

Economic Evaluation in Global Health

Dates: 10 July 2023 – 17 September 2023

Location: <https://learn.edgh.uw.edu/course/view.php?id=31>

Instructor/s

Monisha Sharma, ScM, PhD

Assistant Professor, Department of Global Health

University of Washington

Dr. Monisha Sharma is an Assistant Professor in the Department of Global Health. She received her Masters in infectious disease epidemiology from Johns Hopkins University and her PhD in epidemiology from the University of Washington. Her research interests include mathematical modeling and cost-effectiveness analyses of HIV testing and linkage to care interventions in sub-Saharan Africa. She is the principal investigator of a K01 award to design an intervention into increase men's uptake of HIV self-testing and clinic linkage in Uganda. During her joint postdoctoral fellowship with UW and the Harvard School of Public Health, she worked to develop a mathematical model of HIV/HPV co-infection to project the cost-effectiveness of cervical cancer prevention strategies in South Africa. She is currently working on a scale up project of Assisted Partner Notification services in Kenya and collaborates with the Institute for Disease Modeling to project the impact of scaling up point-of-care viral load monitoring for patients on ART in sub-Saharan Africa.

Teaching Assistant

Rachel Wittenauer, PhD student

Department of Global Health

University of Washington

Rachel Wittenauer is a PhD student in health economics at the University of Washington (UW). She previously completed her master's in public health at UW. Her research interest include: vaccine policy, global health security, health economics, decision sciences, access to medicines, disease modeling.

Student Support Specialist

Dewa Shrestha Greenleaf, MA (edgh@uw.edu)

Dewa Shrestha Greenleaf (she/her/hers) is a Student Support Specialist in the Department of Global Health e-Learning at the University of Washington. Born in Kathmandu, Nepal, Dewa immigrated to the US as a child. She completed her Master's degree in Health Promotion at the University of Iowa. Her graduate work focused on understanding how researchers examine health issues in immigrant and refugee populations. She also worked on a longitudinal study to examine the impact of physical activity on the bone development of children.

Description

This course introduces the concepts and methods for economic evaluation in low and middle-income countries with a focus on cost-effectiveness analyses. Topics covered include measuring costs, valuing health outcomes in disability-adjusted life years (DALYs), discounting, and utilizing models to conduct economic evaluation and evaluate uncertainty.

Course Learning Objectives

After completing this course, you will be able to:

- Understand the rationale and methods for conducting economic evaluations of global health interventions;
- Critically evaluate published papers in the field of global health economic evaluation;
- Identify sources for model parameters including costs and epidemiologic data;
- Understand the theoretical rationale for disability adjusted life years (DALYs) and willingness-to-pay thresholds; and
- Participate in the design and conduct of health economic evaluations in collaboration with health economists or mathematical modelers.

Course Topics

Module 1: Introduction and rationale for economic evaluations for health interventions

- Definition and overview
- Conducting and interpreting economic evaluations
- Impact of colonialism on global health

Module 2: Methods for conducting economic evaluations

- Calculating Incremental cost-effectiveness ratio (ICER)
- Types of health economic evaluations
- Discounting
- Cost-effectiveness thresholds

Module 3: The Numerator: identifying and measuring costs for economic evaluation

- Numerator: Assessing costs for economic evaluation
- Measuring and categorizing costs
- Approaches for measuring costs

Module 4: Costing analyses in global health

- Global Health Costing Consortium (GHCC)
- Costing Definitions
- Microcosting

Module 5: The Denominator: estimating health benefits for economic evaluation

- Denominator: estimating health benefits for economic evaluation
- Methods for estimating utility and disability weights
- Multi-attribute utility instruments and conclusions

Module 6: Decision analysis and introduction to modeling

- Modeling and decision science
- Decision trees
- Sensitivity analyses

Module 7: Markov modeling

- Analyzing Markov models
- Excel demo of Markov models
- Sensitivity analyses

Module 8: Microsimulations and dynamic models

- Microsimulation models
- Compartmental dynamic models
- Individual-based dynamic models
- Model parameterization and calibration
- Resource allocation

Module 9: Budget Impact Analysis

- Methods for conducting budget impact analysis

Module 10: Special Topics

- Extended cost-effectiveness analysis (ECEA)
- Equity Impact Plane
- Discrete Choice Experiments (DCEs)

Target Audience

This course is appropriate for health care and public health professionals who want a better understanding of the tools, approaches, and applications of economic evaluation. Prior experience with Microsoft Excel would be helpful.

Participants are from multiple countries around the world and include health care workers, early to mid-career clinical and public health managers, and program directors.

Format

This is a self-paced, online modular course divided into 10 weeks.

This course will be delivered entirely online through a course management system named (Moodle).

Participants are expected to review the pre-recorded weekly lectures, complete assigned readings and activities, and participate in discussion via the discussion forums. Most participants will also meet with a local study group that is led by a site facilitator. This is meant to increase opportunities for discussion about the relevance of the material to the local setting. Completion of a final course evaluation is strongly encouraged for successful completion of the course.

If you have any questions, please look at the course FAQ. If your question isn't answered there, please email edgh@uw.edu.

Materials

All reading materials for this course are provided, in PDF form, or by linking to online sources.

Grading

To be successful in the course you will need to complete all of the learning activities listed.

Final grades will be calculated as follows:

Activity	Percentage
Assignments (5 points each, 8 total)	40%
Discussion Forums (2 points each, 5 total)	10%
Quizzes (2.22 points each, 9 total)	20%
Final Project (30 points, 1 total)	30%
Optional Assignments (0 points, 1 total)	0%
Total	100%

Submitting Assignments

All assignments for this course will be submitted electronically through Moodle. Assignments must be submitted by the given deadline.

Viewing Grades in Moodle

Points you receive for graded activities will be posted to the Moodle Grade Book.

Quizzes will be graded upon submission. Discussion and assignment grades are posted by the end of the day Monday after an assignment is due. If you submit your assignment late (after the due date), please note that your grade will be updated approximately 10 days after the due date. All due dates and times are in Pacific Time.

Assignments

Written Assignments

Throughout the course you will complete a series of short assignments aimed to help you apply the concepts taught in each module.

Discussion Forums

Your participation in the discussion forums is critical for maximizing your learning experiences in this course. Please refer to the [information on posting to discussion forums](#) to read about expectations for posting.

Quizzes

Quizzes will open when the module opens. You will have 2 attempts on each quiz. The learning management system will record your highest score.

Note, there is **no final exam**.

Final Project

Each week in the course you will respond to non-graded questions meant to help you develop a final project. You will use these weekly writing prompts to build your final project and submit it during the last week of the course. The final project is intended to be an application of the information presented in the prior 10-weeks of the course. You will be asked to incorporate key concepts from throughout the course into your project.

Optional Learning Activities

In some modules, we have included optional learning activities. These contain additional resources, learning activities, and downloadable resources. Completing these optional activities is for your own enrichment and will not count toward your grade.

Certificate of Completion

Active participation is required in order to receive a Certificate of Completion for the course. To receive a Certificate of Completion from the University of Washington, USA, you must pass the course, which means getting a final score of 70% or higher on all graded activities.

If you are a site participant, you must earn a qualifying score and attend 3 of the site meetings your site will hold. Attendance at more, if offered, is encouraged but not required to meet the site participation requirement. After the course, site participant certificates will be sent to site coordinators for distribution.

Late Work Policy

Assignments will be due at the end of each module. If you are unable to submit your assignment by the due date, you may still submit it up to one week late without penalty. After the one-week grace period, the assignment will close and it can no longer be accepted for grading.

Commitment to Academic Integrity

Commit to Integrity

As a participant in this course, you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom.

Definitions

“Plagiarism is defined as the use of the words, ideas, diagrams, etc., of publicly available work without appropriately acknowledging the sources of these materials. This definition constitutes plagiarism whether it is intentional or unintentional and whether it is the work of another or your own, previously published work. Plagiarism is a very serious offense that the University of Washington's eDGH Program does not tolerate.”

Enforcement

Corroborated reports of plagiarism, cheating, or other misconduct will result in no credit on that assignment and may result in suspension from the course and ban from participation in future courses.

Religious Accommodations

eDGH uses the UW's [policy on religious accommodations](#) for participants who need to make special arrangements in meeting course deadlines due to reasons of faith or conscience or for religious activities. Accommodations must be requested within the first two weeks of this course by contacting edgh@uw.edu.

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