

CURRICULUM

COURSE LEADER:

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LECTURERS:

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Sarah Cook, Assistant Professor in Epidemiology, Department of Non-communicable Disease Epidemiology, London School of Hygiene & Tropical Medicine, London, UK; e-mail: sarah.cook@lshtm.ac.uk

Vitaly Postoev, Head of International School of Public Health, Arkhangelsk; Lecturer, Department of Public Health, Health Care and Social Work, NSMU, Arkhangelsk, Russia; e-mail: vipostoev@yandex.ru

GUEST-LECTURERS:

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COURSE DESCRIPTION

Epidemiology of cardiovascular diseases (CVDs) is a discipline which studies the distribution and determinants of CVDs in the population. The discipline is of a high relevance internationally because CVDs comprise the leading cause of morbidity and mortality worldwide. Key risk factors include hypertension, smoking, elevated cholesterol, elevated glucose level and diabetes, obesity, physical inactivity, and alcohol. Russia has one of the highest CVD mortality rates in the world. In 2015, the mortality rate in Russia was four times higher than in England and Norway, and there are no definitive explanations for that.

To investigate this phenomenon, the Know Your Heart (KYH) cross-sectional study was conducted in Arkhangelsk and Novosibirsk in 2015-2018 as a part of the International Project on Cardiovascular Disease in Russia (IPCDDR). In 2015-2016, a similar study of CVDs was conducted as part of Tromsø Study 7 (T7) - the seventh wave of the population health study in Tromsø, Norway. The KYH study has been designed to be comparable to the T7, and this has laid a basis for Heart to Heart (H2H) - a joint plan for a series of comparative studies to identify and quantify differences in CVD and its determinants between Russia and Norway.

The KYH, the T7, and the H2H studies generate a solid knowledge basis for training public health specialists on both sides of the border with an emphasis on CVD epidemiology and prevention. This situation has become a ground pillar for this course to appear. The course is run by the leading H2H researchers and uses data-driven examples from the KYH, the T7, and the H2H. For these reasons, the course is particularly targeting students which already use (or may later use) the H2H data for their Master theses or other research projects.

The purpose of the course is to impart knowledge of the distribution and determinants of CVDs in the population. The emphasis is on the epidemiological methods used to generate new knowledge for effective CVD prevention.

Teaching is concentrated in one intensive classroom gathering (4 days) at which lectures are combined with group exercises and discussions.

To fully benefit from the course, a student is expected to have basic knowledge of epidemiology and statistics at the entry. For the same purpose, the students are asked to read the course literature before the classroom gathering.

The final assessment of students is performed via written take-home examination that has to be completed in four weeks after the gathering.

LANGUAGE OF INSTRUCTION

English

TARGET GROUPS

Group 1. Master of Public Health (MPH) students at the International School of Public Health, Arkhangelsk (ISPHA), NSMU

The course is an elective part of the MPH programme at the ISPHA. Good knowledge of English (upper intermediate level)* is the only prerequisite for ISPHA's MPH students to be accepted.

Group 2. Master students in health and social sciences at UiT

MPH students and other Master students in health and social sciences at the UiT can be accepted to the course. There are no specific prerequisites.

Group 3. Students from other Russian and Norwegian universities

Students from other Russian and Norwegian higher educational institutions are welcome to apply for the course. At least a Bachelor degree (or its equivalent) in health and social sciences and good knowledge of English (upper intermediate level)* is a prerequisite for being accepted.

** The required knowledge of English can be documented by an internationally recognized proficiency test (TOEFL written form – min. 550 points, TOEFL computer based – min. 213 points), or by result of English test at the Northern State Medical University.*

Maximum total number of students in the course - 24.

LEARNING GOALS

Upon satisfactory completion of the course, a student will:

- be aware of the global burden of CVDs, key risk factors, and substantive questions in CVD epidemiology;
- appropriately use epidemiologic concepts and terms in relation to CVD research at the population level;
- get acquainted with designs and examples of epidemiologic research in the CVD field, understand relative merits of different designs;
- be familiar designs and methodological principles of the KYH and the T7 studies and the H2H comparative study of CVDs in Russia and Norway;
- be aware of common mistakes and omissions in CVD study designs and their implications in terms of sampling error, measurement error, and confounding;
- acquire basic practical skills in designing an epidemiologic study of CVDs;
- acquire basic skills of critical evaluation of published CVD research.

TEACHING METHODS

- One classroom gatherings (4 days) including lectures, individual and group practical exercises, seminars

- Sources of educational information: lectures, textbooks, scientific publications

EXAMINATION

- The final course grade is given on the basis of a written take-home examination
- What is to be tested: knowledge of concepts and methods of CVD epidemiology, skills in applying knowledge in practice
- Grading: PASSED/FAILED
- Presence at the classroom gathering is compulsory for passing
- A student has a right to be given two opportunities to re-sit final take-home examination after having "FAILED" (first – in 4-5 weeks after the regular exam, second – when the same exam is arranged in the next year course).

COURSE LITERATURE

- Approximately 650 pages
- Compulsory course literature
- Epidemiology and Prevention of Cardiovascular Disease: A Global Challenge Second (2nd) Edition by Darwin R. Labarthe; 2011 (selected chapters). Link: https://shdrc.skums.ac.ir/dorsapax/userfiles/file/CVD_Epidemiology_Labarthe_2011.pdf
- Articles (will be provided by teachers)
- Recommended additional reading
- Basic epidemiology by R. Bonita, R. Beaglehole, T. Kjellström: http://apps.who.int/iris/bitstream/handle/10665/43541/9241547073_eng.pdf?sequence=1
- Concepts of Epidemiology: An integrated introduction to the ideas, theories, principles and methods of epidemiology by Kenneth Raj S. Bhopal. Link: https://skums.ac.ir/dorsapax/userfiles/file/Epidemiology_Concepts_2002.pdf

STUDENT WORKLOAD

For ISPHA's MPH students

Preparatory assignment (reading of approx. 400 pages):	40 hours
Classroom gathering (4 days)	28 hours
Home exam (including reading of approx. 250 pages):	40 hours
<i>Participation in the H2H Workshop</i>	<i>36 hours</i>
	144 hours
Total:	(4 Russian credit points)

For UiT's MPH and external students

Preparatory assignment (reading of approx. 400 pages):	40 hours
Classroom gathering (4 days)	28 hours
Home exam (including reading of approx. 250 pages):	40 hours
	108 hours
Total:	(4 ECTS)

HOW TO APPLY?

The application shall contain:

- Letter of application (free format)
- CV (containing a complete overview of education, supervised professional training and professional work)
- Copies of:
 - *diploma and transcript from a Bachelor's degree or equivalent*
 - *documentation of required English skills*

Application shall be emailed to Tormod Brenn at UiT e-mail tormod.brenn@uit.no.

Basic Epidemiology of Cardiovascular Diseases, 4 ECTS

PRELIMINARY TIME TABLE

Classroom gathering, 22-25 April 2019

<u>Monday</u> 09.00	10.30	11.00	12.30	13.30	15.00	15.30	17.00
Introduction, student presentation AKa Types of CVDs KK	B R E A K	Global burden of CVDs AKa Study designs in CVD research VP	L U N C H	"Know your heart" cross-sectional survey Tromsø Study 7 Heart to Heart - comparing Russia and Norway on CVDs AKu	B R E A K	What can we gain from H2H? Group work on research questions Summary discussion VP, AKa, AKu	
<u>Tuesday</u> 09.00	10.30	11.00	12.30	13.30	14.30	15.00	17.00
Socio-demographic risk factors AKa Life style risk factors KK	B R E A K	Environmental burden of CVDs TU Selection bias in CVD research AKu	L U N C H	Measurement errors in CVD research VP Confounding and interaction in CVD research AKu	B R E A K	Critical appraisal of published CVD research Group work Summary discussion VP, AKa, AKu	
<u>Wednesday</u> 09.00	10.30	11.00	12.30	13.30	15.00	15.30	17.00
Physically measured risk factors SC Biomarkers of CVDs and findings from H2H study OI	B R E A K	Alcohol - a protective or a risk factor ON	L U N C H	What explains the decline in CVD mortality in Western countries? Group work Summary discussion IN, ON, TB, AKu	B R E A K	Factors associated with a long life TB Social inequalities in health: Norway IN	
<u>Thursday</u> 09.00	10.30	11.00	12.30				
Global health and CVDs: what prevention interventions are really effective? AKr	B R E A K	How to reduce the CVD burden in Russia? Summary discussion All	L U N C H				
<i>Trainers:</i> AKa - Aleksei Kalinin, AKr - Alexandra Krettek, AKu- Alexander Kudryavtsev, DL - David Leon, IN - Inger Njølstad, KK - Kamila Kholmatova, OI - Olena Iakunchykova, ON - Odd Nilssen, SC- Sarah Cook, TB - Tormod Brenn, VP - Vitaly Postoev							