



# CAHO NEWSLETTER

## Special Edition



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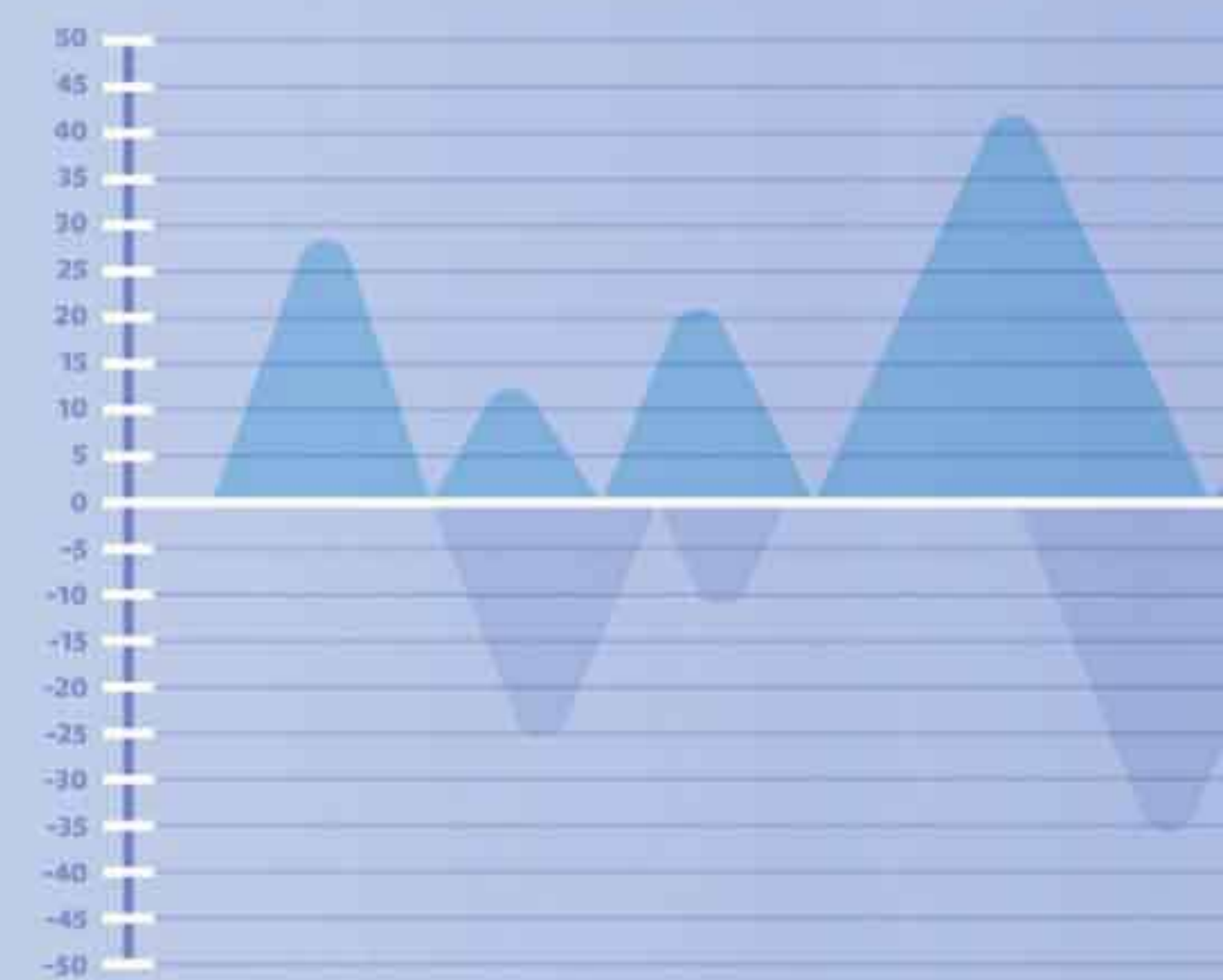
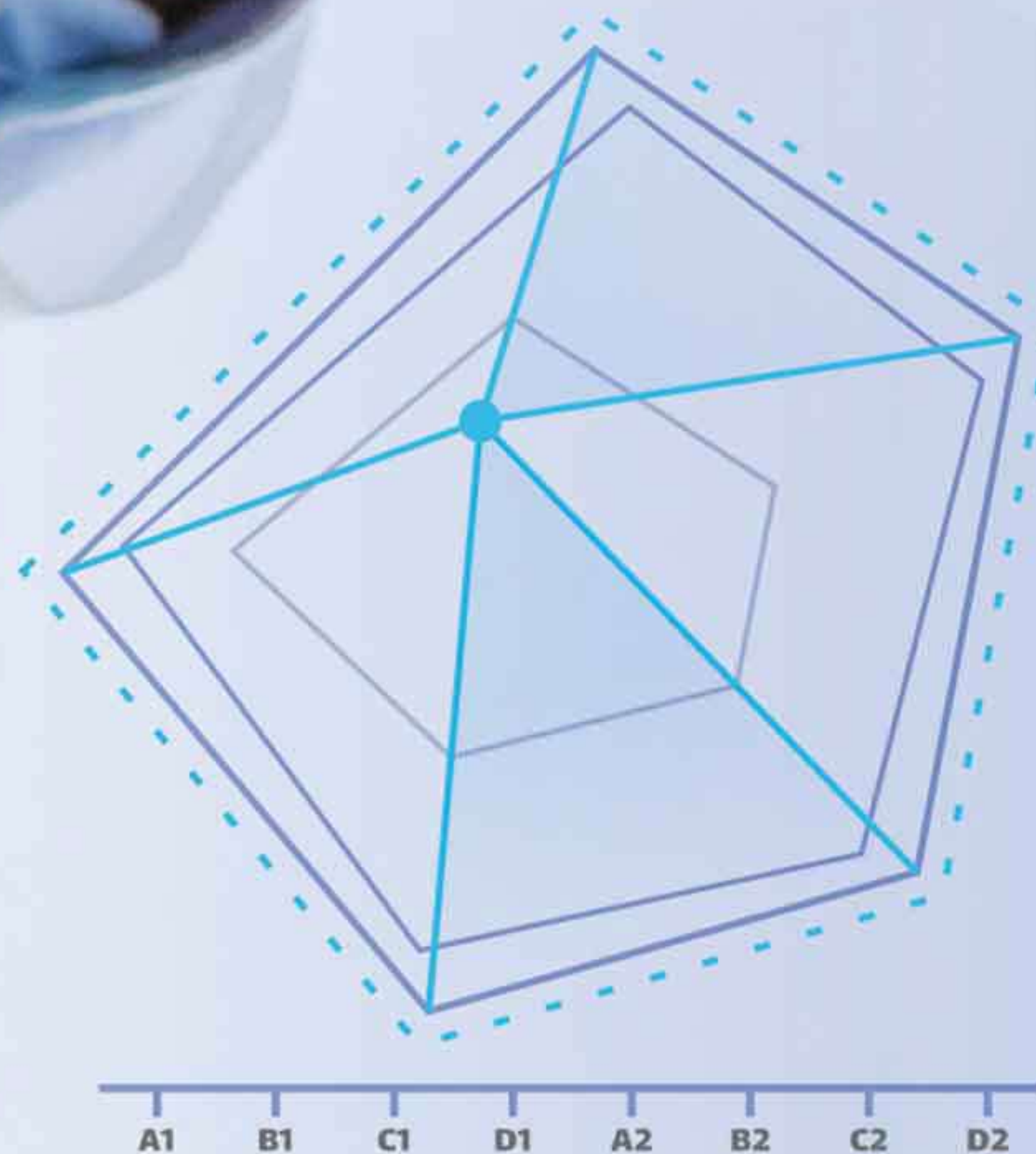
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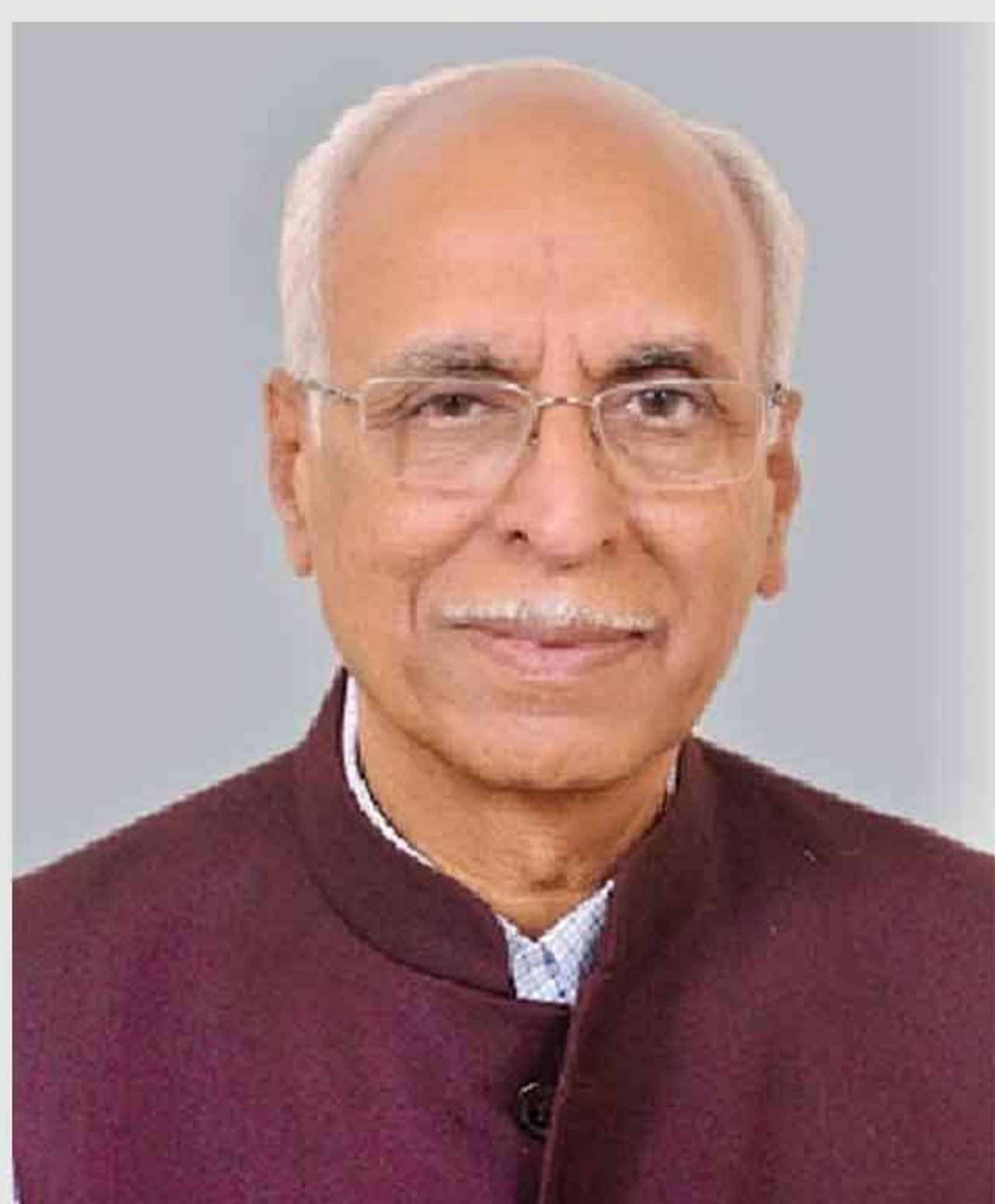


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# CAHOTECH 2019





**Dr. Vijay Agarwal**

## FROM THE PRESIDENT'S DESK

Today Technology plays an important part in our lives and healthcare is no exception. It is impacting healthcare delivery tremendously, and the healthcare professionals and care providers are finding it difficult to keep pace with it. We are in the phase of 4<sup>th</sup> industrial revolution which is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres. This phase is going to impact the healthcare most and paradoxically healthcare providers are least prepared for the same.

I'm glad that we conceptualized the idea of holding an annual event CAHOTECH to connect the healthcare providers with the latest in technology and also to showcase the innovations and early adoption of technology by the healthcare providers.

Dr. Girdhar Gyani (Patron and Founding Member), Dr. Alexander Thomas (Past President and Founding Member) and Mr. Som Mittal (Past President NASSCOM) have helped in nurturing this concept. CAHOTECH was conducted at Hyderabad as an one-day event and then at Bangalore under the leadership of Dr. Nagendraswamy S C and Dr. Narendranath V to bring the technology partners and healthcare industry to a common platform. This has now grown in size to a two - day event.

Over the last three years, it has become a must - attend platform for healthcare providers to learn about the recent advances and also to make them ready for futuristic trends in the field of technology. This platform also develops a healthy and positive relationship between technology developers, innovators and stakeholders in healthcare delivery. It also looks at solutions to make modern healthcare accessible, available and affordable to all.

CAHOTECH 2019 was truly international, bringing in global perspective. The major highlight of the event was the Pitch Fest where startups presented their work to senior healthcare professionals, investors, incubators and venture capitalists. The Best eight startups were given opportunity to present to all at the main conference. All the startups were assessed for funding, incubation and beta-testing in hospitals.

My experience of this conference was immense. I personally came to know of many extraordinary professionals and visionaries who have definitely enriched my life. Design workshop by Mr Arun Jain was highly appreciated.

Kudos to the Chennai team under the dynamic leadership of Mr. Sameer Mehta and Mr. J Adel who made all this happen. We are very thankful to IIT Madras and the team of investors and incubators, the Governing Committee members and healthcare leaders for making CAHOTECH 2019 a path-breaking event of the year.

We are looking forward to your feedback as a first step to start preparing for next year, CAHOTECH 2020.....!!





**Dr. Lallu Joseph**  
Quality Manager, CMC Vellore

## TECHNOLOGY: AN ENABLER OF HEALTHCARE QUALITY

Institute of Medicine (IOM), defines quality as “The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”. AHRQ the Agency for Healthcare Research and Quality adopted to the definition of Quality by IOM in 2012.

According to Institute of Medicine, the six attributes of clinical quality are safety, timeliness, effectiveness, efficiency, equity and patient centeredness, abbreviated as STEEP.



If interventions can help and improve these six attributes, they can positively influence clinical quality and technology can play a major role in impacting these six attributes.

Tools like “Smart pumps” have created enhanced safety of IV medication administration, with proven ability to avert infusion errors. They perform a “test of reasonableness” to check that the administration is within the pre-established limits and alerts the healthcare providers of any deviations. Ferro Magnetic Detection System (FMDS) provides a way to eliminate the chances of MRI projectile incident through Ferro Magnetic Detection System before they enter a MRI room, reducing the potential human error during manual screening. These technology adaptations and many others like Clinical Decision Support Systems (CDSS), Closed Loop Medication Management (CLMM) are enhancing patient safety in the healthcare delivery system.



Interventions of technologies have accelerated many processes in the service industries which have directly improved the quality of services through reduced waiting time and harmful delays. Technology have automated laboratory management and reduced time delays in diagnostics and have played a major role in timely intervention. Systems like trackers, RFID and work flow software have streamlined processes, reducing service time and enhancing timely delivery of quality care in hospitals.

Evidence based medication is a medical approach intended to enhance decision making through well designed research. Decision Support System (DSS) or clinical decision support system is a software application which can monitor and compare data and assist physicians to make right decisions that can directly improve patient care.

Quality healthcare delivery includes reducing waste, which can be from under-utilized resources like equipment, supplies, ideas, and energy. To tackle and reduce wastage, many technologies and tools have been developed and put in use. These efficient systems can monitor all the resources, and can minimize the wastage, reduce the cost and thereby improve efficiency.

Equitable access to Quality healthcare is broken down because of technological interventions in healthcare. Earlier personal characteristics like Gender, Ethnicity, Geography, Socioeconomic status were major barriers in delivering quality and affordable healthcare for preventive, curative and palliative care. Innovative technologies like Telemedicine, Remote Patient Monitoring (RPM), Tele ICU, wearables, home dialysis have benefited and privileged in formulating policies respecting ethical principles and local values. Thus technological interventions have almost eliminated all the inequitable barriers of the past.

Providing quality care should respect and respond to individual preference, needs and values of the patient. These values can also guide the physician in clinical decision making. For an effective patient centered care it is essential that the health care professionals have a comprehensive view of a patient's medical condition. Technology tools like Enterprise Content Management (ECM), Enterprise Imaging Solution, Personal Health Records (PHR) have revolutionized patient centered care.

Technology is transforming healthcare delivery. Its capacity and flexibility is a useful resource in point of care, patient education, self-management of conditions and in remote monitoring, leading to better patient outcomes and better clinical quality.





**Mr. Sameer Mehta**

Vice Chairman & Director,  
Dr. Mehta's Hospitals, Chennai

## FROM THE ORGANIZING CHAIRMAN'S DESK

CAHOTECH 2019 was a unique event with many varied experiments in the spirit of entrepreneurship, technology and healthcare. We tried different things, many of them worked, some of them we have roomed to improve on next year's attempt.

First of all I would like to thank our CAHO's Governing council for having the faith in trusting Chennai to deliver such a key stone event in the CAHO Calendar, as well as the wonderful team that we brought together to lead and showcase what a wonderful opportunity there is for Health and Technology to find its marriage in Chennai.

Many firsts .....we tried a Pitch fest, special round table for Investors and Incubators in health, an exhibition which had its own immersion experience, we had wonderful international and national speakers of significant repute for CAHO families both within and beyond. This was an event that truly was memorable to many of us, in the quality of its content, some of the new learning's we had and perhaps some of the insights and outcomes that we learnt that we could implement tomorrow. If CAHO gave you even one idea that you could implement, you could try or you could look at in a very different way in your health system to improve the quality of your life, we believe we have achieved what we have set out to do!

The session with Arun Jain was spell binding for many of us sitting in the audience but more importantly we also managed to lead an event that had quite a few surprises from visits of Ministers and CEO's of large Institutions, all the way to having an event , that potentially didn't have a venue booking confirmation until the day before the event. So to a remarkable team from Centre, from state and from all beyond, Thank you.....!!!! For our many sponsors, partners and supporters, we really do want to thank you for the faith and trust in us and help us make the event happen.....!!!!

It was a wonderful experience, this is our CAHO family, that is growing and we would love it to grow further as CAHOTECH 2020 returns to Chennai. We would really like you to think hard on how you could help make CAHOTECH - 2020 an even better event and step forward to be a CAHO leader of tomorrow!

CAHOTECH 2020 will happen in Chennai on the 25th and 26th of September, at IITM Research Park again. More importantly, we will recognize and exhibit, newer innovative Implementable Technologies, that can make healthcare much more safe, affordable, accessible and quality centric.....Thank You !





**Mr. J Adel**

General Manager – Operations  
Meenakshi Mission Hospital &  
Research Centre, Madurai

## FROM THE ORGANIZING SECRETARY'S DESK

The 4<sup>th</sup> edition of CAHO's International Healthcare Technology Event, CAHOTECH 2019 was held on 27th and 28th September 2019 at the newly constructed Indian Institute Of Technology Madras Research Park, Chennai. CAHOTECH has grown over the years and thanks to my predecessors who created a wonderful platform for the annual event. CAHOTECH stands out from the other technology events in the country.

The event was conceptualized such that, it brought Startups, Healthcare Providers, Investors, Incubators and Accelerators from across the world on one platform. The event focused on encouraging new ideas and finding solutions to existing healthcare problems with the help of advanced technologies.

Preconference workshops were organized in five hospitals across Chennai. The workshops had interactive sessions by renowned speakers, interesting group activities and brainstorming discussions. Healthcare professionals and policy makers from varied domains had come together over dinner to discuss the need for encouraging newer technology.

CAHOTECH 2019 also hosted the Pitchfest for the startups, an exclusive platform for startups to showcase their ideas, which were evaluated by our honorary panel of Jury members. Some of these startups were awarded for their ideas, some have been handheld by hospitals for implementation and some being mentored by industry experts. CAHOTECH 2019, not just encouraged startups but also ensured that the innovators of the healthcare industry were recognized too. The first 'Hospital Innovation Awards' were given away to hospitals who went an extra mile to explore and innovate sustainable solutions to their healthcare problems.

We had 'Caho Talks', an interactive and fun-filled platform where our speakers and guests shared their experience about CAHOTECH.

CAHOTECH 2019 also was special with the fact that several knowledgeable and industry veterans had to fly down to Chennai to speak and discuss on the latest trends in technology across the globe. Some reputed speakers included Mr. Lakshmi Narayan, Mr. Josh Foulger, Mr. Ravindran, Dr. Yoon-Kyoung Cho, Dr. Vishal Rao, Dr. Arulraj, Mr. Hooshmand Palany, Mr. Ranga Shetty, Dr. Giridhar Gyani, Dr. Alexander Thomas, Dr. Vijay Agarwal and many more.

We were honored by the presence of Shri. Sanjay Samrao, Minister of State of Human Resource Development, Govt of India, who was impressed with the event and encouraged us to promote the need for embracing new technology. Our special guests also included Shri. Santosh Misra IAS, Shri. Santhosh Babu IAS, and Dr. Gagandeep Kang.

The Immersion experience by startups was 'the icing on the cake' with several startups and volunteers working together, spearheaded by Mr. Manick, providing an awesome experience for the guests. The 'Pavilion of the Future', was an added feature, which gave a sneak peek into the future of the Healthcare Industry.

I, personally, thank all partners and sponsors, who were more than there to support and help us build such an extraordinary event. It takes a special appreciation to the Organising Committee, who spent their time and effort to ensure they deliver a world-class event. I take pride in being part of such a great team and CAHOTECH 2019.

Thanks to Dr. Vijay Agarwal and Dr. Lallu Joseph for extending CAHOTECH in Chennai for another year. We look forward to meet you all again in CAHOTECH 2020 at Chennai very soon!



# DAY 1 PRE CONFERENCE WORKSHOPS



## POINT OF CARE TECHNOLOGY (Apollo Speciality Hospitals, Vanagaram)

Decision making processes for patients based on diagnostic testing - either laboratory or radiology - is an important component of primary care. Over the last decade, the availability and range of Point-of care technology (POCT) devices has grown to encompass not only glucose monitoring but a large number of tests covering infectious disease, haemostasis and cardiac tests, with focus on providing quick and adequate information to the user towards the management of acute as well as chronic diseases.

The potential impact of POCT continues to grow, and the pre-conference workshop highlighted the importance and types of the Point-of-Care Technology available, their utilization, quality assurance and management of devices available in India, as well as providing insight on how to ensure connectivity of these devices and clinical decision making based on results in different scenarios.

A total of 35 delegates across different specializations like Biomedical engineers, Quality managers from labs & hospitals, Radiologist, Owners and CEO's of companies, Software developers, Microbiologists, Lab technologists and management students participated in the workshop.

The key speakers shared their experience of using point of care devices in day-to-day practice. The morning session focused on available laboratory and radiology tools. Some of the newer devices were circulated for the participants' perusal. 3 sessions were conducted on clinical utilisation with case study examples. Demonstration of Glucose and Hypertensive continuous monitoring with examples were well received by the group. Regulatory issues were covered by the Former Director of NABL, Mr. Anil Relia. 2 sessions were on connectivity of devices which sparked lots of discussion. Clinical decision-making tools using online systems were also presented by Wolters Kluwer. Overall, the feedback from the participants suggested that they had enjoyed the day and had good messages to take home.





# PRE CONFERENCE WORKSHOPS

## IT ENABLED CLINICAL GOVERNANCE (*Kauvery Hospital, Alwarpet*)

Clinical Governance emerged at Kauvery Hospital in the year 2017 with a futuristic approach to monitor and improve the patient care provided in the hospitals with highest quality, and to provide absolute delight to the patients. This was made possible through IT enabled monitoring systems with the creative environment for excellence in Clinical Care. To share the benefits, opportunities, best practices and challenges in setting up Clinical Governance, a Pre-conference workshop was conducted on 27th September 2019.

Dr. Girdhar J. Gyani, Director General - AHPI, inaugurated the session, emphasizing Clinical Governance to be the need of the hour, followed by an overview on the theme of the workshop by Dr. Manivannan, Managing Director, Kauvery Group of Hospitals.

The workshop included sessions by eminent speakers:

- Need of the Hour by Ms. Thankam Gomez, President - ANEI
- COE Building & Role of Clinical Governance by Dr S Ramesh Babu, Director-Medical Sciences, SRM Medical College Hospital, Trichy
- Artificial Intelligence - Early detection of sepsis and Prediction of septic shock by Dr Sridhar, HOD - Critical Care Units
- CMIS driven continuous quality improvement Business & Clinical perspectives by Dr Mahesh, Medical Administrator, Kauvery Hospital.



The workshop also included brain storming sessions and a group activity led by Dr. Suresh Venkita, Group Medical Director, Kauvery Hospital, on the Clinical Governance parameter monitoring in Agile HMS, a software used at the hospital. The activity taught the participants about Clinical Triggers and how the reports were generated, consolidated, analyzed and continuously monitored.

Around 52 delegates participated in the workshop from different parts of the country. The objective of the conference was fulfilled and the delegates provided excellent feedback. Interactive lectures, discussions, and the group activity helped the delegates acquire in-depth knowledge and better understanding on how information technology can be utilized as a platform for governing the entire clinical forum in a Hospital.



# PRE CONFERENCE WORKSHOPS

## CYBER SECURITY IN HOSPITALS

*(Dr. Mehta's Hospitals, Chetpet)*

As the health sector becomes more digital, increasingly leveraging technology, cyber security has become the need of the hour. As the threat to technology only grows with time, it is prudent to equip oneself with all possible mitigation strategies, and as they say, 'prevention is better than cure' applies very well for cyber security domain.

A workshop on 'Cyber Security in Hospitals' was conducted by Innovatio Curis in

collaboration with CAHO at Dr. Mehta's Hospital. It was attended by 30 delegates from various hospitals across Chennai including Clinicians, Hospital owners, Administrators and Hospital IT professionals interested to learn the basics of cyber security in healthcare vertical. The inauguration was graced by the presence of CAHO representatives-Mr.Nishant Jaiswal and Ms. Devasri Chatterjee along with the Faculty members - Lt. Col Satyendra Verma & Mr. Dhruv Singh and Hospital representatives.



The delegates were trained to:

- Identify the key components of cyber security, to describe the different classes of attacks and the risk management processes and practices.
- Understand the security breaches plaguing the health industry with respect to data and information stored on the servers and cloud-based applications used in the healthcare domain.
- Identify vulnerable areas to protect information and data from potential hackers on the web.
- Identify critical data by department, and devise necessary protection protocols and techniques.
- Provide restrict access to unknown data, email, and devices including medical device within the network.
- Isolate any 'Outside' visitor's system access through the hospital's network, and treat the same as stand-alone system.
- Restrict data access based on user role to avoid security breach.
- Ensure security patches update - of both hardware and software.

The workshop engaged the delegates with group tasks, interactive sessions and discussions on developing strategies to address cyber-attacks, and scenarios for hospitals dealing with endpoint data security and medical device security. There were learning points from each hospital's experiences and the workshop concluded successfully with positive feedback from the delegates. The delegates were encouraged to implement cyber security measures in their respective hospitals and share the results after six months at a CAHO platform.



# PRE CONFERENCE WORKSHOPS

## USE OF TECHNOLOGY IN OPERATIONS & FACILITY ENGINEERING (Vijaya Hospital, Vadapalani)

Healthcare facilities are complex eco systems with multiple challenges and stakeholder interests. Healthcare Industry has come a long way in terms of how healthcare facilities evolve and collaborate with emerging technologies over the years to offer Quality & Safe care to patients. With great emphasis on patient outcomes, the delivery model has shifted to a more patient-centric model of care. With the advent of the digital revolution, there is a need to understand how these transformations will impact delivery of patient care, as Smart Hospitals and Green Hospitals concepts are constantly evolving.



This Pre-conference workshop highlighted how engineering marvels are sweeping Healthcare Industry in the recent years, and the outcomes of huge investments into tech driven environment and sustainable Business Models impacting functioning of the Hospitals. An astounding number of 200 delegates from all over India participated in this workshop!

The workshop was inaugurated by Dr. Lallu Joseph, Quality Manager, CMC Vellore and CAHO Secretary General, Smt. B. Bharathi Reddy, Managing Trustee & CEO of Vijaya Group of Hospitals and Dr. Babu N, Medical Superintendent, Vijaya Hospitals, Chennai. The sessions moderated by Industry experts were highly interactive. The key speakers drove home the importance of the roles essayed by maintenance and IT teams in a Healthcare set up. Live examples and case studies were discussed.



The Quality of topics, Speakers, Venue and Hospitality were much appreciated by delegates. This Workshop was organized by CAHO TN representatives - Siva Balan G and Mrs. Rama Venugopal, Director, Value added Corp services, Chennai.



# PRE CONFERENCE WORKSHOPS

## STRATEGIC PLANNING OF IT INFRASTRUCTURE FOR SMALL HOSPITALS (SIMS Hospital, Vadapalani)

Strategic planning is an organization's process of defining its strategic direction and making decisions about how it will allocate its resources to meet its stated goals and objectives. Every organization, regardless of type or size, should have a strategic plan in place.

A pre-conference workshop focusing mainly on IT infrastructure of smaller hospitals was organized to :

- Raise awareness about the importance of strategic planning and the need to incorporate technology into the strategic plan, and regularly update and adapt this plan.
- Provide an overview and guidance to incorporate technology into their plans.
- Provide detailed guidance, tools, recommendations and resources to help an organization's IT leadership to conduct strategic and operational IT planning.

The following topics were covered - Strategic IT Planning, Linking technology with strategic plan, Understanding the existing IT infrastructure, Implications of choosing the right Technology, Basic Networking Concepts for a hospital, Access controls and virtualization along with the latest trends in software and Data Security.

The workshop was attended by 55 delegates at SIMS Hospital, Chennai. The faculty were - Mr. Arjun Bhaskaran (Country representative - India & Middle east GamaSec Ltd.), Prof. Subrahmanya S V (Governing Board Member-IIT Jabalpur, Ex-VC Infosys software architecture) Mr. Parthibhan (Manager IT SIMS hospital), Mr. G.S.Sriram (AGM – IT SIMS Hospital), Prof. Presanna Devi - HOD - C.Sc. Eng., SRM Vadapalani).





# PITCHFEST

Pitch Fest was a platform for Start-ups to showcase their ideas to an audience comprising of Healthcare leaders, Technology experts, CXO level Executives, doctors, healthcare professionals and Angel investors. An opportunity to connect and interact with key healthcare professionals especially to receive critical feedback and insights regarding their initiative/ innovation and also an opportunity to get connected with hospitals to deploy their innovation or pilot test to validate their product.



It was a unique event as it brought under one roof the three main stakeholders in development of medical technology - the startup company with the idea or product, the hospital administrators and doctors in the Healthcare industry where the technology is deployed and used, and the Angel investors who would be funding the technology and helping it grow.

We received positive feedback to the idea soon after it was conceived, with various groups getting on board as partners for the event. These included Incubation centers (like IITM, TiE), Investors (like Chennai, Mumbai & Hyderabad Angels), Hospitals (Vijaya, Meenakshi Mission, Mehta etc) and varied sponsors.

There was an overwhelming response with applications from over a 150 Startups eager to take part in the PitchFest. Our selection panel had a difficult time narrowing it down to 35 startups who would present at the event. An effort was made to provide adequate representation across the various technologies - medical software and applications, Wearables, point of Care devices, data and analytical platforms - keeping in mind not only their innovativeness but also the cost and usefulness to patient care and safety.

On the day of the Pitch Fest we had a full house with all the selected Start-Ups turning up to present in front of a packed audience of health care professionals, administrators, technology experts and investors who also acted as the jury.





# PITCHFEST

At the end of a long , fruitful day and interesting interaction, 5 Startups were chosen to present their technology to a larger audience at the conference the next day. These were

- 1) Evelabs Technologies Pvt Ltd - with a wireless, real-time infusion monitor for setting monitoring and managing gravity drips in hospitals.
- 2) Grasp Bionics - with an innovative, cost effective prosthetic arm for upper limb amputees
- 3) Pacify Medical Technologies Private Limited - with a spray on wound device for rapid healing
- 4) National Hub for Healthcare Instrumentation Development (NHHID) - with a Fluorescence Based Antibiotic Susceptibility Testing /Antibiogram Device
- 5) Startoon Labs Pvt. Ltd.- with a wearable device to assess the recovery of physiotherapy patients

We received enthusiastic feedback from all the participants who said there were multiple taken home benefits from the event.



A majority said it provided them with an opportunity to connect and interact with key healthcare professionals and administrators and receive critical feedback and insights regarding their innovation. Many could also use this opportunity to network and get connected with hospitals to deploy their innovation or run pilot tests to validate their product.

Others said how the PitchFest improved their presentation skills and awareness of the financial aspects of their business. The interaction with the Angel investors gave them a clearer idea of what was needed to make the product financially viable and take it to the next level. The hospitals and healthcare professionals too got a snapshot on the current and future technology and how they could put it to use in their institutions.

Overall, the event was a grand success with requests that it should become a routine feature at future CAHOTECHs. The uniform opinion was that such interactions and exchange of ideas would make healthcare more streamlined and efficient, enhance patient safety, and contribute to better patient experience.



# DINNER MEETING

*with Healthcare and Technology Leaders, Investors & Diplomats*



**Dr. VIJAY AGARWAL,**  
*President, CAHO*



**Dr. GIRDHAR J GYANI,**  
*Director General, AHPI*



**Dr. LALLU JOSEPH**  
*Secretary General, CAHO*



**Mr. SAMEER MEHTA**  
*Vice President, CAHO*



**Dr. S Prakash**  
*MD, Star Health & Allied  
Insurance Co. Ltd.*





# DAY 2 INAUGURAL CEREMONY

## CHIEF GUEST

**Dr. Santosh K Misra, IAS**

*(Commissioner, Tamil Nadu E-Governance  
Agency, Govt. of Tamil Nadu)*

## GUEST OF HONOUR

**Dr. Girdhar J Gyani**

*(Director, General, AHPI)*



Mr. Sameer Mehta, Mrs. B Bharathi Reddy, Dr. Lallu Joseph,  
Dr. Vijay Agarwal, Dr. Santosh K Misra, Dr. Girdhar J Gyani, Mr. J Adel



# INAUGURAL CEREMONY



Release of handbook "Empowering Nurses - To Inspire, Innovate Influence"



Felicitation of Chief Guest,  
Dr. Santosh K Misra



Felicitation of Guest of Honour,  
Dr. Girdhar J Gyani



# SESSION # 1

## ARTIFICIAL INTELLIGENCE

The First Session of CAHOTECH 2019 started with the introduction by Mr. Som Mittal, Former President & Chairman - NASSCOM. The speakers for the session were introduced by Mrs. B. Bharathi Reddy - Managing Trustee & CEO of Vijaya Medical & Educational Trust, Chennai.



**Mr. Som Mittal**

Former President & Chairman, NASSCOM



**Mrs. Bharathi B Reddy**

Managing Trustee & CEO, Vijaya Medical & Educational Trust, Chennai

Mr. Som Mittal began the session by quoting an article which had stated China as the country leading in 'Artificial Intelligence'. The reason China was leading, he stated, was because of the huge population and the connectivity of information related to their people. He also suggested that this is the right time for our country (India) to look at our internal data and work towards 'Artificial Intelligence'. Proliferation of data is the basis for artificial intelligence; he stated that 90% of the data available today was generated in the last two years. Use of data / artificial intelligence in healthcare domain will reduce the error rates, algorithms will get better and storage of information will work out cheaper.

Research institutes in developed countries have been generating a lot of data which have helped in working towards artificial intelligence programs, there seems to be a need to strengthen on the same in developing countries.

The bigger question these days is, when customers are now well connected and closer to the service provider, how are we as institutes achieving in fulfilling their needs with help of AI? The main challenge will be to understand the profile of the customer and then look at offering services to them. While we apply AI, we should be doing a testing method; proper validation should be applied before we get the product rolling.

The sessions highlighted the role which AI plays in the clinical perspective. Dr. Ravindran and Mr. Shetty stressed on the roles of data sharing by healthcare institutions with technology companies to help in artificial intelligence projects.

One of the highlights was about artificial intelligence working out only with data collection and sharing of the same across systems. The artificial intelligence program in a setup will work out well only if training for the use of such information is penetrated across the institution.



# SESSION # 1

While plethora of information lies with Government hospitals, it will increasingly become important to connect with public sectors to tap such vital information. Mr. Som Mittal opined that the central government, once rolls out artificial intelligence, the first industry to target would be the healthcare. And connecting AI with government set-up would be an area to explore in terms of how we move forward with data collection. Along with data sharing, comes data privacy to be taken care. Mr. Nishant spoke about the use of AI in real time monitoring of the discharge process at Nanavati Hospital, Mumbai. The fact that real-time data was available to streamline the discharge process had helped in better patient experience for their institute. Dr. Ravindran spoke about the use of AI in diagnosis of Diabetic Retinopathy. They had collaborated with Google and were successful in diagnosing the retinopathy in patients.

Some of the private institutions in our country also find it difficult to implement technology due to resistance from the existing manpower. The essential point to consider should be to make technology as simple as possible for the user. Mr. Nishant also sounded positive in terms of the developments in the healthcare sector with regards to the use of technology and software. He insisted that the platform should be uniform across the country for easy implementation. It is important to have a number of recognized incubator centres in our country to encourage entrepreneurs to develop platforms and products which help in the development and research of technology specific to healthcare.

The session ended with the closing note insisting on the partnering of technology with healthcare institutions to serve the patients better.



**Mr. Ranga Shetty**

Mentor, Healthcare Technology Startups, Bangalore



**Dr. Ravindran Padmanabhan**

CTO , Innoware Healthcare Pvt. Ltd Chennai



**Mr. Nishant Jaiswal**

GM -Operations, Nanavati Superspeciality Hospital, Mumbai





# SESSION # 2

## HEALTHCARE & TECHNOLOGY – MEET THE LEGENDS OF TECHNOLOGY

The second session Healthcare and Technology was chaired by Dr. Vijay Agarwal, President, CAHO. He gave his opening remarks and mentioned that today, the hospitals are talking to each other and they have broken the boundaries. The healthcare has changed its vision towards the technology. This indeed has benefitted to all in the hospital set up.

Mr. Sameer Mehta gave a brief introduction about the speakers - Mr. Lakshmi Narayan, Mr. Josh, Mr. Ravindran and Mr. Sanjay. He also informed that India is a great country in terms of benefit to self and patients and that, India is best in its way for technology, analytics and ecosystem.



**Mr. Lakshmi Narayan**  
CEO,  
Cognizant Technology Solutions



**Mr. Josh Foulger**  
Country Head & MD  
Foxconn International Holding

The first speaker was Mr. Lakshmi Narayan, CEO, Cognizant technology. The focus of the talk was on "Data". Data is something we all collect on a daily basis and Data is all about collecting, analysing, and putting it in place. To be precise, it is the technology importing in human life. The technology has moved from medical implants to deep brain stimulators, neurobionics and artificial intelligence. Information system has helped in better patient and hospital experience. Artificial Intelligence and robotic technology have made the life easier in the hospital. To conclude, touch and feel is a very important factor. With haptics system, human being will adapt and get used to technological trends.

The second speaker was Mr. Josh Foulger, Head, Foxconn. He mentioned that India is known as software country. By the next 36 months, our country will be built around cloud, artificial intelligence and scale implementation of 5G. He also spoke on how technology will be made easily affordable to all. Electronic manufacturing in our country will rise to 1 trillion by next 10 years. He concluded stating that, technology is the way forward in hospitality sector.



# SESSION # 2



**Mr. Ravindran B**

Prof. C.Sc and Engineering & Head Robert Bosch Centre for Data Science & AI, IIT Madras



**Mr. Sanjay Samrao Dhotre**

Minister of State of Human Resource Development

The third speaker was Mr. Ravindran B, Professor, IIT- Madras. He started his talk with the birth of Artificial Intelligence in 1950 and replicating human behaviour was the target. Mentioned about solving problems using logic and reasoning and the use of encoded knowledge of prior information. Today the machines can think, learn and talk. When comparing the errors, human error was 5% and machine led error 3.6%. Mr. Ravindran also focused on data. He said building new products require data. There were various examples which described the technology versus human analysis. He also emphasized, we need to analyze the reliability of technology. In future, we need to focus on structure, process model. To conclude, every individual should have a sense of responsibility and knowledge on regulatory area.

The fourth speaker Mr. Sanjay Samrao said, with development of technology, lot more new concepts came in - Medical engineering, electronics, Information Technology. All the work in hospital has become easier due to introduction of technology. Earlier we were thinking, all these facilities will be available only outside our country. But today, technology has brought health at its doorstep. To conclude, every hospital in our country uses one or the other form of technology. Thus technology has made our life easier.

Mr. Sameer Mehta and Dr. Vijay Agarwal thanked all the speakers and informed that we need to focus on the opportunities of information technology.



Mr. Sameer Mehta, Mr. Ashok Jhunjunwala, Mr. Sanjay Samrao Dhotre, Mr. Josh Foulger, Dr. Vijay Agarwal, Mr. Lakshmi Narayan, Mr. Ravindran B.



# SESSION # 3

## POINT OF CARE TECHNOLOGY

Dr. Alexander Thomas chaired the session on Point of Care Technology. He gave a short introduction about the session and invited the speakers for their presentation.



**Dr. Raj Kumar V Patil**

Director Medical Services, Bombay Hospital Mumbai

**Dr. Alexander Thomas**

President, AHPI



**Dr. Yoon-Kyoung Cho**

Group Leader, Centre for Soft & Living Matter, UNIST Korea

The first speaker Dr. Yoon Kyong Cho, Group Leader, Centre for Soft and Living Matter, UNIST, Korea presented “Lab on a Chip”. It was an interesting talk and Dr. Yoon emphasised the need for personalized medicine and how drugs especially those meant for cancer must be given for the right patient at the right time in the right amount. CTC device (CTC-Circulating Tumour Cells) may be used to detect the number of tumour cells and mutations in the blood sample. This can be done easily using technology and based on the results, the drug dose or choice of treatment may be altered by the doctor. Drug responses can also be detected using this device. Dr. Yoon explained the concept of liquid biopsy by which blood sample may be used to detect cancer cells using this technology.

Another device was the Electricity free UTI detection fidget spinner which is a pocket sized low cost hand powered centrifuge for point of care diagnostics of infectious diseases. Isolation of bacteria from urine sample can be done using this device with utmost ease and at low cost.



## SESSION # 3



**Dr. R. Sivakumar**

Senior Consultant, Dept of Cardiology,  
MMHRC, Madurai

The next speaker was Dr. R. Sivakumar, who spoke on OCT – Light based Imaging System used as a technological advancement in the field of Interventional Cardiology. He illustrated how OCT guided angioplasty helps the clinician by reducing time in the Cathlab and improves visibility, thereby improving efficiency of the procedure. The technology also helps to identify the different types of pathology of plaque, fibrous, calcium or lipids with greater accuracy than the traditional angiogram.

An interesting question and answer session followed with the discussion regarding if this technology could be replicated and was cost effective. The field study for the CTC device was done at Kauvery Hospital and according to Dr. Yoon could be replicated elsewhere. Dr. Sivakumar and Dr. Alexander stressed on the need for precise technology over cost effectiveness and added that volumes can make up for increased costs for any technology.



Dr. CM Bhagat, Dr. R Sivakumar, Dr. Yoon-Kyoung Cho, Dr. Rajkumar V Patil, Dr. Alexander Thomas



# SESSION # 4

## DIGITAL HEALTH

Prof. Dr. S. Arulraj, President Elect, Association of Physicians of India (API), chaired the session on Digital Health. He started off by thanking Dr Vijay Agarwal and Mr Adel for bringing science and technology together, a great step in healthcare. He felt that so many issues beleaguer the healthcare fraternity, amongst others, a few being - how to reach patients 24x7, agenda of linking the care provider and patient digitally. He

mentioned about the initiation of technology in healthcare seventy years ago, which started off with communication using sensors, use in therapeutics and now artificial intelligence aids in the diagnose of a disease even before the disease manifests itself. He spoke about the linking cardiac, bionic pancreas, addition of digital health ventricular fibrillation using self-operating drones which can be used by the care giver to treat patients at a remote location.



### **Dr. Hooshmand Palany**

Chairman, Healthcare Working Group,  
ASEAN Business Advisory Council, Malaysia

The first session on Digital Health – The ASEAN Perspective – was presented by Dr. Hooshmand Palany, Chairman Healthcare Working, ASEAN Business Advisory Council, Malaysia. ASEAN is a group of 10 countries wherein he proposed an invitation to India to expand in ASEAN with regards to the innovations, technology and digital health. He spoke about the multi-ethnic, multi-racial, multi-lingual and multi-religious aspect of the healthcare delivery in the ASEAN 10 where the innovations and digital healthcare which can be used in medicine have to be customised to treat the individual based on the given diversity. He mentioned that ASEAN has some National Key Economic Areas (NKEA) – Healthcare and Communication - which are the 2 key drivers of economic activity that has the potential to directly contribute to a quantifiable amount of economic growth. ASEAN has policies in digital healthcare which can be tapped to develop innovations which can boost economic growth. ASEAN has 4 important health policy clusters under which one can sell, invest and research innovations can be developed -

Promoting Healthy Lifestyle, responding to all hazards & emerging threats, strengthening health system & access to care and ensuring food safety. He stressed the need for “Balancing Act in Healthcare Planning” between Cost, Quality and Access. ASEAN has its challenges in the form of Lifestyle non communicable diseases and rising middle class. Healthcare analytics (AI) and Value-based healthcare shall be welcome, if it can change and improve the healthcare in ASEAN. He spoke about the areas which need healthcare innovations and research in ASEAN – Cloud and mobile enabled, internet of things, artificial intelligence, RFID, facial and voice recognition, virtual reality, core function and telemedicine – which can help the region to develop. He drove home the message that presence of India in ASEAN economy is long awaited and collaborations are welcome with ASEAN universities, Ministry Of Health and the Healthcare working council.



# SESSION # 4



## Dr. Girish C.M

Asst. Prof. Centre for Nanosciences & Molecular Medicine, AIMS Kochi

The second session on Digital Health - Raman Spectroscopy based Spectro-pathology and diagnosis of oral tumors - was presented by Dr. Girish C M, Asst. Prof. Centre for Nanosciences & Molecular Medicine, Amrita Hospitals, Kochi. His area of research has been into developing diagnostic tools for identifying oral tumors. He stated that in India, Cancer accounts for being the 2nd highest cause of death, every 6th death is due to cancer and most common tumors being breast and oral. He stated that the crux of increasing the 5 year survival rate @ 90-100% lies in the early diagnosis of tumors. Though, novel mini-diagnostic tools are available, but nothing in minutes. Minimally invasive diagnostic tool is the need of the hour to detect the margin and screen more patients. Raman spectroscopy based method is the best as the spectral information carried in the Raman Spectroscopy device is higher. He stressed on the complexity in the analysis of the Raman Spectroscopy in the healthcare domain as there is a need to overcome the major challenges of weak biological scattering cross-section, tissue autofluorescence which masks Raman signals and complexity of data analysis thereafter. Data has been collected from various patients, after improvisations 97% accuracy has been achieved. Sensitivity and grading is the next line of differentiating the tumor type. A new portable device is being developed at CCAM, Bangalore.



## Dr. Niranjana Thomas

Professor and Head of Unit, Neonatology, CMC Hospital, Vellore

The final session on Digital Health - Translating research in low resource settings and transforming tiny lives - was presented by Dr. Niranjana Thomas. He started his presentation with the statistics of one-third of neonatal deaths due to asphyxia. The only world-wide proven therapy is of whole body cooling wherein the temperature of the neonate is lowered to 33.5 ° C for 72 hours which protects the brain, reduces mortality and improves neurodevelopmental outcome in 75% cases. The cooling devices that are presently available are costly @ 16-25 lakhs, needs electricity and frequent use of disposables such as caps, masks and blankets. These challenges led him from 2007-2009, to use a low cost alternative of wrapping cool-gel packs around the baby. However, the challenges in use of such packs were frequent change of packs, nursing input, constant monitoring and use of ice leading to swings in temperature. Further development was towards using a better alternative of Phase Change Material (PCM) which uses a mix of salt hydrate and wax-like material, acting as a heat sink stabilising the temperature at the interface. By 2011, the CMC phase changing mattress was developed and used to cool babies, which has a melting point of 32 ° C. The Miracradle design, a 'Cascading Model' was developed in-house at CMC which has a PCM insulating mattress in an insulated cradle.

The scaling up of the Miracradle happened over a period of time with Dräger Germany taking the distribution rights worldwide. He finally put forth his experience in a nutshell stating that if there is any idea it needs to be pursued, hand-in-hand with the industry and needs scaling up and need not be very high-tech.....!!!



## SESSION # 4



Prof. Dr. S. Arulrhaj, President Elect, Association of Physicians of India (API), chaired the session on Digital Health.



Col VMP Thomas, Dr. Raju Sivasamy, Dr. Niranjan Thomas, Prof. Dr. S. Arulrhaj, Dr. Hooshmand Palany, Dr. Girish CM



# SESSION # 5

## INTERNET OF THINGS

Mr. Anil Relia introduced to concept of Internet of Things to the audience and described the future of healthcare as influenced by IoT. The implementation of IoT for healthcare could see the use of implants that directly transmit information to the sever or cloud that would be directly accessible to doctors and hospitals. This could result in benefits of continuous monitoring by doctors, easily settlements for claims by insurance companies, and also the offer of discounts in premiums if patients take medicine properly or exercise daily.



### Dr. Vishal Rao

Chief of Head Neck Surgical Oncology  
& Robotic Surgery, HCG Bangalore

Dr. Vishal Rao, presented on “Future of Technologies in shaping Cancer” The key focus of his presentation was on technological and biological advances in the field of cancer care. He highlighted that Iatrogenic injuries are the 3rd leading cause of death. Cancer Moonshot is a project launched by the Healthcare Act, USA that brought up 5 essential areas for future of cancer research: enabling technologies, immunotherapy, precision medicine, personalized medicine and big data. This has resulted in a move from bedside medicine to gene side medicine. Two studies are currently ongoing - Effect of mouth microbiome on oral cancers and Effect of gut microbiome on gastrointestinal cancers. A recent pilot study was conducted wherein a CT scan could identify the nature of the cell and its prognosis over staining technique of a biopsy. In future the pathologist and radiologist can sit together and diagnose cases. In the future, robotic surgery with IOT, system learning And with integrated system will have surgeons with wearable devices communicating with a robot on the OT table. AI for emotive intelligence could predict the moods

of the patient. Yet another pilot study was conducted “DRONE ASHA” where Drones were carrying out the work of ASHA workers for screening and taking biopsies and using pocket microscopes and digital pathology where the surgeon and pathologist sitting in the clinic could provide a clinical and pathological diagnosis.



## SESSION # 5



**Dr. Suresh Viswanathan**  
MD, SKS Hospital, Salem



**Mr. Gaurav Maini**  
MD, Philips Vital Health Asia Pacific

Dr. Suresh Vishwanathan introduced the concept of “Internet of Medical Things, in Intensive Care”. In the future patients would wear medical devices with are connected to central servers via the Internet and collect and transmit the patients’ medical data automatically. AI could then be used to help in analysing the data and providing proper medical care. IoT devices are wireless enabled. IOMT in ICU can help by having SMART alarm systems over traditional monitoring devices. It can also help in identifying the position a patient was in. Data that were not captured in earlier days can be captured in recent times and technologies such a big data can be used for analysis, deep learning, machine learning etc. The outcomes can be measured in terms of reducing cost, omission of unnecessary antibiotics to patients or unnecessary

prolonged monitoring devices. IOMT can also be used to by manufactures to remotely monitor bio medical equipment. It can help in logistics, ware housing, automated billing etc.

Mr. Gaurav Maini presented on “Using ICHOM certified software solution to improve outcomes & lower costs in healthcare”. His talk focused on value based care i.e. what is the value patients perceive out of health care and how to empower patients. We should aim at improving patients experience and lower costs in health care. Value is defined as delivering best possible health care outcomes at the lowest cost. Solution called outcomes measurement, cost and experience. What is patient looking for. What is their definition of hospital stay being successful. It will help hospitals to constantly connect with patient’s outcomes at home and decision becomes

shared. Various ways can be used for this-call centres, mobile app etc. When we connect this data with cost we know the value.



Dr. Jothi Clara Michael, Mr. Manick Rajendran, Mr. Anil Relia,  
Mr. Gaurav Maini, Dr. Vishal Rao, Mr. Suresh Viswanathan



# SESSION # 6

## HOSPITAL INNOVATION TALKS

This session involved presentation of best innovative practices being adopted and implemented in Indian hospital settings. These were shortlisted from a total of 18 submissions. The submitted entries were quite wide ranging: From implementing very organic process changes in improving the Patient Discharge workflow to the development of a cost-effective instrument to arrest Neonatal Mortality due to asphyxia to the use of Internetof - Things gadgets for Facility Maintenance to the deployment of digital pens on encoded papers for paperless prescriptions and medical records ... Innovative deployment of technology to improve the Quality of services rendered remained the underlying theme of all the participant entries.



### Early Prediction of Outcome in ICU Patients using Technology based Scoring System to monitor Standardized Mortality Rate.



#### **Dr. Sudhesh Rao**

Chief Intensivist, Dept. of Critical Care,  
AJ Hospital, Mangalore

Technology base Scoring System made to systematically monitor the Standardized Mortality Rate in ICU patients was presented by Dr. Sudesh Rao from AJ Hospital, in this talk elaborated the problem statement in Intensive Care Units in the Hospital where patients are critically ill. Prediction of mortality in the initial assessment helps to plan the management of the sick patient. It also helps in assessing the probability of length of stay and Cost involved, as well as briefing the relative regarding the prognosis and outcome. However crude mortality rate doesn't become a quality indicator of the performance of an ICU as it does not correlate with clinical severity of the patient. Good correlation between SAPS II & hospital mortality provides an estimate of risk of death. In present era of Quality Care, Standardized Mortality Rate (SMR) becomes the priority and it is mandatory to monitor the rate in achieving Quality Care.

Dr. Sudesh explained how a software based Simplified Acute Physiology Score (SAPS) calculator was developed in-house and the worst value during first 24 hours was noted for SAPS scoring. At the end of the month expected deaths were calculated using statistical methods, which were compared with actual deaths to standardise the performance of ICU. This

technological advancement helped to achieve the SMR over the period of time and set a benchmark for the intensive care unit. Periodic assessment lead the system towards better assessment of prognosis in ICU for good patient outcomes with low scores & mortalities high in those with high SAPS II score.



# SESSION # 6

## Dial 77 - One Touch Button for all Non-Clinical Needs



**Mr. Kaushik**

Apollo Hospital Indraprastha, New Delhi

Mr. Kaushik spoke on how technology can be used to avoid undue delays in attending non-clinical needs of patients. The nurse call system is used in all hospitals to attend to the clinical needs of the patient. However the Single Point of Contact (SPOC) for all patient needs is always the Nursing Staff even for non-clinical needs, for example, Food, Water, Washroom assistance, Engineering, Bio-Medical Engineering, etc., hence nurses are always burdened with non-Nursing or Non-Clinical tasks which eventually affect the direct Patient Care.

After much discussions and deliberations, the concept of "one touch button" was developed for all non-clinical needs in the hospitals. With the help of an external vendor and multiple discussions with all heads of departments, a user-friendly application was developed which was accessible from desktops to mobile phones, and request could be entered by any employee of the Hospital. A unique number "Dial-77" was introduced where users could press one-touch button and the call would land to the Dial-77 call-centre team, thereafter the request would be

The tangible results of the implementation of this technology was as follows: 20% growth in beverage orders and 30% growth in Food orders Nursing Call Bell response scores have moved from 47% to 66% , Adoption % of Dial 77 increased from 32% to 64%, Reduction of 65% time in non-nursing activities, NPS 60% to 65%, Employee's Satisfaction 89% to 91%. The intangible results were increased productivity of nurses, more accountability among nonclinical department heads, lesser paperwork and an easier audit process.



Dr. Joseph S Fidelis (COO, Annai Velankanni Hospital, Tirunelveli) & Dr. Deepak Patkar (Director - Medical Services, Nanavati Super Speciality Hospital, Mumbai)



# SESSION # 7

## HEALTHCARE START UP TALKS



**Dr. CM Bhagat**

Medical Director,  
Bhagat Hospitals, New Delhi

The Best five Startups shortlisted in Pitch Fest were given an opportunity to showcase their innovative use of technology to improve the quality of service rendered by Indian Healthcare facilities and the session was chaired by Dr. CM Bhagat.

1. Evelabs Technologies Pvt Ltd - A wireless, real-time infusion monitor for setting monitoring and managing gravity drips in hospitals.
2. Grasp Bionics - An innovative, cost effective prosthetic arm for upper limb amputees.
3. Pacify Medical Technologies Private Limited - A spray on wound device for rapid healing.
4. National Hub for Healthcare Instrumentation Development (NHHID) - A Fluorescence Based Antibiotic Susceptibility Testing /Antibiogram Device
5. Startoon Labs Pvt. Ltd.- A wearable device to assess the recovery of physiotherapy patients.



1



2



3



4



5



# SESSION # 8

## DIGITIZATION IN HEALTHCARE



**Mr. Rajeev Sikka**

CIO, Medanta- The Medicity, Gurgaon

The 1st session on – Improving patient Experience & Operational efficiency of Pharmacy, was presented by Mr. Rajeev Sikka, Chief Information Officer, Medanta - The Medicity. He pointed out that all pharmacies are moving away from the traditional method to smart automated pharmacies with increased traceability on the dispensed medications and just-in-time inventory for critical admissions for the day. Smart pharmacy faces the challenge of reducing cost thereby increasing the cost of inventory. The smart pharmacy-“1 mg” program dealing with IPD has to interact with all clinicians, physiotherapists, nurses and other stakeholders, hence increase operational efficiency, increase patient interaction and scale up in all locations. He discussed improvising the operations using technology by seven different case studies. No waiting time for almost 80k footfalls, awareness and education, detailed multi-lingual videos about drug-to-drug and drug-to-food interactions, tagging and monitoring of cold-chain products using monitors and IOT devices, correct put-away for all medications for efficient storage and retrieval of medications, one single App for the patients for ordering and monitoring

of the medications and orders where doctors can order medications and diagnostics, OPD typical discharge intimation through ‘1 mg’ , Smart OPD App, etc. are some of the tech-based application to improve patient experience and operations of the pharmacy.



**Mr. Ajith Kumar**

CTO, KIMS Trivandrum

The 2nd session on - Electronic Medical Records, was presented by Mr. Ajith Kumar, Chief Technology Officer, Kerala Institute Of Medical Sciences (KIMS), Trivandrum, Kerala. KIMS has a worldwide presence with about 1400 beds with 75-85% occupancy and 600 average OP per day. He discussed about the challenges in the adoption and managing digital medical records. He pointed that, usually 3 out of 4 doctors are resistant to digitalisation of the medical records. There is no perfect EMR and evolving standards in healthcare in India is a major issue for implementation of EMR, as well as other challenges such as funding, intra-operability between hospitals' systems, system synchronicity, data sharing without any loss and data privacy. He explained about the 7 levels of implementation of EMR with respect to HMIS (American Standards) starting with 1st level being Laboratory, pharmacy, PACS, basic DICOM, 3rd and 4th is CPOI, 5th Nursing and Business continuity till 7th level. In India, the adoption process started in 2013, and at KIMS , change management was a challenge to adopt EMR



# SESSION # 8



**Dr. KN Venkateshwara Prasad**  
Registrar, SDUAHER, Kolar

The 3rd session on – The Current State and The Road Ahead – was presented by Dr K N Venkateshwara Prasad, Registrar, Sri Devraj Urs Academy of Higher Education and Research, Kolar. Though Kolar is a remote area but very important as far as ‘Health for All’ is considered. He started off with the current state with some statistics about doctor to population ratio, wherein 1/3rd of population is urban and 2/3rd is rural and just the reverse with doctor , and also more cases shared by private hospitals compared to public sector hospitals. India has reached half the target of WHO specifications and the ratios have to be improved. He also emphasized that CAHO should take a lead in promoting accreditation leading to better quality healthcare delivery and thereby better health for all. He mentioned that government expenditure towards healthcare is very low and the private expenditure is quite high, that has improved a little with newer government schemes since 2018. He said that the solution lies in digitisation, digitalisation and transformation to pave the way forward to reach out to the healthcare delivery to the masses. He elaborated on the role of digitisation to bring about health for all

population by means of - active clinician and patient engagement (medical decision-making for improve quality, reduce cost and enhance patient experience by keeping the technology up-to-date, simple and shows appropriate outcome). He enumerated the steps that can be taken to adopt and strengthen digitisation in healthcare - stronger regulations for data privacy and security; collect data; incentivise and take care of the potential hazards during the process of digitalisation.



**Dr. Lallu Joseph**  
Quality Manager, CMC Vellore

The 4th and final session on - Technology at CAHO: by Dr. Lallu Joseph, Quality Manager at CMC Vellore and Secretary General, CAHO. She spoke about the journey of adopting technology in standardising the practices of CAHO. CAHO, started in 2013, represents all the accredited hospitals on the board of NABH and is a platform for all such healthcare organisations. She proudly presented the 21 CAHO training programs, which shall reach 25 by year end. She emphasized that technology can never replace great teachers but as a tool in the hands of teachers can be really transformational. With 30-40 faculty per programme and different feedbacks received from the students, standardisation was the need of the hour. Hence CAHO has knowledge partnered with LM Excellence platform for conducting training programmes. For Fire Safety programme, CAHO has partnered with Chola MS for introducing ‘virtual reality’ in understanding and initiating emergency preparedness in hospitals. For monitoring the patient safety and quality, CAHO haspartnered with Ibhar Technology for creating a dashboard for hospitals. Several apps such as

membership and programme App are lined up to be released soon. Her concluding words- ‘Technology won’t replace teachers, but teachers who do not adopt technology shall surely be replaced’ , which is the learning that CAHO has in adopting technology for the teachers to teach better.



## SESSION # 8

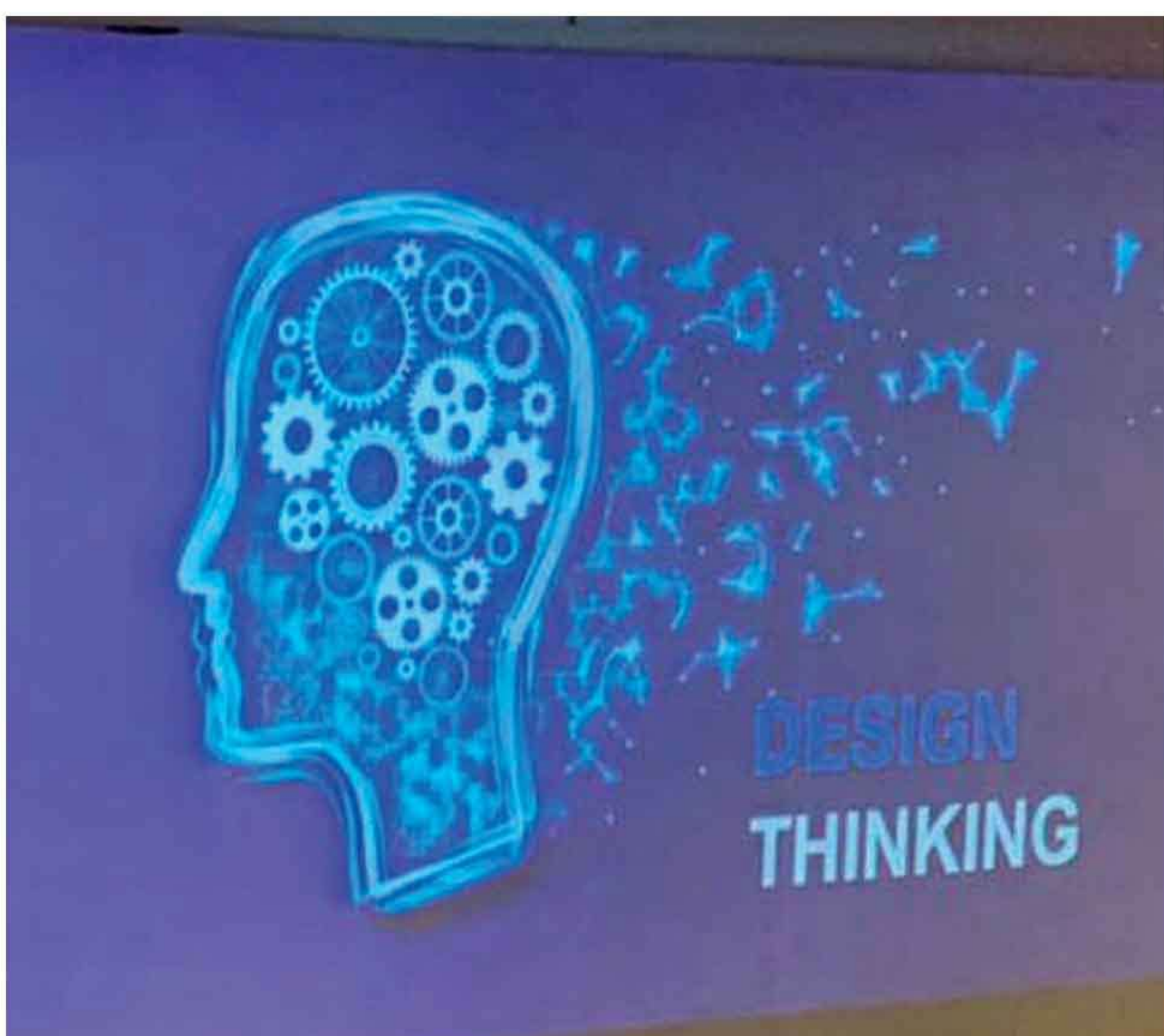


Mr. Sameer Mehta, Dr. Parivalavan R, Dr. KN Venkateshwara Prasad, Dr. Sandeep Murali, Mr. Ajith Kumar, Mr. Rajeev Sikka

# DESIGN THINKING WORKSHOP

CAHOTECH 2019 also had a first of its kind - Design Thinking Workshop conducted by the legendary Polaris Founder and Chairman & Managing Director, Intellect Design Arena Limited, Mr. Arun Jain. The workshop consisted of a very tailored and distinctive method process of thinking of how one solves problems and redesigns their processes with the consumer in mind.

The workshop was highly interactive and very well received by the participants. A special thankyou to Mr. Arun for bringing a specialized design thinking workshop for healthcare !





# VALEDICTORY CEREMONY



Welcome address by Organising Chairman, Mr. Sameer Mehta

## CHIEF GUEST

**Dr. Santhosh Babu, IAS**

*(Principal Secretary to Govt,  
Dept of Information Technology,  
Govt. of Tamil Nadu)*

## GUEST OF HONOUR

**Dr. Gagandeep Kang**

*(Prof. of Microbiology,  
Division of Gastrointestinal Sciences,  
CMC Vellore )*



Mr. J. Adel, Dr. Vijay Agarwal, Dr. Santhosh Babu,  
Dr. Gagandeep Kong, Dr. Lallu Joseph



# VALEDICTORY CEREMONY



Special address by Chief Guest  
Dr. Santhosh Babu



Special address by Guest of honour  
Dr. Gagandeep Kang

## Felicitation of Guests by President, Dr. Vijay Agarwal





# VALEDICTORY CEREMONY

## BEST HOSPITAL INNOVATION AWARDS



### WINNER

**Christian Medical College & Hospital Vellore**  
*(Innovations in Neonatology - Translating Research in Low Resource Settings and Transforming Tinylives)*



### FIRST - RUNNER UP

**Nanavati Super Speciality Hospital, Mumbai**  
*(Overcoming the Electronic Health Record gap in the Outpatient department for Out Patients prescription without changing clinician behaviour or existing workflows)*



### SECOND - RUNNER UP

**Apollo Hospital Indraprastha, New Delhi**  
*(Dial "77"- One Touch Button for all Non - Clinical Needs)*



### THIRD - RUNNER UP

**AJ Hospital & Research Centre, Mangalore**  
*(Early prediction of outcome in ICU patients)*



# VALEDICTORY CEREMONY

## BEST HEALTHCARE STARTUP INNOVATIONS



**EVELABS TECHNOLOGIES PVT. LTD**



**GRASP BIONICS**



**National Hub for Healthcare  
Instrumentation Development (NNHID)**



**Pacify Medical  
Technologies Pvt. Ltd**



**Startoon  
Labs Pvt. Ltd**





# FELICITATION OF HOSPITALS FOR CONDUCTING PRE-CONFERENCE WORKSHOP



Dr. MEHTA'S MULTISPECIALITY HOSPITAL, CHETPET, CHENNAI



VIJAYA HOSPITAL, VADAPALANI, CHENNAI



APOLLO SPECIALITY HOSPITALS, VANAGARAM, CHENNAI



# FELICITATION OF HOSPITALS FOR CONDUCTING PRE-CONFERENCE WORKSHOP



KAUVERY HOSPITAL, ALWARPET, CHENNAI

## CLOSING CEREMONY



CLOSING ADDRESS by President, Dr. Vijay Agarwal & Organizing Secretary, Mr. J Adel





# EXHIBITION : PAVILION OF THE FUTURE – IMMERSIVE EXPERIENCE



CAHOTECH 2019 came to a flourishing finale on Saturday evening. Organising Chairman Sam Mehta along with his very able and ever-willing-to-help Organising Secretary Adel Bennet clearly delivered a compelling HealthTech Conference. It was so good that the CAHO Committee decided that Chennai will re-host the event next year!

Congratulations, Chennai Team!!

It has always been an observation that when one goes to a Conference and takes a walk by the exhibits, one visits the stalls of friends or dashes in

and out of stalls that offer compliments or only enter stalls that sometimes attract one's attention. A majority of the time however, one would just walk past stalls carefully avoiding eye contact with those at the stalls, lest one be invited.

What if we were to weave stories connecting various companies that in real life might be a bit disjointed but capable of actually working with each other? We could then offer a flow to the visitors which will enable them to visit stalls in a manner that would make sense. It would make for a meaningful experience, would it not? Thus was born the idea of "Immersive Experience" in a new format called "Showcase"

The leadership took a cautious leap of faith cajoled by Mr Sameer Mehta who stood by me (Adel Bennet) all the way to the end, Dr. Saravana Kumar, Dr. Lallu Joseph, the Secretary General, Dr. Sandeep, Dr. Parivalavan, Ms. Gayathri, Dr. Anuradha Pichumani and the President Dr. Vijay Agarwal who actively encouraged, even as the future was not clearly visible. Talking of future, why not offer a peek at it? Hence the idea of the Pavilion of the Future was an added feature.

This required a massive mobilisation of HealthTech experts from across the country. A group of us who have done similar events earlier and we got together again, namely, Thangaprabhu, Aniruddha Nene, Manish Sharma, Suman Bhusan, Bhattacharyya, Bharat Gera, Satyam Kumar, Pramod Jacob, Abhishek, Choudhary. A whole host of other experts and a number of companies from all over joined in. The result was that we had one of the largest gatherings of HealthTech experts right here in Chennai.





# EXHIBITION : PAVILION OF THE FUTURE – IMMERSIVE EXPERIENCE



Early in the day, Sam came over to see how things were on the 6th floor in the Expo area. It had the Commercial Stalls and our Immersive Experience area.

Bharat Gera and Prof Supten Sarbadhikari had already set up two of the TimePorts in the Pavilion of the Future. Both veterans, they single-handedly handled the crowd with valuable information right up to the end of the event day.

Should you have any questions regarding HealthTech in multi-modes of data entry or Govt' s initiatives, contact the two of them respectively. — Supten Sarbadhikari and Sameer Mehta.



Final year Biomedical Engineering students from SRM proved what youngsters are capable of!



# EXHIBITION : PAVILION OF THE FUTURE – IMMERSIVE EXPERIENCE



Sivabalan, my partner-in-crime. While he was selling commercial stalls, we were recruiting companies and helping them get subsidies from NSIC (National Small Industries Corporation).

Thilaga Raja, my Project Manager was the key to delivering all of the logistics including obtaining the subsidies

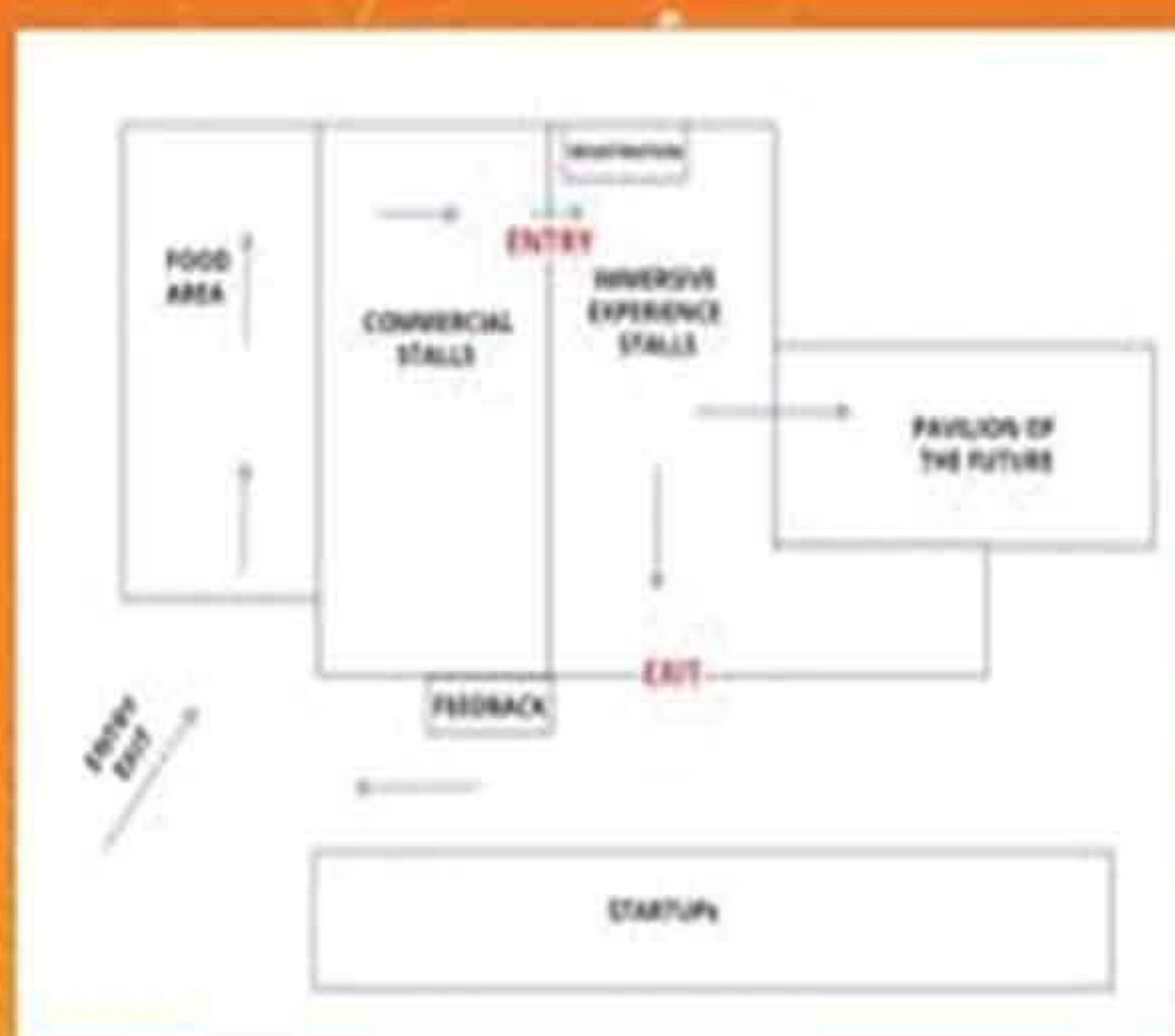


Balasubramanian AJ, my classmate from College of Engineering has been a staunch supporter of all the events I've conducted in Chennai and his partner Ram Mohan Ramasubramanian Raju at their stall



The SRM students took over, designing the log books, preparing the tools needed for the tour etc

## CAHOTECH 2019 SHOWCASE



### LIST OF SCENARIOS

- 1A. Paediatric Home Care
- 1B. Paediatric Home Care
2. Surgical Follow-up through Telemedicine
3. Elder Home Care for a chronic and multiple co-morbidities
- 4A. Elder Care in Secure Home
- 4B. Elder Care in Secure Home
5. Innovative and Early Detection of CHF
6. A Wellness and risk assessment leading to Emergency Cardiac Care

FOR A HANDS-ON EXPERIENCE, DO TAKE THE TIME TO VISIT THIS ONE-OF-A-KIND EXHIBIT ON THE 6<sup>TH</sup> FLOOR



At the Pavilion of the Future, we had Arun Jain Founder of Polaris and now Founder of Intellect visit us.

He's an authority on Design Thinking and had just got off a workshop he had conducted at the Conference. Seeing what we had done, he quipped that there he was teaching Design Thinking and here we were, already putting it into practice.

All credits go to the companies who had participated.

In this pavilion, we had five themes - Continuity of Care, Patches & Wearables, Human Machine Interface, Govt of India & HIT Standards and finally Applied Health Analytics.

Just to tour that platform alone, one would need a couple of hours.

We had 6 "scenarios" and two variants. As can be seen from the names of the scenarios, each of them had a story to be told. In parts that blend sequentially with solutions offered by several companies.

The 22 companies were Fololife, Helyxon, Allovedic Healthcare LLP, Shrishti Software, Sollu, Zbliss Technologies, Audicor Cardiometrics, dWise, Doxper, Health Med, Raster Images Private Limited, ayeAI, Infolifetech, Health Sensei, iMMi Life, Shivam Medisoft Services Pvt Ltd, Kriyatech, Kranium Health, Concert Care, Vitor Health, ViDoc.



# EXHIBITION : PAVILION OF THE FUTURE – IMMERSIVE EXPERIENCE



The Conference was well-attended....



..... and the organisers finished strong.

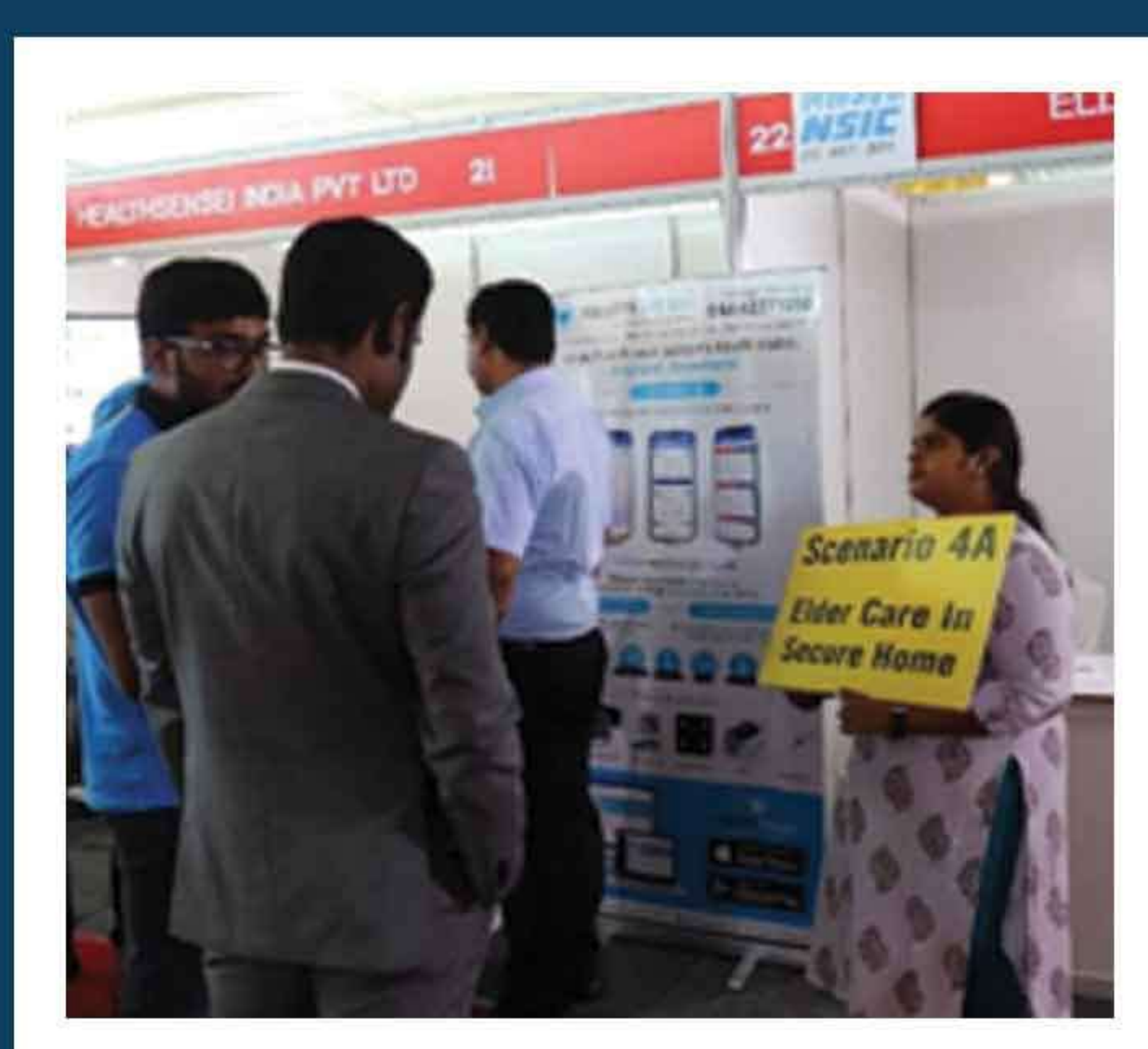


# EXHIBITORS & SPONSORS





## EXHIBITORS &amp; SPONSORS





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Vijaya Hospital, Chennai



Zepnur Pvt. Ltd



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Nanavati Super Speciality Hospital, Mumbai



Dr. Raj Kumar V Patil,  
Director Medical Services,  
Bombay Medical Trust



Ms. Gayathri Sandeep, CEO,  
Seethapathy Clinic & Hospital, Chennai



Dr. Shashank Devapur, Director & Head  
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# BEHIND THE SCENES

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