

SPPH 581T: Ethics of Evidence-Based Medicine and Public Health

Instructor: Daniel Steel

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Office Hours: 10 to noon, Wednesdays, or by appointment

Class Meeting Time and Place: Mondays 9am to noon, SPPH B138

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Course Description

Since the early 1990s, Evidence-Based Medicine (EBM) has emerged as a highly influential movement that has impacted almost all health related disciplines, including population and public health. At the core of EBM is a set of beliefs about what constitutes good evidence for the effectiveness of health interventions. But decisions about how to assess evidence for the effectiveness of health interventions can have real-world consequences for clinical and public health practice. This course, then, focuses on ethical issues arising from EBM, and their implications for population and public health. Specific topics to be addressed include:

- Ethical and value aspects of the concept of evidence.
- Potential rationales and shortcomings of evidence hierarchies commonly used in EBM.
- The role of evidence-based approaches in population health, wherein randomized clinical trials are often infeasible.
- Susceptibility of EBM approaches to phenomena such as sponsorship bias and disease mongering, and approaches for countering these.

Text

Jeremy Howick, *The Philosophy of Evidence-Based Medicine*, Wiley-Blackwell, 2011.

(All readings are available electronically through the UBC library.)

Course Objectives

A successful student in this course will:

- Gain knowledge of major controversies, positions, concepts, and approaches relating to evidence-based practice in medicine and population and public health.
- Improve critical reasoning, writing, and presentation abilities, and especially their ability to write a research paper that addresses philosophical issues related to population and public health.
- Be able to provide ethically informed reasons for positions relating to evidence-based practice in medicine or population and public health.

Grades

Grades in this class will be based upon two regular presentations (15% each), a research paper proposal (15%), and a research paper (55%). *Prior meeting with me is a required*

part of all class presentations. Please see the course website for a detailed grading rubric for all presentations.

- Presentations (15% each): Each student will be required to give two presentations, each of which will focus on one article or book chapter assigned for class on that day. Presenters should avoid giving a section-by-section summary of the target article or chapter (assume that your fellow students have done the reading). Instead, presentations should have two chief components: (1) an exposition of the central argument (or arguments) of the target article, and (2) an analysis that argument. Both parts should be equally significant aspects of your presentation. In an analysis of the focus article, presenters are encouraged to make connections with earlier readings from class or to bring in relevant examples from medicine or public health that raise further issues or questions about it. A number of presentation formats are acceptable, including power point and handouts. Whatever their format, presentations should be designed to generate discussion among the seminar participants, and interactive approaches are encouraged. The minimum length of a presentation is 30 minutes, while the maximum is 1 hour. How long each presentation lasts will depend to a large extent on how much discussion it generates. Plan on a presentation interspersed with discussion rather than a block of uninterrupted speaking.
- Research Paper Proposal (15%): To help you get a head start and early feedback on your research paper, each student is required to submit research paper proposal, due December 3 via the drop box on the course website. Your proposal should explain the central ideas of research paper. What is the topic you will address? What is the specific research question you wish to answer? What is the relevant literature on this topic, and how does your paper aim to contribute to this discussion? Proposal should consist of a 500 word abstract plus a list references relevant to you paper, at least 5 of which should not be from the reading list for this class. For further details please see the rubric posted under the Writing Assignments link on the course website.
- Research Paper (55%): The final assignment for the class is a research paper. Research papers can be on any topic addressed in the course, and should be between 5,000 to 7,500 words in length including references and footnotes. Research papers must be submitted by Tuesday, December 10 via the drop box on the course website. See the Research Paper link on the course website for guidelines and a grading rubric.

Course Schedule

Week 1 (Sept 10): Evidence-Based Medicine, Then and Now

- Evidence-Based Medicine Working Group, “Evidence-Based Medicine: A New Approach to Teach the Practice of Medicine.”
- Greenhalgh et al., “Evidence-Based Medicine: A Movement in Crisis?”
- Howick, “Chapter 1: Philosophy of Evidence-Based Medicine.”

Week 2 (Sept 17): What is it to be Evidence-Based?

- Howick, “Chapter 2: What is EBM?”
- Solomon, “Just a Paradigm: Evidence-Based Medicine in Epistemological Context.”
- Smith, “The Fluctuating Fortunes of Evidence Based Policy” (Chapter 1 of *Beyond Evidence Based Policy in Public Health*).

Week 3 (Sept 24): Evidence-Based Public Health

- Victora et al., “Evidence-Based Public Health: Moving Beyond Randomized Trials.”
- Brownson et al., “Evidence-Based Public Health: A Fundamental Concept for Public Health Practice.”
- Rosella et al., “The Development and Validation of a Meta-Tool for Quality Appraisal of Public Health Evidence: Meta Quality Appraisal Tool (MetaQAT).”

Week 4 (Oct 1): Ethical Aspects of Best Evidence

- Howick, “Chapter 3: What is Good Evidence for a Clinical Decision?”
- Douglas, “Inductive Risk and Values in Science.”
- Smith, “Evidence-Informed Policy in Public Health” (Chapter 2 of *Beyond Evidence Based Policy in Public Health*)

Week 5 (Oct 8): Thanksgiving – University Closed

Week 6 (Oct 15): RCTs as the “Gold Standard”?

- Howick, “Chapter 4: Ruling out Plausible Rival Hypotheses and Confounding Factors.”
- Howick, “Chapter 5: Resolving the Paradox of Effectiveness.”
- Deaton and Cartwright, “Understanding and Misunderstanding Randomized Controlled Trials.”

Week 7 (Oct 22): Double-Blinding (Masking) and Placebos

- Howick, “Chapter 6: Questioning Double Blinding as a Universal Methodological Virtue of Clinical Trials.”
- Howick, “Chapter 7: Placebo Controls: Problematic and Misleading Baseline Measures of Effectiveness.”
- Howick, “Chapter 8: Questioning the Methodological Superiority of “Placebo” over “Active” Controlled Trials.”

Week 8 (Oct 29): Systematic Reviews and Meta-Analyses

- **Guest Speaker:** Bennett Holman, PhD. Underwood International College at Yonsei University.
- Stegenga, “Is Meta-Analysis the Platinum Standard of Evidence?”
- Holman, “In Defence of Meta-Analysis.”
- Jørgensen et al., “Cochrane Reviews Compared with Industry Supported Meta-Analyses and other Meta-Analyses of the Same Drugs: Systematic Review.”

Week 9 (Nov 5): Mechanistic Evidence

- Clarke et al., “Mechanisms and the Evidence Hierarchy.”
- Howick, “Chapter 9: Transition to Part III,” and, “Chapter 10: A Qualified Defence of the EBM Stance on Mechanistic Reasoning.”
- Solomon, “What is Translational Medicine?” (Chapter 9 of *Making Medical Knowledge*)

Week 10 (Nov 12): Remembrance Day – University Closed

Week 11 (Nov 19): Expert Judgment

- Haynes et al., “Clinical Expertise in the Era of Evidence-Based Medicine and Patient Choice.”
- Howick, “Chapter 11: Knowledge That versus Knowledge How: Situating the EBM Position on Expert Clinical Judgment.”
- Solomon, “A Developing, Untidy, Methodological Pluralism” (Chapter 9 of *Making Medical Knowledge*)

Week 12 (Nov 26): Extrapolation and External Validity

- Rol and Cartwright, “Warranting the Use of Causal Claims: A Non-Trivial Case for Interdisciplinarity.”
- Pearl and Bareinboim, “External Validity: From Do-Calculus to Transportability Across Populations.”

Week 13 (Dec 3): Sponsorship Bias and Evidence

- **Guest Speaker:** Dr. James Wright, Editor in chief, Therapeutics Letter
- Spielmans and Parry, “From Evidence-based Medicine to Marketing-based Medicine: Evidence from Internal Industry Documents.”
- Steel, “If the Facts were not Untruths, Their Implications were: Sponsorship Bias and Misleading Communication.”
- Reiss, “In Favour of a Millian Proposal to Reform Biomedical Research.”
- **Research Paper Proposal Due**

Research Paper Due Date: Tuesday, December 10. Please submit research papers via the drop box on the course website.