

# Refereersessie eHealth implementatie & evaluatie

*Barrières en facilitatoren voor gebruiken van eHealth*

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# Conceptualising engagement with digital behaviour change interventions: a systematic review using principles from critical interpretive synthesis

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## Abstract

“Engagement” with digital behaviour change interventions (DBCIs) is considered important for their effectiveness. Evaluating engagement is therefore a priority; however, a shared understanding of how to usefully conceptualise engagement is lacking. This review aimed to synthesise literature on engagement to identify key conceptualisations and to develop an integrative conceptual framework involving potential direct and indirect influences on engagement and relationships between engagement and intervention effectiveness. Four electronic databases (Ovid MEDLINE, PsycINFO, ISI Web of Knowledge, ScienceDirect) were searched in November 2015. We identified 117 articles that met the inclusion criteria: studies employing experimental or non-experimental designs with adult participants explicitly or implicitly referring to engagement with DBCIs, digital games or technology. Data were synthesised using principles from critical interpretive synthesis. Engagement with DBCIs is conceptualised in terms of both experiential and behavioural aspects. A conceptual framework is proposed in which engagement with a DBCI is influenced by the DBCI itself (content and delivery), the context (the setting in which the DBCI is used and the population using it) and the behaviour that the DBCI is targeting. The context and “mechanisms of action” may moderate the influence of the DBCI on engagement. Engagement, in turn, moderates the influence of the DBCI on those mechanisms of action. In the research literature, engagement with DBCIs has been conceptualised in terms of both experience and behaviour and sits within a complex system involving the DBCI, the context of use, the mechanisms of action of the DBCI and the target behaviour.

## Implications

**Practice:** The use of a shared conceptual framework for engagement with digital behaviour change interventions (DBCIs) should promote more rapid advances in developing methods to improve it.

**Policy:** A shared conceptualisation of engagement with DBCIs can be used to help policymakers and commissioners to set standards against which to evaluate DBCIs.

**Research:** The proposed conceptual framework can be used to generate testable hypotheses about how to improve engagement.

## Electronic supplementary material

The online version of this article (doi:10.1007/s13142-016-0453-1) contains supplementary material, which is available to authorized users.

(DBCIs), defined as “...a product or service that uses computer technology to promote behaviour change” [4], can, for example, be delivered through computer programs, websites, mobile phones, smartphone applications (apps) or wearable devices. Evidence suggests that DBCIs can help people change a range of different health behaviours, including smoking [5, 6], alcohol consumption [7], weight management [8], physical activity [9] and self-management of chronic conditions [10]. Some form of “engagement” with



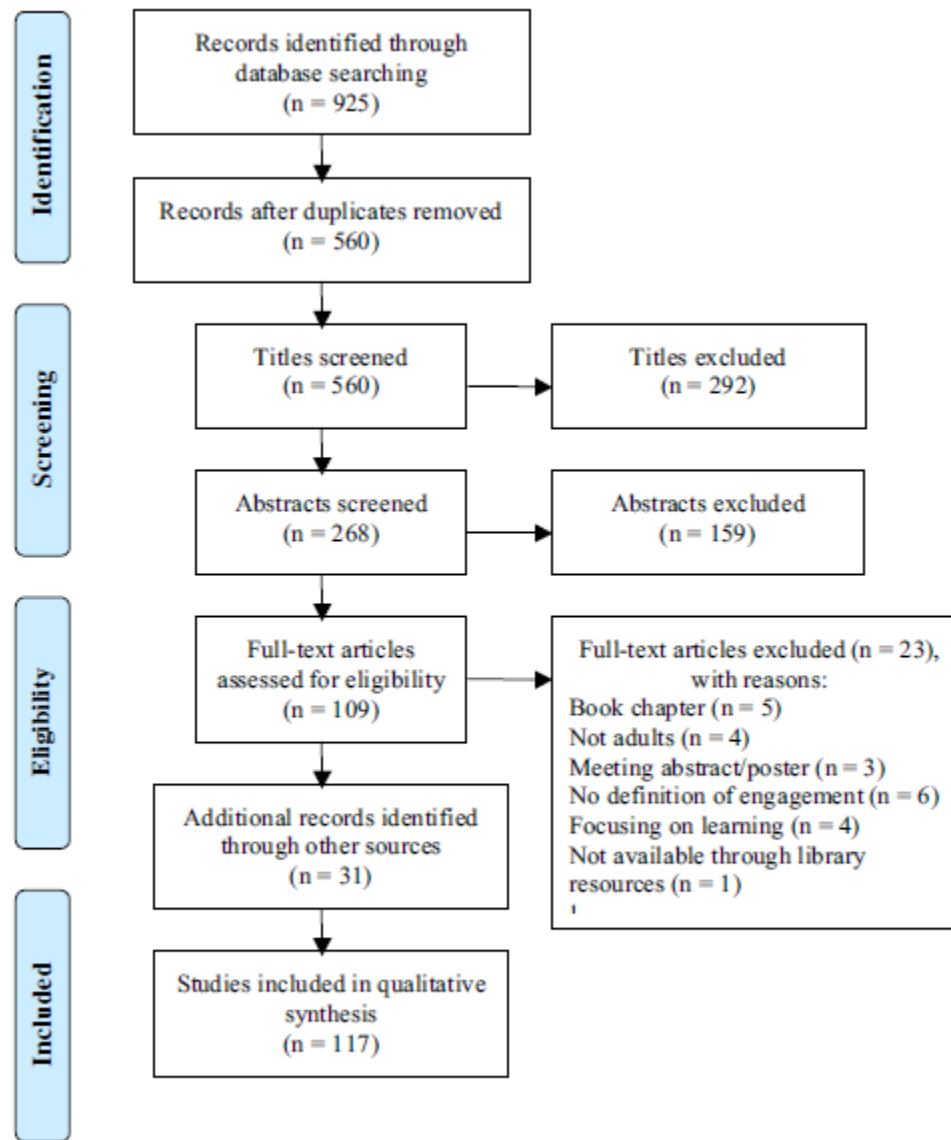
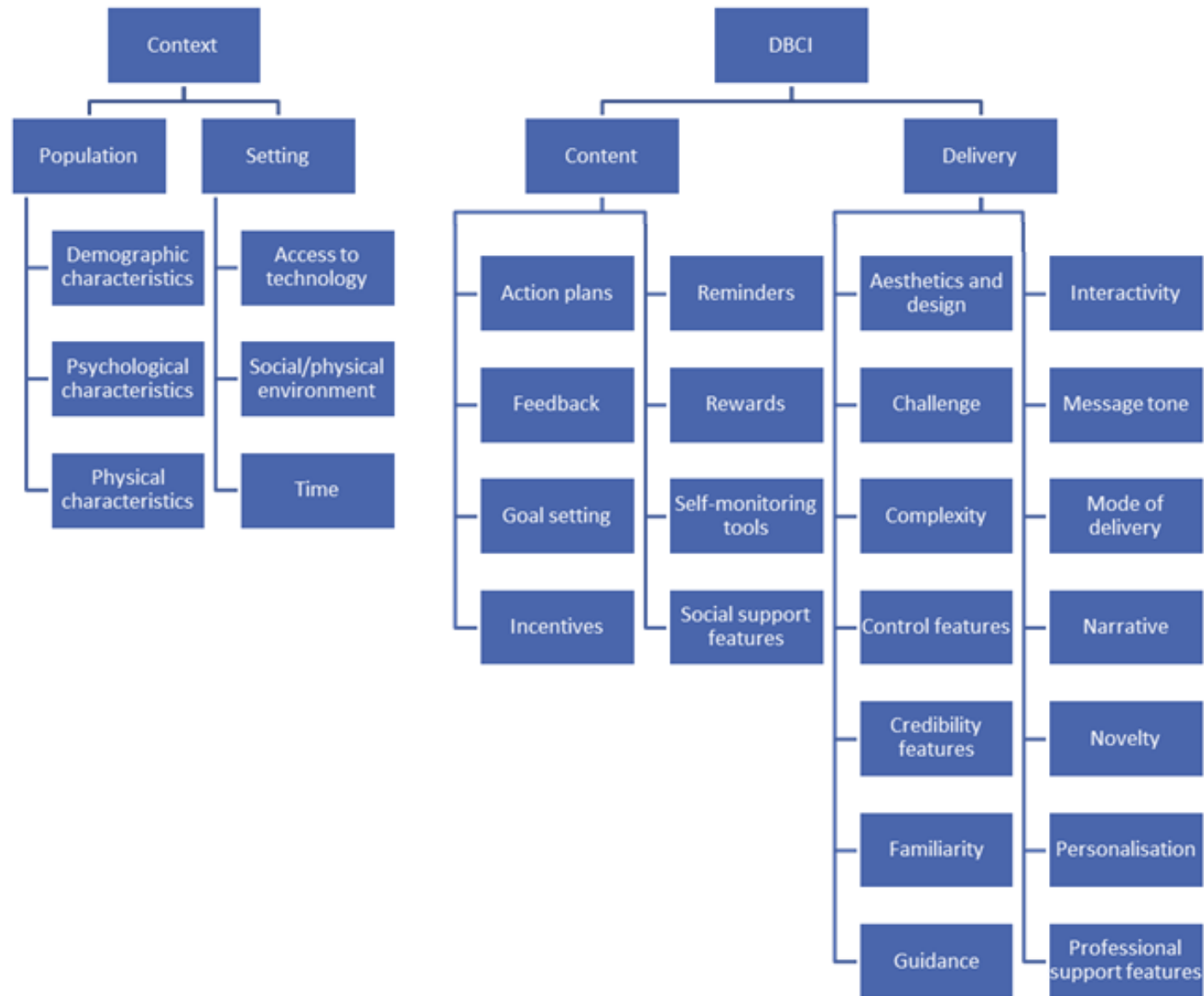


Fig 1 | PRISMA flow diagram of the study selection process [42]



# Factoren die gebruik van DBCI beïnvloeden



# Onderzoek selfBACK app

Het evalueren van de **barriers** en **facilitatoren** voor het gebruiken van een zelfmanagement eHealth app onder de doelgroep volwassenen met nek en/of lage rugpijn.

- 32 deelnemers
- 6 weken thuis gebruikt op eigen telefoon
- Telefonisch interview

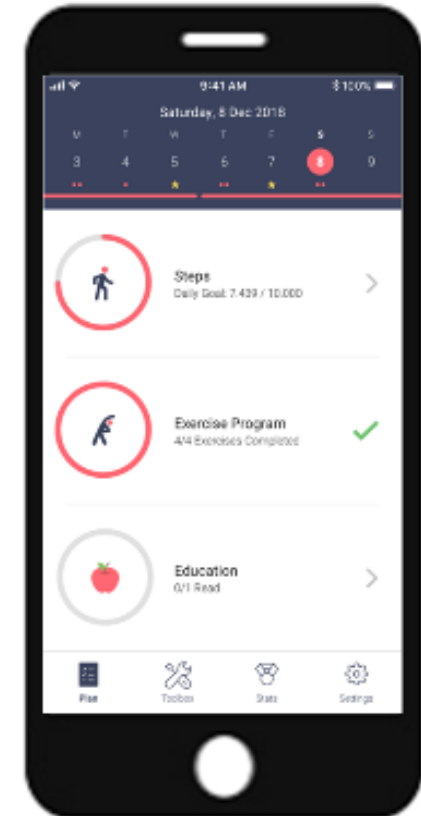


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Personalised Prognostic Models to **Improve Well-being** and **Return to Work** After Neck and Low Back Pain

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 777090



# Wat zijn volgens jullie de barrières en facilitatoren?

## POPULATION FACTORS

Demographic

**Psychological**

Physical

## SETTING FACTORS

**Access to technology**

Social/physical environment

Time

## CONTENT FACTORS

**Action plans**

Feedback

**Goal setting**

**Incentives**

Reminders

**Rewards**

Self-monitoring tools

Social support features

## DELIVERY FACTORS

Aesthetics and design

Challenge

Complexity

Control features

Credibility features

Familiarity

Guidance

*"It is totally linked to your mobile phone. Therefore, you are obliged to have it in your pocket the whole day to measure your steps."*

Interactivity  
Message tone

**Mode of delivery**

Narrative

**Novelty**

Personalisation

Professional support features



*"The main motivator for me to use the app is that I hope and expect to learn something, to gain more confidence, to not give up. This is what I received from the SELFBACK app. The education appealed a lot to me."*

*"I can open it whenever I want, I have my phone close to me, you're looking at your phone quite often. So then I take a look and I see: 'Oh, I've already reached 8,000 steps', and then I see: 'Oh yeah, that exercise needs to be done'."*

*"If at a certain point it appears that nothing new is coming in. You have to keep incentives for novelties."*

*"I have the feeling I know my own boundaries. I don't want an app to be hounding me."*

# Is dit lijstje compleet volgens jullie?

## POPULATION FACTORS

Demographic  
Psychological  
Physical

Health-related factors  
Research-related factors

## SETTING FACTORS

Access to technology  
Social/physical environment  
Time

## CONTENT FACTORS

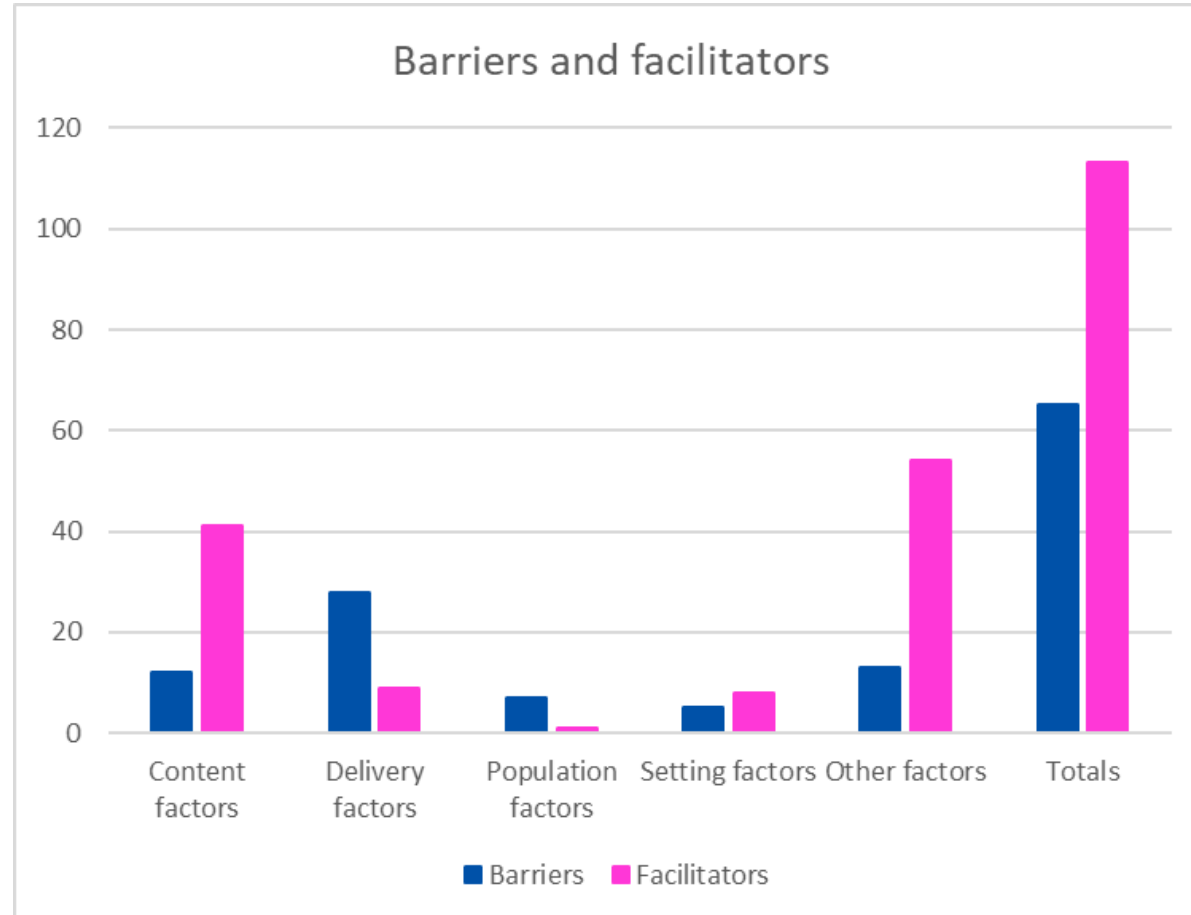
Action plans  
Feedback  
Goal setting  
Incentives  
Reminders  
Rewards  
Self-monitoring tools  
Social support features

## DELIVERY FACTORS

Aesthetics and design  
Challenge  
Complexity  
Control features  
Credibility features  
Familiarity  
Guidance  
Interactivity  
Message tone  
Mode of delivery  
Narrative  
Novelty  
Personalisation  
Professional support features



# Overzicht barrières en facilitatoren selfBACK onderzoek





# Is er iets wat niet thuis hoort in deze rijen?

## POPULATION FACTORS

Demographic  
Psychological  
Physical

## SETTING FACTORS

Access to technology  
Social/physical environment  
Time

## CONTENT FACTORS

Action plans  
Feedback  
Goal setting  
Incentives  
Reminders  
Rewards  
Self-monitoring tools  
Social support features

## DELIVERY FACTORS

Aesthetics and design  
Challenge  
Complexity  
Control features  
Credibility features  
Familiarity  
Guidance  
Interactivity  
Message tone  
Mode of delivery  
Narrative  
Novelty  
Personalisation  
Professional support features



# Lessons learned selfBACK onderzoek



To optimize eHealth use, the eHealth service needs to comply at least with the following four factors: (1) if the service collects activity data, this needs to be done with a wearable, (2) the service needs to have variation in content, (3) the service needs to have a daily/weekly plan for the user, and (4) the service needs to have a positive effect on relieving users' pain



This study adds to the body of literature that at least a part of the N/LBP patients are willing to receive blended care, but not all physical therapists are



# Volgende refereersessie?

6 juni → ?

