eHealth in cardiovascular risk management to prevent cognitive decline
Jongstra, S.

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

Download date: 02 Apr 2019
Cardiovascular diseases and dementia are diseases that have a major impact on our society. These diseases share a number of risk factors, including hypertension, hypercholesterolemia, smoking, diabetes mellitus, obesity and physical inactivity. One can imagine that even a small improvement in cardiovascular risk factor management in a large number of people can lead to a substantial beneficial effect on overall incident cardiovascular disease and maybe even postpone or prevent dementia. We can use eHealth to optimise cardiovascular risk management by developing internet interventions that focus on prevention. eHealth can also play an important role in improving research purposes. You can easily reach a wide audience, perform remote repeated measurements and provide patient-centred care at lower costs.

The aim of this thesis is to provide insight in the possibilities of cardiovascular prevention via eHealth and mHealth, and to show different aspects of cognitive functioning: assessing, predicting and preventing cognitive decline.

Susan Jongstra, 2017
eHealth
in cardiovascular risk management
to prevent cognitive decline

Susan Jongstra
Copyright © 2017 by Susan Jongstra. All rights reserved. No parts of this thesis may be
reproduced, stored or transmitted in any way without prior permission of the author.

**Funding**

The research described in this thesis was financially supported by:

Project grants HATICE: the HATICE trial is funded by the European Union Seventh
Framework Programme (FP7/2007-2013) under grant agreement number 305374.

Personal support S. Jongstra: A financial contribution to the printing costs of this thesis was
provided by the Academic Medical Center in Amsterdam and financial support by the Dutch
Heart Foundation for publication of this thesis is gratefully acknowledged.
EHEALTH IN CARDIOVASCULAR RISK MANAGEMENT TO PREVENT COGNITIVE DECLINE

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad van doctor
aan de Universiteit van Amsterdam
op gezag van de Rector Magnificus
prof. dr. ir. K.I.J. Maex
ten overstaan van een door het College voor Promoties ingestelde commissie,
in het openbaar te verdedigen in de Agnietenkapel
op 22 september 2017, te 10.00 uur

doors

Susan Jongstra
geboren te Maarssen
PROMOTIECOMMISSIE

Promotor:
Prof. dr. W.A. van Gool AMC-UvA

Copromotores:
Dr. E. Richard AMC-UvA
Dr. E.P. Moll van Charante AMC-UvA

Overige leden:
Prof. dr. J. Stam AMC-UvA
Prof. dr. B.A. Schmand AMC-UvA
Prof. dr. M.W.M. Jaspers AMC-UvA
Prof. dr. J.C.M. van Weert AMC-UvA
Prof. dr. N.H. Chavannes Universiteit Leiden

Faculteit der Geneeskunde
## CONTENTS

**Chapter 1** General introduction 7

**PART I eHealth in cardiovascular risk management**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 2</td>
<td>Development and Validation of an Interactive Internet Platform for Older People: the Healthy Ageing Through Internet Counselling in the Elderly study</td>
<td>27</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Healthy Ageing Through Internet Counselling in the Elderly – the HATICE randomised controlled trial for the prevention of cardiovascular disease and cognitive impairment</td>
<td>49</td>
</tr>
</tbody>
</table>

**PART II Cognitive functioning – assessment, dementia risk prediction and prevention**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 4</td>
<td>Cognitive Testing in People at Increased Risk of Dementia Using a Smartphone App: The iVitality Proof-of-Principle Study</td>
<td>73</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Improving prediction of dementia in primary care the incremental value of the Visual Association Test to the Mini Mental State Examination – a cohort study</td>
<td>99</td>
</tr>
<tr>
<td>Chapter 6</td>
<td>Antihypertensive withdrawal for the prevention of cognitive decline - Cochrane systematic review</td>
<td>115</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 7</td>
<td>General discussion</td>
<td>175</td>
</tr>
<tr>
<td>Chapter 8</td>
<td>Summary</td>
<td>195</td>
</tr>
</tbody>
</table>

**Appendices**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch summary (Nederlandse samenvatting)</td>
<td>205</td>
</tr>
<tr>
<td>Author contributions</td>
<td>211</td>
</tr>
<tr>
<td>Co-author affiliations</td>
<td>213</td>
</tr>
<tr>
<td>List of publications</td>
<td>219</td>
</tr>
<tr>
<td>PhD portfolio</td>
<td>223</td>
</tr>
<tr>
<td>About the author</td>
<td>227</td>
</tr>
<tr>
<td>Acknowledgements (Dankwoord)</td>
<td>229</td>
</tr>
</tbody>
</table>