Fact check actual health topics

Durieux Nancy & De Coninck Leen
Training division CEBAM
Brussels, 22 October 2022

Cebam
Belgian Centre for Evidence-Based Medicine • Cochrane Belgium

CONGRES
20 JAAR
Betere evidence voor een betere gezondheid

CONGRÈS
20 ANS
De meilleures données probantes pour promouvoir la santé

Health topics in (social) media

- Examples ?

Health topics in (social) media

What we heard last days …

- Myopia due to computer games
- Price fruit and vegetables and purchase of healthy food
- Cardiovascular risk factors and cold weather

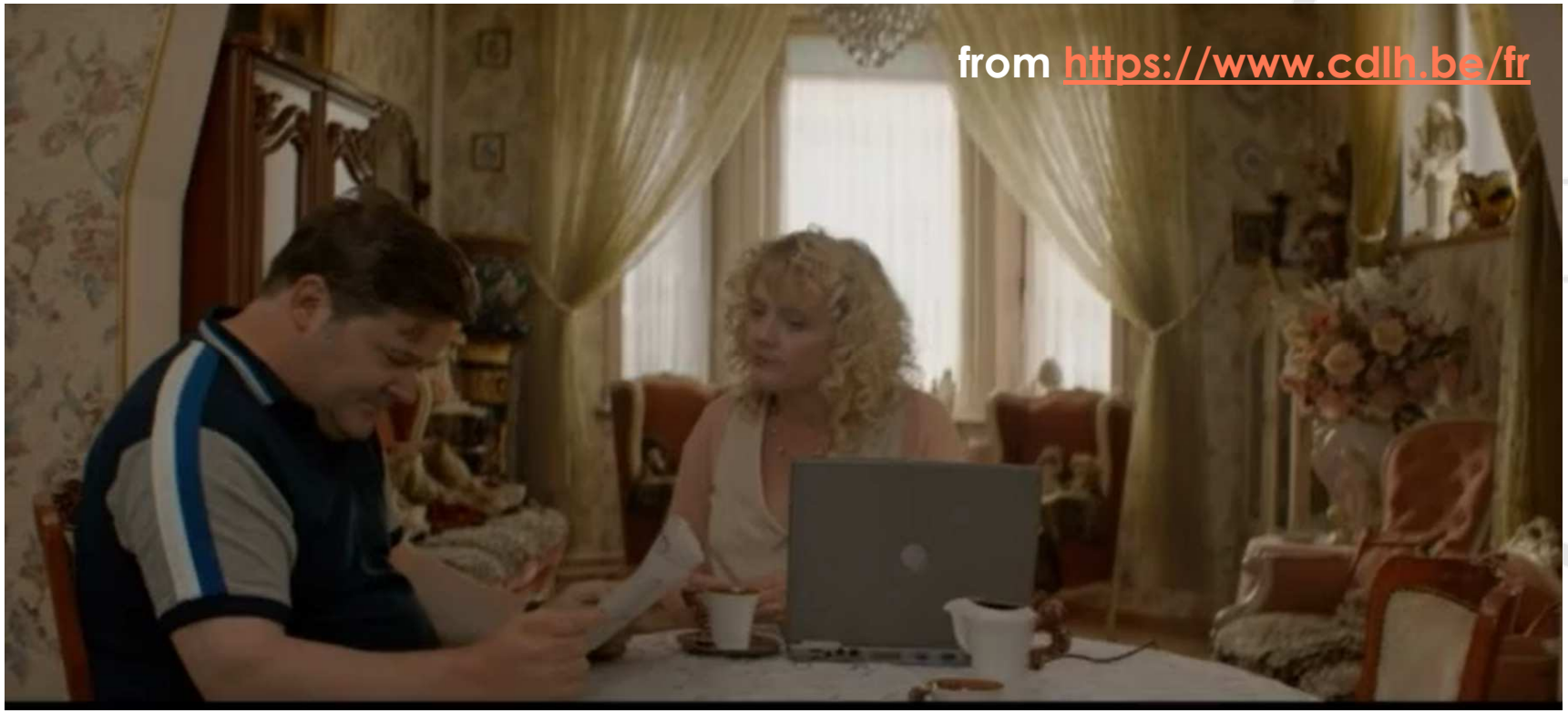
Health topics in (social) media

- Examples ?
- Did/do you have any doubts about it?
- Did you check it and how did you proceed?

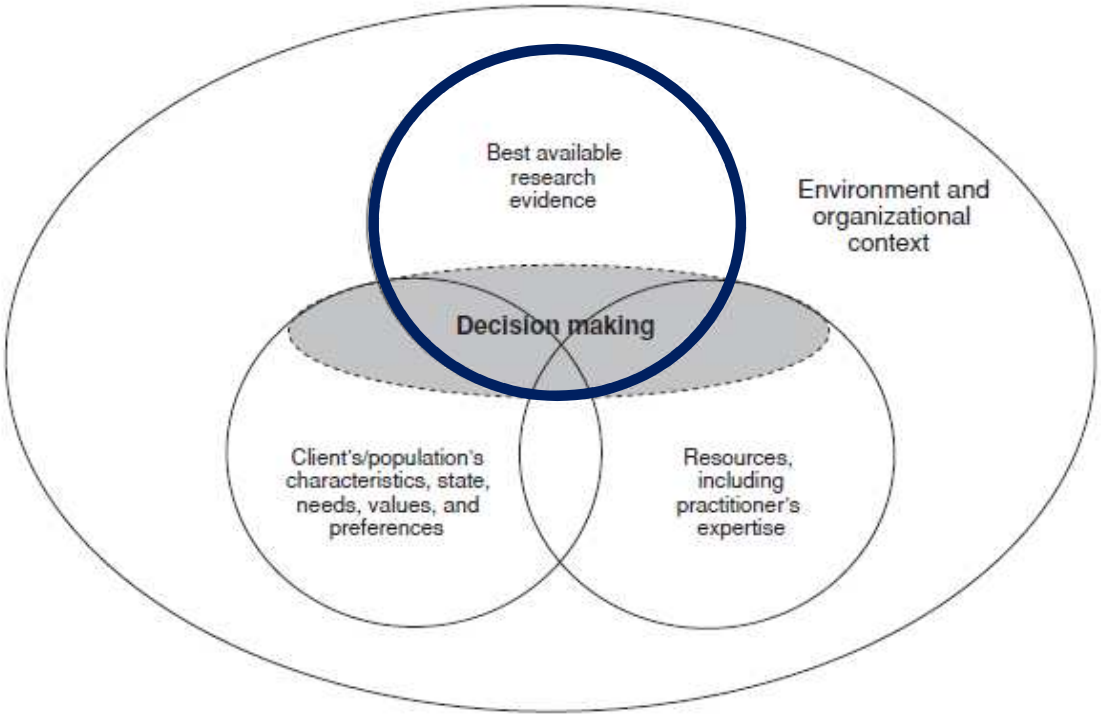
Who should be asking these questions

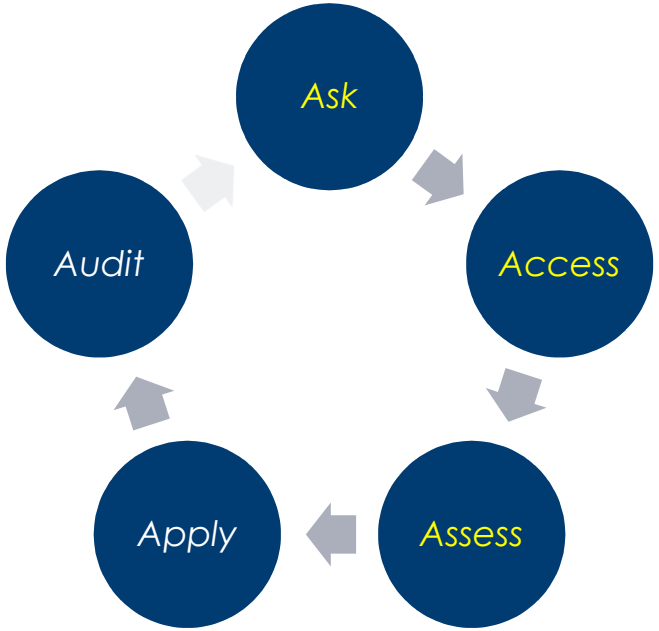
And why?

Don't Google it



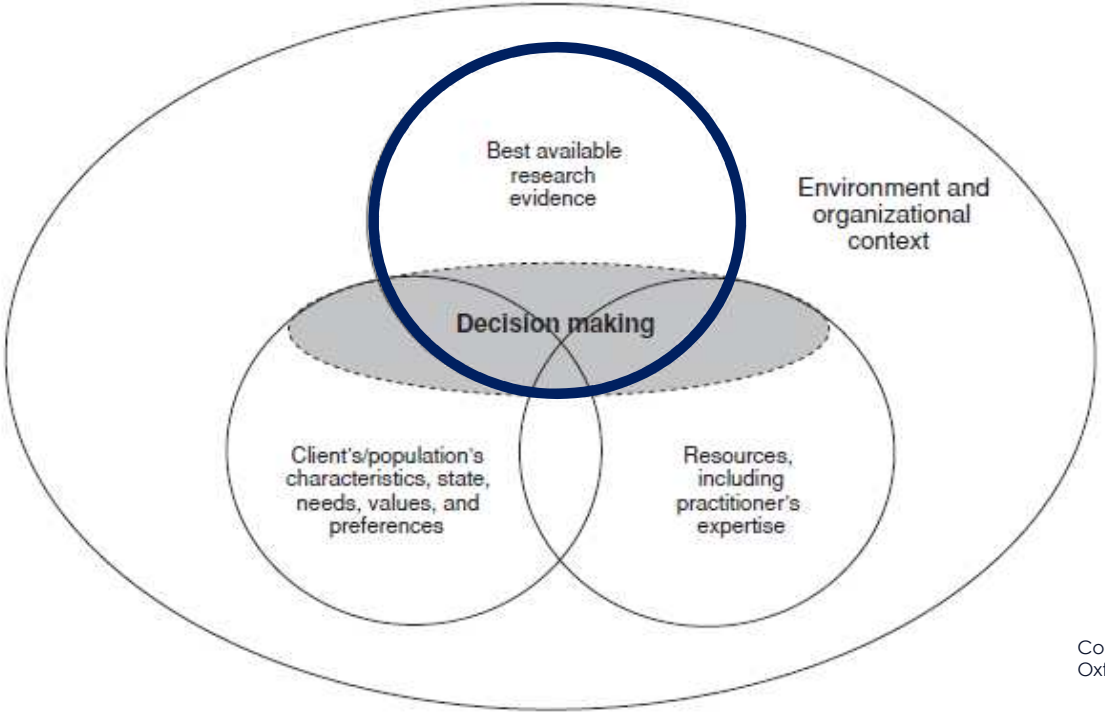
Evidence-based practice



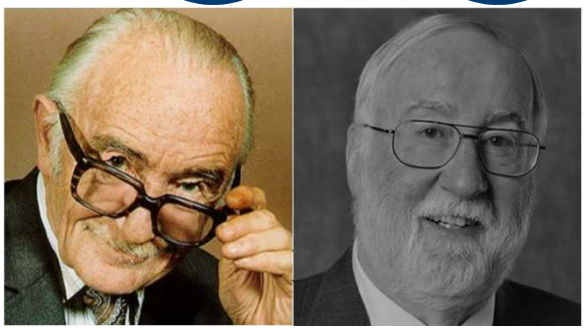


(Satterfield et al., 2009; Straus et al., 2011)

Evidence-based practice



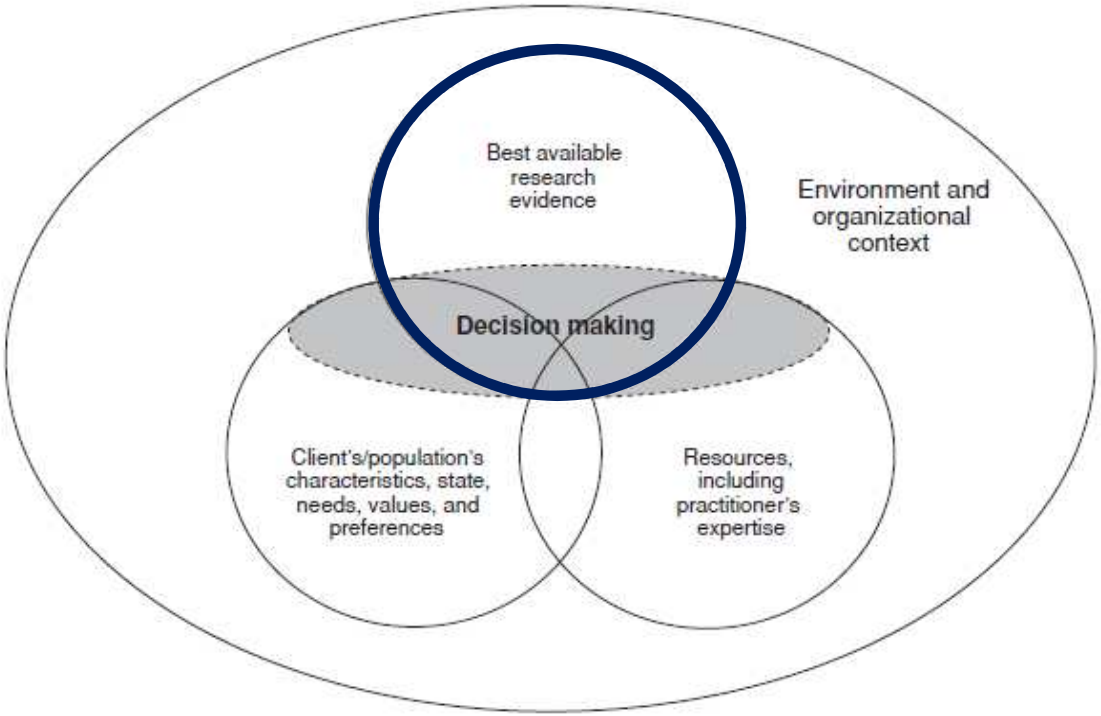
Cochrane A.
Oxford University UK

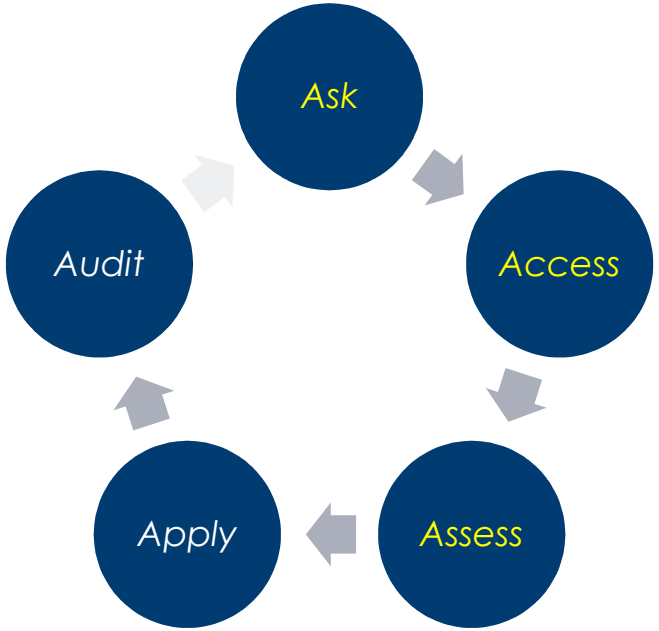


Sackett D.
Mc Master University Canada

(Satterfield et al., 2009; Straus et al., 2011)

Evidence-based practice





(Satterfield et al., 2009; Straus et al., 2011)

Asking the right question

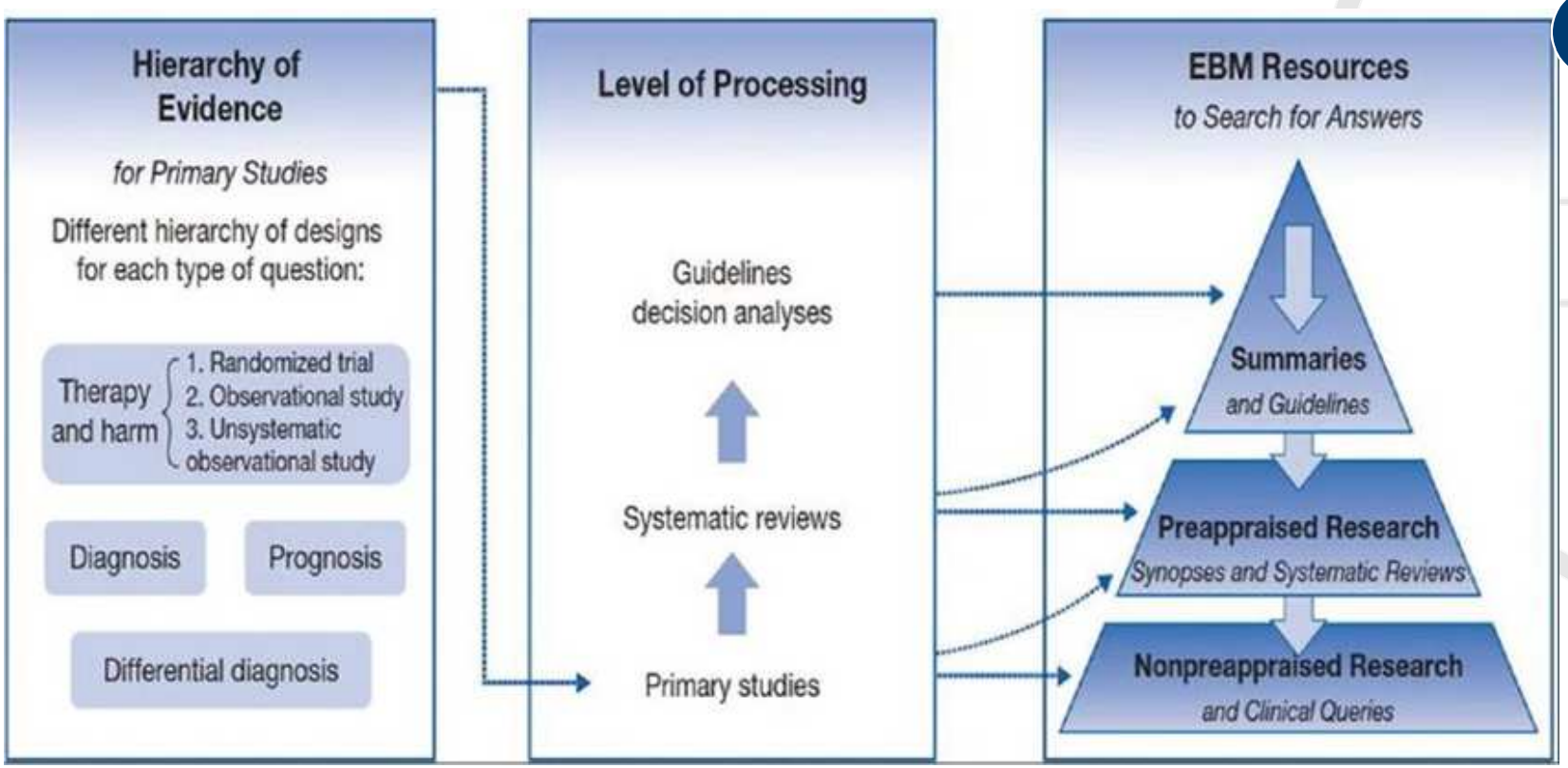
- **PICO or PIPOH**

  Does reducing the indoor temperature increase the risk of cardiovacular diseases in community dwelling frail older adults?

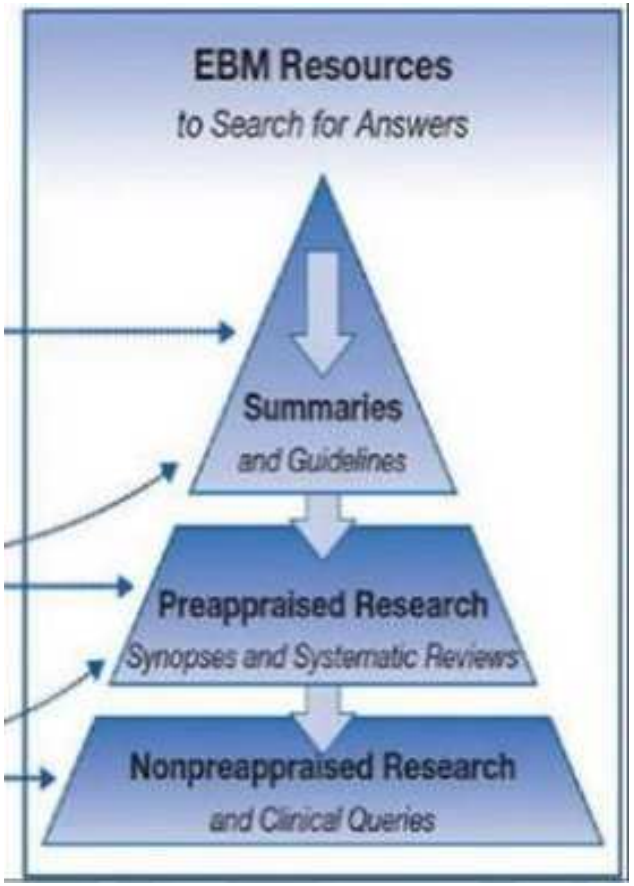
  Are primary school children who are gaming daily more than one hour more likely to have myopia than children who do not game?

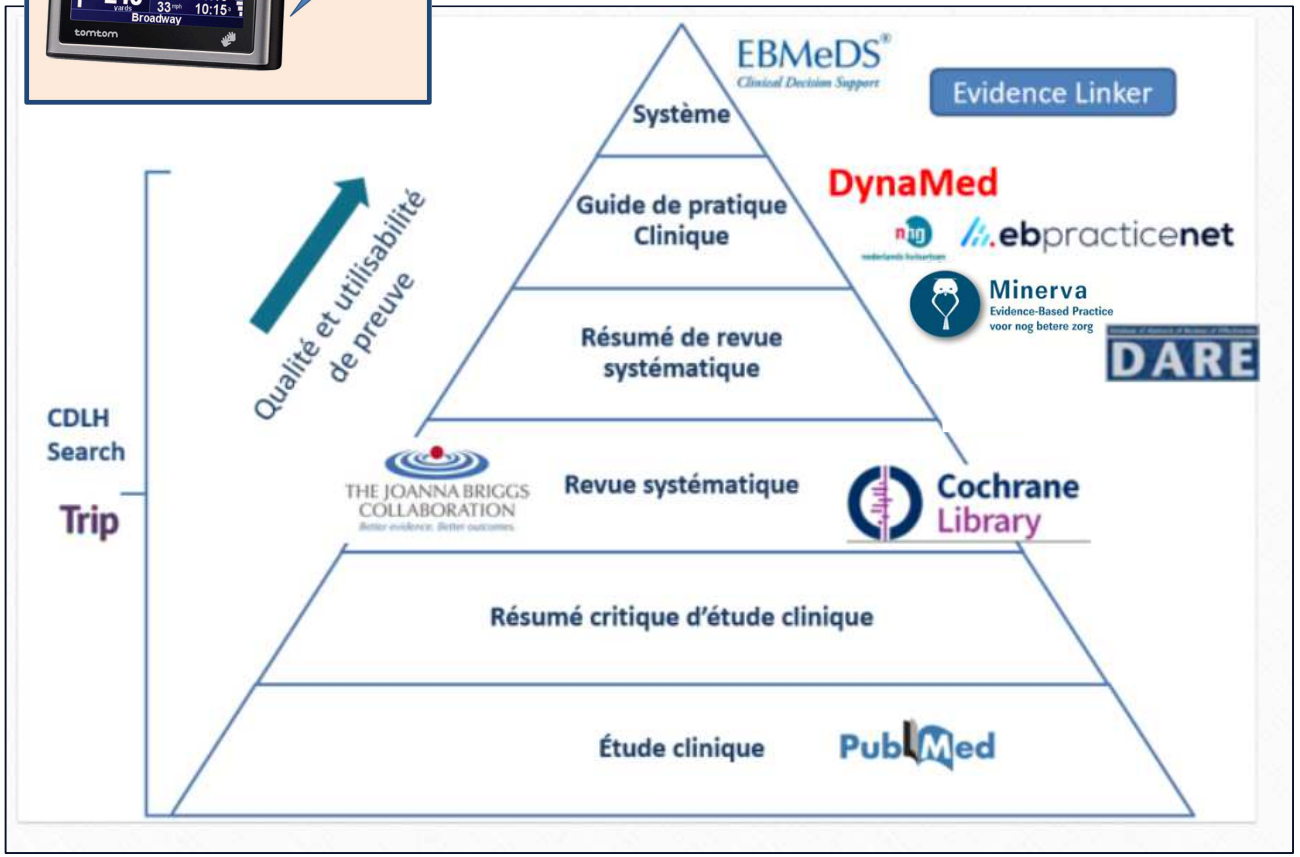
Your examples?

From evidence to eb-resources



(Agoritsas et al., 2015)





Agoritsas, et al. (2015); Tiré de https://www.cdlh.be/fr/aide/comment-rechercher

What do you know about… ?

ebpracticenet

GEZONDHEID EN WETENSCHAP

INFO SANTÉ

Minerva
Evidence-Based Practice
voor nog betere zorg

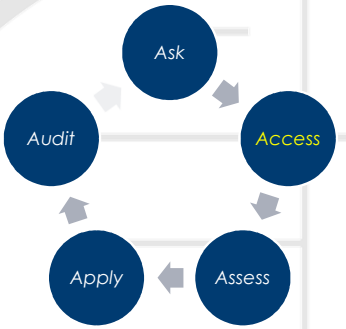
ebpracticenet
Working group development of primary care guidelines

CDLH asbl
Cebam Digital Library for Health
L'information médicale pour la pratique clinique, d'un seul clic

CDLH vzw
Cebam Digital Library for Health
Medische informatie op maat, een muisklik van u verwijderd

PubMed.gov

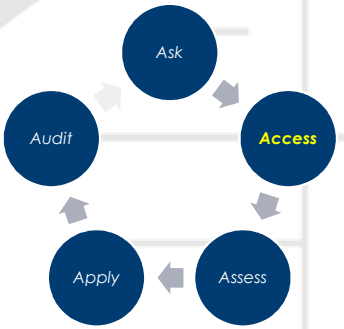
Finding guidelines



- Guidelines in general:
  - Ebpnet.be
  - Ebp-guidelines.be
  - https://g-i-n.net/international-guidelines-library
  - https://www.who.int/publications/who-guidelines
  - https://www.tripdatabase.com/
  - https://www.sign.ac.uk/our-guidelines
  - https://www.nice.org.uk/guidance
  - …

Databases for specific health professions:

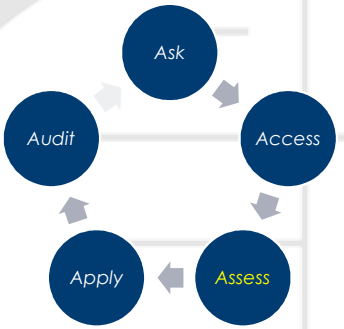
SSMG, Domus Medica, RNAO, RCOT, NHG, KNGF, ASHA, …



hands-on TRAINING

Do you find evidence on what was in the media?
Does the evidence prove what was said? Refutes it?
Or nuances it?

Critical appraisal



- Do we need to appraise research papers?
- What to look at?

"Yes, garlic and herbs can improve your cholesterol...but not garlic and herb potato chips."

Open access, freely available online

Essay

Why Most Published Research Findings Are False

John P. A. Ioannidis

Summary

There is increasing concern that most current published research findings are false. The probability that a research claim is true may depend on study power and bias, the number of other studies on the same question, and, importantly, the ratio of true to no relationships among the relationships probed in each scientific field. In this framework, a research finding

factors that influence this problem and some corollaries thereof.

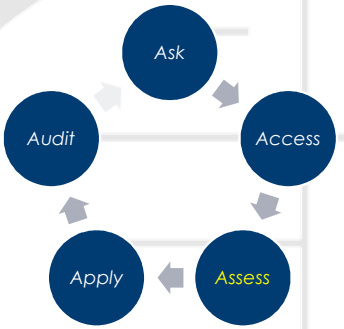
Modeling the Framework for False Positive Findings

Several methodologists have pointed out [9–11] that the high rate of nonreplication (lack of confirmation) of research discoveries is a consequence of the convenient, yet ill-founded strategy of claiming

is characteristic of the field and can vary a lot depending on whether the field targets highly likely relationships or searches for only one or a few true relationships among thousands and millions of hypotheses that may be postulated. Let us also consider, for computational simplicity, circumscribed fields where either there is only one true relationship (among many that can be hypothesized) or

(Ioannidis, 2005)

How to appraise…



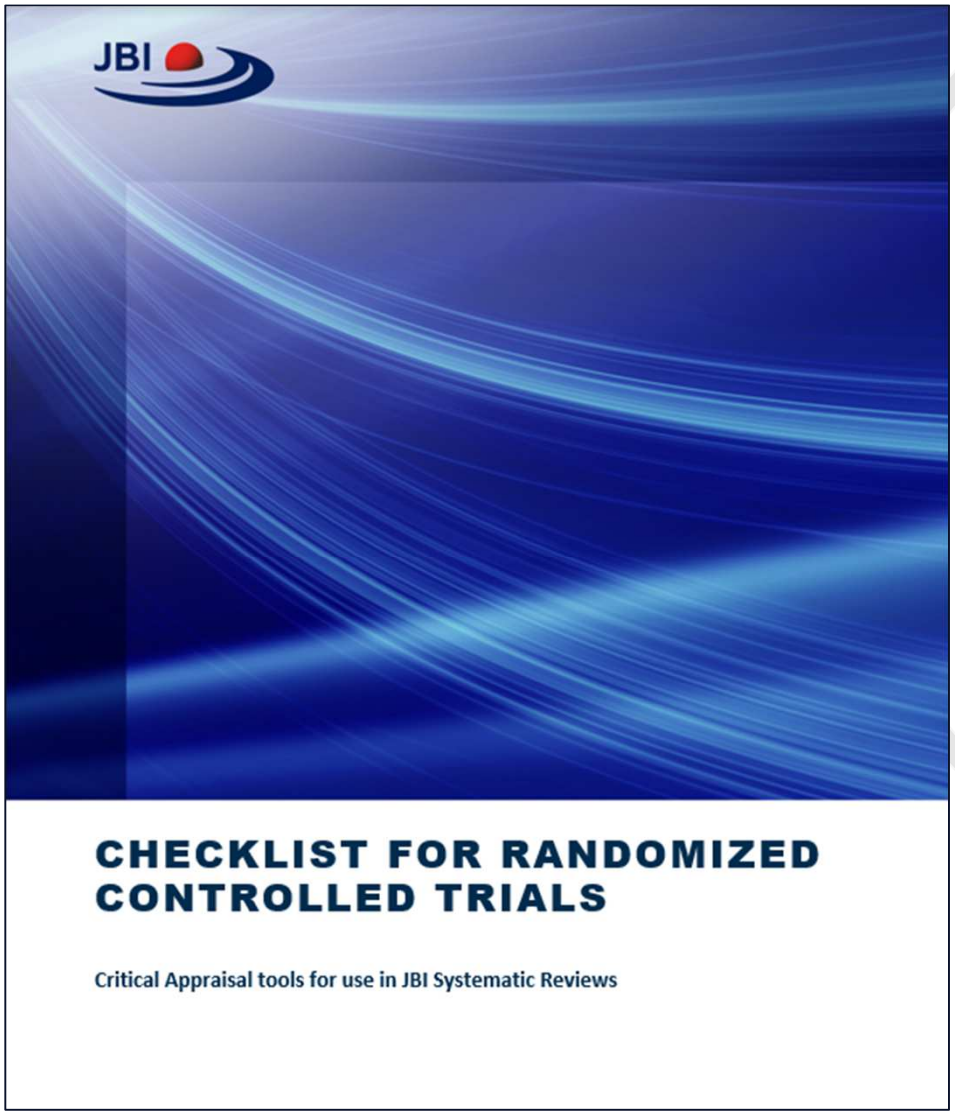
- Critical thinking:
  - Content
  - Methods

If you're lucky, as a professional you may find an appraised answer on your question on Minerva-ebp.be. Citizens may find an answer on Gezondheidenwetenschap/ Infosanté.

- Using standardized tools:
  - Studies and editorials:

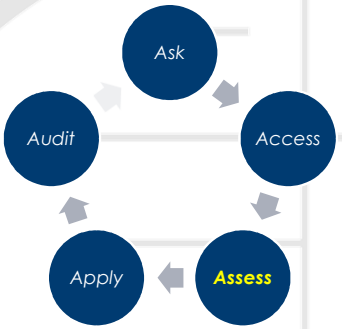
    Appraisal tools of JBI, CASP, CEBM Oxford, Sign, …
  - Guidelines: AGREE II

Example of a CA-tool



		Yes	No	Unclear	NA
1.	Was true randomization used for assignment of participants to treatment groups?	☐	☐	☐	☐
2.	Was allocation to treatment groups concealed?	☐	☐	☐	☐
3.	Were treatment groups similar at the baseline?	☐	☐	☐	☐
4.	Were participants blind to treatment assignment?	☐	☐	☐	☐
5.	Were those delivering treatment blind to treatment assignment?	☐	☐	☐	☐
6.	Were outcomes assessors blind to treatment assignment?	☐	☐	☐	☐
7.	Were treatment groups treated identically other than the intervention of interest?	☐	☐	☐	☐

8.	Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analysed?	☐	☐	☐	☐
9.	Were participants analysed in the groups to which they were randomized?	☐	☐	☐	☐
10.	Were outcomes measured in the same way for treatment groups?	☐	☐	☐	☐
11.	Were outcomes measured in a reliable way?	☐	☐	☐	☐
12.	Was appropriate statistical analysis used?	☐	☐	☐	☐
13.	Was the trial design appropriate, and any deviations from the standard RCT design (individual randomization, parallel groups) accounted for in the conduct and analysis of the trial?	☐	☐	☐	☐



hands-on TRAINING

Critical reflections on the article you found?

CEBAM training courses

- **Tailor made training courses**
  - Sensitizing
  - Half a day, one day or multiple days training
  - Other formulas possible
- **Permanent training courses**
  - Basic EBP (one day)
  - Basic clinical guidelines (one day)
  - Advanced EBP (3 days)
  - Developing clinical guidelines (3 days + follow up)
- **Online modules (in development)**

Core references

Agoritsas, T., Vandvik, P. O., Neumann, I., Rochwerg, B., Jaeschke, R., Hayward, R., . . . McKibbon, K. A. (2015). Finding current best evidence. In G. Guyatt, D. Rennie, M. O. Meade, & D. J. Cook (Eds.), *Users'guide to the medical literature: A manual for evidence-based clinical practice* (3rd ed., pp. 29-49). McGraw-Hill Education.

Ioannidis, J. P. (2005). Why most published research findings are false. *PLoS Medicine*, *2*(8), Article e124. https://doi.org/10.1371/journal.pmed.0020124

Satterfield, J. M., Spring, B., Brownson, R. C., Mullen, E. J., Newhouse, R. P., Walker, B. B., & Whitlock, E. P. (2009). Toward a transdisciplinary model of evidence-based practice. *The Milbank Quarterly, 87*(2), 368-390. https://doi.org/doi:10.1111/j.1468-0009.2009.00561.x

Straus, S. E., Glasziou, P., Richardson, W. S., & Haynes, R. B. (2011). *Evidence-based medicine: How to practice and teach it* (4th ed.). Edinburgh, Scotland: Churchill Livingstone Elsevier.

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