UCLA
FIELDING
SCHOOL OF
PUBLIC HEALTH

HEALTH SERVICES RESEARCH DESIGN (HLT POL 225A)
COURSE SYLLABUS FALL 2018
Version: October 28, 2018

Instructor: James Macinko, PhD
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Office hours: Tuesday 1:00-3:00pm (or by appt)

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Course Description

The course introduces students to the scope of health services and health policy research, addresses such topics as developing conceptual models, understanding and using different research designs, sampling survey design, carrying out community-oriented and policy-oriented research, and the ethical conduct of research. It is the first of a two-quarter sequence on the design of health services research, which, along with the course on evaluation, provides the core training in research design for PhD and MSHS students in Health Policy and Management.

Required text: Remler DK, Van Ryzin G. *Research Methods in Practice: Strategies for Description and Causation.* Sage Publications, 2015 (available from UCLA Health Sciences bookstore).

Lectures and Labs

The teaching assistant, who will be in charge of the lab, is Michelle Keller. Class lectures are from 10:00am-11:50 pm on Tuesdays and Thursdays and labs are on Thursdays from 08:00-09:50am. The lecture will be held in room 31-262 (Roemer Library) and the lab in room 61-269. **Lectures may be given on some Thursday lab sessions and vice versa.**

Assignments

Activity/Assignment*	**Due Date**	**% of Grade**
CITI and HIPAA trainings (email copies to TA)	10/10/18	10
Draft research question, hypothesis and rationale	10/18/18	10
Draft literature review	11/06/18	10
Draft of conceptual model and discussion of causality	11/20/18	10
Draft study design and variable construction/operationalization	12/01/18	10
Mini presentations and active participation in peer review	11/13; 12/4; 12/6	5(x2)
Final version of research manuscript (see template below for detailed instructions on what to include)	12/14/18	40

* Please submit all assignments through **Turnitin**

Academic Honesty

In all course assignments, it is expected that you will give proper credit to others whose language or ideas you use; failure to do so may result in a lower grade or in more severe consequences. Please use quotation marks for sentences or phrases that you are quoting verbatim, and indicate the source. You do not need to use quotation marks if you paraphrase, but you must still cite the source, regardless of whether it is from a journal article, the Internet, a report, etc. Citations should be provided whenever you assert something as fact, unless it is widely known and accepted. Turnitin will help identify issues.

You may use any reference style you choose, but you should use the same style consistently throughout papers and provide complete and appropriately formatted references. Use Endnote, Refworks, or Zotero to automate and standardize in-text citations and for formatting reference lists.

Technology use in class

Laptops and tablet devices are permitted only if they are used to take notes during the lecture. Every effort will be made to have the lecture slides posted prior to the lecture session. Cell phones and all other electronic devices must be silenced or turned off prior to the start of class. The only exceptions to the mobile electronics policy are for those with active clinical responsibilities who are subject to paging.

Accommodations for Disability

If you wish to request an accommodation due to a suspected or documented disability, please inform me and contact the Office for Students with Disabilities (www.osd.ucla.edu) as soon as possible at A255 Murphy Hall, (310) 825-1501, (310) 206-6083 (telephone device for the deaf).

SCHEDULE, FALL 2018

Week	Date	Topic and readings	Instructor(s)
0	Thurs 9/27 8am Lab 1	**Lab: introduction** ▪ Introduction to lab, Stata basics	Michelle Keller
0	Thurs 9/27 10am	**Overview; Introduction to HSR and Scientific Method** ▪ Steinwachs, D. and Hughes, RG, Chapter 8. Health Services Research: Scope and Significance. In Hughes (ed.) Patient Safety and Quality. Rockville, MD: AHRQ, 2008. ▪ Remler & Van Ryzin, Chapter 1 (“Research in the Real World”) ▪ Fairbrother G, Dougherty D, Pradhananga R, Simpson LA. Road to the Future: Priorities for Child Health Services Research. Acad Pediatr. 2017 Apr 28. pii: S1876-2859(17)30171-7. ▪ Bensing, J. M., W. M. Caris-Verhallen, J. Dekker, D. M. Delnoij, and P. P. Groenewegen. 2003. “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 C*are 19 (4):604-12.	James Macinko
1	Tue 10/2 10am	**Tutorial on Literature Searches I** ▪ Biomedical Library Classroom (CHS 12-077)	Bethany Myers
1	Thurs 10/4 8am Lab 2	**Introduction to Stata 1** ▪ The National Health Interview Survey ▪ Stata tutorial: Standardized .do files; using globals, locals, and loops	Michelle Keller
1	Thurs 10/4 10am	**Tutorial on Literature Searches II** ▪ Biomedical Library Classroom (CHS 12-077)	Bethany Myers
2	Tues 10/9 10am	**Research Questions and Hypotheses** ▪ Remler & Van Ryzin, Chapter 2 (“Theory, Models, and Research Questions”) ▪ Gold MR. Critical Challenges in Making Health Services Research Relevant to Decision Makers. Health Serv Res. 2016 Feb;51(1):9-15. Sandberg and Alvesson, Ways of constructing research questions: gap-spotting or problematization? Organization January 2011 vol. 18 no. 1 23-44.	James Macinko
2	Thurs 10/11 8am	**Human Subjects Protection and Introduction to Stata I Wrap-up** ▪ Remler & Van Ryzin, Chapter 16 (“The Politics, Production and Ethics of Research”)	Michelle Keller
2	Thurs 10/11 10am	**Introduction to Causal Inference** ▪ Remler & Van Ryzin, Chapter 11 (“Causation”) ▪ Hernán MA. A definition of causal effects for epidemiological research. J Epidemiol Community Health. 2004 Apr;58(4):265-71. ▪ Shrier, I. & R. Platt. Reducing bias through directed acyclic graphs. BMC Medical Research Methodology. 2008, 8:70 doi:10.1186/1471-2288-8-70.	James Macinko

		Elwert, F. Chapter 13: Graphical Causal Models: 245-273. In S. Morgan (ed.) Handbook of Causal Analysis for Social Research. Dodrecht: Springer 2013. http://www.ssc.wisc.edu/soc/faculty/pages/docs/elwert/Elwert%202013.pdf	
3	Tues 10/16 10am	**Introduction to Measurement Models & Variable Construction** ▪ Remler & Van Ryzin, Chapter 4 ("Measurement") ▪ LaVeist TA. Beyond dummy variables and sample selection: what health services researchers ought to know about race as a variable. Health Serv Res. 1994 Apr;29(1):1-16. ▪ LaFond C, Toomey TL, Rothstein C, et al. Policy evaluation research. Measuring the independent variables. Evaluation Review 2000; 24:92-101. ▪ Streiner, D. Norman, GR, Cairney, J. Health Measurement Scales: A Practical Guide to Their Development and Use 5th Edition. New York: Oxford University Press, 2015. [Reference] ▪ Anderson, E. et al. Measuring Statutory Law and Regulations for Empirical Research. Ch 11 In Wagenaar and Burris, S (ed.) Public Health Law Research: Theory and Methods. Jossey-Bass, 2013. Available: http://publichealthlawresearch.org/resource/measuring-statutory-law-andregulations-empirical-research [Reference]	James Macinko
3	Thurs 10/18 8am Lab 3	**Introduction to Stata II** ▪ Data Management and File Merging	Michelle Keller
3	Thurs 10/18 10am	**Conceptual Models I** ▪ Remler & Van Ryzin, Chapter 2 ("Theory, Models, and Research Questions") ▪ Morris WT. "On the Art of Modeling," *Management Science* 1967: B-707 – B-717. ▪ Maxwell, J. Chapter 3. Conceptual Framework: What Do You Think Is Going On? In Qualitative Research Design 3rd Edition. Sage Publications 2015. Available: http://www.sagepub.com/sites/default/files/upm-binaries/48274_ch_3.pdf **Guest presentation: How to answer policy questions using the NHIS Dr. Chris Childers** ▪ Childers, C. Childers, K. Gibbons, M. Macinko, J. The Unmet Need for Genetic Testing in Patients with a Personal History of Breast or Ovarian Cancer. Journal of Clinical Oncology 2017 Aug 18: JCO2017736314.	James Macinko Chris Childers
4	Tues 10/23 10am	**Literature Reviews** ▪ Remler & Van Ryzin, Chapter 17 ("How to Find, Review, and Present Research", pages 529-540) ▪ Greenhalgh T. "How to Read a Paper. The Medline Database." *British Medical Journal* 1997 Jul 19;315(7101):180-3. http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=2127107&blobtype=pdf ▪ Rudestam, K. E. and Newton, R. R. 1992. *Surviving Your Dissertation*. Third Ed. Newbury Park: Sage. Chapter 4: "Literature Review & Statement of the Problem": 61-85. • Greenhalgh T. "How to Read a Paper: Papers that Summarize Other Papers," *British Medical Journal* 315, 1997: 672-675. http://www.bmj.com/cgi/content/full/315/7109/672 ▪ AcademyHealth. "Health Services Research and Health Policy Grey Literature Project: Summary Report." February 2006. http://www.nlm.nih.gov/nichsr/greylitreport_06.html **Examples (for reference)** • Silva ML, et al. A literature review to identify factors that determine policies for influenza vaccination. Health Policy. 2015 Jun;119(6):697-708.	Michelle Keller

		• Uyei J, et al. Integrated delivery of HIV and tuberculosis services in sub-Saharan Africa: a systematic review. Lancet Infect Dis. 2011 Nov;11(11):855-67. Xiu-xia L, et al. The reporting characteristics and methodological quality of Cochrane reviews about health policy research. Health Policy. 2015 Apr;119(4):503-10	
4	Thurs 10/25 8am Lab 4	**Introduction to Stata III** ▪ Introduction to NHIS & Importing Data into Stata	Michelle Keller
4	Thurs 10/25 10am	**Conceptual Models II** • Baron RM and Kenny DA. "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations." *Journal of Personality and Social Psychology* 1986 Dec;51(6):1173-82. http://ucelinks.cdlib.org:8888/sfx_local?sid=Entrez:PubMed&id=pmid:3806354 • Dowd B, Town R. "Does X Really Cause Y?" AcademyHealth, September 2002: https://www.academyhealth.org/files/FileDownloads/DoesXCauseY.pdf <u>HSR examples</u>: • Aday LA, Andersen R. A framework for the study of access to medical care. Health Serv Res. 1974 Fall;9(3):208-20. • Asplin BR, Magid DJ, Rhodes KV, Solberg LI, Lurie N, Camargo CA Jr. A conceptual model of emergency department crowding. Ann Emerg Med. 2003 Aug;42(2):173-80. • Landon BE, Wilson IB, Cleary PD. A conceptual model of the effects of health care organizations on the quality of medical care. JAMA. 1998 May 6;279(17):1377-82 • Murray, C.J.L. & Frenk, J. A framework for assessing the performance of health systems. Bull World Health Organ. 2000, vol.78, n.6, pp. 717-731.	James Macinko
5	Tues 10/30 10am	**Study Design I: Randomized experiments** ▪ Remler & Van Ryzin, Chapter 14 ("Randomized Experiments") ▪ Shadish WR, Cook TD. The renaissance of field experimentation in evaluating interventions. Annu Rev Psychol. 2009;60:607-29. ▪ Emmert M, Schlesinger M. Hospital Quality Reporting in the United States: Does Report Card Design and Incorporation of Patient Narrative Comments Affect Hospital Choice? Health Serv Res. 2017 Jun;52(3):933-958. ▪ Deaton, A & Cartwright, N. 2016. Understanding and misunderstanding randomized controlled trials. NBER Working paper 22595. Available: http://www.nber.org/papers/w22595 [**Optional/Reference]** Cook TD, Campbell DT. *Quasi-Experimentation*. Chapter 1: "Causal Inference and the Language of Experimentation." Boston: Houghton Mifflin, 1979. [**Reference]**	James Macinko
5	Thurs 11/1 8am	**NO LAB- work on papers**	
5	Thurs 11/1 10am	**Study Design II: Natural and quasi-experiments** ▪ Remler & Van Ryzin, Chapter 15 ("Natural and Quasi Experiments") ▪ Craig P, Cooper C, Gunnell D, et al. Using natural experiments to evaluate population health interventions: new Medical Research Council guidance. J Epidemiol Community Health. 2012 Dec;66(12):1182-6. ▪ Moscoe E, Bor J, Bärnighausen T. Regression discontinuity designs are underutilized in medicine, epidemiology, and public health: a review of current and best practice. J Clin Epidemiol. 2015 Feb;68(2):122-33.	James Macinko

		▪ Cook TD, Campbell DT. *Quasi-Experimentation*. Chapter 2: Validity. Boston: Houghton Mifflin, 1979. [**Optional]** ▪ Dunning, T. *Natural Experiments in the Social Sciences*. Cambridge University Press, 2012. **[Reference]**	
7	Tues 11/6 10am	**Study Design III: Observational studies** ▪ Remler & Van Ryzin, Chapter 12 ("Observational Studies") ▪ Jerant A, Fiscella K, Franks P. Health characteristics associated with gaining and losing private and public health insurance: a national study. Med Care. 2012 Feb;50(2):145-51. ▪ Soroka S, Maioni A, Martin P. What moves public opinion on health care? Individual experiences, system performance, and media framing. J Health Polit Policy Law. 2013 Oct;38(5):893-920. ▪ Koebnick C, Langer-Gould AM, Gould MK, et al. Sociodemographic characteristics of members of a large, integrated health care system: comparison with US Census Bureau data. Perm J. 2012 Summer;16(3):37-41.	James Macinko
6	Thurs 11/8 8am	**Introduction to Stata IV** Variable Construction and Data Labeling	Michelle Keller
6	Tues 11/8 10am	**Sampling and Power Tests** ▪ Hsieh FY, Lavori PW, Cohen HJ, and Feussner JR. "An Overview of Variance Inflation Factors for Sample-Size Calculation," *Eval Health Prof.* 2003 Sep;26(3):239-57. http://ehp.sagepub.com/cgi/content/abstract/26/3/239. ▪ Kraemer HC, Mintz J, Noda A, Tinklenberg J, and Yesavage JA. "Caution regarding the use of pilot studies to guide power calculations for study proposals," *Arch Gen Psychiatry*. 2006 May; 63:484-489. ▪ Hanley JA, Moodie EMM. "Sample size, precision, and power calculations: a unified approach." J Biomet Biostat, 1011, V. 2:124 Length RV. "Two sample-size practices that I don't recommend." Unpublished paper.	Scott Comulada
7	Tues 11/13 10am	**Workshop and peer review of research questions and draft conceptual models** ▪ Make a 3-4 minute presentation briefly presenting your main research question and walk us through your framework (use handouts, whiteboard, or PowerPoint).	James Macinko
7	Thurs 11/15 8am Lab 6	**Introduction to Stata IV**: Data Management and File Merging	Michelle Keller
6	Thurs 11/15 10am	**Introduction to IDRE** ▪ Review the IDRE website: https://stats.idre.ucla.edu/ ▪ Remler & Van Ryzin, Chapter 6 ("Secondary Data")	Andy Lin
8	Tues 11/20 10am	**Study design IV: Introduction to comparative effectiveness research** ▪ Ricci KA, Girosi F, Tarr PI, Lim YW, Mason C, Miller M, Hughes J, von Seidlein L, Agosti JM, Guerrant RL. Reducing stunting among children: the potential contribution of diagnostics. Nature. 2006 Nov 23;444 Suppl 1:29-38. ▪ Driessen J, Olson ZD, Jamison DT, Verguet S. Comparing the health and social protection effects of measles vaccination strategies in Ethiopia: An extended cost-effectiveness analysis. Soc Sci Med. 2015 Aug;139:115-22. ▪ Background/Reference: Kirkness, C. Chapter 1: Introduction to comparative effectiveness research. In C. Asche (ed.), Applying Comparative Effectiveness Data to Medical Decision Making. Springer International Publishing. 2016. Available: http://link.springer.com/chapter/10.1007/978-3-319-23329-1_1	Corrina Moucheraud

8	Thurs 11/22	**University Holiday** NO LAB NO LECTURE	
9	Tues 11/27 10am	**Surveys and Questionnaire Design** ▪ Remler & Van Ryzin, Chapter 7 ("Surveys and Other Primary Data") ▪ Groves, R. M., & Lyberg, L. (2011). Total Survey Error: Past, Present, and Future. *Public Opinion Quarterly*, *74*(5), 849–879. doi:10.1093/poq/nfq065 ▪ Belli, R. F., Bilgen, I., & Baghal, T. A. (2013). Memory, Communication, and Data Quality in Calendar Interviews. *Public Opinion Quarterly*, *77*(S1), 194–219. doi:10.1093/poq/nfs099 ▪ Hicks, W. D., Edwards, B., Tourangeau, K., McBride, B., Harris-Kojetin, L. D., & Moss, A. J. (2010). Using CARI Tools To Understand Measurement Error. *Public Opinion Quarterly*, *74*(5), 985–1003. doi:10.1093/poq/nfq063 [**Optional]** ▪ Lynn, P., & Kaminska, O. (2013). The Impact of Mobile Phones on Survey Measurement Error. *Public Opinion Quarterly*, *77*(2), 586–605. doi:10.1093/poq/nfs046 [**Optional]** ▪ Ongena, Y. P., & Dijkstra, W. (2007). A model of cognitive processes and conversational principles in survey interview interaction. *Applied Cognitive Psychology*, *21*(2), 145–163. doi:10.1002/acp.1334 [**Optional]**	Todd Hughes
	Thurs 11/29 8am Lab 7	**Introduction to Stata VI**: ▪ Regression Models- part 1	Michelle Keller
	Thurs 11/29 10am	**Applied survey data analysis workshop** • Review IDRE resources on analyzing survey data in Stata https://stats.idre.ucla.edu/stata/seminars/applied-svy-stata13 • Bring your sample code and analysis questions • Heeringa SG, West BT, Berglund PA. Applied survey data analysis. 2nd ed. Boca Raton, FL: CRC Press, Taylor and Francis Group; 2017. [**Essential Reference]**	James Macinko
	Tues 12/4 10am	**Group discussions/peer review of paper drafts (group 1)** • Come to class prepared to present preliminary results (7 minutes) and/or main issues you want to solicit advice about. • Neill, U.S. How to write a scientific masterpiece. J. Clin. Invest 117: 3599–3602 (2007).	Group Discussion
	Thurs 12/6 8am	**Group discussions/peer review of paper drafts (group 2)** ▪ Come to class prepared to present preliminary results (7 minutes) and/or main issues you want to solicit advice about. ▪ Ioannidis JPA (2016) Why Most Clinical Research Is Not Useful. PLoS Med 13(6): e1002049. doi:10.1371/journal.pmed.1002049	Group Discussion
	Thurs 12/6 10am	**Study design V: Qualitative and mixed methods in HSR** Readings TBA • Course evaluation (*BRING LAPTOPS TO CLASS*)	Emmeline Chuang
	12/14	**Final papers due**	

Please read carefully and adhere to the guidelines for the HPM 225A research manuscript.
In order to maximize time spent on thinking about your research design, everyone will use the same dataset for this course, the National Health Interview Survey (see more on this below). If you already have an existing dataset that you must work on for the course, let me know so we can discuss. Your research question does not have to be something that has never been asked, but your conceptual model should be original (i.e., it should be more than simply adapting an existing model). You must have at least one clear, testable hypothesis. Although your regression model will contain a number of predictors, it is recommended that the paper focus on testing only one or two. You will need to specify the regression you wish to estimate, explaining all key assumptions, variables, and how you will interpret results. For this course you do *not* need to estimate the regression model (although if you are able to do this you may). The paper's emphasis should be on the overall research design, conceptual approach, justification for the study, measurement and operationalization of key variables, and assessment of key assumptions. The bulk of the results section will therefore be descriptive tables.

Please submit your final paper thorugh Turnitin from your My UCLA account. Email the course TA and me *clean* versions of all Stata programs and output (do and log) files. It is expected that all papers will be turned in on time; late papers may be subject to a grading penalty. The length of the final paper is up to you, but as a broad guideline you might want to think about 15 pages of text (not including tables and references). Much of it can be taken from previous class assignments although if you do so, each piece needs to be woven together carefully to tell a consistent story—and incorporate any suggested edits.

If you feel that you need individual writing assistance, I encourage you to consult the UCLA Graduate Writing Center. See here: <http://gsrc.ucla.edu/gwc/> for information about how to schedule a consultation. Please note that consultations must be scheduled in advance, so PLEASE PLAN AHEAD.

Advice: The most effective papers tell a cogent story. All sections of the paper should link together. They do so through one common theme: the research question. Thus, the story should be about your research question(s). Do not include extraneous things.

- The introduction presents the research question, why it matters, and little else.
- The previous research section presents what is known and not known about the research question, and how your study will add to the literature.
- The conceptual model should be about the determinants of the outcome(s) in your research question and the presumed causal relationships you wish to uncover.
- The hypotheses should formalize your research question and be generated by the conceptual model.
- The data and study design and analytic methods should be appropriate for addressing the research question.
- The dependent and independent variables should be organized according to the constructs laid out in your conceptual model; define the dependent variable(s) first.
- The results should be mainly about the answer to your hypotheses, although you can also talk about control variables. **(The results section can be limited to explaining the descriptive tables.)**
- You have some flexibility in the discussion section but start by reiterating overall purpose of the study.

TEMPLATE FOR HPM 225A RESEARCH PAPER

Identifying Information

- Title, Author name and student ID number, Date

I. Introduction and background

- Previous Research (Critique of the literature about your research question, What is known (this will be the main part of the section), What is not known, What your study will add to the literature. Establish why the issue is important)
- Conceptual Model (Include a diagram or otherwise present conceptual model. Provide accompanying text describing the model, including hypothesized direction and brief rationale for each association.
- List specific testable hypotheses and rationale for each.

II. Methods

- Study Design (Describe the study design. Why is it appropriate? How does your study design seek to rule out alternative interpretations of your data? Specify what assumptions are needed and justify these assumptions.)
- Data (Describe population, sampling, sample size, unit of observation, time frame, etc.)
- Construction and operationalization of all measures
  a. Dependent Variables
  b. Primary regressor(s) of interest
  c. Other control variables
- Statistical Analysis. Describe what tests are used in comparisons and why. Include refs. Show the basic regression model that you will plan to estimate. Identify key assumptions that need to be met. Describe how you would interpret the main effects resulting from the regression. Note that use of sample weights or addressing missing data and clustering issues is not mandatory in HPM225A.

III. Results

- Present descriptive statistics and *preliminary* regression models. Consider graphically displaying descriptive and/or main results. All exhibits must be properly formatted, with footers containing all acronyms spelled out along with other notes on the data presented. Remember, tables and figures should be able to stand alone!

IV. Discussion

- Restate main findings. Relate the literature. I am expecting a discussion consistent with the preliminary nature of your analyses. You may also discuss conclusions from the descriptive tables and talk about what it would mean going forward. Also discuss any approaches needed to deal with important assumptions (or their violations) as observed in descriptive analyses.
- Limitations (Internal validity (including possible reverse causality and omitted variables bias), external validity, other limitations).

V. References

- No particular format required, but be consistent and be sure to use Endnote or Refworks or another reference management software.

APPENDIX: STATA programs and output You must include a clean and final copy of all STATA .do and log files used for your paper. These programs will be reviewed and the accuracy of the code will be considered in assigning a final grade. (Can be a separate file).

About the National Health Interview Survey (NHIS)[1]

[1] All quotes from http://www.cdc.gov/nchs/nhis/about_nhis.htm. Accessed August 9, 2016.

The National Health Interview Survey (NHIS) is the principal source of information on the health of the civilian noninstitutionalized population of the United States. It is conducted annually by the CDC's National Center for Health Statistics.

Main uses of the data include:

- monitoring trends and correlates in illness and disability;
- tracking progress toward achieving national health objectives, such as those regarding health disparities;
- assessing trends in healthcare insurance coverage, access, utilization, and satisfaction; and
- conducting epidemiologic and policy analysis of issues such as characterizing those with various health problems, determining barriers to accessing and using appropriate health care, and evaluating Federal health programs.

The NHIS is related to several other federal surveys. The Medical Expenditure Panel Survey (https://meps.ahrq.gov/mepsweb/) currently uses half of the NHIS sampling frame. Recent years of the NHIS data (1986-2009) have been linked to death certificates in the National Death Index (http://www.cdc.gov/nchs/data-linkage/mortality.htm) up to 2011, providing a means to assess whether (and when) an NHIS respondent has died and, if so, from what cause (based on a limited number of grouped ICD9 codes).

Design

The National Health Interview Survey is a cross-sectional household interview survey based on self-report. "Sampling and interviewing are continuous throughout each year. The sampling plan follows a multistage area probability design that permits the representative sampling of households... The first stage of the current sampling plan consists of a sample of 428 primary sampling units (PSU's) drawn from approximately 1,900 geographically defined PSUs that cover the 50 States and the District of Columbia. A PSU consists of a county, a small group of contiguous counties, or a metropolitan statistical area."

"Within a PSU, two types of second-stage units are used: area segments and permit segments. Area segments are defined geographically and contain an expected eight, twelve, or sixteen addresses. Permit segments cover housing units built after the 2000 census. The permit segments are defined using updated lists of building permits issued in the PSU since 2000 and contain an expected four addresses."

The current NHIS sample design continues the oversampling of Black, Hispanic, and incorporates oversampling of Asian persons.

Questionnaire

Available here: http://www.cdc.gov/nchs/nhis/nhis_questionnaires.htm

"The revised NHIS questionnaire, implemented since 1997, has Core questions and Supplements. The Core questions remain largely unchanged from year to year and allow for trends analysis and for data from more than one year to be pooled to increase sample size for analytic purposes. The Core contains four major components: Household, Family, Sample Adult, and Sample Child."

"The Household component collects limited demographic information on all of the individuals living in a particular house. The Family component verifies and collects additional demographic information on each member from each family in the house and collects data on topics including health status and limitations, injuries, healthcare access and utilization, health insurance, and income and assets. The Family Core component allows the NHIS to serve as a sampling frame for additional integrated surveys as needed."

"From each family in the NHIS, one sample adult and one sample child (if any children are present) are randomly selected and information on each is collected with the Sample Adult Core and the Sample

Child Core questionnaires. Because some health issues are different for children and adults, these two questionnaires differ in some items but both collect basic information on health status, health care services, and health behaviors."

Accessing NHIS data

There are two main ways to access the data,

1. Directly from the NCHS website (see data release for each year's survey available here: http://www.cdc.gov/nchs/nhis/data-questionnaires-documentation.htm). Note that this will require downloading the raw data, applying a Stata (or SAS or SPSS) file to attach variables names and labels, and then linking the household file with the individual file(s). The benefit of downloading the data from the source include getting the most recent updates and creating a complete file with all data.
2. From the Integrated Health Interview Study site maintained by the University of Minnesota Population Center (https://ihis.ipums.org/ihis/). The benefits of using IHIS include being able to easily create a dataset using standardized variable definitions. You will need to first register online (https://ihis.ipums.org/ihis-action/menu). Read the FAQ here: https://ihis.ipums.org/ihis-action/faq#ques4

Learning Objectives for the Course

Under the sponsorship of AcademyHealth and AHRQ, a list of core competencies for Ph.D. training in health services research was published (Forrest CB, Martin DP, Holve E, Millman A, "Health Services Research Doctoral Core Competencies," *BMC Health Services Research* 2009 Jun 25;9:107). A modification of this list, regrouping the competencies from 14 areas to 11, was subsequently published on the AHRQ website.

The table below lists the learning objectives for the course, and the related MS/PhD competencies as specified by AcademyHealth and the Agency for Healthcare Research and Quality.

Learning Objectives **By the end of the course, the student should:**	**MS & PhD Competencies**
Be able to explicate what health services research is, and its relationship to the various social sciences.	2. Apply or develop theoretical and conceptual models relevant to health services research. 3. Pose relevant and important research questions, evaluate them, and formulate solutions to health problems, practice and policy.
Be able to conceptualize a health services research problem in terms of questions, conceptual model, overall analytic approach, measures and data.	2. Apply or develop theoretical and conceptual models relevant to health services research. 4. Use or develop a conceptual model to specify study constructs for a health services research question and develop variables that reliably and validly measure these constructs. 5. Describe the strengths and weaknesses of study designs to appropriately address specific health services research questions. 6. Sample and collect primary health and health care data and/or assemble and manage existing data from public and private sources.
Understand how to conduct literature searches and critically review the literature.	1. Acquire knowledge of the context of health and health care systems, institutions, actors, and environment.
Be able to identify existing measures in the field, and to assess measures for validity and reliability	5. Describe the strengths and weaknesses of study designs to appropriately address specific health services research questions.
Understand the basic elements of direct data collection: • Basic survey methods and design • Questionnaire development • Sampling strategies	6. Sample and collect primary health and health care data and/or assemble and manage existing data *from public and private sources.*
Understand major ethical issues in conducting health services research, and begin to formulate one's own ethical research standards.	7. Execute and document procedures that ensure the reproducibility of the science, the responsible use of resources, the ethical treatment of research subjects.
Have completed UCLA's on-line certification courses titled, "Protection of Human Research Subjects" and "HIPAA Clinical Research Training Course".	7. Execute and document procedures that ensure the reproducibility of the science, the responsible use of resources, the ethical treatment of research subjects.