# FORTUNE

DECEMBER 2022

INDIA exchange

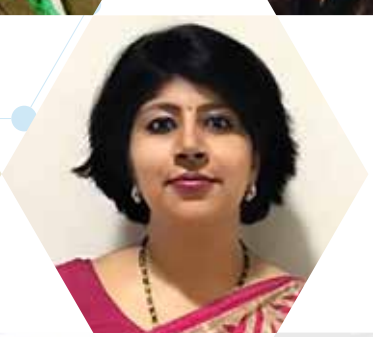
NEWS, EVENTS, PROMOTIONS + IDEAS

Shri Bharatkumar Taparia

Dr. Minnie Bodhanwala

Dr. Ramesh Kancharla

Dr Bhaskar Rao



Dr. Tarang Gianchandani

## *Revolutionising*

# HEALTHCARE

## LEADERS AT THE HELM

Mr. Huzaifa Shehabi

Mr. Jitendra Haryan

Ishiqa Multani

Dr. Satyajit Bose

Dr. Alok Sharma

Dr. Bijoy Kutty

Mr. Indranil Roy Choudhury

THE SYNERGIES OF EXPERTISE IN MEDICAL CARE DELIVERIES, AUGMENTED BY NEW AGE TECHNOLOGY IS REVOLUTIONIZING HEALTHCARE SECTOR LIKE NEVER BEFORE !

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REVOLUTIONISING HEALTHCARE | DECEMBER 2022












FORTUNE INDIA —exchange

Business Head: **Arun Singh**
National Head: **Mohan Singh Bisht**
Regional Head West: **Jiten Shivlani**
Design Head: **Liju Varghese**

## REVOLUTIONISING HEALTHCARE

# LEADERS AT THE HELM

**The Healthcare sector is ever evolving and in recent years we have seen a number of significant advancements emerging in new treatments and technologies to better ways of delivering care.**

**Dr. Mansukh Mandaviya**
Minister of Health and Family Welfare; Chemicals and Fertilizers, GoI

"I seek your continued partnership for connecting with the communities to take healthcare services to them. Your work will be pivotal in enhancing awareness and accelerating uptake of e-health services (such as e-Ssanjeevani and telehealth services) among the masses"

**Adar Poonawalla**
CEO, Serum Institute of India

"A stronger healthcare system has boosted economic activity across the country, including a return to travel, return to consumption causing higher farm credit, the start-up ecosystem getting a boost and so on"

**Dr. B S Ajai Kumar**
Executive Chairman, Health Care Global, Oncologist

"In India, private hospitals play a major role in addressing close to 75 percent of the healthcare needs of the country, and their impact in urban areas is pivotal. We have carved a niche as a value-added oncology player matching global standards. We use technology not only for treatment, but also for knowledge-centric initiatives like integrated tumor boards, tele physics, tele radiology and data gathering and analytics.

It is the era of healthcare industry leaders, who can identify the problems and are constantly working to innovate, find the solutions that make a difference in the lives of patients and improve the quality of care. Every 50 years, the field of healthcare has witnessed revolutions in the fields of healthcare and medicine dictated by the changing trends in the market. The germ theory was initiated in the early 1870s for public health promotion, and the 1920s saw the discovery of penicillin for the treatment of disease. In the 1970s, the RCT (Randomized Control Trial) guided evidence-based medicine. And in current times, we are witness to the rise in technology that's making a huge difference and will revolutionize the way healthcare ecosystems function and the way patients are treated.

The rise of the technological transition in the healthcare sector has boosted the socio-economic and cultural aspects of the country too. The global Covid-19 pandemic saw an upsurge in technological advancements for the treatment and diagnosis of patients, immunization as well as disinfection, and detection of disease. Today, adoption of the exciting AI and data management systems have made hospitals smarter. While AI now helps doctors diagnose diseases and develop new treatments, the data management system is improving patient safety and quality care, as well as reducing the risk of errors and duplication.

The healthcare field has seen adaptations ranging from e-consultations, telemedicine, and real-time diagnosis as an advancement to digital practices. Upgrading to tele-health made physical visits to doctors and clinics redundant by enabling patients even in remote areas to digitally consult their doctors and even get guidance from the top physicians from around the world, particularly during the pandemic clampdown on movement.

The discovery and growing trend of using smart watches is another major shift from traditional healthcare systems. Smart watches are digital devices that can collect specific data and help doctors track the health of patients by using data management. For example, track fitness levels, monitor vital signs, and manage medication regimens. In recent years, the revolutionary concept of data-driven healthcare assures application of the best treatment algorithms which are customized for individual patients.

Some of the innovations observed in the field of healthcare started with the rise of telemedicine, an excellent initiative to fill the gap between patients and physicians. There are many advantages of using telemedicine, such as improved access to medical care, lower costs, and increased convenience. Personalized healthcare on the other hand is all about customizing patient specific medical care and treatments that also enables finding alternative treatments for severe diseases. Whereas, AI propels the necessity of affordable therapies and personalized medicine, detecting the health condition as well as ensuring the accuracy of diagnosis.

Another tech advancement is Blockchain, which secures patient data and makes it easier for physicians to refer to the data. With its ability to improve security, efficiency, and cost savings, blockchain is poised to revolutionize the healthcare industry. In a shift from the conventional paper filing techniques, healthcare organizations are now using cloud computing to store and share electronic health records (EHRs) to connect with patients and providers through mobile apps, and support clinical decision-making with data analytics.

Digital technology in healthcare are numerous and has significantly increased access to care making it possible for people to receive the treatment they need more quickly and easily from any part of the world. The transformation has also made it possible for healthcare providers to share information more easily and effectively, which has led to improved care coordination and a more efficient healthcare system overall. In addition, digitalization has accelerated the process of care, saving both time and money while ensuring better outcomes and improved patient satisfaction.

Digitalization is the future of the healthcare sector, which will be enhanced with the latest trends and use. The leaders are the innovators of these tech revolutions ushering in more positive outcomes while reducing the mortality rate. With digital technologies such as virtual reality (VR), wearable medical devices, tele health, 5G etc., healthcare leaders will continue to improve the treatment of patients.

The future of healthcare looks very promising, simply because the technical implementation is creating a cost-efficient and more patient-centric healthcare system. With advances in medical technology and understanding of human health medicines, doctors are able to provide better care for patients and prevent and treat diseases more effectively. Thus, the healthcare sector, globally, is seen adapting and embracing the tech revolutions and changes that are helping in providing better case detection, advanced and accelerated decision-making, and improved service quality. The healthcare industry is constantly evolving and upgrading to meet the various needs of the patients offering them the best possible medical options and care. ■

**Dr. Krishna Ella**
Executive Chairman, Bharat Biotech

"We will continue our pursuit of identifying public health problems and work towards developing safe and affordable solutions..."

**Dr. Randeep Guleria**
Director, All India Institute of Medical Sciences

"To have a pandemic-resistant world, India needs to invest heavily in health infrastructure. If we need to have a pandemic-resistant world, we need to have a system which is sustainable and works even when the pandemic is over"

**Dr. Gagandeep Kang**
FRS, CMC, Vellore

"To realise the dream of becoming an equitable nation in health by 2047, we must reflect on how best to make primary healthcare truly functional, especially when it comes to preventing illness and high out-of-pocket expenses on health"

# INVESTING IN CHILDREN'S HEALTH

**Dr Ramesh Kancharla, Chairman and MD, Rainbow Children's Hospital, shares his passion and dedication to create more hospitals to heal sick children**

**What was it that made you choose to become a doctor?**

I am fortunate to have pursued medicine. Primarily, the reason for me to become a doctor was my father's wish. He wanted me to become a doctor as there were no doctors in and around the small village in southern Andhra Pradesh where I spent my childhood. Even though he hailed from an agricultural background, my father understood the importance of education. He persuaded both my elder brother and me to become doctors. My brother, who was pursuing his Laparoscopic surgery in the UK, would often tell me I was more intelligent than him, so it would be easy for me to become a doctor. That was motivating for me. Finally, with the support of my parents and guidance from my brother I got into medical school with little hassle. Thus, began my journey into the field of medicine.

**Why did you specialise in paediatrics?**

After I completed my MBBS, I was confused about the way forward in my career. I knew I did not want to pursue the surgical branches as I used to get claustrophobic in the Operation Theatre, so I had to choose between becoming an adult physician or a paediatrician.

Children require special care, as they are so tiny and delicate. In order to learn more about this specialisation, I thought I should work in a children's hospital. I moved to Chennai and joined a large 400-bed children's hospital, the Institute of Child Health in Egmore. I initially planned to work for three months there, but ended up working for nine months. Those nine months of hard work and perseverance laid the foundation for me to become a paediatrician.

**Dr RAMESH KANCHARLA**
Chairman and Managing Director
Rainbow Children's Hospital





**How was your experience as a paediatrics Super Specialist consultant in the UK?**

After completing my MD Paediatrics, I headed to the United Kingdom to get trained further, get more experience, and possibly, do a specialisation in England, instead of going into practice in India.

What I saw and experienced during those 3-4 years in the UK was pivotal in forming my outlook as a doctor. Post an interview, I was appointed at King's College Hospital in Central London to work for the departments of new-borns and children's liver diseases, for one year each. My first posting was at the liver diseases department, I thought I would do my specialisation in this as it is a rare specialisation. I wanted to be a paediatric gastroenterologist with specialisation in liver diseases. The hospital was one of the world's largest liver transplant specialisation centres.

When I was working in London, my life got completely transformed. I wanted to work there as the culture was completely different. Yes, there was a lot of work, responsibility and accountability, but I was really enjoying working with children and trying to take up the responsibility of their care. When you are a good doctor, a lot of respect comes from people. People become dependent on you–whether it's your colleagues, co-workers... nurses... everyone looks up to you.

Another thing that always stayed with me was that people used to say Saturday and Sunday are holidays; but I never felt that way. Because, what happens to your patients on those two days when you are off? I felt that even if you do not work the entire day, you have the responsibility of seeing the children undergoing treatment under you. Two days is a long time to leave them unattended or under somebody else's care, if they are your patients. This is the culture that was deeply embedded in me.

It was such a cultural shift for me going from India to work in London. From King's College Hospital, I went to Great Ormond Street Hospital for Children, London, which is the world's second biggest children's hospital. It's a referral centre for a large part of the world and has all the specialities for the children like the cardiology, oncology, etc. I was doing gastroenterology there. I went on to a more affluent part of North London to work at the Royal Free School of Medicine. During these four years that I worked in London, I attended only one interview; the other jobs came through the recognition of my commitment and hard work.

**What brought you back to India on your career path?**

My experience in the United Kingdom convinced me that India needed a similar paediatrics healthcare model, However, since I was a super-specialist trained in managing liver diseases,the big debate was whether I should move to the US where there were lots of opportunities to match my qualifications or to move back to India. At the end, I came back to India.

I tried to convince people to build a standalone children's hospital, but there was nobody willing to take the risk. As I was convinced of the need for a paediatrics healthcare delivery model, I opened a paediatrics hospital. I put in all my savings and money received from my parents to set up a 50-bed children's hospital in Hyderabad city in 1999. Alongside, I was fortunate that the idea resonated with five other doctors who joined the hospital and that's how our journey started.

**Rainbow Children's Hospital became the first children's hospital in India to be listed on the Stock Exchange. Our aim is to create robust healthcare model to take of sick children and invest in the country's future**

**What were the founding pillars of building Rainbow Children's Hospital?**

What made me a very committed, accomplished children's doctor was observing how the children's hospital was built over the years. Whenever I got an opportunity, even in the US, I wanted to learn how they went about building them. What I understood from all this was that children's healthcare differs greatly from adult healthcare.

Building a children's hospital requires strong fundamentals. It's a collaborative approach, its multi-disciplinary. Competent people have to come and work together for a sick child, not only doctors but also nurses and paramedical staff. The second thing is that paediatrics health care needs a full-time doctor engagement model. It not only requires, but demands doctors full-time, because sometimes you need to attend a sick child from hour to hour, minute to minute. The commitment of doctors in a children's hospital is needed 24/7 to get the deliverables done.

The 'soft factors' have to be reflected in a children's hospital; it requires a more congenial environment, cheerful, casually dressed doctors and nurses, to not instil fear in children. This is what I understood about working with sick children in the developed world. It's

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**Tell us about setting up the hospital?**

When we started the hospital, we equipped it with child-specific gadgetry. We trained the nurses on childcare. We got a lot of sick children in their last stages being brought in from the districts, so we set up a fleet of fully equipped ambulances to take care of them during that journey, which could even be as far as 200km.

Affordability was an enormous challenge, but more than that it was the love of the parents for their children and how they would overcome this hurdle. People came to us from the districts, from agri-rural backgrounds with a lot of love and faith in us. They would share their financial woes with us and ask us to help them. How can one not be moved by that and turn away from the responsibility and accountability of looking after that sick child? We try all kinds of things to help ease their situation.

We had a dedicated team of doctors who worked as a team to take care of the children 24/7 and our effort was recognized and appreciated by our peers and the parents of the children.

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important to gain clinical skill set, but what's equally important is to have a child focussed environment to deliver better care, which differs from that of adults.

**What were the highs and lows on this journey?**

In the beginning, we had our share of problems, but we were confident of what we had built. We had built the hospital with the key fundamental pillars of paediatrics care. Despite people's doubts about the hospital's financial viability and sustainability, we stood firm and were committed to our goal. Over time, people realised we were committed, dedicated, and could treat sick children. Peripheral hospitals, nursing homes, district hospitals looked at us more positively and started sending complex cases to us. On the demographic front, Hyderabad was attracting big IT corporates like Microsoft, etc. during that time. The employees at these companies connected well with us because having worked in the developed world they recognised what we were doing. We have never looked back since then and have moved from strength to strength.

Today Rainbow Children's Hospital chain comprises 15 hospitals and three clinics in six cities, with a total capacity of over 1,555 beds. Rainbow holds GUINNESS BOOK OF WORLD RECORDS for 'The largest gathering of people born prematurely'.

## RAINBOW CHILDREN'S MEDICARE LIMITED

**Promoter:** Dr. Ramesh Kancharla - Chairman & Managing Director

### AMENITIES & SERVICES

**Current Bed Capacity:** 1555

**Current Locations:** 15 Hospitals and 3 Clinics: Hyderabad, Bangalore Delhi, Chennai, Visakhapatnam and Vijayawada

**OP:** 592k+

**IP:** 40k+

**Deliveries:** 7k+

**ICU Patients:** 6k+

**Full-time Doctors:** 640+

**Numbers shown are for the period of H1 FY23: April'2022 – Sept'2022**

### ACCREDITATION

**NABH Accreditation:** 10 Hospitals

**JCI:** 1 Hospital

**EDGE-Certified:** 3 Hospitals

**DNB Recognition:** 9 Hospitals

### IPO LISTING

**+Listing Date:** 10, May, 2022

**+IPO Price:** 542

**+Stock Price (NSE):** 794.05 as on 25-11-22

**How do you develop your healthcare model for children?**

As we became successful in Hyderabad, we developed a hub-and-spoke model for delivering our clinical services to the community. We have a hub hospital, which manages complex cases, and spokes across the city that provide quick access to medical care to the community. We provide newborn and paediatric intensive care, paediatric multi-speciality services, paediatric quaternary care (including organ transplants). Our women care services under 'BirthRight by Rainbow Hospitals' provide perinatal care services which include normal and complex obstetric care, multi-disciplinary foetal care, perinatal, genetic and fertility care, along with gynaecology services.

Our fundamental core philosophy of building the Rainbow Children's Hospital has strengthened further with newer innovations. Today we can offer quaternary care services like heart surgeries, brain surgeries and paediatric organ transplants like liver, kidney and bone marrow transplantation.

Our hub-and-spoke model that is operational successfully in Hyderabad is also picking up well in Bangalore. We want to replicate this approach in Chennai and the National Capital Region.

For us, Delhi was a challenge culturally. Doctors could not understand why they had to be on call at night as well. When these kinds of geographic-cultural challenges come up, keep plugging way to bring people around to your way of working.

I think NCR Gurgaon is going to transform into a great healthcare city over the next 10-15 years, because not only is it geographically positioned to address the needs of North India but also neighbouring countries like Bangladesh, Myanmar, Nepal, Sri Lanka. The CIS countries, the Middle-East and other South East Asian countries are choosing India, as medical treatment is more affordable here.

**Tell us what the IPO listing means for Rainbow.**

Rainbow Children's Hospital became the first children's hospital chain in India to be listed on the Stock Exchange. We were listed in May this year. Our aim was to showcase our thinking of creating something good, something robust for sick children.

During the last decade, when we needed finances for our expansion plans, I was afraid of getting into debt because I was doing a pilot project. When we were looking for an equity partner, we looked at the institutions, because they are looking at long term, so there are no harsh conditions. The institutions have been with me for nine and a half years and they have put in money to build more hospitals, and have been a great partner. They also helped me build board level governance. They have never got involved in the clinical model or directed or pushed me for profits. We have continued to be very profitable.

When you are doing something, which is a great clinical model and has the potential to grow as a financial model as well, going public is an excellent strategy. As a listed company, we have a governance structure. Today, Rainbow is well known to many people because the financial world sees our credibility because it is also generating money, so a lot of support comes for it.

We are a niche player; after the listing, many people did not know what the model was. Investors and analysts did not know how to track our business. Therefore, I had to pitch myself as an evangelist and tell them what we are doing, what is the matrix, performance indicators, business model, what is its long-term replicability or scalability, etc. As we are niche and differentiated, people I have met in London, Zurich, and Singapore have understood that we have an outstanding model; it's scalable. My endeavour is to strike a balance amongst all the stakeholders, work for the overall growth of the company and replicate this model across the country. ■

## AWARDS & ACCOLADES

**Guinness World Records - 2016:** The largest gathering of people born prematurely

**LIMCA Book of Records - 2018:** South East Asia's smallest baby weighing 375gms at birth saved at Rainbow Children's Hospital

**The Week - 2020, 2021 & 2022:** Best standalone Paediatrics Hospital in India

*Category - No.1 Pediatrics Standalone

**TOI - 2022:** Ranked No. 1 by Times All India Critical Care Hospital Ranking Survey

*Category - Single Speciality - Pediatrics

**CNBC - 2010 & 2014:** Best Specialty Pediatric Hospital in India

# DEDICATED TO PROVIDE HEALTHCARE WITH ALTRUISTIC PROFESSIONALISM

**Dr B. BHASKAR RAO**
Chairman & Managing Director,
KIMS Hospitals

**Who or what do you attribute to be inspirational in your opting for a career in the medical field?**

I hail from humble origins of an agricultural family with a rural background. In my childhood, I used to be fascinated by the sight of a doctor who was respected by the entire village. He used to go to the surrounding villages on foot to treat the patients besides treating patients at his clinic every morning and evening. A large number of people used to wait for him with folded hands. The respect he commanded and smiles of satisfaction on the face of the patients he treated had sown the seed in my mind to become a doctor one day. At a very young age, I was determined to become a doctor and serve the people. Thus the selfless doctor of my childhood days in my native village was the true inspiration behind my opting for a medical career.

**The following spirit of caring and sharing was inculcated by my parents.**

The Best single word is "WE" NOT "I"
The Best two words are "SERVE OTHERS"
The Best three words are "BE THE BEST"
The Best four words are "LET US ALL GROW"
The Best five words are "FRUITS OF EFFORTS TO SOCIETY"

**Clearly, from the early days as a doctor, you appear to have a strong altruistic approach to your practice. How have you been able to merge this with the hard practicalities of life as a doctor running a successful hospital chain?**

I don't see any contradiction. In fact, my passion and commitment to serve healthcare needs had enabled me to be successful in the profession. For us patient is paramount. Nothing gives me greater joy than seeing the smile on the face of patients and their families. When you are able to provide affordable quality care it will lead to increased volumes. The more we serve, the more we grow. The more we grow the more we share.

> *"Nothing gives me greater joy than seeing the smile on the face of patients and their families."*

I started my career as an individual Practitioner but soon realized that by developing or building an institution I would be able to serve larger sections of society. Also, an institution provides a single roof for many number of doctors to meet their professional aspirations more effectively. Today we have over 1600 doctors working at 13 centres having a capacity of over 4000 beds.

**What are the primary specialties in the healthcare services provided by KIMS?**

Although we have expertise in all areas from top to toe, our focus has been on establishing centers of excellence in Cardiac Sciences (Cardiology and CT Surgery), Neuro Sciences (Neurology and Neurosurgery), Orthopaedics, Renal Sciences (Nephrology and Urology) , Oncological Sciences (Medical, Radiation and Surgical), Gastro Science (Medical and Surgical), Organ Transplantation (Heart, Lung, Liver, Kidney, Bone Marrow and Pancreas).





**As one of India's largest corporate healthcare groups, please share some aspects of the growing footprint of the chain across Telangana, Andhra Pradesh, and Maharashtra.**

We intend to penetrate deep into the pockets where we have our presence. Our desire is to cater to all sections of society by providing affordable quality healthcare. In other words, we will expand and focus more on the areas where we already have a presence. First, we want to become dominant state player. Second, a dominant regional player and next, a multi-regional player and finally a national player. We are steadily progressing in this direction.

**What have been the highs and lows of this transformative journey?**

We have had a fairly smooth journey because of our steady adherence to quality standards and affordability. Finding the right talent for Tier II & III areas is not an easy thing, though we are able to accomplish the task. There have been financially stressful occasions at times that were temporary and normal in any business cycle.

Coming to Highs the confidence and trust reposed in us by the public and investors in our public issues is gratifying. It is indeed a testimony to the eventful Journey of KIMS over the years. As I said earlier, the smiling face of the patient is a high which I am fortunate enough to receive in abundance all the way.

The steadfast support of my colleagues who have travelled with me all along is yet another high that keeps me going.

**KIMS has been a pioneer in several medical services through the latest technologies in the field. Could you elaborate on this a bit?**

Patients, Doctors, Technology and Investors are the four pillars that support us. The patient is at the heart of all our activities, while investors provide us with the necessary oxygen. The doctors and the technology perform the Job.

We are pioneers in embracing technology. It is our continuous quest to keep abreast of the latest developments and acquire technology and equipment to enhance patient care and treatment. From Artificial Intelligence and personalized medicine to digital infrastructure and Robotic surgeries, we are accelerating the transformation of health services for patients. We are committed to harnessing the technology for optimizing benefits to patients in terms of cure, comfort, and economy. Our services will continue to be at the cutting edge, developing the latest research and innovation, further developing personalized treatment, and reaching out to more and more people.

**You have been instrumental in formulating the Rajiv Gandhi Aarogya Sri scheme. Please share some details about it and how successful it has been.**

I would say that Aarogya Sri was a pioneering step and stood as a role model for other states to follow. It became a precursor to many such schemes in other states and also to governments at the centre in the formulation of healthcare schemes for the common public. The scheme made corporate hospitals accessible to millions of poor people who otherwise stood deprived of such benefits. The scheme was intended to open the gates of corporate hospitals to the common man and that proved to be a great success. I feel proud to have played a pioneering role in such a major health initiative benefitting society.

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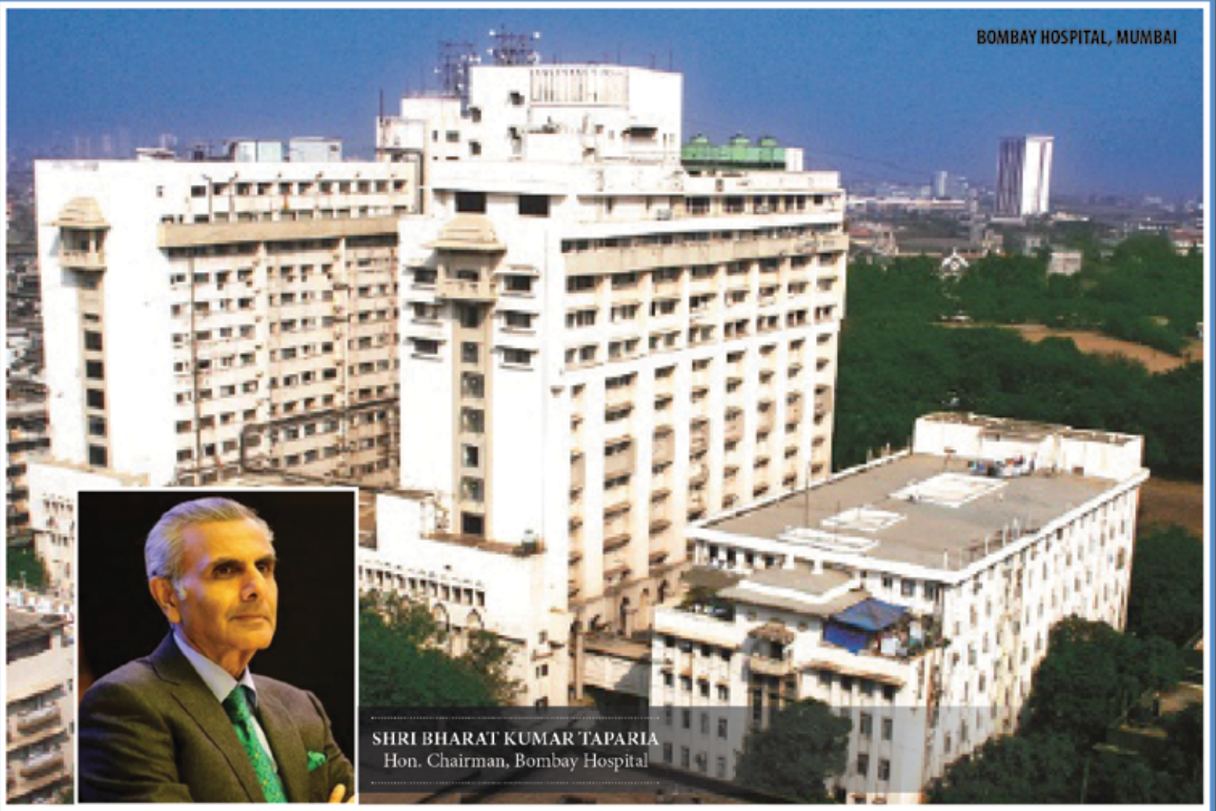
**How do you see the imprint of KIMS in the medical field over the next decade or so?**

The Healthcare sector is so big in our country that it offers an unlimited scope and wide array of opportunities. The government alone cannot meet all the challenges. The private sector has a big role to play in meeting the growing needs. Patient-centric ideology and policies backed by strong principles and ethics will make KIMS a major healthcare player in the country with a special niche for quality and affordability. It will be a preferred destination for patients from all sections of society and will also prove to be a rewarding experience for our investors.

Our endeavour is to create a positive patient experience. Patients are our best ambassadors of goodwill, eventually transforming into increased volumes and good returns on investment. Affordability and quality of healthcare services provided by KIMS are our fundamental assets and long term association with medical professionals and trust of investors are the key factors of our growth.

**IT IS GOOD TO BE BIG**
**BETTER TO BE GOOD**
**AND BEST TO BE BOTH.**
***We intend to be both - BIG and the BEST***




## Medical Excellence, Charity & Fairness

# BOMBAY HOSPITALS:

## RE-DEFINING EXCELLENCE FOR OVER SEVEN DECADES

**BOMBAY HOSPITAL**

(M P Birla Group Charity)

TERTIARY CARE MULTI-SUPERSPECIALTY HOSPITAL

12, New Marine Lines, Mumbai - 400 020

Contact: 022-22067676 www.bombayhospital.com

/BHTrust /Bombay_Hospital

Tertiary Care Multi Super Speciality Hospital

***"The rich can get medical care anywhere because they can afford it, the poor obviously cannot pay for it. Therefore, it should be the endeavour of the Bombay Hospital to render the same level of service to the poor that the rich could get in a good hospital."***

MORE THAN 70 YEARS OF MEDICAL CARE YOU CAN TRUST
(M.P. BIRLA GROUP CHARITY)



These were the words of Shri Rameshwardas Birla, the doyen of the Birla family, while forming the Bombay Hospital Trust, which was constituted on 06th September 1949, as a Public Charitable Trust, Registered Under the Bombay Public Trust Act, 1950, with a main purpose of setting up hospitals.

Bombay Hospital Mumbai, the Flagship Hospital of the Trust was set up in 1952, with 450 beds, of which 150 beds were in the General Ward, for poor patients, where no charges were levied for the bed, food, operation theratre or doctor's charges. The free outpatient department was also set up, where free consultation was provided to the needy patients.

Taking the legacy forward, Shri Bharat Kumar Taparia, Hon. Chairman has transformed Bombay Hospital Mumbai, into one of the finest Multi-Super-Speciality Tertiary Care Medical Centre in the country. The internationally renowned panel of doctors and consultants in every field of specialization has at its disposal, cutting edge equipment supported by highly trained professional nursing staff and dedicated management team.

Bombay Hospital Mumbai is the centre of excellence for; Neuro Sciences, Cardiovascular Sciences, Nephro & Uro Sciences, Comprehensive treatment of Cancer and many more specialities. The patients are referred from all over the country and also from abroad.

With a view to cater to the medical needs from Central part of India, the Bombay Hospital Trust under the leadership of Shri Taparia, has set up a State of Art 600 bedded Multi Super Speciality Tertiary care Hospital, at Indore, Madhya Pradesh, in October 2003. In less than 19 years Bombay Hospital Indore has become a centre of excellence and a referral hospital for whole of Central India.

"Bombay Hospitals in Mumbai and Indore have emphasized on Medical Excellence. Our third hospital under the trust will be shortly commissioned at Jaipur as Bombay Hospital Jaipur.Our aim is to build institutions rather than hospitals. We have a unique model where our doctors provide tertiary care treatment for all patients, in an academically stimulating environment", says Shri Taparia.

### TERTIARY CARE MULTI SUPER SPECIALITY BOMBAY HOSPITAL (MUMBAI)

- All Medical Facilities Under One Roof, Providing Patient Care as Per International Standards.
- Premier Hospital in India with 750 Beds, which is one of the Largest in the Private Sector.
- 4 Buildings with 6,00,000 sq.ft. Built up Area.
- 240 Internationally renowned Consultants having the highest qualifications and a wealth of experience.
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- 141 Critical Care Beds.
- 24 Operation Theatres and all Diagostic Departments, Equipped with Latest State-of-the-art Cutting Edge Technology.
- University Recognised Teaching Hospital Offering Post Graduation in Broad & Super Specialities (DM, M.Ch, MS & MD) Affiliated to Maharashtra University of Health Sciences (MUHS) and Recognized by Medical Council of India (MCI).
- Bombay Hospital College of Nursing for B.Sc and M.Sc Courses Affiliated to Maharashtra University of Health Sciences (MUHS) and Recognized by Maharashtra Nursing Council (MNC) and Indian Nursing Counsil (INC).

# VALUE-BASED CARE IN HEALTHCARE IN INDIA'S DIGITAL UNIVERSE POWERED BY BIG DATA ANALYTICS

**Healthcare providers in India have an opportunity to advance care delivery and reduce costs by utilising Big Data. Technology has continually advanced with AI and machine learning offering data gathering and analysis techniques that can transform care delivery. In conversation with Ishiqa Multani, President, Sagar Group of Hospitals, to understand her views on the application Big Data Analytics in Indian healthcare.**

**ISHIQA MULTANI** President, Sagar Group of Hospitals

> *"One of the most effective strategies that Indian healthcare providers can apply to improve healthcare delivery is using big data analytics to offer value-based care."*

**What is the role of Big Data Analytics (BDA) in Indian healthcare system as we are advancing our usage of digital technologies?**

Healthcare in India is a complex system limited by strict rules and regulations. The system includes varied stakeholders; patients, doctors, hospitals, pharmaceutical companies and healthcare decision-makers. One of the most effective strategies that Indian healthcare providers can apply to improve healthcare delivery is using big data analytics to offer value-based care. When applied in healthcare, big data incorporates a large quantity of heterogeneous data amassed from numerous sources such as electronic health records, medical devices, genomic sequencing and pharmaceutical research, among others. Some of the notable characteristics of the data are that it is available in extraordinarily high volumes, highly variable in structure and nature, and spans the health industry's vast digital universe. This huge amount of data can then be converted to actionable insights using Artificial Intelligence (AI) and deep machine learning. Applying these technologies to analyze big data can help healthcare providers to discern valuable hidden patterns and additional information, including unidentified patient needs and desires and market trends. This information can then help healthcare providers in India provide personalized care to patients and better disease diagnosis.

**Big Data Analytics is more of a phenomena than a specific technology. Can you elaborate more on it?**

In literature one can find multiple definitions of Big Data. The Big Data concept is constantly evolving and for now we are focusing more on the process of creating value from large datasets using tools and technologies.In healthcare, big data architecture incorporates structured and unstructured health data. On the one hand, structured data comprises data that can be searched and managed in relational databases and other database management systems. An example of structured data can be obtained from electronic health records (EHR), which incorporates records of patients' health information such as their demographics, vital signs and lab tests. On the other hand, unstructured data contains complex data that cannot be easily organized using pre-defined structures such as clinical notes and reports obtained from EHR. Healthcare providers can extract unstructured data using specialized deep machine learning and AI systems and then feed it back to customer data platforms to be more readily available. This strategy turns the data into more actionable insights by revealing patterns, problems and evidence for action.

**How can Big Data Analytics (BDA) help make the Indian healthcare system more efficient?**

The Indian healthcare system has faced multiple hurdles, including inadequate access, increasing chronic diseases, and poor insurance adoption. New ways of addressing these challenges can be found in the industry players utilising big data along with expanded infrastructure and efficiencies. Particularly, the move can help Indian healthcare providers transition from acute and episodic care models to value-based care. Traditional episodic care models involve providing healthcare for a particular episode whose core aim is to eliminate symptoms when an ailment arises. This model is particularly challenging with chronic diseases as only addressing the symptoms leads to the disease reoccurring multiple times. However, healthcare providers can utilise available patient information to transition and offer value-based care. The new care model adopts a more holistic approach that minimizes symptom reoccurrence. Notably, the information obtained through structured and non-structured data enables care providers to address the causes of diseases and continually combat symptoms. This means that proper use of the data will allow healthcare organizations to support clinical decision-making, disease surveillance, and public health management.

**How can Big Data contribute to the health initiatives taken by the Indian government?**

Implementing big data analytics for value-based care in India would help the government advance its universal healthcare program. The program's tagline is "everyone, everywhere", indicating its ultimate goal of ensuring that every individual in India gains access to essential healthcare services. Health information systems can provide the government with data to monitor, assess, and improve the health system and services to meet the needs of all individuals. When big data analytics are used, they help in better resource allocation, improvement of healthcare services and the extension of services to more citizens. Again, these goals are achieved by turning raw structured and unstructured data into actionable information for the ministry of health, national health insurance schemes and other stakeholders. Offering broken-down information would enable the stakeholders to identify fields specific to their operations and develop strategies for care advancement.

In addition to ensuring enhanced healthcare coverage, big data can also significantly reduce healthcare provision costs. This strategy is being applied in some of the first world's countries, and it involves turning to big data analytics to cut down on overspending on poor stock management, staff deployment and patient care. Healthcare providers can implement big data predictive analytics, which use modelling and forecasting to determine things that are likely to occur. This information helps healthcare providers to estimate risk scores for patients and determine those who may need additional attention. A similar outcome is achieved through diagnostic analysis, which uses big data to analyze why an event occurred. The information on events and factors that led to its occurrence is then used to formulate steps that can help in preventing its future occurrence. These steps significantly reduce healthcare delivery costs as providers become more prepared and informed on the most effective ways of handling various situations. Particularly, they can predict episodes based on real-time data and offer more value-based care.

**Finally, in your opinion, what should be the roadmap for Big Data in Indian healthcare system?**

Globally, in recent years, healthcare management is changing from a disease-centered model to a patient-centered model, even in value-based healthcare delivery model. To provide effective patient-centered care, it is necessary to manage and analyze healthcare Big Data. The priority for decision-makers is slowly shifting towards promoting proper health attitudes and prevent diseases that can be avoided. This became visible and important especially during the Covid-19 pandemic. Considering the extensive benefits of using big data analytics to enhance healthcare delivery, the Indian government should intervene and implement policies that promote their adoption in the healthcare sector. The policies can include those that govern interoperability, which involves the flow and exchange of the information and data extracted through machine learning and AI. This seamless patient data flow is crucial as it will enable healthcare providers across the country, to access data specific to their patient demographics and transform it into actionable insights. ■

> **"When big data analytics are used, they help in better resource allocation, improvement of healthcare services and the extension of services to more citizens."**

> **"To provide effective patient-centered care, it is necessary to manage and analyze healthcare Big Data. The priority for decision-makers is slowly shifting towards promoting proper health attitudes and prevent diseases that can be avoided."**

REVOLUTIONISING HEALTHCARE

# Providing World-class Technology & Unmatched Clinical Expertise

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- Minimal Access Surgical Sciences and General Surgery
- Obstetrics & Gynaecology
- Paediatric Sciences
- Rehabilitation & Sports Medicine

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**GE Premier 3T and Signa Architect 3T MRI**
- 1st Installation in South Asia
- Unique, Light & Flexible Air Coil Technology
- Paediatric-friendly

**Robotic Surgery by Da Vinci XI along with an integrated Operating table**
- Precision Surgery, Shorter Stay & Faster Recovery
- Less Scarring, Pain & Blood Loss

**CORI Orthopaedic Robot**
- 1st Installation in Western India
- Superior Accuracy with Implant Placement
- Smaller Incision, Faster Rehabilitation

**Alcon Lens Laser**
- Image-guided Cataract Surgery
- Bladeless Surgery
- Improved Patient Safety and Faster Recovery

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- Ultra Low Radiation Dose Imaging & Poly-trauma Imaging
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- Most Advanced Cardiac Scanner in 4 seconds without Pre-medication and Heart Rate Control
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**Phillips Azurion Cath Lab**
- World's most Advanced Cath Lab & India's First State-of-the-art AI based System with Structural Heart Suite Capability
- Includes a CVxi EchoNavigator™ & HeartNavigator™ (Live Echo & Live X-ray Fusion)
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**Hokoma Robot Assisted Gait Rehabilitation System**
- World's Leading Robotic Medical Device for Physiological Gait Training
- Cutting-edge Technology which Improves the Therapy Outcome by Providing Intensive, Individualized Training with Feedback
- Gait Rehabilitation Therapy for Adults and Children

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RESPECT FOR LIFE

# NURTURING HEALTH OF THE LESS FORTUNATE

**Endowed with an inspirational persona, Dr. Minnie Bodhanwala, is the CEO of super speciality public hospitals, Nowrosjee Wadia Maternity Hospital (1926) & Bai Jerbai Wadia Hospital for Children (1929), Parel, Mumbai. With her exceptional leadership and professional skills, she has transformed both the hospitals into regional healthcare hubs for the underprivileged. A renowned doctor, administrator and a philanthropist, she is recipient of over 150 prestigious awards acknowledging her immense contributionto healthcare and various social welfare initiatives.**

> *"A people's person, Dr Minnie is adept in managing diverse groups of people, an asset proving effective in successfully running the two hospitals"*

**Dr MINNIE BODHANWALA**
CEO, Wadia Hospitals

## A ZEALOUS VISIONARY

A Master Black Belt in Six Sigma, Dr. Minnie Bodhanwala, made a mark at Harvard Business School as a participant, who completed the 2021 session of Strategy for Health Care Delivery at the world's premier business school and achieved a Certificate for Sustainable Business Strategy from Harvard Business School Online. Recently, she was awarded the Certificate for Women on Boards program by Harvard T. H. Chan School of Public Health. She is all about women's power in the true sense with enviable achievements to her credit spanning life's diverse domains.

Her inherent nature to learn, grow and share is from where she draws her unflagging energy to pack in so much within 24 hours, yet raring to go for more. With her unflinching dedication, excellence, innovation and sustainable vision, she has transformed the landmark Wadia Hospitals in Mumbai, both charitable semi-government organizations, elevating them to the league of India's top corporate hospitals. Not one to be soft on herself, she is a hard task master and perfectionist to boot.

Standing in good stead is Dr. Minnie's strong domain knowledge in implementation and execution of business strategies, ensuring high-quality standards in service delivery, identifying control enhancement modules, identifying significant issues and solving them and proposing resolutions. Today, patients swear by the quality, safety and affordability of services rendered in an ambience of compassion made accessible to the underprivileged women and children of the country. When other major hospitals in Mumbai shut the door on the conjoined twin babies, Riddhi Siddhi, Dr Minnie created history by saving their lives by treating them in Wadia Hospital. She is much sought after for her leadership skills by several





organizations in advisory capacity and as patron.

A people's person, Dr Minnie, is adept at managing diverse groups of people, an asset proving effective in successfully running the two hospitals with 925 beds, staff strength of almost 1800 including medical, paramedical and administrative manpower. An ethical enterprise originator, she nurtures and executes new ideas, engages in multiple projects, recreates branding for organisations, establishing business verticals and is confidently taking the organisation to the next level. She is also advisor to the Chairman of Wadia Group for CSR activities.

## IGNITING NEW HOPE

"Quality in healthcare should never be compared with the price of the services; every patient deserves quality and safe care at any healthcare institute", this is what compelled Dr Minnie to start her career with dental practice. The turning point in her life was when as a co-ordinator surgeon to set up the First Dental unit on the lifeline express i.e., mobile hospital on train, gave her a unique perspective of reaching out to a larger number of people and create much more impact in the society. This opportunity got her more interested in healthcare management.

## INSPIRATIONAL JOURNEY

Inspired by Mr Nuslin. N. Wadia, the Chairman of Wadia Group, Dr Minnie, holds him in high reverence acknowledging that his lessons on the power of team work, his support and strategic guidance transformed her life into that of an achiever.

In the recent unprecedented Covid pandemic, Dr. Minnie,was in the forefront in the relief and rehabilitation programs that includes setting up a 20-bedded isolation ward at the Children's hospital with all the supporting critical care equipment, providing hot meals and grocery hampers to families. In all, the hot meals served were 60 lakh.

The region owes it to Dr Minnie's unrelenting endeavours that today the paediatric hospital proudly hosts the largest NICU in the country with 110 beds and caters to more than 30 Paediatric services, setting –up centres of excellence at BJWHC in different specialities offering comprehensive treatment to all children under one roof was another achievement.

With Dr Minnie's efforts, Wadia Hospitals developed a dedicated nodal center for Clubfoot treatment in Maharashtra, Cancer clinic, Malnutrition, HIV, TB, Epilepsy, Occupational therapy, a clinic for children suffering with MDVI, a one of a kind initiative in this region, and an IVF center for poor couples who cannot afford expensive treatment. The hospitals cater to more than 4,00,000 patients every year.

To engage the community and help spread awareness for prevention of cardiac diseases in children and to support children who cannot afford expensive cardiac surgeries, Dr. Minnie started the initiative 'The Little Hearts Marathon' (LHM) with heart-touching success stories of beneficiaries.

## TAKING FORWARD A LEGACY

BJWHC is also the first hospital in India having accreditation from the American Accreditation Commission International (AACI). Also, it is the only centre in Western India that provides a zero day dialysis for new-borns and the first in India to identify the condition of Multisystem Inflammatory Syndrome (PMIS) in COVID-19 positive children.

The enterprising Dr Minnie has revamped the Nowrosjee Wadia Maternity Hospital. The first of its kind medical centre offers specialised Obstetrics and Gynaecology care exclusively for women and caters to their changing needs through different stages of their lives. The I.V.F (A.R.T) Center at NWMH is the first in India to achieve QAI accreditation for IVF services. The hospital also acts as a tertiary level referral center to help rehabilitate women and their families. For their quality care and healthcare services, the hospitals, have received over 150 prestigious international and national awards. True to their mission, these hospitals continue to serve one and all with compassion. Behind their success lies relentless hard work and grit of a lady doctor with a mission. ■

## ACHIEVEMENTS

- Featured in India Forbes March 2019 as a "Globally Recognized Indian Business Leaders"
- Ranked 2nd Position among 25 legends of Healthcare Industry in India by Medicare Insight Magazine.
- Recipient of over 100 awards, accreditations and achievement from National and International organisations.
- Rated amongst the top 25 Living legends of Healthcare in the country.
- Recognised Six Sigma Master Black Belt Expert to undertake Brown Field and Green Field Projects with expertise in revenue generation and crisis management.
- Member of Vishaka Committee, handling Sexual Harassment cases of women at work place for Wadia Group of companies.
- Principal Assessor with National Accreditation Board for Hospital & Healthcare Providers (NABH)
- Internal Auditor Joint Commission International (JCI)
- Internationally recognized auditor for ISO 9001 & 14001

- Advisor to Impact India Foundation, supporting their collaborative "Hospital-on-Wheels" project with UNDP, UNICEF and WHO.
- Advisor to the Modern Education Society, which operates 7 colleges in Mumbai and Pune, Advisor for Britannia Nutrition foundation & Sir Ness Wadia Foundation,
- Director at Bombay Dyeing Mfg & Co. Ltd, National Peroxide Ltd and the Bombay Burmah Trading Corporation, Ltd.

SAIFEE HOSPITAL
Under the auspices of Saifee Hospital Trust Reg. No. E-5448 (Bom)

# Modern and affordable Healthcare

The Right to health is a fundamental right under Article 21 of the Constitution of India. Affordable and quality healthcare is the right of every human being. But as it is rightly said that 'everything comes with a cost' and so does modern healthcare. Health is one of the central pillars of a nation's Human Development Index (HDI) that indicates its prosperity.

Regardless of socioeconomic class and means, the masses prefer high quality care even if it is more expensive. Studies have shown that at the time of discharge, it gets extremely tough for patients from lower income groups to settle the final bills. Large number of households are pushed into poverty for having to pay healthcare out of their own pockets.

In view of the above, the need of the hour is to reform the healthcare sector by framing sustainable and affordable healthcare models. Here are some common measures on implementing strategies to rise to the challenges and seize opportunities:

- Maximum use of generic medicines in place of branded ones.
- Proper channelization of the donations and charity received.
- Rationalizing the doctors' fees for deserving patients.
- Maximum utilization of the institutions' resources.
- Innovation that will help in bringing down the expenses.
- Adequate / more coverage by healthcare insurance.
- Collaborations with international organizations for research .

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REVOLUTIONISING HEALTHCARE

Healthcare costs have always been a significant concern. Mass campaigns needs to be initiated by the government encouraging the masses to get themselves and their families insured. It is relatively evident that people without insurance live sicker and die younger.

There is still a long way to go for vital healthcare to be enjoyed by all, which can be close to attainable through the active involvement of the government at the central as well as the state level through proper healthcare financing and budgeting.

# AT THE HEART OF THE FUTURE OF HEALTHCARE

**The Mission Hospital has created an ecosystem around it. The popularity of the hospital and the inflow of patients from all across India and the neighbouring countries has led to a thriving business community in Durgapur.**

The buzzing tea stall right outside The Mission Hospital, Durgapur, you'll hear Sanatan Mondal, the tea stall owner recount the way the entire geography of Immon Kalyan Sarani has changed since the day the Mission Hospital came up. Then he would go on to add the miraculous stories of critical surgeries, impossible recoveries and prayers getting answered- things that he had overheard as he served that second cup of tea to the junior doctors lingering at his tea shop during their breaks. They would refer to Dr. Satyajit Bose as Bose Sir, and recount incidents which makes Bose Sir the harbinger of 'Hope' in a region that was deprived access to specialised healthcare facilities, up until the gates of The Mission Hospital Durgapur were opened.

**The success story of Mission's business model, the strategic implementation and its vision has been replicated in other business like Eye Care etc, something that has always been in Dr. Bose's radar. This gave birth to 'Dvita Eye Care', a super speciality eye care facility in Durgapur.**

Today, The Mission Hospital employs 1700 people and attracts patients from the entire Eastern India, SAARC countries and Africa. A separate building in the same campus of The Mission Hospital will soon house 250 more operational beds along with a Day Care Centre, was commissioned in December 2021. The Mission Hospital has created an ecosystem around it. The popularity of the hospital and the inflow of patients from all across the India and neighbouring countries like Sri Lanka, Bangladesh and Nepal, has led to a thriving business community in Durgapur. With homestays, hotels, restaurants, medical shops, transportation businesses growing as Mission kept adding more miles to its reputation. In 2021, Dr. Bose started a new Diagnostic and Day Care Centre in Asansol, christened "The Mission Neighbourhood & Advanced Patient Care". This diagnostic chain is now ready to spread its footprint all across smaller towns of Bengal, Bihar and Orissa. The success story of Mission's business model, the strategic implementation and its vision has been replicated in other business like Eye Care etc, something that has always been in Dr. Bose's radar. This gave birth to 'Dvita Eye Care', a super speciality eye care facility in Durgapur. Which has, within a short span, been christened by the Times of India as the Best Eye Hospital in the Eastern region. But the juggernaut of creating the best infrastructure and health facilities in the East keeps rolling. Dr Bose is now embarked on the construction of 500 bed State of the Art Cancer & Organ Transplant Centre, a facility that will be built across 10 acres of land and with its own helipad and air ambulance facility to airlift and bring in patients who need critical care. This new age hospital is being built in BAPL, Andal Airport, connecting the hospital by air, rail and land at the same time. Dr. Bose believes that this mammoth initiative is going to be a game changer in Healthcare and has deployed firms in the US to design and execute the facility.

Dr. Satyajit Bose is someone who has always believed that being a brilliant doctor is not enough - Doctors who have the power to impact lives should be accessible to everyone. After passing M. Ch, in 1995, and while training with Dr. Sudhansu Bhattacharya in coronary artery surgery for three years Dr. Satyajit Bose didn't just run a successful high-volume program in "Total arterial CABG with bilateral internal mammary arteries joined in a y-manner" he carefully built the bone structure of a plan to make healthcare accessible to all. By 2003, Dr. Bose joined Apollo Gleneagles in Kolkata as the Chief Cardiac Surgeon and ran a successful program of adult cardiac surgery, but he had set his sights on taking the excellence of what he did and build the infrastructure around it to serve more patients. Patients who didn't have access to futuristic healthcare.

As he kept adding to his skills in mitral and aortic valve repairs, pulmonary autografts and other aortic root surgeries, his dream to take healthcare to the regional parts of Bengal took shape in the form of a 400 bedded Superspecialty Hospital in Durgapur - The Mission Hospital. He has done more than 35000 heart surgeries till date.

The hospital opened its doors in the year 2008 and has kept growing ever since. It became a first in running a successful cardiac surgical program of 1800 adult and paediatric cases a year and The Mission Hospital business model was also accepted as a case study in the Harvard Business review. The service of high quality healthcare had met its very own protagonist in Dr. Satyajit Bose.

But, Bose Sir, pushed further. He knew that his own growth as an individual would bring more value to the system of healthcare that he was building. He felt the need to go deeper, give more access to the tier 3 tier 4 towns of Bengal and its surrounding states. For this, he had to go beyond the realms of medical science and expertise in surgery; he had to build a successful business infrastructure. This pushed him to complete a Management Diploma from IIM Ahmedabad, a course in Analytics & Digital Marketing from IIM Bangalore and another Management Diploma in Financial Management from ISB Hyderabad.

Dr. Satyajit Bose has gone beyond the definition of a brilliant cardiac surgeon. He believes that he is on a mission – A mission to change the way healthcare is delivered to the people who most need it. Making it accessible. Having the heart to look at things and say 'Why not?' ■

## SUCCESS STORY

**The hospital opened its doors in the year 2008 and has kept growing ever since. It became a first in running a successful cardiac surgical program of 1800 adult and paediatric cases a year and The Mission Hospital business model was also accepted as a case study in the Harvard Business review. The service of high quality healthcare had met its very own protagonist in Dr. Satyajit Bose.**

# APEX KIDNEY CARE PVT. LTD.

## Leveraging on its Innovative, Adaptive, Ethical Services

**India has established itself as the hub of quality and affordable healthcare. As a leading healthcare provider in Asia, the country has also witnessed impressive breakthroughs in oncology, diabetic care and nephrology with the most significant developments in the past few decades.**

With diabetes and hypertension growing rapidly in our country, end organ damage leading to chronic kidney disease( CKD) has seen exponential growth. As a patient progresses to CKD stage 5 (CKD 5) the only 2 available options for survival are kidney transplant or maintenance dialysis. Acute shortage of organs for donation along with absence of transplant registry and lack of awareness results into only five percent of CKD 5 patients getting proper transplant. Hence, maintenance dialysis becomes the most common option for these patients to sustain life.

Dialysis treatments are increasingly becoming more accessible and safer while ensuring desired treatment outcomes and patient benefits. However, the dialysis services market has become crowded in the past few years with a sudden influx of service providers only few of which are professionally managed with adequate competency and capability to ensure such critically ill patients receive global quality care. The need of the hour is to identify a dialysis service provider with the experience, innovation and capability to provide "value for money" for patients in any scenario.

Enter Apex Kidney Care (AKC), an acclaimed chain of Dialysis clinics offering these services.

### DRIVING EXCELLENCE SINCE 15 YEARS

AKC was founded in Mumbai by a small group of five nephrologists who dreamt of creating world-class haemodialysis facilities across India. Today, AKC has a comprehensive portfolio of nephrology services, including dialysis (in-centre and at-home), consultation, pharmacy, vascular access, pathology and nutritional consultation.

AKC offers stellar nephrology services in over 180 centres across nine states in India and is proud to have treated over 1,00,000 patients and completed more than 30,00,000 dialysis treatments till date.

The exceptionally high quality of services and ethics have earned AKC reputable partnerships with distinguished corporate hospitals and renowned charitable trusts along with national organisations like the Pradhan Mantri National Dialysis Program (PMNDP), a part of the National Health Mission (NHM).The organisation runs multiple standalone centres and partners with multiple state governments and municipal corporations in private public partnership model with an enviable presence in several states, including Maharashtra, Goa, Madhya Pradesh, Delhi, Rajasthan, Gujarat, Tamil Nadu, Bihar and Telangana.

### A WIDE ARRAY OF CUSTOMISED SERVICES

AKC works on the following critical pillars, namely; standardised services, consistency, unmatched quality, along with the passion and empathy of its founding nephrologists, differentiate AKC from innumerable other players in the Indian dialysis market. To appreciate what makes AKC unique in the nephrology space, here are some of the necessary services they offer:

**■ IN-CENTRE DIALYSIS**

This AKC service across various clinics, hospitals (government and private), trusts and standalone centres forms the backbone of the company with thousands of patients across India benefiting out of this.

**■ HOME DIALYSIS**

A pioneer for reliable and safe home dialysis, AKC provides patients with flexibility and comfort while ensuring the treatment outcomes. Patients can have routine pathology tests, medical examinations and periodic doctor visits at their doorstep including medicine supply, day care services and nutritional consultations. Patients are provided dedicated dialysis machine with quality water feeding from their personalised RO system in their residence, with every session being physically monitored and supervise by trained professionals

**■ KIDNEY CARE LAB INTERPHASE**

AKC is equipped with state-of-the-art infrastructure and human intelligence that offer a wide range of diagnostic procedures that help prevent and monitor kidney diseases and save lives.

**■ VASCULAR ACCESS INTERPHASE**

Adequate blood flow is essential for dialysis and plays a critical role in ensuring desired outcome. Catheter insertions, fistula, and graft creation – AKC addresses every need to ensure optimal blood flow. Insertion, creation and/or removal of these devices along with surveillance are day care treatment options at an extremely affordable cost.

**■ PHARMACY INTERPHASE**

AKC's pharmacy is one of the sought-out dispensaries in Mumbai for kidney medicines. Patients can opt for required prescription medicines delivered to them using AKC's exclusive purchasing platform at a highly affordable rate.

**■ DIET AND NUTRITION INTERPHASE**

AKC regulates and monitors patient diet to ensure optimal health with in-house health consultants who provide customised diet charts for every patient. Over the years AKC has evolved into a comprehensive kidney care ecosystem, with various customised service divisions interfacing seamlessly into the primary patient care model, ensuring smooth operations as well as a superior patient experience which is periodically monitored.

### EQUIPPED WITH THE BEST-IN-CLASS TECHNOLOGY AND POWERED BY INNOVATIONS

As a pioneer in kidney care, AKC has experienced its share of challenges and opportunities. Passion and determination enabled them to innovate, adapt and overcome hurdles.

• The company has mapped every piece of clinical and patient data leveraging their proprietary healthcare application– Axis EMR. This portal helps AKC closely monitor all its patients clinically and digitally to ensure they meet their health targets and lead regular, productive lives with fewer complications and hospitalisation.

• With a glaring lack of formal training in dialysis technology, AKC started Apex School of Dialysis Technology in 2011. Under this, AKC offers a degree and diploma courses in Dialysis Technology which is affiliated with the Tata Institute of Social Sciences, endorsed by AICTE and the Maharashtra State Board of Vocational Education. AKC thus plays a critical role in skill and knowledge development of paramedics alongwith doctors to ensure quality dialysis delivery in our country.

• AKC manufactures RO plants that are highly economical and match the regulatory and medical needs of in-centre and home dialysis patients.

### TEAM DRIVING EXCELLENCE

The innovations and advanced technology at AKC are supplemented with the drive and passion of the AKC team that works tirelessly to see the company thrives as per plan. Headed by Indranil Roy Choudhury, CEO of AKC, a dynamic panel of leaders support him in various capacities:

**Promoters:**

- Dr Jatin Kothari
- Dr Viswanath Billa
- Dr Shrirang Bichu
- Dr Rajesh Kumar
- Dr Vaishali Bichu
- Sheetal Kothari

**Investors:**

- Mr. Rupen Kothari
- Mr. Hitesh Mehta

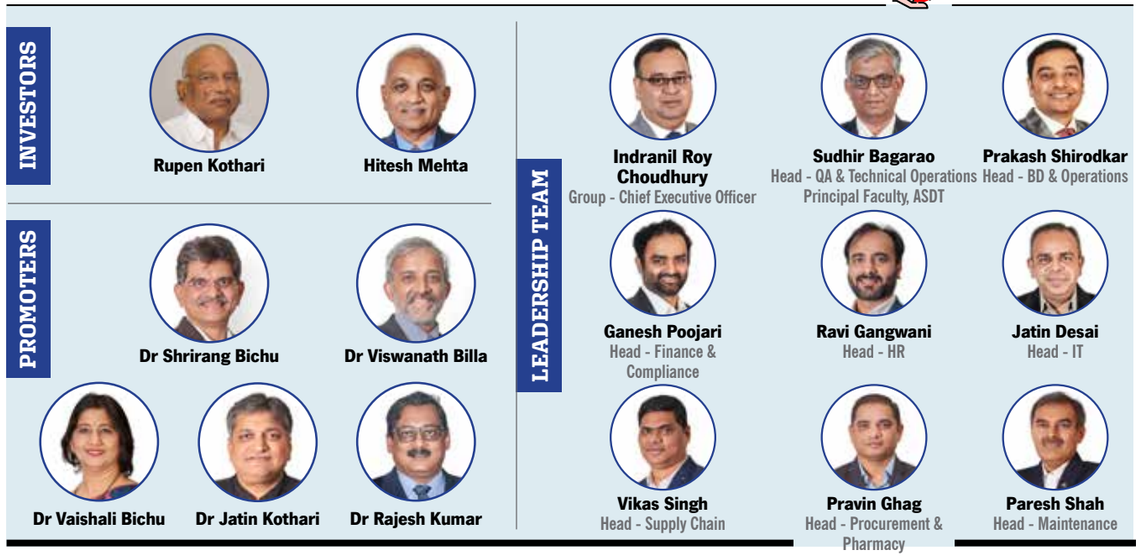
The team at AKC is over 1,000 professionals strong, including leaders and associates. AKC is a people-centric organisation that uses contemporary and specialised strategies to ensure employee engagement and empowerment. The management values its employees and ensures everyone is on board with the company's vision. Employee efforts are appreciated and recognised while people are empowered to take to take ownership of their roles.

The company ensures it's not all work and no play with monthly recreational sessions and events. The company strongly believes in equality and inclusivity with over 45% of the staff being women, to foster a culture of empathy, trust, and friendship and enables cross-functional collaboration to boost productivity and innovation at its core.

### THE GROWING TRAJECTORY: MUCH SOUGHT-AFTER GUIDED PATH

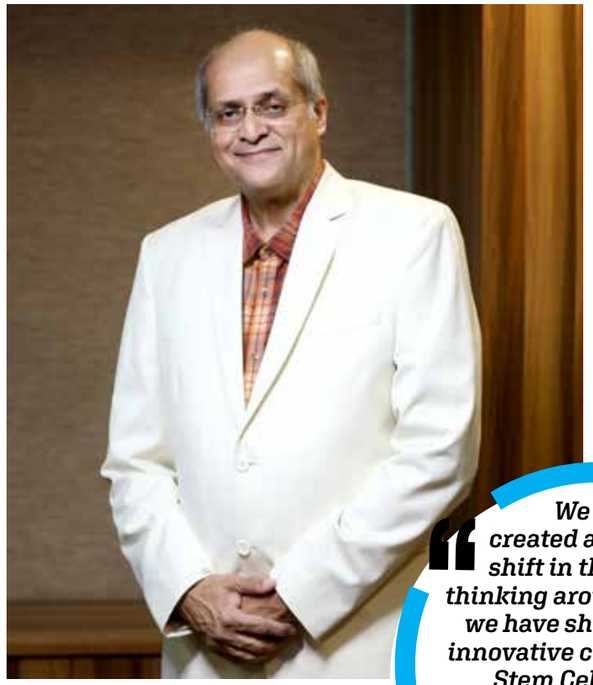
Since AKC set sail in 2008, the company has only seen its footprint grow as it went from one successful milestone to the next. The company has been honoured with the title of Pharma Leaders Most Innovative & Promising Leader in Dialysis Solutions 2019." These gratifying triumphs drive the company, its leadership and its employees to spread their wings wider across the nation and make pioneering breakthroughs in the space.

AKC aims to grow its volume and reach using both private and government business while providing high quality services in the healthcare space. The company has aggressive plans and chalked out a clear road map to increase its home dialysis services and establish additional standalone centres while maintaining business continuity in other parts of its business, including path labs, pharmacy, diet and nutritional consultation and vascular access clinics. ■



# STEM CELL THERAPY - A NEW REVOLUTION IN HEALTH CARE

**Founder and Director of NeuroGen Brain and Spine Institute, Dr. Alok Sharma is the world's pioneer in the field of Stem Cell Therapy for neurological disorders. With over 30 years of clinical experience, he has treated over 12,000 patients from 75 different countries with his pioneering stem cell therapy. He has published over 170 scientific papers and 24 books. He has received several international awards such as the Newton Universal Legendary Award, in Boston, USA (2022), European Award for Best practices in Brussels, (2018), Rose of Paracelsus Award from Oxford, UK (2016), Bharat Gaurav Award (2019), Sushrut Award (2010), SuperHero Autism Award (2021) etc.**



**Dr ALOK SHARMA**
Founder & Director,
NeuroGen Brain and Spine Institute

> *"We have created a paradigm shift in the medical thinking around Autism as we have shown that our innovative combination of Stem Cell Therapy, comprehensive rehabilitation, and integrative therapies can reverse Autism by giving back speech to the children..."*

**You are recognized as an International pioneer in the field of Stem Cell Therapy in neurological disorders. How has this journey been?**

Thirty years ago I started as a conventional neurosurgeon doing all types of regular brain and spine surgeries. I realised early in my career that standard drugs and routine surgery were unable to reverse damage to the nervous system and that the answer to brain and spine regeneration would have to be some form of cellular repair. Following my training at the Karolinska Institute in Stockholm, Sweden, and the University of Colorado Health Sciences, Denver, USA, and then 10 years of basic neuroscience research, I developed our current treatment of Stem Cell Therapy for neurological disorders; we have treated over 12000 patients from 75 different countries with this therapy.

**A world-class institution, The NeuroGen Brain and Spine Institute in Navi Mumbai was your creation. Tell us more about NeuroGen.**

With word spreading about the excellent improvements resulting in our patients from stem cells, we received inquiries from around the world from patients and families seeking this treatment. In 2014 we purchased an 11-floor, 75-bed facility in Seawoods Navi Mumbai so that we could offer our patients comprehensive treatments under one roof; we also provided comfortable staying facilities here. In 2019 we added a second 4-floor, 25 bed facility, in Sanpada in 2019 and are now acquiring our third property also in Navi Mumbai to keep up with the increased worldwide demand. The uniqueness of NeuroGen, apart from its state-of-the art Stem cell labs and OTs, lies also in its very sophisticated equipment for Integrative therapies such as Hyperbaric oxygen therapy, Ozone therapy etc., and the complete infrastructure for comprehensive rehabilitation. Regular physiotherapy, occupational therapy, speech therapy, psychological therapy, and special education aside, NeuroGen has special rehabilitation facilities such as aquatic therapy and a spinal cord injury walking track.

**Your original research has led to a large number of scientific publications. Can you share some of your breakthrough work with us?**

We have over 100 scientific publications in medical journals on the role of cellular therapy in neurological disorders. There is no other institute in the world that has so many publications in this field. Our most pioneering publication, which has been cited extensively, is the World's 1st scientific paper on the role of cellular therapy in Autism. We also published the world's 1st scientific paper on the role of cellular therapy in intellectual disability.

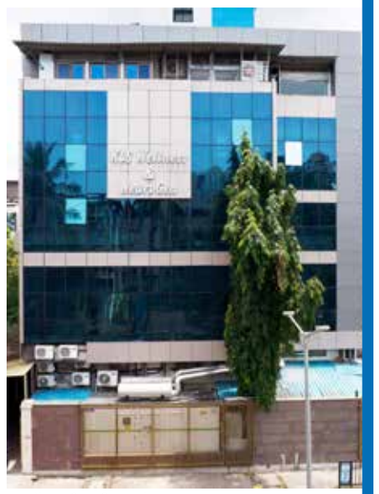
**You have single-handedly changed medical thinking worldwide in the management of Autism for which was once believed there were no treatments. Please tell us how you reversed this belief by using cellular therapy.**

As per USA CDC figures 1 out of 44 children today suffer from Autism. It is estimated that there are around 70 million children on the Autism spectrum worldwide. Till now there have been no medical or surgical treatments for these children and all that was available were rehabilitation programs. We have created a paradigm shift in the medical thinking around Autism as we have shown that our innovative combination of Stem Cell Therapy, comprehensive rehabilitation, and integrative therapies can reverse Autism by giving back speech to the children, settling their behavioral issues, and getting them to be independent and enter the normal education system. We have an over 90 percent success rate and our treatment is very safe. This new hope has completely revolutionized the field of Autism and Neuro-developmental disorder by making India a World Leader in this field.

**Your work has also helped in saving the lives of patients with fatal neurological conditions and those causing paralysis. Can you share some of your results in these conditions?**

Another major breakthrough resulting from our work has been in the management of terminal neuromuscular conditions such as Duchenne Muscular Dystrophy and Motor Neuron Disease. DMD is a medical condition that affects boys and by progressively causing muscle weakness it initially reduces them to a wheelchair and later bedridden existence followed by a 100% fatality in their early 20s. We have shown through our path-breaking stem cell treatments that the deterioration in these boys can be stopped and their lives can be saved. Similarly we have been able to improve the survival of patients suffering from Motor Neuron Disease using stem cells. We have also been able to treat paralysis caused by brain stroke, spinal cord injury, and head injury.

▲ NeuroGen, Seawoods


▲ NeuroGen, Sanpada

**Dr. Alok Sharma is a Professor and Head of the Department of Neurosurgery of the LTMG hospital and college in Mumbai. He is also the Director of KLS Wellness Institute of Anti-Aging in Navi Mumbai. He is the President of the Stem Cell Society (India) and Vice President of the International Association of Neurorestoratology.**

**Recently you have started a new Anti-aging hospital. Can you tell us something about anti-aging medicine?**

Over the last three years, we have expanded into the front-line area of Anti-aging by establishing a separate anti-aging hospital. Through our scientifically validated anti-aging treatments we have documented evidence of the reversal of aging at a cellular level by measurement of Telomeres. We offer a one-week program for anti-aging as well as a weekend corporate wellness option.

**You are going about setting up centers in different parts of the world. Tell us about this.**

Our excellent clinical results and pioneering scientific publications have created a worldwide demand for our services which has resulted in NeuroGen's collaboration in various countries. We have received official permission to set up a stem cell facility from the Government of The Bahamas. We are also collaborating with Race MD USA, to make stem cell treatments for muscular dystrophy available in North America. Other projects in the pipeline include projects in Tanzania and Maldives. In India, projects are being planned in Surat, Kolkata, New Delhi, and Hyderabad.

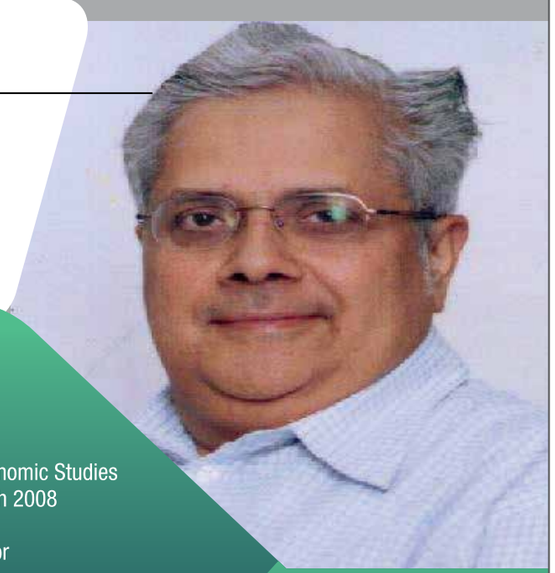
**Tell us about your venturing into the field of Information Technology and plan to set up a digital rehabilitation platform.**

With this digital rehabilitation platform families will be able to take online therapies from therapists across the world in the comfort of their homes. The ease of availing rehabilitation services at home will be transformative in the overall process of giving our special needs children an opportunity to lead independent lives. The launch of this platform is planned for 2023.

Lilavati Hospital and Research Centre

*More than Healthcare, Human Care*

NABH Accredited Healthcare Provider



**DR. SUBRAMANIAN LAKSHMINARAYANAN,** IAS (Retd.)
Principal Advisor to the Board of Trustees,
The Lilavati Kiritlal Mehta Medical Trust

- MSc Chemistry
- PG Diploma from University of Manchester (UK) in Advanced Social & Economic Studies
- Honorary of Doctorate Degree from Forode Federaciones, Mexico in March 2008
- Civil Servant par Excellence
- Highly Respected Corporate Chairman & Committed Hospital Administrator (A crusader for grass-root Administration, Public Welfare & Public Health)

**You are familiar with the private and public sector as an administrator and corporate honcho. How would you sum up your stellar career of over 4 decades in various leading capacities, including experience in policy making?**
I had been a public servant for nearly 4 decades, as a member of the premier Indian Administrative Service and subsequent to my retirement as Secretary to the Government of India in the Union Ministry of Home Affairs, I have also been heading several listed and reputed companies either in the capacity as a Chairman or as an independent director.
It has been very highly educative and exhilarating experience for me, of course, in the governmental sector, as policy making involved balancing out, the various conflicting interests and needs of the various strata of society, like rich, middle-class and poor, it was a very difficult, pain staking and also very challenging exercise. Of course, the main aim, was to fulfill the ambition of the poorest was always the goal.

**How did Lilavati Hospital assignment happen with your background majorly in Home Affairs, IT and Communication sectors?**
The Lilavati Hospital has been built by the family of Mehta's, who are renowned diamond merchants in the world. As I had worked over 7 years in the mineral rich state of Madhya Pradesh as the Principal Secretary, Department of Mines, Mineral Resources, Revenue and Relief and also as Managing Director of the Mining Corporation, I had occasion to meet them in London, when the Govt. of Madhya Pradesh, decided to privatize diamond mining business in the undivided state of Madhya Pradesh.
So, I was requested after a few years, after my retirement by the family Trustees, to be the Principal Advisor to the Board of Trustees and also the Chief Administrator of the Hospital (as most of the Trustees are stationed abroad), reporting to them on day to day basis.

**Today, Lilavati Hospital is among the leading healthcare institutions in the country. What were the pain points that you addressed to bring about this turn around?**
Lilavati Hospital is among the leading healthcare institution, primarily because the best consultants, famous physicians, most competent surgeons and staffs are associated with us. We attract the best available and talented manpower by offering them a little higher share of the revenue, facilities, etc. for all the cases they treat or operate. While the usual practice in most private/trust hospitals in India are 65% to 75% for the consultant, surgeons, physicians, etc. as their share, we offer them 80% as their share. This is a win-win situation for both the hospital and its doctors, consultants and surgeons.

**Competition has not affected Lilavati Hospital; what is your key to success?**
Lilavati Hospital has never believed in self-advertisement, has always ensured ethical medical practice and has never compromised on quality. We always appoint the best doctors, nurses and paramedics and they in turn provide the best quality of health care, hence there is no competition for quality care. Further, we invest in latest technology as far as equipment are concerned ensuring we are abreast with the best in health care industry.

**What factors make Lilavati Hospital stand out in term of Patient Care?**
Our motto has been ***"More than healthcare, human care"*** and we provide world class healthcare at affordable cost. This is imbibed in every individual at Lilavati Hospital and is part of our work culture. We are considered amongst the best in nursing care and with the best consultants in the city is what makes us stand out in terms of Patient Care.

**With the ambitious objective of becoming 'Atmanirbhar' and the finest pool of doctors of world repute, according to you in the evolving healthcare scenario especially after the Covid pandemic, how can they be aligned for mass scale PPP health programs and promote affordability?**
In our effort to become 'Atmanirbar' and the finest pool of doctors, we are already in the process of tie-up with the state Government/s to connect with the rural health centres for providing real-time consultation, online telemedicine, etc. in every block. With the development in the IT sector for online meeting platforms like zoom meeting, etc., our doctors can reach out to mass rural population using the best in technology, especially as experimented during and after the Covid pandemic. We also request our doctors to go in our specially equipped field buses to the rural areas, so that the rural poor in the outskirts of the city can have the advantage of benefitting from the knowledge and advise from our finest pool of doctors.

REVOLUTIONISING HEALTHCARE

# DR SANTANU SEN: BRINGING HOPE TO CHILDREN WITH CANCER AND BLOOD DISEASES

Pediatric Oncologist and Stem Cell Transplanter, Dr Santanu Sen, talks about his journey in changing lives of children with cancer and blood diseases and about his dreams for the future.

**FUTURE ADVANCEMENTS IN CANCER BIOLOGY COULD LEAD TO A FUTURE WHERE ALL CANCERS CAN BE ERADICATED.**

**Q Tell us how you started your career in cancer and stem cell transplantation. What made you choose your field of specialization?**
When I started training in pediatrics, I was appalled by the lack of treatment options for children with cancer, who for the most part suffered due to lack of trained doctors and proper medical care. There were very few centers which could take care of these children and for the most part, it was a slow painful death sentence for them, with no access to any proper therapy. This affected me deeply and I decided to try to change this if possible. Fortunately, I got the opportunity to train in some of the best cancer hospitals in the UK, where I also learned about stem cell transplantation, which at that time was not widely available in India. On my return, I strived to make modern therapy options including the latest transplant procedures for blood diseases and cancer accessible and affordable for every child.

**Q What has satisfied you most about the career path you have chosen?**
I feel that I have been honored to have been given the opportunity to treat and cure children with cancer. A diagnosis of cancer is the most devastating news that any parent can ever hear, but, with proper treatment, more that 80% of childhood cancers are curable. To have the trust and confidence of parents who entrust the lives of their child to us for treatment is deeply humbling. And being able to share the news of a remission and cure with parents, is the most satisfying and emotionally fulfilling part of our job.

**Q What have been the highs and lows on this journey?**
Though, each and every child we cure is a victory, some stories will always remain with me. About 2 years ago, I received a phone call from a distraught parent calling from a cancer ward 2000 km away, where he had just been given the news that his daughter's cancer has relapsed and nothing further could be done. How he managed to get her to us in the middle of a lockdown is a miracle and testimony to his determination. We were equally determined to reciprocate his trust and we used a novel drug regime and an intensive stem cell transplant procedure which worked, and we were able to cure her! Today, the family is happily celebrating at home, and I feel honored that I could have contributed to their miracle. But we don't always win, and sometimes, with deepest sorrow, we have to accept that we would not be able to cure a child. What parents may not understand at times, is that we also get very attached to our young patients, and we deeply grieve for every patient that we could not save.

**Q How have the new developments in technology in the medical field changed things around in the work that you do?**
For years, we have depended on chemotherapy and radiotherapy to treat cancers, but now we have an entirely new class of drugs: immunotherapy. It is a treatment that uses a person's own immune system by boosting or changing it so that the body itself can find and attack cancer cells. Newer immunotherapy drugs are being discovered almost every month, and now we are able to cure patients which would have been impossible a few years ago. It's a rapidly developing field that is going to revolutionize cancer care. And now, we are in the age of precision medicine, whereby we can personalize a person's treatment depending upon their genetic profile and use drugs that will work best for that particular patient. In stem cell transplant as well, previously, only 5-10% of patients would have fully matched family donors and this was a big challenge. But now, we can successfully do a half-matched transplant using any 1st degree relative as donor. This means that now, we can do a transplant and offer a cure for every patient who needs one!

**Q How do you foresee your specialty changing in the coming years?**
We still have the private and the public sectors of healthcare that are somewhat separate. But they don't need to be and we should be able to work together to revolutionize healthcare. In a small way, we have already started the process. A stem cell transplant can cure thalassemia, but for most families the expensive HLA typing test needed to find a donor was beyond their paying capacity. Understanding the problem, in partnership with DKMS Registry of Germany and other NGO partners we conduct free HLA typing camps all over India to find an appropriate donor. And them, we undertake the transplant free of cost in partnership with the Ministry of Health and Family Welfare and CSR funds from Coal India. It is an innovative partnership that is changing lives and such collaborative efforts has the potential to change the entire health sector of our country.

**Q What do you hope for the future in cancer care?**
I know that we will develop better treatment options for our patients, and with newer and better drugs to fight cancer we would be able to treat patients with less toxicity. With modern medical care, we would be able to design tailor-made treatment plans to cure all cancers, and future advancements in cancer biology could lead to a future where all cancers can be eradicated.

# EXPONENTIAL GROWTH ENVISAGED IN INTERVENTION RADIOLOGY INDIA'S NEWEST MEDICAL SUPER-SPECIALITY

**Dr. Gireesh Warawdekar**
**Interventional Radiologist**

**Please tell us why you chose to become a doctor.**
My late father was HoD, KEM Radiology and was very involved with the subject – I recall him doing a lot of work with BARC too. Seeing his passion for the subject, I was inspired to take up Medicine and in particular, Radiology.

**What made you choose your field of specialization?**
While I was specializing in Radiology, it was the period of emergence of many new sub-fields within – and one of them being Interventional Radiology (IR) which really caught my interest. In those days, there were no formal super-specialisation training modalities – you just learnt on the job.

**What has satisfied you most about the career path you have chosen?**
I have always liked working with my hands, and IR afforded me that space. I think I am a people's person in that I like to know and interact with patients who come to me with myriad problems. It is highly satisfying to see them get better and see the relief of their families as they walk out of hospitals within a couple of days as IR procedures are minimally invasive.

**What have been the highs and lows on this journey?**
One of the most gratifying moments is in cases when surgery is a very high-risk option – but IR can get the work done with minimal risk – like in cases of Aortic Aneurysms. I also am grateful that I have been afforded the opportunity to help the younger generation of IR specialists all around the country by sharing the experience I have developed over more than three decades in this field. However, not every time can we succeed in our endeavours – thankfully for me those have been few and far in between. I am touched and feel blessed when I am showered with love and warmth from those whom I have treated and from their families.

**How have the new developments in technology in the medical field changed things around in the work that you do?**

The maximum advances in recent times in Medicine have been in Radiology, and more particularly in IR – this involves more evolved machines, devices and newer software to enhance the ways of treatment. For eg., when I started in IR we had to shape tubing to mimic catheters, and now we have a plethora of them in different shapes and sizes available commercially. Evolution of guide wires, micro-catheters, balloons, stents, coils and embolic agents has revolutionized IR today.

**If you had a choice what would you like to change in your given field of work?**
IR is one of the newest super-specialities in Medicine, and as we have been on this journey almost since its inception in India, we have managed to plug the lacunae as and when we have felt the need. Like for eg., the lack of formal training programmes was plugged by starting a DM and DMB in IR. We have started our own Journal, and our national society is now involved in the development of IR around the world. The society is very vibrant and we tackle issues as they come up.

**How do you see your growth in the coming years?**

**IR is one of the newer super-specialities in Medicine, and as we have been on this journey almost since its inception in India, we have managed to plug the lacunae...**

Life in IR is always teaching you new things – newer procedures are an ever-present truth as we tackle newer challenges in treatment. When we began work in IR in the early 1990s, there were just about thirty of us, and today we are over 1,100 IR specialists all over India. I foresee this exponential growth will continue as advances in medical technology and training are in an accelerated growth phase.





# REVOLUTIONISING HEALTH CARE: TECHNOLOGICAL ADVANCES CHANGING CANCER CARE

Cancer is a dreaded word, which strikes fear in the hearts of one and all. The biggest reason for that is the fatal outcome traditionally associated with it in the past. Historically, the research on cancer was very poor. However in the recent years, after the discovery of the human genome, there have been many huge leaps in research. This combined with technological advances has improved the patient survival in early as well as some advanced cancers and has also improved quality of life in some terminal cancers.
Dr. Ninad Katdare is one of the few cancer surgeons in India who have been at the forefront of using technology in improving the outcomes in cancer treatment and care. After completing his training in the famed Tata Memorial Hospital in Mumbai, he has spent 3 years in learning new technologies across Europe. Since the last 10 years he has been using them for the improvement of survival as well as quality of life of patients suffering from cancers. Few examples of these are as follows:

**1. PIPAC:** It stands for Pressurised Intra-Peritoneal Aerosolised Chemotherapy. Dr. Katdare pioneered the use of PIPAC in India in 2017. Since then, this technology has benefitted quite a lot of patients who are in the last stage of cancer. The best results have been found in stomach and ovarian cancers with peritoneal metastasis and in rare cancers like pseudomyxoma and mesothelioma.

**2. HIPEC:** It stands for Heated Intra PEritoneal Chemotherapy. Dr. Katdare is one of the first few people trained in India for this technology. With the judicious use of this technology, cure can be achieved in some advanced cancers like pseudomyxoma, peritoneal mesothelioma and mucinous cancers of ovary amongst others, where routine treatments like chemotherapy and radiation fail.

**3. NIPS:** It stands for Neo adjuvant Intra - Peritoneal and Systemic chemotherapy. Using a special chemotherapy port system implanted in the abdominal wall, chemotherapy can be infused in the abdominal cavity at regular intervals. This along with routine intravenous therapy, can often give rapid improvement in advanced cases of stomach cancers, pseudomyxoma and few others and in some cases may even make them amenable to surgery, even in the advanced stages of cancer.

**4. Robotic Surgery:** While the above three technologies are useful in the improvement of survival of patients even in last stages of cancer, Robotic surgery has changed the way complex surgeries can be done through small incisions, thus reducing the post operative pain and facilitating early recovery. Originally, only the Da Vinci system of robots were available. However, with the advent of new economical robot systems like CMR (Oxford) and SSI Mantra (Made in India), Robotic surgery may soon become affordable and could be offered to more people suffering from cancer. Complex surgeries like Prostate cancer surgery, partial nephrectomy (kidney saving), Whipple surgery (for pancreas cancer) can be done completely with the surgical robot through sub-centimetre incisions.

**5. TAMIS:** It stands for Trans-Anal Minimal Invasive Surgery. With the use of the TAMIS platform, many low rectal early tumours can now be removed without a scar. The entire surgery is done through the natural orifices i.e trans-anally. In combination with the Robotic Platform, very low rectal cancers can now be treated safeguarding the anal sphincters. This can help many patients avoid the need for lifelong colostomy.

**6. Fertility Preservation:** In gynaecological cancers, many patients are presenting at a younger age. With technological advances in IVF (In vitro fertilisation) and other techniques of fertility preservation like Cryopreservation of eggs/embryo/ovaries, many patients, especially in early stages can be offered fertility preservation. This is possible even in the gynaecological cancers like endometrial cancers, ovarian cancers and cervix cancers. Dr. Ninad Katdare is one of the few surgical oncologists in India who has been trained in Fertility Preservation in Pelvic Cancers. (Gynaecological, Gastro-intestinal, Urologic)
Thus, the improvements in technology are definitely driving the improvements in the survival as well as the quality of life. With the advent of new technologies like NGS (next generation sequencing) and OncoDynamiX and great strides in development of targeted chemotherapy and immunotherapy, cancer care is poised at an interesting juncture.

***Dr. Ninad Katdare is a full time Cancer Surgeon at the HCG-ICS-Khubchandani Cancer Centre at Colaba, Mumbai. It is a state-of-the-art Tertiary Cancer Centre having cutting edge technology including the only Cyberknife in Western India. You can reach Dr. Ninad Katdare at drninad.k@hcgel.com.***

**With the advent of new technologies like HIPEC, Robotics, Next Generation Sequencing (NGS) and others, as well as great progress in development of Targeted Chemotherapy and Immunotherapy, cancer care is poised at an interesting juncture.**

**Dr. Ninad Katdare**
**Cancer Surgeon**
**HCG-ICS-Khubchandani Cancer Centre, Colaba, Mumbai.**

# DR E. RAVINDRA MOHAN: ACCLAIMED EXPERT IN MINIMALLY INVASIVE ORBITAL SURGERY PIONEERING INITIATIVES

**Q Please tell us why you chose to become a doctor.**

Biology fascinated me, and a profession involving its applied aspects in an intellectually challenging and caring manner seemed exciting. I was blessed to have wonderful parents who supported me at every step.

**Q What made you choose your field of specializations?**

I decided on Ophthalmology for its exciting new technologies, and the numerous niche areas available to skill oneself to a leadership role. A relatively fixed work schedule held the promise of a better work- life balance.

The opportunity to train in the niche area of Oculoplasty and Orbit was sheer serendipity. Training and working at RP Centre, AIIMS and Sankara Nethralaya, Chennai helped me establish myself in the field.

**Q What has satisfied you most about the career path you have chosen ?**

Ophthalmology itself is a high impact field. Few joys can beat the one of restoring sight to a fellow human being.

My niche specialty involves, in simple terms, the treatment of everything around the eyeball. All the tissues and structures that surround it, secure it, and nourish and keep it healthy. The importance of this area for a person's eyesight and appearance is immense.

**Q What have been the highs and lows of this journey?**

Most highs in the practice of medicine come from managing challenging clinical conditions successfully, and from having a positive impact on the life of a fellow human being.

The successful operation of a neonate using a minimally invasive technique, after a diagnosis of an orbital tumour on the ultrasound of her mother when she was still in the womb, is one such, and being possibly one of a kind in the world, caught much public attention.

Recognition for work done has come in the form of Honorary Professorships, invitations by numerous professional societies, being nominated to governmental bodies, among others.

**MOST HIGHS IN THE PRACTICE OF MEDICINE COME FROM MANAGING CHALLENGING CLINICAL CONDITIONS SUCCESSFULLY, AND FROM HAVING A POSITIVE IMPACT ON THE LIFE OF A FELLOW HUMAN BEING.**

As regards lows, apart from the rare surgical complication, or unexpected adverse outcome that are the bane of every surgeon's life, I would rate the lack of financial rewards, particularly when one is younger as a major cause of stress.

**Q How have the new developments in technology in the medical field changed things around in the work that you do?**

The cutting edge technology available today include intra-operative navigation, 3-D printing and robotic surgical units. These are making an impact on our practices. The other important tool of note is tele-medicine.

**Q If you had a choice, what would you like to change in your given field of work?**

I would look at ways and means for early identification of talent, and funding for training at top centres in the world in niche areas of specialized work. Also, similar steps to encourage innovative research within the country.

**Q How do you see your growth in the coming years?**

I see enormous growth in my area of work as a result of unbelievable internet penetration as also due to our strong economic growth and the availability of greater disposable incomes. Inter-disciplinary holistic care is the way forward and we are already working on a few initiatives.

I have used a "hub and spoke" model for providing niche speciality care at places as far as Patna, Varanasi, Aluva, Tirupati, and Port Blair while being based at Chennai. This offers enormous reach, and makes great economic sense, while permitting the optimal utilization of an expert's time and skills. Done rightly, it could offer a way to take top class services to the various parts of the country





# MOTIVATED BY MEDICAL DEVELOPMENTS AND MAKING A DIFFERENCE IN PEOPLE'S LIVES

**–Please tell us why you chose to become a doctor.**

I grew up in a family of doctors. Both my father and his dad were eminent cardiologists of their time. Discussions at dinner time quite frequently revolved around how various treatments and procedures saved patients, which in turn changed their lives and those who were dependent on them. These challenging and heroic stories contributed a lot in inspiring me to help others by being a doctor.

**What made you choose your field of specialisation?**

I distinctly remember when the bulb switched on! I had just completed my MBBS. I was staring at the big question of 'what next'. I had recently lost my dad all of a sudden to a cardiac arrest. That was a big blow to the family and I. I felt I didn't have that pillar of knowledge and inspiration to guide me anymore. I knew I wanted to do something different from cardiology. While doing my house job, I had an opportunity to attend an international conference on blood cancers at the Tata Memorial Hospital in Mumbai. They had a galaxy of national and international speakers. I was fascinated by how they diagnosed blood cancer in the lab by looking at a blood film under the microscope and then went to the ward to treat it! I was enthralled when they started discussing about bone marrow transplantation and how it had cured patients from blood cancer! I immediately knew what I was going to do!

**What has satisfied you the most about the career path you have chosen?**

Blood cancers affects people from all walks of life. When a patient gets blood cancer, it's not just the patient, but the whole family suffers. I trained and worked in haematology and transplant in the UK at some of the best centres. Offering bone marrow transplantation to cure a patient and make a difference in the patient's life is probably the most satisfying.

**What have been the highs and lows of this journey?**

Treating patients with blood cancer is a journey

**Dr. Sameer Tulpule**
Consultant, Clinical Haematology, Kokilaben Hospital

**Offering bone marrow transplantation to cure a patient and make a difference in the patient's life is probably the most satisfying.**

which the doctors and patient take together. They do form a bond over time getting to know their near and dear ones. The ability to cure a patient from a seemingly difficult to treat disease by using newer drugs and procedures like a haploidentical stem cell transplant has given hope to hundreds of patients. This is a definite high. Sadly not all patients are eligible for these treatments and don't make it.

**How have the new developments in technology in the medical field changed things around in the work that you do?**

The medical field is changing rapidly, particularly certain branches like haematology. In diagnostics, next generation sequencing of blood samples gives details of the genetic mutations that may be present. Newer drugs are able to target these mutations. More over the advent of immunotherapy and targeted treatments have allowed us to treat patients more effectively, significantly reducing the side effects of conventional chemotherapy and reducing hospital stay. CAR-T cell therapy harnesses the power of the body's immune cells by directing them to kill cancer cells. This is a potential game changer for certain leukemias and lymphomas. So, these are exciting times for haematology.

**If you had a choice, what would you like to change in your given field of work?**

With so many developments in haematology, there are still a lot of patients who cannot access these. This could be either because of lack of awareness, poor infrastructure and services or funding problems. The government is addressing a lot of these issues, and is work in progress.

**How do you see your field changing in the coming years?**

I think artificial intelligence will play a big role in customising treatment for a particular patient. Cellular therapy using cells of the immune system to kills cancer would be more refined and effective. Treatments will be more targeted, less toxic and day care based rather than prolonged hospital stays. So it would be quite a vibrant field ahead

# WHEN FASCINATION LEADS TO A PASSION TO EXCEL IN NEUROLOGY

**Dr. Pradyumna J. Oak**
Director and Head, Neurology, Nanavati Max Super Speciality Hospital.

**Q1. Please tell us why you chose to become a doctor?**

I was raised in a family that gave paramount importance to reaching out and helping society while ensuring the health and well-being of our family members. Almost all members of my family, regardless of their occupation, chose to rehabilitate and comfort the people in their social circle without expecting tangible returns. These intrinsic values, instilled by my family, guided me to this noble profession of medicine. Moreover, I was always attracted to the complexity of biological issues and strived to discover its solutions to facilitate a healthier, future for the ailing. I must say that becoming a doctor, was a far greater and fulfilling experience than the one I had imagined.

**Q2. What made you choose your field of specialisation?**

Brain is the essence of man. Our cognitive abilities differentiate humans, who have average running speed, strength, eyesight, skin layers, and no attacking resources such as sharp nails or strong teeth from the rest of the animal kingdom. It always fascinated me how an organ, approximately the size of two closed fists can be a home to over 100 billion neurons, each sending and receiving data points that are essential to the smallest movement of our body. Moreover, the acute shortage of neurologists in our country and subsequent rising demand due to life-threatening neurological emergencies such as stroke or brain tumours encouraged me further to take up neurology as a specialisation.

**Q3. What has satisfied you most about the career path you have chosen?**

As we know, even the smallest brain impairment can cause permanent disability of varying levels, behavioral changes, loss of memory, or even coma. These outcomes are devastating for an individual and their families, especially if the patient is a breadwinner. Being a neurologist granted me the ability to change these outcomes and ensure that the patients lead a relatively able and sustainable life. By detecting strokes in time, we can prevent the death of neurons that are responsible for speech, limb movement, and memory and reduce the patient's rehabilitation time extensively. Detecting a tumour and the subsequent treatment based on its malignancy status allows us to save countless lives. Timely care for dementia or Alzheimer's can significantly reduce its impact on the patient and their families. Being a neurologist is one of the most satisfying occupations in the world.

**Q4. What have been the highs and lows on this journey?**

Professional growth and continuous research and training to sharpen therapeutic skills are an integral and equally exciting parts of neurology. But mostly the highs and lows come in the form of patients and their ability to reach a fully equipped and advanced neurology center in time. In neurology, 'time is the brain,' and each moment lost without treatment translates to the death of millions of neurons, responsible for the most basic and complex biological processes of the human body. Even in the 21st century, where we have developed technology to avail clinical reviews on certain diagnostic reports from across continents within minutes, patients of stroke take nearly 24 hours to reach the hospital. Our's professional lows are the days when a patient who could've had a more favorable outcome, sufferers permanent disability or death due to such delays. And our highs are when patients, despite the high severity of disease, seek treatment in time and lead a sustainable life ahead.

**Q5. How have the new developments in technology in the medical field changed things around in the work that you do?**

The most recent and exciting use of technology in the field of neurology was just performed at our Nanavati Max Super Speciality Hospital, Mumbai where we established India's first Hub-and-Spoke model for Stroke Management, powered by cutting-edge RAPID Artificial Intelligence (AI) software. This state-of-the-art network of hubs (Nanavati Max Hospital) and five-spoke centers (city-based diagnostic centers), will be assisted by artificial intelligence to successfully treat eligible patients up to 24 hours after the onset of stroke symptoms. To date, Nanavati Max Hospital has successfully treated about 80 patients based on fast, fully automated, accurate imaging of Rapid AI. Developed by leading stroke experts, the Rapid platform combines deep learning, machine learning, and expert feature extraction. Together these provide unparalleled sensitivity and specificity across stroke modules. Our mission is to help stroke patients who don't have access to appropriate treatment due scarcity of fast and quality imaging technology. Rapid AI is backed by two landmark stroke trials published in The New England Journal of Medicine, DAWN, and DEFUSE 3, which successfully treated patients up to 24 hours after onset. The technology is also backed by our own unparalleled cerebrovascular expertise and state-of-the-art radiological services.

**Q6. How do you see your growth in the coming years?**

I think Rapid AI can transform stroke management protocols across India in the coming years and several rural regions that lack advanced diagnostic resources or expertise for neurology can still diagnose stroke in time with the help of veteran neurologists, sitting in a completely different region of the country. Deep Brain Stimulation (DBS), a procedure that routinely occurs at Nanavati Max Hospital has been now found to be effective against depression and other disorders related to cognitive changes, which can help us reduce the burden of the disease extensively. A variety of exciting breakthroughs are happening in the field of brain paralysis where scientists are trying to empower comatose patients to communicate. Most importantly, Artificial Intelligence is going to power a revolution in the field of neurology and help us detect and treat complex neurological disorders effectively in the coming years.

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