (AI). In Philips, we see it more as an Adaptive Intelligence (AI). To put it simple, it is nothing but machine learning. For example, radiologists can be assisted by AI better. Many a times, radiologists pass the report saying it is normal but there can be minute details that are not detected. However, with AI, such discrepancies can be detected accurately. Digital technology also helps in transporting the data and it is helpful in lot of PPPs. The best example is tele-radiology where an unskilled technician from a remote area sends an image without losing key information to the expert doctors or surgeons.

**How do you see the governments regulating medical devices along the lines of drugs?**

At this point of time, medical devices are not treated separately, it is under the Ministry of Chemicals and Fertilisers (MoCF) and Department of Pharmaceuticals (DoP) and it does becomes a challenge. The medical devices are different from drugs. People who are regulating pharma can't do it for medical devices, the latter needs a separate department. Medical device rules by the government is a good step forward.

**How has your journey been in Philips Healthcare and what is your vision ?**

Philips believes in customer first and puts them in the

centre, and believes in the quadruple aim. First is how to make the diagnosis more effective, second is, patient experience has to be enhanced, third, the user or the healthcare practitioner needs to be better and fourth, the total cost of a treatment needs to be less. This is our overarching strategy and vision. So, all our offerings are around it. As a whole, the government is getting more involved in healthcare ecosystem with the vision like Ayushman Bharat being announced. The industry itself has a lot of consolidation and professionalism coming in terms of equipment they want and the protocols they seek for the patients. We want to be aligned with all these changes happening in the healthcare landscape and this can happen only if we keep the patient in the centre.

**Any new devices expected to be enrolled in the market?**

Yes, we will soon be coming out with the helium-free MRI. MRIs have a magnet at the core which needs to be kept cool, and it is done by using helium. Firstly, helium is becoming a scarce commodity and not just that, on the logistics perspective in India where all buildings are not in uniformity; the new MRI can be infrastructure-friendly. The new MRI uses a magnet of only seven litres of helium instead of the usual 2,000 litres of helium. Due to this reduction, the weight of the magnet reduces by almost 1000 kg, so the machine can be kept anywhere in a building — be it first or fifth floor. There is no need to artificially strengthen the hospital infrastructure for an equipment's sake. We also have a technology called compressed sense MRI. Usually, MRI takes 40-45 minutes for scanning, and only 35 patients can be scanned in a day. Compressed MRIs can scan up to 50 patients a day, so the machine becomes more viable.

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## INTERVIEW

# 'Inito will continue to double down on fertility in the next 12 months'

**Aayush Rai**, CEO and Co-founder, Inito informs that their AI-based platform supports fertility testing and understands cycle variations of every user to give highly accurate results, in an interaction with **Prabhat Prakash**



Inito will add eight more fertility hormone testing and then move on to other areas of diagnosis

## How does Inito plan on scaling up its existing platform?

Inito's flagship innovation enables smartphones to perform lab-grade fertility diagnostic tests at home. Right now, our monitor measures two fertility hormones, estrogen and Luteinising hormone (LH), in urine and enables women to track their fertile days at home and increases their chances of getting pregnant by 89 per cent. Our AI-based app understands cycle variations for every individual user and gives highly accurate results unique to every woman's body.

We now plan to add eight more hormone tests to the device. This will allow the app to predict several key metrics of fertility for users and diagnose fertility conditions without going to the lab. The data set of hormones collected through 100,000 plus tests taken on the device till now is arguably the largest cloud based dataset of fertility hormones in the world. Using big data analytics and artificial intelligence, Inito will be able to make more accurate predictions about fertility for its future users.

## How has Inito disrupted the healthcare sector so far?

According to studies, one in every two couples track their ovulation cycle wrong. Before Inito, the only way around this problem was visiting the labs for regular check-ups. However Inito has brought the accuracy of lab grade tests to the comfort of homes. Additionally, Inito's data

analytics and AI layer also gives personalised results specific to each woman's body. In many cases, it has also alerted users about complications they were not aware of and suggests going to a doctor if need be. Inito now plans to add eight more hormone tests to the device, this coupled with the dataset of hormones, will enable it to make more accurate predictions about fertility for its future users.

## Is Inito looking at other areas of diagnosis?

Inito will continue to double down on fertility in the next 12 months, add eight more fertility hormone testing and then move on to other areas of diagnosis.

## How does Inito plan on achieving their goal of a diagnostic lab in every home?

Right now, Inito's platform supports fertility testing and soon we will be adding eight more hormone tests which will enable women to test for other fertility issues including ovulatory cycles, PCOS etc. on the device. Once we have successfully launched the eight new fertility hormone tests, we will expand to other areas of diagnosis to support our goal of a diagnostic lab in every home.

## Inito had plans of launching tests for diabetes, thyroid and vitamin D. What is the progress on that?

When we launched Inito, our plan was to move to other lifestyle related diseases

testing after ovulation tests. However, as data started coming in, we soon realised that India was going through an infertility epidemic. This was also evident in the numbers. According to reports, the global fertility services market is expected to rise from its initial estimated value of \$ 20,398.07 million in 2018 to an estimated value of \$ 41,396.21 million by 2026 registering a CAGR of 9.25 per cent in the forecast period of 2019-2026. This is when we decided to double down on fertility in the next 12 months. What also influenced our decision was the fact that we had gathered the largest dataset of fertility hormones in the world. This put us in a unique situation giving us the capability to solve for the infertility epidemic of India.

## Inito had plans on achieving 10x sales in the last financial year. Has that been achieved?

Yes, we grew 10x in revenue between March 2018-2019

## Last year Inito raised \$1.8 million. How have those funds been utilised? This year Inito has raised funds again. How does Inito plan on utilising it?

The funds raised last year were utilised to improve our product, setup ISO approved manufacturing and production and collect more fertility hormone data. For now, we have sufficient funds thus our focus has shifted to product and growth rather than fundraising.

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## INTERVIEW

# We see a shift towards increased regulation on devices

The regulatory scenario within medical device manufacturing environment in India is currently changing. **Nikhilesh Tiwari**, Founder & Director ColMed, in conversation with **Raelene Kambli**, explains the impact and challenges associated

## What are the new trends or innovations in the medical device sector in India?

The market size of the medical devices industry in India is expected to touch \$8.6 billion by 2020. With the rapid growth of technology, medical devices sector is more than just hardware. Digital technology, which has been a cornerstone of every sector, has also started penetrating the medical devices sector. More organisations today are investing heavily in digital technology to transform medical devices and employ greater usage of data analytics. Also IOT (internet of things) is becoming important in preventive maintenance of medical devices. Another trend is the growing shift towards more user-centric products that focus on prevention. For example, diabetes management devices are proving to be crucial in patients' management of the disease. Connected devices to bridge access to specialists are another key emerging trend.

## What are the biggest changes you see in the regulatory scenario for medical devices in India?

As the technology and design behind medical devices changes rapidly, leading them to become smarter, smaller and more complex, regulation has become a multi staged process. Verification and qualification need to be carried out at different stages of design and operation. However, current regulatory mechanisms in India are not fully equipped to provide regulations to international standards and



lack of quality testing continues to be a major problem. A number of medical devices are still not regulated. This poses quality and safety risks. According to news reports, the NITI Aayog has prepared a roadmap on ensuring better regulation of medical devices under which all devices – imported or locally manufactured – will have to be certified by the Central Drugs Standard Control Organization (CDSCO). In this light we see a shift towards increased regulation on devices as well as the number of devices covered plus stringent norms with higher penalties. While improving regulation is welcome, the authorities must ensure that the regulatory process remains smooth, hassle free and fast.

## Tell us about the tax laws that impact the domestic manufacturing market?

The GST on devices currently stands at 12 per cent. On the other hand, customs duty on devices is low. The current tax policy negatively impacts indigenous production and supports imports, which is counter intuitive to the Make in India initiative. What the industry needs is a lower GST rate to increase consumption and an increase in the customs duty to make imports costlier. This will provide a boost to local manufacturing.

## What are the best practices for cybersecurity that medical device manufacturers should follow in India?

With increasing penetration of digital devices, cybersecurity automatically becomes a concern. There have been demonstrations showing how implanted pacemakers and other lifesaving devices can be hacked, making it a serious

issue all over. This is an area where India needs to significantly improve its security practices to be at par with the world. We need strong cyber security laws and strong tech teams along with strong organisational level practices to prevent cyber threats.

## Tell us about the dynamics of online and offline products delivery in India and what are the strategies for developing successful business models in this space?

Online and offline modes have to co-exist and support each other. Although the online space is new, it can only witness success when it brings value to the entire ecosystem. Online has a tremendous advantage in product discovery, identification and providing delivery analytics, while offline is the key to actual timely delivery and payment collections. Blindly throwing money to fund growth like B2C is not a solution, as it will not create real value.

## How can an engaging start-up ecosystem create job pools in healthcare?

As of late, the current healthcare delivery system is very fragmented, bedevilled by inefficiencies. The new emerging start-ups eco system must work to minimise the existing inefficiencies by leveraging the scope in underserved markets. They must also devise new strategies for improving healthcare delivery. Not only will this help to create tremendous value but also to generate jobs in the sector.

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## INTERVIEW

# 'The relationship between environment and impact is gaining more importance in the design of healthcare facilities'

Godrej Interio, a well-known furniture brand in-home and institutional segments, recently launched the 'Godrej Interio Healthcare Experience Centre' to showcase its products and services. After the launch, **Sameer Joshi**, Associate VP Marketing, Godrej Interio shares more information about the changing demands in healthcare, the current trends in hospital design, the vital role of healing environments in improving patient outcomes, Godrej Interio's growing focus on healthcare, objectives of the newly launched Healthcare Experience Centre and more, in an exclusive interview with **Lakshmipriya Nair**



Godrej Interiors Research in Healthcare Spaces continues to indicate that there is a strong correlation between the look and feel of an environment and its tangible, quantifiable impact on the people who inhabit it

**How is the layout of spaces and building form and design of healthcare setups changing? What are the drivers of this transformation?**

Healthcare environments are changing with shifting trends in the practice of medicine. Twenty-first century practices have been described as being personalised, predictive, preventive and participatory in their approach, steering hospitals and clinics away from the sterile, clinical facilities they used to be. No longer designed only for safety and space efficiency, today's clinics are warm and welcoming in ambience.

Healthcare facilities are designed to create a comfortable and welcoming environment. Lifestyle and hospitality elements are also incorporated to provide a unique experience for patients in today's scenario.

**'Form follows function' is an old philosophy in architecture. Is it still trending? If yes, how is it being interpreted and applied in modern hospital designs? If not, what are the new guiding principles, and why?**

Godrej Interiors Research in Healthcare Spaces continues to indicate that there is a strong correlation between the look and feel of an environment and its tangible, quantifiable impact on the people who inhabit it.

The relationship between environment and impact is gaining more and more importance in the design of healthcare facilities, where the creation of a healing environment, a place that truly and demonstrably helps cures the ill, is the holy purpose for facility managers and healthcare designers.

An approach known as evidence-based design has emerged as a driver of healthcare design and is one of the key emerging trends that advance the correlation between a healing environment and positive clinical outcomes. A few design elements like colour palette, access to natural light, wayfinding is at the core of the discussion about current trends, but it's also important to be aware of some non-traditional elements that are starting to add new dimension to current thinking.

At its root, evidence-based design drives an environment

that is therapeutic, supportive of family involvement, efficient for staff performance, and restorative for workers under stress. It has become the new currency of design around the globe, yielding data on the degree to which specific elements and approaches, from natural light and views of the outdoors to colors, signage, public art and other aesthetics, encourage positive outcomes.

**How is Godrej Interio working towards creating hospital interiors which can provide measurable benefits for both, patients and caregivers? You have recently inaugurated the Godrej Interio Healthcare Experience Centre. What objectives will the Centre help you achieve?**

Nurses and caregivers are the single largest health professional group and they practice in nearly every setting of the healthcare system, including hospitals, long-term care, home health, ambulatory care, diagnostic and treatment facilities, and clinics. In adjusting with a change system and responsibilities, challenges faced by them needs to be

addressed on a priority basis. An efficient workforce will make the healthcare delivery smooth and the receiving end will feel safer and more secured.

Our study found that the healthcare system is undergoing rapid changes that put new emphasis on population health, quality of care, and the value of the services delivered. These changes present both opportunities and challenges to the healthcare workforce.

Godrej Interio creates an efficient work environment that provides flexibility for ease of work, benefits productivity, increases staff comfort and a positive experience for all stakeholders in healthcare space, namely patients and their relatives, doctors, nursing staff and hospital administrators.

Additionally, Godrej Interio healthcare business focusses on creating environments that support patients and families in process of healing. These ergonomically designed healing environments focus on efficiency, empathy and well-being of all stakeholders including patients, caregivers and doctors. The new healthcare experience centre highlights our design philosophy which is based on adopting a human-centric approach and using adaptive space solutions for improved patient-doctor interaction.

#### **What are the important aspects that get overlooked while designing healthcare facilities in India? How can you handhold healthcare providers to balance cost while enabling modularity and flexibility in their facilities?**

One needs to keep in mind that the life cycle project costs over the years dwarf the original construction costs while designing and building health and hospital facilities. As observed in some cases, expensive health and hospital facilities have been built and a country has not budgeted for the operating costs, or coordinated and planned the allied health professionals or the proper staffing requirements. There are cases on other extremes where minimising initial cost of investment is primary focus and choices made turnout very expensive when lifecycle cost is considered.

The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well as private players. It is, however, lacking in healing environments which focus on providing utmost comfort and safety to patients while handling the cost challenge. We, at Godrej Interio, are working on multiple innovations keeping in mind unique challenges faced by industry. For example, shortly we are

launching world's first bed which can be converted from manual to motorised at hospital premises. This should help hospitals to upgrade same bed at later date. It is a matter of pride to see Godrej Interio endeavouring to uplift the quality of experience at healthcare facilities through multiple innovations.

#### **How urgent is the need for newer approaches and enhanced deployable models to create more healing environments?**

Godrej Interio recently unveiled a research study 'Elevating Experiences, Enriching Lives' that discusses prevalent challenges faced by the nursing forces while delivering healthcare services in India.

According to the initial observations the stress added to the life of a nurse may be contributed by the long working hours, overload and overtime they do to meet the demands of the changing and challenging healthcare industry in this new revolutionary Indian healthcare sector.

Work alternated by rest is the ideal working scenario in any industry, but according to our observed fact nurses doesn't take adequate rest breaks in between working hours resulting in the overload to the body structures and this in return add on to the mental stress.

According to the number of standing hours nurses spend while at work there could be a direct correlation between the prevalent leg and knee pain which is evident in our initial observations. The awkward postures and the improper handling techniques used while at work is in sync with the facts that upper back and lower back pain is prevalent in the working forces. Sustained awkward postures used while assisting some procedures may lead to the shoulder pain. Absenteeism due to stress and pain leads to the productivity loss to the organisation and decreases self-confidence of the nurse.

To meet these challenges, well-motivated and well-prepared workforce is required. We can achieve this by meeting the requirement of nurses and taking care of their challenges which can lead to empowered, encouraged and affirmed nurses who can continue to excel to do best without any barriers.

#### **Tell us about the current projects that Godrej Interio is involved in the healthcare space? What are the services you offer that are unique from your contemporaries?**

Godrej Interio's approach is to create spaces which are fair to all stakeholders in healthcare environment. We believe that the spaces need to be designed to take care of

needs and expectations of multiple stakeholders including doctors, care givers, hospital administration in addition to patients and their families. For e.g. Godrej Interio has been offering wellness services to nursing staff which includes posture training, patient transfer techniques and self exercises to handle daily stress while at work. We have been working with multiple clients including medical colleges, large private hospitals, government super-specialty hospitals. Godrej Interio offers furniture solutions for all areas of hospitals including reception, lounges, offices, canteen, record rooms, laboratory and medical furniture. We have also been executing turnkey interiors for healthcare environments for some-time now which includes complete execution including HVAC, electrical, gas piping, pneumatic systems and civil interiors. We have tied up with specialty space designers for handling complex projects. With unique software-based CCPM approach to project management, we have been successfully delivering multiple projects on time.

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# CANCER CARE

## INTERVIEW

### This novel breakthrough is revolutionising how we utilise radiation beams to treat cancer

**Dr Rakesh Jalali**, Medical Director, Apollo Proton Care Centre (APCC) Chennai and **Dr Pankaj Kumar Panda**, Senior Research Officer, APCC, talk about the advantages of proton therapy, its ability to bring in better long-term cancer control in challenging cancer sites and reduce the adverse effects of radiotherapy, in an interaction with **Sanjiv Das**

**Tell us more about the Apollo Proton Cancer Centre (APCC) in Chennai?** Apollo Proton Cancer Centre is a state-of-the-art facility is India's and South Asia's first modern PROTON beam facility, treating patients on a daily basis. Given its leadership as the first such unit (and that too with its Pencil Beam technology, robotic couch, image guidance, Montel Carlo systems etc), it is estimated to cater to 3.5 billion people in the region. The facility has 150 beds with latest diagnostic and therapeutic technologies, multi-disciplinary evidence-based care. It has a strong emphasis on generating quality evidence but appropriately conducted investigator-initiated research, especially pertinent to our Indian populations. Every patient at the centre is discussed in a multi-disciplinary tumour board meeting with emphasis on evidence-based management.

Since it started treating patients in January 2018, APCC has treated 72 patients using proton therapy who presented with a wide range of indications such as central nervous system tumours, genito-urinary (prostate) tumours, head and neck cancers, bone and soft tissue tumours, breast cancers to name a few. APCC, with an excellent paediatric patient care/support system, has treated a significant number of paediatric patients with proton therapy. With a



**DR RAKESH JALALI**

*Medical Director, Apollo Proton Care Centre (APCC) Chennai*

mandate to contribute to the medical community and society as a whole with evidence-based guidelines about treating with proton therapy, every patient has been enrolled in a prospective registry whereby all aspects of their treatment and quality of life/cure is being regularly maintained for further research.

#### **How is this new form of treatment going to revolutionise cancer care in India?**

Proton beam therapy is the most sophisticated form of radiation therapy currently available in the world. Latest breakthroughs in this

technology, including pencil beam scanning, highly precise image guidance and tremendous refinements in the machine set up, has led to a spurt in adoption of this technology in hospital settings across the world in the last few years. This not only helps to improve long-term cancer control in challenging cancer sites but also reduces the adverse effects of radiotherapy. This results in significant improvements in the quality of cure.

Modern proton beam therapy can result in literally dose painting the most complex tumour shapes with ultra-high precision. This



**DR PANKAJ KUMAR PANDA**

*Senior Research Officer, APCC*

novel breakthrough in cancer care is revolutionising how we utilise radiation beams to treat cancer. Oncology communities now expand the proton beam therapy to not only well-established indications of childhood and young adult cancers but also to tumours of the brain, skull base and cancers of the head and neck, gastrointestinal tract, deep seated abdominal and pelvic tumours and those in challenging sites where conventional form of treatment are generally not efficacious. It can be also used when the tumour has recurred and when re-irradiation is contemplated to reduce dose delivered to

the organs at risk and still achieve reasonable therapeutic dose to the tumour. Proton therapy is a non-invasive and painless treatment which is typically carried out on an outpatient basis where a treatment course may span three to six weeks depending on the type and size of the tumour.

#### **How does the proton therapy works?**

Particle beam therapy such as protons have physical attributes to deliver radiation with virtually no exit dose such that it is delivered precisely to the tumour area. Therefore, it is one of the most sophisticated

forms of radiation therapy currently available in the world. Protons are heavy charged particles, ~800 times the mass of electrons. The large mass and acceleration applied gives each proton a specific momentum that is mostly dissipated after traveling a defined distance. Then it is slowed down by interactions with the target, which causes a sharp rise in energy deposition at the end of the path of the proton, followed by no further dose delivery. It is referred to as the Bragg peak. This individual physical property provides superior dosimetric advantages over photons or electrons. Therefore, rather than traversing the target, protons are stopped at an energy-dependent depth in the target and have no exit dose, which completely spares the downstream normal tissue. Proton beams are generated by a cyclotron or synchrotron, and then accelerated to the desired target. Protons have completely different dose distribution properties compared with photons, and

## Apollo Hospitals have always endeavoured to bring latest technology at an affordable cost to our fellow citizens. In proton therapy also, we are offering the treatment at a percentage of the cost that is otherwise being done in the US and elsewhere

have the potential to avoid most of the extra-target radiation, imparted by the acceleration system that gives protons a specific momentum that carries them into a body. After travelling a specified distance, the velocity is slowed by interactions associated with their mass and charge, and then stopped abruptly at a specific depth. This is the point at which the proton will interact with surrounding electrons, delivering its energy and causing ionisation of molecules and radiation damage in the DNA of the target cell.

**Cancer treatment is a costly affair in our country. Do you think this new form of treatment be affordable?**

It is true that cancer care is costly not only in our country but worldwide. Proton therapy installation is resource intense. Apollo Hospitals have always endeavoured to bring latest technology at an affordable cost to our fellow citizens. In proton therapy also, we are offering the treatment at a percentage of the cost that is otherwise being done in the US and elsewhere.

Dramatic technological innovations to optimise proton therapy are occurring at this point, including pencil-beam scanning, intensity-modulated proton therapy, image guidance, hypofractionation, and compact units; these will likely further decrease treatment costs. A

publication by Verma *et al* (*Cancer*, 2016) on the cost-effectiveness studies of proton radiation therapy mentions about the two common techniques used to execute modelling analyses namely the population-based (Markov) or individual-based (Monte Carlo) modeling and simulation. The use of cyclotrons versus synchrotrons also has been related to cost-effectiveness along with postulation that one day, four-dimensional proton treatment may be the standard of care for some tumours. Recent advances in optimising treatment times, proton units, beam energies, and field design can improve cost-effectiveness, as can achieving a balance of proton

therapy indicated cases and 'non-essential' cases. However, partially because of these innovations, data indicate that over the next decade, treatment costs could drop by a very substantial 20 per cent. Moreover, proton therapy reimbursements have already decreased compared with past levels. Finally, because clinical and toxicity data are currently accruing and maturing for proton therapy, a clearer picture of efficacy, and thus economic balance, will likely be available in the future, indicating that the situation in the Indian context looks promising.

### Are there plans to open APCC in other locations?

We have received extremely encouraging response to APCC, being the first proton therapy centre in India and South-Asia region. Hence, the Apollo Hospitals group is definitely exploring plans to open up more such centres in near future.

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## INTERVIEW

# Food safety and nutrition education is a must

**Inge Kauer**, Executive Director, Access to Nutrition Initiative speaks to **Prathiba Raju** on the importance of nutritional standards and food safety and why it should be made a priority in education

### Why education on nutrition is important for Indian consumers?

Making healthy food available and affordable should be a priority for India in the coming years. The food and beverage sector in India is rapidly growing, the Indian food retail market is expected to reach \$894.98 billion by 2020. With sales of processed foods accelerating it is clear that food and beverage companies have a crucial role to play in ensuring that everyone has a choice of affordable and nutritious products.

The 2018 global nutrition report demonstrated that 21 per cent of women and 19 per cent of men in India are now overweight or obese, while also reporting that India is home to the largest number of stunted (46.6 million) and wasted (25.5 million) children in the world. Anaemia is also an issue affecting people in both urban and rural centres, around 70 per cent of adolescent girls in India are anaemic. Companies have a responsibility to enable consumers to make informed choices about what they are purchasing and eating, this can be done through improved labelling, marketing, fortification and reformulation practices.

How can we combat the rising nutrition-related issues, where do we stand globally?

Every country in the world is affected by nutrition and 88 per cent of all countries have overlapping burdens. This year, it was reported that:

- ▶ 21 per cent of children under five worldwide are affected by stunting
- ▶ 5.9 per cent of children under five globally are overweight
- ▶ And 39 per cent of adults worldwide are overweight

▶ There is much to be done to tackle the nutrition challenges the world currently faces.

Mounting demand for healthier products combined with rising incomes across the globe presents the food and beverage industry with a tremendous opportunity to prompt positive change. We believe that the rising nutrition-related issues can be tackled by tapping into the competitive nature of the private sector and sparking a race to the top in nutrition among global corporations. We develop tools and initiatives that track and drive the contribution made by food and beverage manufacturers and encourage them to do more to help consumers achieve good health through improved diets and nutrition.

### What are the key aspects of the 2<sup>nd</sup> Access to Nutrition Index?

The purpose of the India Spotlight Index 2019 is to encourage companies to increase Indian consumers' access to healthy and affordable nutritious products as well as responsibly exercise their influence on consumers' choice and behaviour. The Index is a relative ranking allowing stakeholders to compare performance between different companies and the development of individual corporate performance over time. It is a tool that can be used by major food and non-alcoholic beverage manufacturers to benchmark their nutrition practices and serves as an impartial source of information for a wide range of stakeholders (investors, academics, government and civil society organisations).

It includes an independent assessment of the healthiness of a company's product



Companies have a responsibility to enable consumers to make informed choices about what they are purchasing and eating

portfolio using the Health Star Rating methodology. The result of this product profile score are having a relative high weight in the calculation of the overall score for each company.

### How is it different from the 2016 Index and when will it be launched?

The second iteration of the India Spotlight Index will be released this December. There are a number of key

differences between this last India Index compared to this year's edition. Up until this year, an objective assessment of the nutritional quality of companies' product portfolios was presented in a separate Product Profile section. As of 2019 it is performed as part of the product category assessment in the corporate profile that captures companies' efforts towards formulating and reformulating their products. This part of the assessment analyses the nutritional quality of the products they sell, which is determined by the levels of fat, salt, sugar, fruit, vegetables and other components.

Our Indexes usually include an assessment of the marketing practices of major baby-food companies, which is presented in a breast-milk substitute marketing sub-ranking. This element is however not included in the India Spotlight Index 2019.

Additionally, based on stakeholder feedback, the upcoming India Spotlight Index 2019 will assess a total of 16 companies, which is an increased compared to the last India Spotlight Index, which assessed nine companies.

### How is FSSAI helping in this initiative?

FSSAI was involved in the launch of the 2016 Index. We are sharing our methodology and FSSAI is one the reviewers. FSSAI programmers supporting the Governments Eat Right India movement are a crucial factor to promote industries contributions to tackle malnutrition and promote healthy diets.

### Which age group is the most affected and what are the

### health hazards of the products manufactured by the FnB industry? Which are the products that should be avoided and why?

We use international and national nutrition standards to determine what is healthy. Food safety is an important element. Foods with high levels of trans fat are to be avoided. For people (at risk of/) with overweight, products with high levels of added sugars and high energy content can be harmful.

Children and teenagers are particularly vulnerable to inappropriate marketing practices from food and beverage manufacturers which can lead to serious nutrition problems. Our upcoming Index will again assess whether companies have policies on marketing to children and/ or support the India International Food and Beverage pledge. We will also examine the type of products companies advertise to children and whether or not age restrictions in advertising applies. A new area of assessment has been added in this iteration which focusses on digital marketing.

### Does food fortification help, to what extent? Do companies re-formulate their products?

We promote the universal fortification of products, rather than a select number of fortified special products. Regarding reformulation, we are currently analysing the portfolios of companies active in India and will publish results in December, but last year's Global Index found that some companies have made positive efforts to lower sugar and salt content and we hope that this can be replicated by companies in India.

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## INTERVIEW

# 'Automation will definitely lead to reduced error rate in reported results'

With the growing need of India's healthcare delivery system, automation is a promising solution available to medical laboratories, informs **Dr Rajeev Gautam**, President, HORIBA India to **Prathiba Raju**

## How will medical laboratories in India evolve in terms of automation?

In a country like India, where sample load is high and well-qualified healthcare technologists and pathologists are scarce and are not easy-to-access resource, the only answer available to the medical laboratory is automation. If anyhow, the entire life cycle of a laboratory sample can be automated, starting from sample collection to sample labelling and testing, it will definitely lead to reduced error rate in reported results. Less human intervention means less probability of error and more accuracy and precision of desired results. Obviously, automation is a promising solution available to medical laboratories with the growing need of country's healthcare delivery system that must cater to masses, and not just the classes.

## If you get a chance to talk about one product of HORIBA Medical, which one would it be?

All products of HORIBA Medical are associated with a long success story in the global market. However, I would like to introduce the readers to HORIBA Evolutive Laboratory Organisation (HELO) -- HORIBA's latest high-end automation technology -- recently launched in the country by HORIBA India. It is not just a product for sample testing, but a solution for every high-end, high-workload medical laboratory. Decades of research have brought "HELO" as a unique solution,



Every second saved by a technician due to automation can be well spent on his patient which is his first priority

which is not just operator-friendly, but also takes care of specific demographic variations that exist and vary from geography to geography across the country like India. HORIBA is a globally reputed research-oriented technology company, that has years of experience in R&D activities. We believe not just in manufacturing, but introducing and upgrading existing technologies by spending around 10 per cent in R&D activities related to

our products. HELO has various technical aspects and additional upgradation options that allow medical laboratories to keep their avenues of upgrading their laboratories in future as well.

## Any message for the diagnostic industry?

I think, automation may add to efficiency and performance of laboratories in terms of number of samples tested and number of patients treated by a

healthcare facility. However, real essence of patient care always lies in a 'human-touch' that can only be provided by a healthcare worker during sample collection, treatment, procedure and other related day-to-day operations in any healthcare delivery system.

To have a well-trained, well-groomed and an understanding laboratory technologist must be on the priority list of every medical laboratory. Even the best automation can never replace an average trained technologist.

HORIBA is looking forward to bring innovative training programmes. Our well-reputed and established programmes like HIT i.e. HORIBA Interpretation Training, HOT i.e. HORIBA Operational Training and HABX workshops for haematology technologists have been well received by the medical fraternity pan-India. HORIBA India has one of the six international training centres currently operating from Delhi. The same is slated for an expansion at our upcoming facility in Nagpur. Soon, we shall see a training centre of global level imparting training to not only our team from across the globe, but also to the users, so that when they come to the HORIBA equipment, they are well-prepared to handle it.

Every second saved by a technician due to automation can be well spent on his patient which is his first priority. HORIBA believes that learning is of prime importance for any healthcare professional and it

is not just the product that we sell to our customers i.e. doctors and laboratories, but we strongly believe that real success lies in how we can educate, develop and train our customers in medical laboratories to add to the time that they actually spend in listening, counselling and understanding patient need to bring health and happiness in his/her life.

## What is the simplest success mantra that you suggest for the young budding leaders in the medical device industry?

I would just like to say that success does not lie in a particular mantra, it is how you solve and face day-to-day situations and how you grow out of the response that you get from your customers and colleagues. However, I would like to add the following five points which will definitely add constructively to their life and career:

- Spend more time with customers and not on laptops and gadgets
- Talk to your team daily for at least five minutes in the morning and five minutes at the end of the day, which will create happiness amongst team members, and happy teams are winning teams
- Give time to yourself – grow and learn everyday and in every opportunity you get in your job
- Spend at least 10 per cent of your salary on yourself, which will boost your self-esteem and confidence to perform
- Keep yourself well-dressed and well-groomed

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# Five reasons why healthcare institutions need data loss prevention

**Filip Cotfas**, Channel Manager, CoSoSys gives plenty of reasons to invest in data protection to secure patient data and also prevent organisations from becoming insolvent

Health information has always been considered extremely sensitive and with the rise of digital healthcare records, the need for its protection has become increasingly urgent. Due to the high volume of data they collect and their often-vulnerable systems, healthcare organisations have turned into a favourite target of cybercriminals the world over. Frequent victims of data breaches, healthcare institutions face not only a loss of customer trust but also hefty fines as data protection regulations such as HIPAA in the US and GDPR in the EU moved to place responsibility for data protection squarely on organisations' shoulders.

From the worst data breach to date that took place on January 2015 and affected 78.8 million Anthem Blue Cross patients to the latest news of the American Medical Collections Agency data breach that is estimated to have affected over 20 million patients this year and has driven the organisation to the brink of bankruptcy, healthcare institutions have plenty of reasons to invest in data protection. But what are the most important and what role does data loss prevention play in them? Let's have a closer look!

## Saving money

According to IBM Security's 2019 Data Breach Cost Report, the average total cost of a data breach in the healthcare industry is \$6.45 million, 65 per cent higher than the cross-industry average. This essentially means that, besides the loss of patient trust and the damage to a company's public image, there is also a substantial financial



**DLP tools have become an indispensable asset to healthcare institutions that regularly operate large networks full of sensitive data that is often vulnerable to loss or theft**

price to be paid.

It is, therefore, less costly for healthcare institutions to invest in data protection measures and ensure data breaches are avoided than to risk a breach and have to pay the considerable bill associated with them. In countries like the US, the risk is often even higher as data protection legislation allows for class action suits. Indeed many healthcare data breaches wind up in courts: Anthem Blue Cross paid affected patients no less than \$115 million to settle the litigation and that on

top of the record \$16 million it paid to the federal government for its breach of HIPAA.

## Protecting their reputation

Besides a ruinous bill that can send healthcare institutions spiralling into insolvency, they also face considerable public backlash associated with data breaches. With the mounting adoption of data protection regulations focussed on protecting individuals' personal information, data loss prevention is now seen as the responsibility of the organisations

collecting, processing and using individuals' sensitive data.

When an organisation fails to live up to the requirements, they are legally obligated to follow, it causes a loss of trust in existent patients and generates reluctance in new ones. Individuals are likely to avoid institutions with a proven track record of data breaches.

By applying data protection strategies, healthcare organisations can reassure patients that they are taking data protection seriously and staying compliant with regulations adopted to protect their personal information.

## Data visibility

While traditional data protection solutions like antiviruses and firewalls are designed to keep intruders out and are an essential part of any data protection strategy, they do not directly address the need to protect personal information, but serve a more general role of protecting an institution's network and all its data.

This is where data loss prevention (DLP) tools come into play. Designed to protect special categories of data through predefined or customised policies, they can find sensitive data on an institution's network and monitor it. In this way, healthcare institutions can have a clear picture of where sensitive patient data is stored and how it is being transferred and used by their employees. Practices that make data vulnerable can thus be discovered along with the employees that require additional data protection training.

## Controlling portable devices

Another blind spot of tradi-

tional data protection strategies, portable devices are often used as a loophole by both insiders and malicious outsiders. Files can easily be copied onto USBs for example and then taken outside of the work environment where they, and the data on them, are extremely vulnerable. External drives, with their high storage spaces, are even more problematic although more conspicuous than USBs.

DLP tools can block any removable devices from being connected to endpoints or permit connection and transfer of files only onto trusted devices such as those issued by the healthcare institution to its employees or those that automatically encrypt data copied onto them.

## Saving time

DLP tools have become an indispensable asset to healthcare institutions that regularly operate large networks full of sensitive data that is often vulnerable to loss or theft due to overworked or careless employees or malicious outsiders.

DLP solutions like Endpoint Protector are easy to deploy and manage, offering protection on the endpoint that ensures that sensitive data is easily monitored and controlled from a single dashboard. They can also operate cross-platform, guaranteeing that, whether endpoints are running on Windows, macOS or Linux, they are offered the same level of protection.

Remediation actions such as deletion or encryption of sensitive data when it is found on unauthorised users' computers are also available on the dashboard, saving administrators considerable time.

## INTERVIEW

# ‘We are creating a healthcare ecosystem that keeps patient care at the centre’

KnowDi is a healthcare app designed to serve as a one-stop solution for patients and doctors. **Pramod Arehalli**, Co-Founder, KnowDi shares more details about the platform, its advantages, growth plans for his company and its vision for healthcare, with **Usha Sharma**

## Tell us about the KnowDi platform. Why did you think of venturing into this competitive market?

KnowDi has been founded by serial entrepreneurs with a deep understanding of the healthcare domain. At KnowDi, we are creating a collaborative healthcare ecosystem that keeps patient care at the centre, while driving benefits for all stakeholders. KnowDi is a centralised healthcare platform that connects all the important components of the ecosystem — patients, doctors, hospitals, labs and pharmacies. While it's true that a number of startups have entered healthcare in the last few years, we believe healthcare is still in a very nascent phase when it comes to technology adoption. If we look at the healthcare ecosystem as a whole, there are way too many issues starting from proper access to ineffective data management. We believe that the healthcare ecosystem needs a holistic, patient-centric and technology-powered solution, and that's what we're building.

## What are the unique services offered by your platform against others?

There's a two-fold answer to this question. In the first place, we believe in taking an integrated approach to the entire healthcare ecosystem. We're building a complete solution for patients, which incorporates all stakeholders in the value chain. So patients can look towards KnowDi for all their healthcare needs, whether that's doctor appointments, delivery of medicines, diagnostic tests, or managing their medical history.

In fact, we even provide access to Ayurvedic doctors, enabling patients to access alternate methods of healthcare as well.

Secondly, KnowDi's strength lies in its data management system. We believe that one of the biggest keys to successful outcomes in healthcare is access to complete and comprehensive medical data, something which is sorely lacking today. That's why our entire platform is designed in a way that enables patients to store and manage their medical history in a secure and confidential way. At the same time, other stakeholders in the ecosystem, be it labs or doctors, can get access to this data and make faster and more accurate diagnoses. This has massive potential as far as improving healthcare outcomes in the country is concerned.

## How do you manage patients' medical history? What measures do you take to ensure data privacy?

KnowDi has a special, highly secure database where patients can store all their medical data including results from diagnostic tests, prescriptions for medication, X-rays, doctors' diagnoses and so on. Users can not only upload their own medical history on the platform but also that of their entire family.

When a user books an appointment with a doctor through the KnowDi app, the doctor can request access to their medical history. Only if the patient decides to give access via the app, will the doctor be able to access the medical records. The patient provides authorisation to the



requesting doctor to view the records via an OTP and a QR code.

If the doctor has access to a complete medical history, the diagnosis and treatment plan becomes much easier. Plus, if all the medical history is online on the KnowDi database, patients no longer need to worry about losing any medical document as it can easily be accessed online even if they lose the hard copy. Over time, such a comprehensive database of patient history will have a transformative impact on outcomes in the healthcare sector.

As far as data security is concerned, the platform leaves no stone unturned.

## You have tie-ups with offline chemists, which critical areas do you assess before partnering with them? Why are you not considering online players?

Our business model is based on the principle of leveraging technology to boost existing

businesses, rather than creating a supply chain from scratch. We believe that local pharmacies have a good grip on the local demand as well as on procurement. We want to use our platform to give these local businesses an expanding customer base. There are few things we assess before partnering with any pharmacy. The first is that they have to be present in the localities where we are currently operational. This is because we believe in a hyper-local delivery model and our customers get medicines from pharmacies that are located within 2 km of their home.

Secondly, we have a transparent quotation process when it comes to orders, we make sure that the pharmacies we work with are open to this process. As part of this process, when a customer places an order, this order becomes available to all the pharmacies within a 2 km radius. The pharmacies then respond to the order with the best price and delivery time they can offer, and the customer chooses the one that suits them best. This ensures that we maintain a fair and transparent process, while offering the best possible service to our customers.

## How many doctors have registered on your platform? What are your offerings for doctors and patients?

The platform is currently being launched for Bengaluru market. And KnowDi has already tied up with 22 hospitals, 50+ pharmacies, and over 750 doctors in the region. KnowDi is one of the few healthcare apps that are designed to make a doctor's life

easier. It gives doctors access to a whole new set of customers. With our data management tools, doctors are able to access the comprehensive medical history of the patient at the click of a button, making accurate and timely diagnosis much easier. The app also facilitates real-time monitoring of patients' health records which again plays a major role in timely diagnosis and prevention.

## How is the company looking to grow, organically or inorganically?

Since, the time we entered the market, we have opted for organic routes to grow. There has been a great response from all stakeholders — whether that's doctors, labs, or pharmacies — and we've seen an overwhelming number of organic sign ups on the platform. Given the strength of our value proposition, we should continue to see this strong demand growth as we expand. At the same time, our strategy is not purely organic. We believe in scaling up quickly, and are backed by established investors from across the globe. As we expand to newer geographies, we will be looking at growing and scaling up with substantial investment.

## Tell us more about your business plans.

We are seeing some good traction in Bengaluru and will be consolidating our presence across the city in the next 6-9 months. After this, we will be shifting our focus to other major cities in South India including Chennai, Kochi, Trivandrum, and Hyderabad.

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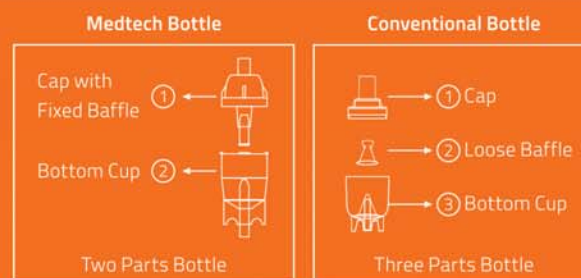
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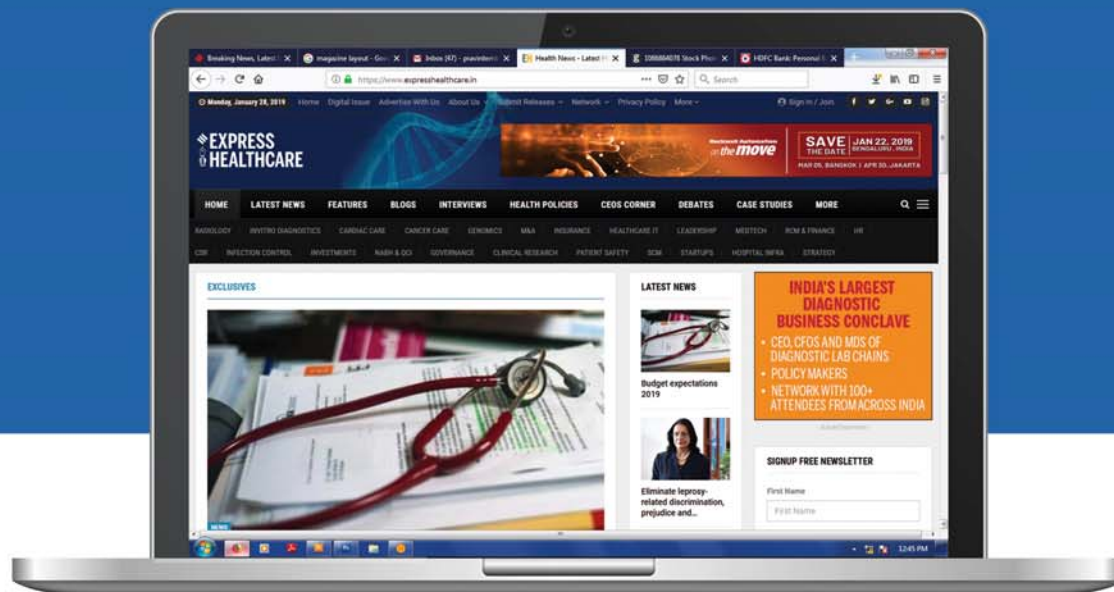
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**CONTINUED MONITORING AND UPDATED TECHNOLOGY  
HAVE BEEN THE STRENGTHS OF NICE NEOTECH**



**Opera**  
Infant Radiant Warmer  
nice 2010 BC

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**Opera Plus**  
Infant Radiant Warmer  
nice 5000



**iSmart**  
Respiratory Humidifier  
nice 8050

M/s. nice Neotech Medical Systems Pvt. Ltd., was established in the year 1997. 'nice' stands for 'Neonatal Intensive Care Equipment' which aptly amplifies the objectives of the organization.

nice Neotech design the product as per world standard which symbolizes excellence in form, function, quality, safety, sustainability and innovation, and communicate that the product is usable, durable, aesthetically, appealing and socially responsible & most user-friendly.

Our product range include Infant Incubator, Infant Transport Incubator, Infant Radiant Warmer with T – Piece Resuscitator & Infant Phototherapy, Infant Radiant Warmer, Infant LED Phototherapy, Bubble CPAP System, Heated(Respiratory) Humidifier, Infant T – Piece Resuscitator, Infant/ Neonatal Fiber Optic Transilluminator, Oxygen Analyser, Infant/ Neonatal

Respiration Monitor, Infant Observation Trolley, Infant Weighing Scale, Oxygen Hood, Air Oxygen Blender, Medical Air Compressor, Reusable/ Disposable Breathing Chamber, Reusable/ Disposable Breathing Circuit, Nasal Mask, Nasal Prongs, Head Bonnet, and Eye Mask etc.

**Applications:**

- |                        |                                |                             |
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| 1. Mother & Child Care | 4. Level III NICU              | 7. Respiratory care         |
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| 3. Level II NICU       | 6. Newborn Emergency care Unit | • Adult Respiratory Care    |



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## New age neonatal care range from nice Neotech

### nice 2010 BC

#### Servo Safe Mode

Servo Skin, Safe, Pre warm and Manual Mode Control

APGAR Timer, Skin and Peripheral temperature display

Facility to detect skin temperature probe detached from Baby skin, Large LED Display

Cabinet for easy storage

Large IV and Pump mounting pole facility.

Thermistor sensor based skin temperature probe with no need of calibration.



**Opera**  
Infant Radiant Warmer  
nice 2010 BC

#### i – Sensor Technology

tion.

In- built weighing scale: The baby can be easily weighed without moving the baby for it's weight reading. (optional)

Electrical height adjustable: (optional)

#### Features:

- ▶ Micro Controller based Electronics
- ▶ Controls: Servo Skin/ Manual and Apgar
- ▶ Pre-warm: Use the equipment with 30 percent Heater Output in Manual Mode
- ▶ No need of calibration required for temperature probe

▶ High Intensity Quartz Heating element for effective radiation (Ceramic heater optional)

▶ Halogen Observation Lamp

▶ The Heater Module rotates 90° to both sides to facilitate X-Ray Procedures

▶ The Parabolic Reflector is designed to send uniform heat to the bed surface

▶ Memory Backup to restore set temperature and previous mode, in case of power failure

▶ Optimum Bed dimensions ensure optimum work space for the nursing staff

▶ Comprehensive Alarms and safety cut-offs

▶ Programmable Mute time

▶ Alert (Alarm) when sensor is detached from the patient's skin (optional)

▶ Instant Warming and Uniform heating

▶ i – Sense technology (if the skin temperature probe detached from the baby skin, the device automatically sense and reduce the heater output to 30 percent)

### nice 5000

Servo Skin, Servo Air, Safe, Pre warm and Manual Mode Control

Skin, Air and Peripheral temperature display

Facility to detect skin temperature probe detached from Baby skin

#### Features:

- ▶ Micro Controller based Electronics
- ▶ Controls: Skin/ Air/ Apgar and Manual
- ▶ Pre-warm: Use the equipment with 30 percent Heater Output in Manual Mode
- ▶ No need of calibration required for temperature probe
- ▶ High Intensity Quartz Heating element for effective radiation (Ceramic heater optional)
- ▶ Halogen Observation Lamp
- ▶ The Heater Module rotates 90° to both sides to facilitate X-Ray Procedures
- ▶ The Parabolic Reflector is designed to send uniform heat to the bed surface
- ▶ Memory Backup to restore set temperature and previous mode, in case of power failure
- ▶ Optimum Bed dimensions ensure optimum work space for the nursing staff
- ▶ Comprehensive Alarms and safety cut-offs



**Opera Plus**  
Infant Radiant Warmer  
nice 5000

#### i – Sensor Technology

cut-offs

▶ Programmable Mute time

▶ Alert (Alarm) when sensor is detached from the patient's skin (optional)

▶ Instant Warming and Uniform heating

▶ Optional (Height Adjustment)

▶ i –Sense technology (if the skin temperature probe detached from the baby skin, the device automatically sense and reduce the heater output to 30 percent)

### nice 2007 S

Infant Radiant Warmer with Servo Skin, Servo Air, Pre warm and Manual Mode Control

APGAR Timer

Sleek and Economic

Servo Air mode (Optional)

Oxygen Cylinder mounting bracket (optional)

#### Features:

- ▶ Micro Controller based Electronics
- ▶ Controls: Servo Skin/ Manual and Apgar
- ▶ Pre-warm: Use the equipment with 30 percent Heater Output in Manual Mode
- ▶ No need of calibration required for temperature probe

▶ High Intensity Quartz Heating element for effective radiation (Ceramic heater optional)

▶ Halogen Observation Lamp

▶ The Heater Module rotates 90° to both sides to facilitate X-Ray Procedures

▶ The Parabolic Reflector is designed to send uniform heat to the bed surface

▶ Memory Backup to restore set temperature and previous mode, in case of power failure

▶ Optimum Bed dimensions ensure optimum work space for the nursing staff

▶ Comprehensive Alarms and safety cut-offs

▶ Programmable Mute time



**Opera**  
Infant Radiant Warmer  
nice 2007 S

#### i – Sensor Technology

▶ Alert (Alarm) when sensor is detached from the patient's skin (optional)

▶ Instant Warming and Uniform heating

▶ i –Sense technology (if the skin temperature probe detached from the baby skin, the device automatically sense and reduce the heater output to 30 percent)

#### Contact:

www.niceneotech.com

# BPL Medical Technologies Penlon Prima 465

**PENLON INC** founded in 1943 by personnel from the Department of Anaesthesia at Oxford University. One of the first products manufactured was the Macintosh Laryngoscope, then a revolutionary design and still the most widely used today, invented by the late Sir Robert Macintosh, Professor of Anaesthetics. Today Penlon continues to design, engineer and build high quality anaesthesia products at its UK operations headquarters. The company is proud to have provided medical products for over 70 years', numerous awards for product design, and an impressive four Queen's Awards for Enterprise, Innovation and International trade. Penlon has been a long-established medical device company with six

key areas of business which includes Anaesthesia workstations, Vaporisers, Laryngoscopes, Suction control, Oxygen Therapy and Patient Monitors.

Penlon devices feature intuitive user interfaces that require minimal operator training, putting clinicians in control, enabling them to focus on what is most important – patient safety and well-being. Penlon has presence in more than 90 countries, spanning from Europe, North America, Middle East and Asia, with exports to countries worldwide, including China, Japan and the USA through their wholly owned subsidiary base in Minnesota.

Penlon's anaesthesia solutions feature intuitive user in-



terfaces putting clinicians in control and enabling them to focus on what is most important, patient care.

The Penlon Prima 465 is the latest high-end anaesthesia system from Penlon, providing the ideal solution for today's busy operating rooms. The Prima 465 is loaded with features like, Electronic gas mixer and digital flowmeters for an accurate gas delivery with an integrated heater and water trap on the CO2 absorber, reducing the risk of condensation, a multi-mode ventilator with eight advanced ventilation modes suitable for multiple patient types and providing optimum patient care.

Improving patient safety has been a priority for Penlon, an Electronic anti-hypoxic device and a Side stream anaesthetic gas monitoring ensures safe levels of anaesthetic agent being delivered to patients. The

Prima 465 is fully compliant to ISO 80601-2-13 and the restrictions of hazardous substances (RoHS) Directive. Clinician-focused choices and benefits includes an intuitive 12.1" TFT colour touchscreen for accurate anaesthesia delivery control and a choice of up to 10 waveform and respiratory loop displays, helps patient monitoring within a single, easy-to-use workstation.

Penlon in addition provides a comprehensive warranty and round the clock after sales support for an improved clinician experience and enhanced patient care. The Penlon Prime 465 is an advanced and dynamic anaesthesia workstation which is perfectly suitable for adults, paediatric and neonate's anaesthesia delivery.

## Metaform Ventures to invest \$2 million to conduct research, build capacity in tobacco cessation in India

The objective is to provide empirical data, evidence to encourage new harm reduction tools, cessation techniques, products for tobacco-free India

**METAFORM VENTURES**, led by Nilesh Jain, has committed to invest \$2 million in its India Centre of Excellence, to conduct research on tobacco cessation and harm reduction, with focus on smokeless tobacco (SLT) products like jarda, ghutka, khaini, etc. The objective is to provide hard empirical data and evidence to encourage new harm reduction tools, cessation techniques and products for a tobacco-free India. Smokeless tobacco use accounts for 90 per cent of oral cancers in India or a total of about 300,000 deaths a year. Studies suggest that regular users have a significantly overall higher death rate compared to non-users, and experience increased risks for low birth weight and stillbirths in chil-



dren of women who use SLT during pregnancy. They also increase risks of tuberculosis (TB) and heart disease.

"Innovative thinking and profound changes within this sector can contribute significantly to public health. Leading new research, supported by government-led policy interventions, can help deploy tech-

nology options to reduce risks and transform core SLT products," added Jain. "This harm reduction research programme complemented by efforts to stimulate innovation in the cessation market can make toxic SLT history and in the process save hundreds of thousands of lives."

With an objective to per-

form the characterisation of harmful and potentially harmful constituents in Indian smokeless tobacco products, the project is to test several smokeless tobacco products across India. The data generated through this research will be useful for regulators and product innovators, and will help create capacity for independent research in India. Secondly, provided users with more options to choose from, thereby motivating them to move towards safer options and reduced harm.

This highlights new research data to enable clinicians, regulators and researchers with valuable information for considering the potential health effects that may result from the use

of Indian SLT products and evaluate other harm reduction efforts via cessation techniques or THR products like SNUS.

"Our approach is very simple – to generate robust, credible data that will not only fill the current gap in research but also spur interest across the research community to become proactive in setting up lab testing infrastructure for Indian SLT product characterisation and building research capacity. This focus on HPHC SLT characterisation would not only massively improve the innovation of cost-effective SLTs but also help researchers to reduce some of the highest oral cancer death rates and tobacco-related disability stated," Jain.



# Philips expands its diagnostic imaging portfolio with the new Incisive CT platform, integrating innovations in imaging, workflow and lifecycle management

The Philips Incisive CT helps the user meet some of the radiology department's most pressing challenges. Philips Incisive CT offers intellect at every step, from acquisition through results and across all fronts: financial, clinical and operational. Like never before, operator and design efficiencies come together for wise decisions from start to finish with an unprecedented Tube for Life guarantee

AT PHILIPS, we believe in working together to break down boundaries, remove complexity and deliver a seamless approach to healthcare. In imaging, that means seamlessly connecting data, technology and people. Our integrated imaging solutions for diagnosis and treatment are enabling more connected care and more confident clinical decision-making. Because today, health knows no bounds and neither should healthcare.

Driven by advances in image quality, radiation dose management and clinical applications, Computed Tomography (CT) has become one of the cornerstones of imaging and radiology departments. The newest addition to Philips' diagnostic imaging portfolio, Incisive CT integrates innovations in imaging, workflow, and lifecycle management, helping healthcare providers to improve the CT experience for patients and staff, enable smart clinical decision-making and increase efficiency.

"As CT has evolved to become a key pillar of radiology practice, expectations from healthcare providers have changed," said Rajib Karmakar, Business Manager, Computed Tomography and Advanced Molecular Imaging, Philips Indian Sub-Continent. "Today, a CT system is much more than just an advanced diagnostic tool. It's a diagnostic imaging corner-



stone that has to provide answers to the pressing financial, clinical and operational challenges that today's healthcare organisations face. Incisive CT combines a unique range of innovations that empower hospitals to deliver on the promise of value-based healthcare."

Configured for 64-slice and 128-slice scanning, Incisive CT can perform a majority of procedures, including oncology imag-

ing and cardiac imaging, and can grow as practices do, going for instance from two to four centimetre configurations for those that expand beyond routine exams and into spaces such as cardiac.

The Philips Incisive CT was globally unveiled at the 2019 European Congress of Radiology (ECR) Exhibition during February 28 – March 3, 2019 in Vienna, Austria which witnessed strong

positive response from the global delegates.

## Providing high image quality at a low dose with adaptive intelligence

The Incisive CT is highly evolved in dose and image quality. Accommodating a wide range of patient types and exams, intellect at every step Incisive CT offers the answers the user is looking for with high image quality

and dose management across a wide clinical breadth in CT imaging.

Incisive CT features Dose-Wise Portal, a web-based dose monitoring solution that collects, measures, analyses and reports patient and staff radiation exposure, assisting in control of quality of care, efficiency, and patient and staff safety. In addition, the Philips iDose4 Premium Package includes two leading

## TRADE AND TRENDS

technologies that can improve image quality – iDose4 and metal artefact reduction for large orthopaedic implants (O-MAR). iDose4 improves image quality [1] through artefact prevention and increased spatial resolution at low dose. O-MAR reduces artefacts caused by large orthopaedic implants. Together they produce high image quality with reduced artefacts. Incisive CT's 70 kV scan mode allows for improved low-contrast detectability and confidence at low dose, which can help staff feel confident about managing dose without sacrificing image quality.

The scanner is also equipped with a series of workflow enhancements for scanner and console, such as Philips' OnPlan patient side-gantry controls, which enable clinicians to plan and manage setup and pre-scan adjustments right at the patient's bedside, minimising time spent away from them and reducing anxiety.

The system is capable of integrating with IntelliSpace Portal for post-processing of complex cases, providing access to advanced visualization capabilities, IntelliSpace PACS and operational software for operational optimisation. It is equipped with PerformanceBridge for continuous organisation improvements, and can be configured with optional add-ons, such as Philips' Ambient Experience.

### Enhancing efficiency and workflow

Advances in workflow on the scanner and console, as well as in the reading room, help improve the patient's experience through every step of their scan. Philips' new OnPlan patient-side gantry controls let the technologist do more directly from the scanner, such as setup and pre-scan adjustments, minimising time spent away from the patient. The Incisive CT also supports a higher level of scanning consistency across the different members of the system's operating team, with a recent study showing the system reduced scanning time by 19 per cent [2].

The Incisive CT includes proactive system monitoring that can predict and solve issues before they have an impact on day-to-day operations, with 31



per cent of all issues being resolved without the need for on-site service, improving system uptime [3]. To further enhance operational performance, Incisive CT is available with Philips PerformanceBridge, an integrated portfolio of services and solutions that enables continuous organisational performance improvements. Incisive CT also seamlessly integrates with Philips IntelliSpace Portal to offer post-processing for complex cases, enabling radiologists to access advanced analysis tools all in one comprehensive system. Incisive CT is CE marked and has received 510(k) Clearance

from the US Food and Drug Administration (FDA).

### Patient Benefits

New OnPlan patient-side touchscreen gantry controls help enhance patient care by letting the technologist do more directly from the scanner, such as setup and pre-scan adjustments, to minimise time spent away from the patient. Intuitive and automated workflow from the gantry to the console offers consistent image quality and quick results.

Philips Ambient Experience incorporates dynamic lighting, projection, and sound to provide

a positive distraction for patients. In a study performed at Jeroen Bosch Hospital, patient satisfaction increased by 45 per cent in the Ambient Experience rooms compared to the control group [4].

### Lifecycle management

The Incisive CT helps providers manage operational costs so more attention can be focussed on optimising patient care. To minimise the cost of obsolescence, the system is available with the Philips Technology Maximiser programme, which provides the latest available software and hardware updates as

they are released.

### References

- [1] Improved image quality as defined by improvements in spatial resolution and/or noise reduction as measured in phantom studies.
- [2] Based on a study performed at Oz Radiology Group. Results from case studies are not predictive of results in other cases. Results in other cases may vary.
- [3] Data collected across Philips portfolio scanners using Remote Services.
- [4] Results not predictive of results in other cases. Results in other cases may vary.



# NeuViz Prime acceleration never ends

Proven as a speed evolution accelerating to the further future

## Feature

- uncompromised to heart rate
- Unlimited tube heat capacity
- Ultra-HD imaging - 30lp/cm@0% MTF
- Unique 60kV scanning
- Upgradable spectral imaging

## Uncompromised to heart rate

► With the brand-new gantry design and the patented 10GB/s HIFI data transmission technology, NeuViz Prime enables 0.259s per rotation which is desirable in many clinical applications, especially for cardiac scanning.

## Arrhythmia Handling

► Intelligentised cardiac scanning is able to automatically jump over the arrhythmia signals and ensure successful coronary artery exam. The coronary artery can be segmented, recognised, extracted, named, measured and analysed automatically. It makes complex exams simple.

## Unlimited Tube Heat Capacity

- Developed to annihilate waiting
- No need to warm up
- No need to wait for the tube cooling down

Freezing cool technology with liquid streaming design enables rotating anode cooling down as soon as heat produced. This is demanded for large patient throughput and complex procedures like spectral imaging.

Emergency patients can be scanned immediately

Ultra-HD imaging

iHD - Through iHD technology spatial resolution can be achieved by 30lp/cm@0%MTF

Micro focal spot - With 0.4mmx0.7mm focal spot spatial resolution is significantly increased.

Quad-sampling - By dynamically moving the focal spot axially and longitudinally, sampling density is increased 400 per cent. This means improved resolution, reduced artefact and extended scanning ranges



## NeuViz Prime Acceleration NEVER ends

1024 matrix - Compared with 512 matrix imaging 1024 matrix imaging can achieve four times more lesion information, which is necessary for lung nodule and inner ear studies.

MAR- Automatically identifies the metal raw data. Through iterative correction algorithm, it eliminates metal artifacts, greatly improving the visualisation of implants in dental, caput femoris, etc.

## Low Dose Design - 0-dose platform

Unique 60kV scanning - 60kV provides clinical breakthroughs on low dose scanning, with the most advanced lung image reconstruction algorithm, lower radiation dose is achieved without compromising to image quality. It's significantly benefited

to pediatrics, lung cancer screening and renal failure patients.

240 degree exposure - Dose to the patient and attending physician reduced.

Organ-Safe - Reduces dose to radiosensitive organs such as eyes, thyroid and breasts

Pediatric Protocols - Not "scaled down" adult protocols, designed specifically for paediatric anatomy.

New detector design - Modular design delivers 99.99% x-ray conversion efficiency, lower dose necessary to deliver exquisite image quality.

Auto SFOV - Automatically change SFOV based on target organ and scan protocols, lower radiation dose

ClearView - Iterative processing in projection and image

spaces that delivers unbelievable dose reduction.

Dose Check - Full implementation of "Dose Check", patient cannot be over radiated

3D dose modulation - Tube current modulated based on the anatomy in the scan field, anatomically optimised dose.

ECG dose modulation - Reduces tube current during non-imaging phases of cardiac cycle to minimise patient dose.

## ClearView

By performing iterative image processing operations in both projection and image spaces, the noise and artefact which often accompany low dose acquisition can be removed. This is done without a reduction in image detail.

## Auto SFOV

Automatically changes SFOV based on target organ and scan protocols, lower radiation dose.

Upgradable Spectral Imaging Spectral imaging

NeuViz Prime is designed to offer spectral imaging by KV switching, it can add tissue characterisation

to morphology based on the different materials. Calcium, iodine and water can be separated easily.

The benefit focus on diagnosis like oncology, gout, calcified plaque, etc.

Automatically Choosing Best CNR

It automatically looks for the best mono-energy image displaying ROI tissues, helping improve small lesions detectable ratio and displaying arteries and veins. Disease diagnosis and surgical programme are more conveniently formulated.

Multi-material Separation and Effective Atomic Images

Iodine (Water) image quantitatively analyses iodine uptaken value

Iodine (Calcium) image erases calcification and precisely evaluates angiostenosis

Effective atomic number image further analyses material composition

Easier Workflow

Newest Design

72cm gantry aperture

113° gantry tilt

300kg table as option

Smart Protocols Selection

Intelligently learns from mathematical statistics and helps users select protocols with high using frequency.

## Easy Using AVW workstation

Post processing is designed to save time. Key strokes are minimised and process steps are automated with streamlining workflow.

## Ecare

Remote images browsing and diagnosis are realised by mobile devices, which is easy for doctors absent from hospitals in emergency cases.

# Range of high quality glass syringes from Top Syringe

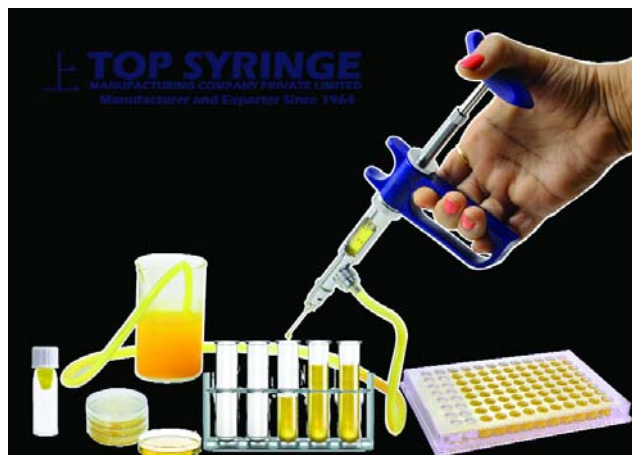
**GLAD TO** introduce Top Syringe Mfg. Co P Ltd – India as ISO 9001 and ISO 13485 Quality certified large scale manufacturer and exporter of High Quality of “DaVinci” Laboratory Repetitive dispensing syringe

## Best for use in

- Reagent Distribution
- Hot Agar
- Sterile Work
- Filling of Well Plates
- HPLC Vial Preparation
- Small Batch Injection Vials

## Features

1. Plunger Tightness without O-Ring – Hence no contamination when it comes in contact with drug / liquid
2. Glass Barrel and SS plunger – Ensures long life
3. Clear visibility of Dose
4. Fully Autoclavable
5. No Need of servicing with Silicone Oil – Same effortless movement is ensured every time.
6. Liquid Path 100 per cent inert



7. Long Lasting
8. Light weight and easy to use
9. Fast and reliable volume selection
10. Packed individually in a convenient attractive box along with instruction manual

## Sizes

1. 0.05ml – 0.5ml
2. 0.05ml – 1.0ml
3. 0.10ml – 2.0ml
4. 0.25ml – 5ml

5. 1.00ml – 10ml

## Styles

Feed Tube Set (70 Series)  
Vial Holder Set (71 Series)  
Top Syringe is in industry since 1964 and has been producing and exporting its high quality of glass syringes. We fully understand the exact needs and requirements of our buyers and our supplies are always in consistent with respect to accuracy and

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# Carestream Health's CEO David Westgate Visits India

Reinforces 'customer first mindset' as key to the organisation's success

**DAVID WESTGATE**, CEO, Carestream Health made a brief but significant visit to India on September 19. On his two-day trip, the US-based executive got straight down to business interacting with customers, business partners and employees.

"India is an incredible country with great opportunity. I am very optimistic about the team in India and I know we have a great future. Through continuous innovation and operational excellence, we are committed to doing all the right things to help our customers be successful," said Westgate.

Westgate was appointed Chairman, President and CEO of Carestream in July 2018.

Prior to Carestream, he was the CEO at Jason Industries, a post he held from 2004 through November of 2015. Throughout his tenure at Jason, Westgate worked to diversify the organisation's portfolio while emphasising a culture of growth and innovation at all levels. Westgate previously served as President and CEO of Rieter Automotive, now known as Autoneum, and prior to that role was he was CEO of Solvay Automotive.

Carestream Health has been Westgate's first foray in the healthcare industry and within a year of joining he has fostered an atmosphere of change. "The competitive landscape in the healthcare field is getting more



aggressive. I strongly believe that understanding the voice of customers, articulating their needs and meeting those needs is what will help us be very successful in the long term," added

Westgate.

Headquartered in Rochester, NY, USA, Carestream was formed following the acquisition of the Eastman Kodak Health Group by Toronto's Onex Corp. in 2007. Employing over 5000 people worldwide, Carestream is a producer of X-ray products for general radiography, intensive care patients, paediatrics, sports medicine, dental practices, veterinary hospitals, and also manufactures non-destructive testing systems to help ensure that airplanes, bridges and pipelines are safe. The company's product line includes full diagnostic imaging suites and leading-edge mobile units; wireless, shareable detectors; CR and DR systems; 3D Extremity

Imaging systems; and Dry Laser Imagers.

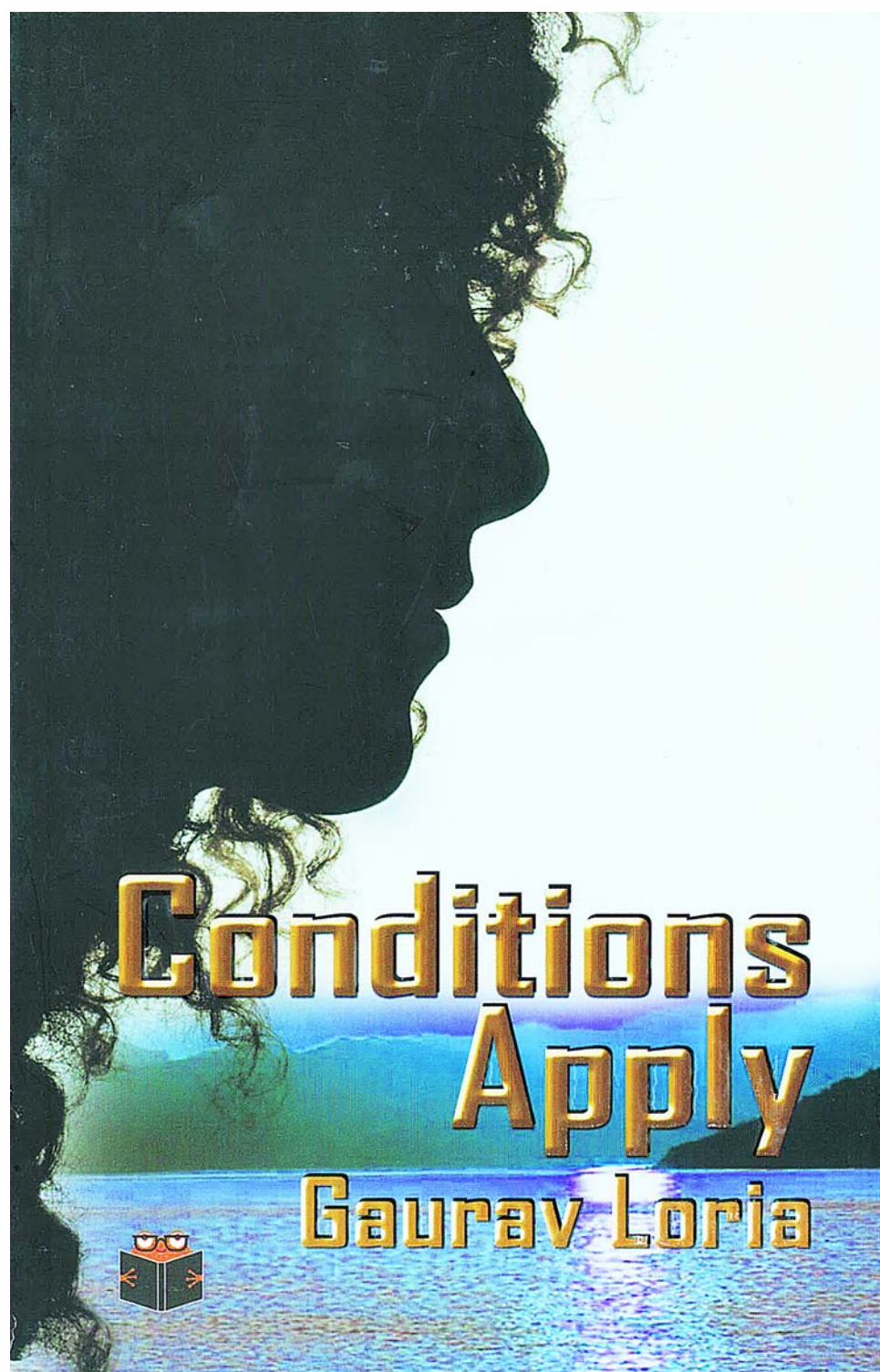
"Dave is very passionate about improving our business and building a culture of excellence. Our workforce in India is young, diverse and committed. Together with their advocacy and the leadership of Dave Westgate we have a bright future," added Vincent Chan, President -Asia Pacific, who accompanied Westgate on his visit.

Describing him as a "customer-centric, goal-oriented, chief executive with diverse leadership experience," the Carestream team in India is counting on Westgate's well-rounded business experience to bring an innovation-centric perspective to the company.



# Timely reminder to take responsibility for our own health

The author uses this novel to alert patients and care givers to the red flags they should watch out for when dealing with doctors and hospitals



**C**onditions Apply takes us behind the scenes of a busy hospital, through the eyes of Nisha and her husband Ram, as they await what could be a life altering surgery. From being an Olympic hopeful to diabetic and then wheel chair bound, Nisha's fate reflects so many of our lives, as we neglect our health and doctors' advice. Only to be confronted with our own mortality.

Written as a medical thriller, the slim book relives

than 16 years of monitoring quality standards in hospitals. He uses this novel to alert patients and care givers to the red flags they should watch out for when dealing with doctors and hospitals.

The book is a good way to convince the public at large on why they should take responsibility for their lives. This is the heart of Loria's campaign called "I'm responsible" to improve healthcare literacy among the general population. The campaign aims to make

The book is a good way to convince the public at large on why they should take responsibility for their lives. This is the heart of Loria's campaign called "I'm responsible" to improve healthcare literacy among the general population

the anxiety of Nisha and her family as they cope with the hospital admission process, the mental trauma of preparing for the surgery and dealing with the aftermath of medical negligence.

The characters in the book are very real and the reader can relate to each emotion, even the surgeon's agony as he confronts his own mistake. No spoilers here but rest assured, Nisha's story is heart warming because we all have been in her place, either personally or through the pain of family members and friends.

First time author Gaurav Loria, Group Chief Quality Officer & Head Administration, Apollo Hospitals has more

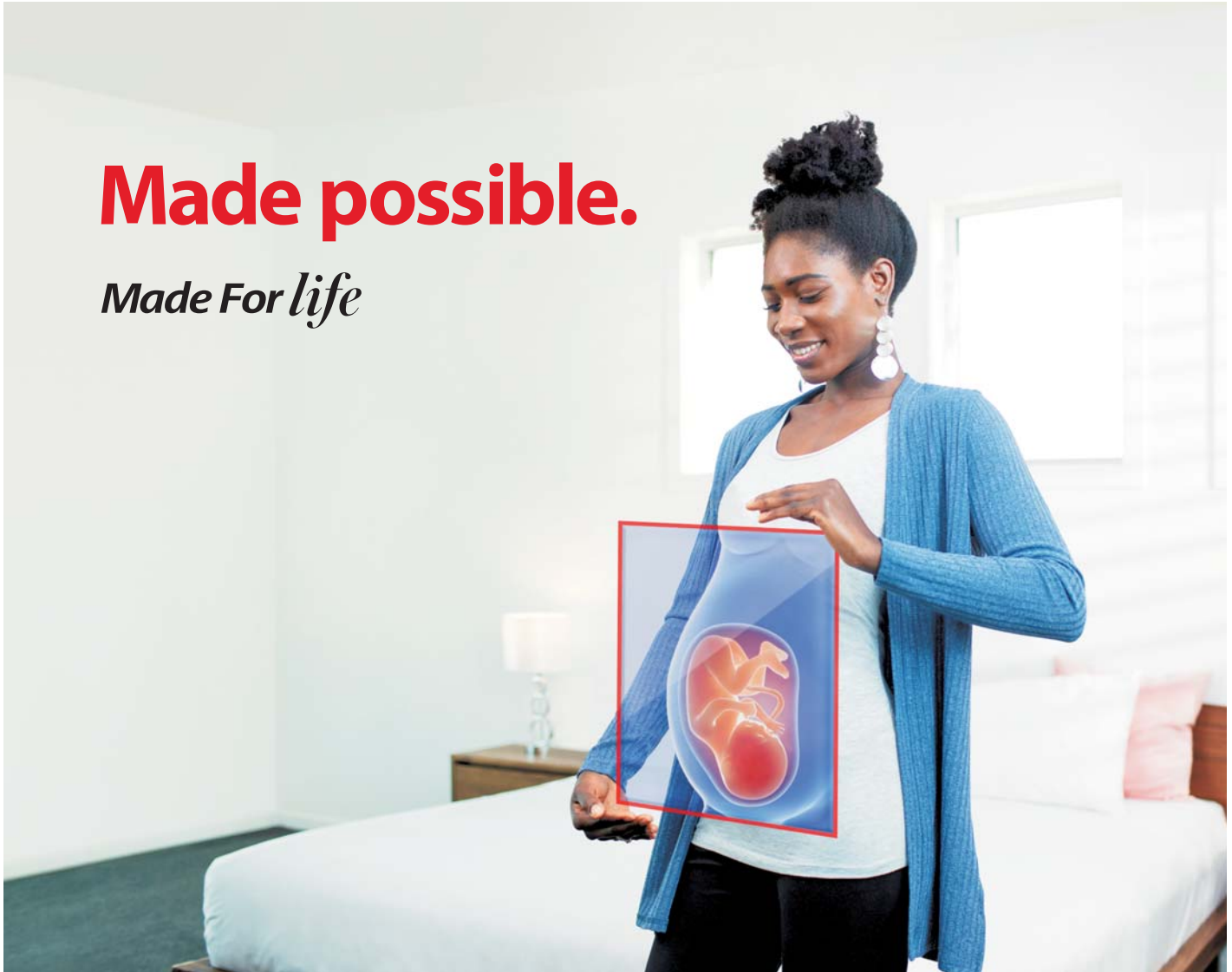
people more aware about healthcare delivery systems and understand the role each individual can play in enforcing a safer healthcare space.

The book and campaign will hopefully go a long way towards bridging the trust deficit between patients and the healthcare delivery system, encompassing doctors as well as hospital managements.

Title: Conditions Apply  
Author: Gaurav Loria  
Publisher: Kitabaaan  
Pages: 86  
ISBN 978 -93-89346-00-8  
Price: Rs 249

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