Quantitative population health analysis in nutrition: a primer

Duration: 1 full day (8AM-5PM)
Location: Oslo, Norway

Course description

Puzzled about the results of modeling-based nutritional health studies? Want to be able to critically review and understand how estimates from population studies are derived? Collaborating with modelers and want to better understand what they do? Many workshops are available to the nutritional community covering aspects such as how to perform systematic reviews, meta-analysis techniques, and modeling of population health projections. This 1-day workshop aims at providing a unique overview of how these different methodologies are integrated in population health analyses in nutrition.

Participants will learn how epidemiological and risk analysis methods are combined to obtain population-level health impact estimates of different dietary components. They will also learn how to assess health evidence from observational studies, and how different data is collected and combined to estimate health outcomes such as morbidity and mortality from different diets.

Using applied examples, the instructors will show the impact of statistical uncertainty on the conclusions of nutritional studies and will provide an introduction to uncertainty modeling methods in an intuitive way that doesn't require knowledge of statistics.

The course is designed for nutritionists and other professionals who would like to understand the derivation of population health estimates in nutrition and its relationship to epidemiology and risk analysis. It's also designed to appeal more generally to professionals interested in the intersection between evidence, modeling, and statistical uncertainty in population studies. **NO PRIOR MODELING OR STATISTICAL EXPERIENCE IS REQUIRED TO ATTEND THE COURSE**, the course is designed to be self-contained and amenable to anyone regardless of quantitative background.

Course program (tentative)

Time	Introduction
8:00 – 8:30AM	Registration
8:30 – 8:45AM	Introductions, logistics
8:45 – 10:00AM	Intro to modeling, health, and nutrition

10:00 – 10:15AM	*Coffee break*
	Demystifying modeling studies
10:15 – 11:00AM	Study objective, scope and structure
11:00 – 12:00PM	Gathering and evaluating evidence
12:00 – 1:00PM	*Lunch*
1:00 – 1:45PM	Combining and using evidence
1:45 – 2:45PM	Creating population estimates, considering uncertainty
2:45 – 3:00PM	*Coffee break*
	Critically assessing modeling studies
3:00 – 4:30PM	Main issues to consider, checklist, examples
4:30 – 5:00PM	***Question and answers, group discussions, adjourn***

Concepts to be covered

- Nutritional epidemiology and causal inference in observational epidemiological studies
- Evidence synthesis, qualitative and quantitative methods, and why it's key in nutritional epi.
- Assessing quality of evidence.
- How we build population health projection models based on nutritional evidence: health outcomes (relative risks, odds ratios, hazard rates), uncertainty analysis, attributable fraction, QALYs, DALYs, other outcomes
- Example studies to be discussed: Global Burden of Disease project, EAT-Lancet commission, multiple systematic reviews, World Health Organization's Global Nutrition Monitoring Framework and Targets for 2025, and others.

Instructors

Dr. Francisco Zagmutt, DVM, MPVM, PhD

Francisco specializes in risk modeling and epidemiology and has conducted work that directly informed regulatory policies in the United states and abroad. Dr. Zagmutt has led, participated in, and published multiple research and consulting studies in varied health-related areas such as nutritional epidemiology, infectious disease epidemiology, food safety, public health, outcomes research and early drug development.

Francisco is a managing director at EpiX Analytics, and affiliate faculty at Colorado State University, where he also lectures in Risk Management. Francisco is an appointed member of the US National Advisory Committee on Microbiological Criteria for Foods where he provides impartial scientific advice

to multiple federal agencies. He holds a DVM from the University of Chile, masters from UC Davis, and PhD from Colorado State University.

Dr. Jane Pouzou, MPH, PhD

Dr. Pouzou works as a quantitative risk analyst for EpiX Analytics, carrying out risk analysis projects in a variety of fields. She specializes in topics related to human health risks, such as chemical exposure and food safety, and in the use of probabilistic and stochastic methods of risk quantification. Jane received her Ph.D. in Environmental and Occupational Health from the University of Washington and also holds a Master's in Public Health and a B.S. in Biology from the University of Virginia.