DIGITAL SOLUTIONS IN HEALTHCARE: USER EXPERIENCES IN ACCESSING AND ADOPTING SUPPORTIVE TECHNOLOGIES

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Remote technology to assist with measuring symptoms of:
• Epilepsy
• multiple sclerosis
• Major depressive disorder
Smartphones and wearables
Access to smartphones & the internet

Percent of adults who use the internet at least occasionally or report owning a smartphone

Note: Percentages based on total sample.
Source: Spring 2015 Global Attitudes survey. Q70 & Q72.
PEW RESEARCH CENTER
• Research Now (2015) spoke to 500 healthcare professionals in the U.S
  • 86% professionals believe that health apps will increase their knowledge of their patients’ conditions.
  • 72% believe that they will encourage patients to take more responsibility for their health.
  • 50% think that they will increase the efficiency of patient treatment.

• 1,000 health app users
  • 96% of health app users think that health apps help to improve their quality of life
Evolving wearables

Base: Smartphone users across Brazil, China, South Korea, UK and the US
Systematic Review on engagement

Challenges of chronic disease symptoms and burden → RMT have extensive potential to improve disease monitoring and patient care → Engagement is key to realize the promising benefits of RMT

Study Protocol

- Search scientific databases: Ovid, IEEE Xplore, EMBASE, Web of Science, Cochrane
- Screening of titles and abstracts:
  - Systematic reviews: focused on wearables, mHealth and RMT; up to 2013
  - Original articles: from 2014 onwards; written in English and discussing facilitators
- Data abstraction and synthesis: type of RMT, population, country, and reported facilitators

Challenges of chronic disease symptoms and burden
Engagement is key to realize the promising benefits of RMT
Results

3187 search results → 28 original articles 7 Systematic reviews

Final corpus

Results from original articles

Study sample sizes

Types of RMT

Population type

- Healthy
- Circ. Diseases
- Mental Health
- Resp diseases
- Diabetes
- Obesity
- Health professionals
- Other

- Active
- Passive
- Active and passive

- 5
- 14
- 7
- 3
- 3
- 7
Facilitators

- Easy and enjoyable to use
- Reminders and alerts
- Good aesthetics
- Short assessments
- Provision of mobile device
- Unobtrusive

Mobile app (aRMT)

Wearable device (pRMT)

Database

Feedback to patients, carers, researchers, clinicians, regulatory bodies

- Feedback and incentives
- Guidelines/policies
- Training
- Felt ownership over data
- Clear purpose
- Clinically proven benefit
- Stakeholder involvement in design

Data output visualisation

- Clear, simple and informative
- Personalised
- Contextualised

- High level of privacy and security
‘Active participation of a person with lived experience...in shaping their personal health plan, based on their knowledge of what works best for them’ (Together/NSUN, 2014)

Places people at the heart of design
Service user advisory board

- Designing research materials
- Feedback on app designs
- Contribute to project policy
- Attending project meetings to advise on scope and implementation as the voice for people with epilepsy, depression and MS
Focus groups

Goal 1: clinical targets of importance to service users

Goal 2: barriers and facilitators to engagement
Epilepsy

- Two focus groups per health condition
- 1.5 hours per session
- Audio recorded
Pros and cons of technology

Improving safety, independence, confidence and memory
Reassuring others

Visibility of wearable device
Uncomfortable to wear
Poor accuracy
Invasion of privacy
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