SSPH+ INTER-UNIVERSITY GRADUATE CAMPUS SWISS SCHOOL OF PUBLIC HEALTH

in collaboration with

unisanté
Centre universitaire de médecine générale et santé publique • Lausanne

Epidemiological concepts, principals, and methods: A practice-oriented introduction

Facilitators

Prof. GUSEVA CANU Irina
University of Lausanne, Unisanté, Department of Occupational and Environmental Health
Prof. ROHRMANN Sabine: University of Zürich, Division of Chronic Disease Epidemiology
Prof. GAYET-AGERON Angèle: University Hospitals of Geneva, Division of Clinical Epidemiology

Description

Epidemiology is the branch of medical sciences that investigates the distribution of health-related states and events in specified populations (community, institutions [schools], city, state, country, region, continent, worldwide). Epidemiology also includes the assessment of any intervention applied to remediate a health problem.

In this introductive course, we will treat the following topics:
1- Definition, objectives and objects of modern epidemiology (i.e., types of outcomes and their determinants/exposures).
2- Validity and precision of exposure and outcome
3- Study designs and association measures
4- Causal framework and the role of chance and bias in epi-studies
5- Principles of good study design and protocol drafting
Different concepts will be introduced using contemporary examples from exposure-oriented (nutritional, occupational and environmental epidemiology) and outcome-oriented epidemiology (i.e., communicable and non-communicable diseases and clinical epidemiology).
To assimilate these notions, students will be stimulated to precise/redefine their original research question and hypotheses considering the study design appropriate in their chosen context.

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Objectives

This course has a double goal: 1-to enable students to use appropriate methods and data to understand and deal with health-related problems, 2-to prepare students for the conduct of epidemiological research. At the end of this course the students will be able:
1-to formulate the problem and specify hypotheses to be addressed or a clear research question;
2-to elaborate a structured research protocol to address the research question using an appropriate study design, accurate (valid and precise) measurements of the exposure and the targeted health outcomes;
3-to anticipate the risk of potential biases (selection, misclassification, confounding) and to propose strategies to control them
4-to interpret study results in the frame of causality
5-to identify the appropriate guidelines and apply them when conducting an epidemiological study and reporting its results.

Dates

30 September - 4 October 2024

Eligibility

SSPH+ IGC students with interest in public health and epidemiology. Maximum 25 students

Course Structure

Pedagogical format will mix theoretical teaching with practical exercises using published research findings. Different contemporary public health problems (e.g., SARS-CoV-2 seroprevalence, obesity and metabolic and mental disorders, nutritional, occupational and environmental epidemiology) will be analyzed in interaction with students, who will apply a deductive reasoning to formulate possible underlying hypotheses that they could then translate into research questions.

Assessment

At the end of the first 4 days, the students will draft a basic study protocol to answer their research questions on exposure/ intervention or a health problem of their interest. Those students who are already involved in an epidemiological study could present and critically assess the protocol of

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their studies. Depending on the number of students, they could work in small groups of 4-5 students. On day 5, each protocol will be presented to their peers and discussed collectively.

Credits

2 ECTS

Preliminary Work: 3-5 h; Contact time: 40 h; Wrap-Up Work: 7-10 h

(1 ECTS corresponds to appr. 25-30 hours workload)

Location

Unisanté, Biopole 1, 1066 Epalinges

Course Fees

	2 ECTS
SSPH+IGC Students	30 CHF
Postdocs from SSPH+ partner institutes	30 CHF
External PhD students and MD students	600 CHF
Others	1'600 CHF

Registration

https://www.conftool.com/ssph-phd-courses2024/

Deadline for registration

30 August 2024

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