



NATIONAL INSTITUTE FOR HEALTH AND WELFARE

**Advancing effectiveness, equity and
efficiency of health care by Physical and
Rehabilitation Medicine**

Antti Malmivaara, MD, PhD, Chief Physician

National Institute for Health and Welfare / Centre for Health
and Social Economics

Potential conflicts of interests

Finnish Institute for Health and Welfare, Centre for
Health and Social Economics, Chief Physician

Current Care Guidelines, Finnish Medical
Association Duodecim, Editor

Hospital ORTON, Scientific Board, Member

Cochrane Back Review Group Editorial Board,
Member



THE LANCET

Volume 376 · Number 9734 · Pages 1–68 · July 3–9, 2010

www.thelancet.com

Systematic Analysis of the Global Burden of Diseases in 2013

Rank Disorder

- 1** **Low back pain**
- 2 Major depressive disorder
- 3 Iron-deficiency anaemia
- 4** **Neck pain**
- 5 Age-related and other hearing loss
- 6 Migraine
- 7 Diabetes mellitus
- 8 Chronic obstructive pulmonary disease
- 9 Anxiety disorders
- 10** **Other musculoskeletal disorders**



Huber M, Knottnerus JA, Green L. ym. How should we define health? BMJ 2011;343:d4163

” ... we propose the formulation of health as the ability to adapt and to self manage. ...

The definition includes biological, psychological and sociological factors, and emphasizes individuals ability to cope.



CLINICAL COMMENTARY

Application of the International Classification of Functioning, Disability and Health (ICF) in clinical practice

G. STUCKI*, A. CIEZA*, T. EWERT*, N. KOSTANJSEK+,
S. CHATTERJI+ and T. BEDIRHAN ÜSTÜN+

*Department of Physical Medicine and Rehabilitation, University of Munich, Munich, Germany

+Classification, Assessment, Surveys and Terminology Team, World Health Organization, Switzerland



The impacts (aims) of health care

1. **Accessibility** of services according to the need of patients and the population
2. **Quality of services** (skills, high scientific quality, patient centeredness, quality of processes, and productivity (costs per service)).
3. **Equity** (pursuing equal accessibility to services of uniform quality)
4. **Effectiveness** (improving patient relevant outcomes)
5. **Safety** (minimizing adverse effects)
6. **Efficiency** (pursuing best cost-effectiveness)

Malmivaara A. System Impact Research – increasing public health and health care system performance. Annals of Medicine 2016;48:211-5

NATIONAL INSTITUTE FOR HEALTH AND WELFARE

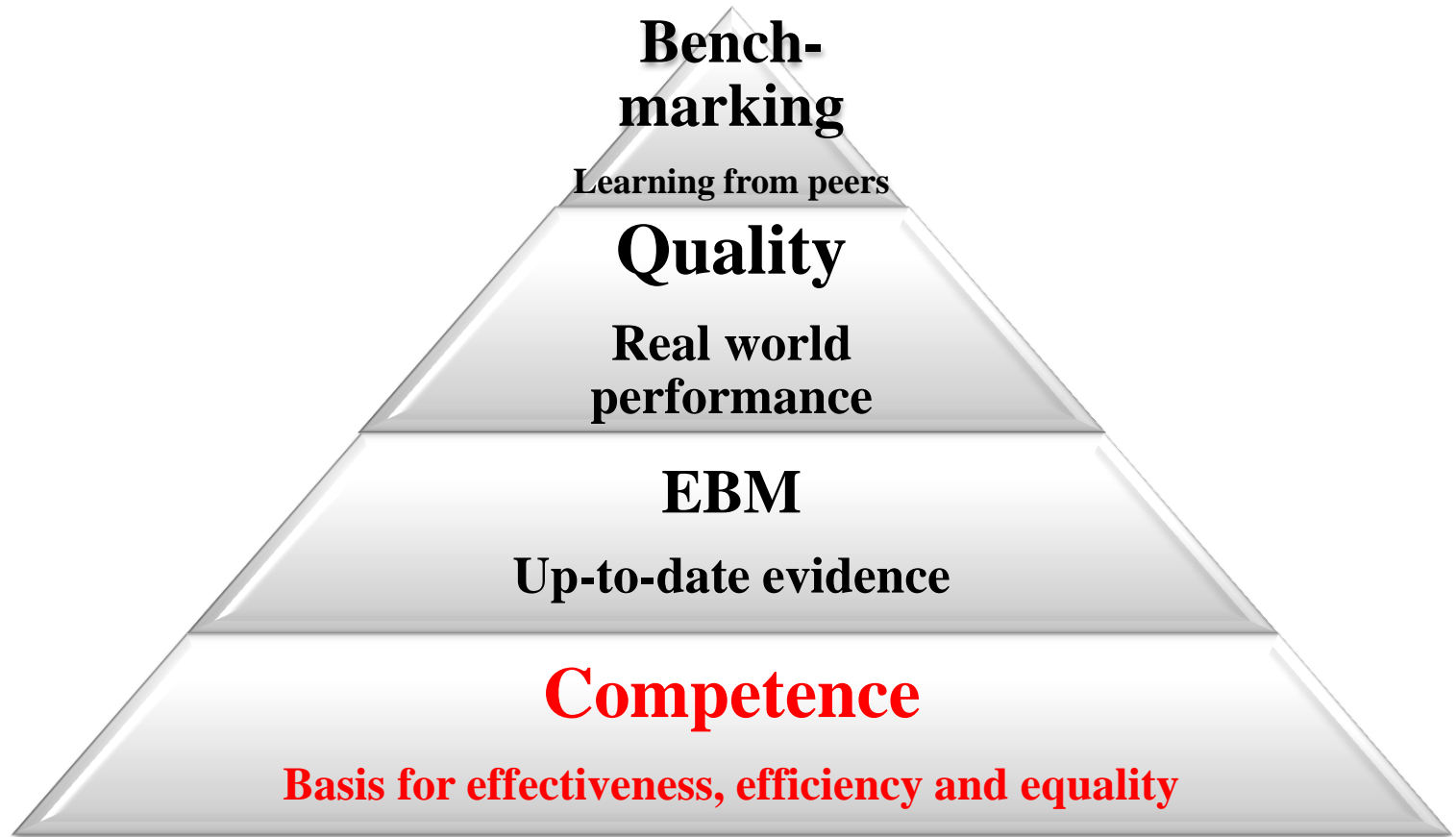


The means for advancing the impact of health care (Real-effectiveness medicine framework)

- 1. Increasing staff competence** (patient work, management, leadership)
- 2. Increasing use of current high quality scientific evidence** (implementation of best evidence)
- 3. Documenting patient characteristics, interventions, costs and outcomes, and pursuing better quality of services**
- 4. Continuous benchmarking with peers**



Real-Effectiveness Medicine



Malmivaara A. Real-Effectiveness Medicine – pursuing the best effectiveness in the ordinary care of patients. *Annals of Medicine* 2013;45:103-106.

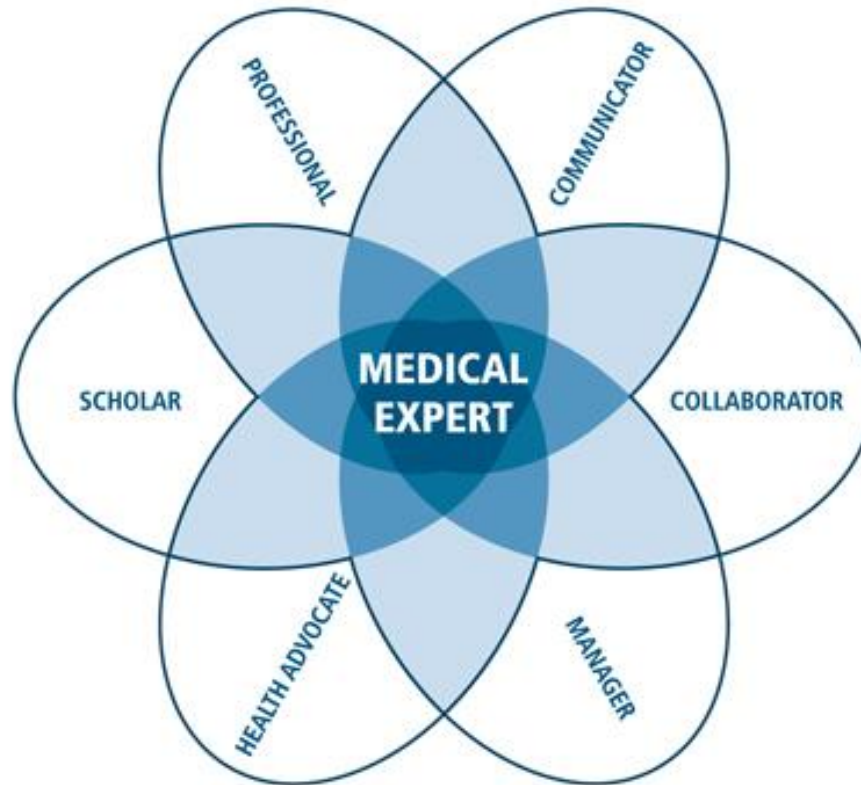


REM – Competence

- Effective, fair and efficient (cost-effective) services are unimaginable without staff competence.
- Nearly all available evidence on effectiveness and efficiency is based on randomized trials in circumstances where medical competency has been very good.
- There is evidence that effectiveness in ordinary care is less than that found in trials undertaken for ideal groups of patients and treated by the very best experts



The Royal Collage of Physicians and Surgeons of Canada framework for competence



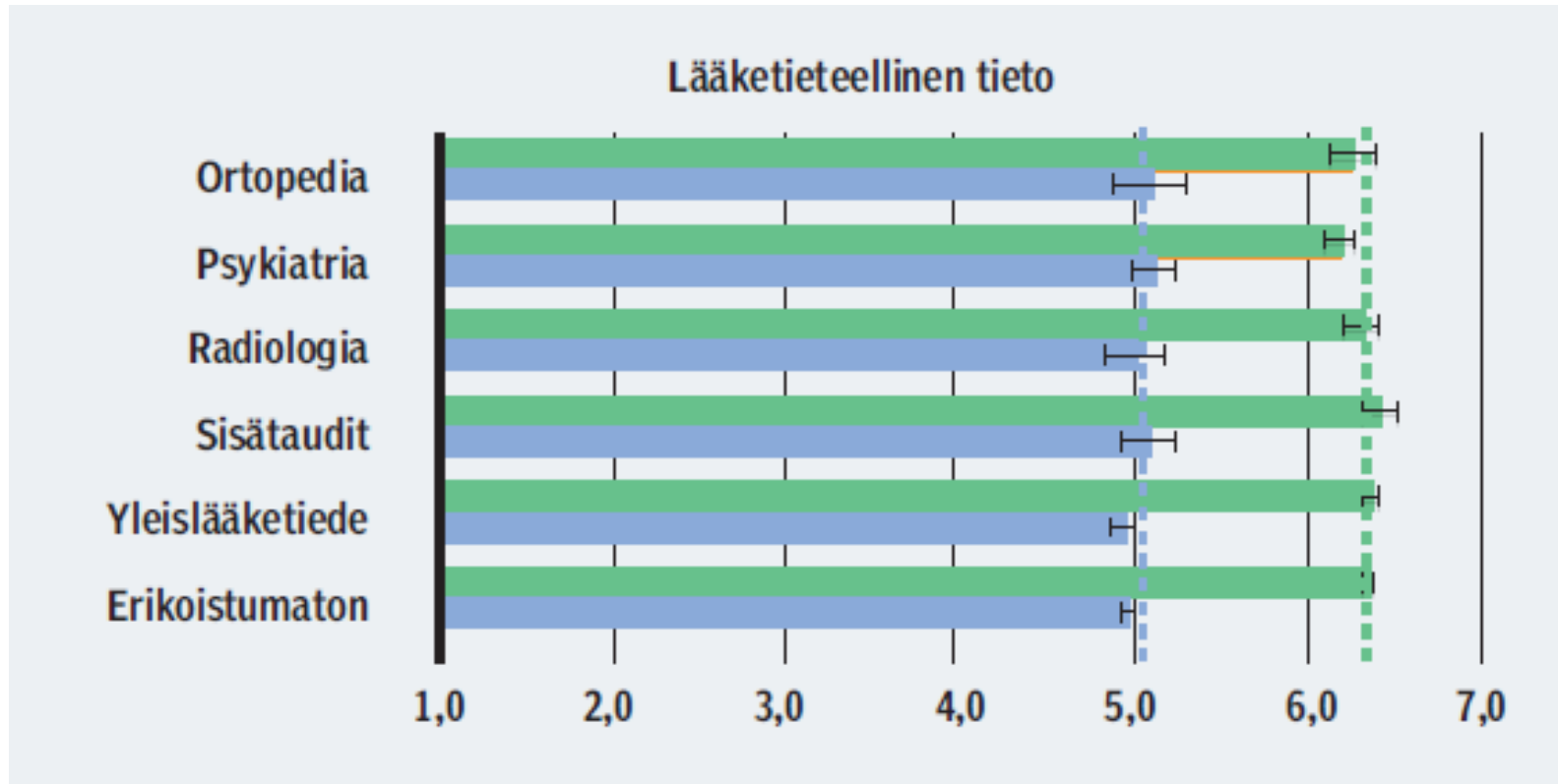
ROYAL COLLEGE
OF PHYSICIANS AND SURGEONS OF CANADA

CANMEDS

NATIONAL INSTITUTE FC



Finnish specialists' perceived demands for medical expertise (green bar) and perceived support from education (blue bar) in 2009



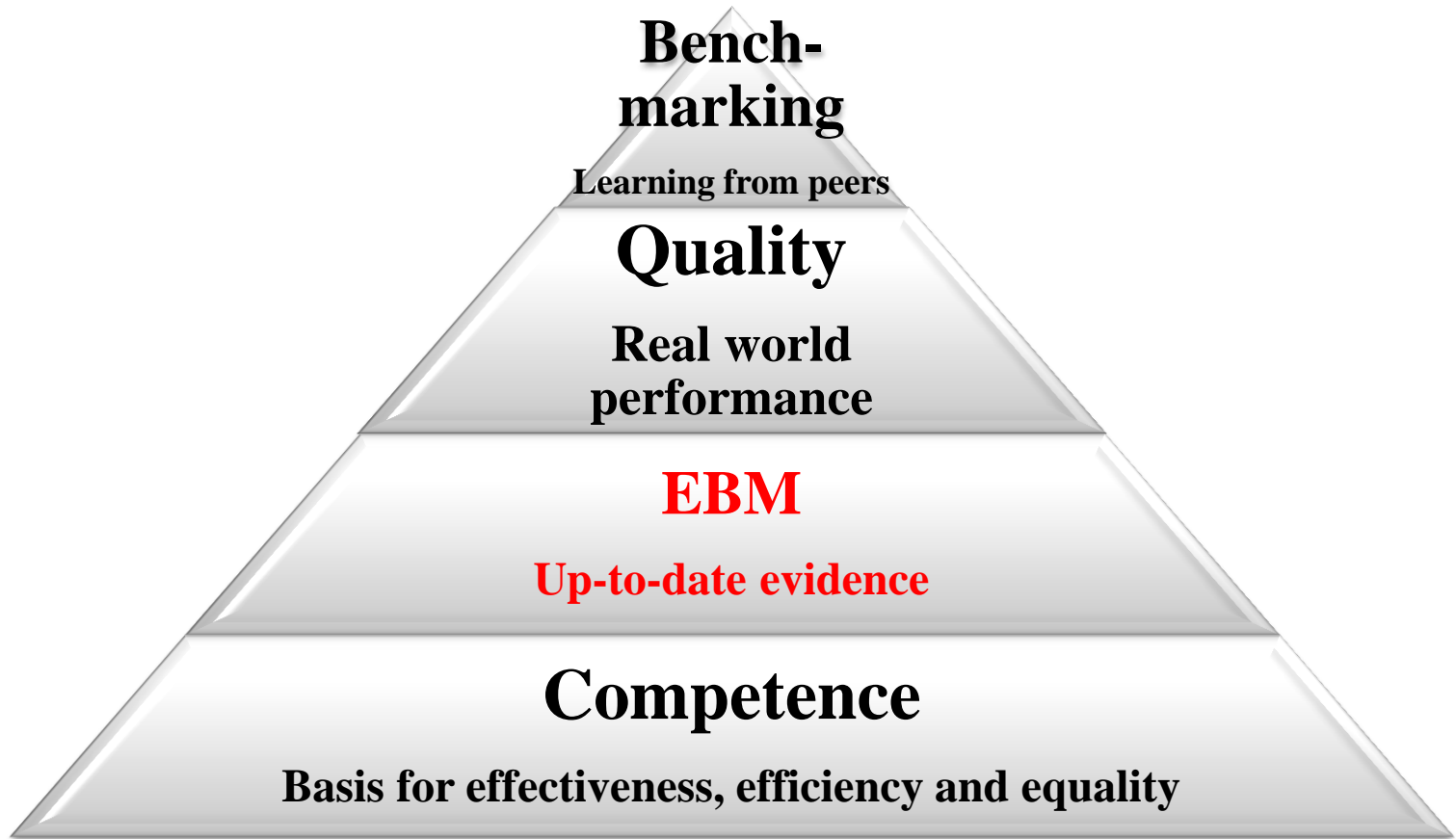
Litmanen T, Ruskoaho J, Vänskä J, Patja K. Osaamistarpeet ja täydennyskoulutus lääkärin työssä
Suomen Lääkärilehti 2011;66:2855-2860

Litmanen T, Ruskoaho J, Vänskä J, Halila H, Patja K. Does the need for professional competencies
change during the physician's career? – A Finnish national survey. Medical Teacher 2011; 33: e275–
e280

NATIONAL INSTITUTE FOR HEALTH AND WELFARE



Real-Effectiveness Medicine



Malmivaara A. Real-Effectiveness Medicine – pursuing the best effectiveness in the ordinary care of patients. *Annals of Medicine* 2013;45:103-106.



REM – Evidence

- The second level of REM consists of the utilization of up-to-date of high quality scientific evidence, particularly from RCTs and systematic reviews, health technology assessment (HTA) reports, and clinical guidelines.



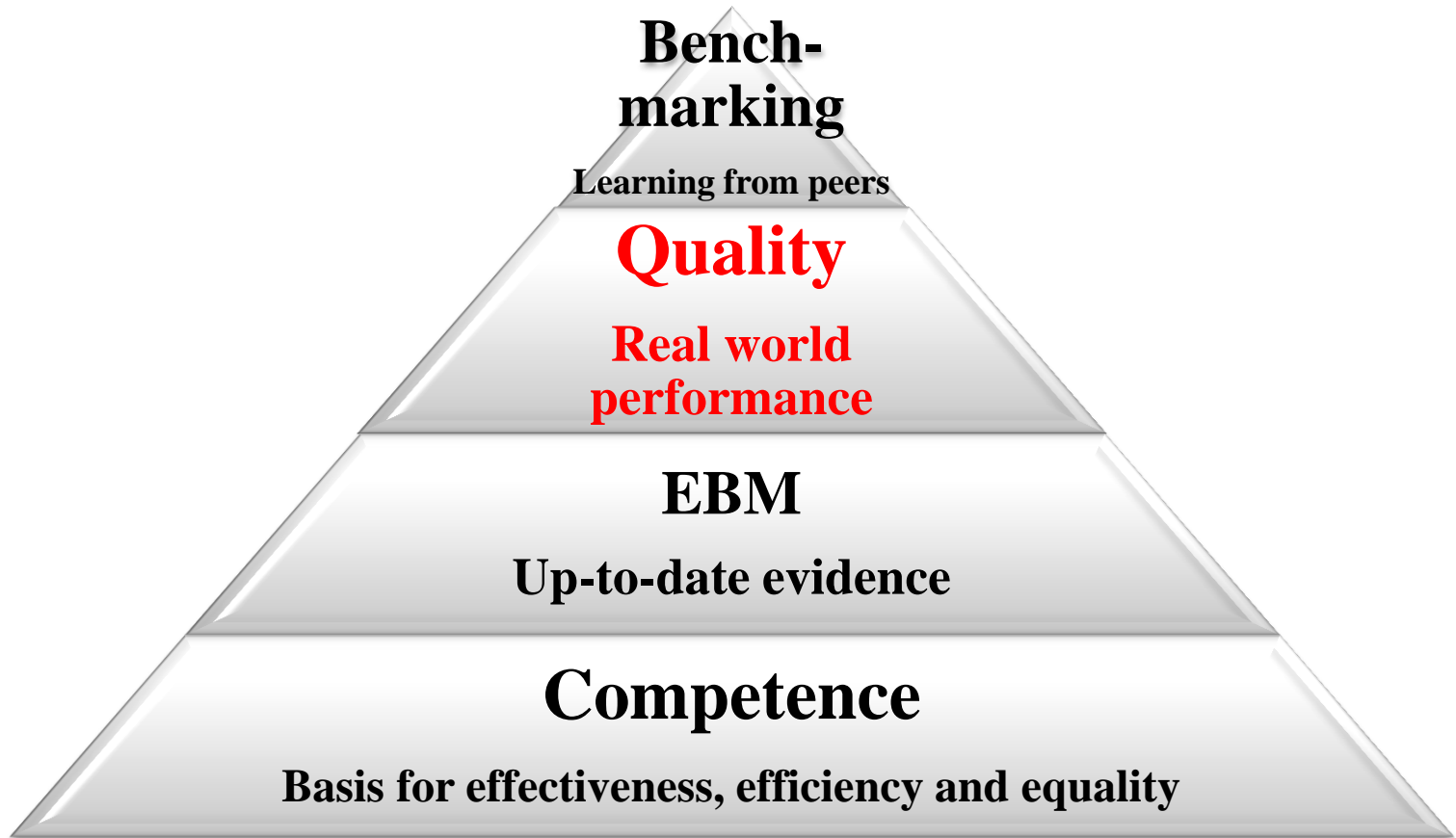
REM – Evidence – cont'd

- RCTs, systematic reviews and clinical guidelines provide very little evidence applicable to the disadvantaged patient groups.
- However, a recent recommendation on how to include these patient groups in systematic reviews has been launched (Welch V et al. PLoS Med 2012).
- Equity of access to effective interventions can be promoted in a cost-effective way.

Malmivaara A. On decreasing inequality in a cost-effective way. BMC Health Serv Res. 2014;14:79.



Real-Effectiveness Medicine



Malmivaara A. Real-Effectiveness Medicine – pursuing the best effectiveness in the ordinary care of patients. *Annals of Medicine* 2013;45:103-106.



REM – Quality

- One of the largest challenges in modern medicine is **how to solve the problem of nearly lack of information on what happens for the ordinary patient in ordinary health care.**
- Validly documented data on patient characteristics, interventions and outcomes for each specific diagnosis are needed for assessment and improvement of quality of services.
- Assessment and improvement of performance throughout the clinical pathway are needed.

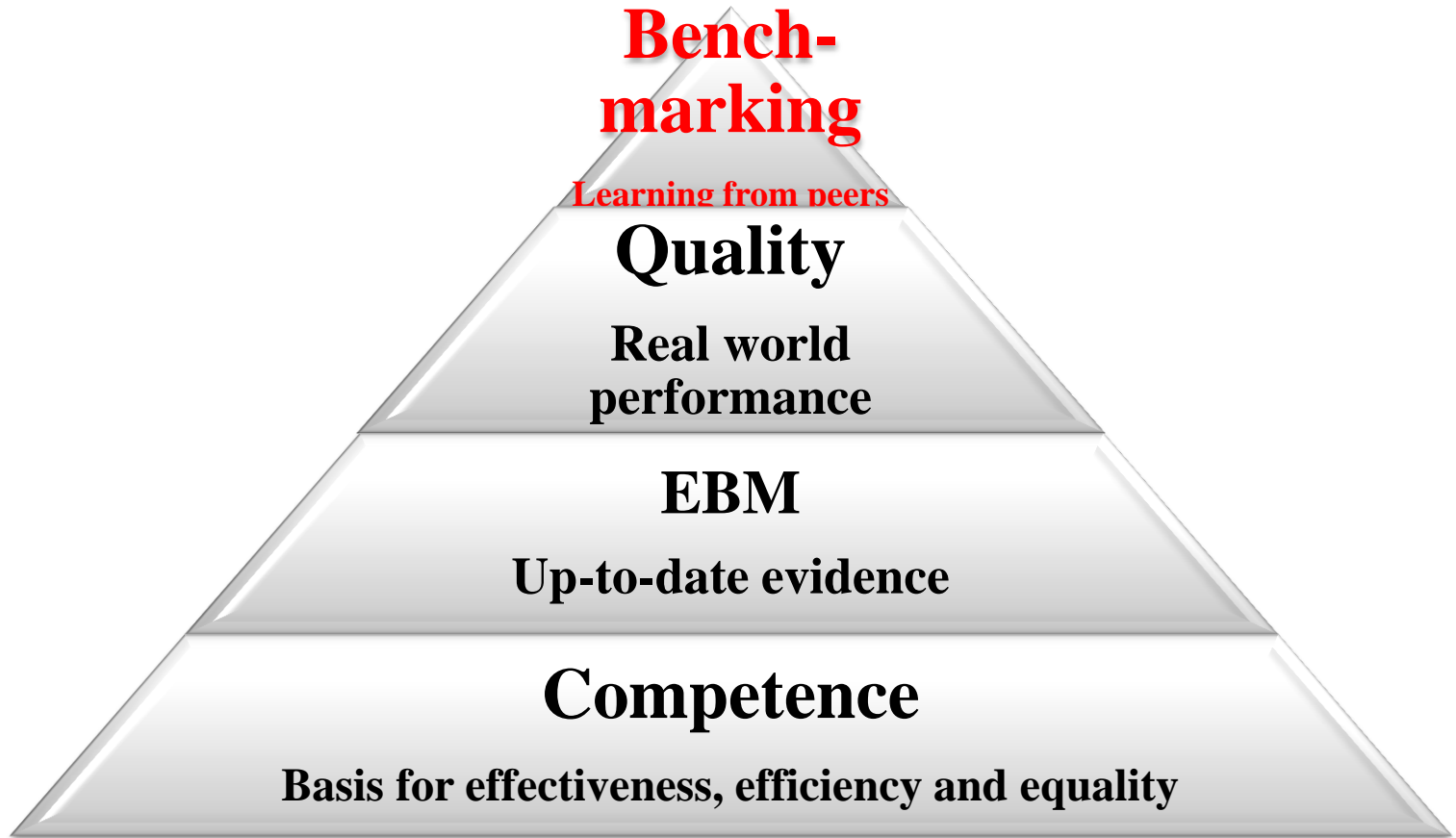


REM – Quality – cont'd

- Electronic patient record systems will bring new opportunities for quality improvement. But: **development of patient record systems needs definitions and classifications**, which should be done as teamwork between researchers and clinicians.
- Standardized documentation of health care units' performance for each patient group ensuring the quality of the registers is a huge task, which needs sufficient resources.



Real-Effectiveness Medicine



Malmivaara A. Real-Effectiveness Medicine – pursuing the best effectiveness in the ordinary care of patients. *Annals of Medicine* 2013;45:103-106.

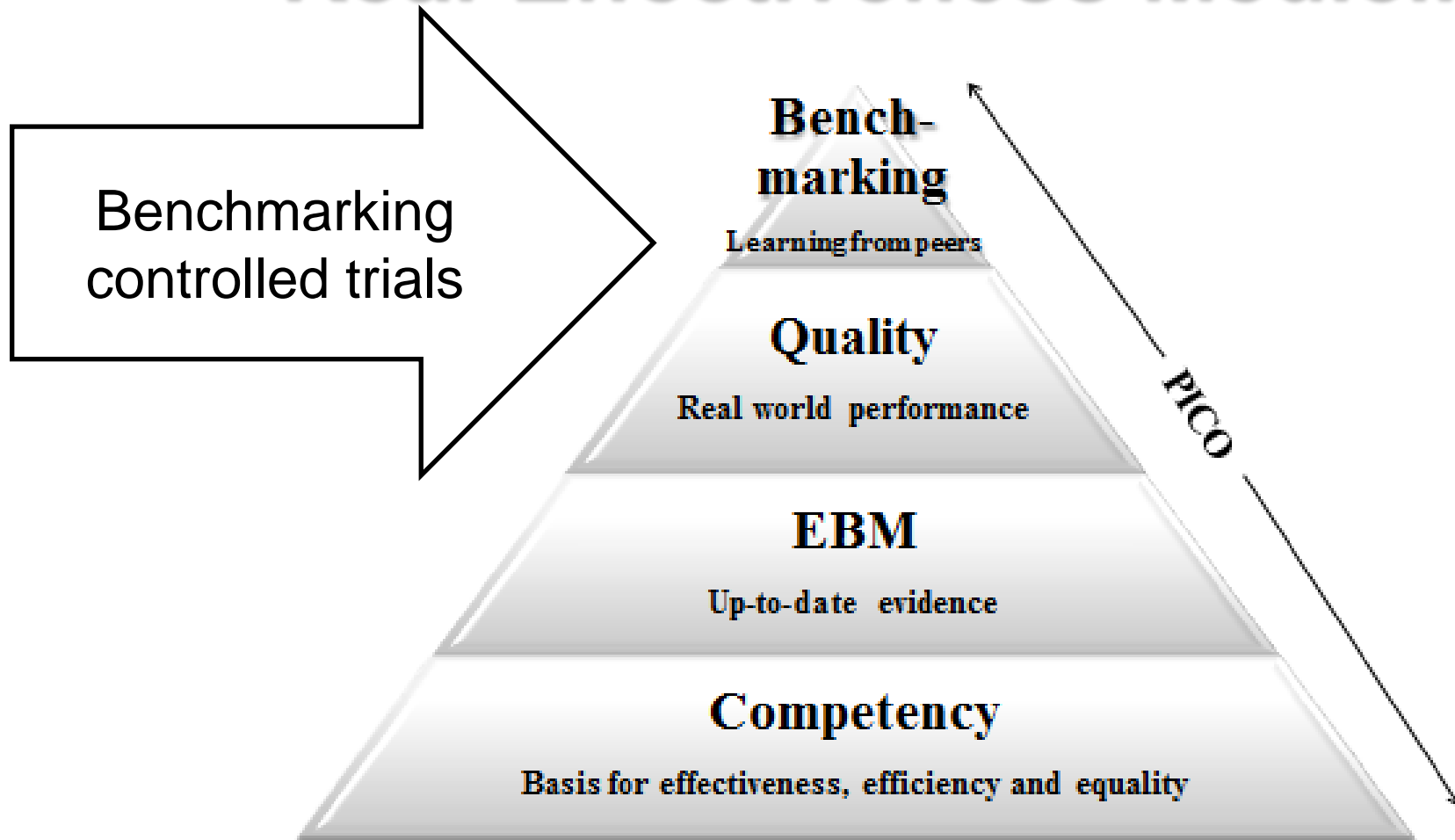


REM – Benchmarking

- The fourth level includes benchmarking between treatment providers = learning from the best practices of peers. Again, information of patient characteristics, diagnostic procedures and treatments, and of the outcomes is needed *for the comparisons between providers* and also for comparisons over time.
- The primary focus in benchmarking is between the treatments and treatment processes – how well these concord with current scientific evidence.
- If baseline imbalances between patients treated by different providers can be satisfactorily adjusted for, also comparisons based on treatment outcomes can be made



Real-Effectiveness Medicine



Malmivaara A. Real-Effectiveness Medicine – pursuing the best effectiveness in the ordinary care of patients. *Annals of Medicine* 2013;45:103-106.



Benchmarking Controlled Trial—a novel concept covering all observational effectiveness studies

Antti Malmivaara

Centre for Health and Social Economics, National Institute for Health and Welfare, Helsinki, Finland

The Benchmarking Controlled Trial (BCT) is a novel concept which covers all observational studies aiming to assess effectiveness. BCTs provide evidence of the comparative effectiveness between health service providers, and of effectiveness due to particular features of the health and social care systems. BCTs complement randomized controlled trials (RCTs) as the sources of evidence on effectiveness. This paper presents a definition of the BCT; compares the position of BCTs in assessing effectiveness with that of RCTs; presents a checklist for assessing methodological validity of a BCT; and pilot-tests the checklist with BCTs published recently in the leading medical journals.

Key words: benchmarking controlled trial, cost-effectiveness, effectiveness, inequality, real-effectiveness medicine

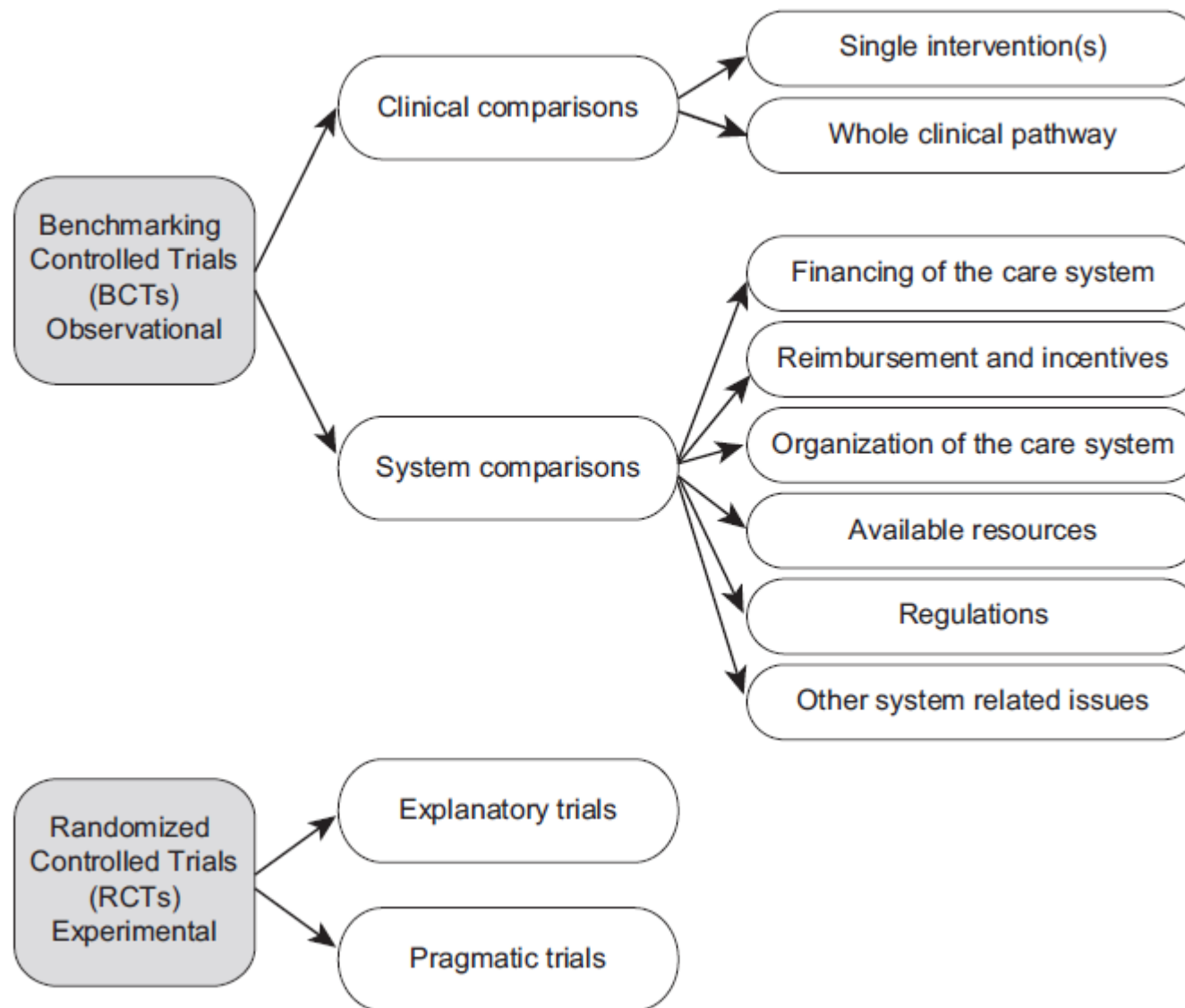
Key messages

- The Benchmarking Controlled Trial (BCT) is a novel concept which covers all observational studies aiming to assess effectiveness.
- BCTs assess difference in effectiveness between single or a set of intervention(s), between clinical pathways, or between interventions targeting health care system factors with an aim to increase effectiveness.
- Published BCTs have currently several methodological limitations, some of which could be avoided, and others should be acknowledged.
- BCTs support both clinical and policy decisions, and should be given a high priority in research and in improvement activities.

Malmivaara A. Benchmarking Controlled Trial – a novel concept covering all observational effectiveness studies.. *Annals of Medicine* 2015;47:332-40.

NATIONAL INSTITUTE FOR HEALTH AND WELFARE



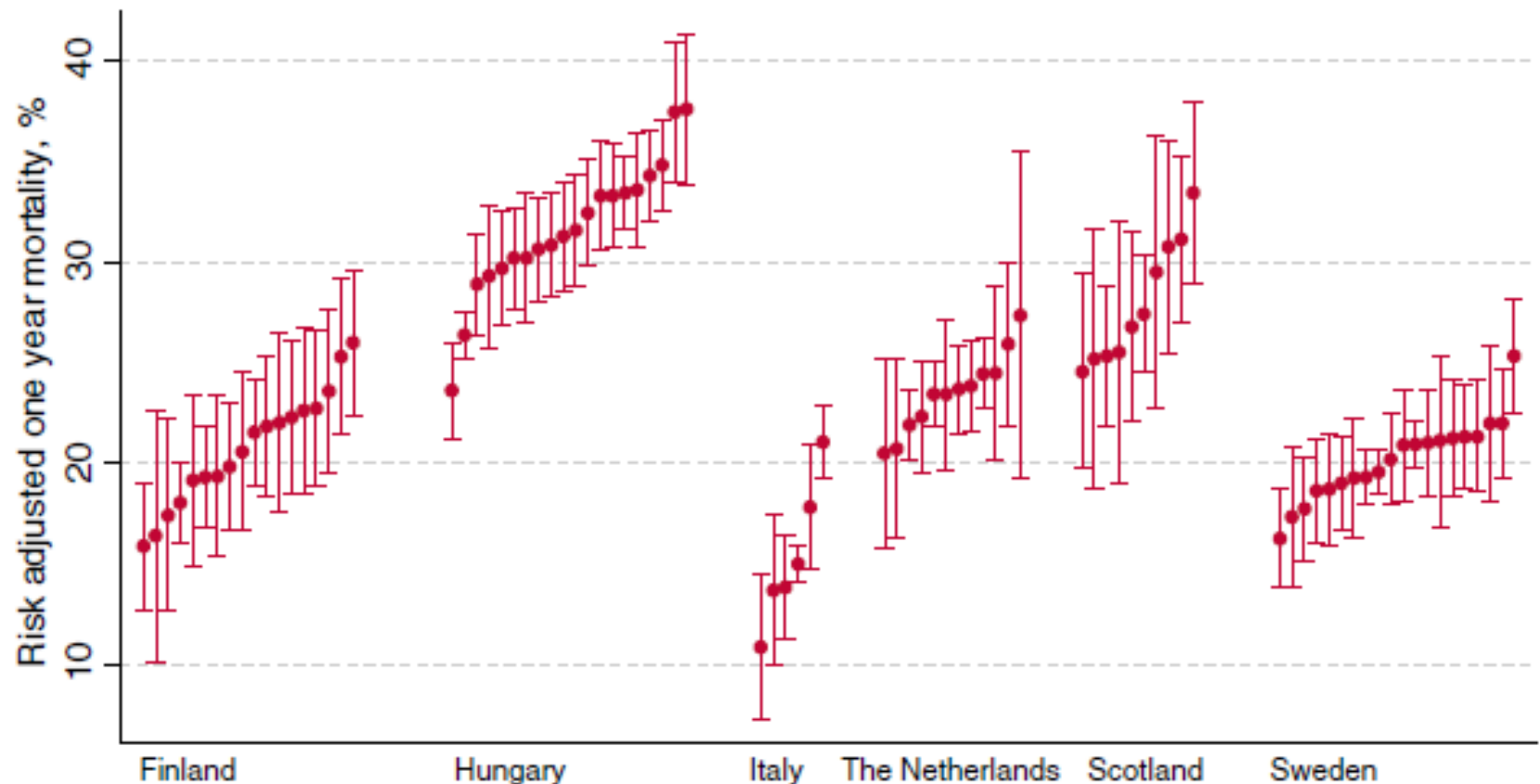


Malmivaara A. Benchmarking Controlled Trial – a novel concept covering all observational effectiveness studies.. Annals of Medicine 2015;47:332-40.

NATIONAL INSTITUTE FOR HEALTH AND WELFARE



One year mortality for ischaemic stroke in six European countries

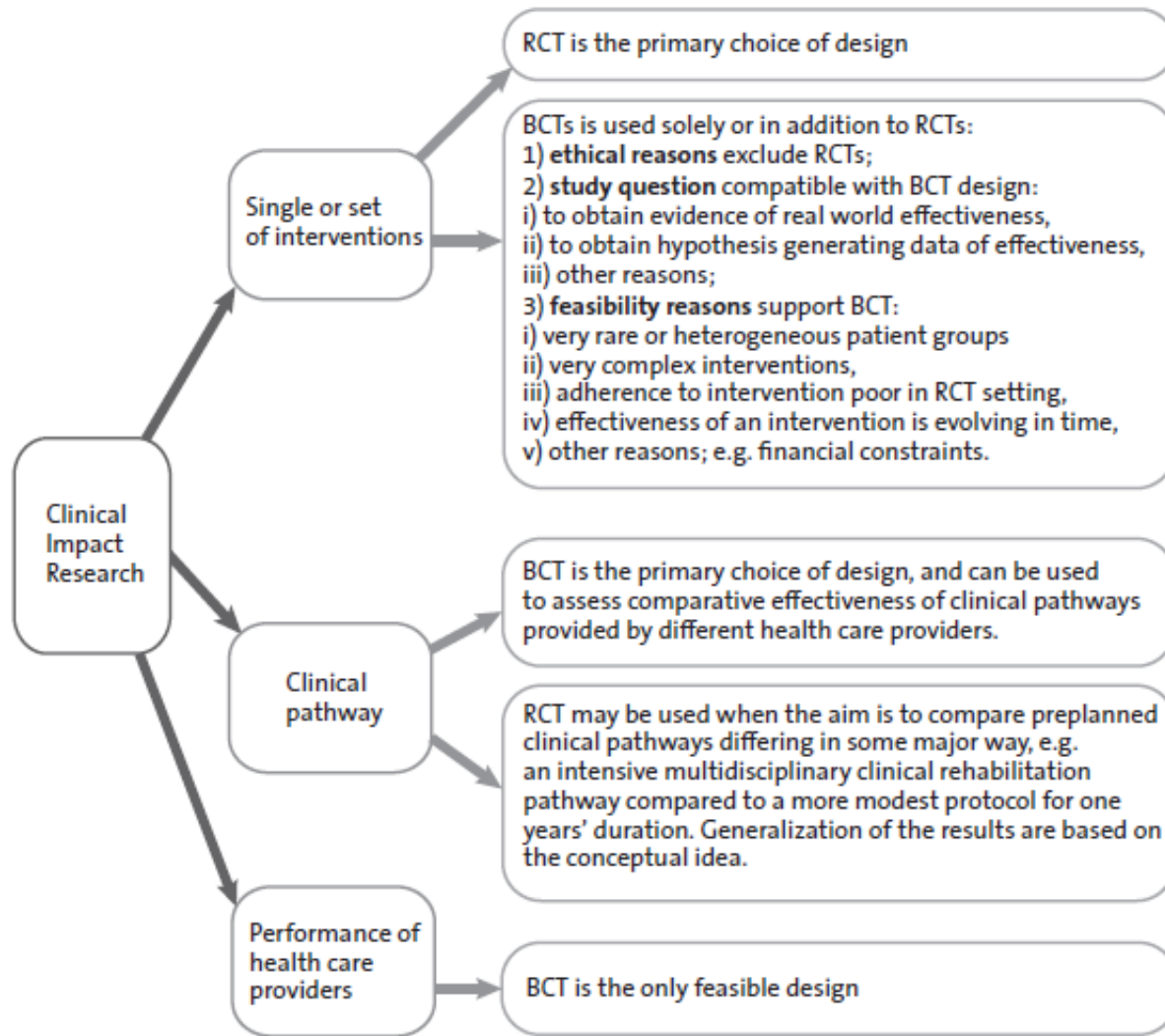


Malmivaara A, Meretoja A, Peltola et al. Comparing ischaemic stroke in six European countries. The EuroHOPE register study. Eur J Neurol, 2015;22:221–418

NATIONAL INSTITUTE FOR HEALTH AND WELFARE



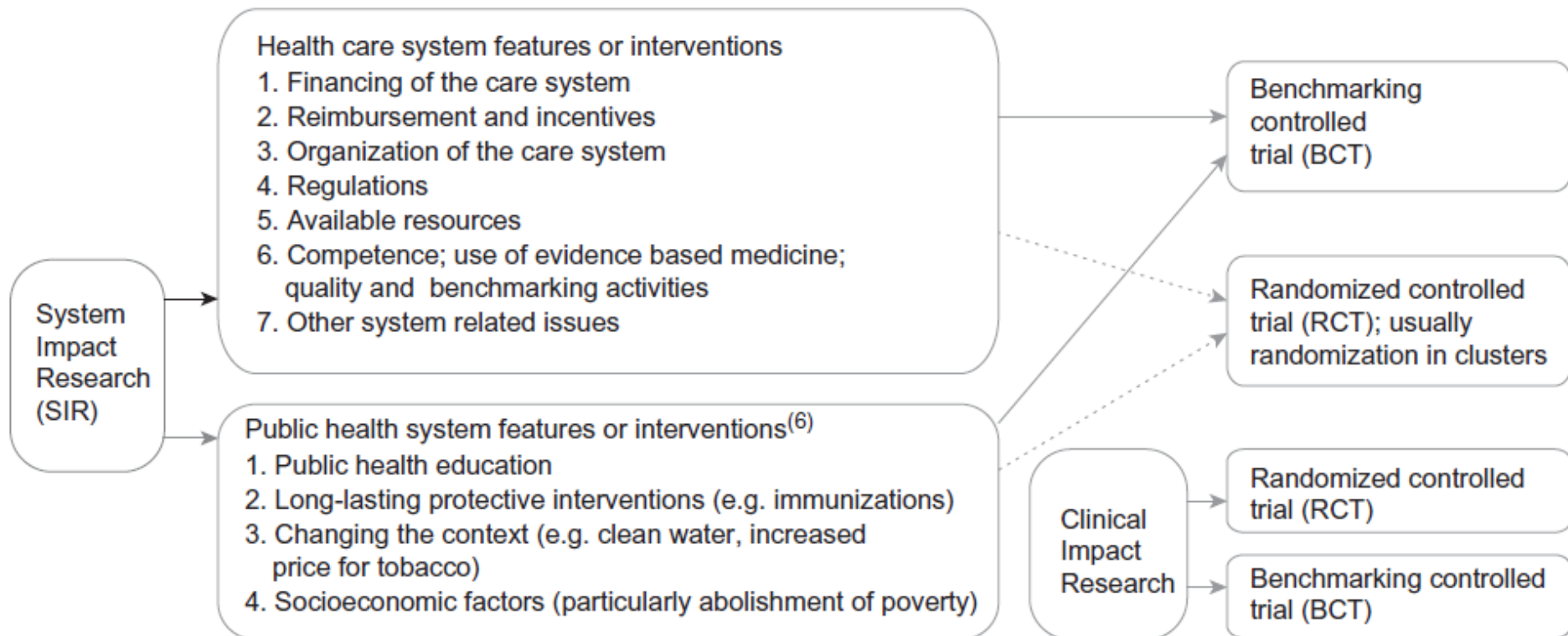
Clinical Impact Research – how to choose between RCT and BCT?



Malmivaara A. Clinical Impact Research. Annals of Medicine 2016;Aug 5:1-4



System Impact Research – advancing health care and public health



Malmivaara A. System Impact Research – increasing public health and health care system performance. Annals of Medicine 2016;48:211-5

NATIONAL INSTITUTE FOR HEALTH AND WELFARE



Conclusions

- Disability burden of disorders belonging to the field of Physical and Rehabilitation Medicine is globally extremely heavy
- The goals of PRM concur with the current definition of health. Focus is on advancing functional abilities and participation of patients.
- Physical and Rehabilitation Medicine should aim to allocate clinical work towards best cost-effectiveness. The PRM should promote system changes with the same aim
- The goals of PRM concur with the current visions for health care in the future





NATIONAL INSTITUTE FOR HEALTH AND WELFARE

Thank you!