

Child's Play: encouraging 5-10 year olds with Type 1 Diabetes to log blood glucose readings

Monster Manor is a free smartphone/tablet game app for children aged 5-10 years with type 1 diabetes. It was produced by the healthcare game developers Ayogo and launched in the UK in October 2013 by the Oxford AHSN diabetes network, in partnership with Sanofi UK and Diabetes UK.

In the game, players move through a series of rooms housing monsters who have possessions that can be bought. By logging their capillary blood glucose (CBG) players earn rewards which help them advance through the game. In rewarding positive self-management behaviour, Monster Manor aims to encourage children to log and track their blood glucose readings and become more engaged in their diabetes management.

Very few game apps currently target diabetes and most existing apps are poorly evaluated. The Diabetes Clinical Network evaluated Monster Manor 15 months after launch to determine the uptake of the game and its effect on blood glucose testing. Those who downloaded the game were invited to complete on-line surveys about their diabetes management before and after playing the game and were asked for their opinion and experience of playing the game. Download analytics were also examined. The results of the evaluation were presented at the Diabetes UK annual professional meeting in March 2015.

At the end of the evaluation in December 2014, the app had been downloaded 1,238 times (Apple: 857, Android: 381). One year after launch there were 50-75 active users per month, reduced from a peak of 445 shortly after launch. In total 7699 capillary blood glucose readings were logged by players. 21 players completed the follow-up questionnaire of these 40% played the game for longer than one month and 19% reported that playing the game had a positive impact on the frequency of CBG testing. Comments highlighted both benefits and limitations of the game:

“He was more keen to do the blood tests and instead of seeing it as a chore it would be a more positive thing.” and “Game was too basic, too easy, too repetitive.”

The high download figures from a baseline population of approximately 5000 with Type 1 diabetes in the relevant age group in the UK, demonstrated a considerable demand for this type of product to assist children with diabetes management. Monster Manor was runner up in 2 national awards. The game was highly commended (2nd place) in the Health Service Journal Value in Healthcare Awards (Value and Improvement in Medical Technology category) and received a bronze in the PM Digital Awards.

Download Monster Manor:

<http://www.sanofi.co.uk/l/gb/en/layout.jsp?scat=2CC0E53F-A5AA-4287-A4DA-821CF93333C1>

Further details: Sheehy S, Cohen G, Owen KR. Self-management of diabetes in children and young adults using technology and smartphone applications. *Curr Diabetes Rev.* 2014;10(5):298-301. PMID: 25311195

Disclosures: Monster Manor was funded as a Minimum Viable Proposition (MVP) by Sanofi, a pharmaceutical company.