BENCHMARKING OUTCOMES IN LEAN HEALTHCARE

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DISCLOSURES

• Grants/Research support:
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  • The Finnish Society of Anaesthesiologists
  • The Pulsus Foundation

• Employment/Salary:
  • HUS Helsinkin University Hospital
RESEARCH ON LEAN HEALTHCARE AROUND THE WORLD

Systematic reviews:

- Crema et al., 2016 (16 studies)
  - USA 63%
  - Netherlands 19%

- Moraros et al., 2016 (22 studies)
  - USA 50.0%
  - UK 13.6%
  - Netherlands 13.6%
  - Sweden 9.0%
  - Australia 9.0%
  - Canada 4.5%
  - Ireland 4.5%

“...the search for the best industry practices which will lead to exceptional performance through the implementation of these best practices”

PREREQUISITES FOR RELIABLE AND MEANINGFUL PERFORMANCE BENCHMARKING

- Clearly defined context
- Universally relevant, applicable, and balanced set of domains for benchmarking
CONTEXT
DOES CONTEXT MATTER IN LEAN MANAGEMENT?
LEVELS OF CONTEXT

International
National
Regional
Intra-organizational
Benchmarking outcomes on multiple contextual levels in lean healthcare: a systematic review, development of a conceptual framework, and a research agenda

Elina Reponen¹², Thomas G. Rundall¹, Stephen M. Shortell¹, Janet C. Blodgett¹, Angelica Juarez¹, Ritva Jokela², Markku Mäkiärvi² and Paulus Torkki³

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**Fig. 1** Article structure

**Systematic review:**
Benchmarking in Lean healthcare on different levels of cultural context

**Conceptual framework**
Universal measurement domains based on literature on quality frameworks and value statements commonly used in healthcare

**Systematic review + Conceptual framework:**
Analyzing the results of the systematic review using the conceptual framework

**Research agenda**
BENCHMARKING AND MULTI-LEVEL CONTEXT

• RQ 1: On which of the context levels and outcomes has benchmarking been used in Lean healthcare?
SYSTEMATIC REVIEW

- Pubmed, Scopus, Web of Science
- Search words:
  (Hospital OR Healthcare OR Health care) AND
  (Lean OR “Toyota Production System” OR “Robust Process Improvement”) AND
  (benchmarking OR compare OR comparison) NOT (obesity) NOT (adipose)
- Unlimited publication years, English language
- Methodological quality and risk of bias assessment: CASP and SURE checklists
# Included Articles, N=22

## Context Level

<table>
<thead>
<tr>
<th>Context Level</th>
<th>Study Design</th>
<th>Study Quality</th>
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## Country Distribution

- USA: 9
- Netherlands: 4
- UK: 3
- Canada, Saudi Arabia, Sweden: 2
- Australia, Spain, "Europe": 1

## Published Years

- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018

## Study Quality Indicators

- Low
- Intermediate
- High
OUTCOME DOMAINS
RQ2: What outcome domains are applicable and relevant for benchmarking the performance of Lean healthcare organizations operating in different contexts?
Quality frameworks

IHI Triple aim

Balanced scorecard: Perspectives

Quadruple aim

IOM domains of healthcare quality

The Malcolm Baldrige Criteria for Performance Excellence

WHO: Goals of the Health System

Shingo guiding principles

Value statements

OECD Health Care Quality Indicators Framework

Total Quality Management Principles

A framework for High-Reliability Organizations in Healthcare

WHO Europe: PATH

Lean 4P model

EFQM Excellence Model

Campbell: Quality of Care conceptual framework
# OUTCOME DOMAINS FOR BENCHMARKING IN LEAN HEALTHCARE

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<thead>
<tr>
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<th>Patients</th>
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<td>• Customer value</td>
<td>• Customer satisfaction and/or retention</td>
<td>• Learning &amp; growth (human capital, culture)</td>
<td>• Financial (performance, resource use)</td>
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<td>• Results: (Customer Satisfaction)</td>
<td>• Workforce focus</td>
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<td>• Cost/Expenditure</td>
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RQ3: Based on the extent to which different contexts and outcome domains have been used to benchmark Lean initiatives, what should be the agenda for future Lean benchmarking research in healthcare?

a. Research on international level benchmarking in Lean healthcare
b. Essential factors on different levels of context influencing the results of Lean initiatives
c. Patient-centered benchmarking in Lean healthcare
d. System level research using a balanced set of outcome and quality measures
CONCLUSIONS

• Studies on benchmarking in Lean healthcare are scarce and mostly limited to intra-organizational, regional, and national levels of context
  • Most commonly used outcome measures in benchmarking studies represent service provision/process
  • No studies with a fully balanced set of outcome measures

• Leaders and managers should pay careful attention to the limited extent of information on contextual factors when making evidence-informed decisions based on current Lean healthcare benchmarking literature.

• Future research in Lean healthcare benchmarking should include international benchmarking, defining essential factors influencing Lean initiatives on different levels of context, patient-centered benchmarking, and system level benchmarking with a balanced set of outcomes and quality measures.
Thank you!

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