

## What makes the best performing hospital? the IQ Joint study

Schie, P. van

#### Citation

Schie, P. van. (2023, November 8). What makes the best performing hospital?: the IQ Joint study. Retrieved from https://hdl.handle.net/1887/3656771

Version: Publisher's Version

Licence agreement concerning inclusion of doctoral

License: thesis in the Institutional Repository of the University

of Leiden

Downloaded from: <a href="https://hdl.handle.net/1887/3656771">https://hdl.handle.net/1887/3656771</a>

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

# What makes the best performing hospital? The IQ Joint study

Peter van Schie



Cover design and layout: Peter van Schie

Lay-out & Printing: ProefschriftMaken | proefschriftmaken.nl

**ISBN**: 978-94-6469-653-0

### Copyright<sup>©</sup> 2023 by Peter van Schie

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without permission in writing from the author. The copyright of the articles has been transferred to the respective journals.

The conduction of the research included in this thesis was carried out at the Departments of Orthopedics & Biomedical Data Sciences, Medical Decision Making of the Leiden University Medical Centre, Leiden, the Netherlands.

The studies were financed by a grant from the Van Rens Foundation (VRF 2018-001). The Dutch Orthopaedic Association and the Anna Fund in Leiden have contributed financially to the printing and distribution of this thesis.

## What makes the best performing hospital? The IQ Joint study

#### 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 woensdag 8 november 2023 klokke 15:00 uur

> door Peter van Schie geboren te Leiden in 1988

#### Promotor

Prof. dr. R.G.H.H. Nelissen

### Copromotor

Dr. P.J. Marang-van de Mheen

#### Leden promotiecommissie

Prof. dr. D.H. Biesma

Prof. dr. M. Levi (Amsterdam UMC & Nederlandse Organisatie voor Wetenschappelijk Onderzoek)

Prof. dr. A. Lübbeke-Wolff (University of Oxford)

Prof. dr. R.W. Poolman

Prof. dr. M.W.J.M. Wouters

## **Table of contents**

Chapter 1	General introduction and outline of the thesis	9
Chapter 2	International comparison of variation in performance between hospitals for total hip and knee arthroplasties: Is it even possible? A systematic review including 33 studies and 8 arthroplasty register reports.  EFORT Open Rev. 2022 Apr 21;7(4):247-263	29
Chapter 3	Between-hospital variation in revision rates after Total Hip and Knee Arthroplasty in the Netherlands. Directing quality-improvement initiatives. <i>J Bone Joint Surg Am. 2020 Feb 19;102(4):315-324</i>	89
Chapter 4	Monitoring hospital performance after total hip and knee arthroplasty using statistical process control: How much earlier can we detect worsening performance?  J Bone Joint Surg Am. 2020 Dec 2;102(23):2087-2094	109
Chapter 5	A more comprehensive evaluation of quality of care after total hip and knee arthroplasty: Combining 4 indicators in an ordered composite outcome.  Acta Orthop. 2022 Jan 3;93:138-145	129
Chapter 6	Is postoperative improvement in PROM scores overestimated due to selective non-response? Examining associations with clinical outcomes can provide insights. <i>Submitted</i>	149
Chapter 7	Awareness of performance on outcomes after total hip and knee arthroplasty among Dutch orthopaedic surgeons: How to improve feedback from arthroplasty registries.  Acta Orthop. 2021 Feb;92(1):54-61	173
Chapter 8	Effectiveness of a multifaceted quality improvement intervention to improve patient outcomes after total hip and knee arthroplasty: A registry nested cluster randomized controlled trial.  BMJ Qual Saf. 2023 Jan;32(1):34-46	199

Chapter 9	Summary, general discussion, and future perspectives	245
Chapter 10	Appendices	267
	Dutch summary (Nederlanse samenvatting)	269
	Acknowledgment (Dankwoord)	277
	Bibliography	281
	Curriculum vitae	285