

Report Title	
Report on Study: Use of Monitoring System by patients with Diabetes	
Report Number	TR_2018_01
Authors: Ita Richardson Daniel Esteban Oliveros Porras	University of Limerick
Research Assistance: Lorcan Feeney Evan Lydon	University of Limerick
Contact Address	Ita.richardson@lero.ie
Contact Phone Number	061-202765
Website	www.lero.ie
<p style="text-align: center;">Acknowledgements</p> <p>This work was supported by Science Foundation Ireland (SFI) Industry Fellowship Grant Number 14/IF/2530, by Science Foundation Ireland grant 13/RC/2094 and co-funded under the European Regional Development Fund through the Southern & Eastern Regional Operational Programme to Lero - the Irish Software Research Centre (www.lero.ie).</p> <p>We would like to thank the staff of the Medical Centre within which this study was undertaken, the respondents who participated and HomeSafe Care who provided the monitoring software.</p>	
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Ita Richardson, Lero – the Irish Software Research Centre, University of Limerick

SUMMARY

This research explores the problem of managing diabetes through a Connected Health solution which was developed by HealthsafeCare in Rockchapel, Co. Cork. The study was undertaken within a Medical Centre in Co. Cork, Ireland.

The rationale behind this study that national and international healthcare needs to evolve to include Connected Health solutions.

ETHICAL APPROVAL

Ethical approval for this project was received from University of Limerick, reference number: 2015_01_02

RESULTS: Patient perspective

Study summary

Medical Centre healthcare staff derived a list of people with Diabetes who attend the Medical Centre and who were interested in participating in the study. The researchers contacted these people (the Respondents), providing them with an understanding of what would be required from them to participate, including the interview and measurement schedules. It was made clear to the respondents that the researchers were not medically qualified, rather they are software engineers interested in studying Connected Health. Seven respondents participated in the study. Respondents were interviewed prior to using the system, following 4 months system use and after 6 months system use. In their living environment, they were required to measure their blood pressure (monitor supplied), blood sugar levels (as they would normally do) and weight at regular intervals throughout the study. Individual respondents completed their measurements ranging from multiple times per day, to daily, to multiple times per week. They submitted results via a text system to the HomesafeCare monitoring system, to which they had access. During the first 4 months, we also asked patients to keep a written log of their measurements.

Prior to System Use

Initially, the respondents were very interested in the system, particularly as it would allow them to monitor their health with more frequency: “It’s interesting to have something there for monitoring blood pressure. That’s something I only get done every six months and I’m sure that many things can happen during those six months”; “I chose to participate in this study to help me to monitor my blood pressure”.

From initial interviews, we identified that respondents:

- Think they will get positive outcomes using the system;
- Are optimistic about the idea of a software system improving their healthcare;
- Believe technology can improve his/her healthcare in some way.

Some respondents are aware of other CH solutions. We can conclude after the initial interviews that there is an overall high interest and curiosity among respondents about how Connected Health solution can improve their healthcare.

The possibility of using any form of Information and Communications Technology (ICT) to monitor their health statistics presented a complete change for most of the respondents as their contact with technological solutions was very limited. Even though three respondents were aware of some sort of Connected Health solutions (e.g., Fitbit), there was not a deep understanding on current market trends. The overall impression from this is that some of them were open to trying a new system but yet they would not be proactive and look for the best technological solution in the market that covers their needs.

When they were asked about the positive outcomes they expected to get from the system, they responded that they:

- Would be able to improve their healthy habits through the its use;
- Would be more committed to undertake their own monitoring;
- Were attracted by the possibility of following their own physiological stats;
- Could improve their health care in some way through using technology.

Following System use

After the respondents had used the system we identified a set of positive outcomes:

- General impression about the system was good, taking into account that they were dealing with a prototype instead of a commercialized product;
- People around them can be affected positively in some way of his/her use of the system;
- Felt comfortable using the system;
- Believe that this system is a potential solution for diabetes patients in rural areas of Ireland;
- Attracted by being able to follow his/her own statistics;
- Healthy habits were improved e.g. exercise, dietary habits, medications;
- As they knew how their measurements were progressing, they felt more confident to increase

Specific improvement suggestions

A set of specific suggestions for additional features were gathered from the interviews:

- Monitor the patient's diet;
- Exercise tracker to follow the patient's physical activity;
- Control for cholesterol levels / urine checks;
- Product should be more user friendly.

Finally, two patients stated that some of the measured levels are continuously varying during the day. Thus, the respondents wouldn't get the same readings if they took their measurements at different times during the day. The collaboration of the GP would be crucial in this matter to inform them when the measurements must be taken. Those using the system need to follow the GP instructions as the system is designed only to monitor the input data.

Conclusion

Respondents who participated in this study have provided us with valuable information which will support us in our future studies on Connected Health. We plan to build on this with older persons and Intellectual and Developmental Disability clients, two groups who have a need to manage chronic disease.