2015 Health Services Research Course Syllabus

Course Directors: Adam Carle, PhD

Contact: adam.carle@cchmc.org

Office Hours: By appointment.

Dates: August 24th to November 30th
Mondays 9:05 am to 10:55 am

Location: T12-274 (in T Location of CCHMC Campus)

Purpose of the course: The purpose of this course is to provide students with an introduction to research methods used in health services research. Students will be introduced to the multi-disciplinary nature of projects conducted by faculty health services researchers at CCHMC and UC. This course will also provide students with an opportunity to plan a health services research project.

Course Objectives:

Upon successful completion of the course, students should be able to:

1. Develop a basic understanding of the philosophy and language of research.
2. Develop a conceptual framework for a study.
3. With the conceptual framework as a guide, learn how to develop important and innovative health services research (HSR) questions and hypotheses, with corresponding measures.
4. Describe issues related to observation and measurement, including implications for reliability and validity.
5. Identify different types of study designs and their strengths and limitations.
6. Identify inherent threats to internal and external validity.
7. Be able to select appropriate study designs for addressing HSR questions.
8. Be acquainted with the different sampling techniques of HSR.
9. Learn the types of data frequently used in HSR and their strengths and limitations.
10. Increase the ability to critically read and evaluate the HSR literature, including the research questions, study design, methodology, and conclusions.

Course Content:

The lectures will cover an introduction to research methods used to analyze data and present results, and examples of health services research in multiple disciplines. Guest lecturers for this course will be drawn from faculty who conduct health services research at the Cincinnati Children’s Hospital Medical Center and the University of Cincinnati. The purpose of guest
lectures is to acquaint students with the health services research conducted on campus and to illustrate the way in which health services research can enrich and add to a program of clinical and social health research.

**Course Evaluation:**

Article Critique 15%
Paper 65%
Presentation 10%
Engagement 10%

**Article Critique:**

One of the key goals of this course is to enable you to consume and critique the existing literature. This aim will be addressed by dedicating part of a class to analyzing and critiquing a research paper as a group, and then by assigning an article for you to critique on your own. In your article critique, you should identify the research design, the sample and the sampling technique, who and/or what the researchers are interested in making generalizations about, measures (e.g., are they reliable and valid?), research questions and hypotheses and whether the research design appropriately addresses the research questions, conceptual framework, and discuss any limitations (regarding design, measures, sampling, generalizability, etc.). You’ll also be expected to identify sources of bias and threats to validity. In general, your goal is to discuss the strengths and weaknesses of this paper. The article critique should be approximately 2 pages (+/- 1 page).

**Paper:**

You will be required to write a paper for this course, which will be the basis for a large portion of your grade. For this paper, you will identify a specific conceptual framework which will be used to develop your research questions and hypotheses. The focus will be on outlining your methodology and research questions so that you may carry out this research during the course, or at some point in the near future. You will identify the population you wish to generalize to, your sample and sampling method, research design and measures. Alternatively, you may identify a secondary database you wish to use and discuss how you will operationalize the constructs you are interested in from this database. You will plan the analysis, design tables to present results, and write a paper that appropriately addresses your research questions. It will also be important that you discuss what kinds of conclusions you can make based on the results you might (or do) obtain, and address any limitations of the particular design you choose, your sample, and your conclusions, including threats to internal and external validity. The paper should be written in the style of the Journal of the American Medical Association (JAMA), so aim for a maximum length of 3000 words of text, or 8-10 double-spaced pages (not including abstract, tables, figures, and references).

Specifically, your paper will have the follow sections: An **Introduction** (2-3 pages) that briefly reviews the literature, outlines your conceptual framework, states the purpose of the study, and lays out your research questions and hypotheses. A **Methods** section that should be quite detailed (3-4 pages) and outline your measures, sample and sampling technique, and research design. For the **Results** section (1-2 pages, excluding tables and graphs), you can
simply present table shells or sample graphs, but can present actual results if you have data analyzed. If you do not have data analyzed, you may choose to populate table cells with hypothetical results. Write the **Discussion** section as if your hypotheses were supported by your analyses (2-3 pages). This section should discuss the implications of your real or hypothetical findings and what kinds of conclusions you could draw if your hypotheses were supported. Be sure to include a discussion of the limitations of your design, analysis, and measures. Synthesize your paper into an **Abstract** (350 words or less) and include a **title page, References** section, and as appropriate, tables, and figures. Start each of the sections on a new page, numbered consecutively, beginning with the title page. For more details on JAMA-style submission instructions, see: 
http://jama.jamanetwork.com/public/instructionsForAuthors.aspx#ManuscriptPreparationandSubmissionRequirements

**Presentation:**

You will present your paper to the class in a conference-like setting, focusing on your methodology and generalizability of your potential (or actual) results. These presentations will take place in the final 2 weeks of November. Aim for a PowerPoint presentation 20 minutes in length, with an additional 5 minutes for questions.

**Engagement:**

Come to class. Read any assigned readings. Engage in discussions.

**Preparation for Class:**

Preparation for class (for most weeks) will involve reading articles or chapters that will be emailed or distributed to you at least 1 week in advance.

**Tentative Class Schedule:**

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<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Guest Lecturer / Topic</th>
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<tbody>
<tr>
<td>Aug. 24th</td>
<td>9am - 11am</td>
<td>Course outline &amp; Introduction to HSR</td>
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<tr>
<td>Aug. 31st</td>
<td>9am - 11am</td>
<td>The Scientific Method &amp; Measurement</td>
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<td>Sept. 7th</td>
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<td><strong>Labor Day – no classes</strong></td>
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<tr>
<td>Sept. 14th</td>
<td>9am - 11am</td>
<td>9-11am: Research Designs</td>
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<td>Sept. 21st</td>
<td>9am - 11am</td>
<td>9am: Internal and External Validity Part I</td>
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<td>10am: Keith Marsolo – Patient Registries, EPIC and I2B2</td>
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<td>Sept. 28th</td>
<td>9am - 11am</td>
<td>9am: The Path from HSR Class to Publication</td>
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<td>10am: Internal and External Validity Part II</td>
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<tr>
<td>Sept. 30th</td>
<td>9am - 11am</td>
<td>9am: Hypothesis Testing &amp; Applied Analysis</td>
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<td>Speaker/Session</td>
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<td>Oct. 5th</td>
<td>9am - 11am</td>
<td>10am: Jacqueline Grupp-Phelan – HSR in the ED</td>
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<td>9am: Stephan Muething – Patient Safety</td>
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<td>10am: Linda Dynan – Health Economics</td>
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<td>Oct. 12th</td>
<td>9am - 11am</td>
<td>9am: How to evaluate and critique an article</td>
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<td>10am: K.J. Phelan – Home and Personal Safety</td>
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<td>Oct. 19th</td>
<td>9am - 11am</td>
<td>9am: Construct and Statistical Validity</td>
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<td>10am: Qualitative Research</td>
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<td>Oct. 26th</td>
<td>9am - 11am</td>
<td>9am: Nancy Daraiseh – Human Factors Research</td>
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<td>10am: Grant Proposals &amp; - Course project check-in</td>
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<td>Nov. 2th</td>
<td>9am - 11am</td>
<td>9am: Andrew Beck – Context and Health</td>
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<td>10am: Multi-level modeling</td>
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<td>Nov. 9th</td>
<td>9am - 11am</td>
<td>9am: Constance Mara Patient Reported Outcomes in QI</td>
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<td>10am: Heather Tubbs-Cooley – Workforce Research</td>
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<td>Nov. 16th</td>
<td>9am - 11am</td>
<td>9am: The Intersection of Quality Improvement and Research</td>
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<td>10am: Evaline Alessandrini</td>
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<td>Nov. 23rd</td>
<td>9am - 11am</td>
<td>Project Presentations –</td>
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<td>Nov. 30th</td>
<td>9am - 11am</td>
<td>Project Presentations –</td>
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<td>Dec. 7th</td>
<td>8am</td>
<td>Final Papers Due at 8am –</td>
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**Health Services Research: (Optional) Readings and Useful Resources**

AcademyHealth website - http://www.academyhealth.org/


Health Services Research journal - http://www.hsr.org/


Doing the right thing and doing it right: Toward a framework for assessing the policy relevance of health services research. *International Journal of Technology Assessment in Health Care, 19,* 604-612.


Surveys and Data Collections Systems of the National Center for Health Statistics
http://www.cdc.gov/nchs/surveys.htm


