

HPM 885
Health Services/Health Policy Research Methods II
Spring 2019

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Day/Time: Thurs 9:30am-12pm
Location: Rosenau 123
Office Hours: By appointment

3 credits Prerequisite:
HPM 884

HPM 884 is the first of a three-course methods sequence in becoming a qualified PhD candidate in Health Policy and Management. HPM 884 is analogous to an art appreciation course, introducing the traditions, museums, and masterworks in this field. HPM 885 is the second step. It helps you become an artist via hands-on learning about principles of evidence-inference, what's in the toolbox of this field, and how to select tools to fit a variety of research tasks. HPM 886 is the third course in this sequence, letting you drill down deeper into discipline-specific methods and analysis strategies akin to advanced artistry techniques in classical or modern art.

Course Rationale and Objectives

Methods of inquiry are the foundation of any scientific field. Methods define the kinds of issues that are researched in a field, the tools used to investigate those issues, and the nature of the answers that are considered acceptable by the field's scholars and thought leaders. This course explores the motivations for, and strategies of, research in this field. Its intent is to establish a foundation for further methodological exploration so that you can delve into discipline-specific methodological issues or statistical techniques in HPM 886 as well as other advanced courses. It will also help you to prepare for your comprehensive exams and for developing your dissertation proposal in HPM 994.

This course focuses on how to conceptualize and compose answerable, policy-relevant, and ethical health services/policy research questions, hypotheses, and research plans. The logic and rationale of four main research approaches are featured: experiments, available data, survey research, and field research. Several cross-cutting themes related to design, bias, measurement, sampling, data collection, and analysis are considered. Quantitative, qualitative, and mixed-methods strategies are highlighted. Specific objectives are:

- To explore the logic of scientific methods and the nature of the research process
- To examine methodological issues that commonly arise in health services research
- To learn how to distinguish between strong and weak research designs
- To understand the pros and cons of different research approaches
- To practice designing your own study

Course Outcomes

By the end of this course, you should be able to:

- Describe scientific inquiry as conceived by prominent philosophers of science, and discuss how the actual process of scientific inquiry diverges from their descriptions and prescriptions
- Explain your own view of what we can (and cannot) realistically expect from scientific inquiry

- Discuss how the institutional context of health services research and the practice of science itself shapes what does (and does not) get studied by health services researchers
- Explain and defend the value of using theory to frame research problems, select methods, and interpret results
- Develop interesting and researchable questions
- Formulate testable hypotheses
- Select study designs and samples appropriate for your research questions
- Describe the concepts of internal and external validity and recognize common threats to both
- Identify the qualities of good measures
- Identify and rectify common problems in drawing inferences from research findings
- Discuss how research and practice can (and cannot) inform one another

Course Structure

The course meets once each week for 2.5 hours on Wednesdays from 11:15-1:45. Class sessions consist of a mixture of instructor-led presentations, student teamwork experiences, and several guest presentations by UNC faculty with specialized knowledge of selected research strategies and techniques. Typically, sessions will be structured as follows:

Discussion of students' experience with the topic (5 minutes)

Instructor lecture (15 minutes)

Reading reflections discussion and critique (25 minutes)

Break (10 minutes)

Peer group discussion (30 minutes)

Guest lecture (1 hour)*

*When we do not have a guest lecturer, we will extend other components of the session.

The course opens with an examination of the philosophical basis for the analytical methods used in health services research and the basic purposes (and interests) that these methods serve. Next, we focus on the components of the research process itself: design, measurement, and analysis. The course concludes with an investigation of selected practical issues that arise in the conduct of health services research.

Roles and Responsibilities

This course invokes an adult learning model. My primary role is to help create an effective learning environment, act as an expert resource, help you find other resources, and facilitate learning.

Your role is to be an open learner and to help each other learn. You do this by keeping up with the readings, participating in class discussion, completing required assignments, and helping each other to add value to the course.

To take full advantage of the learning experience in this course, you need to bring an openness to learning, a willingness to explore possibilities (both alone and with others), a desire to be engaged in thoughtful reflections about the readings, and the motivation to explore and develop your own line of research. To make this class useful, you need to spend time outside of class pursuing additional readings about research methods, reading health services research articles in which different methods are used, and being prepared to participate in class discussions. You should also make a habit of attending mini-course offerings and

research workshops at the UNC Odum Institute for Social Research, one of the premiere social science educational resources in the U.S.

Course Requirements

Readings and class discussion

As with other doctoral courses, this course has a substantial amount of readings. You are expected to come to each class prepared to discuss the readings assigned for that class. You are expected to raise questions, debate issues, share experience, and relate readings to each other and to other courses that you have taken. You are also expected to think about researchable questions and discuss them in class.

Furthermore, you are strongly encouraged to read beyond the assigned articles and book chapters. The assigned readings are primarily to form a common basis for discussion.

Peer group discussion

To facilitate teamwork, discussion, and evaluation of various assignments during the semester, each student will be assigned to one of three peer groups, as follows:

Peer groups

Group A	Group B	Group C

Peer groups will discuss critiques and components of the final paper during class. The purpose of discussing critiques is to learn from others' approaches and conclusions. The purpose of discussing the final paper is to get feedback and suggestions that you can incorporate into your draft.* I encourage each group member to read each other's research proposal components. This will give you preliminary feedback on your research proposal before I read it, and it will get you in the habit of seeking feedback from peers prior to submitting deliverables.

Peer groups will work together to develop proposals in class. Peer group discussion topics are listed in the course schedule at a glance below.

*The more well thought-out each component of your final paper, the better feedback you will get from your peer group members. I recommend that you have something in writing to draw from. The most efficient peer groups will circulate written materials prior to class to promote more fruitful discussion; although this is not required, the amount of effort you put into peer group discussions will be taken into account for grading purposes (see grading section below).

Written assignments

Critiques

You will conduct four critiques of the articles or proposals listed below regarding a specific aspect of the research design employed. Critiques are one of the two ways in which you will have the opportunity to demonstrate the first HPM PhD competency "Identify and appropriately apply theoretical knowledge and

conceptual models in support of health services/health policy research.” The critiques must be typewritten, double-spaced, and no more than three pages long. An explanation of what constitutes a worthwhile critique is provided on the last two pages of this syllabus. Due dates are listed in the course schedule below.

Critique assignments

Paper to be Critiqued¹

Schwartz WB, Newhouse JP, Bennett BW, Williams AP. (1980) “The Changing Geographic Distribution of Board-Certified Physicians.” *New England Journal of Medicine* 303 (18): 1032-1038.

Spitzer WO, Sackett DL, Sibley JC, Roberts RS, et al. (1974) “The Burlington Randomized Trial of the Nurse Practitioner.” *New England Journal of Medicine* 290 (5): 251-256.

Anonymous. “Mapping the survivorship care landscape in the transition from active treatment to long-term follow up care.”

Anonymous. “Case Management for Frequent Users of Healthcare Services in Primary Care: A Qualitative Study of Implementation Issues.”

¹You will find these papers in the “Assignments” section of Sakai.

Please do not include your name on any Critique submissions. Instead, please provide your PID. Please use the following naming convention for the document files that you submit: “[Assignment]_PID” (e.g., Critique 1_700000000)

Research Proposal, Peer Review, and Response

The second set of written assignments relates to a research proposal that focuses on a topic of your choosing. This set of assignments is one of the two ways in which you will have the opportunity to demonstrate the first HPM PhD competency “Identify and appropriately apply theoretical knowledge and conceptual models in support of health services/health policy research.” Your research proposal should be comprised of each of the topics that we cover in class:

Component	Description	Approximate Length¹
Specific aims	Describe a problem in health services that interests you. Identify one or several research questions relevant to that problem. Explain why the research problem is interesting and significant. This should include a statement of the problem(s), research question(s), and rationale for the proposed study.	1 page
Significance	Summarize relevant empirical findings on your research topic, with justification of your study’s new contributions.	1 page
Innovation	Explain how your proposed research is novel in terms of its clinical focus, theory, methodology, interventions, etc.	<½ page
Theoretical framework and hypotheses	Propose a general theoretical framework that is relevant to your research questions and derive a series of hypotheses from that framework that are related to your research question(s) if appropriate. Note that the theory does not have to be a “formal” theory but should represent an overarching perspective, story, or	½ page

Research plan	<p>orientation that provides a point of view for your research and guides the empirical approach to the study.</p> <p>Propose a research design for your study, including discussion of how the design fits for the purpose of the study, the strengths of the design, potential threats to internal validity, and how you plan to deal with the threats. Sections to include:</p> <ul style="list-style-type: none"> • Design • Sample and sampling • Key measures • Data collection or data source(s) • Analytical approach • Methodological limitations 	3 pages
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¹Your research proposal should be 6 single-spaced pages and use 11-point Arial font. Please see <https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/format-attachments.htm#font> for font instructions.

Examples of high-quality research proposals can be found on Sakai in the “Resources/Peer review, writing” section. I have also compiled some tips for RPs at the end of this syllabus.

You will submit each component, progressively, over the course of the semester; a first complete draft of the research proposal for peer review (see below); and a final draft of the research proposal revised based on the peer review. Due dates are listed in the course schedule below. Research proposals comprise 50% of your grade. Although your research proposal grade will be tied primarily to the final product, I will take into account its development (submitted components, work with peer groups, improvement over time).

The first draft will be assigned to one of your classmates for peer review and returned to you for response along with a final, revised draft of your research proposal. I will make every effort to assign your draft to a classmate with a research topic that is similar to yours. If you have suggestions regarding a classmate to whom your draft should be assigned, please let me know (although I cannot ensure that I will choose the person whom you suggest). The peer review must be formatted and worded as if it were to be submitted to an academic journal. A copy of the *HSR* Guidelines for Reviewers, Meyer’s (1995) “Balls, strikes, and collisions on the basepath: Ruminations of a veteran reviewer,” and examples of peer reviews are available on Sakai under “Resources/Peer review, writing” to help you prepare constructive, high quality reviews. I will also provide feedback on all first drafts of the research proposal.

You will then have 2 weeks to respond to your reviewers’ (mine and a peer’s) concerns in a professional cover letter format (see examples on Sakai under “Resources/Peer review, writing”) and make final revisions before turning in your final draft.

Due dates are listed in the course schedule below.

Important notes on style:

- Please ensure that your writing confirms to *all* of the elements described in “Stylish Writing for the HPM Methods Sequence” (Domino & Stearns, 2009).

- Eliminate typos, spelling errors, and grammatical errors before submitting writing assignments. Doing so will help me to focus on the content of your work. If I cannot focus on the content of your work, your grade will suffer.

Grading*

Although grades in the course will be unavoidably subjective, they will be determined on both the quantity and quality of your effort as well as the level of your understanding of the course material. Specifically, the final grade will be determined based upon the following criteria:

Critiques (40%)
Peer review (10%)
Research proposal(45%)
Response to peer review (5%)

*Late submissions will result in one letter grade decrease for each 24-hour increment (with the exception of disability-related extensions). Assignments are due **before class** on the day identified in table 4. As such, for assignments not submitted before class, the first letter grade decrease takes effect the minute that class begins.

Course Resources

Website

HPM 885 has a Sakai site (See <http://sakai.unc.edu> for HPM885.001.SP17). This syllabus, assigned readings, and other information are all available on the HPM 885 page.

Be sure to check that the email address Sakai has for you is correct. After accessing Sakai, click on the “My Workspace” tab on the top left of the home page and then in the list on the left of the page click on “Profile.” If you need to change your email address, click on “Edit Contact Information” and follow the directions. Note that you need to use the same email address in both Sakai and the On-Line Campus Directory.

Course Texts

Trochim, W. M. (2006) The Research Methods Knowledge Base, 3rd edition. Cincinnati, OH: Atomic Dog Publishing.

(You may purchase this text on Amazon.com or other online retailers. You may also find it online for free.)

Required readings are accessible on the Sakai (<https://sakai.unc.edu/>). You are expected to read all those that are required (see the Reading List on pages 13-21) in preparation for the class. You may email me for ideas about additional readings regarding specific topics on the syllabus that interest you.

UNC-CH Resources

The **UNC-CH Learning Center** (<http://learningcenter.unc.edu>) provides assistance and tutoring in expository writing. All students are encouraged to make use of this resource regardless of whether English is a first language or not. The **Odum Institute** (<http://www.irss.unc.edu/odum/home2.jsp>) offers a variety of short courses and other social science research training opportunities, and NIH has archived content from its course

Introduction to the Principles and Practice of Clinical Research here:
<http://clinicalcenter.nih.gov/training/training/ippcr.html>.

Valuing, Recognizing, and Encouraging Diversity

Promoting and valuing diversity in the classroom enriches learning and broadens everyone's perspectives. Inclusion and tolerance can lead to respect for others and their opinions and is critical to maximizing the learning that we expect in this program. This may challenge our own closely held ideas and personal comfort zones. The results, however, create a sense of community and promote excellence in the learning environment. Diversity includes consideration of (1) the variety of life experiences others have had, and (2) factors related to "diversity of presence," including, among others, age, economic circumstances, ethnic identification, disability, gender, geographic origin, race, religion, sexual orientation, social position. This class will follow principles of inclusion, respect, tolerance, and acceptance that support the values of diversity.

Disability Accommodation

UNC-CH supports all reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability, or a pregnancy complication resulting in difficulties with accessing learning opportunities.

Counseling and Psychological Services

CAPS is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to their website: <https://caps.unc.edu> or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more.

Course Evaluation

HPM participates in the UNC-CH's online course evaluation system, enabled at the end of each semester by Scantron Class Climate. Your responses will be anonymous, with feedback provided in the aggregate. Open-ended comments will be shared with instructors, but not identified with individual students. Your participation in course evaluation is an expectation, since providing constructive feedback is a professional obligation. Feedback is critical, moreover, to improving the quality of our courses, as well as for instructor assessment.

I will conduct an independent course evaluation via Qualtrics before spring break. The purpose of the evaluation is to gather feedback from students regarding how I can improve the course in the second half of the semester.

UNC Honor Code

The principles of academic honesty, integrity, and responsible citizenship govern the performance of all academic work and student conduct at the University as they have during the long life of this institution. Your acceptance of enrollment in the University presupposes a commitment to the principles embodied in the Code of Student Conduct and a respect for this most significant Carolina tradition. Your reward is in the practice of these principles. Your participation in this course comes with the expectation that your work will be completed in full observance of the Honor Code. Academic dishonesty in any form is unacceptable, because any breach in academic integrity, however small, strikes destructively at the University's life and

work. **Please note that publicizing any of this course's materials constitutes an honor code violation.** If you have any questions about your responsibility or the responsibility of faculty members under the Honor Code, please consult with someone in either the Office of the Student Attorney General (966-4084) or the Office of the Dean of Students (966-4042). Please see "The Instrument of Student Judicial Governance" (<http://instrument.unc.edu>).

Course Schedule at a Glance

Session	Date	Topic	Guest speaker	Peer Group Discussion Topic ¹	Assignment Due ²
1	Jan 10	Overview & Nature of Scientific Inquiry		Introductions	
2	Jan 17	Making Sense of the Literature: Formulating Research Questions	A. Damon	RP: Specific aims	
3	Jan 24	Use of Theories & Formulation of Hypotheses			RP: Specific aims
4	Jan 31	Designing Useful Studies 1a: Experimental Designs	M. Weinberger	RP: Significance	
5	Feb 7	Designing Useful Studies 1b: Quasi-Experimental Designs	M. Domino	Critique: Schwartz et al.	Critique: Schwartz et al.
6	Feb 14	Designing Useful Studies 1c: Quasi-Experimental Designs, continued (Regression Discontinuity)	T. Domina		RP: Significance and innovation
7	Feb 21	Designing Useful Studies 1d: Quasi-Experimental Designs, continued (Rubin Causal Model)	J. Trogon	Critique: Spitzer et al.	Critique: Spitzer et al.
8	Feb 28	Practicing Experimental/Quasi-Experiment Designs		Experimental and quasi-experimental response to PA-12-275	
9	Mar 7	Designing Useful Studies 3: Generating valid samples	G. M. Holmes	RP: Theoretical framework and hypotheses	
	Mar 14	SPRING BREAK			
10	Mar 21	Designing Useful Studies 2: Survey Research		RP: Research plan	RP: Theoretical framework and hypotheses

Session	Date	Topic	Guest speaker	Peer Group Discussion Topic ¹	Assignment Due ²
11	Mar 28	Measurement: Defining and Representing Constructs	A. Stover	Critique: "Mapping the survivorship ..."	Critique: "Mapping the survivorship ..."
12	Apr 4	Large, Secondary Healthcare Databases	S. Greene		
13	Apr 11	Designing Useful Studies 4: Qualitative Approaches		Qualitative response to PA-12-275	
	Apr 12	NO CLASS; DISPLAYING ASSIGNMENT DUE DATE			RP: First full draft, including research plan
	Apr 15	NO CLASS; DISPLAYING ASSIGNMENT DUE DATE			RP: Peer review
14	Apr 18	Analysis 2: Mixing Methods	P. Mihas	Final full draft, Critique: "Case Management..."	Final full draft, Critique: "Case Management..."
15	Apr 25	Community Relations, Engagement, and Participatory Research	L. Quarles, G. Lewis, A. Matthews; Faculty Panel		RP: Final full draft; response to reviewer
16	May 2	Session TBA to comply with final exam regulations			

¹Useful peer group discussions will require working significantly ahead of due dates. The goal of this is to give you two rounds of feedback on each RP component.

²All assignments are due **before class** begins on the due date.

RP = research proposal

Readings and Probing Questions

Session Topic

1 The Nature of Scientific Inquiry

What is “science”? What constitutes “scientific knowledge”? What do we mean by “scientific method”? What can we expect of science?

Dominus, S. (2017) “When the Revolution Came for Ann Cuddy.” *The New York Times*.
<https://www.nytimes.com/2017/10/18/magazine/when-the-revolution-came-for-amy-cuddy.html?emc=eta1>

Planet Money. “The Experiment Experiment.”
<http://www.npr.org/sections/money/2016/01/15/463237871/episode-677-the-experiment-experiment>

Trochim, W. M. K. (2006) “Philosophy of Research.” *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.
<http://www.socialresearchmethods.net/kb/philosophy.php>. (Please read all webpage sections in this chapter.)

Bauer, H. H. (1992) “How Science Really Works.” In *Scientific Literacy and the Myth of the Scientific Method*: 42-62. University of Illinois Press.

Bauer, H. H. (1992) “Other Fables about Science.” In *Scientific Literacy and the Myth of the Scientific Method*: 63-87. University of Illinois Press.

Readings survey: https://unc.az1.qualtrics.com/ife/form/SV_bPHFOiDSWWARczz

2 Making Sense of the Literature: Formulating Research Questions

How do you move from a research topic to a research question? What makes a research question interesting? How do you efficiently identify, retrieve, and review the existing literature on a research question? Where does your research question fit within the existing literature?

Trochim, W. M. K. (2006) “Conceptualizing.” *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.
<http://www.socialresearchmethods.net/kb/resprob.php>. (Please read all webpage sections in this chapter.)

Rubin, H. J., I. S. Rubin. (2005) “Design: Choosing Topics and Anticipating Data Analysis.” In *Qualitative Interviewing: The Art of Hearing Data, 2nd edition*: 39-63. Thousand Oaks, CA: Sage Publications.

Lipowski, E.E. (2008) “Developing great research questions.” *American Journal of Health-System Pharmacy* 65: 1667-1670.

Morrissey, J. Framing Research Questions: The PICOTS Approach, August 2013 (2 pgs.)

In addition, please read the following article, which we will critique collaboratively as practice for the critique:

Anonymous. "It's Like Being in a Panini Press: Constant Heat From Both Sides": A Critical Qualitative Study of Middle Management's Position In Health Care Quality Improvement.

Guest Speaker: Alyssa Damon, "Interpreting P-values"

Goodman, S. (2008) "A dirty dozen: Twelve p-value misconceptions." *Seminars in hematology* 45:135-140.

Gelman, A., H. Stern. (2006) "The difference between 'significant' and 'not significant' is not itself statistically significant." *American Statistical Association* 60:4.

Poole, C. (2001) "Low p-values or narrow confidence intervals: Which are more durable?" *Epidemiology* 12:3.

Baker, M. (2016) "Statisticians issue warning on p-values." *Nature* 531:151.

Cohen, J. (1994) "The Earth is round ($p < .05$)." *American Psychological Association* 49:12.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_41H88TyUjDw13UN

3 Uses of Theories & Formulation of Hypotheses

What do we mean by "theory"? What good is theory? What is a good theory? What's the difference between a research problem and a researchable hypothesis? What's the difference between a hypothesis and a prediction? How do scientists come up with hypotheses?

Eccles, M., Grimshaw, J., Walker, A., Johnston, M., Pitts, N. Changing the behavior of healthcare professionals: the use of theory in promoting the uptake of research findings. *J Clin Epidemiol* 2004; 58:107–12.

Oxman, A., Fretheim, A., Flottorp, S. The OFF theory of research utilization. *J Clin Epidemiol* 2005; 58:113–116

Eccles, M., Grimshaw, J., Walker, A., Johnston, M., Pitts, N. Response to "The OFF Theory of research utilization" *J Clin Epidemiol* 2005; 58:117-118

QUERI Implementation Guide:

https://www.queri.research.va.gov/implementation/ImplementationGuide_1.pdf

Kerlinger, F. N. (1973) "Problems and Hypotheses." In *Foundations of Behavioral Research, second edition*: 16-27. New York: Holt, Rinehart, and Winston, Inc.

Goldstein, M., and Goldstein, I. F. (1978) "Where Do Hypotheses Come from?" In *How We Know*: 242-253. New York: Plenum Press.

Birken, S. A., Powell, B. J., Pesseau, J. "Criteria for selecting frameworks and theories."

Birken, S. A., Powell, B. J., Presseau, J. "Uses of frameworks and theories in implementation science."

Trochim, W. M. K. (2006) "Hypotheses." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.

<http://www.socialresearchmethods.net/kb/hypothes.php>.

Examples of nice theory application:

Yeager, V. A., Zhang, Y., Diana, M. L. (2015) "Analyzing determinants of hospitals' accountable care organization participation: A resource dependency theory perspective." *Medical Care Research and Review* 72 (6): 687-706.

Zinn, J. S., V. Mor, O. Intrator, et al. (2003) "The impact of the prospective payment system for skilled nursing facilities on therapy service provision: a transaction cost approach." *Health Services Research* 38 (6 Pt 1): 1467-1485.

Birken, S.A., et al. (2014) "Potential determinants of health-care professionals' use of survivorship care plans: a qualitative study using the theoretical domains framework." *Implementation Science* 9: 167.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_2gXZzLLjCiI5Mr3

4 Designing Useful Studies 1a: Experimental Designs

What constitutes a good study design? What role do theory, hypotheses, and predictions play in selecting a study design? What are the most common "true" experimental designs and how does each address common threats to internal validity?

Trochim, W. M. K. (2006) "Internal Validity." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.

<http://www.socialresearchmethods.net/kb/intval.php> (Please read all of the webpage sections in this chapter.)

Trochim, W. M. K. (2006) "Types of designs." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.

<http://www.socialresearchmethods.net/kb/destypes.php>

Trochim, W. M. K. (2006) "Experimental design." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.

<http://www.socialresearchmethods.net/kb/desexper.php> (Please read all of the webpage sections in this chapter.)

Presseau, J. et al. (2016) "A theory-based process evaluation alongside a randomized controlled trial of printed educational messages to increase primary care physicians' prescription of thiazide diuretics for hypertension." *Implementation Science* 11:121.

<http://implementationscience.biomedcentral.com/articles/10.1186/s13012-016-0485-4>

Zillich, A. J. et al. (2014) "A randomized, controlled pragmatic trial of telephonic medication therapy management to reduce hospitalization in home health patients." *Health Serv Res* 49(5): 1537-54.

Guest Speaker: Hayden Bosworth, "Experiments in Health Services Research"

Allen KD, Oddone EZ, Stock JL, Coffman CJ, Lindquist JH, Juntilla KA, Lemmerman DS, Datta SK, Harrelson ML, Weinberger M, Bosworth HB. The self-management of osteoarthritis in veterans (SeMOA) study: Design and methodology. Contemporary Clinical Trials, 2008, 29:596-607.

Allen KD, Oddone EZ, Coffman CH, Datta SK, Juntilla KA, Lindquist JH, Walker TA, Weinberger M, Bosworth HB. Telephone-based self-management of osteoarthritis: A randomized, controlled trial. Annals of Internal Medicine, 2010, 153:570-579.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_41smDoSl171irVb

5 Designing Useful Studies 1b: Quasi-Experimental Designs

What are the main features of quasi-experimental designs and how are they different from those of experimental designs? What are the threats to internal validity? What are the strategies to reduce threats to internal validity? What are the tradeoffs among different quasi-experimental designs?

Trochim, W. M. (2006) "Quasi-Experimental Design." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.

<http://www.socialresearchmethods.net/kb/quasiexp.php> (Please read all webpage sections in this chapter.)

Trochim, W. M. (2006) "Advances in Quasi-Experimentation." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.

<http://www.socialresearchmethods.net/kb/advquasi.php>

Jenq, G. Y., Doyle, M. M., Belton, B. M. et al. (2016) "Quasi-experimental evaluation of the effectiveness of a large-scale readmission reduction program." *JAMA Internal Medicine* 176(5):681-690. <http://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2513451>

Low, L. L. et al. (2015) "Effectiveness of a transitional home care program in reducing acute hospital utilization: a quasi-experimental study." *BMC Health Services Research* 15:100.

Guest Speaker: Marisa Domino, "Quasi-Experiments: A Mental Health Services Research Approach"

Morrissey JP, Domino ME, Cuddeback GS. (2013) "Assessing the effectiveness of recovery-oriented ACT in reducing state psychiatric hospital use." *Psychiatric Services* 64:303-311.

Domino ME, Morrissey JP, Cuddeback GS. (2013) "The effectiveness of ACT in reducing state hospital use: Do effects vary over time?" *Psychiatric Services* 64: 312-316.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_6MrWyZKUIQt4AaV

6 Designing Useful Studies 1c: Quasi-Experimental Designs, continued

Regression discontinuity design (RDD) is a quasi-experimental design that is underutilized in health services research, potentially because we don't offer sufficient training in the method. RDD is used more often in education research, so we will leverage the expertise of a colleague from the School of Education to take a more careful look at this potentially powerful design for health services research.

Trochim, W.M.K. The regression-discontinuity design. In Sechrest L, Perrin P, Bunker J, eds. *Research Methodology: Strengthening Causal Interpretations of Non-experimental Data*. Rockville, MD: US Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, May, 1990; DHHS Publ. No. 90 3454.

Williams, S.V. Regression-discontinuity design in health evaluation. In Sechrest L, Perrin P, Bunker J, eds. *Research Methodology: Strengthening Causal Interpretations of Non-experimental Data*. Rockville, MD: US Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, May, 1990; DHHS Publ. No. 90 3454.

Luft, H.S. The applicability of the regression-discontinuity design in health services research. In Sechrest L, Perrin P, Bunker J, eds. *Research Methodology: Strengthening Causal Interpretations of Non-experimental Data*. Rockville, MD: US Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, May, 1990; DHHS Publ. No. 90 3454.

Davidoff, A., Blumberg, L. Nichols, L. State health insurance market reforms and access to insurance for high-risk employees. 2005. *Journal of Health Economics*. 24: 725-50.

Guest Speaker: Thurston (Thad) Domina, "Understanding the effects of middle school algebra: A regression discontinuity approach"

McEachin, A. Domina, T. Penner, A.M. Understanding the effects of middle school algebra: A regression discontinuity approach. 2017. RAND Labor & Population Working Paper.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_8okSqNcPNmsO2mp

7 Designing Useful Studies 1d: Quasi-Experimental Designs, continued

Guest Speaker: Justin Trogdon

Imbens and Wooldridge (2009) Sections 1, 2.1-2.2, and 3.1.

Imbens GW and Wooldridge JM. Recent Developments in the Econometrics of Program Evaluation. *Journal of Economic Literature* 2009;47(1): 5-86

8 Practicing Experimental and Quasi-Experimental Designs

Please read the following PA from NIH before the 2/17 class. Think about how you would respond with an experimental or quasi-experimental research design:

9 Designing Useful Studies 3: Survey Research

What are the pros and cons of survey research in comparisons to experimental and quasi-experimental designs? What are the threats to internal validity? What are the strategies to reduce threats to internal validity?

Trochim, W. M. (2006) "Survey Research." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing. <http://www.socialresearchmethods.net/kb/survey.php> (Please read all webpage sections in this chapter.)

McNeely, J. et al. (2013) "Substance-use screening and interventions in dental practices: survey of practice-based research network dentists regarding current practices, policies and barriers." *J Am Dent Assoc* 144(6):627-38.

Vanderpool, R. C. (2015) "Fatalistic beliefs and completion of the HPV vaccination series among a sample of young Appalachian Kentucky women." *J Rural Health* 31(2):199-205.

Birken, S.A., Deal, A.M., Mayer, D.K., Weiner, B.J. (2014) "Determinants of Survivorship Care Plan Use in US Cancer Programs." *Journal of Cancer Education* 29(3): 608-10.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_82kCeMYQ7FWL3QV

10 Designing Useful Studies 3: Available Data

Finding and Using Publicly Available Datasets for Secondary Data Analysis Research. (2010) A presentation at the Society for General Internal Medicine Annual Meeting.

Duncan, G. J. (1991) "Made in Heaven: Secondary Data Analysis and Interdisciplinary Collaborators." *Developmental Psychology* 27 (6): 949-951.

Young, W. B., Ryu, H. (2000) "Secondary Data for Policy Studies: Benefits and Challenges." *Policy, Politics, & Nursing Practice* 1 (4): 302-307.

Blosnich, J. R., Hanmer, J., Yu, L., Matthews, D. D., Kavalieratos, D. (2016) "Health Care Use, Health Behaviors, and Medical Conditions Among Individuals in Same-Sex and Opposite-Sex Partnerships: A Cross-Sectional Observational Analysis of the Medical Expenditures Panel Survey (MEPS), 2003-2011." *Med Care* 54(6):547-54.

Lee, S.-Y. D., W. L. Chen, and B. J. Weiner. Communities and hospitals: Social capital, community accountability, and service provision in U.S. community hospitals. *Health Services Research* 2004; 39 (5): 1461-1482.

Birken, S. A., Mayer, M. L. An investment in health: Anticipating the cost of a usual source of care for children. *Pediatrics*. 2009;123:77-83.

Guest Speaker: Justin Trogdon, "Administrative Data in Health Services/Policy Research"

Trogon, J. G., & Ahn, T. (2015). Geo-spatial patterns in human papillomavirus vaccination uptake: evidence from uninsured and publicly-insured children in North Carolina. *Cancer Epidemiology, Biomarkers & Prevention*, 24(3), 1-8.

Allaire, B. T., Trogon, J. G., Egan, B. M., Lackland, D. T., & Masters, D. (2011). Measuring the impact of a continuing medical education program on patient blood pressure. *Journal of Clinical Hypertension*, 13(7), 517–522.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_4YeNy892OqVTzVP

11 Generating Valid Samples

How do you effectively sample for low prevalence diseases? How do you sample reluctant populations like physicians? How do you sample hard-to-reach populations?

Trochim, W. M. K. (2006) "Sampling." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing.

<http://www.socialresearchmethods.net/kb/sampling.php> (Please read all webpage sections in this chapter.)

Preloran, H. M., Browner, C. H., and Lieber, E. (2001) "Strategies for Motivating Latino Couples' Participation in Qualitative Health Research and Their Effects on Sample Construction." *American Journal of Public Health* 91(11):1832-1841.

Guest Speaker: Mark Holmes, "Statistical Power Considerations for Health Services Research"

Cohen J. "A primer on power." *Psychological Bulletin* 112 (1992): 155-59.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_5AyM73BlpHZNd5j

12 Measurement: Defining and Representing Constructs

What does it mean to measure? What makes a good measure? Why is it so hard to make good measures? What can you do to increase confidence in your measures?

Trochim, W. M. K. (2006) "Measurement." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing. <http://www.socialresearchmethods.net/kb/measure.php> (Please read the following webpage sections in this chapter: Construct validity; reliability; levels of measurement; scaling)

Pischke, S. (2007) "Lecture Notes on Measurement Error." London School of Economics. Available at http://econ.lse.ac.uk/staff/spischke/ec524/Merr_new.pdf.

Strauss, J., and Thomas, D. (1996) "Measurement and Mismeasurement of Social Indicators." *American Economic Review*, 86(2): 30-34.

Wright, B. D. (1989) "Observations are Always Ordinal; Measurements, However, Must Be Interval." *Archives of Physical Medicine Rehabilitation*, 70(12): 857-860.

Sechrest, L. (2005) "Validity of Measures is No Simple Matter." *Health Services Research*, 40(5, Part II): 1584-1604.

Birken, S. A., Lee, S-Y. D., Weiner, B. J., Chin, M., Schaefer, C. (2013) "Improving the effectiveness of health care innovation implementation: middle managers as change agents." *Medical Care Research and Review* 70:1.

Guest Speaker: Angela Stover, "PROMIS: Measurement of Patient-Reported Outcomes"

Patrick DL & Chiang YP (2000) "Measurement of health outcomes in treatment effectiveness evaluations: conceptual and methodological challenges. *Medical Care* 38(9) Supplement II: 14-25.

Abernethy AP et al. (2010) "Rapid-learning system for cancer care." *Journal of Clinical Oncology* 28: 1.

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_agHGxgpaEx4qpRr

13 Large, Secondary Healthcare Databases

PowerPoints in National Datasets for HSR folder

Smith et al. (2011). "Conducting high-value secondary dataset analysis: An introductory guide and resources." *Journal of General Internal Medicine*, 26(8):920-9.

DiMartino L, Birken SA, Mayer DM. (2016). "The relationship between cancer survivors' socioeconomic status and reports of follow-up care discussions with providers." *Journal of Cancer Education*. doi: 10.1007/s13187-016-1024-3.

Beil et al. (2012). "Effect of early preventive dental visits on subsequent dental treatment and expenditures." *Medical Care*. 50(9):749-756.

Lee SYD, Chen WL, Weiner BJ. (2004). "Communities and hospitals: Social capital, community accountability, and service provision in US community hospitals. *Health Services Research*. 39(5):1487-1508.

Guest Speaker: Sandra Greene, "Large, secondary healthcare databases"

Rosenberg, B. L., et al. (2016) "Quantifying Geographic Variation in Health Care Outcomes in the United States before and after Risk-Adjustment." *PLOS ONE* 11(12).

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_9QSDDDQohZn3SgsZ

14 Designing Useful Studies 4: Qualitative Approaches

How do you manage qualitative data collection? How do you develop and test theory with qualitative data? How can you organize and display qualitative data to show patterns and trends?

Pope, C., and Mays, N. (1995) "Reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research." *BMJ* 311:42-5.

Greenhalgh T., Taylor, R. (1997) "Papers that go beyond numbers." *BMJ* 315: 740-3.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2127518/pdf/9314762.pdf#page=5>

Greenhalgh T., Annandale E., Ashcroft R., et al. (2016) An open letter to The BMJ editors on qualitative research. *BMJ* 352:i563.
https://qmro.qmul.ac.uk/xmlui/bitstream/handle/123456789/12490/Greenhalgh_letter_qualitative%20research.pdf?sequence=1

<https://implementationscience.biomedcentral.com/articles/supplements/volume-13-supplement-1>

Xavier U. Library. (2012) "Qualitative vs. quantitative research."

Trochim, W. M. K. (2006) "Qualitative Measurement." *The Research Methods Knowledge Base, 3rd edition*. Cincinnati, OH: Atomic Dog Publishing. <http://www.socialresearchmethods.net/kb/qual.php> (Please read all of the webpage sections in this chapter.)

Mays, N., and Pope, C. (1995) "Observational methods in healthcare settings." *British Medical Journal* 311:182-4.

Mays, N., and Pope, C. (1995) "Rigour and qualitative research." *British Medical Journal* 311:109-12.

Tong, A. Sainsbury, P., Craig, J. (2007) "Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups." *International Journal for Quality in Health Care* 19(6):349-57.

Clark, J. (2017) "Qualitative research review guidelines – RATS." *BioMed Central* Available at http://bmjopen.bmj.com/content/suppl/2012/01/12/bmjopen-2011-000138.DC1/BMJ_Open_IMG_Physician_Migration_RATS_Checklist.pdf

Mayer, D. K., et al. (2012) "Patient and provider preferences for survivorship care plans." *J Oncol Pract* 8(4):e80-86.

McIlvennan, C. K., et al. (2016) "Bereaved caregiver experiences on the end-of-life experience of patients with a left ventricular assist device." *JAMA Intern Med* 176(4):534-539.

Birken, S.A., et al. (2014) "Potential determinants of health-care professionals' use of survivorship care plans: a qualitative study using the theoretical domains framework." *Implementation Science* 9: 167.

Please reread the following PA from NIH before the 3/30 class. Think about how you would respond with a qualitative research design:

<http://grants.nih.gov/grants/guide/pa-files/PA-12-275.html>

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_9mGEjhOHFoXfj1z

15 Mixing Methods

Would the mixing of qualitative and quantitative methods produce the “best of both worlds”? Why and why not? What are the considerations for mixing different research methods?

Sale, J. E. M., Lohfeld, L. H., and Brazil, K. (2002) “Revisiting the Quantitative-Qualitative Debate: Implications for Mixed-Methods Research.” *Quality & Quantity* 36: 43-53.

<http://researchtalk.com/wp-content/uploads/2014/01/Fetters-Curry-Creswell-Achieving-Integration-in-Mixed-Methods.pdf>

Simons, L. (2007) “Moving from Collision to Integration: Reflecting on the Experience of Mixed Methods.” *Journal of Research in Nursing* 12 (1): 73-83.

Steckler, A., McLeroy, K. R., Goodman, R. M., Bird, S. T., and McCormick, L. (1992) “Toward Integrating Qualitative and Quantitative Methods: An Introduction.” *Health Education Quarterly* 19 (1): 1-8.

Gilmer, T. P. et al. (2013) Variation in the implementation of California’s Full Service Partnerships for persons with serious mental illness. *Health Serv Res* 48(6):2245-2267.

Office of Behavioral and Social Sciences Research. Best Practices for Mixed Methods Research in the Health Sciences. [https://obssr.od.nih.gov/wp-content/uploads/2016/02/Best Practices for Mixed Methods Research.pdf](https://obssr.od.nih.gov/wp-content/uploads/2016/02/Best_Practices_for_Mixed_Methods_Research.pdf)

<http://mixedmethodsappraisaltoolpublic.pbworks.com/w/page/24607821/FrontPage>

Guest Speaker: Paul Mihas

Wittink, M. N., Barg, F. K., Gallo, J. J. (2006) “Unwritten rules of talking to doctors about depression: Integrating qualitative and quantitative methods.” *Annals of Family Medicine* 4(4): 302-9.

Guest Speaker: Jennifer Leeman, “Systematic Reviews of Mixed Methods”

Leeman, J. Chang, Y. K., Lee, E. Voils, C. I., Sandelowski, M. (2010) Implementation of Antiretroviral Therapy Adherence Interventions: A Realist Synthesis of Evidence. *J Adv Nurs*. 66(9):1915-1930.

Leeman, J., Sandelowski, M., Havill, N. L., Knaf, K. (2015) Parent-to-child transition in managing cystic fibrosis: A research synthesis. *Journal of Family Theory & Review*. 7: 167-183.

Readings survey: https://unc.az1.qualtrics.com/ife/form/SV_eUNrvTAaNgfKYtL

16 Community Relations, Engagement, and Participatory Research

Obtaining data to conduct planned research often involves establishing relationships with stakeholders such as policymakers, administrators, practitioners, patients and caregivers. This week, we explore engaging those stakeholders, negotiating with them in an ethical manner, and involving them in research to the extent that they desire.

Black, K. Z., et al. (2013). "Beyond Incentives for Involvement to Compensation for Consultants: Increasing Equity in CBPR Approaches." *Progress in Community Health Partnerships: Research, Education and Action* 7(3):263-270.

Jones, B., et al. (2012). "Community-Responsive Research Priorities: Health Research Infrastructure." *Progress in Community Health Partnerships: Research, Education, and Action* 6(3):339-348

Paige et al. "Enhancing Community-Based Participatory Research Partnerships Through Appreciative Inquiry." (2015). *Progress in Community Health Partnerships*. 9(3):457-63.

Holden et al. "Data Collection Challenges in Community Settings: Insights from Two Field Studies of Patients with Chronic Disease." (2015). *Quality of Life Research*. 24(5):1043-55.

(Skim this) Weinberger et al. (2002). "Effectiveness of Pharmacist Care for Patients with Reactive Airways Disease." *JAMA* 288(13):1594.

Weinberger et al. "Issues in Conducting Randomized Controlled Trials of Health Services Research Interventions in Nonacademic Practice Settings: The Case of Retail Pharmacies. (2002). *Health Services Research*. 37(4):1067.

Bauer, M. S. & Weaver, K. "Partnering with health systems leadership to develop a randomized, controlled implementation trial." Veteran's Affairs Health Services Research and Development Cyber Seminars.

http://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/1244-notes.pdf;

recording:

http://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=1244.

Guest speakers: Lisa Quarles and Ginny Lewis, Community Engagement Coordinators, Community Academic Resources for Engaged Scholarship; Allison Matthews, Postdoctoral Fellow, Institute for Global Health and Infectious Disease. "Community Engagement"

Matthews, A., et al. (2017). "HIV cure research community engagement in North Carolina: a mixed-methods evaluation of crowdsourcing contest." *Journal of Virus Eradication*. 3:223-228.

Matthews, A., et al. (2018) "Crowdsourcing and community engagement: a qualitative analysis of the 2BeatHIV contest." *Journal of Virus Eradication*. 4:30-36.

Pan, S.W., et al. (2017). "Systematic review of innovation design contests for health: spurring innovation and mass engagement." *BMJ Innovations*. 3(4):227-237.

Tucker, J., et al. "Crowdsourcing Public Health Contests: An Applied Ethical Analysis and Scoping Review." *Journal of Medical Internet Research*.

Panel discussion: Morris Weinberger, Jennifer Elston Lafata, Stephanie Wheeler, Mark Holmes. "The Business of Research."

Readings survey: https://unc.az1.qualtrics.com/jfe/form/SV_0kSrs7va7Ozm2aN

Acknowledgements

This syllabus draws heavily upon the good work of Shoou-Yih Daniel Lee, PhD, Research Professor, Department of Health Policy and Management at UNC, and Joseph Morrissey, PhD, Professor Emeritus, Department of Health Policy and Management at UNC. Daniel developed the predecessor courses to HPM 884 and HPM 885, and he continued to teach comparable courses at Michigan 2010-2015. Joe taught 885 Spring 2015, and my syllabus is largely based on his. Daniel and Joe's consultation and advice are gratefully acknowledged.

Critiques and Their Rationale

What is a Critique?

A critique is a short paper that discusses the weaknesses of a paper, including possible sources of bias perhaps introduced by a particular methodological approach or a faulty methodological procedure. Bias is ultimately expressed in the conclusions that investigators make, and it will be your job to show the impact of particular methodological weaknesses on the conclusions drawn.

What Do I Intend for You to Learn in Writing a Critique?

I assign critiques because students must understand how knowledge is generated in our field. A way to understand what we hope to accomplish can be illustrated by the differences between two levels of understanding in our field. In one, students are expected to master a body of information and to learn accepted wisdom in our field. In the other, students are expected to know the underlying bases for the information and to comprehend the methodologies that produced the accepted wisdom. An example of the difference is in the notion of a physician surplus. One often hears the assertion that the United States has a physician surplus, and one learns that the research that yielded this conclusion was the GMENAC study conducted in late 1970s. In many courses and in many readings, this conclusion—a physician surplus—is asserted as fact. The skill the instructor wishes students to develop in HPM 885 is to look behind assertions to dissect the methodologies that underlie conventional wisdom in this instance, now 30+ years old, that a surplus exists. The same could be said for any number of other topics in our field.

This is the academic route to original sin and innocence lost. Through a process of close examination of research reports, students see methodological flaws and omissions; they see agendas and ideological positions shrouded behind the veil of apparent methodological rigor; they see substantive topics chosen because they can be studied more readily than others; they see the role of funding agencies in setting priorities, thus limiting examination of other potentially interesting, or even more important, topics.

In short, students are taught to assess research quality by applying criteria that help them decide what in a study can be trusted and what cannot.

How Do You Write a Critique?

Critiques are an efficient way to learn about the interplay of substance and method. Critiques require you to explain an issue or describe a problem clearly in writing.

A critique is ideally written as follows: First, describe succinctly what the paper aims to do, e.g., “This paper aims to describe a study that test the hypothesis that physician practice style explains a large part of the variation in hospital admission rates in Arizona during the period 1984-1990.”

Second, identify any strengths of the paper. This is potentially as important as identifying weaknesses of the paper. All research is flawed. Some weaknesses can be minimized by strengthening methods, but some weaknesses are impossible to avoid. It is possible that a study is flawed beyond repair and cannot be improved to the point of publishability (e.g., new data would have to be collected; participants would have to be assigned to intervention and control groups in a new way). In many cases, though, papers are salvageable, and they create new knowledge despite their limitations, so the goal of your critique should be to suggest approaches for strengthening the paper to the extent possible and guide the authors in acknowledging the unavoidable limitations of their study. Consider what the study contributes despite the unavoidable limitations, if applicable.

Third, identify the major issues that you think are most important to discuss. Major issues are those that have implications for the conclusions that are drawn in response to the research question(s). Minor issues do not have direct implications for the conclusions. Once you identify the problems that you think are important, discuss them and their implications. This latter exercise is absolutely critical. It is not enough to say, "The study's measures of utilization are weak." You have to show *how* and *why* they are weak, and *how* this weakness bears on the credibility of the study's conclusions.

Fourth, if applicable, explain the implications of the study's weaknesses for theory and policy. Does the study really test the stated hypothesis or hypotheses? Does the study support one or another path for policy? Does it support anything at all? What I am really after here is for you to think through what you have just discussed about the study and relate it more broadly to theory or policy.

Fifth, for each issue that you identify, to the extent possible, suggest how the authors might improve the study. This relates to the second step described above and demonstrates a refined understanding of research methods. It is one thing to identify and understand a study's weaknesses; it is another to be able to suggest potential solutions. An additional nuance: it's important to identify an ideal approach to improving the study as well as a feasible one! Identifying an ideal approach isn't helpful alone if it's not also feasible, so both may be necessary.

Tips for writing research proposals

These are in no particular order, and far from comprehensive! See <http://www.grantcentral.com/workbooks/national-institutes-of-health/> for grant writing resources.

General writing advice

- Gopen's style: end each sentence (and paragraph) with the point of emphasis, and pick up in the next sentence (and paragraph) with that point. This means that passive voice is OK sometimes!
 - Do: "Survivorship care plan (SCP) effectiveness may be limited by poor implementation. SCP implementation is limited by providers' beliefs that SCPs do not benefit survivors and a lack of support from cancer program leaders."
 - Don't: "Poor implementation limits SCP effectiveness. SCP implementation is limited by providers' beliefs that SCPs do not benefit survivors and a lack of support from cancer program leaders."
- We → I – "I" is OK if you're the only investigator (which, in this case, you are!)
- Utilize → use
- Use consistent terms / words as visual symbols – this isn't creative writing; it's scientific writing.
- No footnotes, please!!
- Normal to feel like you've drifted from what's important
- Data = plural – i.e., data were, not data was

Specific aims

- A good rule of thumb is that each aim should be independently publishable.
- Only raise issues that you plan to address, and address all issues that you raise
- Rationale: ~~To fill a gap in the literature.~~ There are lots of gaps in the lit that we don't care about filling! There should be some population health rationale for your study.
- Aims are to accomplish something, not to use a method.
- Make an argument, finish it, and then move onto the next logical argument that moves you toward convincing the reader that your research is the next logical step in addressing the problem that you've identified
- Aims structure
 - Paragraph 1:
 - Start with 10,000-foot view of the population health problem
 - no matter how distant from your topic (you'll need to link them, of course)
 - this is the 'blood on the tracks'
 - Must be linked logically to what you're *actually* interested in – you're telling a story
 - End with some potential solution to the problem that relates to your topic
 - Paragraph 2:
 - Begin by problematizing the potential solution that you laid out at the end of paragraph 1. This lays the tracks for the rationale for your RQ.
 - End with your RQ and why it will move us toward resolving the problem.
 - Paragraph 3: overview of what you'll do in your study and how you'll accomplish it.
- Aims (with or without hypotheses, depending on your project)
- Impact paragraph – what do we get if your research is completed? Improved care processes? Outcomes? A preliminary step toward one of these things? Preliminary data for a bigger grant that will achieve those goals? The idea is to convince the funder that it'll pay off for them to give you money. Talk about the short-term goal of your proposal and the long-term goal

(should end at the big part of the hourglass – i.e., circle back to population health issue that you raised in paragraph 1)

Significance

- Tie lit review tightly to your proposed research - make explicit links

Theoretical framework

- Explicitly tie your RQs/aims to framework.
- Theory is a tool. Don't put it on a pedestal! Make it your own!! You can refer to constructs in the model parenthetically initially, but focus on the relationships among constructs in your research.
- Framework needs to address all aims, not just subset.
- Don't bring up new constructs in the theoretical framework section. Only talk about constructs of interest.

Research strategy

- Include a section at the end of your proposal called "potential problems and solutions."
 - This is analogous to a limitations section of a manuscript.
 - Think about the RQs you're trying to answer and the extent to which you can, validly and reliably, given your methods. (See Trochim)
 - Have a justification for every limitation you have in your paper:
 - Acknowledge the limitation
 - Discuss its implications
 - Have a "But" sentence: that is, you say, the limitation isn't all that damaging in this case because...
- Organize sections by aim (across whole section or within subsection depends)