

Patients-Intervention-Comparators-Outcomes-Settings-Time-Effects-Perspective-Sensitivity (PICOSTEPS): Representing Evidence-Based Health Economic Evaluations (EBHEE) in the Order of Importance

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Background: PICO has important role in EBM

PICO	Evidence-based medicine (EBM) theme
P	Patients / population
I	Intervention
C	Comparator(s)
O	Outcomes

PICO is a commonly applied EBM assembly tool for systematic literature reviews, meta-analyses and clinical care guidelines, such as the Finnish national **Current Care Criteria, CCC** (<http://www.kaypahoito.fi/web/english/home>)

However, PICO alone is less suitable for representing the information of evidence-based health economic evaluations (EBHEE)

Question: Could PICO be applied for EBHEE?

Task: Refine and extend PICO to cover the crucial elements of EBHEEs as a supplement work for CCC

(<http://www.kaypahoito.fi/web/kh/suosituksset/suositus?id=nix02465&suositusid=hoi50062>)

Methods 1/2: CCC context

CCC is independent, evidence-based national guideline for treatment decisions
(<http://www.kaypahoito.fi/web/english/about-current-care-guidelines>)

Even though the clinical facts can be well-known for CCC, the differences in effectiveness and/or safety between treatments can be small and recommendations hard

Especially in these clinically uncertain cases, HEE could be of direct importance in CCC

Recently, national CCC treatment guideline work for psoriasis was supplemented with EBHEEs of biologic psoriatic arthritis treatments

(<http://www.kaypahoito.fi/web/kh/suosituksset/suositus?id=nix02465&suositusid=hoi50062>)

HEE's importance is acknowledged as part of CCC (http://sic.fimea.fi/arkisto/2016/1_2016/jarkevalaakehoito/kaypa-hoito-suositus-tukee-laakarin-ja-potilaan-valista-vuoropuhelua)

Methods 2/2: Assessment phases for EBHEE in CCC

1. *Systematic literature review* (SLR) includes published articles or assessment reports available in Medline or Cochrane that fulfil the full HEE criteria (<http://www.terveysportti.fi/xmedia/nix/nix02465liitteet.pdf>)
2. *Finnish applicability evaluation* (FAE) includes sequential assessment and rating of the applicability of the publications based on
 1. Pharmaceuticals Pricing Board guidelines,
 2. Consolidated Health Economic Evaluation Reporting Standards (CHEERS) and
 3. two earlier criteria(<http://www.kaypahoito.fi/web/kh/suosituksset/suositus?id=nix02465&suositusid=hoi50062>)
3. *Level of evidence evaluation* (LoEE) for EBHEE is in line with the CCC classification for the quality of EBM evidence: Strong, moderate, minor/weak or no evidence (<http://www.kaypahoito.fi/web/kh/suosituksset/suositus?id=nix02465&suositusid=hoi50062>)

Results 1/2: How to report? What do EBM-users like?

Methods can be “easy”, catchy reporting can be “hard” ...

Clinicians and other users of EBM are accustomed to use the PICO reporting

First, why to invent something new, if you can build on top of existing PICO tool?

In a closer look, PICO missed some properties included in the EBHEE guidelines/checklists

Second, what are the missing parts which make sense for the clinicians too?

Setting, timeframe, effects, perspective and sensitivity analyses were missing

Third, a catchy name is needed... Review is usually sequential or stepwise.

⇒ Why not PICOSTEPS?

Results 2/2: PICOSTEPS in all assessment phases

P I C O S T E P S	Examples of content for EBHEE
Patient / population	As typically in EBM PICO, but can also be extrapolated
Intervention	As typically in EBM PICO, but can also be sequential (modelled)
Comparator	As typically in EBM PICO, direct or indirect
Outcome(s)	Incremental cost-effectiveness ratio, net benefit, expected value of perfect information, net budget impact or burden
Setting	Incremental, average or summing, and modelled, trial-based or both. Cost effectiveness/utility, cost benefit, value of information, budget impact or burden
Time	From a short within-trial horizon to a lifetime
Effects	Clinical effects, quality of life, resource use and/or productivity loss applied based on the trial, meta-analysis or real-world evidence
Perspective	Can be payer or societal, which covers direct and indirect costs
Sensitivity	One/multiway deterministic and probabilistic sensitivity analyses, scenario analyses and expected value of partial/perfect/sample information

Conclusions

PICOSTEPS has the potential to

- report HEE in more clinician-familiar way (vs. common HEE guidelines or checklists),
- suit in the assessment phases of EBHEE, and
- demonstrate if the minimum information of EBHEE has been reported.

PICOSTEPS

- is quite simple,
- is being successfully applied to HEE publications and
- represents EBHEEs crucial information in the potential order of importance.

PICO has meaning: Only published, locally suited and PICO-respecting HEE evidence may have real impact on the national CCC.

DATA & EXPERIENCE

Identifying challenges and opportunities

MODELLING & ANALYSIS

Creating evidence and understanding



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Developing strategies and solutions

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