

GETTING THE NEED RIGHT: GLOOKO, INC.

“Look at a disease in which outcomes can be improved by changing patient behavior.”
– Rick Altinger, CEO, Glooko Inc.

Glooko Inc. is a widely respected digital health pioneer; it was one of the first companies to leverage digital technology to improve care for a chronic disease. Founded by technology entrepreneur and venture capitalist Yogen Dalal, Glooko is changing the face of diabetes care by equipping patients with tools and information to better manage their symptoms, and helping providers utilize patient data to reduce costs and improve outcomes. It all started when Dalal set out to address a need he personally experienced—a way to visualize and track his own blood sugar levels in order to better manage his prediabetes.

Background

It was 2010. Originally from India, Dalal's South Asian heritage and age were working against him, and he had recently been diagnosed as pre-diabetic. “My doctor told me to make lifestyle changes, like cutting out sugar and bread,” he recalled. “But being a techie, I went out and got a blood glucose meter, and started testing myself regularly.”

Dalal quickly discovered that the meter was doing little to help him manage his condition. “We live in a world that is so data rich, in terms of our ability to see information, and analyze it to gain deeper understanding,” he said. “And here was my data, locked up in this little meter, and the only information I could see was my blood glucose level at a given moment. I couldn't compare one day to the next, or analyze the data in a way that could help me make better decisions.”

An experienced technology entrepreneur and venture capitalist, Dalal started thinking about developing a way to collect, track, and analyze his blood glucose data in a more comprehensive manner. His approach was a cautious one, though. “I knew that just because I was frustrated didn't mean that there was an important unmet need there,” he explained. “In healthcare, you don't want to be a technology-driven business, you want to be a needs-based enterprise, because healthcare is very slow to change. Change has to happen from within, as opposed to in the IT world, where it is possible to disrupt established practices simply by coming up with a compelling new technology.”

Need Exploration

It wasn't long before Dalal got informal confirmation that he was not alone in his desire to see and examine his blood glucose data. Among other conversations, he made an interesting connection with Sundeep Madra, another technology innovator and investor. When chatting socially, he learned that Madra's wife had late onset Type 1 diabetes that had been triggered by gestational diabetes. “Here was another person who felt the same need I did, only his was even more acute because his wife required

insulin injections and so her treatment had to be precisely regimented,” said Dalal. The two agreed that the need to “free the data” around diabetes care was compelling, and decided to explore it further.

As a first step, Dalal and Madra met with an endocrinologist, Dr. Michael Greenfield (who later became the chief medical officer for Glooko on a part-time basis). Greenfield was data-oriented in his practice, and their conversations led to some powerful insights. “What we realized was that diabetes is intensely data-centric, more than almost any other chronic disease. Its treatment requires constantly monitoring and tracking the data, because that’s what allows you to artificially replicate what the pancreas does. If you get that data wrong then your treatment is wrong,” Dalal explained.

The meeting also helped him understand how important it was for patients *not* on insulin to proactively manage their health. “For people like me, who are the majority of the diabetic population, Type 2 diabetes is a slow, degenerative disease. If it isn’t controlled, it has a major cost on the healthcare system in terms of secondary effects. Between my own research and the discussion with Dr. Greenfield, it was apparent that being in control of the condition prolongs your life.”

Dalal realized that although he and Madra’s wife might use the data differently—her to inject the proper amount of insulin, and him to monitor his diet and overall health to try to avoid becoming a person with diabetes – the ability to see and analyze the data was essential to them both.

“That’s when we realized how big the potential market really was,” recalled Dalal. In the US, 30.3 million people have diabetes¹ and another 86 million, more than 1 out of 3 adults, have prediabetes.² Annual US spending on diabetes treatment averages \$322 billion, and that number is projected to rise.³ Globally, the number of people affected by the disease is expected to top 600 million by 2040.⁴

As Dalal and Madra continued, they learned that patients were routinely advised to keep a written logbook of blood sugar readings as a “best practice” to help them manage their blood sugar better. “But it was also documented that when patients have to write down the readings from their meter, 50 percent of their numbers are wrong, on average, because they either cheat or they just forget,” he said.

Dalal now felt he had the beginning of something concrete. “Here’s where my tech background came in. Computers are very good at recording and displaying data, and at eliminating the drudgery of manually recording information. So we thought if we could develop a digital logbook that was automatically created from the patient’s blood glucose meter readings, we’d be helping the patient do what their physician wanted them to do, while making the process easier and more accurate.” While there were a number of digital logbook apps already available, nearly all required users to enter data manually.

A survey of the existing solution landscape led to a further insight. All of the tools used to manage diabetes, from glucose meters to insulin pumps, functioned on different platforms and used different data transfer methods. “That was part of the problem too,” said Dalal. “The ecosystem of solutions was disjointed, and that made it even harder for the patients and physicians. We decided that our product would have to be able to connect to all of them.”

Ultimately, Dalal and Madra developed a single cable called the MeterSync that could connect to all types of glucose meters and support all the different data protocols. They also wrote an app to go with it that allowed the patient to view and model the data intuitively. Additionally, they submitted an application to the FDA for 510(k) regulatory clearance. “We needed FDA clearance in order to be able to display the data in various user-friendly ways,” remembered Dalal. “As it turned out, getting that FDA approval proved

an important differentiator for Glooko, because it lent validity and established it as a medical-grade product when we were working with strategic partners.”

Validating the Need and the Technology

While Dalal and his team felt they'd identified and characterized an important need for diabetes patients and developed a strong preliminary solution, they decided to validate that they were on track by testing a limited version of their app in the consumer market before looking at ways to make it more robust. “These were the early days of digital health,” noted Dalal. “The idea of using a smartphone, along with data mining and machine learning, to collect and display actionable data was new. So unless the need was acute and the benefit was significant, we weren't sure patients would spend the time and effort to be part of this new paradigm.”

Over a period of a year and a half, Glooko sold 8,000 cables and yielded some key product insights for Dalal and his team. First, they learned that patients loved the product, and that it worked as it was intended; it could sync data across virtually all blood glucose meters on the market and display the data clearly. The second insight was that most patients didn't want to pay for it. “The average US consumer is not used to paying out-of-pocket for medical care,” said Dalal. “They are used to these costs being covered by insurers or providers.”

The Glooko team realized that they had to make the need (and the solution) relevant to other important stakeholders like providers and payers if they wanted the company to be viable in the long term. “Providers were inundated with diabetes patients and not always able to see them as often as they'd like,” said Dalal. “By using our data, caregivers could more easily identify and address patients who were not managing their blood sugar effectively and intervene early by assigning diabetes educators, nurse practitioners, or physician assistants as a first level of coaching.” These practices would, in turn, help improve clinical outcomes and lower costs, which was an important lever for getting payers interested in the technology.

By demonstrating MeterSync's potential as an FDA-cleared population health management system that could achieve these outcomes, the Glooko team was, in fact, able to interest insurers and healthcare systems in paying for its use. Ultimately, Glooko was able to utilize existing cost models around patients with diabetes to quantify the potential savings of earlier intervention and better disease management. “This helped us get providers on board, and determine per-patient pricing for the system,” Dalal said. Looking back, rather than viewing the direct-to-consumer launch as a waste of time, Dalal felt it was an essential first step. “If we hadn't shown that patients actually liked and would use the product first, none of the big providers or payers would have been even been willing to talk to us.”

To lead the company's move into the provider market, Dalal brought on CEO Rick Altinger. Altinger created Glooko's next product, the Kiosk, a healthcare provider portal that enables data from blood glucose meters, insulin pumps, and continuous glucose monitors (CGMs), as well as biometric data on activity, weight, blood pressure and medications, to be downloaded and used to guide care recommendations.

Since that time, Glooko has continued to evolve its diabetes management platform, adding pattern recognition algorithms to monitor and predict a patient's blood glucose level throughout the day, as well as personalized patient advice that helps patients achieve their health goals. They have also forged partnerships with insulin pump maker Insulet, insulin manufacturer Novo Nordisk, and health coaching

company Fit4D. The company recently closed a \$35 million investment round led by Georgian Partners, Insulet Corp, Medtronic, and Mayo Clinic.

Key Insights

- **Start small and verify that you have the need right**

“Rather than launching a full-fledged system like we have now, we said, ‘Let’s verify that we have built something that will read data out of every single meter. Let’s write the first application and see if we can get some energy behind it. We must be sure we’re really addressing the need.’ We started small and for the first two years it was my second job just to show that patients liked and would use the product. Then we brought Rick on board to take the company to the next level.”

– Yogen Dalal

- **Work multiple sides of the problem – taking the needs of patients, providers, and payers into account**

“Every need involves more than one stakeholder, so you need to figure out how to align their interests. For instance, if you improve the communication between the physician and the patient through digital health products, then everyone wins because the patient’s doing better and the healthcare system is more efficient in using its dollars more wisely.” – Yogen Dalal

- **Strike a balance between driving change and integrating with the standard of care**

“As Glooko evolved, we learned to strike a balance between innovation and tradition. For example, although many assume a wireless connection is easier than a physical connection, many patients actually preferred the physical cable. Similarly, we learned some patients preferred viewing their health data on the Glooko platform just as it is traditionally displayed in a paper logbook.” – Rick Altinger

- **Don’t be afraid of the FDA**

“If you’re unwilling to deal with the FDA, then you may only be able to solve a small amount of the need. And if you want to really help physicians, you have to deal with the hard stuff and not be afraid. I think that’s why the Fitbits and Jawbones of the world have had so much trouble, because they have the technology to build medical-grade products but they’re resistant to taking on regulatory oversight, even if it would allow them to more fully address the needs of their users.” – Rick Altinger

¹ “National Diabetes Statistics Report 2017” Centers for Disease Control and Prevention, <https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf> (September 2, 2017).

² “The Surprising Truth About Prediabetes,” Center for Disease Control and Prevention, January 25, 2017, <https://www.cdc.gov/features/diabetesprevention/index.html> (August 17, 2017).

³ “The Staggering Costs of Diabetes,” American Diabetes Association, <http://www.diabetes.org/diabetes-basics/statistics/infographics/adv-staggering-cost-of-diabetes.html> (August 17, 2017).

⁴ “Diabetes is No Longer a Rich World Disease,” The Economist, November 14, 2016, <https://www.economist.com/blogs/graphicdetail/2016/11/daily-chart-8> (August 17, 2017).