Cost Effectiveness Analysis
HSMP 6609, Spring 2014

Instructors:

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Course Title: Cost Effectiveness Analysis
Credit Hours: Three Credit Hours
Meeting Time: Wednesday, 8:00-10:50 a.m.
Meeting Place: Ed 2 North, 1107.

HSMP Course Competencies:

1. Demonstrate an understanding of factors influencing access to and utilization of health services. (HSMP-2)

Course Overview:

This course is intended to give students an overview of the theory and applications of cost-benefit analysis, cost-effectiveness analysis, cost-utility analysis and related forms of economic evaluation of interventions in the health care sector. The topics to be covered are:

- The theoretical basis for CEA;
- Comparison of the various forms of decision analysis;
- Measures of costs and related controversies;
- Measures of outcomes including health status and health-related quality of life, assigning monetary values to outcomes, the value of a human life and of a quality-adjusted life year;
- Discounting;
- Uncertainty in cost-effectiveness analysis;
• Markov Models;
• Study design; and
• Standardized reporting of results.

The course occasionally uses conventional microeconomic analytical and statistical tools. While it is not required, it is recommended that students have taken a microeconomics course.

Learning Objectives

1. The student will be able to understand cost and effectiveness measures; to distinguish among cost-effectiveness, cost-benefit, and cost-utility analyses and know the advantages and disadvantages of each approach; and to understand the various perspectives that can be taken.

2. The student will know the recommendations of the Panel on Cost-Effectiveness and Medicine.

3. The student will have an appreciation for the controversies in the field: the costs of consumption in additional life years, productivity costs, discounting, etc.

4. The student will learn and be able to Excel in a series of exercises, some of which will ask the student to replicate the analysis of existing studies from the literature.

5. The student will understand and be able to apply Markov analysis and other modeling techniques.

6. The student will be familiar with the statistical issues of cost-effectiveness analysis and a menu of approaches for evaluating the uncertainty associated with point estimates of the incremental cost-effectiveness ratio.

7. The student know a number of the important studies from the cost-effectiveness analyses literature.

IV. Evaluation

Grades are based on performance on:

- Quizzes: 25%
- In class exercises: 20%
- Group Project: 25%
- Final exam: 30%

**Quizzes:** Quizzes will be given at the beginning of class as noted on the syllabus. Although no make-ups are given, you are allowed to drop the lowest score.

**In Class Assignments:** These will be assignments assigned and completed in class. There will not be make-ups for these assignments, however you will be allowed to drop the low score.
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Group Project: Details to be provided.

Final Exam: The final exam is scheduled for May 12th at 8:30 a.m.


Additional Reading Material: Posted on Canvas. The material in larger font is required, and the articles in smaller font with the * is optional to read.

Expectations:
I. Class attendance & Participation
   A. Attendance is not required, but is highly recommended.

II. Policies:
   A. Academic Honesty: Refer to School/College guidelines.
   B. Students are responsible for being attentive to or observant of campus policies regarding academic honesty as stated in the University’s Student Conduct Code.
   C. Plagiarism is the use of another person’s words or ideas without crediting that person. Plagiarism and cheating will not be tolerated. Either plagiarism or cheating may lead to failure of an assignment, or the class, and/or dismissal from the University.
   D. You are responsible for being attentive to or observant of campus policies about academic honesty as stated in the University’s Student Conduct Code. (http://thunder1.cudenver.edu/studentlife/studentlife/discipline.html)

III. Access, Disability, Communication:
   A. The University of Colorado Denver is committed to providing reasonable accommodation and access to programs and services to persons with disabilities.
   B. Students requesting accommodations should contact:
      C. The Office of Disability Resources & Services (DRS)
         a. 13001 E. 17th Place, Building 500, Rm. W1103
         b. (303) 724-5640.
   D. Their staff will assist in determining reasonable accommodations as well as coordinating the approved accommodations.

IV. Civility:
   A. Adherence to the Student Conduct Code is expected. I am committed to creating a climate for learning, characterized by respect for each other and the contributions each person makes to class. I ask that you make a similar commitment.
   B. Please turn off beepers and cell phones during class.

Quizzes:
Quiz 1: 2/12
Quiz 2: 2/26
Quiz 3: 3/12
Quiz 4: 4/2
Quiz 5: 4/23
Week 1 (1/22): Making Collective Decisions, Overview of Economic Evaluations (online)

Drummond et al., Chapters. 1, 2


(Note: starred articles are optional)

Week 2 (1/29): Decision Analytic Modeling (Campbell)

Drummond et al., Ch. 9, pp. 277-295.


Weeks 3 and 4 (2/5; 2/12): Measuring Costs in Cost Utility Analyses,

Drummond et al., Ch. 4,


Drummond et al., Ch. 5, pp. 103-136.
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**Weeks 5-7 (2/193/5): Cost Utility Analyses, Value of Human Life and of Quality Adjusted Years of Life**

Drummond et al., Ch. 6, pp. 137-209.


**EuroQol (EQ-5D):**


**Health Utilities Index (HUI3):**


Quality of Well-Being Index (QWB):

Quality of Well-being Scale—Self Administered (QWB-SA) questionnaire.


Short Form 36 (SF-36) and the SF-6D


*Bult, Roelf, Maria G. M Hunink, Joel Tsevat, and Milton C. Weinstein.  Heterogeneity in the Relationship Between the Time Tradeoff and Short Form-36 for HIV-Infected and Primary Care Patients, Medical Care vol. 36, no. 4, April 1998, pp. 523-532.

Self-reported Health Status


Disease-specific Quality of Life Weights

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Comparative Review of Preference-Weighted Measures of HRQoL


Issues of Bias with the SG, TTO and VAS


Value of a Statistical Life


**Weeks 8-9 (3/12; 3/26): Reflecting Uncertainty in Economic Evaluations (Campbell)**

Drummond Ch. 8


Spring Break (3/19)

Week 10: (4/2): Cost-benefit Analysis

Drummond et al., Ch. 7


Week 11 (4/9): Cost Analyses: Return on Investment, Cost of Illness, and Budget Impact


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Week 12 (4/16): Markov Models (Campbell)

Drummond et al., Ch. 9 and additional readings supplied by instructor


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Cortez MK. *Bloomberg* (business), 9 March 2013


United Kingdom’s National Institute for Clinical Excellence (NICE). *Guide to the Methods of Technology Appraisal*, June, 2008. This Guide is being rewritten and a new one might be available. If so, we will substitute the new one. I will announce which one is current in class. The 2008 version is available on the web at: [http://www.nice.org.uk/media/B52/A7/TAMethodsGuideUpdatedJune2008.pdf](http://www.nice.org.uk/media/B52/A7/TAMethodsGuideUpdatedJune2008.pdf).


*Tufts Medical Center, Institute for Clinical Research and Health Policy Studies, CEA Registry, Center for the Evaluation of Value and Risk in Health, Peter J. Neumann.  (This used to be at Harvard Center for Risk Assessment but moved to Tufts). Check out the CEA Registry at https://research.tufts-nemc.org/cear/Default.aspx. Try a search using their program.

Check out NICE’s guidance policies: http://www.nice.org.uk/guidance/index.jsp.


*Gold et al., Ch. 3 (pp. 54-81).

**Week 14 (5/5): Group Project Presentations**

5/12  Final Exam 8:00 - 10:50 am, regular classroom