

# Usability of "Beter Voorbereid 1.0": a preoperative eHealth application

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## Background

The "Beter Voorbereid" eHealth application (Better Prepared) was developed to help patients improve their **lifestyle** before surgery, and thereby improve postoperative recovery, with a **multimodal** approach:

-  Energy and protein intake optimisation
-  Alcohol intake limited to max 1 a day
-  Smoking cessation
-  At least 30 minutes moderate physical activity a day
-  At least 2 sessions of peripheral muscle strength training a week

## Purpose

To evaluate the **usability** of the "Beter Voorbereid" app in patients undergoing major elective surgery, before conducting a full-scale multicenter RCT.

## Methods

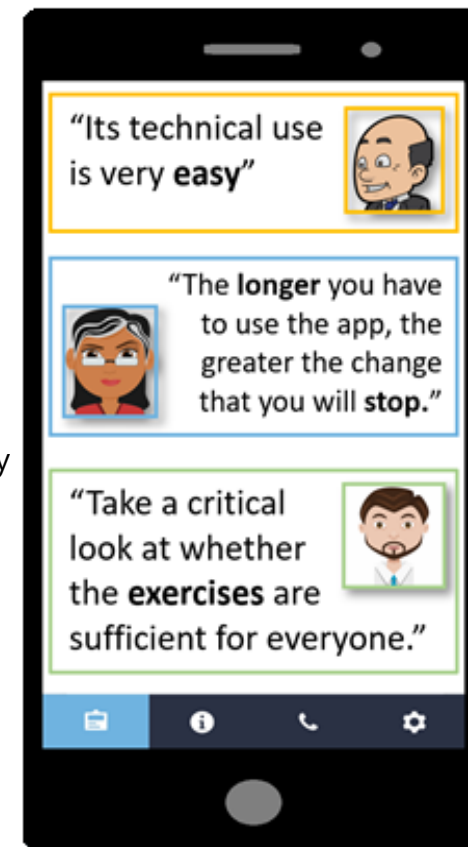
A **mixed methods** design was used to evaluate the usability in two hospitals in the Netherlands. The System Usability Scale was used to quantify usability. Semi-structured interviews were conducted by telephone to gain more detailed insights.

## Results

Of the 51 participants, 32 filled in the System Usability Scale. Their median(IQR) age was 57(44,5;64,0). The mean( $\pm$ SD) **System Usability score was 68,2( $\pm$ 13,3)**.



Interviews were conducted with **12 interviewees**, with ages between 35 and 77 years old. Half of the Interviews were conducted preoperatively and the other half postoperatively. **Qualitative analysis** suggested that the app was easy to use, and subjects experienced few technical difficulties. The daily notifications were considered motivational.



## Areas for improvement

- Offer a variety in **difficulty levels** of exercises
- A period of **3 weeks** was considered as the optimal period to change lifestyle before major surgery
- Offer **operation specific** information

## Conclusion

The "Beter Voorbereid" app is a **promising eHealth tool**, but some improvements are necessary.

## Future

A full-scale **multicenter RCT** will start in January 2020 to evaluate the effectiveness of the app on **postoperative physical recovery**, 30 days following surgery.