



Universiteit
Leiden
The Netherlands

Decision-making in severe traumatic brain injury: patient outcome, hospital costs, and research practice

Dijck, J.T.J.M. van

Citation

Dijck, J. T. J. M. van. (2021, September 16). *Decision-making in severe traumatic brain injury: patient outcome, hospital costs, and research practice*. Retrieved from <https://hdl.handle.net/1887/3210899>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3210899>

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

Cover Page



Universiteit Leiden



The handle <https://hdl.handle.net/1887/3210899> holds various files of this Leiden University dissertation.

Author: Dijck, J.T.J.M. van

Title: Decision-making in severe traumatic brain injury: patient outcome, hospital costs, and research practice

Issue Date: 2021-09-16

DECISION-MAKING IN SEVERE TRAUMATIC BRAIN INJURY

PATIENT OUTCOME, HOSPITAL COSTS, AND RESEARCH PRACTICE

J.T.J.M. van Dijck

DECISION-MAKING IN SEVERE TRAUMATIC BRAIN INJURY
PATIENT OUTCOME, HOSPITAL COSTS, AND RESEARCH PRACTICE
PhD thesis, Leiden University, Leiden, the Netherlands

Copyright 2021 J.T.J.M. van Dijck, the Netherlands

All rights reserved. No parts of this thesis may be reproduced or transmitted in any form or by any mean, electronical or mechanical, including photocopy, recording, or in any information storage and retrieval system, without permission in writing from the copyright owner.

ISBN	978-94-6332-767-1
Cover Design	Elise Buntinx, (elisebuntinx.be)
Lay-out	Ferdinand van Nispen tot Pannerden Citroenvlinder DTP & Vormgeving, <i>my-thesis.nl</i>
Printing	GVO drukkers & vormgevers B.V. Ede NL

The research projects in this thesis were supported by Hersenstichting Nederland (Dutch Brain Foundation) and by The European Union seventh Framework Program (grant 602150)

Publication of this thesis was kindly supported by:
Peter van Dijck & Willemien van Dijck-Kaandorp
ETB-BISLIFE

DECISION-MAKING IN SEVERE TRAUMATIC
BRAIN INJURY
PATIENT OUTCOME, HOSPITAL COSTS,
AND RESEARCH PRACTICE

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden
op gezag van rector magnificus prof.dr.ir. H. Bijl
volgens besluit van het college voor promoties
te verdedigen op 16 september 2021
klokke 13:45 uur

door

Jeroen Theodorus Josephus Maria van Dijck
geboren te Tilburg
in 1990

Promotor

Prof. dr. W.C. Peul

Copromotores

Dr. E.J.O. Kompanje, Erasmus Medisch Centrum, Rotterdam

Dr. S. Polinder, Erasmus Medisch Centrum, Rotterdam

Leden promotiecommissie

Prof. dr. E.W. Steyerberg

Prof. dr. A.M. Stiggelbout

Prof. dr. H.M. Dupuis

Prof. dr. R.H.M.A. Bartels, Radboud Universitair Medisch Centrum, Nijmegen

Prof. dr. W.B.F. Brouwer, Erasmus Universiteit, Rotterdam

Prof. dr. W.P. Vandertop, Amsterdam Universitair Medisch Centrum, Amsterdam

"I think nobody should be certain of anything. If you're certain, you're certainly wrong because nothing deserves certainty. So one ought to hold all one's beliefs with a certain element of doubt, and one ought to be able to act vigorously in spite of the doubt"

Bertrand Russell. 1960

TABLE OF CONTENTS

Chapter 1	General introduction	9
Part I	Patient outcome, in-hospital healthcare consumption, in-hospital costs, and treatment decision-making in severe traumatic brain injury	25
Chapter 2	Decision-making in very severe traumatic brain injury (Glasgow Coma Scale 3-5); a literature review of acute neurosurgical management	27
Chapter 3	In-hospital costs after severe traumatic brain injury: a systematic review and quality assessment	65
Chapter 4	Functional and patient-reported outcome versus in-hospital costs after traumatic acute subdural hematoma; a neurosurgical paradox	91
Chapter 5	Patient outcome, healthcare consumption and in-hospital costs after traumatic brain injury: a Dutch prospective multicenter study	111
Chapter 6	The patient with severe traumatic brain injury: clinical decision-making: the first 60 minutes and beyond	131
Part II	Institutional review board approval and use of informed consent procedures in emergency research with traumatic brain injury patients	149
Chapter 7	How do 66 European Institutional Review Boards approve one protocol for an international prospective observational study on traumatic brain injury? Experiences from the CENTER-TBI study	151

Chapter 8	Informed consent procedures in patients with an acute inability to provide informed consent: policy and practice in the CENTER-TBI study	169
Chapter 9	Informed consent procedures for emergency interventional research in patients with acute traumatic brain injury and ischaemic stroke	185
Chapter 10	General summary	209
Chapter 11	Samenvatting	215
Chapter 12	General discussion and future perspectives	223
Appendices		
	List of publications	246
	Dankwoord	248
	Curriculum vitae	250

