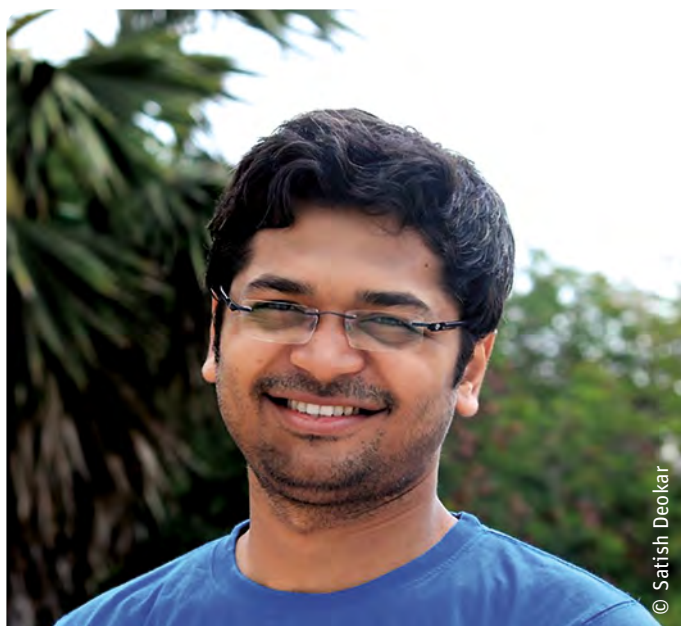


# A Day in the Life of Shantanu Pathak

Shantanu Pathak is the co-founder of CareNX Innovations Pvt Ltd, a pregnancy care company based in Navi Mumbai (New Bombay), India. CareNX Innovations offers digital health solutions to healthcare providers to improve healthcare delivery and help lay the foundations for healthier generations to come. He explains to *Sight and Life* how he has dedicated his life to the cause of preventive medicine.



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Shantanu Pathak, co-founder and CEO of CareNX Innovations

**Sight and Life (SAL):** Shantanu, what was the inspiration behind the creation of CareNX Innovations?

**Shantanu Pathak (SP):** It was ultimately my own experience in coming from a family of patients. I lost my father when I was 13 years old. To this day, I don't know why and how my father died, because his death was not documented. The documents that might tell me the cause of death literally do not exist. My aware-

ness of this made me realize the extreme importance of documentation in medicine, and it prompted me to see the world in a completely new way.

I was aware that mortality rates among pregnant women in India were unacceptably high. I have a Bachelor's Degree in Engineering, Electronics and Telecommunications from the University of Mumbai and a PhD in Biomedical Engineering from the Indian Institute of Technology, Bombay. With my interest in telecommunications and the internet, I could imagine how these new technologies could be applied to the biomedical field in personalized form. That was the inspiration behind the foundation of CareNX Innovations.

My co-founder Aditya Kulkarni and I conducted a small pilot in a little village in the state of Maharashtra in Western India. Its success inspired us to take the idea further, but we didn't want to become an organization that would be dependent on external funding for its lifetime. We therefore opted for the entrepreneurial route, with a view to developing solutions that would deliver benefits not only for India but for populations around the world. Equipping frontline medical workers with innovative technological solutions was fundamental to our approach.

**SAL:** The use of technology in delivering healthcare is growing worldwide. What is special about the way you deploy it in the context of India?

**SP:** Healthcare in India, and indeed worldwide, is a service sector. Healthcare is provided to people by other people, and India is very dependent on its healthcare facilities and professionals. However, with ratios of one doctor to 10,000 people and one gynecologist to 3,000 pregnant women, there is a clear need to move from purely curative to preventive medicine if this load is to be managed at all.

Frontline workers have a critical role to play here, and they can operate much more effectively if they are equipped with the right tools. Technology is essential to increase our capability in developing preventive medicine and coping with the medical



CareNX's co-founders, photographed at the company's offices in Navi Mumbai: Aditya Kulkarni (left) and Shantanu Pathak (right)

challenges of pregnancy and noncommunicable diseases at a more manageable cost.

## “Frontline workers have a critical role to play if they are equipped with the right tools”

**SAL:** What are the key products and services of CareNX Innovations, and who are the prime beneficiaries of this offering?

**SP:** We are a pregnancy care company that offers solutions for pregnant mothers in both private and public healthcare settings. One of our main offerings is CareMother, a portable kit and mobile application to empower health workers and engage pregnant women. We call this a ‘doorstep care platform’. A health worker carrying a CareMother kit can perform essential screening checks on expecting mothers literally on their doorstep. Should the tests reveal increased health risks to mother and/or baby, the patient will be referred to a doctor for consultation.

The doctor performing this consultation may of course not be a gynecologist. If he or she has concerns about the patient's health and lacks the necessary gynecological expertise to make an appropriate intervention, then he or she will refer the patient to a specialist. The beauty of this system lies in the simple and effective triaging of medical cases on the basis of a few preliminary diagnostic tests performed in the home rather than at hospital. The outcome is a significant increase in the rate of safe hospital deliveries in the case of at-risk mothers and babies.

“The beauty of this system lies in the simple and effective triaging of medical cases on the basis of a few preliminary diagnostic tests”

Another of our leading products is Fetosense, a smartphone-based fetal heart monitoring solution. India tops the list of countries for preterm deliveries, stillbirths and early infant mortality. We have many programs focusing on hemoglobin and iron levels, but our healthcare workers are not trained to focus on the final trimester of pregnancy, and especially not on fetal wellness. The Fetosense device helps monitor fetal heart and contraction and is associated with a smartphone app. The test results are visible to an expert anywhere in the world through this app, thus enabling remote monitoring.

We are also working together with *Sight and Life* on a new solution for personalized nutrition monitoring and intervention to counter malnutrition. This new technology, which uses artificial intelligence, is currently in the R&D stage, and results to date have been very promising. We submitted this concept for the *Sight and Life* Elevator Pitch Contest at the Micronutrient Forum held in Cancún, Mexico, 24–28 October 2016, which was jointly sponsored by *Sight and Life* and the Tata Trusts. The contest was designed to stimulate fresh thinking about micronutrient innovation and entrepreneurship among students. We featured among the 10 finalists.



Ms Pritee Dehukar, a trainer from CareNX, trains health workers in CareMother technology at Apnalaya's Health Center in Mumbai. Live demonstrations of how to use point-of-care devices form part of the training of health workers.

**SAL:** *What have been the main challenges in establishing CareNX Innovations and developing it to its current size, Shantanu?*

**SP:** In order to have any prospects of success, my partner Aditya and I needed to develop a good understanding both of the healthcare sector and of business in general. This was a challenge for us – not least because neither of us comes from a business background. We had to work hard with complex government organizations in order to persuade people to think in new ways, and we also had to attract talented people who could deliver on the concepts we had developed. Above and beyond that, we had the perennial challenge of coming up with a good plan, sticking to it and implementing it successfully. Technology can make the world a better place, but only if it is used appropriately. As a company, we’re ultimately dependent on the doctors and front-line workers who use our products. And so we had to ensure that our products were really easy to use.

**SAL:** *You have won numerous awards for your work as a technology innovator. What do these awards mean to you, and is there one of which you are particularly proud?*

**SP:** Every award is helpful, because it allows us to obtain essential funding, to meet potential mentors and also to encounter like-minded people from whom we can learn. Particularly inspiring was receiving The President of India’s Innovation Scholar Award in 2015, and later Aditya receiving a Queen’s Young Leader Award from Her Majesty The Queen at Buckingham Palace in June 2018.

**SAL:** *Are innovators born or made, in your opinion, Shantanu?*

**SP:** I think that innovators are both born and made. Being an innovator is like being an artist: you have to be a good performer as well. You may have the intellect and the imagination necessary to conceive a new idea, but innovation is a journey, and you need a lot of passion to stick at it and turn your theoretical concept into a practical solution.

**“Being an innovator is being like an artist: you have to be a good performer as well”**

**SAL:** *And entrepreneurs ...?*

**SP:** Entrepreneurs are also shaped by the journey that they undertake, so they are made. It requires a strong sense of purpose

that goes far beyond just making money. It’s a great career if one likes adventure, being challenged and being pushed to one’s limits.

**SAL:** *Which invention from history would you most like to have developed yourself?*

**SP:** I think I would like to have developed the electric light-bulb, for example, or the telephone: those two inventions really transformed the world. However, what is really important to me today is to develop innovations that make people healthier and happier.

**SAL:** *Do you have a particular hero or role model, whether real or fictional?*

**SP:** My brother, who today is a plant manager in the steel industry, is my hero. I felt very stressed and indeed depressed during my first and second years of studying Engineering, but my brother really helped me. He’s extremely good at making decisions, and he helped me get my confidence and my studies back on track.

**SAL:** *Do you have a personal philosophy or mantra?*

**SP:** I believe that small is beautiful – by which I mean that it’s essential to include people in your thinking, to understand the importance of small things, and not to be greedy. Small and simple things can make a great difference.

**SAL:** *Thank you, Shantanu, and the best of luck with your endeavors!*

**SP:** Thank you.

**Shantanu Pathak was interviewed by Jonathan Steffen**

# Care worker in action



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Papitha Lokhande, Apnalaya health worker

Papitha Lokhande has been a frontline health worker for the past 6 years. She recounts how CareMother made it possible for a mother in the final month of pregnancy to be admitted to hospital for the delivery of her baby.

“One of my patients was a woman who lived in a slum where every day is a new challenge. During the ninth month of her pregnancy, a thief stole her handbag, which contained a file with all the documentation relating to her pregnancy, including the unique patient number which is required for admission to hospital. She was in labor and needed this number to get admitted. As you may imagine, this woman was very distressed at the loss. When she reported it to me, I went to the hospital with her and was able to show the medical staff photos of the stolen documents which I had previously stored in the CareMother app. Once the number and reports were presented, the woman could be admitted to hospital for safe delivery of her child.”



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Doorstep visit for an antenatal check-up and counseling by Ms Papitha in Mumbai slums. A mother shows her medical reports to Ms Papitha, and with the help of the CareMother application, Ms Papitha provides counseling on high-risk pregnancies.