105° CONGRESSO NAZIONALE
DELLA SOCIETÀ ITALIANA DI
ORTOPEDIA E TRAUMATOLOGIA
Roma 10 -12 novembre 2022
Centro Congressi Rome Cavalieri Waldorf Astoria

The role of the International Society of Arthroplasty Registries

12 November 2022 SIOT Rome

Ola Rolfson

Professor, Orthopaedic consultant

Past president ISAR

Conflicts of interest

International Society of Arthroplasty Registries

- Director of Swedish Arthroplasty Register
- Past president ISAR
- Faculty board member Sahlgrenska Academy, University of Gothenburg
- Deputy Editor Clinical Orthopaedics and Related Research
- PI for studies with institutional research funding Pfizer
- Lecturer and/or advisory board ZimmerBiomet, LINK, Novartis, Pfizer

Mission statement

International Society of Arthroplasty Registries

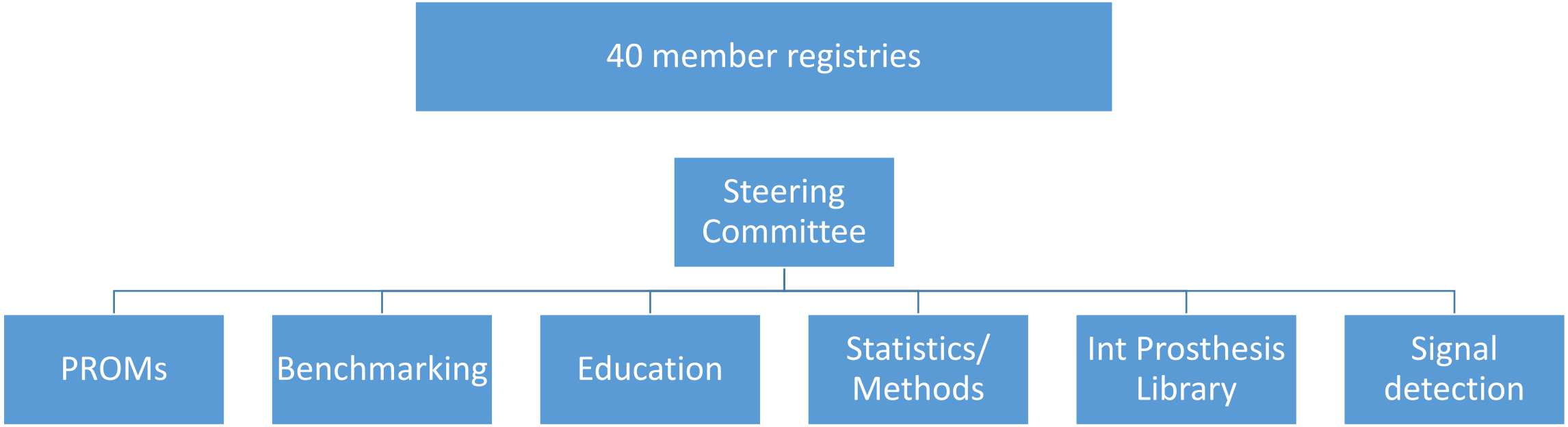
"The members of the International Society of Arthroplasty Registries have a shared purpose of improving outcomes for individuals receiving joint replacement surgery worldwide.

The focus of the society is to utilize the strength of cooperation and sharing of information and further enhance the capacity of individual registries to meet their own aims and objectives.

The society is involved in the development of frameworks to encourage collaborative activities and provides a support network for established and developing registries."

Member registries

International Society of Arthroplasty Registries



Annual congresses since 2012

International Society of Arthroplasty Registries

2023 Montreal
2022 Dublin
2021 Copenhagen (virtual)
2020 Adelaide (virtual)
2019 Leiden
2018 Reykjavik
2017 San Francisco
2016 Manchester
2015 Gothenburg
2014 Boston
2013 Stratford upon Avon
2012 Bergen

Educational activities

Publications

Health Policy 122 (2018) 548–557

Contents lists available at ScienceDirect

Health Policy

journal homepage: www.elsevier.com/locate/healthpol

Mapping existing hip and knee replacement registries in Europe

A. Lübbeke[a,b,*], A.J. Silman[b], C. Barea[a], D. Prieto-Alhambra[b], A.J. Carr[b]

[a] Division of Orthopaedic Surgery and Traumatology, Geneva University Hospitals, Geneva, Switzerland
[b] Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, Oxford, UK

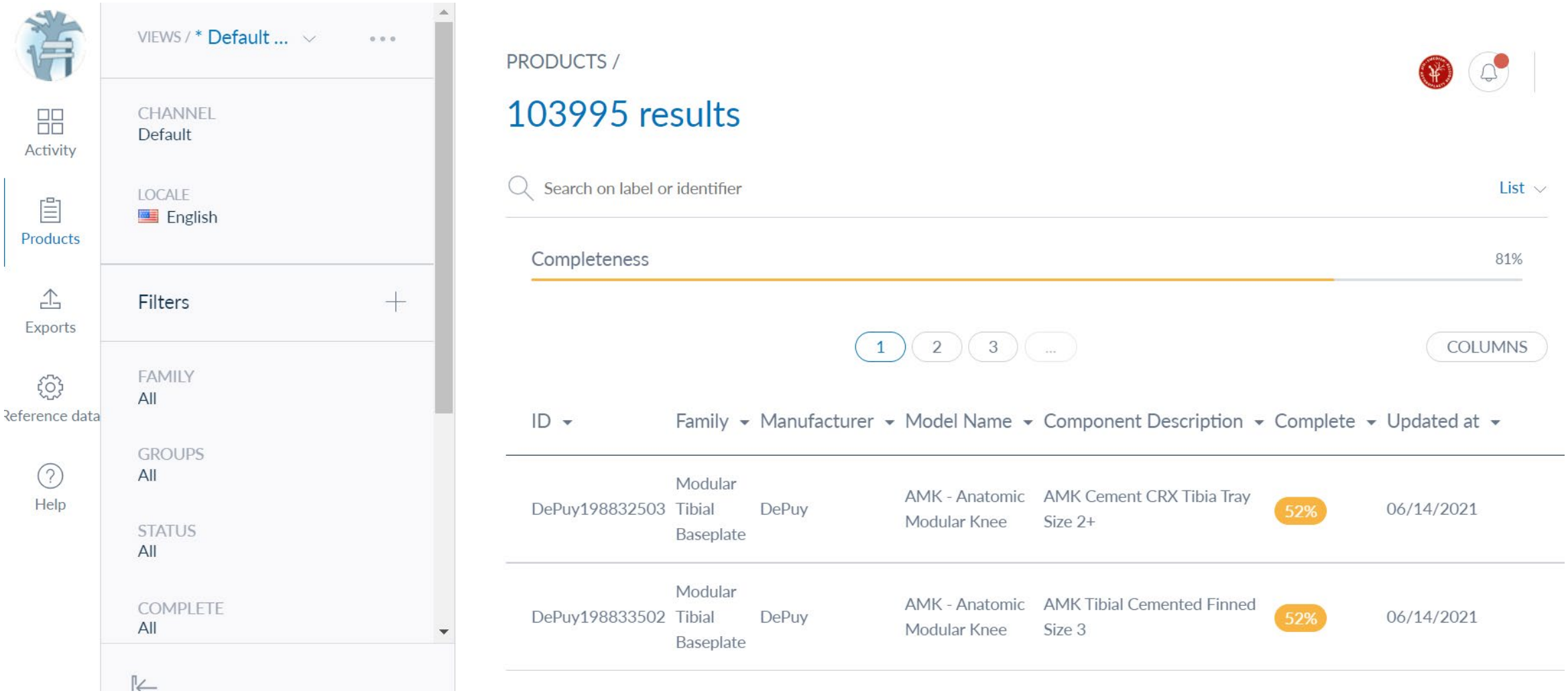
Instructional courses

EFORT 2020 “How to Use Registry Data for Medical Device Evaluation”

EFORT 2022 “Current And Emerging Applications Of Registry Data For Clinical Practice And Implant Surveillance”

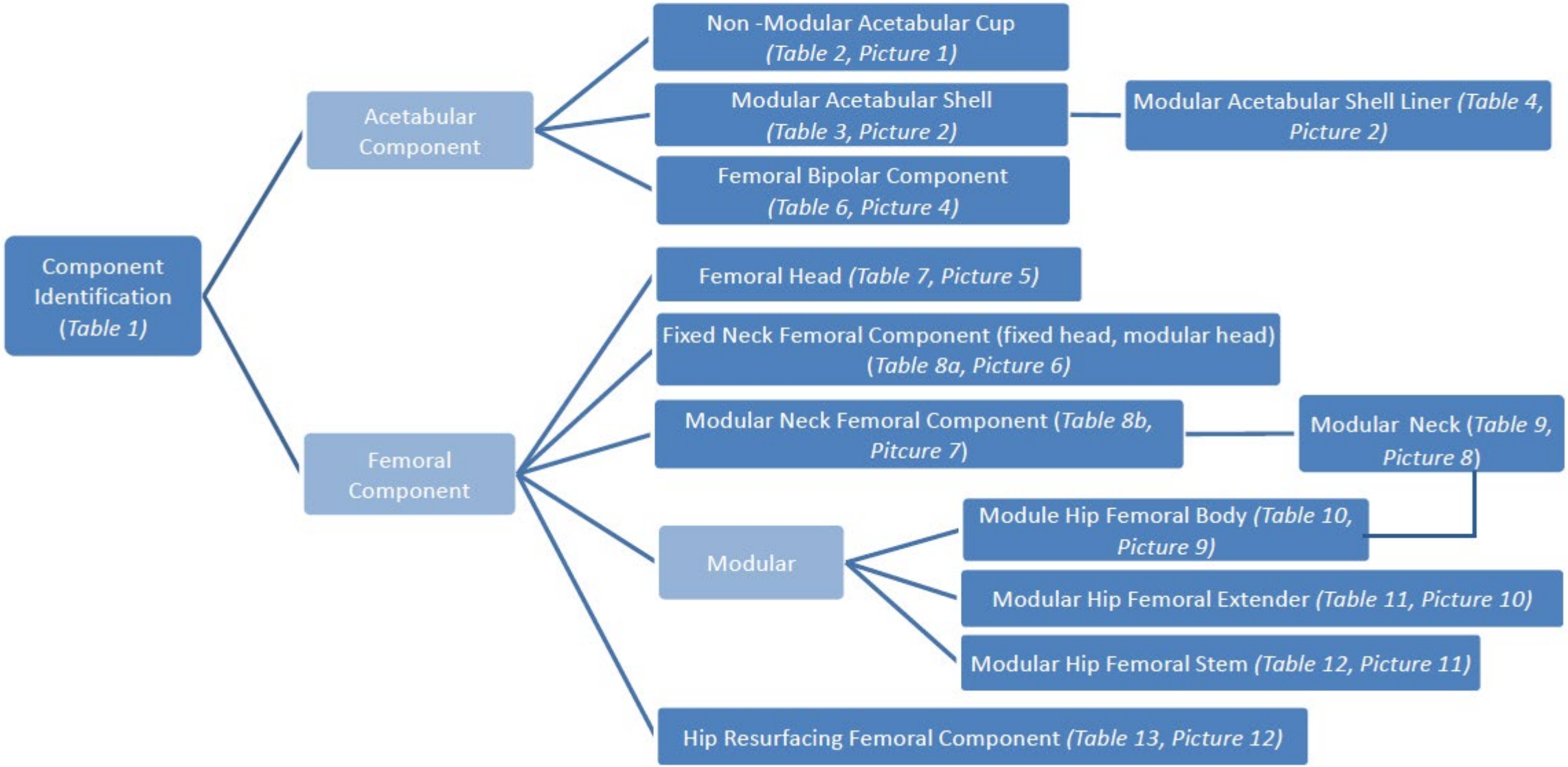
International Prosthesis Library

International Society of Arthroplasty Registries

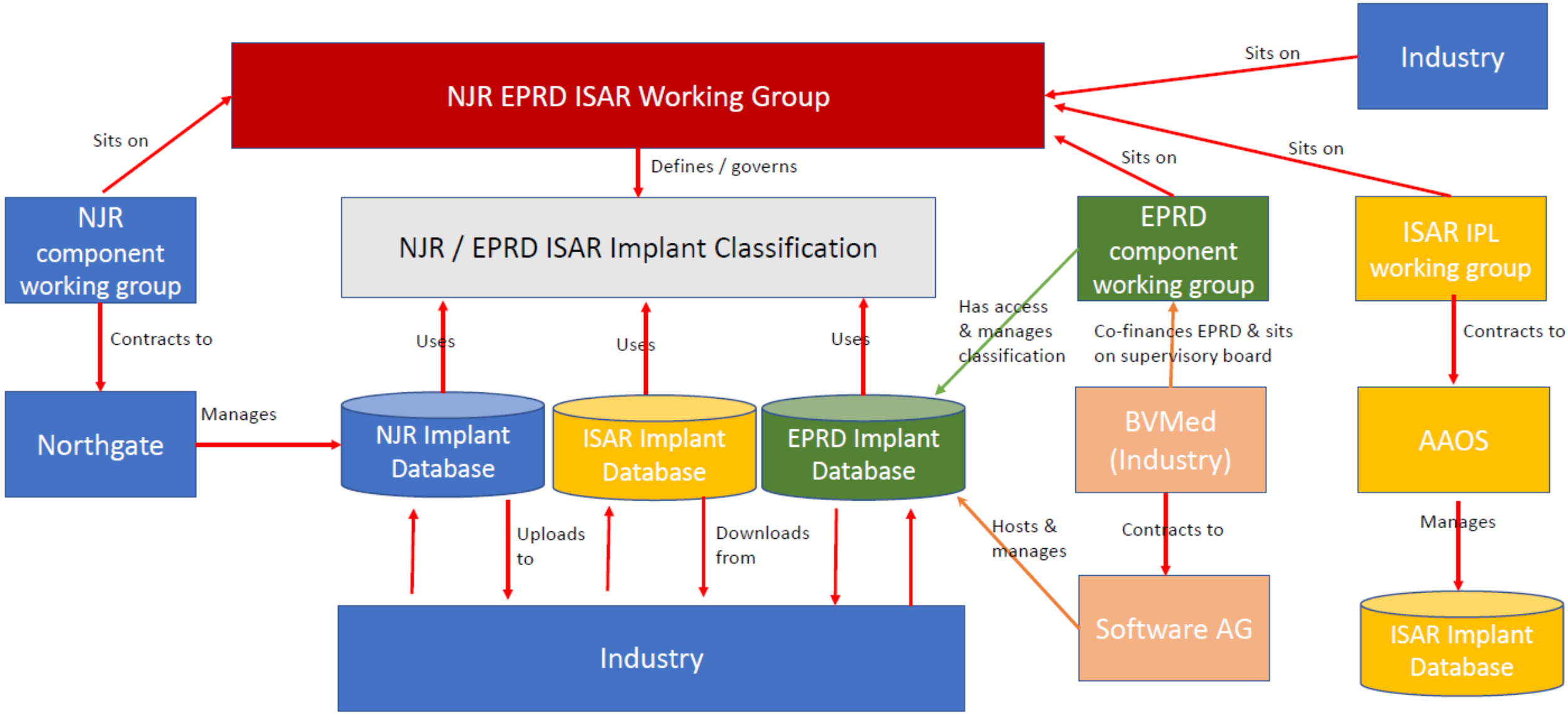


Hip Component Type Diagram

The diagram below illustrates how the different component types listed in the following attribute classification tables can be combined in a procedure.



Proposed management structure incorporating ISAR and Industry

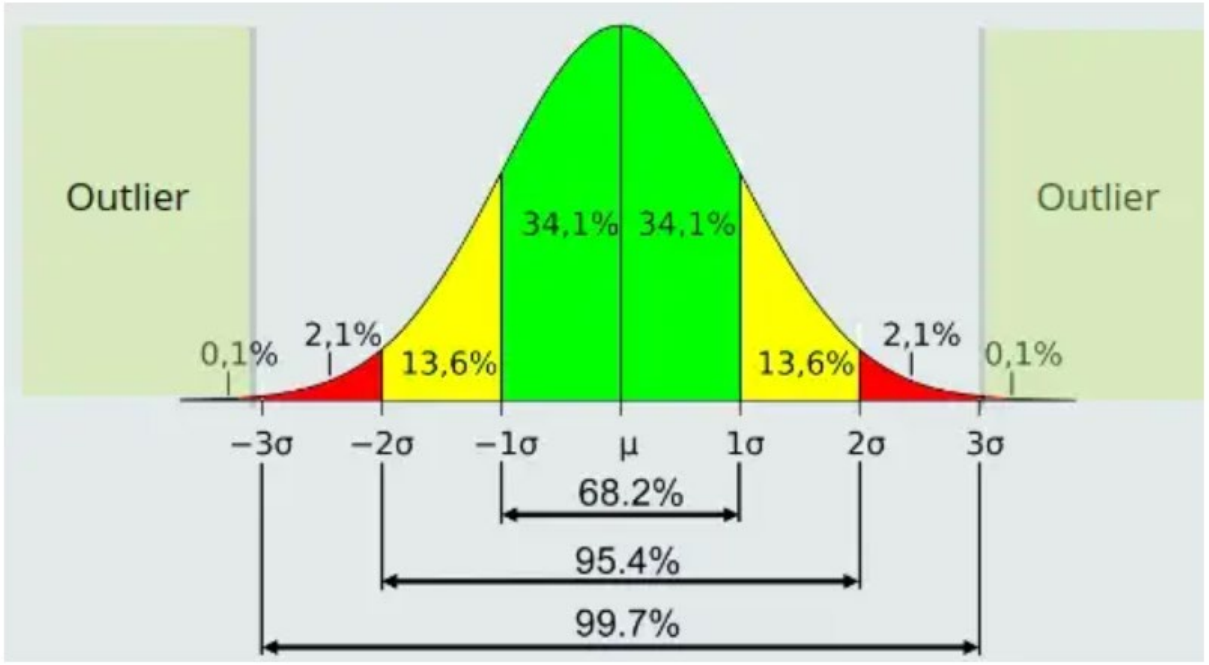


Signal detection

Developing new methods for the early detection of outlier prosthesis

“Identification of Implant outliers in Joint Replacement Registries.”

AI methods in development



PROMs working group

International Society of Arthroplasty Registries

- Mapping of PROMs in registries
- Recommendation on use, administration and analysis of PROMs
- International comparisons of outcomes

Electronic Supplementum no 362: ISAR meeting Gothenburg 2015, Sweden
Peer-reviewed article based on study presented at the 2015 meeting of the International Congress of Arthroplasty Registries

Patient-reported outcome measures in arthroplasty registries

Report of the Patient-Reported Outcome Measures Working Group of the International Society of Arthroplasty Registries

Part I. Overview and rationale for patient-reported outcome measures

Ola ROLFSON [1], Kate Eresian CHENOK [2], Eric BOHM [3], Anne LÜBBEKE [4], Geke DENISSEN [5], Jennifer DUNN [6], Stephen LYMAN [7], Patricia FRANKLIN [8], Michael DUNBAR [9], Søren OVERGAARD [10], Göran GARELLICK [1], Jill DAWSON [11]; the Patient-Reported Outcome Measures Working Group of the International Society of Arthroplasty Registries

Clin Orthop Relat Res (2021) 479:2151-2166
DOI 10.1097/CORR.0000000000001852

Clinical Orthopaedics and Related Research®
A Publication of The Association of Bone and Joint Surgeons®

Selected Papers from the 9th International Congress of Arthroplasty Registries
Guest Editor: Ola Rolfson MD, PhD

Collection and Reporting of Patient-reported Outcome Measures in Arthroplasty Registries: Multinational Survey and Recommendations

Eric R. Bohm MD, MSc[1], Sarah Kirby MPH[2], Elly Trepman MD[1,3,4], Brian R. Hallstrom MD[5], Ola Rolfson MD, PhD[6], J. Mark Wilkinson MB, ChB, PhD[7], Adrian Sayers PhD, MSc, MSc (Dist), PGDip (LSHTM), BSc (Hons)[8], Søren Overgaard MD, PhD[9,10,11,12], Stephen Lyman PhD[13,14], Patricia D. Franklin MD, MBA, MPH[15], Jennifer Dunn MPhil, PhD[16], Geke Denissen MSc[17], Annette W-Dahl PhD[18], Lina Holm Ingelsrud PT, PhD[19], Ronald A. Navarro MD[20]

Electronic Supplementum no 362: ISAR meeting Gothenburg 2015, Sweden
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Patient-reported outcome measures in arthroplasty registries

Report of the Patient-Reported Outcome Measures Working Group of the International Society of Arthroplasty Registries

Part II. Recommendations for selection, administration, and analysis

Ola ROLFSON [1], Eric BOHM [2], Patricia FRANKLIN [3], Stephen LYMAN [4], Geke DENISSEN [5], Jill DAWSON [6], Jennifer DUNN [7], Kate Eresian CHENOK [8], Michael DUNBAR [9], Søren OVERGAARD [10], Göran GARELLICK [1], Anne LÜBBEKE [11]; Patient-Reported Outcome Measures Working Group of the International Society of Arthroplasty Registries

Clin Orthop Relat Res (2022) 480:1884-1896
DOI 10.1097/CORR.0000000000002306

Clinical Orthopaedics and Related Research®
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Selected Proceedings from the 10th International Congress of Arthroplasty Registries
Guest Editor: Ola Rolfson MD, PhD

How do Patient-reported Outcome Scores in International Hip and Knee Arthroplasty Registries Compare?

Lina Holm Ingelsrud PT, MSc, PhD[1], J. Mark Wilkinson MB ChB, PhD[2], Soren Overgaard MD, PhD[3,4], Ola Rolfson MD, PhD[5], Brian Hallstrom MD[6], Ronald A. Navarro MD[7], Michael Terner MSc[8], Sunita Karmakar-Hore PT, MSc[8], Greg Webster MSc[8], Luke Slawomirski PT, MSc[9], Adrian Sayers PhD, MSc, MSc(Dist), PGDip(LSHTM), BSc(Hons)[10], Candan Kendir MD, MPH[9], Katherine de Bienassis MPH[9], Niek Klazinga MD[9], Annette W. Dahl PT, PhD[11], Eric Bohm MD, MSc[12]

Benchmarking

International Society of Arthroplasty Registries

- Global Meta Analysis
- Real individual patient data (real IPD) meta analysis
  - Information governance
  - Sharing is difficult
- Pseudo-individual patient data (pseudo IPD)
  - No information governance “its made up data”
  - Sharing is easy

A worked example: Data from Australia and Sweden

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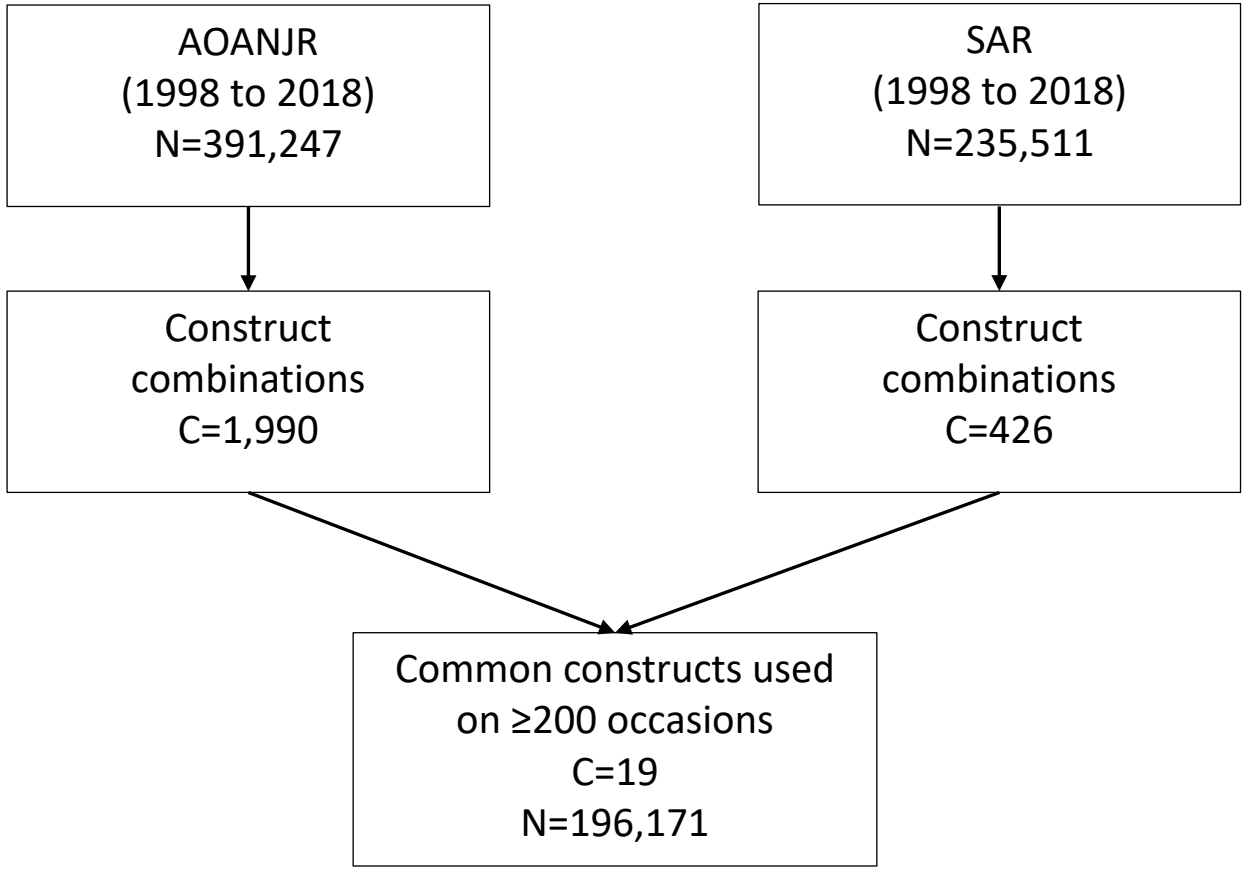

Sayers et al. Under peer review

Pseudo IPD and real IPD same survival estimates

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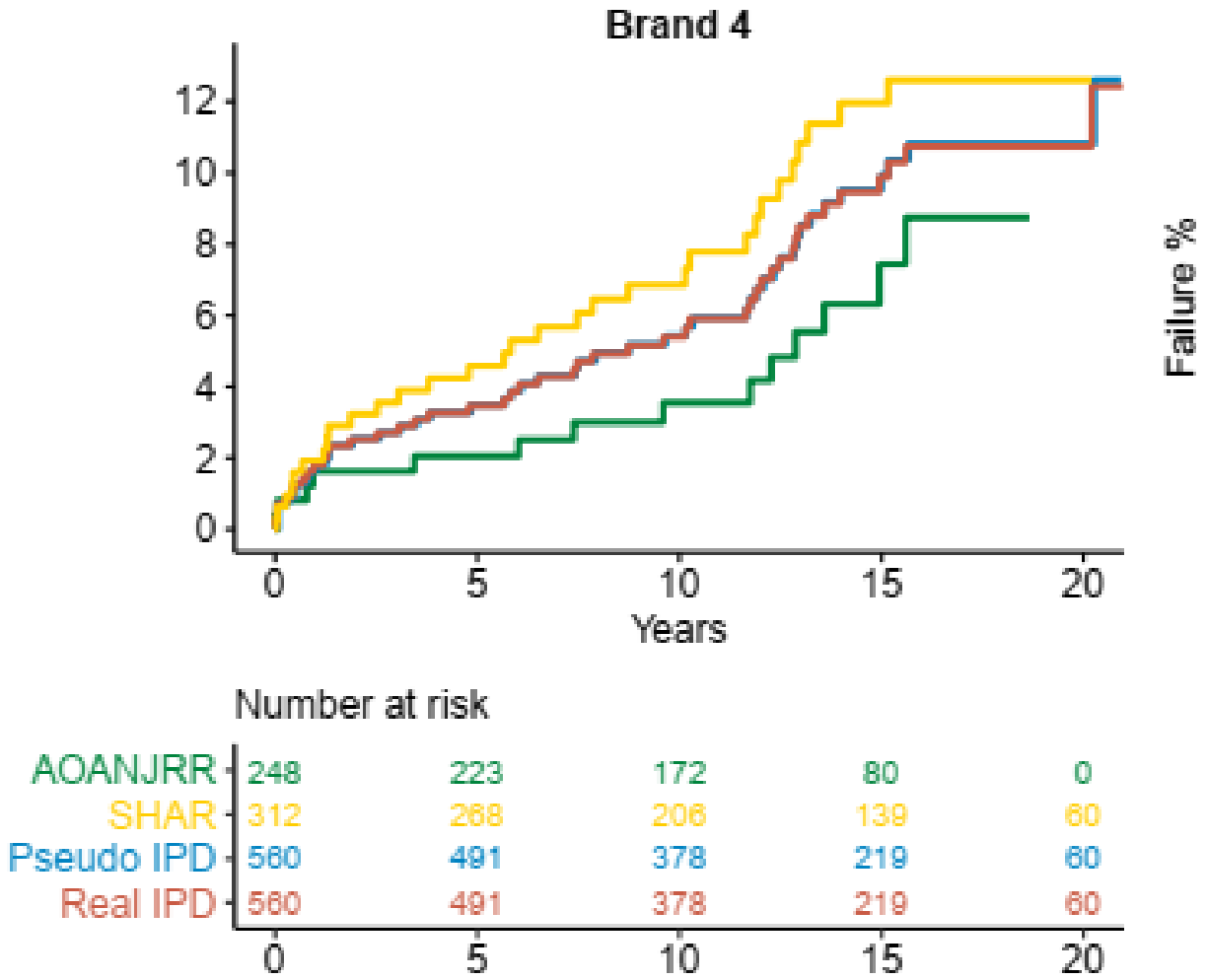
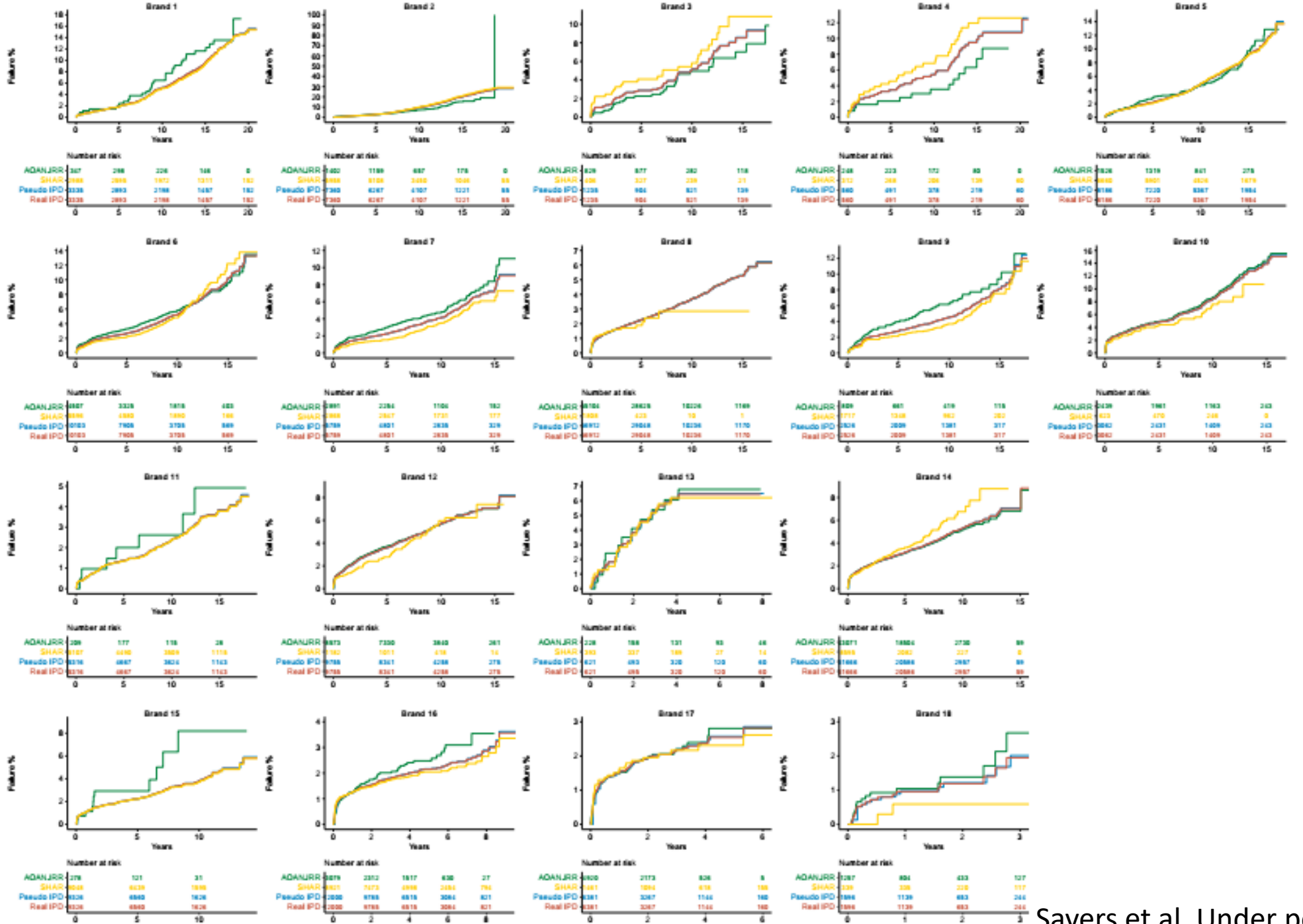


Sayers et al. Under peer review



Sayers et al. Under peer review

Facilitate international registry research collaborations

International Society of Arthroplasty Registries

Clin Orthop Relat Res (2022) 480:1912-1925
DOI 10.1097/CORR.0000000000002275

Clinical Orthopaedics and Related Research®
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Selected Papers from the 10th International Congress of Arthroplasty Registries
Guest Editor: Ola Rolfson MD, PhD

Do Dual-mobility Cups Reduce Revision Risk in Femoral Neck Fractures Compared With Conventional THA Designs? An International Meta-analysis of Arthroplasty Registries

General Orthopaedics

EOR | VOLUME 4 | JUNE 2019
DOI: 10.1302/2058-5241.4.180078
www.efortopenreviews.org

OPEN ACCESS

EFORT open reviews

MoM total hip replacements in Europe: a NORE report

eristics on
ent revision:
from Australia,

Acta Orthopaedica 2022; 93: 284–293

The effect of patient and prosthesis factors on revision rates after total knee replacement using a multi-registry meta-analytic approach

Peter L LEWIS [1,3], Annette W-DAHL [2,3], Otto ROBERTSSON † [2,3], Michelle LORIMER [1], Heather A PRENTICE [4], Stephen E GRAVES [1], and Elizabeth W PAXTON [4]

Acta Orthopaedica

Acta Orthopaedica 2018; 89 (4): 369–373

Meta-analysis of individual registry
national registry collaboration

Acta Orthopaedica 2021; 92 (3): 304–310

International variation in distribution of ASA class in patients undergoing total hip arthroplasty and its influence on mortality: data from an international consortium of arthroplasty registries

Acta Orthopaedica 2019; 90 (2): 148–152

An international comparison of THA patients, implants, techniques, and survivorship in Sweden, Australia, and the United States

Elizabeth W PAXTON [1,3], Guy CAFRI [1], Szilard NEMES [2,3], Michelle LORIMER [5], Johan KÄRRHOLM [2,3,4], Henrik MALCHAU [2,3,4], Stephen E GRAVES [5], Robert S NAMBA [6], and Ola ROLFSON [2,3,4]

Example: ASA class and mortality after THR in 7 registries

International Society of Arthroplasty Registries

Table 4. Meta-analysis of unadjusted and age- and sex-adjusted hazard ratios for the association between ASA classes and 1-year mortality

	Unadjusted HR (CI)			Adjusted HR (CI)		
ASA I as reference	ASA II	ASA III	ASA IV	ASA II	ASA III	ASA IV
Registries						
Australia	4.5 (2.5–8.2)	17 (9.0–30)	69 (38–129)	2.7 (1.4–4.9)	6.9 (3.8–13)	22 (12–41)
Finland	3.3 (1.0–11)	16 (5.0–50)	69 (21–229)	2.0 (0.6–6.4)	6.8 (2.1–22)	24 (7.0–84)
Kaiser Permanente	1.5 (0.5–4.7)	5.3 (1.7–17)	19 (6.0–64)	1.0 (0.3–3.2)	2.7 (0.9–8.4)	7 (2.0–25)
Netherlands	2.2 (1.7–2.8)	8.8 (6.9–11)	32 (21–50)	1.4 (1.1–1.8)	4.2 (3.2–5.4)	14 (9.0–22)
New Zealand	3.6 (1.8–7.1)	18 (9.0–34)	97 (47–204)	2.3 (1.2–4.5)	8.0 (4.0–16)	34 (16–74)
Norway	3.1 (1.3–7.1)	21 (10–48)	120 (47–309)	1.7 (0.7–3.9)	7.7 (3.3–18)	34 (13–91)
Sweden	4.4 (2.9–6.6)	16 (10–24)	54 (30–95)	3.0 (2.0–4.6)	8.6 (5.6–13)	28 (16–50)
Pooled HR	3.2 (2.3–4.3)	14 (10–19)	59 (38–93)	2.0 (1.4–2.7)	6.1 (4.4–8.5)	22 (15–32)
P-value [a]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Heterogeneity						
Q Cochran	11	14	14	12	13	10
Cochran test (p)	0.06	0.03	0.03	0.06	0.05	0.11
I^2 (%)	50	57	58	51	53	42

[a] p-value for testing the null hypothesis that the pooled HR equals 1.

Silman et at. Acta Orthopaedica 2021; 92 (3): 304–310

Example: Dual mobility THR in hip fracture patients in 6 registries

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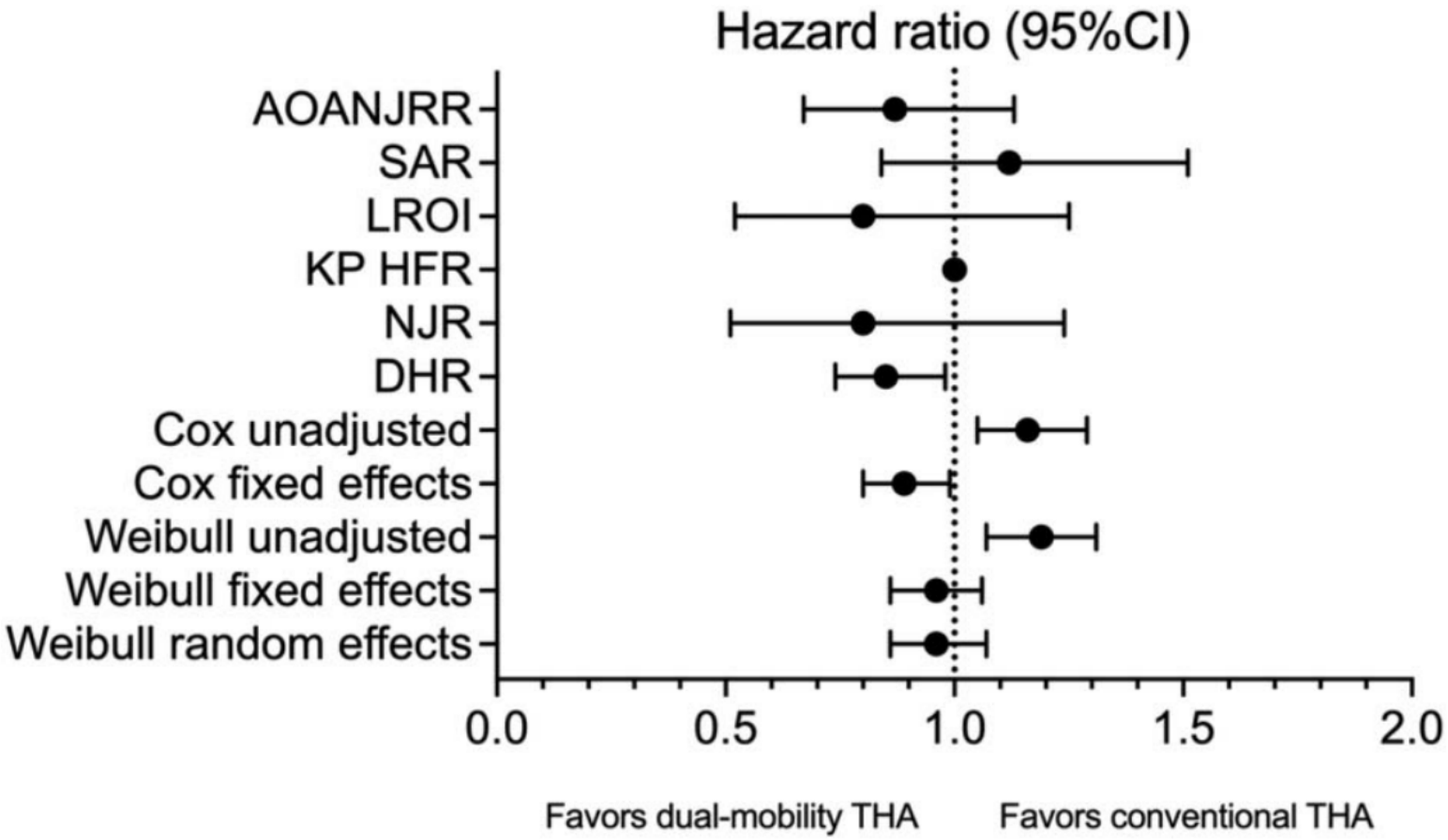

Farey et al. Clin Orthop Relat Res (2022) 480:1912-1925

Role of ISAR - conclusions

International Society of Arthroplasty Registries

Platform for the arthroplasty register community

International harmonisation of definitions and methods

International library for implants available for member registries

Helped new registries to develop

New methods for outlier detection and benchmarking

Facilitate international research collaborations – meta analysis

Improve arthroplasty care worldwide


ISAR
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IPL
International Society of Arthroplasty Registries
Improving outcomes for individuals receiving joint replacement surgery worldwide.

THANKS