

M-health for Diabetes Management

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A systematic review in 2014 identified 656 diabetes apps on major app stores [1]. Given the considerable growth of m-health (mobile health) apps in recent years, 57% in 2016 [2], we can expect this number to be even higher by the end of 2016. Although there are a vast number of diabetes apps, the majority offer similar functionalities, and combine only one to two of the following functions in one app: documentation 53%, data communication 31.1%, information 34.5%, analysis 17.8%, recipe suggestion 14.5%, reminder 11.4%, advisory support 8.8% [1].

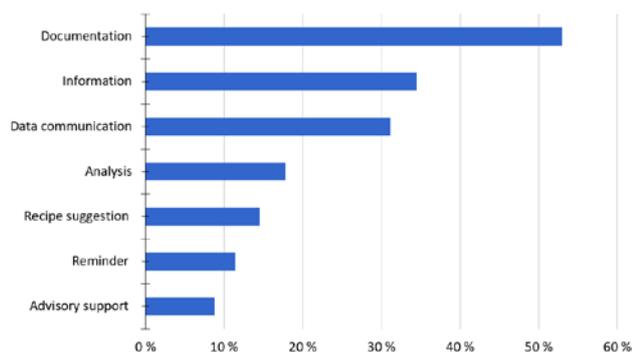


Figure 1: Types of functionalities provided by diabetes apps.

These apps mainly target patients, 96%, and are offered as free downloads, 54%, as well as paid apps, 46%, with the median price of 1.9 € [1].

A recent meta-analysis of 14 randomized controlled trials on the effectiveness of m-health apps in the self-management of diabetes shows a mean reduction of 0.49% in HbA1c for type 2 diabetes studies [3]. This meta-analysis, which is published by the American Diabetes Association, points out that younger patients are more likely to benefit from the use of diabetes apps, and the effect size is enhanced by health care professional feedback.

M-health interventions for diabetes care are not limited to smartphone apps. As a matter of fact, Short Message Service (SMS) has been identified as

Despite the huge amount of currently available diabetes apps (656 by the end of 2013), most of them offer a small number of similar functionalities. Younger patients are more likely to benefit from the use of diabetes apps, and the effect size is enhanced by health care professional feedback. SMS is the main type of m-health intervention for managing chronic diseases, and can improve glycaemic control in patients with type 2 diabetes.

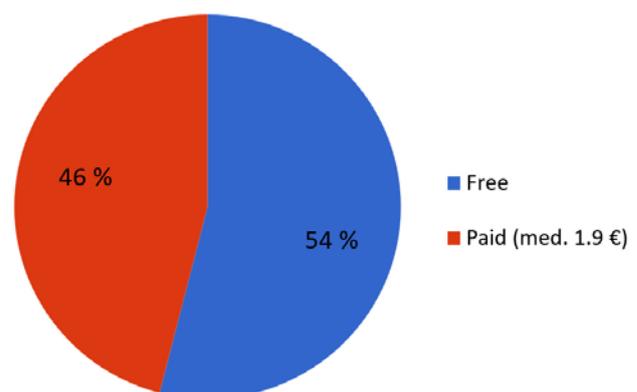


Figure 2: Free vs paid apps.

the most often (40%) used mobile tool in interventions designed for chronic disease management [4].

A very recent systematic review [5], examining the effectiveness of interventions to change lifestyle behaviour delivered via automated brief messaging in patients with type 2 diabetes, identified that there was a difference in HbA1c of -0.53% between intervention groups compared to usual care. This study also discovered that interventions based on unidirectional messages produced similar effects in the outcomes examined, compared to those based on bidirectional messages. Interventions conducted in low- and middle-income countries showed a greater impact than those conducted in high-income countries [5].



References

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