Beth Kolko: If you're in this room, chances are you care about creating change in the world. Chances are also that you've experienced challenges in working to create that change, either in your own work or in your partnerships with others. I think we can all agree that working [00:00:30] to create change, take an ideal all the way to impact, is really, really hard. I'm a professor of human centered design and engineering. In human centered design, we solve problems. We do that by engaging with users and working with them throughout the development process and then we create solutions. A few years ago, I got really interested with why is impact so hard. And it occurred to me that the principles of [00:01:00] human centered design might give us an alternative way of thinking about impact. And it might actually give us a way to get to impact.

I started a company called Shift Labs and our goal with Shift Labs is to build medical devices and change healthcare for 6 billion people in the world. And we do that by building products but also by creating an ecosystem, a platform if you will, that's designed to take ideas and drag them through that valley of death to the point where [00:01:30] they can be on a pathway to sustainable scale. And we do that by using the principles of human centered design to drive all of our organizational strategies. I'll give you three examples of how we do that. And the first is how do we choose what to build? The second is how do we build it? The third is how do we share it, how do we get it out there so that it can scale and be sustainable?

[00:02:00] The first, how do we choose what to build? In the US, if you're going to build a medical device of a typical development pathways, you start with a core technology and you attach that to a reimbursement code, which is in turn attached to a known medical procedure. And that gives you a sense of the price point, then you can build a business model around that price point. We used a human centered design strategy in figuring out what to build in our company. We went out and we met with users, with clinicians [00:02:30] and we said, "Hey, what's hard about your life?" Lots of things are hard about their life. Came back and then we met with the engineering team and we said, "Okay, which of these problems could we solve at an affordable price point?"

There were a lot of really compelling and interesting problems that turned out we couldn't solve at the price point we wanted. We went to a subset where we were confident that the technological capabilities in front of us would allow us to create an appropriately priced solution. We started with people and then we moved to [00:03:00] technology. And that's a human centered strategy.

The second is how do you build it? And before I actually go through that, I'm going to do a little aside and tell you what I'm talking about here. This is the problem that we ended up solving for. It has to do with medication management. If anytime you're in the hospital and you've got a needle going into your vein and it's giving you drugs, here in the US they'll have like a pump on the pole, costs thousands of dollars and it's [00:03:30] controlling how much medication you get. But if you're not in a US hospital, if you're pretty much anywhere else in the world or even in a home in the US, this is how you're going to get your drugs. And I'm talking about anesthesia during surgery or chemotherapy, pretty much anything.

A nurse is going to look at this chamber over here and they're going to use this clamp and they're going to start the flow and then they're going to count the drops as they fall. They're going to use their watch and time them. They're going to do some mental math
[00:04:00] to make sure that you're getting the right amount of medication. And I can guarantee you, we know this from research, four out of five times they're doing it wrong. We built this device here, this drip assistant fusion rate monitor. And what it does is it makes sure that you get the right amount of chemo or antibiotics or anesthesia. How do we build it?

When we set out ... again, human centered design strategy ... we knew it needed to be
[00:04:30] affordable. But we also knew it needed to be durable. We knew that it needed to be simple, that people, that training regimes are different everywhere, so we wanted it to be really fast to learn, simple to use. We also knew that supply chains are challenging, so we wanted to build a product that wasn't going to require any calibration or maintenance, that wouldn't need a proprietary consumable. And then it came to power. And we knew we wanted it to be battery operated. Now these chambers that you see
[00:05:00] here, they vary in size all over the world. And so we needed have some flexibility in our design strategy. We wanted to use a coin cell battery because that gave us the most flexibility.

Well it turns out if you build something with a coin cell battery, once the battery runs out, that device is going to go in a drawer. No one's ever going to use it again. I'm going to guess that some of you have Fitbits or other devices that have suffered that fate. It turns out we needed to use a AA battery. AAs are a lot larger. They come with all kinds
[00:05:30] of design constraints. It increased our engineering burden probably 10 fold. It took us nine months to solve the attachment problem because we needed to use that AA battery. But that was a business strategy that was guided by human centered design principles rather than a technology first decision.

What to build? How to build it? And then how to share it? We want scale. That is our goal. And that means we need partners. And we want partners who are force
[00:06:00] multipliers. That means distributes. Clinicians love our product. Distributors, not so much. Now I'm talking not just the leadership of distribution company, I'm talking about field sales reps. People out there doing the work everyday. Having an inexpensive product that does not have a recurring revenue component because it doesn't have a consumable by design means that distributes don't love it the same clinicians do. What
[00:06:30] we do is we step back. We use human centered design principles to think about a strategy to allow us to get to scale and be sustainable. And what that means is, in concrete terms for drip assist, we now have a version of the product that does have a proprietary consumable, so that we can work with that subset of distributes who need that revenue stream in order to be successful.

We step back. We iterate. We use empathy. We listen to the multiple constituents who make up our customer base. Clinicians are not the only ones. Taken together, what
[00:07:00] these strategies do is they enable us to move forward with our product development and reach the customers who need it. And that's our goal. We want to move from idea to impact and human centered principles are what allow us to do that and get to the point where ultimately, we can delight our customers regardless of who they are or where they are in the world. Thank you.