

Course Outline: EPIDEMIOLOGY OF HEALTH CARE

CHSC 7310 A01 3 Cr Hr Fall 2017

**Wednesday, September 13 - Wednesday, December 6, 2017
1:00 – 3:30 pm, Room 065 Apotex Centre (750 McDermot Ave)**

Instructors:

[Noralou P Roos](#), PhD, (204-789-3319)

[Marni Brownell](#), PhD (705-385-8225)

[Randy Fransoo](#), PhD (204-789-3543)

Course Description:

Epidemiology is the study of how often diseases occur in different groups of people and why. The epidemiology of health care focuses on how factors other than disease are related to health and use of the health care system. This course focuses on the broad social determinants of health, and how the data in the population research repository housed at MCHP can be used to understand these issues.

The course provides an overview of health services and population-based research that is made possible using administrative data systems. Most of the examples come from research conducted at the Manitoba Centre for Health Policy, although research conducted with other administrative data sets is also reviewed. A primary focus of the course is on using data to understand key policy issues, including physician practice patterns, how the health care system functions, and the broader determinants of health and well-being including education, social circumstances, and poverty. The course will help you understand how to use data to answer a question. The course is offered for credit to students in Masters or Doctoral programs at the University of Manitoba.

The Manitoba Centre for Health Policy invites as “auditors” any researchers interested in learning about the administrative data housed at MCHP, as well as individuals in provincial government departments who want to understand how the administrative data can be used to inform public policy.

The course will be taught by Noralou Roos, Marni Brownell and Randy Fransoo of the Department of Community Health Sciences and the Manitoba Centre for Health Policy. Professor Roos is available to meet with students usually before or after class or as arranged.

Participants in the course will have an opportunity to learn:

- Web-based skills in searching for information. Much of the course content is available at: http://www.umanitoba.ca/faculties/medicine/units/community_health_sciences/departamental_units/mchp/education/index.html
- How to use data to answer a question.
- Basic skills in computerized statistical analysis, using SAS® software (TM of SAS Institute)
- How files in the Manitoba Centre for Health Policy Data Repository are developed and used. Potential research uses of the data base: what kinds of analyses can be done on the data base, what are its weaknesses and strengths, issues of validity and reliability in database research.
- What is meant by case-mix and severity of illness, quality and outcomes of care, regional variations in service use, physician practice patterns.

- How a population-based perspective is different from, and complements, an institution-specific or health care systems perspective.
- How health services research can be linked to and support health and social policy development.
- How powerful it can be to combine social service data and health data for understanding policy issues at the population level.

Class time and location: The course will be taught on Wednesday afternoons, from 1:00 pm to 3:30 pm in Room 065 in the Apotex Centre (College of Pharmacy), 750 McDermot Ave. The course will run from September 13, 2017 to December 6, 2017. See below for when SAS workshops will be held. Graduate students enrolled for credit will get first priority; others on a first-come first-served basis.

Course readings: There is no textbook required for this course; all readings are from published articles, which are described in the readings list (with electronic links to each article).

Note: there are a few short readings to be completed before the first class on Sept 13.

Assignments: There will be two assignments (due Sept 20 and Oct 4), involving simple analysis using Microsoft Excel. These assignments are described on the last page of this outline. There will also be a computer assignment (due Oct 23), and a term paper in which the student will be expected to analyze data in MCHP's "Training database". All assignments should be done independently. Assignments are optional for students auditing the course.

Graduate students who wish to register for credit should visit: http://umanitoba.ca/graduate_studies/. There are prerequisites required (or permission of instructor). And please complete and return the form below by email or Fax (see below)

Auditing: If you are interested in auditing this course or would like to send someone from your organization, please email or complete and return the form below by fax. There is no charge for persons auditing the course.

E-mail: [Noralou Roos@cpe.umanitoba.ca](mailto:Noralou_Roos@cpe.umanitoba.ca)

Fax number: (204) 789-3910

NAME: _____

TITLE: _____

ORGANIZATION / DEPARTMENT: _____

E-MAIL: _____

PHONE: _____

Computer Workshops: Workshops focusing on an important statistical analysis computer application (SAS) will also be offered. SAS stands for statistical analysis software; it is used by the researchers and data analysts at MCHP to analyze large data files. The SAS Workshops provide an overview of basic SAS techniques. Registered students should definitely take the SAS workshops – SAS is essential to working on the term paper. Auditing students are encouraged, but not obligated, to take the SAS workshops in order to enhance their understanding of data issues relevant to topics discussed in the course. Location: Room 412 Brodie Centre, Training Lab at the Manitoba Centre for Health Policy.

Those taking the Epidemiology of Health Care course for credit will get priority for the workshops; other spaces will be on a first-come first-served basis (note: there are only 8 spaces available in each session). The workshop is broken down into five half day sessions (or two full day sessions, held on Saturdays). To sign up for the SAS workshops, contact Charles Burchill (Charles_Burchill@cpe.umanitoba.ca or 789-3429).

The SAS course covers the following material:

- Basic introduction to the SAS interface and programming syntax
- Use of basic statistical procedures and working through SAS documentation
- Reading raw or external data sources
- Combining data through set and merge

The following dates are currently available:

Morning Sessions: (9:00 am – 12:00 noon)

August 21 – 25

OR

1 – 3 sessions in the fall - TBA

Saturday* Full Day Sessions: (9:00 am – 5:00 pm)

TBA

*There is limited access to the 4th floor on Saturday so everyone will have to meet just inside the entrance to the Brodie Centre (727 McDermot Ave) by 8:45 am.

A copy of the full SAS workshop handout can be found on the web at:

http://home.cc.umanitoba.ca/~burchil/sasintro/sas_feb_2017.pdf.

Getting SAS: If you are a registered student and need to get a copy of SAS for your own computer please contact the UofM ACN support desk (474-8600, servicedesk@umanitoba.ca) to make arrangements.

You can find license information at: <http://umanitoba.ca/computing/ist/software/licensed.html>

Look under SAS and click on the link 'home/campus use' to get the forms to fill out.

You will need the Standard Install package - you might be able to work with your peers to get only one copy. You might need to contact the ACN Support Desk at the Fort Garry campus (010 Dafoe Tunnel) at 474-8600, or by E-mail at servicedesk@umanitoba.ca for distribution details.

Starting in June 2014 SAS is offering SAS University Edition for Students at no charge.

See: <http://blogs.sas.com/content/sastraining/2014/06/18/free-sas-software-for-students/>

Requirements for Registered Students:

Weekly readings to permit engagement in class discussion. Registered students are expected to develop questions related to the readings on the weekly topic area (3 or 4 questions) to be handed in to the instructor at the beginning of each class. For auditing students this is also encouraged. This will help ensure coverage of issues important to students.

There will be two assignments for which students will be given data to work with. Students will be asked to decide what questions the data can be used to answer, to make up tables or graphs from the data and to describe what the results mean. The assignments are described on the last page of this outline; Microsoft Excel spreadsheets will be distributed electronically.

A computer exercise to demonstrate familiarity with SAS is due Monday, October 23rd.

The research paper is due December 13th on a topic of the student's choice. The paper is to be developed by conducting relevant analyses and interpretation of results using simulated Manitoba Health administrative data, which will be distributed. The main purpose of this assignment is to enable you to learn how to use data to answer a research question.

Possible paper topics include, but are not limited to:

- Comparison of hospital use across age groups;
- Differences in physician contact rates across Manitoba children (by age, region, etc);
- Characteristics of long stay cases;
- Antidepressant Use in Manitoba;
- Description of hospital case mix across regions;
- Comparison of hospitalizations for individuals receiving care in their region of residence versus those receiving care outside that region;
- Individual and area-level factors associated with who visits physicians for what
- Others that you may define.

The choice of a paper topic should be made in consultation with Professor Roos, Fransoo or Brownell. The research paper should be drafted as an article ready for submission to a journal and include a pertinent literature review (brief), statement of research questions(s), methods section, results (with maximum of 5-8 tables) and conclusions. Students are encouraged to submit a draft of their paper or at least of their draft tables by Nov 20 to receive feedback for potential revisions before final submission. The research paper is due on December 13th (a week after the last class). The simulated Manitoba Health data disks must be returned at that time. Assignments turned in after 5pm on December 13th will be docked 10% per day.

Student Accessibility Services (SAS – apologies for the confusion re the programming language)

If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

<http://umanitoba.ca/student/saa/accessibility/>

520 University Centre 204 474 7423 Email: Student_accessibility@umanitoba.ca

Grading:

Class participation and question development	10%
Assignment 1	5%
Assignment 2	15%
Computer exercise	20%
Research paper	50%

A letter grade for the course will be assigned on the following scale:

A+ = 90-100	A = 80-89	B+ = 75-79	B = 70-74
C+ = 65-69	C = 60-64	D = 50-59	F < 50

Academic Integrity:

Academic integrity, or honesty in academic work, is a core value of the University of Manitoba and the Department of Community Health Sciences. Violations to academic integrity include but are not limited to cheating, plagiarism and fraud. The University of Manitoba policy on Academic Integrity can be found in Section 7 of the General Academic Regulations and Requirements of the University of Manitoba. This is available at: http://umanitoba.ca/faculties/graduate_studies/publications/.

The University of Manitoba offers an interactive on-line course on academic integrity that will take approximately 4 or 5 hours to complete. Details, including how to access the course can be found here: <http://umanitoba.ca/research/integrity/>

The Student Advocacy Office also has a description on “Cheating, Plagiarism and Fraud” (http://umanitoba.ca/student/resource/student_advocacy/cheating_plagiarism_fraud.html).

Students are strongly advised to familiarize themselves with both documents. Students in Community Health Sciences are subject to the University of Manitoba policies regarding academic dishonesty, including processes for investigation and discipline, where required. Some additional sources with instructions on avoidance of academic dishonesty include:

<http://umanitoba.ca/libraries/units/dafoe/media/plagiarism.pdf>

<http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>