C S Pramesh â?? Director, Tata Memorial Hospital

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Director of the oldest and largest cancer centre in India, the Tata Memorial Hospital, C S Pramesh also heads up the National Cancer Grid (NCG), a nationwide network of over 300 cancer centres and research institutions. He outlines the pioneering research-based work of the Tata Memorial Hospital and explains the cancer registries the institution has helped to create. Pramesh also presents the NCG and walks us through the networkâ??s strides towards establishing uniform standards of care and its role in bringing about collective price negotiations with the pharma industry.

Can you begin by introducing yourself to our international audience, sharing your background, work experience, and area of expertise.

I serve as a thoracic surgical oncologist and the director of the Tata Memorial Hospital in Mumbai. Additionally, I oversee the National Cancer Grid, a network comprising over 300 cancer centres and research institutions nationwide. My experience in the field of cancer spans 25 years.

Could you provide an overview of the Tata Memorial Hospital, especially for those unfamiliar with it? How is the oncology department organised?

The Tata Memorial Hospital, established in 1941 by the House of Tatas, is the oldest and largest cancer center in India. While initially managed privately, since 1962, it has been under the Department of Atomic Energy, Government of India. We focus solely on cancer treatment but have expanded our presence to numerous locations in the country over the last 15 years, aiming to bolster cancer care facilities to address the increasing cancer burden driven by population growth, longer life expectancy, and urbanisation.

We have a strong emphasis on evidence-based care, pioneering disease-specific management groups, ensuring specialised treatment. Our culture is deeply rooted in research, contributing to impactful studies that have influenced global cancer care practices. As an example, our method of using visual inspection with acetic acid for cervical cancer screening, an innovative and cost-effective approach, reduced mortality by 31 percent. This method has been widely adopted in India, potentially saving thousands of lives.

Our focus remains on providing the best care regardless of a patientâ??s financial status or origin. We are exploring a distributed care model to bring quality treatment closer to patientsâ?? homes. Additionally, we are committed to providing state-of-the-art diagnostics and therapies despite being a publicly funded institution. Our aim is to maintain accessibility while offering advanced treatments at a fraction of the cost compared to Western countries. We try to provide the best care, irrespective of a patientâ??s financial status or location. Most patients receive highly subsidised or free care. While government funding plays a role, philanthropic contributions, and corporate social responsibility funds support us as well.

Could you share some insights into the cancer patient journey in India, from diagnosis to treatment?

India has over 40 population-based cancer registries under the Indian Council of Medical Research, covering about 10 percent of the population. However, due to considerable regional variations in cancer incidence, any extrapolation of this data might not wholly represent the actual cancer burden in the country. There is nearly a sixfold difference in cancer incidence between different regions within India.

With the Tata Memorial Centre, we established 17 cancer registries across the country to contribute data to these national registries. This process allows us to estimate the cancer burden in different regions and tailor our facilities within hospitals to address prevalent cancer types.

Survival data in India is limited, and while certain specialised centres provide strong data, it might not entirely represent the broader community. Generally, survival rates in India are lower than in the West. However, when accounting for stage-wise comparisons, the differences are less pronounced. For instance, a stage one breast cancer patient in India, when treated in a specialised centre, may have a survival rate comparable to Western countries. But due to the higher percentage of patients presenting at advanced stagesâ??about two-thirds of patients presenting at stage three or stage fourâ??the overall survival rates are significantly impacted.

Could you elaborate on the patient journey and the associated delays in the diagnostic process?

Understanding the patient journey is crucial to comprehending the delayed diagnoses. The delays occur at multiple stages along the patient pathway. Patients often overlook or neglect symptoms, either due to work commitments or financial concerns. Many initial consultations occur with traditional healers before seeking medical attention, leading to further delays in diagnosis. Even when patients visit modern medical doctors, misdiagnosis or inappropriate treatment delays the accurate diagnosis. For instance, patients with a chronic cough might receive antibiotics or be treated for tuberculosis without a definitive diagnosis of lung cancer.

Subsequently, there are delays when initial treatments fail, and the patient progresses to advanced medical centers. Furthermore, even after a cancer diagnosis, arranging finances, traveling, and securing accommodation for treatment add additional time. To address these challenges, we are focusing more on a distributed model of care, enabling patients to access treatment without traveling to major cities like Mumbai or Delhi.

Can you introduce the National Cancer Grid (NCG), its objectives, and the rationale behind its implementation?

11 years ago, in 2012, we conceived the idea of the National Cancer Grid due to the increasing burden of cancer in India. Tata Memorial Hospitalâ??s expansion, while significant, could only treat around ten percent of cancer patients. The remaining 90 percent received treatment elsewhere, often at other recognised regional cancer centres or general hospitals with cancer departments. This led us to amplify our vision beyond just expanding our hospital, focusing on getting all cancer centers across India to provide uniform standards of care. Starting with 17 cancer centers, our network has now grown to over 300 organizations, embracing diverse institutions, professional societies, patient groups, NGOs, and research institutions, not limited to medical care but including standalone research facilities and patient-focused organisations. Our aim was threefold: establishing uniform care standards, developing human resources to handle the increasing cancer burden, and fostering a collaborative platform for multicenter cancer research. Over the years, the networkâ??s growth has been substantial, with initiatives extending beyond hospitals to encompass a broader range of institutions.

We established uniform treatment guidelines, addressing the diversity of resources and patientsâ?? financial capacities, ensuring cost-effective and quality care. These guidelines have been adopted by government-funded insurance schemes like Ayushman Bharat, covering over 500 million people in India, ensuring quality care by linking reimbursement to adherence to these guidelines.

Additionally, we have launched various quality assurance programs within cancer diagnostics and treatments. Despite the expensive nature of internationally recognised accreditations like the College of American Pathologists (CAP), we have developed a streamlined and cost-free version of this for our network members. Though not mandatory, over two-thirds of our associated hospitals have voluntarily joined this quality assurance program. Our aim is to extend these quality assurance programs to radiation planning and other facets of cancer care, instilling the importance of quality among hospital administrators through training and promoting quality improvement initiatives.

Furthermore, to mitigate the challenges faced by patients traveling long distances, we have implemented technology-based solutions. One such service is a web-based expert opinion platform where patients can upload their medical reports and receive expert opinions from specialists within Tata Memorial or the National Cancer Grid, thus enabling patients to discuss these opinions with their local doctors, often leading to treatment changes.

Another solution involves a multidisciplinary virtual tumor board system where each patient undergoes a review by a panel of experts before treatment decisions are made, promoting collaborative and specialised care, especially beneficial for smaller centres lacking diverse expertise. While the Virtual Tumor Boards were originally conceived as a patient-centric initiative, it has catalysed case-based learning among specialists, aiding more than 5,000 patients through over a thousand tumor boards conducted since its inception in 2017. These activities have significantly contributed to the creation of uniform care standards across the network.

Is there any form of collaboration already underway with pharma companies as they look to increase their impact?

Regarding collaborations with pharmaceutical companies, we have deliberately stayed somewhat removed. This decision arises primarily because we are heavily involved in developing guidelines, which could pose potential conflicts of interest. However, that is not to say we are not open to collaborating with them. We believe there is a space where collaboration could be beneficial, provided we establish clear boundaries to avoid any conflicts of interest.

I want to highlight an innovative approach we have implemented to reduce the costs of cancer drugs. Normally, individual centers would procure cancer medicines directly from the industry. This method works well in larger, high-volume centers like Tata Memorial Hospital in Mumbai. However, in smaller centers or those situated in geographically challenging areas, procurement posed numerous problems, including higher costs, uncertainty about drug quality, and supply chain disruptions, causing treatment delays for patients.

Around three years ago, our initiative as a collective cancer network brought multiple cancer treatment centres together. We compiled the demand for drugs from various centres, which significantly exceeded what a single centre could request. We collectively negotiated with pharmaceutical companies. As a result, we secured remarkable discounts ranging from 23 percent to an incredible 99 percent off the Maximum Retail Price (MRP) of these drugs. The average discount we achieved was an impressive 84 percent. What this has done is to substantially reduce the overall costs of treatment for cancer.

And this negotiation was conducted directly with the pharmaceutical companies?

Exactly. Our negotiation was directly with the pharmaceutical companies themselves, bypassing distributors. The price we negotiated was the one that hospitals had to pay for these drugs. This practice has been incredibly successful and is a very unique program on a global scale. In fact, we have received interest from organisations abroad looking to learn from our approach.

What about pricing regulations set by governing bodies?

Certainly, there are some drugs subject to price control regulations, but many cancer drugs fall outside of this control. The regulatory authority typically exercises price control over drugs they consider extremely critical. However, not all essential cancer drugs are under this price control. Sometimes, this regulatory practice could be counterproductive. Essential and life-saving drugs are pulled out of manufacturing due to price control measures because it is no longer feasible for good quality-conscious companies to produce them. Considering the volumes we require, when the

pendulum swings too much towards stringent price control, it can adversely impact drug access. We have witnessed situations where essential conventional cancer drugs crucial for saving lives are no longer available due to companies finding it economically unviable to produce them.

Our comprehensive negotiation process has significantly reduced drug costs, allowing for more accessible treatment. However, it is also important to consider the potential repercussions of stringent price control measures on drug availability.

Considering Indiaâ??s substantial population, there seems to be immense potential for clinical trials. How do they function here? Do you see a specific role that India could play in this sphere?

India holds immense potential in the realm of clinical research, especially due to its vast and diverse population, the presence of trained clinicians and researchers, and the widespread use of English in education. Although clinical cancer research has been concentrated in certain academic centres like the Tata Memorial and the All India Institute of Medical Sciences, the goal is to make clinical research more democratic and inclusive across a wider spectrum of healthcare institutions.

Several challenges need addressing for India to become a dominant force in clinical research. The lack of time for clinicians due to excessive clinical overload is a critical hurdle. To alleviate this, a clinical trials unit was established to handle the logistics of research, such as study designs, contract negotiations, and biostatistics, reducing the burden on clinicians. Addressing the lack of training in undergraduate and postgraduate medical education, a workshop on clinical research methods was introduced, providing an intensive six-day program to equip participants with essential skills, transforming their ability to conduct research. Furthermore, funding has been a crucial barrier. The National Cancer Grid initiated funding with certain conditions: the requirement for multicentric, multi-disciplinary research collaboration, the focus on common or regionally unique cancers, emphasis on cost-effective interventions, and commitment to sharing research data in the public domain.

These initiatives have already seen substantial results, with numerous large-scale clinical trials covering various research areas from epidemiological studies to phase III practice-changing studies. Notably, the Indian Council of Medical Research (ICMR) and the National Cancer Grid have recently agreed to match funding, doubling the resources available for cancer clinical research. While these efforts have propelled clinical research in India, there remains untapped potential for even more significant advancements in this field. The nation still has a considerable journey ahead to maximize the capacity for high-level clinical research.

On drug discovery and development, are there any existing partnerships or collaborations with the industry or plans for future development in this area?

The realm of drug development and innovative drug creation within India has not been our primary forte historically. There are dual reasons behind this. First, drug discovery and development have not been the central focus of research institutions, including academic centres. Second, the Indian pharmaceutical industry, up until now, has primarily emphasised the production of generics and biosimilars rather than focusing on innovative new drugs. However, this landscape is undergoing change, with several academic institutions prioritising drug discovery and development more, and so are Indian pharmaceutical companies.

Now, within India, we have companies that are eagerly seeking to engage in the discovery of new products. One classic example is a product developed in collaboration between the Tata Memorial and the Indian Institute of Technology. This collaboration led to technology transfer to a startup, which has now evolved into a commercial entity, engaged in the manufacturing of a specific product.

One more point I would like to highlight is a recent initiative funded by the Koita Foundation. They are supporting our efforts to establish the NCG Koita Centre for Digital Oncology. This collaboration focuses on leveraging digital health, particularly in the field of oncology. It is a unique endeavor in India, aiming to harness technology, such as artificial intelligence and machine learning, to make significant advancements in healthcare. We hope to leapfrog the progress that high-income countries took decades to achieve, compressing that timeline into a much shorter span by utilising these digital technologies. Digital oncology initiatives signify a pivotal advancement for the country, leveraging the abundance of engineers and technical capacities.

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