

**The University of British Columbia
School of Population and Public Health**

SPPH 537/ WACH 503, PERINATAL EPIDEMIOLOGY 2022

1. Course Description

This course will introduce topics and methods in perinatal epidemiology. It will involve analysis of data from the British Columbia Perinatal Registry.

- Three credits
- An elective open to all students in the School of Population and Public Health and in the Department of Obstetrics Reproductive and Developmental Sciences Graduate Program
- Students in other related disciplines may take the course with approval of the course instructor
- Prerequisites: SPPH 400 and 502
- Co-requisite: SPPH 500 – may be taken concurrently.
- A clinical background is an asset but not necessary
- Maximum enrolment 30 students

2. Course operation

Class: Dates: Wednesdays

Time: 1:30-4:30 pm

Location: Course will be offered in at Children's and Women's Hospital, Clinical Support Building, 948 West 28th Avenue, Room V222. (see map last page) but students may join remotely by Zoom. Parking available on site. Accessible by Oak St. or 25th Ave bus or inter-hospital shuttle from UBC, St. Paul's or VGH. Sky train Canada Line stops at 25th and Cambie with shuttle every 15 minutes from NW corner of Cambie and 25th to C&W site. You do not need a pass key to come into the building – enter the lobby and turn left through the glass door, then turn right and proceed down hallway to ceiling sign that indicates seminar rooms

Instructors: **Patricia Janssen, PhD, Professor, SPPH**
Patti.janssen@ubc.ca
604 827 4026,
Office Hours: by appointment at either UBC or the C&W site or by Zoom.

Learning Goals and Objectives

Maternal/fetal/newborn health is a critical determinant of the health and demographic properties of a population. The overall goal of this course in perinatal epidemiology is to provide the basis for familiarity with indicators of maternal/newborn well-being across population subgroups, changing trends in obstetrical intervention, determinants of perinatal morbidity and analysis of perinatal data.

On completion of this course the student will:

1. Be familiar with recent secular trends in major problems of maternal and child health including perinatal mortality, intrauterine growth restriction, preterm birth, and maternal morbidity and mortality;
2. Understand the contribution of social determinants to maternal/fetal morbidity and mortality;
3. Understand challenges in predicting risk of adverse perinatal outcomes;
4. Understand the demographic forces that cause changes in characteristics of populations which in turn relate to both etiologies and service needs associated with maternal/newborn morbidities;
5. Appreciate differences between cross sectional and longitudinal analyses of pregnancy outcomes in predicting outcomes for individuals and for populations.
6. Be exposed to the epidemiological patterns of common congenital malformations.
7. Develop a perspective of the relative importance of intrinsic factors (host factors) and extrinsic factors (infections, drugs, chemicals, occupational exposures) in major maternal newborn health problems.
8. Evaluate screening programs in current use in maternal newborn care.
9. Evaluate the contribution of health services in improving maternal newborn morbidity and mortality.
10. Undertake a large data set analysis.
11. Develop a proposal for writing an instructor-approved epidemiologic question, analyze data, and present and discuss findings in a report format.

3. Course Structure

Classroom time will consist of lecture, seminar, and discussion formats. A variety of experts in topical areas will be providing lectures. The course instructor will grade evaluation activities. Detailed discussion will be fostered by means of a seminar format coupled with student presentations and online discussion activities.

5. Text book and Course Materials

Readings will be distributed throughout the course. Lectures will be made available online.

6. Student Evaluation

Oral presentation (25%)

A 10-minute oral presentation in a perinatal topic area with emphasis on methodological issues

Proposal (25%)

The student will submit a proposal to undertake a project using data from the BC Perinatal Registry. The proposal will be 5 pages in length and outline the justification for the question including a literature review and a outline of methods to be used.

Class participation (10%):

Students will be assigned a mark between 0-10 for their willingness to participate in class discussion and the degree to which their participation enhances discussion in the class.

Large data set analysis (40%)

The student will test a hypothesis related to maternal/fetal/newborn health. The analysis will address confounding, effect modification, bias, and misclassification

Term Paper (65%) (WACH 503) students only in lieu of proposal and data analysis)

Students will prepare a term paper on a maternal, fetal or newborn clinical problem (e.g. fetal growth restriction; congenital heart lesions). The term paper will include discussion of the etiology and pathophysiology of the problem, of diagnostic and therapeutic options available and of the efficacy of these methods. The problem can be the same one discussed in the oral presentation that the student gives or a different one, with the decision being up to the student. The topic for the term paper should be submitted to Dr. Rurak for approval before beginning the term paper. Additionally, all term papers must be submitted to the Turnitin plagiarism detection program through UBC. Instructions on how to use this program will be provided when the term paper topic is approved.

7. List of Topics

Perinatal Epidemiology Concepts and Challenges			
1	Sept 7	Introduction to perinatal epidemiology & course requirements	P. Janssen
Preconceptional Determinants of Perinatal Outcomes			
1	Sept 7	Social determinants	Dr. G. Hanley
2	Sept 14	Environmental determinants	Dr. G. Webster
2	Sept 14	Aboriginal Health	Dr. J. Murray
3	Sept 21	Human Fertility and Fecundity	Dr. A Zhang
Prenatal Determinants of Perinatal Outcomes			
3	Sept 21	Genetics and Reproduction	Li Qing Wang
4	Sept 28	Congenital anomalies	Dr. M. Patel
4	Sept 28	Fetal Growth	Dr. P. Janssen
5	Oct 5	Pregnancy Dating and Length	Dr. F. Tessier
5	Oct 5	Screening in pregnancy	S. Lauson
6	Oct 12	Multiple gestation	Dr. F. Tessier
6	Oct 12	Oral health in pregnancy	Dr. A. Adenyi
7	Oct 19	Introduction to Pop Data	Dr. G. Hanley
7	Oct 19	Unintended pregnancy	Dr. W. Norman
Epidemiology of Conditions Arising in Pregnancy			
8	Oct 26	Physiology and pathophysiology of labour	Dr. P. Janssen
8	Oct 26	Pop Data Orientation and Accounts	PopData BC
9	Nov 2	Hypertensive disorders	Dr. M. Vidler
9	Nov 2	Diabetes in pregnancy	Dr. S. John
10	Nov 9	Mental health disorders in pregnancy	Dr. G. Hanley
10	Nov 9	Mortality and morbidity trends – newborn	Dr. R. Sherlock
11	Nov 16	Etiologies of preterm labour	Dr. Knutzen
11	Nov 16	Infections and perinatal outcomes	Dr. J. van Schalkwyk
12	Nov 23	Obesity/Pregnancy Spacing	Dr. L. Schummers
Surveillance and Methodology in Perinatal Epidemiology			
12	Nov 23	Issues in study design and analysis of perinatal data	Dr. KS Joseph
13	Nov 30	Mortality trends – maternal	B. Johnston
13	Nov 30	Hemorrhage in pregnancy	Dr. A. Nagi

MAP of C&W site

