CPH 609 Evaluating the Public Health Literature  
Fall 2012

**Time:** Fridays, 1:30-2:20 pm  
**Location:** Drachman A112  
**Credit:** 1 unit  
**Course Director:** Robin B. Harris, PhD, MPH  
A234 Drachman Hall  
rbharris@email.arizona.edu  
(520) 626-5357  
**Office Hours:** By appointment

**Course Prerequisites:** Fall semester: admission to COPH doctoral program or permission of course director

**Course Description:** Concepts for the critical analysis of the scientific literature within public health and the broader field of medicine are reviewed. Topics including understanding the research stream, study design, statistical methodology, and the accurate presentation of results are addressed.

**Course Overview:** The importance of being a thoughtful and critical consumer of research reports cannot be overstated. Public health researchers and practitioners from all disciplines must be thoughtful reviewers and evaluators of the range of public health literature. This seminar emphasizes the critical review and analysis of published articles, policy analyses and opinion pieces relevant to public health practice in the United States and abroad. Through a series faculty and student presentations course participants will obtain the knowledge and skills to be able to critically evaluate reports of research evidence across multiple areas of public health. Emphasis will be placed on the concept of causality in science and the strengths and limitations of the methods used to establish it.

**Learning Objectives:** At the end of the course students will be able to:

- Conduct a systematic review of an article reporting the results of a primary research study with an emphasis placed on evaluating the strength of evidence, the potential biases and implications for future public health practice.

**MPH/DrPH Competencies**

- Understanding basic research designs used in public health  
- **Determines appropriate uses and limitations of data**  
- Applying the basic public health sciences including behavioral and social sciences,
biostatistics, epidemiology, environmental public health, and prevention of chronic and infectious diseases and injuries

- Develop appropriate approaches to addressing public health issues.
- Integrate evidence-based strategies to enhance public health services.

Class format: In-class activities will include structured discussions of selected article reviews. The mastery of pre-assigned reading is considered an essential component of successful in-class participation. Therefore, students are expected to be prepared to provide thoughtful commentary regarding the assigned reading.

In the initial sessions of this seminar, faculty from the various sections (or disciplinary areas) of public health will assign an article for review and lead a structured review and critique of the article. Additional materials relevant to the topic may be discussed in these sessions. In the latter half of the semester, student groups will be assigned an article and will lead the structured review.

Assignments: Assignments will include individual and group-led reviews of selected public health articles.

- Individual assignments: For each session, at least one public health article will be assigned. Students should come to class 1) prepared to discuss the article and 2) submit a written question relevant to the article and discussion. Note: for November 9th, there will be no class and the student is expected to attend the MPH internship conference and provide a written critique of internship presentations.
- Group assignments: students will self-select to groups of 3 to lead a structured review of a public health article. The article will either be assigned by the relevant public health section or will be selected by the group. This group will be responsible for leading the review and critique of the article’s introduction, methods, results and conclusions.

Evaluation Grading: The seminar is graded A, B, C, D, and E. The grading scale is:

- A = 90 – 100%
- B = 80 – 90%
- C = 70 – 80%
- D = 65 – 69%
- E = 0 – 64%

Individual assignment: 11 sessions x 2 pts + Internship conference review = 25 pts
Group assignment: 50 pts

Competencies (DrPH):

- (D1) Apply theoretical and evidence-based perspectives from multiple disciplines in the design and implementation of programs, policies, and systems.
- (D2) Interpret quantitative and qualitative data following current scientific standards.
- (D5) Synthesize information from multiple sources for research and practice.

OTHER INFORMATION

Communications: You are responsible for reading emails sent to your UA account from your professor and the announcements that are placed on the course web site. Information about
readings, news events, your grades, assignments and other course related topics will be communicated to you with these electronic methods. The official policy can be found at: 
http://www.registrar.arizona.edu/emailpolicy.htm

Disability Accommodation: If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Resources (621-3268; drc.arizona.edu) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations. The official policy can be found at: 
http://catalog.arizona.edu/2012-13/policies/disability.htm

Academic Integrity: All UA students are responsible for upholding the University of Arizona Code of Academic Integrity, available through the office of the Dean of Students and online: The official policy found at: http://deanofstudents.arizona.edu/codeofacademicintegrity

Plagiarism: What counts as plagiarism?

• Copying and pasting information from a web site or another source, and then revising it so that it sounds like your original idea.
• Doing an assignment/essay/take home test with a friend and then handing in separate assignments that contain the same ideas, language, phrases, etc.
• Quoting a passage without quotation marks or citations, so that it looks like your own.
• Paraphrasing a passage without citing it, so that it looks like your own.
• Hiring another person to do your work for you, or purchasing a paper through any of the on- or off-line sources.

Classroom Behavior: (Statement of expected behavior and respectful exchange of ideas)
The Dean of Students has set up expected standards for student behaviors and has defined and identified what is disruptive and threatening behavior. This information is available at: 
http://deanofstudents.arizona.edu/disruptiveandthreateningstudentguidelines

Students are expected to be familiar with the UA Policy on Disruptive and Threatening Student Behavior in an Instructional Setting found at: http://policy.arizona.edu/disruptive-behavior-instructional and the Policy on Threatening Behavior by Students found at:

Telephone and Computer Use: Laptops are allowed and use is governed by the following University policy http://security.arizona.edu/aup. Turn your cell phones to silent or vibrate in order to not disrupt the class and disturb your fellow students and professor.

Grievance Policy: Should a student feel he or she has been treated unfairly, there are a number of resources available. With few exceptions, students should first attempt to resolve difficulties informally by bringing those concerns directly to the person responsible for the action, or with the student's graduate advisor, Assistant Dean for Student and Alumni Affairs, department head, or the immediate supervisor of the person responsible for the action. If the problem cannot be resolved informally, the student may file a formal grievance using the Graduate College Grievance Policy found at:
http://grad.arizona.edu/academics/policies/academic-policies/grievance-policy

Grade Appeal Policy: http://catalog.arizona.edu/2012-13/policies/gradappeal.htm
Syllabus Changes: Information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate.

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Checklist for Reviewing Public Health Literature

Introduction (~20%)
- What is the underlying problem? What is its relevance?
- What is the underlying theoretical construct (may draw diagram)?
- Where does this study fit in the existing research stream?
  ■ How does this study improve upon the design or generalizability of previous studies and/or advance current theory?
- What is the specific hypothesis?

Methods (~40%)
- Describe the study population?
  ■ Is it internally valid (participant characteristics are consistent with hypothesis and theoretical construct)
  ■ Is it generalizable (participant characteristics are representative of a larger, relevant population)?
  ■ Were the inclusion/exclusion criteria appropriate?
  ■ Was drop-out or non-response a significant problem?
- Describe the dependent / independent variable?
  ■ How is it defined (operationalized)?
  ■ What type of variable is it (categorical, ordinal, interval)?
  ■ What are its strengths / weaknesses?
- What is the control condition?
  ■ Is the control group placebo, usual care, or active?
  ■ What are the strengths and weakness of control group?
  ■ Would another control condition have been better?
- Did anything unusual happen during the course of the study that might have impacted the study’s internal validity (e.g., break in blinding, change in control condition, change in recruitment protocol)?
- What is the specific study design?
  ■ Experimental/quasi-experimental/non-experimental?
  ■ Randomized, blinded, cohort, cross-sectional, placebo-controlled, etc.
- What is the statistical analysis? (regression, logistic, descriptive, ANOVA, etc.)
  ■ Does it seem appropriate (too simple, too complex, etc.)

Results (~30%)
- Is there a demographic table (usually Table 1)? If so, did randomization work? Is the study population consistent with the hypothesis?
- Are there any errors in the key tables? (missing data, numbers that do not add up, etc.)
- Are the results presented consistent with the a priori analytic plan? If not, was the deviation appropriated? Did it bias the study?
- In lay language, what do the study results say/mean?
- Are secondary analysis appropriate or are they misleading?

Conclusion (~10%)
- What is your take away message from the results? Is it consistent with authors’ conclusions? If not, why not?
CPH 609: SEMINAR: Evaluating the Public Health Literature
FALL, 2012

Drachman A112: Fridays 1:30-2:20
Room A112

Schedule – revised 9/11/12

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<tr>
<th>Date</th>
<th>Title</th>
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<tr>
<td>August 24th</td>
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<td>August 31st</td>
<td>Overview of Course &amp; Literature Review</td>
<td>Robin Harris, PhD</td>
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<td>Strategies Epi Section</td>
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<td>September 7th</td>
<td>Policy Section</td>
<td>Daniel Derkson, MD</td>
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<td>September 14th</td>
<td>Biostatistics Section</td>
<td>Denise Roe, DrPH</td>
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<td>September 21st</td>
<td>Health Promotion Section</td>
<td>Kerstin Reinschmidt, PhD</td>
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<td>September 28th</td>
<td>Environmental Health Section</td>
<td>Mary Kay O’Rourke, PhD</td>
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<td>October 5th</td>
<td>Epidemiology</td>
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<td>October 12th</td>
<td>Maternal &amp; Child Health Section</td>
<td>Francisco Garcia, MD</td>
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<td>October 19th</td>
<td>Health Policy selection</td>
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<td>October 26th</td>
<td>Biostats selection</td>
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<td>November 2nd</td>
<td>MCH selection</td>
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<td>November 9th</td>
<td>COPH MPH Internship presentations</td>
<td>No class; student is expected to</td>
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<td>attend internship conference</td>
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<td>November 16th</td>
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<td>November 23rd</td>
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<td>November 30th</td>
<td>Health promotion selection</td>
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