

Poster

Patient Reported Value and Usability of a Digital Health Intervention for Asthma

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Abstract

Background: Digital health tools are increasingly recognized as effective in improving asthma clinical outcomes such as control and adherence; however, few studies have evaluated patient perspectives on the usability and value of these tools in supporting asthma self-management. Patient perceptions of digital health tools, including usability and satisfaction, will determine the success of these digital health interventions and the durability of their effects.

Objective: We aimed to assess patients' usability feedback and satisfaction with an asthma digital health platform after 12 months of use.

Methods: We administered surveys to participants of a randomized controlled clinical study designed to measure the clinical effectiveness of the Propeller Health Asthma Platform. The electronic surveys evaluated patients' feedback on the usability of the sensor and the perceived value of the platform and information provided after 12 months of use. The clinical study had enrolled patients (N=495) in parallel arms from specialty and primary care clinics. Intervention group patients (n=250) used electronic inhaler sensors to track the date, time and geographic location of medication use. Patients received access to a digital health platform including smartphone and Web-based applications that provided information about their asthma medication use trends, real-time asthma control, guidelines-based education, and personalized support for 12 months. Physicians could monitor the status of their patients and receive notifications about short-acting beta agonist (SABA) overuse. Survey results reported here represent adult participants from the intervention group who completed the exit survey at 12 months.

Results: Respondents (n=89) reported being very satisfied (79%) or somewhat satisfied (20%) with the inhaler sensor, stating that the sensor was "small," "unobtrusive," and "easy to use" and carry. A total of 90% of respondents found the information they received via the platform useful, with 93% expressing satisfaction with the information. In open-ended responses, participants cited valuing how the platform increased awareness about their asthma control status and medication use, provided "relevant" and "timely" information, and identified potential environmental triggers that exacerbated their symptoms, with 65% of respondents identifying 1-7 new triggers as result of the information. Respondents described improved communication with their doctors: 46% of the respondents had talked with their doctor about the information they received, and 22% stated that their doctor recommended or changed a specific aspect of their asthma management as a result of the information. Over 50% of respondents said that they felt their asthma was more controlled as a result of the information they received, which is supported by the clinical results demonstrating 63% of uncontrolled patients achieved control during the program.

Conclusions: Patients reported positive usability of a digital health platform for asthma self-management, citing that it was easy to use and fit into their lives unobtrusively. Almost all patients perceived value from the digital health platform in contributing

to their self-management, finding value in increasing self-awareness, identifying asthma triggers, offering actionable information, and improving communication with their doctors.

ClinicalTrial: Clinicaltrials.gov NCT01509183; <https://clinicaltrials.gov/ct2/show/NCT01509183> (Archived by WebCite at <http://www.webcitation.org/6nIIEejW7>).

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KEYWORDS

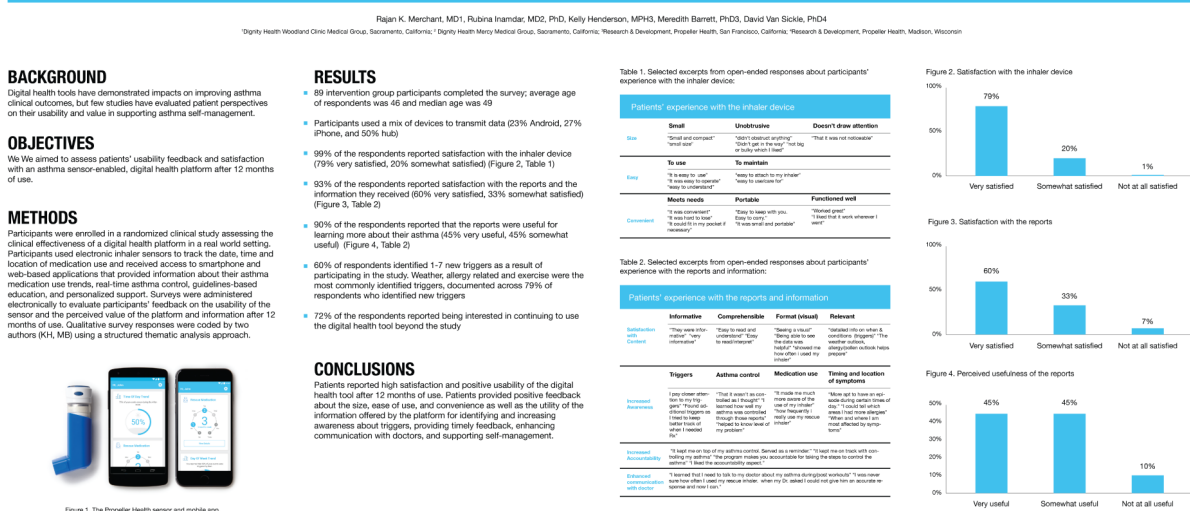
asthma; digital health; usability

This poster was presented at the Connected Health Symposium 2016, October 20-21, Boston, MA, United States. The poster

is displayed as an image in [Figure 1](#) and as a higher resolution image in [Multimedia Appendix 1](#).

Figure 1. Poster.

PATIENT REPORTED VALUE AND USABILITY OF A DIGITAL HEALTH INTERVENTION FOR ASTHMA



Multimedia Appendix 1

Poster.

[\[PNG File, 667KB-Multimedia Appendix 1\]](#)

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