



Aalborg Universitet

AALBORG UNIVERSITY  
DENMARK

## Danish Citizens' Expectations for mHealth Prescription

Jensen, Victor Vadmand; Høg Sørensen, Tom; Ørsted Kristensen, Alice; Eriksen, Jeppe

*Published in:*

Caring is Sharing – Exploiting the Value in Data for Health and Innovation

*DOI (link to publication from Publisher):*

[10.3233/SHTI230174](https://doi.org/10.3233/SHTI230174)

*Creative Commons License*

CC BY-NC 4.0

*Publication date:*

2023

*Document Version*

Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

*Citation for published version (APA):*

Jensen, V. V., Høg Sørensen, T., Ørsted Kristensen, A., & Eriksen, J. (2023). Danish Citizens' Expectations for mHealth Prescription. In M. Hagglund, M. Blusi, S. Bonacina, L. Nilsson, I. C. Madsen, S. Pelayo, A. Moen, A. Benis, L. Lindsold, & P. Gallos (Eds.), *Caring is Sharing – Exploiting the Value in Data for Health and Innovation* (Vol. 302, pp. 468-469). IOS Press. <https://doi.org/10.3233/SHTI230174>

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

### Take down policy

If you believe that this document breaches copyright please contact us at [vbn@aub.aau.dk](mailto:vbn@aub.aau.dk) providing details, and we will remove access to the work immediately and investigate your claim.

# Danish Citizens' Expectations for mHealth Prescription

Victor Vadmand JENSEN<sup>a,1</sup> Tom Høg SØRENSEN<sup>b</sup> Alice Ørsted KRISTENSEN<sup>b</sup>  
and Jeppe ERIKSEN<sup>c</sup>

<sup>a</sup>*Department of Computer Science, Aalborg University, Denmark*

<sup>b</sup>*MedCom, Odense, Denmark*

<sup>c</sup>*Department of Planning, Aalborg University, Denmark*

ORCID ID: Victor Vadmand Jensen <https://orcid.org/0000-0003-4270-7891>, Jeppe Eriksen <https://orcid.org/0000-0003-0751-4437>

**Abstract.** Use of mHealth in Denmark is growing, and prescription structures for mHealth apps are a political goal. In this pilot survey study, respondents generally perceive their mHealth use as beneficial, which correlates with their frequency of use. Willingness to substitute traditional treatments for prescribed mHealth varies based on type of substituted treatment.

**Keywords.** mHealth, smartphone apps, mHealth prescription, citizen expectation

## 1. Introduction

The Danish government's strategy for life science focuses on development of prescription structures for quality-assured mHealth [1], a development supported by increased use of mobile apps among Danish citizens [2]. However, many smartphone apps lack content appropriate for prescribing them to specific patient groups [3]. This short communication examines Danish citizens' expectations for mHealth prescription to develop considerations for such prescription.

## 2. Methods

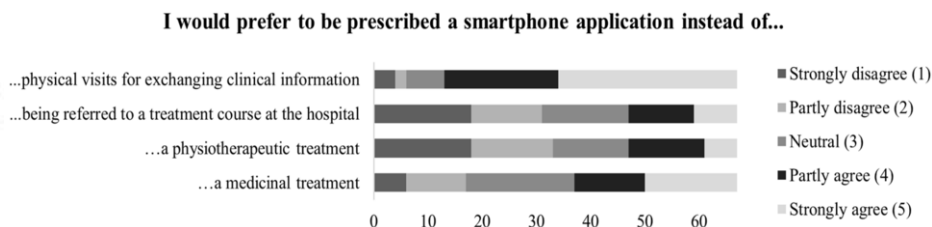
A questionnaire was developed covering: (i) demographic data, (ii) use of mHealth, and (iii) expectations for mHealth prescription from physicians. Likert-scale questions were used for measuring (ii) using perceived usefulness (PU) [4], while (iii) was measured with performance expectancy (PE) [4] and substitutive use (SUB) [5]. Cronbach's alpha was calculated for PU ( $\alpha = 0.86$ ), PE ( $\alpha = 0.82$ ) and SUB ( $\alpha = 0.73$ ). The opt-in Google Forms questionnaire was distributed via QR codes at the event The People's Meeting, LinkedIn, and Facebook. No personally identifiable information was collected.

---

<sup>1</sup> Corresponding Author: Victor Vadmand JENSEN; E-mail: [vjense17@student.aau.dk](mailto:vjense17@student.aau.dk).

### 3. Results

67 respondents participated in the survey, 20 men (29.9%) and 47 women (70.1%), with 53 respondents (79.1%) aged < 60 years. 56 respondents (83.6%) had a higher education  $\geq 3$  years in length. Regarding questions on PU of mHealth, mean PU for respondents using mHealth: once a month or less was 3.49 ( $n = 17$ ); 2-3 times a month was 3.83 ( $n = 10$ ); 1-6 times a week was 4.27 ( $n = 25$ ); once a day or more was 4.33 ( $n = 15$ ).



**Figure 1.** Respondents' willingness to substitute traditional treatments for prescribed mHealth (SUB).

Figure 1 show that 54/67 and 30/67 of respondents prefer substitution of physical information exchange and medicinal treatment, respectively, with mHealth.

### 4. Discussion

Results raise questions about use cases of mHealth prescription which point to substitution of pain-relief medicine and clinical information exchange, the latter possibly via telemedicine. Further, possible connection between frequency of use and PU suggests a possibility of prescribing mHealth often used by citizens. The sample is biased toward younger respondents with longer educations, requiring further investigation for disadvantaged citizens to benefit from mHealth prescription.

Future research should develop indicators for assessment of prescribed mHealth apps already used among citizens. Researchers should also scrutinize the appropriate use cases for mHealth prescription as a pragmatic counter to mHealth prescription hype.

### References

- [1] Ministry of Industry, Business and Financial Affairs. Agreement on a strategy for life science [Internet]. Place of publication: Ministry of Industry, Business and Financial Affairs; 2021 May [cited 2023 February 22]. Available from: <https://em.dk/media/14236/agreement-on-a-strategy-for-life-science.pdf>.
- [2] Eriksen J, Tornbjerg Eriksen K, Bertelsen PS. Citizens' use of Health Information Technology between 2013-2021 in Denmark: A longitudinal study. In The 18th Scandinavian Conference on Health informatics, Tromsø, Norway, August 22-24, 2022. Linköping Electronic Conference Proceedings 187. 2022. p. 128-135 doi: 10.3384/ecp187F
- [3] vPayo RM, Harris J, Armes J. Prescribing fitness apps for people with cancer: a preliminary assessment of content and quality of commercially available apps. *J Cancer Surviv.* 2019 Jun;13(3):397-405. doi: 10.1007/s11764-019-00760-2.
- [4] Alam M, Hu W, Barua Z. Using the UTAUT Model to Determine Factors Affecting Acceptance and Use of Mobile Health (mHealth) Services in Bangladesh. *Journal of Studies in Social Science.* 2018;17(2): 137-172.
- [5] Rai A, Chen L, Pye J, Baird A. Understanding Determinants of Consumer Mobile Health Usage Intentions, Assimilation, and Channel Preferences. *J Med Internet Res.* 2013 Aug; 15(8): e149. doi: 10.2196/jmir.2635