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Using Administrative Data for Health Services Research - Course Syllabus 2011-2012

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Using Administrative Data for Health Services Research

Course Instructor: Pamela Owens, Ph.D.
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Office: 314-747-5684
October 24 – December 16, 2011: Wednesdays 1-5 PM
Location: Old Shriner's Building, 3rd Floor, RM 3307

Course Overview:

The objective of this advanced graduate course is to prepare highly motivated students to perform health services research using administrative data. Lectures will provide tutorials on national administrative databases, review journal articles using these databases, instruction in SAS programming, in and application of health services research methods using administrative databases. Strengths and limitations of large databases that are commonly used for research will be considered, and special attention will be devoted to large federal databases that are readily available to new investigators. Students will learn how to obtain, link, and analyze large databases, understand the key issues related to data security and confidentiality, and become knowledgeable about key methodologic issues in observational studies using administrative data. Students will evaluate published studies based on large administrative databases, develop a health services research proposal and complete a short research project that uses administrative data.

Recommended Textbooks (although not mandatory):

Delwiche Lora D and Susan J. Slaughter. 2008. *The Little SAS Book: A Primer, Fourth Edition*. Cary, NC: SAS Institute, Inc.

Required Software:

Statistical Analysis Software (SAS), version 9.2 or later

Expectations

- Students will have a basic background in epidemiology and biostatistics.
- Attendance in lectures, which will be as interactive as possible, is expected.
- There are two types of readings. Required readings should be read before class each week; they will allow the students to understand the topics in greater depth and enable more active participation in class. Recommended readings provide more detailed information about particular subject areas that may be more relevant to some students than others. They were selected as resources or guidance materials for a specific database or topic of interest.
- Students are required to use SAS statistical software and write basic codes.
- There will be a series of short assignments over the course of the semester with a project due at the end of the course.
- Final grades will be based on a formal review of a journal article (10 points), completion of SAS exercises (15 points), class participation (15 points), project proposal (10 points), and the final project (50 points).

Formal review of journal article (10 points):

Review journal articles related to administrative data and health services research. Students should be prepared to present the following in class (~ 10 minutes). Guidelines for review of article will be provided in class. *Time to be arranged with the instructor beginning Nov. 2.*

SAS Exercises (15 points)

Students will be asked to complete 3 SAS exercises throughout the course to demonstrate mastery of the SAS laboratory materials. The exercises may be completed during the lab or turned in prior to the next class. *Due dates: Nov. 7, Nov. 16, Dec. 7*

Project Proposal (10 points):

Students will submit a 1 to 2-paragraph description of their proposed course project (see description below), including the primary health services research question, proposed study population, and database. Students will be provided timely feedback so that they can take comments into account before finalizing their project. *Due date: Nov. 9*

Course Project (50 points):

Students will implement a project, preparing an abstract for poster or oral presentation. The hope is that the topic is of sufficient interest to the student that the presentation becomes a full manuscript after completion of the course. Using a public use administrative database or data that has been previously accessed through the Center for Administrative Data Research, students will examine a health service question. Students will identify a study cohort based on demographic and/or clinical criteria, select relevant data elements from the database, and propose statistical analyses to address the study question. At a minimum, the proposed analyses should include simple descriptive (univariate and bivariate) statistics for the study cohort, such as demographic and clinical characteristics and the main outcomes of interest. Students may do more advanced multivariate statistics, if they have the expertise. Students should address analytic and methodologic issues covered in the course as well as epidemiology and biostatistics courses, such as confounding variables, risk adjustment, clustering of data, and weighting. *Due Date: Dec. 14*

DRAFT SCHEDULE (although order of topics may change)

Oct. 26	Introduction to Administrative Data and Measurement National Population-Based Surveys and National Provider-Based Surveys Lab: Introduction to SAS and statistical programming
Nov. 2	Ethics and Regulation Issues related to Administrative Data Discharge and Billing Data: Healthcare Cost and Utilization Project Data SAS Lab
Nov. 9	Claims Data: CMS Medicare and Medicaid Data SAS Lab
Nov. 16	Claims Data: MarketScan Data / BlueCross-Blue Shield Brief student Presentations of Proposals SAS Lab
Nov. 23	No Class – Thanksgiving Holiday Depending on student and instructor availability, may reschedule
Nov. 30	Claims Data: Veteran’s Administration Data Registry Data SAS Lab
Dec. 7	Informatics Databases and Hybrid Data Collection Student Presentations

Dec. 14

Supplemental Data Sources and Linkages, Methodologic considerations