

Insights

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LIFE IN A BOX

France is pushing ahead with a new technical device for chronic disease management. 'Life In A Box' is a tiny portable fridge box solution connected to a smartphone app. Its aim? To improve the lifestyle of those in need of constant medication. The latest prototype has just been launched on the Indiegogo crowdfunding platform.

By Anna Engberg

About 3.5% of the global population use medication that has to be kept in the fridge. When factoring in diabetes, the number is even higher at 9%. Managing their disease by ensuring the medication is kept close by and temperature control has been essential to this population, hence their lifestyle has often been restricted in terms of flexibility and privacy.

In September an innovative solution was launched in France, namely by

New Zealand born Uwe Diegel who has been developing medical devices for the last 30 years, running companies such as Microlife and iHealth. With 'Life In A Box' the medical manufacturer is launching a tiny fridge transport box for heat-sensitive medication such as insulin, growth hormones, arthritis, cancer and multiple sclerosis medications. "It allows users the freedom to travel anywhere, anytime, knowing that their medication is kept at exactly the right temperature," Diegel points

out as the most obvious advantage of his invention. He adds: "By means of the smartphone app it even works as a reminder for timely medication intake."

SOLVING A PERSONAL PROBLEM

As it turns out, the technology of 'Life In A Box' was driven by a personal need: Diegel originally made the first product type only for private use. In order to improve the life of his diabetic brother, a regular traveller, he developed and designed the portable

fridge to transport insulin across the globe without having concerns about heat waves, power blackouts or a lack of cooling facilities on-site of the destination or in transit. "It was a cool product and my brother constantly received positive feedback, so I researched and spotted a gigantic market beyond diabetes". He found that unlike insulin, which is not very fragile and survives temperatures up to 25 degrees celsius for a couple of weeks without being damaged, hundreds of other biotech

medications have to be kept between two and eight degrees. So ensuring the right temperature in any place became his first objective.

CONTROLLING TEMPERATURE AND PRIVACY

The venture succeeded by using a combination of thermoelectric energy and clip-on batteries which allow users to be mobile with their medications under any conditions for up to 24 or 36 hours without the need to recharge

their device. By manufacturing Peltier effects under a vacuum the developer could shorten the temperature window from three to seven degrees and thus, offer stability over time – a vital requirement, as Diegel points out, since the adaptable box evolved to become not only a transport solution, but also a storage solution to protect privacy. "Today when you have multiple sclerosis everyone at work will see your medication in the fridge just as anyone visiting your home will figure

"Imagine you have a chronic disease. There is no cure, but you can manage it and you have to manage it for the rest of your life. So anything that makes your lifestyle better becomes essential."

Source: LifeInABox, Paris



'Life in a Box' mini fridge for fragile medication, has been launched by Indiegogo crowdfunding in September and is expected to cost €200

out you are having this disease when opening the fridge," Diegel comments. The respect for private life therefore played a major role during the product development, along with the demand to create a more flexible lifestyle. A third aspect was medication safety: Storing medication in conventional fridges is responsible for 95% of emergencies when children accidentally eat medication.

"We already have so many pre-orders that it will take 6 months to fulfill the current B2C demand starting with delivery in the beginning of 2018."

SAFEGUARDING DRUG ADHERENCE

Connecting the tiny fridge box to a smartphone application was an exceptional, yet modern approach to improve drug adherence: "The app does not only track and control the temperature of medications in real-time, it also sends reminders to the user relating to their medication schedule," Diegel explains. He goes on to say: "Every year about €9bn are wasted in France alone due to non-adherence to treatment."

With the objective of improving drug adherence, the solution is also likely to succeed in cutting public cost for chronic disease management which is estimated at 80% of the total cost in any healthcare system.

A SOCIAL AND SUSTAINABLE BUSINESS

In order to make his product not only meaningful in terms of better health management but also a sustainable and social business, Diegel has been refining his medication cooling system to the point where the design is like a lego system. He says: "All components now just click into each other without a single screw and I will have my products assembled by disabled people at an extra low cost of around €4 per product." The manufacturing takes place at ISAT, a French assembly plant that employs handicapped people.

To enter the healthcare markets, initially targeting those of North America, Europe and Australia, Diegel has launched 'Life In A Box' on the crowdfunding platform Indiegogo in September to communicate directly with end users. "Indiegogo, Kickstarter and the like have proven to lower the entry barrier for most products. We

already have so many pre-orders that it will take six months to fulfill the current B2C demand starting with delivery in the beginning of 2018," says the CEO who is already planning distribution networks for pharmacy and medical markets. In the main, he is happy that customers on social channels have only one question: 'Why didn't this exist before?' ■

What do you think?

What other fields do you see as viable to improve the lives of patients with chronic health conditions by means of innovative digital health technology?

Please send your comments to Dillan Yogendra dyogendra@himss.org or tweet us @HIMSSInsights. Selected comments will be published online.