

## Prediction of outcomes in patients with heart failure Sokoreli, I.

#### Citation

Sokoreli, I. (2019, March 19). *Prediction of outcomes in patients with heart failure*. Retrieved from https://hdl.handle.net/1887/69813

Version: Not Applicable (or Unknown)

License: License agreement concerning inclusion of doctoral thesis in the

Institutional Repository of the University of Leiden

Downloaded from: <a href="https://hdl.handle.net/1887/69813">https://hdl.handle.net/1887/69813</a>

Note: To cite this publication please use the final published version (if applicable).

#### Cover Page



### Universiteit Leiden



The following handle holds various files of this Leiden University dissertation: <a href="http://hdl.handle.net/1887/69813">http://hdl.handle.net/1887/69813</a>

Author: Sokoreli, I.

Title: Prediction of outcomes in patients with heart failure

**Issue Date**: 2019-03-19

## Prediction of outcomes in patients with heart failure

Ioanna Sokoreli

Prediction of outcomes in patients with heart failure PhD Thesis, Leiden University Medical Center, the Netherlands Copyright © Ioanna Sokoreli, 2019 ISBN: 978-94-6375-304-3

Cover: Evelien Jagtman Lay-out: Ioanna Sokoreli Printed by: Ridderprint BV

The work described in this thesis has been carried out at the Philips Research Laboratories in Eindhoven, the Netherlands, as part of the Philips Research programme.

All rights reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronically, mechanically, by photocopy, by recording, or otherwise, without prior written permission of the author.

### Prediction of outcomes in patients with heart failure

#### Proefschrift

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof.mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op dinsdag 19 maart 2019
klokke 11.15 uur

door

Ioanna Sokoreli

Geboren te Patras, Griekenland

in 1986

#### Promotoren

Prof. dr. E.W. Steyerberg

Prof. dr. S.C. Pauws (Tilburg University)

#### Leden promotiecommissie

Prof. dr. D.E. Atsma

Prof. dr. A.L. Clark (University of Hull)

Dr. M. Kavousi (Erasmus University Rotterdam)

Prof. dr. A.M. Stiggelbout

## **Contents**

| I        | Introduction  |     |
|----------|---|-----|
| 1        | General introduction  | 1   |
| II<br>co | Impact of psychosocial factors and frailty on HF adverse out-   | 13  |
| 2        | Depression and anxiety as predictors of mortality among HF patients: systematic review and meta-analysis  | 15  |
| 3        | Depression as an independent prognostic factor for all-cause mortality after a hospital admission for worsening HF                                    | 49  |
| 4        | Prognostic value of psychosocial factors for first and recurrent hospitalizations and mortality in HF patients: insights from the OPERA-HF study      | 71  |
| II       | Risk prediction models for early re-admission in HF   | 93  |
| 5        | Added value of frailty and social support in predicting risk of 30-day unplanned re-admission or death for patients with HF: an analysis from OPERAHF |     |
| 6        | Risk prediction of 30-day unplanned re-admission or mortality for HF patients: external validation of the OPERA model                                 | 121 |
| ΙV       | Discussion and summary  | 143 |
| 7        | General discussion  | 145 |
| V        | Appendices 1  | 163 |

# Part I Introduction