

The changing role of design in self-management of chronic care: A case study into the evolution of diabetes type 1 self-management

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How design affects self-management of care

Self-management is an increasingly relevant topic in health care today. The growing number of chronic patients has put pressure on the present healthcare system, and hence calls for new ways to support patients (Holman & Lorig, 2004). Self-management is promoted due to financial and political benefits, and its value for improving patients' quality of life. What is the role of design in supporting self-management?

A historical case analysis of the role of design in self-management of diabetes type 1 care illustrates how emphasis in design has shifted from technological and functional aspects towards usability, safety, and user experience. Whereas technology was the main driver behind innovation, now users have gained a central position. Currently we are at a point where self-management devices have become extremely small, wirelessly operable by mobile devices. Design challenges now take place on a rather intangible level and instead of stand-alone products, they have become part of an integrated product service systems (PSSs).

With the (expected) advent of the artificial pancreas, self-management of diabetes type 1 becomes practically automated. This trend in automation changes the concept of 'self-management'. While patients initially gained responsibility in managing their disease, they now have to learn to trust an automated device. Again, design will play a different - yet crucial - role.

Diabetes as a case study

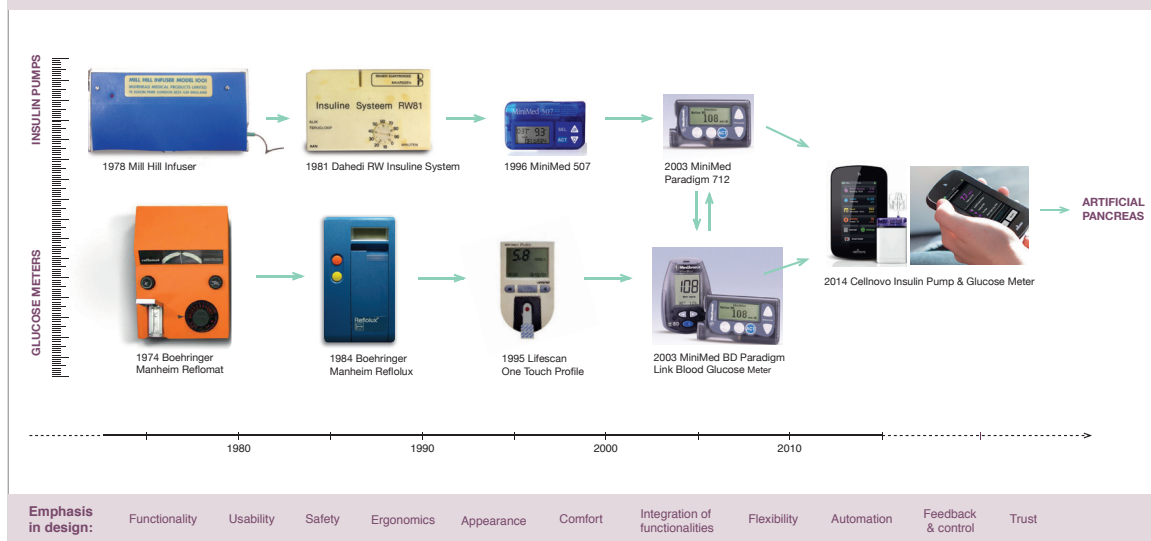
To get a better understanding of how design and self-management interact, diabetes type 1 was chosen as case study. Diabetes is one of the most prevalent chronic diseases and has a relatively long tradition in self-management. Worldwide, about 387 million people are living with diabetes and this number is expected to increase dramatically in the upcoming decades. This research focussed on the role of design in the past four decades of diabetes type 1 treatment: the period that self-management was introduced. In this period, the conception of health has changed and diabetic patients - as well as other chronic patients - are nowadays encouraged to live a close to normal life and fully participate in society.

Definition of Health:

"A state of complete physical, mental and social wellbeing" (WHO, 1948)

"The ability to adapt and self-manage in the face of social, physical and emotional challenges" (Huber et al., 2011)

The evolution of diabetes type 1 self-management



From technology-driven to user-driven



"Adjusting life to your pump"

(Mill Hill Infuser, 1980)



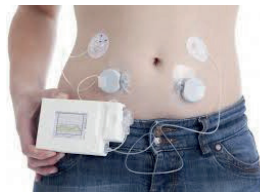
"Adjusting your pump to your lifestyle"

(MiniMed 507, 1996)



"Living a close to normal life, with a pump"

(Celinovo Insulin Pump, 2014)



"Trusting a self-regulating Product Service System (PSS)"

(Inreda AP prototype, 2014)

References

- ALSALEH, F., et al. (2010) Insulin pumps: from inception to the present and toward the future. *Journal of Clinical Pharmacy and Therapeutics*, 35 (2) pp. 127-138.
- CLARKE, S.F. & FOSTER, J.R. (2012) A history of blood glucose meters and their role in self-monitoring of diabetes mellitus. *British Journal of Biomedical Science*, 69 (2) pp. 83-93.
- HOLMAN, H. & LORIG, K. (2004) Patient Self-Management: A Key to Effectiveness and Efficiency in Care of Chronic Disease. *Public Health Reports*, 119 (June), pp. 239-243.
- HUBER, M., et al. (2011) How should we define health? *British Medical Journal*, 343 (d4163), pp. 235-237.
- International Diabetes Federation (2015) Diabetes: Facts and Figures. <https://www.idf.org/worlddiabetesday/toolkit/gp/facts-figures> [Accessed: June 25, 2015]
- WHO.(1948) WHO definition of Health. <http://www.who.int/about/definition/en/print.html> [Accessed: February 17, 2015].

This poster is based on my master thesis 'How design affects self-management of care' for the master Design Cultures at the VU University Amsterdam, in collaboration with Waag Society (Amsterdam, The Netherlands). For more information about my research, please contact me on the contact details at the top of this poster.

