

HS 249G: Techniques in Medical Technology Assessment: Decision Analysis and Cost-Effectiveness Analysis

Fall 2005
Tuesdays, 8-11 A.M.
Room 51-279 CHS

Instructors:

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Required Textbooks (available in UCLA Health Sciences Store):

Marthe Gold et al. (eds.), *Cost-Effectiveness in Health and Medicine*, Oxford University Press, 1996.
Myriam Hunink and Paul Glasziou, *Decision making in Health and Medicine*, New York: Cambridge University Press, 2001.

Peter Muennig, *Designing and Conducting Cost-Effectiveness Analyses in Medicine and Health Care*, San Francisco: Jossey-Bass, 2002.

TreeAge Pro Suite Student Version software for decision/cost-effectiveness analysis (Available from Treeage, Inc., web site:

<http://server.treeage.com/treeagepro/purchase/addProd.asp?rdo4=annual&rdoNL4=No&hdnProdId=4&lstSelect=3&lstStud=1&hdnShipType=download&getManual=No>

You can download the student version directly for \$45, which entitles you to a 12-month license. You can also download a free trial version that works for 21 days at:

<http://www.treeage.com/products/download-academic-student.html>

Students are expected to come to class prepared. All material should be read *before* the class session in which it will be discussed.

Prerequisites:

HS 200A,B (or equivalents).

Learning Objectives:

Students should leave this class with proficiency in constructing an appropriate a decision analysis probability tree, valuing health outcomes, and conducting cost-effectiveness and cost-utility analyses when evaluating a broad spectrum of medical technologies.

Evaluation Criteria:

Students will be given three assignments: one involving decision analysis, and one involving cost-effectiveness, and a final paper applying both techniques to a problem of interest selected by the student. Final grades will be calculated as follows:

Decision-analysis problem set:	20%	(due 11/1)
Cost-effectiveness problem:	20%	(due 12/6)
Final paper:	50%	(due 12/14)
Classroom participation:	10%	

Schedule of Classes

Dr. Keeler will teach sessions 1-4 dealing with Decision Analysis; Dr. Kominski will teach sessions 5-9 dealing with Cost-Effectiveness Analysis; both Drs. Keeler and Kominski will teach the last session.

Session	Date	Topic
1	10/4	Medical Technology Assessment: Why Is It Necessary? Policy Analysis, Models, Math preliminaries, Numeracy <i>Readings:</i> Hunink, Ch 1; Stokey and Zeckhauser, p7-21 handout.
2	10/11	Decision Analysis – Simple Trees and Imperfect tests (Bayes’ theorem) <i>Readings:</i> Hunink Chapters 2, 3, 5. Optional: TreeAge Manual Chap. 1, 2
3	10/18	Probability – EVI, Triage, ROC, Subjective and Objective Probability <i>Readings:</i> Hunink Chapter 6, 7 (to page 190). Chapter 8. Optional: TreeAge Manual, Chap. 5, 7; Advanced: rest of Chapter 7 in Hunink.
4	10/25	Valuing the Outcomes of Care for Patients Stocks and flows, survival and life expectancy, assessing Health-Related Quality of Life (HRQOL) factors. <i>Readings:</i> Hunink, Chapter 4, Stokey and Zeckhauser, Chap. 4 (handout); Optional: Hunink, Chapter 10
5	11/1	Overview: Cost-Benefit, Cost-Effectiveness, and Cost-Utility Analysis <i>Readings:</i> Muennig, Chap. 1; Gold, Chap. 1-3
6	11/8	Measuring Costs <i>Readings:</i> Muennig, Chap. 6; Gold, Chap. 6
7	11/15	Time Preference and Discounting; Setting Up a Cost-Effectiveness Problem Using TreeAge <i>Readings:</i> TreeAge Manual, Chap. 31-33; Gold, Chap. 7.
8	11/22	Markov Models <i>Readings:</i> Muennig, p. 282-288; Chap. 34
9	11/29	Valuing the Outcomes of Care – QALYs and Preference-Weighted HRQL Measures <i>Readings:</i> Muennig, Chap. 8, 9; Gold, Chap. 4
10	12/6	Using CE Ratios; Dealing with Uncertainty; Critiques of DA, CEA; How to Identify a Good DA and CEA <i>Readings:</i> To be distributed