

Innovate for affordable healthcare

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Indyaacademic2012 This is the advise to India as a nation from a group of healthcare experts in the US. And they want the country to focus on cancer research and cure as a starting point

More than 200 healthcare experts from India and the US gathered again for an annual session in early May 2012 to discuss how India's biotech industry can play a leading role in innovating to make healthcare affordable globally. Their prescription: India should focus on oncology research in the next few years so that the country can quickly leave an indelible mark on the world.

Leading the "India is the solution for global healthcare" brigade, Dr Elias Zerhouni, president, global research and development, Sanofi, said, "High quality healthcare at low cost is the need of the hour globally. And there is a fundamental case for innovating in India." He made these remarks during his key note address to the annual US-India BioPharma and Healthcare Summit 2012 organized by the USA-India Chamber of Commerce (USAIC) at Cambridge, Massachusetts, USA. This is the sixth edition of the high profile annual event. USAIC is based in Boston.

Dr Zerhouni, in his video conference with the audience, reiterated the need for the global pharma industry to do everything to increase the drug pipeline, especially through the biotech route. The human biology is a very complex thing to understand for scientists, he said. "No country has the expertise to master human biology on its own," Dr Zerhouni said.

Sanofi's research leader said he was amazed at the creativity among biotechnologists in India. They have extremely good skill sets in the field. Now is the time for the industry to make available these skills to the global cause, Dr Zerhouni advised.

Dr Zerhouni wants scientists from both India and the US to organize themselves into well-knit teams and tackle the

challenges head on and take up translational research projects.

This was emphasis of another global leader, Dr William Chin, executive dean for research, Harvard Medical School, who anchored the day-long conference. Dr Chin suggested the formation of “virtual clusters” of bioscience research in India and the US to complement each other's strengths. “Even though we are focusing on India, the problems are universal. So innovative solutions can work everywhere,” Dr Chin said.

The conference organizer, Karun Rishi, president, USAIC, urged the Indian government to make suitable policy changes to enable more oncology research to come to the country. “If India does not put its clinical trials policy in order, the biggest losers will be Indian patients who will not get the latest genomic and other new therapies to treat cancer,” he emphasized.

Rishi added, “The policy turmoil on clinical trials has led to flat growth in the industry. A comprehensive and transparent clinical trials policy is need of the hour keeping patient benefit as the top priority for India.”

Cancer Issues

At a panel discussion on Oncology: science and research trends, the panelists discussed the various facets of this dreaded disease. Dr Raju Kucherlapati, Paul C Cabot Professor, department of genetics, Harvard Medical School, who moderated the discussion said 2011 was the 40th anniversary of the Declaration of War on Cancer. The noble aim of the initiative when it was launched in 1971 was to eradicate cancer in 20 years

“We are nowhere close to this. However, the complete sequencing of the human genome in 2011 has provided new tools and understanding of the underlying causes of the disease. This is bound to speed up the treatment methods,” the Harvard scientist said.

Dr Rakesh Jain at the E L Steele Laboratory of Tumor Biology at MGH Cancer Center said, “We currently have more targeted therapies available for cancer treatment. This is a revolutionary change and in the last seven years, at least eight anti-cancer drugs have been approved in the US.”

Dr Jain said the annual market for these therapies was \$45 billion and these drugs cost between \$15,000 and \$100,000 for a month's dose. Many of these drugs have increased cancer patients' survival period by up to seven months. At such prices, only about 10 percent of Indians will be able to afford these modern treatments.

What about the rest of the cancer patients? Dr Jain said scientists may need to look at repurposing existing generic drugs such as aspirin and look at other solutions to bring cancer cure to people who need it anywhere in the world.

Dr Amaba Nandakumar, the officer in charge of India's National Cancer Registry Program said the organization has built up a database of five million cancer patients in the country. More than 150 institutions had contributed to the building of this database in the last 25 years.

He said some interesting trends have emerged from the analysis of the data. For example, the number of cases of stomach cancer in North India was negligible while it was very high in southern Indian states. On the other hand, there were very few gall bladder cancer cases in south India while its prevalence was very high in the northern parts of the country.

The day-long meeting had five panel discussions on topics such as industry-academia partnership, clinical research road map for India, drug R&D collaborations, and on funding, besides the one on cancer research.

BCG prescription for India's cancer research

One of the highlights of the conference was a special report on BioPharma R&D: Moving the Needle on Innovation, commissioned by USAIC and prepared by the Boston Consulting Group (BCG). The BCG reported the fact that India ranks 3rd globally in cancer incidence after China and the US. In all, seven percent of new cases reported annually occurs in India. Last year, India added nearly a million cancer patients to the list. China had 2.8 million new cancer cases and the US 1.4 million. India has the world's highest incidence of head and neck and gynaecological cancers.

Some highlights from the BCG report:

- Oncology constitutes the largest share of pharma company drug pipelines, but productivity is low.
- Spend on oncology at 15 percent outpacing other therapeutic areas at 6-8 percent.
- Oncology is an area of focus for all major players; largest share with 30 percent of drug pipeline.

- Higher cost of development and higher failure rate leading to lower R&D productivity.

BCG says there are three mega trends in oncology research

- Better understanding of the disease through genomics and related fields.
- Translational research for faster Proof of Concept (PoC) and combination therapies.
- Development of emerging technology-based drugs.

BCG believes India is well-positioned to participate in these mega trends with a unique set of advantages such as unique patient population which is treatment-naïve and established capabilities in IT and analytics and science and engineering skills, expertise in conducting clinical trials.

These translate into specific opportunity areas for Indian companies:

- Capture economic advantage in building and maintaining unique assets such as genomics database based on patient population with untreated tumors
- Enhance process efficiency with translational research hubs based on faster patient recruitment and lower cost

Leverage applied research: center of excellence in nanotechnology through interdisciplinary capabilities BCG says Indian cancer patients will benefit in the longer run because of access to relevant and effective drugs for the Indian patient pool and its unique cancers and a larger role for Indian R&D institutions in the global R&D networks.

Narayanan Suresh in Cambridge, Massachusetts