Prototyping Empathy  It’s not diabetes; it’s Live-A-Betes
Andrea Gannon

The current state of the insulin pump

The current insulin pump systems available to type 1 diabetics are outdated and unpleasant to use as a result of clunky interfaces, short-lasting batteries, and the multiplicity of devices often necessary to maintain proper control of blood glucose levels.


When all of these aspects are combined, it affects the ease and quality of the lives of users with type 1 diabetes by contributing to poor management of this autoimmune disease.

A study in binder clips

In order to grasp exactly what having an insulin pump is like, I built a simple prototype out of binder clips and string for the rest of the team to wear for a week. While I actually am a type 1 diabetic, the rest of the team used these binder clips to represent real insulin pumps in a process called bodystorming, which is a tangible form of brainstorming, in order to experience the problems that diabetics encounter while trying to use insulin pumps and simultaneously maintain normal, comfortable, and healthy lifestyles.

The team learned how difficult it was to perform everyday tasks such as bathing, changing outfits, navigating curious pets and children, dealing with tubing getting caught on doorknobs, and more. Herein lies the key element of this design process; learning and incorporating the science of empathy enables designers, developers, consultants, and librarians to better communicate and understand the needs of others.

Prototyping and user testing

Live-A-Betes began with paper prototyping and sketches. The team imagined what a more flexible system would look like and began to design not only new ideas for the shape of the pump and its internal components but accessories that would fit into a variety of lifestyles and solve some of the issues determined through bodystorming.

We 3D printed a sample prototype of a device that could be used to control the insulin pump, mapped out a system of circuits to imagine what the inner pump technology would look like, built paper prototypes of different insulin pumps to play around with the spacing and size of the device itself, and developed an application that could be used on multiple Bluetooth devices by our different empathic personas: a child, an elderly person, a young adult, a doctor, and anyone experiencing a hypoglycemic reaction.

A larger portrait of user experiences

Using observations as information scientists with users’ experiences in mind, we can develop empathic methods of design, which aid in an understanding what works, what does not, and where to go from there. Entrepreneurs, consultants, librarians, and designers can utilize a dataset of past feelings, reactions, and experiences in order to continuously develop new, and hopefully better, experiences for users, clients, and patrons.

Empathic design thinking is extremely useful in knowledge management and competitive intelligence as well as relevant to anyone who works with clients, whether they are providing a service or a product. Since it concerns a non-specific set of skills that entails learning to think like users and understand their experiences, once you begin to look at the services you provide through this lens, a variety of partnering institutions can improve upon their client relations as well as the physical product design. Information consulting with empathy in mind is a beneficial tool that is not industry specific.