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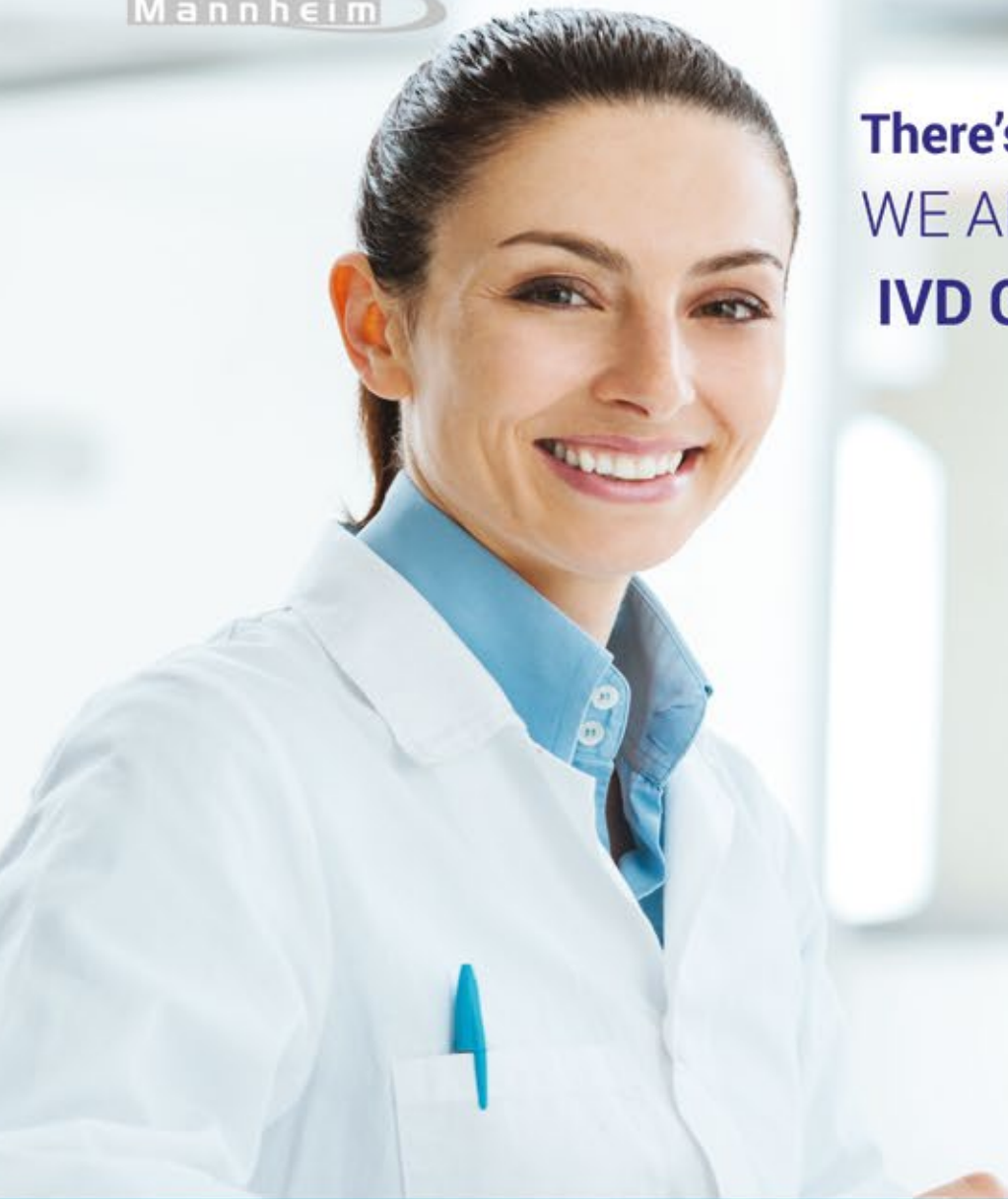
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# Telemedicine 2.0



**AS TELEMEDICINE**, enters the third decade of its existence, its difficult to imagine how modems and low-res desktops with floppy disks of 120mb, connected a doctor's expertise to the remote patient. We have come a long way since then. Of course technology has played a major role in advancing telemedicine yet the new government policies; be it Mohalla Clinics or Ayushman Bharat scheme, have all but given new wings to these technology providers. Today, a friendly neighborhood doctor can treat patients beyond his city and a rural practitioner can provide cardiac consultation saving precious time and life. Today, the discussion on telemedicine is not to promote or dismiss

it but rather to find out new ways to benefit from it.

Telemedicine has had its unbelievable success stories brewing from IIT labs to ISRO offices, from renowned neurosurgeons to unassuming 25-year-olds billionaires there are many stories that inspire. At the same time, there are brilliant ideas that have faded into oblivion; there are sleepless investors and newbies looking for funding. Telemedicine is a cauldron of opportunities and challenges. But this is what makes telemedicine so exciting today. Telemedicine is alive and beaming with possibilities and we are ready to live it up.

## Telemedicine has had its unbelievable success stories brewing from IIT labs to ISRO offices, from renowned neurosurgeons to unassuming 25-year-olds billionaires there are many stories that inspire

Our cover story this issue talks about telemedicine at the next level, whereas the interview with legendary Dr Ganapathy gives us an insight into the past, present and future of telemedicine. Besides these, we look at a small intervention by like-minded people turning into a cause; that has the potential to revolutionise pediatric care. We also get an insight into the newer ways to treat Parkinson's disease and renovate a working hospital.

India is going to polls this month and we hope that the next leadership will make healthcare industry vibrant. So go out and vote for your favorites.

Do send feedbacks on editorial@indiamedtoday.com

Editor

**M Neelam Kachhap**

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## World Kidney Day

**T**he top cause of paediatric CKD is congenital anomalies of the kidney and urinary tract (CAKUT) at 50%, followed by hereditary nephropathies and glomerulonephritis. Obesity in children is a new problem worldwide and is a major risk factor for CKD. Infants of low birth weight and small for gestational age have an increased risk of developing ESRD in adolescence. As the paediatric obesity problem rises and the low birth weight population ages, we may encounter a potential shift in the epidemiology of paediatric CKD.

**Dr Akhila Vasanth Hassan**, Consultant - Nephrology - Paediatric, Narayana Health City, Bangalore

This year world kidney day theme was for everyone and everywhere. During the interaction, participants told about the increasing problem of chronic kidney diseases and treatment modalities including dialysis and transplant. Participants were also updated about the excellent infrastructure & services available at Fortis Escorts Hospital, Okhla. This entire program was conducted to spread the awareness and how one should go through the regular check or preventive health check every year for healthy kidney.

**Dr Sanjeev Gulati**, Director, Nephrology & Kidney Transplant, Fortis Escorts Heart Institute, Delhi

Cancer is a complex disease and requires a multi-disciplinary and evidence-based approach. While this is followed in developed countries, in developing nations like India, patients don't get access to multi-disciplinary care. This is a major reason for higher death rates in these countries. Our study has shown that taking second opinion in the form of multi-disciplinary review by a team of doctors from three specialties – surgical, medical and radiation oncology – can dramatically improve outcomes for cancer patients. Such a review provides much-needed validation and correction in a patient's treatment plan, thus preventing mistreatment and unnecessary treatment and optimizing costs.

**Dr Amit Jotwani**, Cofounder, Onco.com

The world of medical literature is of great importance as it helps mold every budding medical professional's mind and helps sharpen an experienced doctor's practice through continuously updation of knowledge. Through my role as an editor, I have been enriched with the boundless expertise and findings of the medical fraternity and it has helped me develop a well-rounded approach towards my own practice. This recognition has fuelled my desire to continue to contribute to the academic world.

**Dr. Dhanya Dharmapalan**, Pediatrics & Infectious Disease Consultant, Apollo Hospitals, Navi Mumbai

With the successful roll-out of MRT, we are able to maintain and govern our company, therapeutic area, and project standards using configurable workflows while pushing our study metadata to our EDC system with the click of a button. This is a first step and further releases will offer us an opportunity to revolutionize our clinical development by automating the process of converting study data to submission-ready SDTM data. This implementation is part of BoehringerIngelheim's Biometrics and Data Sciences Strategy to set-up and conduct clinical studies and analyze data while supporting our mission of bridging data to solutions.

**Andrea Rauch**, Head, Clinical Data Standards and Business Capabilities, Boehringer Ingelheim

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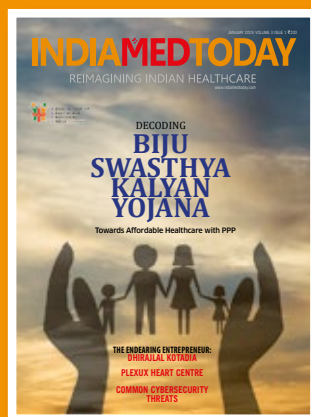
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## INDIA'S FIRST PATIENT-DOCTOR MANIFESTO RELEASED BY AMC

India's first-ever patient & doctor rights manifesto defining the various aspects of doctor-patient relationship authored by the Mumbai-based surgeons Dr AparnaGovilBhasker and DrDebrajShome was released to the Indian people recently. Dr Vipin Checker, President of the Association of Medical Consultants - a Doctor's body representing over 11,000 medical specialists in India - formally launched the document. Dr LalitKapoor who is the founder of Association of Medical Consultants (AMC) provided critical inputs to this document.

Speaking at the launch of the manifesto, DrDebrajShome said, "The Doctor-patient relationship is one of the purest bonds that has existed in the society from times immemorial. Unfortunately, in the last few years, there has been a gradual erosion of faith and trust in this equation. Times have changed and

from being treated akin to God once upon a time, today we hear stories of doctors being assaulted in public. The aim of this Manifesto is to clearly delineate the rights and duties of both doctors and patients to help restore the pristine balance and sanctity of this sacred relationship."

Dr Bhasker said, "The systemic problems in society are creating a rift between doctors and patients and we hear many discouraging stories of this strained relationship in the media daily. The lack of trust from both parties is so widespread that today we have come to a state where it almost feels like India is at war with its doctors. There are various reasons for this and deep introspection is needed from both sides to evaluate the reasons for this deteriorating relationship. This Manifesto will help re-establish a dialogue between the two parties and the book attempts to bring back the glory of this wonderful relationship. We hope to change the narrative and initiate a positive discourse in the doctor-patient relationship in India today."

"At the end of the day, medicine is about love, kindness and compassion, and we need an urgent dialogue about the crucial need of reviving these values between a patient and the healer. This Manifesto, unanimously adopted by the Association of Medical Consultants, will go a long way in changing the way the world today perceives healthcare and the doctor-patient relationship," said Dr Checker, President of the Association of Medical Consultants.

Dr Kapoor, Founder of AMC said, "We doctors believe that both doctors and patients are two sides of the same coin and without one, the other is incomplete & cannot exist. The relationship is extremely important to the basic fabric and ethos of society as a whole."

## ROCHE AND JOTHYDEV'S DIABETES RESEARCH CENTRE JOIN HANDS

Roche, a pioneer in innovative diabetes technologies, has signed a Memorandum of



Payal chacko, Dr Debraj Shome, Dr Vipin Checker and Dr Aparna Govil Bhasker

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Understanding (MOU) with Jothydev's Diabetes Research Centre to develop a Centre of Excellence to fight diabetes across South India.

Roche and Jothydev's Diabetes Research Centre (JDC) have their visions aligned in having a patient-centric approach to healthcare. The Centre of Excellence will deepen education and raise awareness about diabetes and the different ways it can be treated. Roche will facilitate training and education for healthcare professionals at this Centre in order to upgrade their skill sets by teaching them about iPDM (Integrated Personalised Diabetes Management), a new model of diabetes treatment. The company will also provide clinical research and patient support.

Jothydev's Diabetes Research Centres(JDC), Kerala is a pioneer in evidence based technologies, telemedicine and team based care with a proven track record over two decades. The major strength of this organization is the practice of structured glucose monitoring programs integrated with training, teaching and customized treatment protocols. JDC has been in the forefront introducing the safest and the latest therapies and technologies such as newer oral medications, insulin, insulin pumps, glucose sensors and AI based platforms.

## **CARESTREAM HEALTH TO SELL ITS HEALTHCARE IT BUSINESS TO PHILIPS**

Carestream Health has signed an agreement with Royal Philips, a global leader in health technology, to sell its healthcare information systems (HCIS) business to Philips.

Carestream's HCIS business unit provides imaging IT solutions to multi-site hospitals, radiology services providers, imaging centers and specialty medical clinics around the world. The business has developed strong customer relationships in attractive, high-growth healthcare segments and is positioned for continued growth and success.

As a result of this acquisition, Philips' expanded healthcare IT business will feature Carestream's enterprise imaging platform—

including best in class VNA, diagnostic and enterprise viewers, multimedia reporting, workflow orchestrator and clinical, operational and business analytics tools—as part of its broad portfolio.

"We have had global success in providing radiology and enterprise imaging IT systems to help medical professionals provide quality care and enhance their operations," said Ludovic D'Apré, Carestream's General Manager for Healthcare Information Solutions. "By becoming part of Philips, the HCIS business will have a greater opportunity to thrive and grow. Both organizations share a commitment to meaningful innovation which is deeply embedded in each company's culture. Customers will have access to a broader portfolio of healthcare IT solutions to simplify medical image management, enable effective collaboration and enhance patient care."

Like Carestream, Philips has built a strong, global business based on customer focus, world-class technical excellence and continuous innovation. "Philips partners with global healthcare providers to connect people, information and technology with the commitment to deliver on the Quadruple Aim of improved patient experiences, better health outcomes, improved staff experiences, and lower costs of care," said Robert Cascella, Chief Business Leader Precision Diagnosis at Royal Philips. "This acquisition will enhance our ability to provide flexible solutions to hospitals and health systems. The combination of our successful innovations in imaging system platforms, workflow optimization and artificial intelligence-enabled informatics, combined with Carestream's cloud-based enterprise imaging informatics platform and complementary geographic footprint will provide a solid foundation to deliver on the promise of precision diagnosis."

Carestream will retain its medical imaging, dental and industrial films, non-destructive testing, and precision coating businesses which are not impacted by the sale. "These established businesses have solid financial foundations, innovative technology platforms and have earned the trust of loyal customers

around the world," said David C. Westgate, Chairman, President and CEO of Carestream. "Our focus will be on delivering innovation that is life changing—for patients, customers, channel partners, communities and other stakeholders—and we will grow the company for long-term success."

Following receipt of all regulatory and applicable government approvals, input from works councils and unions, and meeting all pre-conditions, the two companies will work towards closing the sale in the second half of this year and will continue to operate independently until closing.

Additional terms of the transaction were not disclosed.

## **ASTER CMI DOCTORS TREAT COMPLEMENT C1Q DEFICIENCY DISEASE**

Ciara (name changed), a 13-year-old-girl from Mauritius, suffering from rarest of the rare Complement Deficiency genetic disease, C1q deficiency since the age of 2, became the first teen in Asia suffering from this complex condition to receive a bone marrow transplant. Thanks to the team of efficient doctors at Aster CMI Hospital, Bangalore for granting her a new lease of life. Ciara was suffering from repeated skin rashes and kidney ailments for over a decade and also developed difficulty in walking and stiffening of lower limbs. Until the transplant, Ciara was on multiple immune-suppressants to control the autoimmune condition - Systemic lupus erythematosus and was being treated with over 10 different medications for her severe skin disease, kidney disease and pulmonary hypertension.

Not only was she wheelchair bound, but also had very high risk of permanent renal failure till the Pediatric Immunology department at Aster CMI Hospital diagnosed her to have a very rare genetic disease - complement C1q deficiency as confirmed by the genetic studies conducted at the hospital. She was advised to undergo a bone marrow transplant and her father was found to be a full HLA match. He donated his bone marrow





Doctors with patient and her parents

to Ciara and the teen has been cured to lead a normal life now. Currently, she is under medications and would require close follow-up for the next six months. Efforts taken by the hospital to help the family raise a large sum worth Rs. 26.5 lakhs through a crowd funding platform played a vital role in making the successful transplant possible. Currently, less than 10 such cases have been successfully transplanted in the world so far. The first one was conducted in UK in 2014.

The India transplant was carried out by the joint efforts of Dr Sagar Bhattad, Consultant, Pediatric Immunology and Rheumatology, Dr Stalin Ramprakash and Dr CP Raghuram, Consultants, Pediatric Hematology and BMT, Aster CMI Hospital, Bangalore.

While speaking about the rarity and complexity of such cases during the event, Dr Sagar Bhattad, Consultant, Pediatric Immunology and Rheumatology, Aster CMI Hospital said: "We may have come across families who say "My child has been unwell for years. He/she falls sick very often, has

been admitted thrice/many times in various hospitals and is not growing well." Some of these families may have children with problems in the immune system. These children get hospitalized on several occasions. They are treated with variety of antibiotics. However, one wonders why should a child fall repeatedly ill? The caregivers do not find a proper answer to their ongoing problems, despite consultations from several doctors."

"Majority of such children suffer from a dreaded group of diseases called 'Primary immune deficiency diseases'. Unfortunately, physicians and pediatricians are not well versed with these diseases and this may result in undue delay in the diagnosis. Though considered to be rare diseases, our hospital is witnessing 3-4 new children every month who are diagnosed to have an Immune Deficiency. We strongly believe that this is only the tip of the iceberg and several thousand children will continue to suffer without being diagnosed unless we increase awareness about these diseases amongst doctors and public," added

Dr Bhattad. He is also the first DM super-specialist in Pediatric Immunology in the country and a gold medalist for research in C1q deficiency lupus.

As per a research conducted worldwide, 1 in 2,000 children suffer from an immune deficiency. If these figures are extrapolated to the city of Bangalore, around 5,000 children will have immune deficiency disease. Aster CMI Hospital, Bangalore is equipped with the state-of-art Pediatric Immunology Unit, headed by Dr Sagar Bhattad. Aster Immunology and Bone Marrow Transplant Unit provides end-to-end solution to every child with Immune Deficiency. The Pediatric Immunology Department at Aster CMI is one amongst a few centers in India to be recognized as Foundation for Primary Immunodeficiency Diseases (FPID) center of excellence in the field of Primary Immunodeficiency (PID). FPID is an international organization based in US that supports the education, early diagnosis, genetic counseling, therapy, and research of PID in both India and the US. It recognizes

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institutes for its capacities in the diagnosis and treatment of such challenging cases.

Dr Sudhir Gupta, Founder of FPID, said: "Though PIDs are 4 times more common than haemophilia, twice common as cystic fibrosis, and almost as common as multiple sclerosis, yet very few people and physicians know about PIDs. Therefore, there is a great need to educate the population in general regarding warning signs of PIDs, and practicing physicians to diagnose and treat these patients to prevent complications and death. In India, there are very few institutions where patients with PIDs are diagnosed or treated; the majority of patients remained undiagnosed and die, contributing in part to India's high infant mortality rate. FPID supports research and treatment of several needy patients at these centres of excellence".

## CRYOCURE CRYOGENIC DEVICE TO TREAT PILES WITHOUT SURGERY

Cryocure-an affordable medical device to treat piles without surgery, was launched by the Chief Guest, Dr. T.S. Prabhakar, Director of Health and Family Welfare Services in the presence of Dr. Rajah Vijay Kumar, lead scientist in the development of this technology. Dr. Rajah is also the Global Chairman of Organization de Scalene - a 25 year old, Bangalore-based research center. He describes hemorrhoids, popularly known as 'piles' as the next lifestyle aggravated disease.

Dr. Prabhakar in his speech said, "Hemorrhoids is the most misused disease across the world. In India mostly quacks are treating piles and fistula. Many lives have been lost and deaths caused due to unqualified treatment of hemorrhoids. With Cryocure, we have a cost-effective cure at home."

According to Dr. Kumar, "Today, piles is a fast-emerging lifestyle risk, with nearly 330 million people suffering from hemorrhoids globally. In India alone, 41 million have piles with 1.2 million new cases reported every year. Nearly 60 per cent of the population in South India suffer silently and seldom disclose their condition."

Dr. Rajah continues, "Hemorrhoids if untreated can lead to a bigger problem and also pose serious medical risks. Cryocure is a simple tube-like device filled with special cryogenic memory agent. It is priced reasonably so it is affordable and can cure hemorrhoids without any surgical procedure or side effects. It is also safe for usage among pregnant women, diabetic and heart patients. Hemorrhoids are a common occurrence during pregnancy with nearly 40 per cent pregnant women on the planet suffering from it. For all these reasons, it has received widespread acceptance in North Indian cities," he explains.

Cryocure is made of unbreakable medical plastic. The device must be frozen for two hours before use. Once removed, the cold Cryocure is dipped in coconut oil or Vaseline for lubrication before inserting into the anus at a temperature of -18 degrees C. The Cryogenic effect causes blood vessels of the hemorrhoids to constrict thus making them shrink. With regular use pain, itching, burning and blood loss gradually disappears. This treatment can be done in the comfort of your home.

## EVERSTONE-BACKED EVERLIFE INVESTS IN CHENNAI BASED CPC DIAGNOSTICS

The Everstone Group via its healthcare platform Everlife has acquired a stake in Chennai based CPC Diagnostics, to include core in-vitro diagnostics (IVD) segments in its portfolio of medical devices and extend its geographical presence to India, with this first investment in the country.

Dr. Arjun Oberoi, Vice Chairman, Everlife and Managing Director, Everstone Capital stated: "We are delighted to invest in CPC Diagnostics and help scale up its presence across the diagnostics sector. Its strong manufacturing and R&D capabilities make them an ideal partner for us and we will help them expand in markets beyond India. Everlife can also leverage on CPC to grow its value segment range of products, to cater to the growing demand of quality medical devices within emerging markets."

Commenting on the investment, R. Kailasnath, Managing Director, CPC Diagnostics

SCALENE  
CRYOCURE™

Efficient Treatment  
of Haemorrhoids!



said: "We are excited about this partnership and look forward to work closely with Everlife's leadership. Everlife is creating a pan South Asian and South-East Asian distribution and manufacturing platform for IVD and other laboratory/medical device segments and we are looking forward to contributing to this objective."

Founded in 1987, CPC Diagnostics is a medical devices manufacturer and distributor with presence across India, Sri Lanka and Bangladesh, and exports to countries in Middle East and Europe. It supplies a wide range of products and services to research and clinical laboratories. With this strategic investment, Everlife plans to support CPC's manufacturing and distribution capabilities within India and South-East Asia, to become the leading IVD distributor in India.

The in-vitro diagnostics (IVD) segment is one of the largest within the medical devices market. CPC's portfolio already overlaps with IVD's biggest segments, namely the immunoassay, bio-chemistry and haematology segments. The investment would allow CPC to consolidate their position in these core segments while expanding territorial reach.

Everlife also has investments in Malaysia-based Chemopharm Group, a leading provider of products and solutions to laboratory, research and medical facilities in South-East Asia; DV Medika Group, manufacturer and distributor of one of Indonesia's top brands of hospital furniture and other imported medical equipment and supplies; and Singapore-based Bio-REV Pte. Ltd., which specializes in distribution of reagents, media and consumables to the Life Sciences industry.

## **DR H SUDARSHAN BALLAL IS THE NEW PRESIDENT OF NATHEALTH**

India's healthcare think-tank NATHEALTH announced its new Leadership Team for the year 2019-20 today. Dr. Sudarshan Ballal, Chairman, Manipal Hospitals, Manipal Health Enterprises Pvt Ltd has been elected as the President of the federation. He succeeds Daljit Singh, President, Fortis Healthcare Limited.



Dr. Sudarshan Ballal

Dr. Sudarshan Ballal thanked the outgoing President of NATHEALTH and warmly welcomed Rajit Mehta as Senior Vice President-NATHEALTH, along with the other members of the NATHEALTH Leadership Team -Ms. Preetha Reddy as Vice President-NATHEALTH, Dr. Badhrilyengar as Secretary-NATHEALTH and Dr. Harsh Mahajan as Treasurer-NATHEALTH. Siddhartha Bhattacharya, Secretary General, NATHEALTH will lead the federation with this team, towards its goal of creating a robust platform for long term growth and sustainability of India's healthcare sector.

Speaking on new priorities President, NATHEALTH, Dr. Ballal said, "This has been a truly tumultuous year for healthcare and the events of this year will certainly shape the future of healthcare in India. The greatest and biggest news and development of 2018 is the rolling out of NHPM or Ayushman Bharat by the central government providing Rs.5 lakh coverage to about 500 million poorer sections of the society. Stringent governmental regulations, increased public and media attention on the cost of healthcare will substantially affect the delivery of healthcare in our country. The effect of demonetization,

GST and capping of prices would further impact healthcare in a big way. The greatest challenge for the healthcare sector is to deliver 1st world healthcare at 3rd world costs."

"Given these challenges in the healthcare scenario NATHEALTH should focus on a much broader participation by various stake holders and be the Voice and Face of Healthcare in the country," he added.

"We should work along all the other forums for healthcare in the country at least in some critical areas and be the interface between the government and private sector in advising models for affordable, quality but viable healthcare for the masses. It would be crucial for NATHEALTH to be an advisor and knowledge partner to the government on their policies regarding preventive care, primary care, management of NCD, digital health, skilling and expanding the pool of specialists both in the public and private sectors. We should also be the torch bearers for safe guarding the interests of the healthcare sector in these difficult times," he said.

Siddhartha Bhattacharya, Secretary General-NATHEALTH said, "We welcome our new leadership team which will continue to work towards the development of the healthcare sector to benefit the people, address relevant healthcare issues and champion the progress and development of this sector."

## **LANDMARK INDIA - UK HEALTHCARE CONFERENCE**

Birmingham, in the heart of Britain, saw an unprecedented ensemble of over 120 key healthcare experts from India and UK, converge at the renowned 'Queen Elizabeth Hospital' to discuss the potential areas of collaboration and identify effective models to take the relationship to the next level.

Chairing the day-long Conference, Rt Hon Jacqui Smith, Chair UHB Hospitals NHS Foundation Trust welcomed delegates at one of UK's largest hospital, setting the tone of the conference by emphasising how the partnership between the two countries can

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From L- R Consul General Aman Puri, High Commissioner of India to UK H.E. Mrs. Ruchi Ghanashyam, Rt. Hon Jacqui Smith, Chair, University Hospitals Birmingham NHS Trust, Dr. Indu Bhushan CEO, National Health Authority of India.

be mutually beneficial. High Commissioner of India to the UK, H.E Ruchi Ghanashyam assured the conference that both Governments are committed to support healthcare collaboration, and stressed that India and UK need to work together to address current challenges in this sector. She elaborated that India has been able to provide world class medical treatments at the most competitive rate.

Dr. Indu Bhushan, CEO of National Health Authority of India focussed on the 'Ayushman Bharat'-the world's largest government funded healthcare insurance scheme which will benefit over half a billion people. He explained how it's a game-changer, and how these revolutionary changes in the healthcare landscape of India offer opportunities for international healthcare organisations both in the public and private sector. Dr. D. S. Rana, Chairman, Sir Ganga Ram Hospital, New Delhi, highlighted the fact that the 98 years old institution, also happens to be the largest medical teaching facility of its kind in the country, in the private sector. He further stressed that his institution was keen to partner with its British counterparts to address the challenge of shortage of skilled manpower in both countries.

Mayor Andy Street, Mayor of West Midlands, Ms. Neena Gill, Member of European Parliament, Ms. PreetKaur Gill, Member of Parliament promised the much needed political support to the partnership of NHS with other health systems of the world, including with India. They were unanimous in suggesting that NHS's partnership with its Indian counterparts will be mutually beneficial.

Other notable dignitaries who spoke on the occasion were Mr. Jayesh Ranjan, IAS, Principal Secretary to Government of Telangana, India who also co-chaired the session on Pharma and MedTech along with Mr Madhukar Bose, Deputy Head of Healthcare, British Department of International Trade. This session focussed on the opportunities for British companies to invest in India, and take advantage of the healthcare revolution in the country where the size of the Healthcare industry is expected to grow to USD 280 Billion by 2020.

Dr. Shashi Baliyan, Managing Director, Clearmedi Healthcare shared the story of his several ventures in India, which are importing European business models to upgrade the quality of healthcare delivery in India. Other speakers of the day included Mr. Chris

Loughran, Deputy Chair, Greater Birmingham & Solihull LEP, Ms. Julia Ross, CEO for BNSSG Clinical Commissioning Group, Prof. Kiran Patel, Medical director, NHS England - West Midlands, Prof. Philip Baker, Dean of Medicine, University of Leicester and Ms. Lakshmi Kaul, Confederation of Indian Industry (CII). Dr. Ajay Rajan Gupta shared the progress made by UIIH which is the single largest project of its kind envisaging the setting up of 11 greenfield hospital facilities in India in partnership with NHS.

The Conference was organised by the High Commission of India through the Consulate General of India in Birmingham, and was supported by University Hospitals Birmingham, NHS Foundation Trust, Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP) and Confederation of Indian Industry .

Dr. Aman Puri, Consul General of India, Birmingham in his closing remarks announced that this Conference is likely to become an annual feature. The conference succeeded in bringing together domain experts from both countries to discuss the challenges faced and opportunities available for both India and UK in the healthcare sector. At the same time it

attained its objectives of providing a forum to widen and enrich the healthcare research and innovation debate, addressing workforce challenges and holding meaningful discussions on the scale of exchange, current approach and possible solutions in this arena at a time when the Healthcare sector of both countries is at an inflection point.

## **HIRANANDANI PARKS HOSPITAL COMMENCES OPERATIONS**

Oragadam is the Detroit of South East Asia; now it will also offer healthcare facilities with best global practices at the Hiranandani Parks Hospital, located in Hiranandani Parks, Oragadam, Chennai. It is NHB (Nursing Home Board) Certified and has commenced operations in association with Dr. C. Anbarasu, MBBS, FCGP, FAMS. It has started off as a 30 bedded multi-specialties hospital.

Hiranandani Parks Hospital is the third such location where the expertise of Dr. L H Hiranandani Hospitals is being shared. Real estate industry leader Dr. Niranjani Hiranandani, his Son, built the Dr. L H Hiranandani Hospital

as a tribute to his father. The hospital is being run in two locations, both are mixed-use township projects of the Hiranandani Group - Powai, Mumbai and in Thane. Oragadam is the third such location.

Committed to our aim of creating a better life for the communities, Hiranandani Group consistently tries to serve the communities since its inception, said Dr. Niranjani Hiranandani. "The Hiranandani Parks Hospital marks a significant step in this direction. It is our endeavor to provide the finest healthcare facilities with expert healthcare professionals and latest equipment. The Hiranandani Parks Hospital is designed to be one of the leading and most preferred healthcare services providers in Chennai," he added.

"It is our endeavor to provide the finest healthcare facilities with the expert healthcare professionals and latest types of equipment. Hiranandani Parks Hospital is going to be a best multi-specialty hospital in and around Oragadam, Chennai," said Dr. C. Anbarasu.

Hiranandani Parks Hospital would be initiating Telemedicine Department Support, which will help to overcome distance barriers

and to improve access to medical services that would often not be consistently available in distant rural communities. It is also used to save lives in critical care and emergency situations.

## **AIMED ASKS POLITICAL PARTIES FOR PATIENT PROTECTION IN ELECTION MANIFESTOS**

While National Political Parties are yet to release their manifestos, Association of Indian Medical Device Industry (AIMED), the only apex body representing Indian Medical Device Industry today has put out a proposal for Political Parties for their Election Manifesto on health. The proposal highlights demands for patients' protection, stronger quality & Safety regulations, price controls to make devices and quality treatment accessible and affordable and indigenous manufacturing viable.

The key points of AIMED's proposal are:

- + Need to Regulate all Medical Devices under a Patients' Safety Medical Devices Law to protect patients
- + Need to protect Consumers from



Hiranandani Parks

# NEWS ROUNDUP

exploitatively high MRP in Medical Devices by rationalised price controls

- ✦ Need to encourage employment and Make in India of Medical Devices and address 70-90% import dependency by a predictive nominal tariff protection policy to ensure a vibrant domestic industry & competitiveness and price stability driven by competing domestic players
- ✦ Need to incentivize Quality in Healthcare Products in public healthcare procurements by preferential pricing for Q1 e.g ICMED (QCI's Indian Certification for Medical Devices) instead of L1 to ensure patients access acceptable quality.

Rajiv Nath, Forum Coordinator of AIMED, said "We are acutely aware that these are very specific and detailed demands for a Political Party's Election Manifesto. We insist these are necessary as a part of a health-for-all National agenda, to make quality healthcare accessible and affordable for common masses and to place India among the Top 5 Medical Devices manufacturing hubs worldwide and end the 70-90% import dependence forced upon us and an ever increasing import bill of over Rs 31, 000 croreRs ! Pseudo Manufacturing & Unethical marketing is harming consumers and disallowing manufacturing to succeed in India by well-meaning investors."

Broader wishes like universal health care, free diagnostics, require a thriving indigenous medical device sector which is well regulated and produces affordable quality products, explains Dr Jitendar Sharma, Chief Executive Officer & Managing Director of Andhra Med Tech Zone.

Diluted and fragmented piece meal unpredictable regulation spread across multiple bodies has done more harm to the sector and the patients. Sharma wants that to stop and a coherent and single regulatory body constituted with a predictable regulatory road map. Last week, Congress president Rahul Gandhi, in a public address in Chhatisgarh, mentioned his party's commitment to enact a "Right to Healthcare" and make health a justiciable right, if they came to power.

The BJP has already put the Prime Minister's Jan ArogyaYojana's (PMJAY) Rs 5



lakh insurance cover for 40% poorest Indians, front and centre, as their commitment to delivering universal health coverage.

India's public investment in health sector continues to be one of the lowest in the world, at less than 1.3% of the GDP. 70% of healthcare expenditure is met by private expenses by Indians. And catastrophic expenses in healthcare push 7% Indians into poverty every year. Indians incur 52% of the out-of-pocket-expenditure on drugs and 10% on diagnostics. "The PMJAY kicks in only after hospitalisation and cannot be accessed by the middle class - what about them?" asked Nath.

For the first time these elections will be fought on key issues that trouble the common man like Healthcare and affordable access, Education, Jobs from manufacturing sector etc.

## **PHILIPS INDIA EXPANDS PORTFOLIO IN ULTRASOUND LAUNCHES NEXT-GENERATION EPIQ ELITE ULTRASOUND SYSTEM**

Enhancing clinical performance and patient experience, Royal Philips, a global leader in health technology announced the launch of theEPIQ Elite ultrasound system, a new premium ultrasound that combines the latest advances in transducer innovation.

EPIQ Elite offers a range of diagnostic ultrasound solutions tailored to the needs of specific medical specialties, including Philips' first solution for vascular assessment and diagnosis. In addition, EPIQ Elite for Obstetrics & Gynecology delivers extraordinary image quality and lifelike 3D scans to provide advanced fetal assessment during all stages of pregnancy. The ultrasound features an exceptionally high level of clinical performance, workflow and advanced intelligence optimized for the most demanding clinical situations.

Commenting on this innovative technology, Dr. NidhiBhatnagar, HOD, Radiology, Mata Chanan Devi Hospital, said, "The features in EPIQ Elite like FlexVue and MicroFlow imaging will give excellent results to the end users."

Adding to her, Dr. TSH Bedi, Director, Bedi Ultrasound, commented "The New Epiq Elite has a High Resolution HD Max screen which will bring excellent resolution. The new probes XL14-3,mC7-2,eL18-4 will take ultrasound to the next level of clarity. The C (Coronal) axis on real-time scan is amazing; there is no drop of frame rate & resolution."

Through this technology, Philips expects to equip clinicians with detailed information thereby resulting in diagnosis that is more confident. The advanced system combines new display technology (24inch HD Max monitor - 40% brighter than OLED technology) and innovative transducers (XL14-3, V9-2, L12-3 Ergo and mC7-2), enabling accurate

outcomes as well as enhancing overall patient's experience. Harnessing the power of advanced technologies with tailored clinical tools, the Elite delivers ultimate ultrasound solutions across clinical applications, especially for liver, breast, small parts and vascular assessments

With imaging playing an important role within the care delivery spectrum, Philips' latest integrated solutions across MRI, CT and ultrasound are built to enable radiologists in India to transform overall patient experience through faster and more accurate diagnosis.

This new portfolio helps in obstetrics and gynecology by providing lifelike 3D scans which offer improved detection of birth defects and potential complications during all stages of pregnancy.

The ergonomic, lightweight V9-2 transducer is the first high-frequency PureWave transducer focused on getting fine detailed images as early as possible to help clinicians easily perform confident assessments of fetal health.

The xMATRIX linear transducer by Philips

helps to produce 3D images of patient's vasculature, which allows clinicians to see into a vessel to evaluate plaque location and composition as well as flow data to assess stenotic conditions. The system also allows clinicians to acquire two planes simultaneously, which the company said improves accuracy and can reduce exam time by 20%.

## **TRANSASIA SUPPORTS MUSICAL CONCERT IN AID OF THALASSEMIC CHILDREN**

As a part of its Corporate Social Responsibility, for the benefit of thalassemic children, Transasia Bio-Medicals Ltd., once again joined hands with PATUT, to organize 'NayaabLamhe', a musical concert by the hugely acclaimed PadmashreePankajUdhas, on March 2, 2019 at Mumbai.

For over ten years now, Transasia and Parent Association Thalassemic Unit Trust (PATUT), have been actively associated in the commitment to the cause of thalassemic children.

With a purpose higher than just business, Transasia, India's leading In-vitro Diagnostic Company operates on a simple conviction, to be available to Doctors and in-turn their patients at all times, with quality and affordable diagnostic solutions that offer early and accurate results for timely treatment of diseases. Transasia's instruments, of international standards, have helped accurately diagnose thalassemia in innumerable patients across the country, giving them a ray of hope. Over the last two years, Transasia has organized awareness camps in more than 12 colleges across Mumbai and conducted screening tests on more than 2500 students. Infact, PATUT and Transasia have together organized numerous dedicated initiatives such as blood donation drives, equipping diagnostic centres with the required instruments and contributing to fund-raising activities for the benefit of thalassemic children.

Speaking at the occasion, Suresh Vazirani, Chairman & Managing Director, Transasia said, "I am immensely proud of Transasia's



Mrs. & Mr. Vazirani with Pankaj Udhas at Transasia supported 'Nayaab Lamhe' musical concert in aid of thalassemic children

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continuing ten year old association with PATUT, Smt. Jasmine Majethia and PadmashreePankajUdhas in aid of a very noble cause of thalassemic children. From helping four children in 1982 to establishing centres for spreading awareness, detection, counseling and prevention of thalassemia, the impact of the good work done by PATUT has spread far and beyond. At Transasia, we believe in operating with a higher purpose, with an unwavering focus on our customers and the patients they serve. Thalassemia is a cause we very closely associate with. We are glad that with our hematology range of analyzers, we are able to contribute to the early and accurate diagnosis of thalassemia and its associated adversities, giving the patients a chance for timely treatment.”

“We are proud that as we mark our 40th anniversary, we are able to contribute to this cause in ways more than one. Nothing motivates me more than the fact that my entire Transasia family resonates this intent”, he further added.

More than 400 pathologists from across the city, attended the event on behalf of Transasia. Dr. V. H. Juvekar, General Manager, Haffkine Biopharmaceutical Corporation Ltd. remarked, “Thalassemia is a growing concern for the country. Today, 35-45 million Indians, are carriers of beta-thalassemia, which translates to 3-4% of India’s population. It is

heart rending to see so many young children, losing their lives to the condition, for want of a Bone Marrow Transplant. Transasia and PATUT are doing a splendid job, to reach out to these children. I am thankful to Transasia for giving me an opportunity to be a part of this wonderful evening of soulful ghazals by PankajUdhas and to see his dedication towards this noble cause.”

## **MYCORD GETS INNOVATION AWARD FOR INTRODUCING GROUNDBREAKING CONCEPT OF FAMILY CORD BLOOD POOL BANKING**

Mycord a vertical of CelluGen Biotech Pvt. Ltd. has been conferred with highly coveted ‘Innovation Award’ at the International Conference on ‘Emerging Cellular and Immunotherapies in Haematological Disorders’ held in New Delhi recently.

The prestigious Innovation award was presented by Indian Society of Cellular Therapy to Mycord for introducing to the world the concept of Family Cord Blood Pool Banking. Ms. Kangan Jaiswal Director of the company while receiving the award said, “It is our great honor that the medical fraternity

of haematologist has recognized our efforts and in doing so have sent the right message to expecting parents that cord blood stem cells are used primarily in allogeneic transplant for most blood disorders.”

Mycord with its expertise in stem cell research has brought to the world the concept of ‘Family Cord Blood Pool banking’. This concept has been a ‘Game Changer’ for the industry to make banked cord blood stem cells enabled for therapy when needed.

At the conference, Senior doctors from India and eminent hematologists from abroad complimented CelluGen on their pioneering concept of umbilical cord blood pool banking which allows access to each other’s cord blood unit when needed. In most blood-related disorders Umbilical Cord Blood Transplant (UCBT) is recommended to be that of another person (allogeneic) and not your own (autologous), as the genes which caused the disorder, are present in the cord blood, and so for the treatment you require a healthy cell and not the mutant one.

Since over a decade, private umbilical cord blood banks in India have projected to protect the newborn baby with its own cord blood. It is because of this no HLA typing was done at the time of banking. This has resulted in negligible allogeneic transplants in India using cord blood for approved blood disorders. Commenting on this Dr. Purvish Parekh, well known Haematooncologist from Mumbai remarked, “Mycord through the concept of pool banking have paved the way for the utility of cord blood unit as an option for therapeutic application for various blood disorders. To me they are the true industry leaders.” Dr. Parekh who visited the CelluGen facility after the conference added, “It is among the best in the world and the young team of experts is committed to evolve the stem cell activity in India.”

This Award was handed over to CelluGen Director Ms. KanganJaiswal by well-known Doctor in the field of Haematology Oncology, Professor Dr. Ghulam J Mufti, Head of the department of haematological medicine at Guy’s, King’s and St Thomas’s hospitals, King’s College London. **IVI**





# Ultra-Modern Parkinson's Care

Surgical therapy gives a new lease of life for Parkinson's patients



**Dr NK Venkataramana,**  
Founder Chairman &  
Chief Neurosurgeon,  
Brains Hospital

**PARKINSON'S DISEASE** (PD) is one of the most common degenerative diseases that affect the brain causing significant disability. The incidence of PD varies from 8.6 to 19/1 lakh population. Every year 50,000 new people are diagnosed with the disease. PD is more common after the age of 60 affecting one per cent of population. However, in the recent years more and more young people are being affected with this disease. The projected number of individuals over 50 years with PD in the world is likely to double to 9.3 million by 2030 from 4.6 million in 2005.

Parkinson's disease primarily affects the movements of the body making the person

slow in all the activities which is associated with shaking of the body called tremors. The exact cause of the PD is not clearly understood. However, there are several propositions which have been made, they are – environmental factors, genetic factors, idiopathic and secondary PD.

It is often said that there is no cure for Parkinson's disease. However, with long term care the quality of life can be improved. All the current available treatments are focused on relieving the symptoms, delay disease progression, preserve and improve functional capacity. Among all these, there are a few surgical treatment methods which have come up recently and are considered to improve the quality of life for those suffering from Parkinson's disease significantly. They are discussed as follows:

## Stereotactic Lesioning

This procedure was discovered by neurosurgeons when, one of the blood vessels in the brain got accidentally occluded causing a Stroke in the Basal ganglia. Surprisingly, this relieved all the symptoms of Parkinson's disease on the corresponding side for the patient. Hence, a surgery was devised to produce similar lesion in the brain. Initially chemical substances, drugs and later radiofrequency current were used to make the lesion. With the advent of CT and MRI it is now possible to identify the nuclei in the brain and make a precise lesion. However, this is a permanent damage of that part of the brain which is hyperactive. By producing a lesion there is a counter balance of the activity of the nuclei in the brain resulting in relief of tremors and rigidity. The disadvantages are that, it is permanent, not reversible and not modifiable.



# APPROACH



Producing lesions on both sides of the brain is associated with severe side effects; hence it is practiced only on one side therefore relieving the symptoms on one half of the body only.

## Deep Brain Stimulation

This is the gold standard of the modern surgical treatment currently available. This treatment is based on a very novel concept that by producing high frequency electrical stimulation to the nuclei in the brain we can inhibit the selective functions without causing any structural damage. Hence, this procedure is very effective, adjustable, and reversible and can be programmed to the needs of the individual. In simple words, it is like placing a pacemaker in the brain. This procedure as well as lesioning requires stereotactic surgery. Stereotactic surgery is a specialized neurosurgery wherein a precise point in the deep brain can be accessed

without damaging the rest of the structures.

## Stereotaxy

It is based on the centre of the arc principle. The ability to reach a target region within the cranial cavity along a predetermined trajectory is the purpose of stereotactic frame. The frame represents a 2-dimensional plane of the cuboidal 3-dimensional volume of space which accommodates the patient's head. The frame is secured rigidly to the patient with the help of head posts and pins. Once rigidly fixed, the spatial relationship between the frame and the head remains the same, irrespective of head movement. The frame now serves as a reference point from where any point in the brain can now be defined mathematically as rectangular co-ordinates using the Cartesian coordinate system as  $(x, y, z)$ . In DBS surgery the stereotactic frame is fixed over the head of the

The projected number of individuals over 50 years with PD in the world is likely to double to 9.3 million by 2030 from 4.6 million in 2005

patient. The MRI scan is performed. The subthalamic nucleus (target) is identified on both sides. The XYZ coordinates are calculated with the assistance of the computer. Then the patient is shifted to the operation theater. Under local anaesthesia two burr holes are made on either side of the head. Through these holes fine micro electrodes are passed through a special gadget called "Microdrive" till the subthalamic nucleus is reached. As the electrodes reaches the sub thalamus the electro physiological recording from the nucleus can be seen on the computer which will confirm the position accurately. Then the nucleus is stimulated to ascertain the clinical benefits to the patient on the table as he will be conscious. Then a permanent electrode is placed in that precise location on both sides. These electrodes will be connected to a battery which will be placed in front of the chest wall through the cables tunneled under the skin. Post operatively the battery is switched on with a hand-held device which in turn stimulates the sub thalamic nucleus. Instantly the tremor will stop and rigidity will reduce enabling the person to do the day to day activities independently. The stimulation parameter needs to be titrated and tailor-made to the requirements of the individual. This is a gradual process called "Programming". Once the final settings are achieved they will be allowed to maintain on the same frequency. The results are dramatic and make one independent to a greater extent. In addition, the dosages of the medicines can be reduced significantly which will relieve from the side effects. This is a reversible procedure, does not cause any structural damage, and the frequencies can be titrated. The only disadvantage is that it is a expensive procedure.

### **Stereotactic Radiosurgery**

This is a special technique of delivering a focused beam of radiation to the desired part in the brain, precisely without endangering the surrounding areas. This is now possible with the advent of new technology and machines like TruebeamSTx. The calculation of the target is done with the stereotactic method and non-invasively the beam of the radiation is delivered to that precise area. This is a non-invasive method of Lesioning in the brain. This tech-

nique is new and useful to those people who are not fit to undergo surgery due to the associated medical problems.

### **Apomorphine**

Apomorphine is a new drug that has recently been made available in India. This is administered as an injection given subcutaneously. The action starts in minutes and symptoms will be relieved. However, the effect will last for only 2 hours. Hence, it needs to be given continuously by a pump. This drug is selectively useful for freezing or an emergency called parkinsonian crisis, as well as before any surgery or when the absorption is not good. It is a useful adjunct for the select patients who can't have surgical option and all medical therapies are exhausted.

Above all these, parkinson's patients require constant rehabilitation to improve their life skills. Several of such treatments will be tailor made to suit the individual requirements. They include physical therapy, speech therapy, gait therapy, dexterity therapy, and cognitive therapy. **IVI**



# ENHANCING ACCESS TO PAEDIATRIC SURGICAL CARE THROUGH COLLABORATION

GICS, BAPS, RCSENG, CMC, AHPI and Karnataka govt come together for a train the trainer course

**Dr S T Sathya Meonah**

**ACCESS TO** quality healthcare is a basic right of every individual both young and old. In fact, WHO's Healthcare Act of 1946 states that right to healthcare is a fundamental human right which should be available and accessible for everyone when and wherever needed. However, due to multiple reasons ranging from lack of infrastructure, manpower to cost of healthcare delivery; healthcare is not always available to people in India. According to the World Bank, five billion people—two thirds of world population—lack access to safe and affordable surgical, anaesthesia and obstetric (SAO) care while a third of the global burden of disease requires surgical and/or anaesthesia decision-making or treatment.

## **Paediatric Surgical Care**

India currently faces several challenges with regards to healthcare facilities in rural areas; access to paediatric surgical care is one of them. Although there are varied reasons for this, the chief among them are lack of paediatric surgeons. Sadly, the paediatric surgical care providers are often located at the district hospitals or the nearest city. "More than 80 per cent of the children's surgical care is usually trauma and other emergencies,"

says Prof Vrisha Madhuri, Sr Professor, Head Paediatric Orthopaedic Surgery, CMC-Vellore. Other reasons for seeking surgical care are infections, congenital problems, deformities and neuromuscular problems arising from either congenital or acquired causes. "Children in India as well as other LMIC have very poor access to surgical care because their surgical care is available mostly in metros and larger cities," she added.

In case of surgical emergency, the paediatric patient has to be rushed to the city for further treatment. This results in heavy loss to lives during emergencies and puts additional pressure on parents and also on the specialist hospitals that are already overcrowded. "We find that most children especially in rural areas are not able to access orthopaedic healthcare when it lies beyond 10 km from their home," Dr Madhuri explained. One of the ways to greatly narrow down these difficulties and increase access to care is by empowering available manpower to provide surgical care.

## **Novel Effort**

One such commendable idea is the Providers course for Children's Surgery conceived by Prof Kokila Lakhoo, Consultant Paediatric Surgeon,

University of Oxford, Oxford University Hospitals and Prof Madhuri; at the Global initiative for Children's Surgery (GICS) meeting at the Royal College of Surgeon in London in May 2016.

On hearing of this unique initiative, Dr Alexander Thomas, President, AHPI felt it would be an excellent way to improve quality of healthcare delivery at the grassroots. Having closely worked with the government of Karnataka over many years, and also having been the Secretary of the Task Force for health policy, he was able to convince the then Principle Secretary, Health, Ajay Seth and the present Secretary Javed Akhtar of the usefulness of this project.

"We have been doing outreach work to provide training for surgeons in remote areas as part of mission in Vellore. In 2016, we planned a new initiative which was meant to reach out to govt district centers by providing training for surgical teams which included nurses, anaesthetists, orthopaedic and general surgeons. We soon realized that the problem is vast and there was a need to train trainer teams so that there could be a cascade effect and also each trainer team could locally connect with district hospitals to provide consultations and referral services for the local district providers," says Prof Madhuri.

When Prof Madhuri shared her concerns with Dr Thomas, he agreed to the need and decided to make the course a reality. With his vision, Karnataka govt became the first state to agree to this initiative, and were part of the pilot training projects in Vellore. In fact, with AHPI and Dr Thomas's guidance, the government at the administrative levels supported the program and funded the trainees.

Speaking about the nature of the course, Dr Lakhoo said "The format of the course is one of small group breakout sessions addressing skill acquisition and reinforcement and is taught by a multidisciplinary faculty. Each breakout session contains guidance on equipment and props needed for the session (most of which is widely available), guidance on how to teach the session and the learning objectives to be achieved." After training a few district Hospital teams, the trio team consisting of the Royal

**"More than 80 per cent of the children's surgical care is usually trauma and other emergencies"**

**Prof Vrisha Madhuri,  
Sr Professor, Head Paediatric  
Orthopaedic Surgery, CMC-Vellore**



College of surgeons, CMC Vellore and the Bangalore Medical College hosted a 'training of trainer' course in which teams from other parts of the country and from abroad were trained. Through this course professional teams which include a paediatrician, general surgeon, orthopaedic surgeon, anaesthetist and nurse to handle paediatric emergencies, were trained.





**Prof Kokila Lakhoo,**  
Consultant Paediatric Surgeon, University of Oxford

“The format of the course is one of small group breakout sessions addressing skill acquisition and reinforcement and is taught by a multidisciplinary faculty”

The trainers were paediatric surgeons, orthopaedists, anaesthetists and nurses from BMRCL, Indira Gandhi Institute, Bangalore and CMC, Vellore. “The sessions dealt with childhood emergency medications like analgesics and sedatives, triaging during paediatric emergencies and dosing. Other upskills like fastening hip spica/immobilization, intercostal drainage tube insertion, vascular access and paediatric airway management were explicated using mannequins,” Dr Lakhoo explained.

The course content and materials were closely specified to assist delivery by local faculty. “Interest in running this course has been expressed by centres in countries like Malawi and Ethiopia to establish their providers course for Children’s Surgery in District General Hospitals,” Dr Lakhoo said. As a whole, the out-turn of this course and the training camps were highly meritorious.

Speaking on the objectives of the course, Dr Lakhoo added, “The whole plan is to take this course worldwide with CMC-Vellore as the super hub and every country create a hub and spoke model using the specialist hospital as a hub and the district hospital as spoke.”

### **Course Milestones**

May 2016- Conception of the CMC-Vellore RCSENG course after the first Global Initiative

for Children’s Surgery meeting at Royal College of Surgeons, England.

June 2017 and May 2018 - Preparation of the draft manual and its initial implementation.

February 11, 2019 -Richard Stewart, President British Association of Paediatric Surgeons and Prof Lakhoo who is also Chair, GCIS along with educationist Gill Vessey meet Indian peer professionals like Prof Anand Alladi, Professor and Head of Department, Paediatric Surgery, Deepti Vepakomma, Associate Professor, Bangalore Medical College & Research Institute (BMCRI), Prof Madhuri and the local team of professionals to discuss further steps.

February 13, 2019 - One-day program on “Training the Trainers” course conducted by Vessey.

February 14, 2019 - The Surgical provider course with 26 delegates comprising 5 trainee teams from 3 different states viz, Chattisgarh, Karnataka and Tripura.

February 15 and 16, 2019-An interactive session with the subject matter experts and the delegates on crucial topics like infective pathology, treating congenital anomalies, caudal analgesia, safe practices in OT, stomal care, critical care, pre and post-operative care. Expository inputs on resection procedures like herniotomy, orchidopexy with reference to WHO practice checklist were discussed to apprise paediatric doctors and nurses as well.

### **GICS and BAPS - The helping hand**

The Lancet Commission on Global Surgery reports that about 5 billion people in the LMIC do not have access to affordable and quality surgical care. One half of this population are children. The British Association of Paediatric Surgeons (BAPS) and GICS along with The Royal College of Surgeons of England have been working together for better access to surgery across the globe.

In fact, BAPS has supported and trained paediatric surgeons from the LMIC by providing funded scholarships and fellowships to trainees from Africa, Asia, South East Asia and Middle East. Dr Stewart, the President of BAPS said that the institution trains physicians by conducting annual training courses and

medical conferences in these countries like the Pan-African paediatric surgery Association, ASEAN countries of South East Asia and the SAARC countries of Asia Conferences. “We will continue to support International training and the development of partnerships with LMIC surgical associations” confirmed Dr Stewart. “Collaborating with the RCSEng International Affairs Committee and with contacts established through the GICS we will take the Providers Course for children’s Surgery in District General Hospitals to other centers within India and worldwide. BAPS will also continue to develop partnerships, providing training with the aim of LMIC centers themselves becoming independent training centers,” he added. The GICS and BAPS have plans to further their cause by forming partnership programs with the local governmental organisations and equip these nations to be self-sustaining in paediatric surgical care and child-patient care.

### Impact of the Course

It is too soon to assess in absolute numbers what impact this courses has had on the availability of pediatric surgical care but a study is underway and will soon be able to answer this very question. “The project adopted and funded by

“BAPS will also continue to develop partnerships, providing training with the aim of LMIC centers themselves becoming independent training centers”

**Dr Richard Stewart,**

President British Association of Paediatric Surgeons



the government of Karnataka trained ten teams and plans to train more children’s hospitals as trainers creating a cascade effect. Global Initiative for Children’s Surgery endorsement has resulted in expressed interest from Africa and South-Asia,” shares Dr Lakhoo.

In addition the course manual, with inputs from Oxford trainers, is being submitted for WHO endorsement. This will further help to translate the vision of GICS and take this course global. **INT**

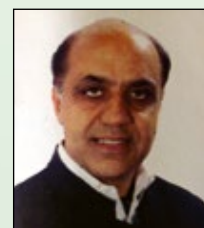


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# ARE WE CONNECTED YET?

Exploring Value Proposition  
and Challenges,  
Taking Telemedicine  
to the Next Level



**L M Singh,**  
Head USAID - PAHAL  
at IPE Global;  
CEO- Ajooni Impact  
Investments



India ranks 145th among 195 countries in terms of quality and accessibility of healthcare, behind its neighbors like China, Bangladesh, Sri Lanka and Bhutan, according to a Lancet Study. Some of the reasons for India's poor health indicators include lack of quality public health infrastructure, skills gaps, limited accessibility and lack of affordable solutions.

### Gaps in Healthcare Delivery

The public health expenditure in India has remained less than 1.5 per cent of the GDP; far less than the world average of six per cent. The government policies were skewed towards meeting secondary and tertiary healthcare needs. There is lack of adequate infrastructure and also significant shortage of qualified manpower in public health systems. Investment in primary health care is a cost-effective but underfunded investment area. While the central and state governments do offer universal healthcare services, free treatment and essential drugs at government hospitals, but the hospitals are understaffed and inadequately stocked. Sub-centers, which are at the forefront in providing primary

healthcare, are not easily accessible. According to industry survey, 73 per cent sub-centers were more than 3 km from the remotest village, 28 per cent were not accessible by public transport and 17 per cent were unhygienic.

### Demand Supply Askew

Strong primary health care system is recognised as the cornerstone to achieve Universal Health Coverage (UHC), with almost 90 per cent of all health needs manageable at

the primary health care level. Adequate preventive and primary healthcare leads to cost-effective healthcare - lower mortality and morbidity, reduced hospital stays, fewer diagnostic investigations. It is estimated that maximum cost effectiveness is when poor countries spend 50 per cent on primary care and upto 20 per cent on health workers thereby ensuring patient centric preventive and primary care take centre stage. Catching and treating

health issues earlier is cheaper and more prudent than treating severe or advanced illness. For e.g. India fares worse than the lower middle income country (LMIC) average on deaths attributable to preventable WaSH risk factors (1.36 x

## The telemedicine landscape is further enhanced as a result of India's thriving entrepreneurial and start-up culture



# COVER STORY

death rates in India vs. LMIC average).

On the supply side, the problem is further compounded given that 75 per cent doctors, mostly private practitioners are serving in urban locations, thereby creating a shortfall in rural India of trained healthcare providers where more than 800 million of our population resides. Consequently unqualified and informal medical care providers (quacks) dominate such locations. To compound matters, our qualified doctors are overburdened leading to less than three minutes average doctor consultation time, with high risk of non-adherence to clinical guidelines and incorrect diagnosis.

India has the potential to bridge this demand supply gap for access to quality affordable healthcare for all. The convergence of technology and healthcare has opened up a whole new world of possibilities to tackle these problems and re-imagine our health systems that can be re-shaped making them accessible to our large population and allowing us to better utilize our limited financial, intellectual and infrastructure assets.

## Pillars of Transformation

Telemedicine has the potential to revolutionise healthcare in

India and make UHC access and affordability a reality with patient centric solutions. The telemedicine market in India was valued at \$100 million in 2011 and has reportedly grown to four times by the end of 2016, according to PwC report. The growth of telemedicine is a result of numerous developments taking place in the technology and digital landscape in India. The pillars of transformation include:

- + Higher Mobile and Internet Penetration: India's digital revolution, aided by its growing smartphone and internet penetration has resulted in a huge demand for online consultations and second medical opinion. The usage of smartphones and the internet continues to increase YoY in India, currently at a 20-30 per cent CAGR, and it has been predicted that India's smartphone population will surpass that of the US in the next few years. Digital adoption offers greater connectivity and collaboration, increased accessibility to information and services and personalization of products and services.
- + Improving Technologies: The telemedicine landscape is further enhanced as a result of India's thriving entrepreneurial and start-up culture. India is ranked 3rd among middle-income economies in the Global





Innovation Index. The public sector's investment in this culture, through the Startup India initiative, is adding to this interest. Thus, the stage is set for a more disruptive, engaged and digitized India, which can be capitalized on to make healthcare accessible and affordable in the remotest areas of the country. This focus on technology is driving a CAGR of 14.02 per cent from 2014-2019 in the healthcare technology market in India. Innovators are increasingly capitalizing on the technological and digital revolution to reduce disparity and inequity in healthcare.

- + **Increasing Government Focus:** The Ministry of Health and Family Welfare, Ministry of Communications and Information Technology, state governments, and ISRO have all taken on significant roles in improving the IT infrastructure for health facilities in India. Certain solutions can help create an enabling ecosystem for telemedicine models to flourish - skilling of community health workers, advocacy with the government, provision of comprehensive care. Pradhan Mantri Jan Arogya Yojana (PMJAY) is a major government policy initiative for the poor and vulnerable section of the society. Not only does it prioritise health and wellness centers but also promotes a framework to engage with the private sector,

### Maximize the Benefits

Telemedicine enables healthcare professionals to

evaluate, diagnose and treat patients remotely using telecommunications technology. Telemedicine offers many benefits. It promotes cost effective, patient centric solutions which include

- + **Timely Access to Primary Healthcare:** Telemedicine can make the doctors' services available in underserved areas without requiring their physical presence. It solves the issue of unavailability of qualified doctors and basic diagnostics in such areas and addresses the disparity in the distribution of healthcare infrastructure and resources in rural and urban areas.
- + **Reduced Cost of Healthcare:** It can provide cost effective medical care and convenience, bringing down cost for the providers as well as out of pocket expenditure of the poor by precluding travel for primary care. Early diagnosis and cure can prevent catastrophic expenditure on healthcare. It is estimated that more than 60 million people are pushed into poverty due to high out of pocket expenditure and delays in accessing preventive and primary care.
- + **Access to Specialists:** By establishing a network of e-diagnosis and referral, specialized care and second opinions can be made accessible to the people in remote areas as well as for the urban middle class in the convenience of their homes.
- + **Regular Monitoring Prevention and Management:** Remote monitoring for chronic ailments, critical, cancer



and post-operative patients can improve convenience, reduce travel requirements and bring down cost. Non Communicable Diseases (NCDs) such as cardiac, diabetes, cancer and NCDs are a significant threat to lower socio-economic populations, imposing substantial financial burden, productivity and employment loss. Prevention & management of NCDs critical for lowering socio-economic inequity

- + Compliance to Clinical Protocols and predictive analysis: With compliance to clinical guidelines, the systems will lead to improved diagnosis. Further with disease coding, improved patient data handling, AI/predictive analysis the system will drive efficiency in how our limited resources are allocated.

Apart from this, government has a huge number of Primary Health Centers (PHCs), which struggle to function due to unavailability of manpower. Telemedicine can provide a viable alternative for making these PHCs functional and viable with improved utilization and cost absorption.

### Models that Work

Entrepreneurial initiatives by social entrepreneurs are helping translate telemedicine potential into reality. These initiatives have the potential to leverage India's wide

network of private standalone medical practitioners and Point-of-Care (POC) solutions that can provide quality patient centric healthcare. Some of the models improving access, affordability and quality of primary care include the following:

- + Glocal Healthcare Systems
- + Karma Healthcare
- + Yolo Health
- + Mfine
- + Doctor Insta

### Glocal Healthcare Systems

Founded in 2010, Glocal Healthcare Systems Private Limited (Glocal) is a tech enabled social venture that operates low cost hospitals in underserved cities to create a scalable and affordable healthcare system and runs a chain of 'Digital Dispensaries' to solve the problem of accessibility and affordability of primary healthcare. Further, the company has developed a proprietary software solution, Hellolyf a 24 hours virtual OPD which provides seamless online video consultations with doctors and specialists. Since inception, Glocal Healthcare Systems has launched 10 hospitals, operates 141 digital dispensaries and provided online consultation to ~3,47,000 people annually.

## Karma Healthcare

Founded in 2014, Karma Healthcare (Karma) provides affordable, accessible and quality primary healthcare in rural and peri-urban India using a combination of technology and on-ground interventions. The company operates 'e-Doctor' clinics providing nurse-assisted online medical consultations by qualified doctors, diagnostic services and referral services. Since inception, Karma Healthcare has completed over 85000+ online consultations with 17 centers across two states – Haryana and Rajasthan - in India.

## YOLO Health

Founded in 2015, YOLO Health is a technology service provider that creates products for remote medical consultations and diagnosis. At present, Yolo Health has three products, Health ATM, Health PC and TeleMedOnline. These products enable automated data capture and integration of many medical diagnostic devices to a single platform. The company has made primary and preventive care accessible by installing health ATMs in hard to reach areas and enabling patients to walk in and use the ATM without any prior appointment.

## Mfine

Founded in 2017, Mfine is a unique mobile application that uses artificial intelligence. It is an on-demand healthcare service that allows users to consult with doctors from premium healthcare institutions through a video, or a chat. AI enables analysis of symptoms, understands the lifestyle patterns of the patients, and provides useful hints to the doctors before they start treating the patients. This also allows the app to monitor the patient and provide assistance from time to time.

## Doctor Insta

Founded in 2015, Doctor Insta is a video-medicine platform aiming to tackle the low physician density in Tier 2 and Tier 3 cities in India. It offers online consultation through an online application with in-built video calling functionality. It offers online medical consultation for pediatrics, psychology, gynecology among other specialties. The app also maintains health records of the patients and diagnostic reports based on historical data. The platform had over 150 top doctors onboard, over 150 corporate tie-ups and 500,000 app installations as of December 2018.

## Looking Ahead

In order to create impact at scale, telemedicine providers have to build a value proposition through technology/

process innovation and/or service package which is hard to replicate by local players. In the fast evolving technology context, providers will switch to the most convenient and affordable technology. Execution capability of creating and managing a large network of telemedicine nodes will be the differentiating factor for any model, which will ultimately drive the demand. Thus, the ecosystem is ripe for the growth of telemedicine models, and increasing government focus and investor interest means that this sector is poised to grow in the years to come.

PAHAL – (Partnerships for Affordable Healthcare Access and Longevity) , is USAID/India and IPE Global's flagship innovation in financing initiative that aims to improve access and affordable healthcare solutions for the underserved communities with a particular focus on supporting social enterprises and business models that promote primary and preventive care. PAHAL takes a holistic approach by providing market access, access to capital (debt, equity, grants) and technical assistance to social enterprises so that they are able to maximize their growth and create impact at scale.

Telemedicine is positioned to change the landscape of healthcare access and ensure that quality and affordable healthcare reaches the last mile. It can accelerate stated SDG goal of Universal Healthcare for its citizens by 2030. [IMI](#)



# HOSPITAL MAKE-OVER WHILE AT WORK

## Challenges of renovating a functioning hospital

**Sanjay Papinazath,**  
Director, Skydome Designs

**THE CHALLENGE** of renovation of an existing building is that we never know what to expect of the building until everything is opened up. We would never know exactly what the condition of the building, true ceiling height is, or whether there are beams or inverted beams, etc. At times the design or layout may have to be altered to accommodate the true site conditions.

This project 'Soundarapandian Bone and Joint Hospital' was a renovation of one floor of an existing hospital. As the building was around 25 years old, it was in dire need of a make-over to keep up with the times and to offer the patients a better ambiance for recovery. The need for renovation should not be solely for aesthetic purposes, but also for operational purposes to maximize productivity.

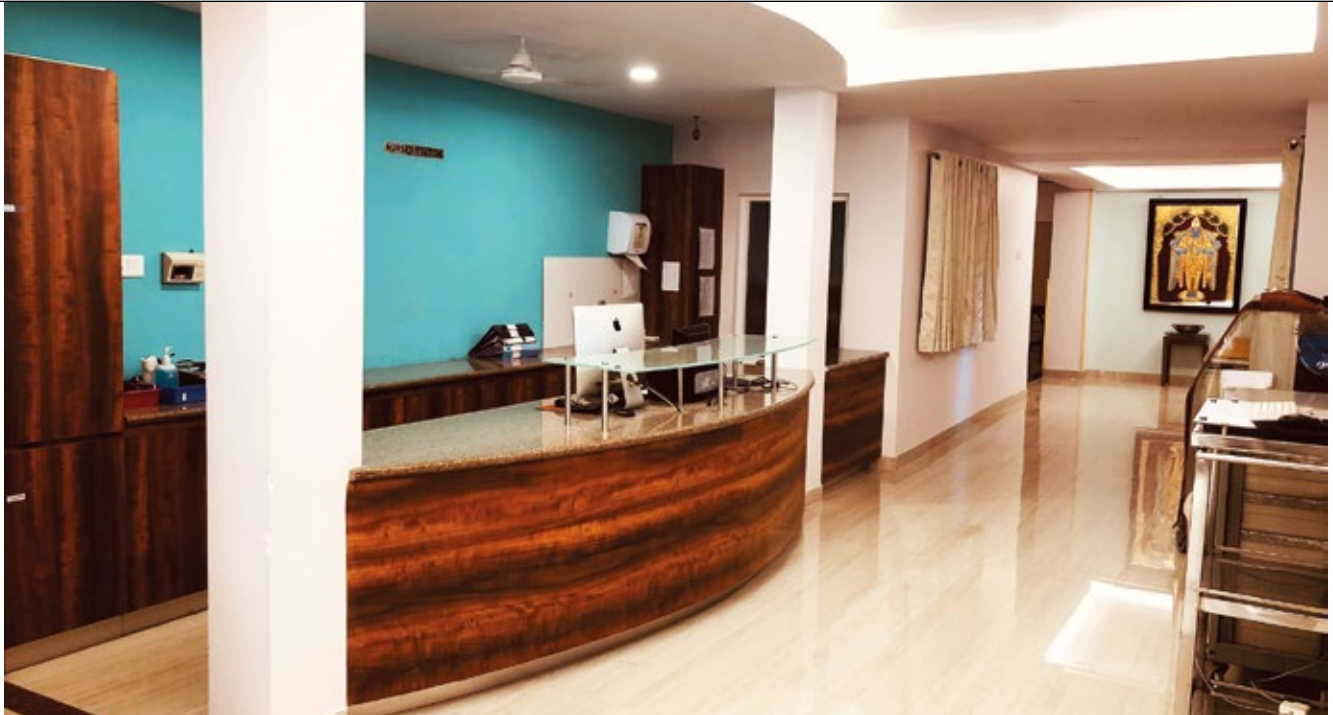
### Challenges Aglore

Renovating a hospital while running has many challenges, one of the main priorities is not to inconvenience the patients. For this we have to take proper remedies such as covering the working area so minimal dust and sound escape the area. As it is a renovation there will be a lot of demolition involved which will create a lot of noise and debris which will affect the patients. It is very important not to disturb existing columns, beams, slab or any other supports which will compromise the structural stability of the existing building. To minimize dust and noise, no carpentry work was done on site, it was all done remotely and come and assembled on site.

### Utilities are Priority

Before starting such a project, one should be aware of existing pipelines, drainages, chambers, tanks, sumps, fire-fighting lines, electrical lines etc. This will allow for proper demolition and allow the hospital to run without affecting the mechanical, electrical or plumbing elements. If required certain lines will have to be cut and closed or temporary lines to be taken so the working of the hospital is unaffected. It is also advisable to consult a structural engineer to ensure that the structure can take not only the demolition but also in the case additional weight is to be added to the structure. If additional weight is added to the building it is crucial that columns or slab is reinforced to accommodate the added weight as per the structural engineer's instructions. For this project we have not loaded any more weight to the building. It is also extremely important to foresee any hindrances to the hospital operations while renovation is in progress and intimate to the clients beforehand so they may be prepared.





### Flooring Flanks

One difficulty we faced in this particular project is that once we had removed existing flooring, we incurred 3 – 4 varying floor levels as the building was extended and added on to over 25 yrs. We had use concrete to fill in some areas to ensure that the flooring was all in one level. During this time, we should also go through any other issues with the building so that it can be rectified or reinforced so that life is added onto the building. For this project we went in for the use neutral colors for the flooring, walls and furniture. We have also installed double glazed UPVC windows in patient rooms to reduce the out-side noise.

### Client Concern

One issue with this building was that the client had a traumatic experience with termites a few years ago. Due to this, the clients were absolutely against wood or any other material which may attract termites. For this reason we used WPC with laminate finish (wood plastic composite) instead of plywood. WPC is termite proof, and has more resistance towards water and fire compared to wood. All furniture and doors for this project was made using WPC boards with laminate finish. We also incorporated indirect lighting in all public areas and use of both direct and indirect lighting in patient rooms for both

patient and doctor comfort. The old electrical lines and DB panels were completely upgraded with brand new panels, FRLS cables and PVC conduits.

Initially every bathroom had a 4-inch raise to accommodate the drain outlet, as it is an orthopedic hospital, patients were finding it difficult to step into the bathroom, and we have brought almost all toilets to floor level eliminating the 4-inch raise. Apart from that each toilet was equipped with new sanitary ware and a grab bar to assist the patients.

### Considerations

The way to make any project in a running hospital a success is to have meticulous project management, so that work will go as per plan without much disturbance to patients and doctors. Procurement of long lead items is to be planned so that there will not be a delay in a project due to material supply. Project management is key, so that coordination between all contractors is in sync to complete the project successfully. Apart from project management the clients play a very important role in completion of such projects. In such a project quick decision making from the clients, understanding the complications of the project and support from the clients will allow a project to be completed quickly and successfully. **IVIT**

Renovating a hospital while running has many challenges, one of the main priorities is not to inconvenience the patients. For this we have to take proper remedies such as covering the working area so minimal dust and sound escape the area

# Five Telemedicine Companies You Should Know About

Telemedicine is increasingly gaining acceptance in India both among patients and providers. These five companies are doing telemedicine the right way

Divya Ramaswamy

**NOTHING CAN** beat technology's impact on medicine and healthcare delivery. The advent of technology including satellite transmission, high-speed broadband connectivity, and mobile & wireless telephones, etc has made it possible for healthcare providers to reach even suburban and rural areas. It is expected that technology will increasingly be used by healthcare providers to improve access. In fact, by using communications technology to link healthcare

providers to their patients and each other over great distances, telemedicine is turning the corner in the Indian healthcare space. Indeed, telemedicine and digital revolution is seen as an enabler to manage disparity and inequity in healthcare.

Telemedicine emerged from a vision to overcome distance barriers and to improve access to medical services throughout the country and has developed tremendously with the advent of telemonitoring, tele-education, remote training, video consultation, tele-

surgery, telecare, and other related services.

However, Live Video-Conferencing, Asynchronous Video (Store & Forward methods),

Remote patient monitoring and mHealth (Mobile Health) form the major categories of telemedicine technologies used today.

## Growth Drivers

Though there are several trends that motivate the rapid adoption of telemedical technologies to extend the capabilities of the health system in the country, the following play a major role:







Higher Life Expectancies- With the increase in life expectancy, the elderly need more care. One of the biggest challenges for the healthcare system today is to provide cost-effective care for this population; telemedicine is believed to play an essential role in solving this problem.

Shortage of Physicians- Telemedicine takes care of two problems shortage of physicians and availability of specialized quality physicians. Telemedicine helps providers make the most efficient use of every available doctor.

Chronic health conditions- Millions of people being affected by chronic conditions including type II diabetes, arthritis, cancer, etc, telemedical advances like video visits make it ideal to reach this patient population. Healthcare providers can manage medications, review test results, provide lifestyle advices and provide treatment plans via remote visits and patients can easily stay engaged in the management of their health without any obstacles like trans-

portation expenses and/or long wait times.

Patient Demand- The patients being the consumers of healthcare services, their preferences make a huge difference! Telemedicine attracts patients by the convenience, time saving and cost-effectiveness it provides.

### Market size

The Global Telemedicine Market, according to Statistics MRC, is accounted for \$21.56 billion in 2017 and is expected to reach \$93.45 billion by 2026. The Indian telemedicine market is expected to follow suit. According to the Indian Brand Equity Foundation, the telemedicine market in India is estimated to reach USD 32 million by 2020. There are many companies working in the telemedicine space from global MNCs to start-ups all vying for the share of this market. Here is a list of five companies that are making a difference in this space.

## APOLLO TELEHEALTH SERVICES

With almost 20 years of experience in the field of telemedicine, Apollo Hospitals has created the largest and oldest multi-specialty telemedicine network in South Asia. Today, under the Apollo banner three companies are working on overall development of telemedicine in India. These are Apollo TeleHealth Services, Apollo Telemedicine Networking Foundation and HealthNet Global. They provide preventive, curative, diagnostic and educative telemedicine. The company provides integrated healthcare delivery in Tele-consultations, Tele-Radiology, Tele-Cardiology, Tele-Condition Management and e-ICU services.

VikramThaploo, CEO of Apollo Telehealth Services says, "Apollo has evolved its telemedicine usage from delivering medical opinions in year 2000 and has come a long way where it currently uses advanced technology to operate Tele-ICU, Tele-Emergency, Tele-Ophthalmology, Tele-Radiology & also perform surgeries through Tele-Robotics in a highly sophisticated environment. Technology driven healthcare delivery will become spinal cord of the healthcare market in future. Countries like USA which spend more than 12% of GDP on healthcare have learned it over time that technology driven health care delivery model is the only way to bring health care spend down while providing effective health care."



<b>NO OF YEARS FUNCTIONAL</b>	19 years
<b>KEY PERSON</b>	Ganapathy Krishnan (Founder) Vikram Thaploo (CEO- Telehealth)
<b>FOCUS AREA</b>	Tele-Consults, Tele-Radiology, Tele-cardiology, Tele-Condition Management
<b>SERVICE/SOLUTION</b>	Tele-clinics, Tele-consultations, Tele-Radiology, Tele-Cardiology, Tele-Condition Management, Tele-Homecare, Tele-Education
<b>PROJECT CURRENTLY ON</b>	Remote Telehealth Center in Andhra Pradesh
<b>AFFORDABILITY</b>	Affordable to common men
<b>IMPACT</b>	Paved way for other telemedicine companies, showed proof-of-concept and profitability in telemedicine. Totally 10,000+ tele consultations under 17 specialties, stabilized 750 emergency cases, 9000+ lab tests via tele-laboratory services



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**Vikram Thaploo**, CEO of Apollo Telehealth Services

## MEDONGO

Established in 2014 to serve the business needs of some of India's top organizations, MedOnGo provides healthcare solutions, 24/7 support, integrated technology, and comprehensive software modules that are unparalleled throughout the industry. The company is also one of the first healthcare technology solutions company in the country to create a smart health platform, aggressively creating first line of defense in public health. Their hallmark creation is a compact primary healthcare kiosk, comprising of an Automated Health Analysis unit facilitating basic laboratory test; a Tele-Consultation Booth, allowing video and audio consultations with a wide panel of doctors; and a Medical Vending Machine (MVM), that dispenses medicines by scanning the prescription. The AamAadmiMohalla Clinic in Delhi adopted this novel innovation in their network of clinics in March, 2016. Following trial were the Swastya ATM in Rajasthan, and Pehal in Haryana. Currently, functioning through Mohalla hospitals, the innovation has made its way into the state of Karnataka as well.

Nikhil Kariappa, Co-Founder and CEO of MedOnGo, says, "Over the past 4 years, Medongo has built a range of solutions to facilitate healthcare delivery suited for different markets and business needs. A high-level distinction will be the Software & Hardware solutions we provide. Currently Medongo has operationalised Kiosks and have deployed our products and solutions in 9 different States in India."



<b>NO OF YEARS FUNCTIONAL</b>	5 (Since 2014)
<b>KEY PERSON</b>	Balaji Krishnammagaru (Managing Director) Nikhil Kariappa, (Co-Founder and CEO)
<b>FOCUS AREA</b>	Works with Hospitals, Clinics, Health-focused Foundations, National and State level Health Departments, Corporate parks and Communities provide healthcare services through our Health ATM channel.
<b>SERVICE/SOLUTION</b>	Health Kiosks, Smart consult Platform
<b>PROJECT CURRENTLY ON</b>	Health Kiosks
<b>AFFORDABILITY</b>	Affordable
<b>IMPACT</b>	MedOnGo touched eight million consultations and expects to touch 10 million landmarks very soon. Provides teleconsults from Assam to Tamil Nadu in India while it has plans to expand to markets like Sri Lanka, Nigeria, Canada, and the United States.



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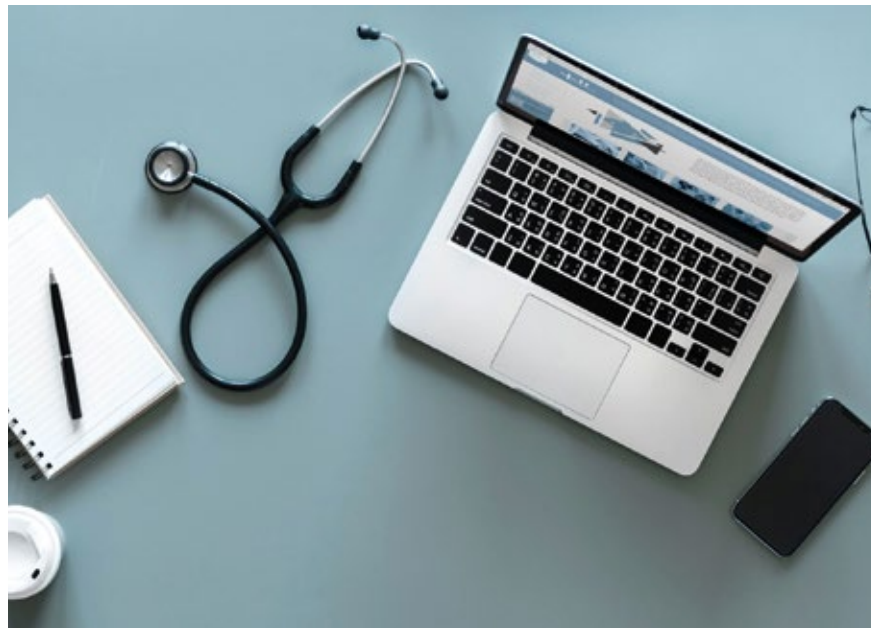
## 5CNETWORK

This is the youngest telemedicine company in India, making huge waves in both patient impact and investor interest. Renowned as ‘The Uber of Radiodiagnosis’, the company provides the fastest and easiest way for any centre with radiology equipment to get a quality radiology report at any time of the day. 5CNetwork got the name for the reason- for the first time, the 5 stakeholders of Radiodiagnosis: The Doctor, Radiologist, Patient, Technologist and Hospital get a solution for each of their problems, through them. They are 5-Connected, 5-Collaborating, or as they like to call it: 5Clique.

Kalyan Sivasailam, CEO, 5C Network says, “Not only is 5C innovating on expanding the accessibility to radiology, but we are also exploring the incredible potential of newer technologies in this field.”

Not only is 5C innovating on expanding the accessibility to radiology, but we are also exploring the incredible potential of newer technologies in this field

**Kalyan Sivasailam, CEO, 5C Network**



<b>NO OF YEARS FUNCTIONAL</b>	3 (since 2016)
<b>KEY PERSON</b>	Kalyan Sivasailam (CEO), Syed Ahmed (Co-founder)
<b>FOCUS AREA</b>	Radiology-focused online portal that connects the five stakeholders of radio diagnosis: doctor, radiologist, patient, technologist, and hospital
<b>SERVICE/SOLUTION</b>	Radiodiagnosis
<b>PROJECT CURRENTLY ON</b>	Aggregating radiologists to provide fastest turnaround on radiology reporting
<b>AFFORDABILITY</b>	Lowest costs on a pay-as-you-use model
<b>IMPACT</b>	-50% reduction in cost for high-quality diagnostic testing, 500% improvement in Turn Around Time for cases – > 5,00,000 hours of waiting time saved >10,000 critical cases done, To increase the number of clients to 500 and bring 250 radiologists on board

## YOLO HEALTH

From its conception at a lab at IIT Bombay till today, Yolo Health has evolved to become a renowned Digital Health venture that builds Health ATM's to deliver high-quality, convenient and affordable healthcare services. Yolo Health builds and offers innovative healthcare initiatives, strategic alliances, and cost-effective virtual healthcare services to the rural doorsteps. Its HealthATM enables health checkups and doctor consultation via video conferencing.

<b>NO OF YEARS FUNCTIONAL</b>	6 (since 2013)
<b>KEY PERSON</b>	Founders- Shreyans Gandhi, Arpit Mishra
<b>FOCUS AREA</b>	Primary care
<b>SERVICE/SOLUTION</b>	Healthcare ATMs
<b>PROJECT CURRENTLY ON</b>	Deploys ATM at customer site
<b>AFFORDABILITY</b>	Pay-per-use
<b>IMPACT</b>	More than 44 ATMs deployed across Karnataka, Chhattisgarh, Kolkata and Mumbai; potential to deploy 2,000 units in next few years after tie-up with an NGO.

## WORLD HEALTH PARTNERS

World Health partners (WHP) is a not-for-profit health service delivery organization with a mission to deliver better health care within walkable distance everywhere. The international health organization is committed to delivering health and reproductive health services to rural and marginalized communities in the developing world. Leveraging existing social and economic infrastructure, the organization makes use of the latest advances in communication, diagnostic and medical technology to establish large scale, cost-effective health service networks.

<b>NO OF YEARS FUNCTIONAL</b>	11 (since 2008)
<b>KEY PERSON</b>	Gopi Gopalakrishnan (President & Founder) PrachiShukla (Country director for India)
<b>FOCUS AREA</b>	Primary care for rural and other vulnerable communities
<b>SERVICE/SOLUTION</b>	Sky Clinics
<b>PROJECT CURRENTLY ON</b>	Partnership with a local NGO, KMET, in western Kenya to adapt the WHP model to the Kenyan context.
<b>AFFORDABILITY</b>	Affordable pay-per-consultation
<b>IMPACT</b>	Serving a total population of ~25 million. Over 110,000 tele consultations Rural patients- 51% belonging to the poorest economic quintiles



# Telemedicine's tipping point

Prof K Ganapathy, Past President Telemedicine Society of India  
President, Apollo Telemedicine Networking Foundation, in conversation  
with M Neelam Kachhap

**PROF K GANAPATHY'S** name has become synonymous with telemedicine. He was the early adopter of the technology and has been instrumental in developing the field of telemedicine to enable, provide, connect and ensure quality medical care through telemedicine. His work along with his institution; the Apollo Telemedicine Networking Foundation (ATNF) and the Apollo Telehealth Services (ATHS) have led the way for others to use telemedicine to enhance access to quality healthcare. Talking to Prof Ganapathy is like reliving history. Through anecdotes, milestones and stories he traces back the development of telemedicine in India. Here are the excerpts.

## How did you get introduced to telemedicine?

It was 9:30 pm Sep 16, 1996. I had just been grilled by students of IIT Kanpur following an Institute Lecture on increasing deployment of technology in neurosurgery. A diminutive appearing HoD of Electrical Engineering, Prof K Srivathsan literally accosted me and over an unscheduled dinner from 10pm - 2 am introduced me to a hitherto unheard term Telemedicine. This chance encounter led to an immediate love af-

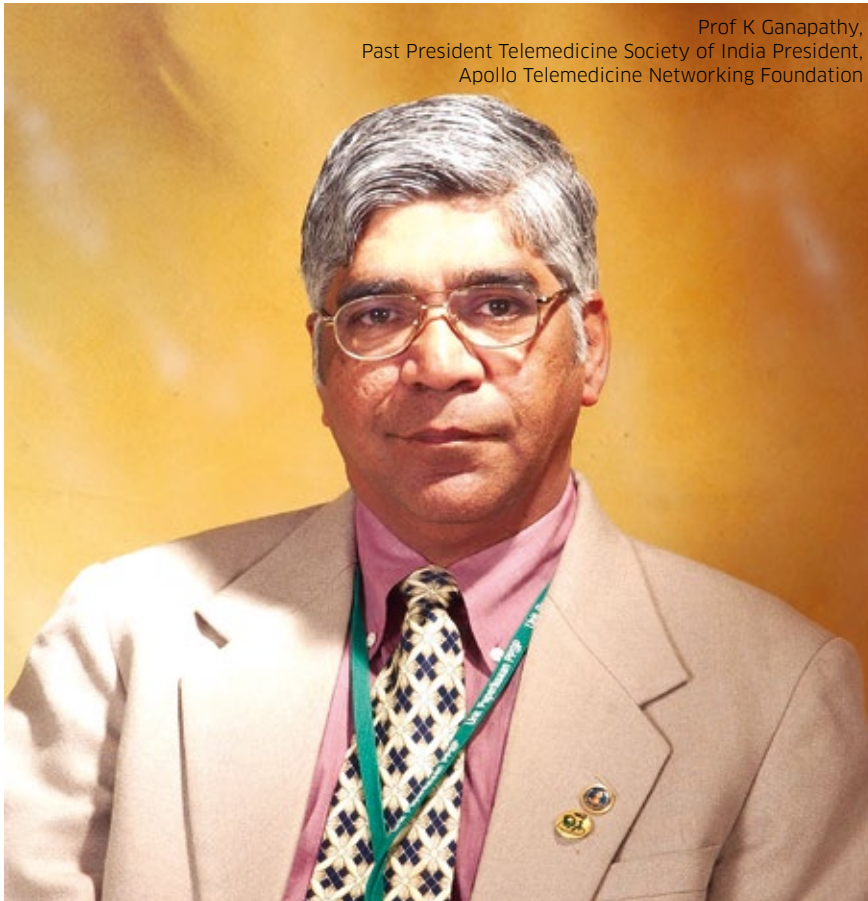
fair, which over the last 24 years has taken its toll; my first legally married wife is often relegated to No 3. Let me explain, initially I was wedded to Neurosurgery and now it is Telehealth but then without No 3, 1 and 2 would not have been possible at all. A classic example of co-existing productive polygamy! Looking back, the last two decades has been more than just exciting. Retrospectively, we were probably too far ahead of the time – after all nothing can stop an idea whose time has come. In the last 19 year Telehealth or Remote Health Care as it is more fashionably known now has come of age. We have reached that critical mass essential for a successful take over.

## When was telemedicine first used in India?

Clinical telemedicine was formally commissioned in South Asia, on March 24, 2000 by the then US President, Bill Clinton. He deployed the world's first VSAT enabled village hospital, at Aragonda, in Andhra Pradesh (birth place of DrPrathap C Reddy, Founder Chairman of the Apollo Hospitals Group). It will be difficult in April 2019 to understand the scores of issues that were faced to set it up and use the new connectivity. Over the first few years thanks to a pediatrician Dr Vilvanathan and others; several thousand teleconsults were made with Apollo Chennai and the process was fine tuned. ISRO has publicly acknowledged that this initial proof-of-concept validation played a major role in its subsequent decision to make telemedi-



Prof K Ganapathy,  
Past President Telemedicine Society of India President,  
Apollo Telemedicine Networking Foundation



In the last 19 year  
Telehealth or Remote  
Health Care as it is  
more fashionably  
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of age

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cine a major part of their activities.

The first intercontinental live multipoint telemedicine symposium took place in India on June 19, 2001 and Bill Gates was also a speaker then. Though today it looks juvenile, it was thrilling to talk to people across the globe from Chennai. I could not resist saying, "Good morning, good afternoon, good evening and good night ladies and gentlemen!" I was addressing teleconferences with Japan, USA, Saudi Arabia, Hong Kong and other countries.

Telemedicine units were set up initially in the Southern Command and subsequently in the Central Command as early as 2003 for the Indian Army. In 2004, following several discussions at IIT Madras the prototype of a telemedicine kit was indigenously developed. ATNF helped in the clinical validation of the various peripheral medical devices like stethoscope, BP monitoring, temperature probe, 12 lead ECG etc.

### **How did ATNF lead the telemedicine wave in India?**

As one of the pioneers of Telemedicine across the world, Apollo has always striven to enhance the access to quality healthcare for communities both in urban and rural geographies. It is a matter of justifiable pride that over the past two decades ATNF and ATHS along with a sister company HNG has expanded considerably. Today we facilitate 3000 plus teleconsults every day justifying our reputation as the largest and oldest multi speciality Telehealth Network in South Asia. Demonstrating leadership and championship at local, national and international levels, ATNF and ATHS have worked toward evangelising, promoting and advocating telemedicine. Our pioneering service delivery models have inspired many, many new entrants to what was once an unknown discipline. The Foundation's cost effective, appropriate need

He was the early adopter of the technology and has been instrumental in developing the field of telemedicine to enable, provide, connect and ensure quality medical care through telemedicine

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based innovative, novel methods resulted in support at the individual and community level. Barriers to implementation and adoption were identified and circumvented responding to needs of end-users. With over 300 presentations and 150 plus publications on telehealth ATNF has been a global brand ambassador for Indian telehealth. In fact, ATNF has even been cited in the European Atlas of Telemedicine History. In Addition, ATNF was the first telemedicine unit selected by the Ministry of External Affairs in 2008 to help with the implementation of the mega Pan African eNetwork.

### **How can telemedicine help the government in healthcare delivery?**

Public-private partnership in telemedicine can have a wide ranging benefit for all. Telemedicine was dubbed to revolutionise healthcare delivery. Has it lived up to the expectations?

Telemedicine in many ways has revolutionized healthcare delivery but it has not been in a way it was initially envisioned specially in advanced countries where it has been introduced less than two decades ago. It takes time to create a revolution. The exponential growth in ICT, the plummeting costs and the increasing awareness of telemedicine leaves no doubt in my mind that telemedicine will certainly revolutionise healthcare delivery in India sooner rather than later. Real growth will take place only when society realises that today, distance is meaningless and that telemedicine can bridge the gap between the haves and the have nots, so far as access to health care is concerned.

### **How do we address the fear of people who say that telemedicine has depersonalised relationship between the doctor and the patient?**

This is a state of the mind. One also has to accept the fact that if it was a choice between having one's illness cured through a remote teleconsultation versus having your hand held by an extremely sympathetic but ignorant doctor, most would prefer the former. The ideal scenario is where the urban elitist super specialist virtually wipes a tear of his rural patient. Many countries have started addressing these issues

by starting courses on ethics and humanism in conjunction with the use of hi-tech gizmos. Indian doctors all over the world excel because of their innate ability to combine professionalism with compassion. Pastoral as well as technical skills, art as well as science are required. This has to be taught in medical school now so that when telemedicine is common place this will not be forgotten.

### **What sort of telehealth models will work for different places?**

Models will have to be customised and tailor made to suit, specific requirements. A major deterrent to the adoption and growth of telehealth in India is the difficulty in optimizing a business model which will cater to all stake holders in the eco system. Most telemedicine projects in India as in other countries in the world are not self-sustaining as revenue generation is a major issue. The problem is not technology, not even lack of human resources; the problem is WiiiFM (What is in it For Me) unless there is adequate incentivisation for the healthcare provider (doctor, nursing assistant) telehealth is unlikely to take off.

### **How has the market for telemedicine changed over the years?**

In a 2012 interview with Wharton Business School I had stated that estimates suggest that the telemedicine market is at least for 800 million Indians. Even if half of these 800 million need to consult a specialist once a year, [that still amounts to] 400 million specialist consultations per year. Even if 10 per cent of these are enabled through telemedicine we are talking about 40 million consultations per year from rural India alone. The market potential for telemedicine is obviously enormous. Experts have valued the telemedicine market for Asia Pacific in 2019 as INR 63,000 crores. The very fact that there are multiple detailed market reports available predicting a CAGR of 18 per cent in the telehealth market, indicates that telemedicine will eventually reach center stage. Reducing physical footfalls and increasing virtual consults to anyone anytime anywhere may actually increase RoI. As early as 2016, Kaiser Permanente, one of the largest health



care organisations in the US announced that virtual visits had exceeded physical footfalls. Telehealth has at last come of age.

### What is the future of telemedicine in India?

I have no doubt whatsoever that telemedicine will soon be an integral part of mainstream medical practice in India. No one would have dreamt that we will have more mobile phones than land lines. The champions of telemedicine, the pioneers are a band of individuals who will not be cowed down by initial hiccups. The greatest failure of all failures is the failure to attempt. It is better to have loved and lost than not to have loved at all. Of course we have no intention of losing.

### How do you look at your journey so far?

The journey has been slow but the wait was worthwhile. India neither needs to follow nor piggy back on advanced countries. Today we

leap frog – but then how much can a frog leap! We must be ready to pole vault. Incremental changes cannot provide the solution. Radical transformation is required. Knowing that a specialist is only a mouse click away, does wonders for one's morale. Digital information is also easy to disseminate, widely available, relatively inexpensive and can level the playing field. As Walter Hugo had once remarked 'Nothing can stop an idea whose time has come'. Collaboration within the institution, developing alliances within the community, developing external partnership, identifying critical services, engaging specialists, developing shared vision, exploiting funding opportunities, exploring technological options and improving administrative processes are important. During the last few years it has been proved that a dedicated passionate group of champions can truly effect a major cultural and behavioral transformation in the community. Technology was used as a means to achieve an end. It was never an end by itself. **IVIT**

As one of the pioneers of Telemedicine across the world, Apollo has always striven to enhance the access to quality healthcare for communities both in urban and rural geographies

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# EVENTS

## SYMHEALTH 2019

**Date:** 19-20 April, 2019

**Location:** Symbiosis International (Deemed University)

**Venue Address:** Lavale, Pune

**Organizer:** Faculty of Health and Biological Sciences, SIU

**Click:** <http://symhealth.siu.edu.in>

**Contact:** Dr RajendraAwate, Head - SSODL 88888-92258

**O**n behalf of the Symbiosis International (Deemed University) SIU, a three days 'National Conference on Interdisciplinary Approach to Healthcare' is being hosted at Symbiosis International University, Lavale-Pune on April 19-20, 2019.

This annual mega event with a legacy of 19 years attracts over 1200 delegates from all verticals of healthcare such as doctors, medico legal experts, insurance & IT professionals, NGOs, hospital administrators & clinical research professionals from all over India and abroad. Officials of institutional / corporate hospitals, government officials & representatives of the health care sector also mark their attendance for this event. The event boasts of stalwart speakers, contemporary topics and provides an opportunity for professional upgradation, paper presentation, master classes, liaison and networking.

centricity, clinical site & supply management, medical imaging, data management and outsourcing in clinical trials. It will educate healthcare and clinical researcher professionals about design, operation, organizing, research computing, regulatory aspects and reporting of clinical trials. It also promotes better understanding by the general public about the importance of clinical trials in prevention, diagnosis and treatment of diseases.

## MEDICALL 2019

**Date:** July 26-28, 2019

**Organiser:** Medexpert Business Consultants Pvt.

**City:** Chennai

**Contact:** Mr.KSundararajan, 91-7305789789

**Click:** [info@medicall.in](mailto:info@medicall.in)

**M**edicall is India's largest B2B trade fair for medical devices and hospital supplies. Approx. 750 exhibitors and 15,000 trade visitors from over 20 countries, among them physicians, but also biomedical engineers, sales people, decision makers, consultants and hospital owners, are represented at this important industry event. In addition to the presentation of the best and the latest medical and medical-technical equipment, software, supplies and other devices the market has to offer the fair mainly serves as a platform to exchange knowledge and experiences among renowned industry experts. Various conferences and innovation awards in different categories complement the event.

## PHARMATECH EXPO

**Date:** April 19, 2019

**Venue:** Parade Ground, Sector-17, Opp. ISBT

**City:** Chandigarh

**Organiser:** PharmaTechnology Index

**Contact:** [expo@pharmatechnologyindex.com](mailto:expo@pharmatechnologyindex.com)

**9**<sup>th</sup> Edition of PharmaTech Expo 2019 & LabTech Expo 2019 organised by PharmaTechnology Index is an International Exhibition on Pharma Machinery, Formulations, Nutraceutical, Lab, Analytical & Packaging Equipments is being organised from 19th to 21st April 2019 at Parade Ground, Sector 17, Chandigarh. This will give opportunities to Suppliers, Manufacturers, Industrialists, Entrepreneurs, Buyers and Consultants to assemble at this common platform.

This expo is a premier event dedicated to pharmaceutical innovation, technology and knowledge. Showcasing the latest cutting-edge technologies needed to cost-effectively develop and manufacture quality products. This year focusing on Pharma manufacturing and processing technology, pharmaceutical systems and services, Pharma formulation, Nutraceutical, Food & Cosmeceuticals and Ayurveda.

## ANNUAL CLINICAL TRIALS SUMMIT

**Date:** 28 May 2019

**Organiser:** Virtue Insight

**Contact:** [www.virtueinsight.com](http://www.virtueinsight.com)

**Venue:** Kohinoor Continental, Mumbai, India

**1**<sup>st</sup> Annual Clinical Trials Summit 2019 is inspiring keynote presentations, plenary talks and panel discussions. This will discuss most recent techniques, developments, novel strategies and various disciplines involved in drug discovery, clinical research, patient

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- First ever Haploidentical Bone Marrow Transplantation was successfully done in Telangana and Andhra Pradesh
- Advanced Liver Institute: Team with experience of over 2700 Liver Transplants
- Treated world's largest number of cancer patients in India using RapidArc Radiotherapy Technology
- Achieved a record of over 20,000 successful cardiac procedures per annum
- Leaders in Robotic Surgery: Most experienced Robotic surgeons in Telangana & Andhra Pradesh
- Performed the first Robotic Renal Transplantation in the region
- First among few to introduce Intra-arterial Thrombolytic Therapy for Acute Ischemic Stroke
- Advanced Ortho Care: Busiest Center for Minimally Invasive Surgeries and High Flexion Joint Replacements
- First in India to introduce 3T Intraoperative MRI for the removal of brain tumors

## Centers of Excellence

