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Inventor and CEO wants to create healthier living through engineering



Mir Imran, chairman and CEO of Rani Therapeutics, invented the RaniPill capsule — a robotic pill that he hopes can replace subcutaneous injections for several chronic diseases.

By Danny King – Contributor

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Inventor [Mir Imran](#) has made a career out of solving problems, though his most daunting may have been the first one he encountered after moving to the U.S. from India as an 18-year-old to attend Rutgers University.

Thoroughly cash-strapped, Imran lived in a fellow student's walk-in closet for \$20 a month and finished his undergraduate education in just over two years. Since then, he's founded approximately 20 companies whose products ranged from defibrillators to electronic lockboxes to non-invasive airport security systems.

He founded Rani Therapeutics in 2012. Its goal is to make ingestible, pill-form medications out of what have so far been injectable medications. The company has raised \$142 million from investors such as Google Ventures, Novartis and AstraZeneca.

Title and company: Chairman and CEO, Rani Therapeutics

Age: 63

Hometown: Hyderabad, India

Residence: Los Altos Hills

Education: Undergraduate degree in electrical engineering and graduate degree in biomedical engineering, both from Rutgers University

Career path: Founded approximately 20 companies, including defibrillator maker Intec Systems (sold to Eli Lilly & Co. in 1985) and non-invasive airport security systems maker SafeView (sold to L-3 Communications in 2006); founded Rani Therapeutics in 2012

With Rani Therapeutics, you're trying to succeed where many companies have failed. Why? I'm really focused on identifying unsolved or poorly addressed problems in medicine. Over the past 40 years, I've built a number of companies that have addressed these problems, and some have become standards of care. When I found that there was more than 100 attempts at this, I decided to apply my engineering abilities.

[Patient] compliance rates for injections are in the 50 percent range — people skip them because it's at an inconvenient time or place, or they don't want to go through the pain, so this will improve patient outcomes.

Why has this problem been so difficult to solve? In the gut, there are enzymes designed to break down proteins. More than 99 percent [of a prospective medication] is degraded and absorbed. That's why you don't see an oral insulin or oral Humira.

What's your goal as far as going to market? We've done hundreds of studies in animal models by delivering more than 1,000 capsules, and we've demonstrated with many of the drugs that the absorption is equal to or better than injection. We've so far tested nine drugs, including insulin, GLP-1 [for diabetes] and Humira [for arthritis].

Later this year, we'll be testing a drug called Octreotide [which treats growth hormones in patients suffering from gigantism, or the opposite of dwarfism] in humans. After the fall, we'll be testing four or five other drugs like insulin, GLP-1. Next year, we'll decide which to take forward into Phase III studies, then apply for FDA approval.

Hopefully, maybe within three years, we could get the first [approved] molecule.

How did you manage to live in a closet during college? I was a dirt-poor student, but I made a budget and I was lucky enough to find a place to sleep. There were rats running around in the walls — it was a pretty miserable place to live, but I was really focused on getting my education, so it didn't bother me too much.

Given your experience, what's your perspective on the immigration discussion? This country was built on immigration. Without it, you wouldn't have had Einstein here. It's a short-sighted view of the politicians.

My work has created tens of thousands of jobs. The CEOs of Google and Microsoft are Indians, and there are thousands of examples — not just Indian inventors, but Asians, Europeans, Chinese. Now you see a lot of African-American entrepreneurs. Look at European monolithic societies, which haven't been able to perform well as America. The diversity of our country really gives it the strength that it has.