Department of Epidemiology and Biostatistics

Epidemiology 9531B
Methods and Issues in Program and Policy Evaluation in Health and Human Services
Winter 2020

Lecture: Wednesday 2:30 – 5:30 pm.
Room: K116 Kresge Bldg

Instructor: Professor Evelyn Vingilis, PhD, C.Psych.
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Professor, Departments of Family Medicine, and Epidemiology and Biostatistics
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Office hours – by appointment

Course Information

Purpose: The purpose of the course is to familiarize students with the major issues in the fields of program and policy evaluation. Students will develop an understanding of the theoretical frameworks used for evaluative research, types of evaluation, conceptual, methodological and analytical issues in evaluative research, and the multi-methods, theory-driven approach to evaluation, including the development of causal and logic models.

Students will also develop an understanding of the relative value of different designs that can be applied to evaluation research. Students will have the opportunity to develop their critical appraisal, theoretical, methodological and interpretive skills through reading various examples of stronger and weaker evaluations and applications, and through the development of a proposal on an evaluation question of interest to them.

Expectations for class attendance

Students are expected to attend the classes and to prepare for each class by reading the articles and chapters listed below, and to actively participate in the discussions. There is substantive reading for the class because program evaluation is a mammoth discipline. For students to obtain just a basic knowledge of some of the concepts related to program evaluation, reading is necessary, although you will just be touching the tip of the iceberg. For each class, a number of critical themes, as outlined below, have been provided to guide students through the readings and activities, and to frame the lectures and discussion. The articles are very carefully chosen every year to reflect “classics” in the field regarding methodology or issues (never, ever dismiss articles by date of publication), current thinking or historical and current examples of evaluations. Thus, some articles are older for a reason, while many articles are changed yearly to provide current examples of evaluations. For
students to receive marks for class participation they MUST contribute to each class discussion.

Teaching and learning is a shared responsibility, influenced by individual knowledge and experience, but achieved through expanding our awareness of the different issues and epistemologies that exist in different disciplines. Commitment, preparation and active participation are important ingredients to realize this goal. Your preparation and participation is important to your learning and the learning of your colleagues.

This course is an interdisciplinary course for a reason. Program evaluation is interdisciplinary as the methods of program evaluation have evolved from many disciplines. Learning from other disciplines will enhance your program evaluation knowledge and skills and therefore it is expected that students will act respectfully and collaboratively with one another. Indeed, virtually no comprehensive program evaluations are conducted by only one person and one discipline as many skills from different disciplines are required for a state-of-the-art evaluation.

Course Objectives
Upon successful completion of this course, students will be able to:

1. Knowledge - students will be able to recall principles and components of types of research designs, types of validity, components of evaluation research, and the causal and program logic model.

2. Comprehension - students will understand the political aspects and research dimensions of program evaluation which differentiate it from basic research. They also will understand the reasons for choices for theory-driven vs. methods evaluations, qualitative vs. quantitative methods, different types of research designs and different types of evaluation components.

3. Applications - students will be able to take the principles of theory-driven casual models, program logic models, validity, research designs and components of evaluation research and describe evaluative studies on the basis of these principles.

4. Analysis - students will be able to analyze the strengths and weaknesses as defined by the principles and components described above, of evaluative studies and be able to offer suggestions for the improvement of the studies.

5. Synthesis - students will be able to take an evaluation question, and work through the steps of a causal model, a logic model, components of evaluation, research design choice and assess threats to internal and external validity.

Course Materials
Textbook:
Weekly readings as per course schedule below.

Supplemental references:
 https://openknowledge.worldbank.org/bitstream/handle/10986/25030/9781464807794.pdf?sequence=2&isAllowed=y


Methods of Evaluation

- 5% - Critical appraisal of published papers (class participation)
- 10% - Group work - theory identification and causal model development (presentation)
- 15% - Group work - logic model development (written)
- 10% - Critical appraisal of published paper (written 1-page critique)
- 10% - Presentation of logic model, evaluation type and method
- 50% - Term Paper: (proposal for an evaluation study)

The purpose of the assignments are to help you work through the steps of proposal development (your final assignment) in an iterative, step-by-step way. **Before your first assignment, you must identify a program/service/policy/activity that is of interest to you, that you would like to use for your evaluation proposal.**

The first assignment (theory identification and causal model development) will consist of dyads of students from different disciplines working together to help each other identify a theory or theories relevant to the students’ personal evaluation question and to develop a causal model, based on the theory. **Specifically, students need to focus on: statement of problem to be solved; description of possible theory/model to explain the underlying problem, i.e., cause and effect model; theory of implementation (potential or actual types of activities to solve problem) model; discussion of causal model and draft logic model components.** Each student will have 10 minutes to present their theory and causal model in class.
The second assignment will be for the same student dyads to help each other develop their causal models into their logic models. **Specifically students need to focus on the conceptualization aspect of the evaluation – statement of problem; description of possible theory/model to explain underlying problem, i.e. cause and effect model; theory of implementation model with development of logic model; description of logic of outputs with related outcomes; description of assumptions made.**

The third assignment is to review an article that was read for a class and to write a critique as one would for a journal editor. The template you will use for doing this review should hone your skills on what you will need to include in your own proposal.

The fourth assignment is an individual presentation by each student for 15 minutes (10 minutes ONLY - for BRIEF presentation of their program logic model, proposed evaluation type, measures and research methods, and 5 minutes for group discussion of the evaluation question). The purpose is for students to present their conceptual thinking on the program logic models and proposed research method(s) and measures to their peers in order to obtain friendly feedback. As the development of evaluations are often iterative and with other stakeholders, presentations and discussions with colleagues provide useful feedback and help. **Specifically, students need to focus on: description of the program; description of possible theory/model to explain underlying problem, i.e. cause and effect model; theory of implementation model with development of logic model; description of measures; connection between logic model outputs, outcomes and measures.**

The final assignment will be a proposal for the evaluation of the students’ program/service/policy/activity of interest to them on which they have been working. Proposal writing for grants is a skill that may come in handy for your careers, and yet is not commonly taught to graduate students. **Specifically, the Proposal Introduction should include: 1) what is the problem, 2) what is causing the problem, 3) solutions to problem, i.e. review of interventions similar to the one you are evaluating, theories they used, results they got, etc. A description of intervention to be evaluated is presented together with causal and logic models. The Methods section should discuss Sampling, Sample Size Calculations, Research Design, Measures, Statistical Analyses. The final section should outline Limitations and Strengths.**

Appendices can include tables, figures and other relevant materials. More information on proposal format presented below.

**Spelling must be in Canadian English. Do NOT rely on Microsoft Word Canadian spellcheck. It does NOT flag American spelling as wrong. So you need to know**
your Canadian spelling. Canadian spelling is an Act of Parliament and required within any public sector workplace. Thus, it helps to know Canadian spelling. For example, it’s licence (noun) but licensed (verb); practice (noun) but practise (verb). Modelling, counselling, barrelled, etc., all have 2 “l”s; litre not liter; cheque not check; catalogue not catalog; acknowledgement not acknowledgment, organize not organise, behaviour not behavior.

- **Check:**
  - [http://www.mohawkcollege.ca/Assets/Communications+Centre/Helpful+Facts+Sheets/Canadian+vs+American+Spelling.pdf](http://www.mohawkcollege.ca/Assets/Communications+Centre/Helpful+Facts+Sheets/Canadian+vs+American+Spelling.pdf)
  - [http://www.luther.ca/~dave7cnv/cdnspelling/cdnspelling.html](http://www.luther.ca/~dave7cnv/cdnspelling/cdnspelling.html)
  - One mark is taken off for every 3 incorrectly spelled words. So if 6 words are spelled incorrectly, 2 marks will be taken off the assignment.

**Term Paper: (proposal for an evaluation study)**

- The proposal will be in the generic format of a Canadian Institutes of Health Research (CIHR). *Please note that CIHR provides somewhat different details on format, depending on type of grant.*
- **Below is a generic format to follow for your proposal.**

**ONLY THE RESEARCH PROPOSAL IS REQUIRED!!! THIS SHOULD INCLUDE:**

- **Summary of Research Proposal** -
  - Summarize your research proposal. Your summary should not exceed one page.
- **Research proposal** -
  - It CANNOT exceed 10 pages. At CIHR, anything longer than 10 pages will automatically have all pages past 10 pages removed. So do NOT use table of contents, etc. as they count as pages.

**General Instructions for Grant Applicants**

- The research proposal should stand alone (i.e., it should contain all the information required to support your research plan and should contain a complete description of your project). For the purpose of peer review, the research proposal should not depend on information such as appendices that are not included in the page limit of the research proposal.
In the research proposal applicants must explain:

a. What do you want to do (central theory, hypothesis, research question, specific objectives)?
b. Why this is a reasonable thing to do (review of previous work done, theory, rationale)?
c. Why this is important (new knowledge to be obtained, improvements to health which will result)?
d. How are going to do it (work plan, timelines, detailed descriptions of methods, analysis and discussion/interpretation of results, pitfalls, ways around the pitfalls, alternatives)?

Legends should be succinct and should not contain detailed information pertaining to methods. Appendices may include references, tables, charts, figures, photographs, questionnaires and consent forms.

Marking

I rate the term papers (proposals) as per CIHR rating scale, see below so that you will have experience with the format and ranking. I provide comments on the proposal and send back to you via campus mail. The rating will be done on the quality of the paper, based on conceptual, methodological and analytical content, and I mark at a level a little higher than it would be ranked at CIHR. For proposal submissions to CIHR, virtually no one ranks in the 4.5-4.9 scale and the top 15-20% will rank at "very good" or higher.

CIHR’s rating scale for grant programs

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Range</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding</td>
<td>4.5 – 4.9</td>
<td>May be Funded – Will be Discussed by the Committee</td>
</tr>
<tr>
<td>Excellent</td>
<td>4.0 – 4.4</td>
<td></td>
</tr>
<tr>
<td>Very good</td>
<td>3.5 – 3.9</td>
<td></td>
</tr>
<tr>
<td>Acceptable, but low priority</td>
<td>3.0 – 3.4</td>
<td>Not Fundable – May or May Not be Discussed by the Committee</td>
</tr>
<tr>
<td>Needs revision</td>
<td>2.5 – 2.9</td>
<td></td>
</tr>
<tr>
<td>Needs major revision</td>
<td>2.0 – 2.4</td>
<td></td>
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Policy on Accommodation for Medical and Non-Medical Absences
All non-medical absences must be approved in advance. In the case of an unexpected absence on compassionate grounds, documentation may be requested. If documentation is required for either medical or non-medical academic accommodation, then such documentation must be submitted by the student to the instructor.

Statement on Academic Offences
Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Support Services
As part of a successful student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western’s Campus Recreation Centre. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page http://www.music.uwo.ca/, and our own Mcintosh Gallery http://www.mcintoshgallery.ca/. Information regarding health- and wellness-related services available to students may be found at http://www.health.uwo.ca/

Registrarial Services: http://www.registrar.uwo.ca
USC Student Support Services: http://westernusc.ca/services/
Student Development Centre: http://www.sdc.uwo.ca/
SGPS Life & Community web page: https://grad.uwo.ca/life_community/self/index.html
Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate or undergraduate chair), or other relevant administrators in their unit.

Students who are in emotional/mental distress should refer to Mental Health@Western http://www.uwo.ca/uwocom/mentalhealth/ for a complete list of options about how to obtain help.

**Student Accessibility Services**
Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program.

Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are encouraged to register with Student Accessibility Services, a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both SAS and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction.

**Department & Faculty Offices**
The Epidemiology & Biostatistics main office is located in K201 in the Kresge Building on Main campus.

**Technology Requirements**
You are responsible for all required course materials and announcements posted to the course’s OWL website. Please ensure after the first class that when you log in you are able to access the course site. A copy of the course outline will be available on both OWL and the departmental website.

**Cell Phone and Electronic Device Policy**
The Schulich School of Medicine & Dentistry is committed to ensuring that testing and evaluation are undertaken fairly across all our departments and programs. For all tests and exams, it is the policy of the School and the Department of Epidemiology and Biostatistics that any electronic devices, i.e., cell phones, tablets, cameras, or iPod are strictly prohibited. These devices MUST be left either at home or with the student’s bag/jacket at the front of the room and MUST NOT be at the test/exam desk or in the individual’s pocket.
Any student found with one of these prohibited devices will receive a grade of zero on the test or exam. Non-programmable calculators are only allowed when indicated by the instructor. The Department of Epidemiology and Biostatistics is not responsible for stolen/lost or broken devices.

Course Schedule

1. January 8, 2020: Introduction
   What is evaluative research and what do we mean by programs and policies?

   Readings: Grembowski (2016) Chapters 1, 2 (p. 1-40 up to Ethics)


   Ho MT, Eisenberg MS, Litwin PE, Schaeffer SM, Damon SK. (1989) Delay between onset of chest pain and seeking medical care: the effect of public education. (Read Abstract only) Annals of Emergency Medicine, 18(7), 727-81. http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6WB0-4FTYS8-GM&_user=940030&_coverDate=07%2F31%2F1989&_rdoc=1&_fmt=high&_orig=search&_origin=search&_sort=d&_docanchor=&view=c&_searchStrId=1575015233&_rerunOrigin= scholar.google&_acct=C000048763&_version=1&_urlVersion=0&_userid=940030&md5=89e3a3fcb363065d3ae8e86e33844755&searchtype=a

   Reflective questions: Do the conclusions causally follow from the purpose and methods? Why or why not?

   Methods-oriented vs. theory-driven evaluations.
   Type III error

   Readings: Grembowski (2016) Chapter 3 (p.47-78)


Supplemental on complex designs and different types of and approaches to theory-driven evaluation:


*Reflective questions:* Compare and contrast the two cold education studies. Why do these two studies show different results of the same intervention? Which is blackbox and why?

3. January 22, 2020: Approaches to Model Development

Theories, causal models and program logic models *Note: causal model is same as conceptual model or chain of causation in Grembowski*


http://heapol.oxfordjournals.org/content/26/6/508.full.pdf+html

If additional information and examples are wanted to understand, develop and use theory, causal and logic models:


Wisconsin University Logic Model (2003)
http://www.uwex.edu/ces/pdande/evaluation/pdf/lmcourseall.pdf

W. K, Kellogg Foundation Logic Model Development Guide
http://www.exinfm.com/training/pdfs/logicModel.pdf

YouTube presentations for how to do logic models
https://www.youtube.com/watch?v=IHEp0gJRTwI
https://www.youtube.com/watch?v=GtMv11bClMU
https://www.youtube.com/watch?v=eFhaHCVY_Yo
https://www.youtube.com/watch?v=bZkwDSr__Us

**Reflective questions:** What is the causal model of your proposed program, policy or service you want to evaluate? What theories inform your theory of cause and effect and theory of implementation?

4. **January 29, 2020 Group Causal Model presentations**
Students take 10 minutes each to present their theories and causal models

Readings:
http://evi.sagepub.com/content/14/1/29.full.pdf+html

http://her.oxfordjournals.org/content/20/6/676.full.pdf+html

**Reflective questions:** What theories are you using to explain the problem and intervention, i.e. (theories of “cause and effect” and of “implementation)? How is your logic model being informed by your causal model? What does your logic model look like?
5. February 5, 2020: Validities and Research Approaches

Quantitative Research Designs
- Sources of invalidity for designs
- Pre-experimental, true experimental and quasi experimental

Readings: Grembowski (2016) Chapter 4 (p. 81-134)

https://journals.sagepub.com/doi/pdf/10.1177/0706743718809347

https://ac.els-cdn.com/S0140673613601075/1-s2.0-S0140673613601075-main.pdf?_tid=f920b850-d6c7-11e7-84c3-00000aacb360&acdnat=1512154183_637610eb05c5bddd7f7f17f3ff73ec097

Additional background reading if you want more information on different quasi experimental designs.


Reflective questions: Are Anderson et al.’s and Burns et al.’s evaluations “theory driven”? What type of designs are they using? What are the strengths and validity challenges with them?

6. February 12, 2020 Research Approaches Continued

Qualitative methods
- Triangulation and mixed methods

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1089055/pdf/hsresearch00022-0025.pdf

http://aje.sagepub.com/content/27/2/237.full.pdf+html

https://doi.org/10.1111/1475-6773.12855

Additional background reading if you want more “how-to” information. These papers will be helpful if you are planning a mixed methods project.

Cresswell JW. (2013) Steps in conducting a scholarly mixed methods. University of Nebraska – Lincoln, DigitalCommons@University of Nebraska - Lincoln Study http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1047&context=dberspeakers


Reflective questions: Thinking of your evaluation, could you use qualitative methods or quantitative methods? Could you use a mixed methods approach? If so for what reasons?

February 19, 2020: Reading week
no classes

Due February 26: Your causal and program logic models for your program evaluation.

7. February 26, 2020: Components of Evaluation Research, Part 1

Program rationale

Needs assessment


Additional background reading if you want more “how-to” information. This paper will be helpful if you are planning a needs assessment for your project.

Comprehensive Needs Assessment
https://www2.ed.gov/admins/lead/account/compneedsassessment.pdf

Needs Assessment Resource Guide

Reflective questions: How is the program rationale evaluated in Mercier et al? What are identified as key issues for needs assessment in the Mitra et al. and West et al. papers? On what needs are the assessments being made? What type of methods did they use? Why?


Formative/process evaluation


http://dx.doi.org/10.1016/j.socscimed.2016.09.035


Additional background reading if you want more “how-to” information. This paper will be helpful if you are planning a process evaluation for your project.

http://hpp.sagepub.com/content/6/2/134.full.pdf+html


Reflective questions: What type of designs did Hanson et al. and Everink et al. use? What are the strengths and weaknesses of the evaluations?
Due Mar 11: 1-page critical appraisal of one of the above studies

   Short-term outcome evaluation
   Summative/long-term outcome/impact evaluation

Readings:


**Reflective questions:** How are the Flego et al., Nayiga et al. and Pelham et al. evaluations similar? What are the differences? What are the different designs used by the different papers? Is any paper stronger in causal inference? Why?

10. March 18, 2020: Components of Evaluation Research, Part 4
   Effectiveness evaluation


Page TF, Pelham WE, Fabiano GA, Greiner AR, Gnagy EM et al. (2016) Comparative cost analysis of sequential, adaptive, behavioral, pharmacological, and combined treatments for
http://dx.doi.org/10.1080/15374416.2015.1055859

https://doi.org/10.1371/journal.pone.0191851

**Reflective questions:** What types of analyses were conducted in Page et al and Everink et al? What are some challenges with the conduct of economic evaluations? What type of economic analysis could you consider for your own project?

Additional background reading if you want more “how-to” information.

11. **March 25, 2020: Planning and Conducting the Evaluation**

Population, sampling, measurement, data collection, data analysis

Readings: Grembowski (2016) Act 2 chapters 7, 8, 9 (p 177-264).

http://www.evaluationcanada.ca/secure/16-1-099.pdf

If additional information is wanted on data issues:

http://onlinelibrary.wiley.com/doi/10.1046/j.1360-0443.95.11s3.6.x/full

**Reflective questions:** Any issues with planning your proposal in light of sampling, measurement, etc?

12. **April 1, 2020: Evaluation in the Real World**

Issues, challenges and examples:
Canadian Evaluation Society core competencies

Evaluation ethics

Readings: Grembowski (2016) (p 40-44)

doi:10.1016/S0190-7409(97)00007-8  
http://ac.els-cdn.com/S0190740997000078/1-s2.0-S0190740997000078-main.pdf?_tid=9cee7f6c-9787-11e5-acf2-00000aab0f6b&acdnat=1448904621_82629c680b2f857207af4de5d1226d9b

**Reflective questions:** *What are your thoughts about Rubin’s experiences? How would you deal with similar problems? What are your thoughts about his evaluation and outcomes? What are the challenges with RCTs for complex interventions that Mustafa identifies?*

13. April 8, 2020: **Student presentations of models and proposals**

All students can have 15 minutes, (10 minutes for logic model and research method description of proposal, and 5 minutes group discussion). The purpose of the presentation, as is typical in program evaluations, is to obtain feedback from colleagues (friendly review), in order to improve final proposal.  
As a courtesy to other students, so that all will have equal time, PLEASE time your presentation to ensure it is 10 minutes. Presentation mark will also reflect keeping within one’s time limits as a show of courtesy to other students.

**Final assignment (program evaluation proposal) due: April 26, 2020**