

Taming the diabetes MONSTER

Elizabeth Snouffer

Technology is well placed to help people manage a data driven condition like diabetes and there are many options to choose from for improved glycaemic control.

Blood glucose meters are becoming smaller in size and more dynamic – giving glucose results in less than five seconds. Insulin pumps have been successful not only for the freedom aligned with more accurate dosing, but also for data memory and activity recall. Continuous glucose monitoring systems offer real-time blood glucose values and trends. One area that has never caught on in the diabetes tech sphere is a winning application for diabetes tracking and logging – until now. In this special report, *Diabetes Voice* introduces a new application that turns the task of monitoring diabetes into something more like a game helping children and adults overcome barriers to achieving their targets in a smart, playful format.

A quirky companion

Living with diabetes and controlling blood glucose (BG) can feel like trying to train a wild monster how to behave. At least that's what Fredick Debong, Frank Westerman, Gerald Stangl and Michael Forisch thought when they began developing their companion application (app) 'mySugr'. Based on two of the co-founders living with type 1 diabetes, the team had a personal understanding of the challenges associated with successful diabetes management including keeping track of glucose values, food intake and activities day-after-day without giving up. The adage, *you don't know where you're going if you don't know where you've been* may sound like a tired cliché but for people who manage diabetes, life depends on keeping a record.

After two years of ideation and development, the mySugr team completed their 'app with attitude' complete with a giggling, snorting monster — ready for naming and eager to please with reactions that mimic diabetes highs 'Ouchies!' and lows 'hippo ☺?'. First

launched in Austria in 2012 and now available in 34 countries worldwide, mySugr is an electronic diabetes diary that utilises a game platform to motivate users to track their diabetes data in a fun, unconventional format.

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Doctors and other healthcare providers will appreciate the user's ability to email customised PDF diabetes reports. Moreover, mySugr doesn't judge the quality of glucose variability, but instead rewards the user for participating. Earned points are tallied for gold stars indicated on a progress bar letting users know how hard they've worked and when they have beat their diabetes monster! For further motivation, mySugr offers challenges that can even result in donations to non-profit diabetes fund-



*mySugr makes it
an awesome thing
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raising and research organisations, such as IDF's Life for a Child Programme, the Juvenile Diabetes Research Foundation, and the Diabetes Hands Foundation.

mySugr co-founder Fredrik Debong has been living with diabetes since four years of age and admits he was in a deep period of diabetes burnout before he began working seriously on mySugr. 'I had a six-unit rule which meant I would inject six units of insulin before I drank a sugary soda or pizza — anything really. Obviously it wasn't a workable strategy!' Slowly with the help of his partner, Fredrik started to improve self-management behaviours by doing just one thing better a day. 'Initially I told myself, "OK, this week, I will test every day, once a day", and then if I achieved that goal I would reward myself or my partner would reward me like I might

get a break from doing the dishes!' Eventually Fredrik's BG levels really did improve, but it wasn't until he started competing with another acquaintance living with type 1 diabetes that the challenge/reward system hit him as a promising new way to get motivated. 'During a vacation I competed with a friend also living with type 1 diabetes for the best BG result between us and we actually started enjoying our therapy,' says Debong. This prompted him to consider the design of a similar app built on the premise that helping people achieve small simple steps with a challenge might work. Another objective of the team was to develop a system that moved away from fear as the primary motivation for meeting diabetes targets. 'Many people living with diabetes are told they need to test and get good

results based on the feedback that if they don't they will lose a leg or go blind. This doesn't work,' explains DeBong.

The success of mySugr, which received a CE Mark for a class 1 medical device from European authorities and equivalent approval from the U.S. Food and Drug Administration (FDA), is evident by the ever increasing number of downloads it receives weekly. According to Kyle Rose, Managing Director for US Operations, mySugr had attracted 40,000 registered users by July 2013 making it one of the top diabetes management apps available today. One young adult from Maryland was so excited by the June launch of mySugr in the US that he tweeted '@mysugr makes it an awesome thing to have diabetes!'

Introducing mySugr Jr

Based on their 2012 success, the mySugr team decided to create a more simplified version for young children living with diabetes, calling it mySugr JR. Currently JR is only available in Austria and Germany, but soon it will launch in English for the US and Europe. Depending on a child's skill level, entries for BG values, food and dosing can all be made with the push of a few buttons, and photo opportunities for high carbohydrate foods like an extra large piece of pizza are synchronized with a parent's smartphone for assessment. Parents have less worry during school hours or extracurricular activities, and can give feedback at any time while keeping track of their child's therapeutic decisions. Children feel more supported

while simultaneously learning to be more independent.

Diabetes Voice had the opportunity over the summer to talk with mySugr users Sandra and Gerhard whose son Paul was diagnosed with type 1 diabetes two years ago. They were introduced to the mySugr app at an event for parents of children with type 1 diabetes, and decided to give it a try. Sandra believes mySugr gives her a greater connection to her son when he is away from home, 'I get a message on my mobile phone and I can see how he feels, what he has eaten and how his blood glucose numbers have been,' she explains. She also believes it has made her son more interested in caring for his diabetes.

At nine, Paul's biggest complaint about having diabetes is that he can't eat as much candy as he would like, but fortunately mySugr has helped him manage some of the most tedious aspects of diabetes. Paul named his mySugr monster Darth Vader, after the evil Star Wars villain, and appreciates how he can take photos of his food rather than write all the information out in a 'boring diary'. What's more, although mobile phones are banned from school, Paul is allowed to have his monster (via the mobile) in class, and his friends think that's cool.



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Elizabeth Snouffer is Editor of *Diabetes Voice*.

www.mysugr.com is a Vienna-based start-up founded in 2011 specializing in diabetes technology. Earlier in 2013, it opened an office in San Francisco alongside partner company Delta Project Management.



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