

AI can be a game changer for healthcare sector

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In India, there is paucity of infrastructure be it hospitals, beds, doctors or nurses. If AI can be applied to get more insights on the usage of the Infrastructure, this will help in making the existing infrastructure more efficient, cost of care will come down and more patients can be treated. Srinivas Prasad, CEO, Philips Innovation Campus in an interaction with BioSpectrum talks about artificial intelligence in health sector and the journey of Philips Innovation Campus.



Kindly tell us something about the journey of Philips Innovation Campus?

Philips Innovation Campus(PIC) was established in 1996 and for the last 20 years the center is committed to developing healthcare solutions to address the prevailing healthcare challenges in India and across the world. Our team of 2500+ people consisting of engineers, doctors, data scientists, researchers are among the best in the industry. We have domain experts who have been working on different Philips products and solutions for the last 15~20 years. The repository of knowledge and expertise built due to the innovation culture, has helped PIC establish itself as an innovation hub.

We started our journey as an off-shore center and grew to develop end-to-end healthcare products & healthcare solutions. These products & solutions (Ultrasound products, hand-held ECG, Tele ICU solution, AI-based platforms etc.) are now being used across global markets. At PIC our focus is on three things:

- 1) Developing End to End Products like Ultrasound ECG's etc.
- 2) Creating and designing software like PACS, Clinical Applications, EMR etc.
- 3) Building Solutions: Providing seamless workflow solutions that connect multiple products. For example, our Healthsuite Platforms can help aggregating, ingesting and cleaning up the data in a hospital. In addition to this, it can also aggregate longitude patient records to create and build and execute AI based models.

At Philips Innovation Campus, we have always been at the forefront of using digital technology in healthcare. The various connected care solutions provided by us have increased accessibility to care in countries across the world, empowering patients to manage their health while also helping health providers to improve patient outcomes. With our mission to touch more than 3 billion lives by 2025, we are working towards creating meaningful innovations that will make healthcare

accessible to all.

Can you throw some light on the transformation that healthcare sector has witnessed in India with the introduction of Artificial Intelligence and how it is going to change the sector in future?

The developed and the developing world, both are reeling under various challenges in healthcare. Countries like US are dealing with problems like costs, efficiency and managing waste in the system, while the developing world is beset with issues like inadequate access to basic healthcare, rising costs and increase in non-communicable diseases. To address these challenges, we need to adapt both conventional and new approaches. While we need to invest in building more hospitals, on the other hand, we need to make effective use of emerging technologies like Artificial Intelligence (AI), Connected care enabled by IoT, in the field of healthcare.

AI can be a game changer. In India, there is paucity of infrastructure be it hospitals, beds, doctors or nurses. If AI can be applied to get more insights on the usage of the Infrastructure, this will help in making the existing infrastructure more efficient, cost of care will come down and more patients can be treated. Second area where I see AI more prevalent is in enabling doctors to be more productive. AI can help the doctors through appropriate clinical insights derived from the use of trained AI based models. This would help them focus more on high risk patients and become more productive.

The third effective use of AI would be in population management. For example, if there is an outbreak of dengue, the population data can help us identify the high risk area, catch the onset at an early stage (or even prevent this) and intervention measures can be taken. The way AI is progressing globally is remarkable. It is not looking at the data from one source but aggregating data from multiple sources to make a better decision. However, at present I think it is in a very nascent stage. Some hospitals have begun to use it. In the next three to five years there will be a huge momentum and it will be a part of the system. We need to ride on this wave which has just started. While AI can never replace a doctor, it will certainly be a part of our lives.

To me success or failure of AI is based on two things:

1) Change in the mindset of clinicians

2) Availability of clean data

In India, there is lot of data that exists in Government hospitals but not all are in an electronic form. The National Health Policy 2017, approved by the cabinet has proposed for health information exchange by 2025. So this should be one of the driving forces to aggregate data and create access irrespective of where the data is located. One way of doing it is to move the data to a central repository or moving it to personal health report through cloud, after the consent of the patient. Another way of doing it is in a distributed way through common UID. Real time data from the hospitals is important. Seamless standardized data and connectivity is the key to extend the best clinical expertise into tier 3 city or village in India. Interoperability standardization is important for this to become a reality.

We already see the many advancements in this area being applied across various fields in India. I believe that many of the AI solutions, if developed keeping the local context in perspective, the vision of “anywhere, anytime intelligent healthcare” will no longer be a utopian myth, but a reality in India!

What are the future plans of the company? Any new products in the pipeline?

I foresee Philips Innovation Campus coming up with more end to end solutions like our Chest Pain Clinics and extending care into the homes of people. The way we want to take things forward in India with AI, is through a very robust AI platform called Healthsuite Insights. Philips HealthSuite Insights gives data scientists, software developers, clinicians and healthcare providers access to advanced analytic capabilities to curate and analyze healthcare data and offers them tools and technologies to build, maintain, deploy and scale AI-based solutions. AI-based solutions have great potential to improve patient outcomes and care efficiency. However, developing and deploying AI solutions for healthcare use cases can be time consuming, resource intensive and expensive. HealthSuite Insights eases the logistical challenges of deploying AI solutions in research and clinical environments. It accelerates the development of analytics solutions, and reduces development and total cost of AI solutions.

Developing a model is not a problem. The problem is ingesting the raw data from the right source, cleaning it up, then developing the right data model to enable extraction of correct information. Unlike many of the other existing platforms this will support the end-to-end workflow for developing models.

This model can be used by start-ups and hospitals too. We are working with hospitals in India and outside to co-create models.

Last year, we launched our Start-Up Engagement program - Philips HealthWorks at Bangalore and accelerated the first cohort of 4 startups. Philips HealthWorks startup program is a unique and intensive 90-day tailored program built to help the start-ups build, test, de-risk and scale their idea. We connect the start-ups with the expertise they need in India as well as across the globe to break through in the health tech world. Currently, there are only a few such hubs across the globe for Philips and Bangalore is an important hub given the broad domain expertise we have, and our strength is software.

This year, we look forward to engage with those healthcare startups with a high disruption potential who have AI, machine learning, deep learning at the core of their proposition. We are looking at startups focusing on application of AI, ML in Radiology, Oncology, Cardiology domains to improve clinical as well as operational outcomes for patients & care providers.

Given the challenges that we have in India, and the need for end-to-end solution, startups will have a key role to play in addressing the local last mile needs and working with us to create solutions relevant for India which can then be scaled up to other geographies across the world.