

Project/Topic of your Clinical Question: _____
Reviewer: _____ Today's Date: _____ Final Evidence Level: _____
Article Title: _____
Year: _____ First Author: _____ Journal: _____

Do the study aim/purpose/objectives and target population assist in answering your clinical question?

Yes No Unknown

• Study Aim/Purpose/Objectives:

• Target Population:

Is a decision analysis, economic analysis, or computer simulation congruent with the author's study aim/purpose/objectives above?

Yes No Unknown

Comments:

When reading the bolded questions, consider the bulleted questions to help answer the main question.

If you are uncertain of your skills in evidence evaluation, please consult a local evidence expert for assistance:

CCHMC Evidence Experts: <http://groups/ce/NewEBC/EBDMHelp.htm>

Unfamiliar terms can be found in the LEGEND Glossary: <http://groups/ce/NewEBC/EBCFiles/GLOSSARY-EBDM.pdf>

VALIDITY: ARE THE RESULTS OF THE DECISION ANALYSIS OR ECONOMIC ANALYSIS VALID OR CREDIBLE?

1. Was a well-defined question posed?

Yes No Unknown

Note: An ideal, well-defined question includes Population, Interventions/Comparators, and Outcomes. Economic analysis also includes Cost and Perspectives (e.g., societal, healthcare system, payor, consumer).

Comments:

2. Were all important, realistic strategies included and clearly specified?

Yes No Unknown

- Was the intervention(s) or strategy(ies) clearly described and appropriate?
- Were the comparator(s) (e.g., competing alternatives, reference case, standard of care) clearly described and appropriate?

Comments:

3. Was there evidence that the intervention/strategy effectiveness had been established?

Yes No Unknown

- What was the evidence level (i.e., quality level) of the evidence? _____

Comments:

4. **Were all important and relevant outcomes considered** (e.g., clinical, quality of life, harm, disability, death, costs, lost time from work)? Yes No Unknown

- Was the length of time considered (analysis time horizon) long enough to identify all important and relevant outcomes?

Comments:

5. **Was a model clearly described and appropriate?** Yes No Unknown

Comments:

6. **For an economic analysis, do included costs match stated perspective(s)?** Yes No Unknown

Comments:

7. **Were the outcomes and costs measured using valid and reliable tools?** Yes No Unknown

Comments:

8. **In measuring outcomes and costs, were the measures/utilities used valued and appropriate?** Yes No Unknown

Note: Measures/Utilities include, but are not limited to, ICER (Incremental Cost-Effectiveness Ratio), QALY (Quality-Adjusted Life Years), or DALY (Daily-Adjusted Life Years).

- Were the measures/utilities obtained in an explicit and sensible way from credible sources?

Comments:

9. **Was an explicit and sensible process used to identify, select, and combine evidence into probabilities?** Yes No Unknown

- Was the potential impact of any uncertainty in the evidence determined (e.g., Sensitivity Analysis)?

Comments:

10. **Was there freedom from conflict of interest?** Yes No Unknown

- Sponsor/Funding Agency or Investigators

Comments:

RELIABILITY: HOW WERE OUTCOMES AND COSTS ASSESSED AND COMPARED?

11. **Does one strategy result in a clinically important gain for patients?** Yes No Unknown

If No, is the result a toss-up?

- Were the main assumptions stated and justified?

Comments:

12. Could uncertainty in the evidence change the result?

Yes No Unknown

Comments:

13. For an economic analysis, was a comprehensive economic comparison of all important health care strategies conducted?

Yes No Unknown

- Were the main assumptions stated and justified?

Comments:

14. What are the main results of the study? (e.g., Helpful data: Page #, Table #, Figures, Graphs)

- Is the model validated by the results? Yes No
If not, describe how the model was modified, according to the results:

- How large was the main effect (e.g., clinical outcomes, process outcomes, magnitude of ratios, total cost, cost-effectiveness ratios)?

15. Was an incremental analysis (i.e., CE Ratios) of the outcomes and costs of alternatives performed (i.e., Sensitivity Analysis)?

Yes No Unknown

Comments:

16. Was appropriate allowance made for uncertainties in the analysis?

Yes No Unknown

Comments:

- What were the measures of statistical uncertainty (e.g., precision)?
(Were the results presented with Confidence Intervals or Standard Deviations?)

17. Were outcomes and costs adjusted for different times at which they occurred, such as discounting?

Yes No Unknown

Comments:

18. Are the estimates of outcomes and costs related to the baseline risk in the treatment population, if relevant?

Yes No Unknown

Comments:

19. Were the results statistically significant?

Yes No Unknown

Comments:

20. Were the results clinically significant? Yes No Unknown

- If potential confounders were identified, were they discussed in relationship to the results?

Comments:

21. Were the conclusions of the evaluation justified by the evidence presented? Yes No Unknown

Comments:

APPLICABILITY: CAN I APPLY THESE VALID, IMPORTANT STUDY RESULTS TO MY POPULATION? IS THE EVALUATION USABLE?

22. Did the presentation and discussion of the results include all or enough of the issues that are of concern to consumers (e.g., patient, healthcare system, policy maker, payor)? Yes No Unknown

Comments:

23. Can the results be applied to my population of interest? Yes No Unknown

- Is the intervention feasible in my care setting?
- Are the likely benefits worth the potential harm and costs?

Comments:

24. Are my patient's and family's values and preferences satisfied by the knowledge gained from this study? Yes No Unknown

- Were the patients in this study similar to my population of interest?
- Do your patient and you have a clear assessment of their values and preferences?
- Are they met by this analysis?

Comments:

25. Would you include this study/article in development of a recommendation? Yes No Unknown

Comments:

ADDITIONAL COMMENTS OR CONCLUSIONS ("TAKE-HOME POINTS"):

QUALITY LEVEL / EVIDENCE LEVEL

- Consider each “No” answer and the degree to which this limitation is a threat to the validity of the results, then check the appropriate box to assign the level of quality for this study/article.
- Consider an “Unknown” answer to one or more questions as a similar limitation to answering “No,” if the information is not available in the article.

- THE EVIDENCE LEVEL IS:**
- Good Quality Decision Analysis / Economic Analysis / Computer Simulation [5a]**
- Lesser Quality Decision Analysis / Economic Analysis / Computer Simulation [5b]**
- Not Valid, Reliable, or Applicable**

Table of Evidence Levels																				
DOMAIN OF CLINICAL QUESTION	TYPE OF STUDY / STUDY DESIGN																			
	Systematic Review Meta-Analysis	Meta-Synthesis	RCT ⁺	CCT ⁺	Psychometric Study	Qualitative Study	Cohort – Prospective	Cohort – Retrospective	Case – Control	Longitudinal (Before/After, Time Series)	Cross – Sectional	Descriptive Study Epidemiology Case Series	Quality Improvement (PDSA)	Mixed Methods Study	Decision Analysis Economic Analysis Computer Simulation	Guidelines	Case Reports N-of-1 Study	Bench Study	Published Expert Opinion	Local Consensus Published Abstracts
All Domains	1a 1b											4a 4b		2/3/4 a/b	5a 5b	5a 5b	5a 5b	5a 5b	5a 5b	5

⁺ RCT = Randomized Controlled Trial; CCT = Controlled Clinical Trial

Development for this appraisal form is based on:

1. Brown, A. D.; Raab, S. S.; Suba, E. J.; Wright, R. G.; and International Consensus Conference on the Fight Against Cervical Cancer, I. A. C. T. F. S. C. I. U. S. A.: Cost-effectiveness studies on cervical cancer. *Acta Cytologica*, 45(4): 509-14, 2001.
2. Drummond, M. F.; Aguiar-Ibanez, R.; and Nixon, J.: Economic evaluation. *Singapore Med J*, 47(6): 456-61; quiz 462, 2006.
3. Fineout-Overholt and Johnston: Teaching EBP: asking searchable, answerable clinical questions. *Worldviews Evid Based Nurs*, 2(3): 157-60, 2005.
4. Guyatt, G.; Rennie, D.; Evidence-Based Medicine Working Group.; and American Medical Association.: Users' guides to the medical literature : a manual for evidence-based clinical practice. *Users' guides to the medical literature : a manual for evidence-based clinical practice: "JAMA & archives journals."* Chicago, IL, 2002
5. Kopec, J. A. et al.: Validation of population-based disease simulation models: a review of concepts and methods. *BMC Public Health*, 10: 710, 2010.
6. Melnyk, B. M. and E. Fineout-Overholt (2005). *Evidence-based practice in nursing & healthcare : a guide to best practice.* Philadelphia, Lippincott Williams & Wilkins.
7. Phillips, et al: Oxford Centre for Evidence-based Medicine Levels of Evidence, 2001. Last accessed Nov 14, 2007 from <http://www.cebm.net/index.aspx?o=1025>.
8. Siegel, J. E.; Weinstein, M. C.; Russell, L. B.; and Gold, M. R.: Recommendations for reporting cost-effectiveness analyses. Panel on Cost-Effectiveness in Health and Medicine. *JAMA*, 276(16): 1339-41, 1996.
9. Soares, M., and Dumville, J. C.: Critical appraisal of cost-effectiveness and cost-utility studies in health care. *Evidence-Based Nursing*, 11(4): 99-102, 2008.
10. Weinstein, M. C.; Siegel, J. E.; Gold, M. R.; Kamlet, M. S.; and Russell, L. B.: Recommendations of the Panel on Cost-effectiveness in Health and Medicine. *JAMA*, 276(15): 1253-8, 1996.