

Epidemiology and Prevention of Non-Communicable Diseases (SPPH 581X)
School of Population and Public Health, UBC
Term 2, January – April 2019

Objectives

The course is intended to provide students with an understanding and substantive knowledge of the epidemiology and burden of non-communicable diseases (NCDs) and their determinants in Canada and globally, introduce students to population-based NCD models and teach the principles of developing and implementing policies and programs for the prevention of NCDs.

Audience

Students in all SPPH programs (PhD and Master's), graduate students in other UBC programs, potentially students from other universities interested in epidemiology, prevention, modeling, and policy development for NCDs. The course may also be useful to public health providers, future public health leaders, as well as population health scientists and government advisors. Non-SPPH students will need approval of the course coordinator.

Prerequisites

None

Format

The course is currently offered in a traditional, face-to-face format. The course aims to foster discussion and interaction as the basis for understanding the material. It is taught using a variety of methods, such as interactive lectures, discussion of assigned readings, home exercises, in-class exercises, and student presentations.

Instructors

Dr. Jacek Kopec, Professor and Head, Division of Epidemiology, Biostatistics and Public Health Practice, SPPH (course coordinator)

Dr. Hans Krueger, Adjunct Professor, SPPH, and President, H. Krueger & Associates Inc.

Dr. Drona Rasali, Director, Population Health Surveillance and Epidemiology, PHSA

Dr. Nizal Sarrafzadegan, Affiliate Professor, SPPH, and Professor, Isfahan University of Medical Sciences, Isfahan, Iran.

Time and Place

Second term (January – April), Tuesday, 9:00 am – 12 pm, SPPH Room B138.

Office hours for Dr. Kopec: Tuesday after class, Tuesday 1:00-3:00 pm in room 273, otherwise by appointment

Textbook

There is no textbook for this course. Readings will be assigned for each session. We will make extensive use of materials available on the Internet. In particular, we will use data from the Global Burden of Disease Study available through GBD Compare.

Evaluation

Class participation	25%
Mid-term quiz	20%
Presentation	20%
Final paper	35%

Grading rubric

Marks are based on the following guidelines:

90-100% - Outstanding work, exceeds expectations in every respect

85-89% - Very good to excellent work, exceeds expectations in most respects

80-84% - Good, solid performance, only minor errors

68-79% - Adequate performance but with significant or multiple errors or lacking in important areas

Final percentage grades are calculated using a distribution-based method. The weighted sum of marks is adjusted statistically to achieve a desired distribution of final grades while maintaining the ranking of students based on the weighted sum.

Note about plagiarism

From: <https://www.grad.ubc.ca/current-students/student-responsibilities/dealing-plagiarism>

*Plagiarism is intellectual theft. It occurs when an individual submits or presents the oral or written work of another person as his or her own. This applies to draft work and oral presentations as well as to final submissions. Failing to properly cite the work of another also constitutes plagiarism, even if it is accidental. Plagiarism by graduate students will be reported to the Faculty of Graduate Studies. Your department or Faculty may have additional information about plagiarism. **You are responsible for understanding what constitutes plagiarism, and for ensuring that you do not commit any act of plagiarism under any circumstances.***

Download the complete document “Dealing with Plagiarism by Graduate Students” at:

https://gradstudies.ok.ubc.ca/_shared/assets/Plag36763.pdf or go to:

<https://www.grad.ubc.ca/faculty-staff/policies-procedures/dealing-plagiarism-graduate-students>

Selected online resources

Global Burden of Disease

<http://www.healthdata.org/gbd/data-visualizations>

<http://www.healthdata.org/data-visualization/gbd-compare>

<http://www.healthdata.org/data-visualization/epi-viz>

<http://ghdx.healthdata.org/>

Canadian sources

<https://infobase.phac-aspc.gc.ca/ccdss-scsmc/data-tool/>

<http://infobase.phac-aspc.gc.ca/cdiif/>

<http://infobase.phac-aspc.gc.ca/cubes/index-eng.html>

<https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/publicat/ebic-femc/2005-2008/assets/pdf/ebic-femc-2005-2008-eng.pdf>

<https://www.canada.ca/en/public-health/corporate/mandate/about-agency/working-together-globally-canada-world-health-organization-collaborating-centre-chronic-noncommunicable-disease-policy.html>

<https://ncdalliance.org/>

<http://www.cdpc.ca/>

CDC US

<http://www.cdc.gov/DataStatistics/>

Gapminder

<http://www.gapminder.org/>

https://www.gapminder.org/tools/#_chart-type=bubbles

WHO

<http://www.who.int/nmh/ncd-tools/en/>

www.who.int/entity/global-coordination-mechanism/working_group1/en/

www.who.int/hpr/nutrition/index.shtml

http://apps.who.int/iris/bitstream/10665/80149/1/9789241504782_eng.pdf?ua=1

www.who.int/entity/chp/ncd_capacity/en/

Course Schedule for 2018/19

Date/Instructor	Topic
Session 1 January 8 Dr. Kopec	Course overview and introduction to NCDs Course overview; Student introductions; Historical perspective on NCDs; Epidemiological transition; NCD epidemics; Sources of data on NCDs;
Session 2 January 15 Dr. Kopec	Measuring NCD burden Mortality and morbidity; Global Burden of Disease (GBD) indicators: Years of Life Lost (YLLs), Years Lost to Disability (YLDs), Disability-Adjusted Life Years (DALYs); Attributable burden; GBD modelling;
Session 3 January 22 Dr. Kopec	NCD burden in Canada Trends in major health indicators in Canada by age and sex; Burden due to NCDs vs. other conditions; Compression vs. expansion of morbidity; Socio-economic gradient in health;
Session 4 January 29 Dr. Kopec Students	Mortality and morbidity for selected NCDs Ischemic heart disease; Stroke; Lung, colon, breast and prostate cancer; Asthma and COPD; Diabetes; Back and neck pain; Osteoarthritis; Alzheimer's disease; Depression; Other common conditions;
Session 5 February 5 Dr. Kopec Students	Prevalence and burden of selected risk factors Smoking; Nutrition (grains, salt, sugar, fat, meat, other); Alcohol and drugs; Physical inactivity; Obesity; Physiological risk factors (blood pressure, cholesterol, glucose); Occupational and environmental risks;
Session 6 February 12 Dr. Krueger	Economic burden of NCDs and their determinants Measures of economic burden; Cost-of-illness studies; Economic burden of major NCDs and their determinants in Canada;
February 19	Reading week - no classes
Session 7 February 26 Dr. Kopec	Modelling of NCDs Population-based simulation models of NCDs; Examples of model applications; Principles of risk prediction and personalized prevention; Risk and life expectancy calculators;
Session 8 March 5 Dr. Sarrafzadegan	Principles of NCD prevention Population vs. high-risk approach to prevention; Implementation research models; Best-buy strategies and challenges; International examples of comprehensive, integrated community-based programs;
Session 9 March 12 Dr. Sarrafzadegan	Global approach to NCD prevention WHO/UN framework for NCD prevention; Global action plan; Assessing national capacity; NCD global surveillance, targets, indicators, and available tools;
Session 10 March 19 Dr. Kopec	NCD prevention in Canada Examples of NCD prevention programs in Canada; Integration into primary care; Multi-sectoral policies; Private sector engagement; PHAC strategic plans for chronic disease prevention;
Session 11 March 26 Dr. Rasali	NCD prevention and control at a provincial/local level Approaches to NCD prevention/control in BC; Examples of current policy issues in developing and implementing programs for NCDs in BC;
Session 12 April 2	Student presentations