

PUBH 752: Critical Appraisal of the Health Literature Spring 2007

Mondays 4-4:50 pm

1305 McGavran-Greenberg

Instructors:

Russ Harris, MD, MPH

Stacey Sheridan, MD, MPH

Gerald Gartlehner, MD, MPH

Halle Amick

This is a 1-credit course that is meant to give the student further background in critical appraisal of the health literature. This semester concentrates on

- (1) reviewing the issue of how to appraise and interpret observational evidence (especially cohort studies) and randomized controlled trials;
- (2) interpreting one study in the context of other studies;
- (3) synthesis designs such as systematic reviews, meta-analyses, guidelines, and cost-effectiveness analyses.

The course will be taught primarily in a “journal club”, group discussion format.

Please check the course Blackboard website for weekly reading assignments and further information about the course during the semester. It is absolutely essential that each week’s reading be done before class.

Among the goals of the course is for you to develop your eye for seeing potential biases and flaws (and positive aspects) in the study, assessing their importance, and improving your judgment at determining what true information can be extracted from the study. Critical appraisal is an important skill that requires (1) a thorough understanding of epidemiology and biostatistics; (2) the patience to read a study carefully, determining the degree to which its results are threatened by bias and/or random error; and (3) the judgment to extract the likely truth from the study, the degree to which its results are not explained by bias and/or random error. Critical appraisal is not a simple exercise in classifying studies into either “right” or “wrong”.

General Learning Objectives:

At the end of this course (two semesters), students should be able to:

1. Discuss the idea of critical appraisal;
2. Use critical appraisal in your Master’s Paper;
3. Critically assess the magnitude and direction of systematic error (bias) and random error (precision) in individual studies in healthcare;
4. Extract from studies the (true) information content separate from the error;
5. Combine the information from several studies (and from other types of evidence) to gain the best current understanding of what the evidence says;
6. Wisely decide when it is appropriate to extrapolate beyond the evidence, or to generalize to external populations, to make appropriate decisions to improve the health of individuals and populations;

7. Make appropriate use of evidence together with other considerations in making optimal decisions to improve the health of individuals and populations.

Grades: (we expect everyone to do well)

1. 50% of the grade is from in-class participation in each class (including, when appropriate, accurately completing the “evidence table” for the study to be discussed); [Note: evaluation of participation is not based entirely on the volume of comments made by a student. Excellent participation also involves the quality of comments, including their thoughtfulness and the degree to which they demonstrate that the student has not only done the expected reading but has also gone beyond this to read and think more deeply.]
2. 50% of the grade is from a critical appraisal (take home) of a paper by completing the critical appraisal template and an additional 1-2 page written discussion of some methodologic issue illustrated by the paper. The issue can be either a positive or a negative part of the paper. A positive aspect increases our confidence in the results of the study; a negative aspect reduces our confidence.

To be considered for Honors, a student must participate at a level beyond that expected for all students and write an outstanding paper.

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Date	Leader	Content
Jan 22	Gerald to lead	Walk through CONSORT, QUORUM, and TREND criteria; review of systematic reviews
Jan 29	Russ to lead	Review: Critical Appraisal Concepts and Process; set goals for this semester; review one article, reviewing lessons from last semester
Feb 5	Gerald to lead	Non-inferiority trials (Kaul S et al. Ann Intern Med 2006;145:62-69)
Feb 12	Russ to lead	Interpretation of studies: synthesis with the other literature; effectiveness-efficacy
Feb 19	Stacey to lead	More on subgroup analyses; how to interpret
Feb 26	Stacey to lead	Cluster/group RCTs
March 5	Gerald to lead	Systematic reviews II, meta-analysis
March 12	Spring break: no class	No class
March 19	Gerald to lead	Hands-on meta-analysis issues
March 26	Mike Pignone to lead	Cost-effectiveness analysis
April 2	Stacey to lead	Evaluation of articles of the accuracy or reliability of tests – Whiting P Ann Intern Med 2004;140:189-202
April 9	Russ to lead	Guidelines

		- Chobanian AV et al. The seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: The JNC 7 Report. JAMA 2003;289:2560-72.
April 16	Stacey to lead; Take home final available	Decision analysis (expected utility; evaluation of a paper on decision analysis)
April 23	Russ to lead: discussion of final exam	Discuss final exam paper topics; students present things they learned from papers