HPAM – GP 4830.001
Health Economics: Principles
Spring 2024

Instructor Information
- Sherry Glied
- Email: sherry.glied@nyu.edu
- Office Address: Puck, Room 2100
- Office Hours: Virtually, by appointment. Times are posted Wagner website

Course Information
- Class Meeting Times: Mondays, 1/22-3/11, 4:55 pm – 6:35 pm, EXCEPT 2/19.

Course Prerequisites
- Microeconomics, Statistics I
- Proficiency in Excel expected.

Course Description
The purpose of this course is to extend students’ understanding of economic theory and empirical research in key areas of health economics and enable students to leverage that knowledge and apply it to timely issues in health policy and management.

Competencies
This course will address the following CAHME competencies:
- The ability to understand how policy and delivery processes work, and to consider the demographic, cultural, political and regulatory factors involved in and influencing health policy and management decision-making.
  - [This competency will be assessed through Homework Assignment 2, which examines NYC’s sick leave law.]
The ability to synthesize evidence, and apply statistical, financial, economic and cost-effectiveness tools/techniques in organizational analysis.

- [This competency will be assessed through Homework Assignment 5, in which students will be required to apply cost-effectiveness analysis tools.]

The ability to present convincingly to individuals and groups the evidence to support a point of view, position or recommendation.

- [This competency will be assessed through Homework Assignment 3, in which students will be required to support a policy or management position.]

The ability to communicate and interact productively (via listening, speaking, and writing) on matters of healthcare with a diverse and changing industry, workforce, and citizenry.

- [This competency will be assessed through Homework Assignments 1 and 3, in which students will be required to write policy and management memos.]

Assignments, exams, and class participation in the course will assess progress against these competencies, and no student will receive a B or higher without demonstration of satisfactory progress towards mastery of each competency.

## Course and Learning Objectives

### Learning Assessment Table

<table>
<thead>
<tr>
<th>Program Competency</th>
<th>Corresponding Course Learning Objective</th>
<th>Corresponding Assignment Title (Memo, Team Paper, Exam, etc.)</th>
<th>Denote Level of Competency Expected to Achieve via the Assignment (basic = 1, intermediate = 2, advanced = 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ability to understand how policy and delivery processes work, and to consider the demographic, cultural, political and regulatory factors involved in and influencing health policy and management decision-making.</td>
<td>Be able to apply economic theories to understanding the social determinants of health and the impact of policy.</td>
<td>Homework Assignment #1</td>
<td>2</td>
</tr>
<tr>
<td>The ability to synthesize evidence, and apply statistical financial, economic and cost-effectiveness tools/techniques in organizational analysis</td>
<td>Be able to conduct a basic cost-effectiveness analysis of a health program.</td>
<td>Homework Assignment #5</td>
<td>1</td>
</tr>
</tbody>
</table>
The ability to understand how policy and delivery processes work, and to consider the demographic, cultural, political and regulatory factors involved in and influencing health policy and management decision-making.

Be able to apply economic theories to understanding the social determinants of health and the impact of policy.

Homework Assignment #1

2

The ability to present convincingly to individuals and groups the evidence to support a point of view, position or recommendation.

Be able to use evidence to make policy recommendations.

Homework Assignment #3

2

The ability to communicate and interact productively (via listening, speaking and writing) on matters of healthcare with a diverse and changing industry, work force and citizenry.

The ability to communicate and interact with a team to develop a policy memo.

Homework Assignment #s 1, #3

2

Late Assignment Policy

Extensions will be granted only in case of emergency, out of respect to those who abide by deadlines despite equally hectic schedules. Late submissions without extensions will be penalized 10% per 24-hour period.

Requirements

- Please read the “flipped” lectures before classes (these begin with Lecture 2; there is no flipped lecture for Lecture 5, but please do the reading assignment before class that week).
- Please do all required readings before class and be prepared to discuss the policy reading assigned each week.
  - Note: You may want to reference notes and PowerPoints from your Microeconomics class to help you during this course. The syllabus references specific Microeconomics lectures where relevant.
● Assignment breakdown provided below. Groups will be assigned by the professor for the required group assignments.

<table>
<thead>
<tr>
<th>Name</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignment 1 (Group)</td>
<td>10%</td>
</tr>
<tr>
<td>Homework Assignment 2</td>
<td>15%</td>
</tr>
<tr>
<td>Homework Assignment 3 (Group)</td>
<td>15%</td>
</tr>
<tr>
<td>Homework Assignment 4</td>
<td>10%</td>
</tr>
<tr>
<td>Homework Assignment 5</td>
<td>10%</td>
</tr>
<tr>
<td>Module 1 Discussion Board</td>
<td>3%</td>
</tr>
<tr>
<td>Module 3 Discussion Board</td>
<td>3%</td>
</tr>
<tr>
<td>Module 5 Discussion Board</td>
<td>4%</td>
</tr>
<tr>
<td>Knowledge Checks (Weeks 1, 2, and 3)</td>
<td>5%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Required Text**

● Title: Health Economics – selected chapters as noted below, also useful as reference
● Authors: Jay Bhattacharya, Peter Tu, Timothy Hyde
● Publisher: Palgrave Macmillan, 2013
● ISBN: 113702996X, 9781137029966
● Students have free access [here](#) to read (online - no download option) the required textbook chapters. Note: If you cannot access the link above, access the textbook with the instructions below:

1. Log into [NYU library](#)
2. If you are off campus, make sure to connect to the VPN to ensure access
3. In the "Search For" menu, type in the course textbook name: **Health Economics**. Then select "Go."
4. Select the 6th option, **Health Economics**, by Bhattacharya.
5. Select "Ebook Central."
6. Select" Read online" to access the text
Assignments

All papers are to be submitted via the NYU Brightspace course site as WORD documents at least 1 hour before the start of class on their due date (3:55 pm). Be sure your name is part of the document file name.

Grading

Instructions for specific assignments are listed below. Please follow word count, rubric, and format instructions for each assignment.

Detailed Course Overview

Session 1: January 22, 2024

Social Determinants of Health - Health Production

Deliverables:

- Knowledge Check # 1 due before the start of class

Objectives:

- Understand how economic models can be used to structure thinking around health policy and management issues
- Be able to use Grossman’s model of the production of health to analyze social determinants of health
- Become familiar with the literature on the relationship between income and health

Readings:

- Review Microeconomics lectures Weeks 5 and 8 (content shared from your previous Microecon course)
- Textbook, Chapter 3

Watch Videos:

- Background:
  - Introduction,
What is economics;
Opportunity cost;
Production possibility frontier;
Demand;
Supply;
Elasticity;

New material:
Utility;
Budget Constraints

Complete Knowledge Check #1 before class

Module 1 Discussion Board assignment (in groups of 4):

Provide a specific example (not yet used by one of your colleagues) of how LaVeist et al or Jack’s analysis (section 5.3) incorporates the Grossman health production framework. Explain, and be as specific as possible, whether the author is examining a feature of the utility function, the budget constraint, or the production function. Comment on at least one colleague’s post. Your group discussion board should include at least one example from each of the two readings.

Rubric for Discussion Board (out of 5 points)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific example</td>
<td>provided</td>
<td>explained</td>
</tr>
<tr>
<td>Utility, budget constraint,</td>
<td>indicated</td>
<td>explained</td>
</tr>
<tr>
<td>production function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comment</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>

Group Homework Assignment 1: 10% of grade. 150 words.

Summarize your group analysis in a memo that sensibly organizes the four examples you’ve considered and relates them to the Grossman article.

Rubric (out of 10 points)

<table>
<thead>
<tr>
<th></th>
<th>1 point</th>
<th>2 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 1</td>
<td>Provides example</td>
<td>Correctly links to Grossman</td>
</tr>
</tbody>
</table>
Example 2 | Provides example | Correctly links to Grossman
---|---|---
Example 3 | Provides example | Correctly links to Grossman
Example 4 | Provides example (at least one from each paper) | Correctly links to Grossman
Organization of paper | Coherent | Organizes utility, production function, and budget constraint examples.

Session 2: January 29, 2024:

Demand for Health – Demand for Immunizations -- Infectious disease, Externalities

Deliverables:
- Module 1 Discussion Board due before the start of class
- Knowledge Check #2 due before the start of class
- Assignment 1 due before the start of class

Objectives:
- Become familiar with the problems of externalities in health
- Understand basic models of infectious disease transmission

Videos:

Readings:
- Read Lecture 2 Flipped
- Review Microeconomics Lecture 13
- Textbook, Chapter 21


Complete Knowledge Check #2 before class

Homework Assignment 2 – Individual (15% of final grade; maximum 500 words, due before class 3)

Use Grossman’s model of the production of health to develop a plausible hypothesis how NYC’s 2014 sick leave law affected emergency room use. Use the articles on the NYU Brightspace site to buttress your argument.

Tips:

- Be concise! Don't throw in extra information.
- There are (at least) three ways that sick leave could affect the use of emergency rooms. Be sure to explain all of channels and note why one of them is probably more important than the others. When applying the Grossman model itself, do not use graphs or technical notation. Use your own words and write in terms sensible for a layperson. Imagine that you are writing to the mayor or to the chair of an emergency department.
- The new NYC policy will change the cost of time spent sick, the cost of certain preventive care (delivered by a doctor), and the cost of certain kinds of care received when you are sick. (Remember that not all prevention requires doctors and that not all illness can be prevented.)

Rubric (out of 15 points)

<table>
<thead>
<tr>
<th>RUBRIC</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total possible points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall coherence of argument</td>
<td>Restates Grossman model</td>
<td>References readings</td>
<td>Clear and compelling argument using readings</td>
<td>3</td>
</tr>
<tr>
<td>Each of three mechanisms</td>
<td>Notes mechanism</td>
<td>Explains how mechanism operates within model and changes health</td>
<td>Explains how mechanism relates to ER use</td>
<td>3 (*3)</td>
</tr>
</tbody>
</table>
Demand for health – demand for medical care – demand for health insurance -- adverse selection

Deliverables:
- Knowledge Check # 3 due before the start of class
- Module 3 Discussion Board due before the start of class
- Homework Assignment 2 due before the start of class

Objectives:
- Understand the sources of demand for health insurance
- Be able to apply the idea of utility maximization to potential states of the world

Readings:
- Review Microeconomics Week 12 (review from your Microeconomics course materials)

Videos:
- Risk and return in financial markets – expected value;
- Risk and return in financial markets and utility;
- History of Insurance;
- Law of Large Numbers;
- Insurance and the Distribution of Risk;
● Expected Utility;  
● Insurance and Utility Maximization

Complete Knowledge Check 3

Module 3 Discussion Board: Adverse selection game – discussion board response – due by Session 3

After completing the activity, write a 1- to 2-paragraph experience summary response on your group’s discussion board. Describe how you did in the game and how your strategy and performance changed between the first round and the second round. Read others’ experiences and write a second post explaining how the group’s results related to adverse selection.

Rubric (out of 10 points)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe first round strategy</td>
<td>States strategy</td>
<td>Provides rationale</td>
</tr>
<tr>
<td>Describe second round strategy</td>
<td>States strategy</td>
<td>Provides rationale and explanation for any change</td>
</tr>
<tr>
<td>Assessment of performance</td>
<td>Describes performance</td>
<td>Explains why</td>
</tr>
<tr>
<td>Summary of group experience</td>
<td>Summary provided</td>
<td>Adds analysis</td>
</tr>
<tr>
<td>Summary of group experience (2)</td>
<td>Notes adverse selection</td>
<td>Specifically relates group examples to adverse selection</td>
</tr>
</tbody>
</table>

Session 4: February 12, 2024

Adverse selection

Objectives:

● Understand strategies for addressing adverse selection

Videos:


Readings:
- Read Lecture 4 Flipped
- Textbook, Chapter 9 (optional)
- Providers, Payers Press CMS to Get Rid of Medicare Advantage Risk Adjustment Changes Entirely

Complete Homework Assignment 3 – GROUP ASSIGNMENT (15% due February 26, 2024)

About half of all Medicare beneficiaries are enrolled in private Medicare Advantage (MA) plans. MA plans are paid capitation rates (a flat premium per enrollee). These rates are risk-adjusted. Initially, Medicare risk-adjusted the rates based only on the demographic characteristics of enrollees. Currently, they also base these rates on recorded diagnoses. The Centers for Medicare and Medicaid Services administers the program and adjusts these rates yearly. These adjustments are controversial. More considerable adjustments save money for the cash-strapped program but reduce earnings for MA companies and potentially reduce benefits for MA beneficiaries.

Write a 300- to 500-word memo supporting changes to the MA risk adjustment model, opposing such changes, or taking a third position that you suggest.

In your memo, be sure to explain why MA uses a risk adjustment model. Draw directly on (and cite to) the Rothschild-Stiglitz model and the Geruso-Layton paper to explain why and how MA plans might engage in selection. Explain why risk adjustment might, in principle, alleviate selection. Discuss what appears to be happening with respect to risk adjustment and why. Finally, evaluate the CMS proposal and describe what you think will happen.

Your memo should be original (in your own words), use professional language, and be free of grammatical errors. Select one member of your team to submit your memo. Be sure to include each team member’s name at the beginning of your memo.
Rubric (out of 20 points)

<table>
<thead>
<tr>
<th></th>
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<th>3</th>
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</thead>
<tbody>
<tr>
<td>Explains why Medicare uses a risk adjustment model</td>
<td>Description</td>
<td>Relates to theory</td>
<td></td>
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<tr>
<td>Explains how plans can engage in selection</td>
<td>General statement</td>
<td>One specific example</td>
<td>Additional examples</td>
</tr>
<tr>
<td>Relates to Gerus-Layton</td>
<td>Notes G-L</td>
<td>Clearly links</td>
<td></td>
</tr>
<tr>
<td>Relates to Rothschild-Stiglitz</td>
<td>Notes R-S</td>
<td>Clearly links</td>
<td></td>
</tr>
<tr>
<td>Logic of risk selection</td>
<td>Description</td>
<td>Explanation</td>
<td></td>
</tr>
<tr>
<td>What is now happening</td>
<td>Description</td>
<td>Simple explanation</td>
<td>Clearly linked to economics</td>
</tr>
<tr>
<td>CMS proposal</td>
<td>description</td>
<td>Basic evaluation</td>
<td>Sophisticated evaluation</td>
</tr>
<tr>
<td>Overall argument</td>
<td>OK</td>
<td>good</td>
<td>strong</td>
</tr>
</tbody>
</table>

Citations:


Session 5: February 26, 2024

Moral Hazard-What Services Should Health Insurance Cover?

Deliverables:

- Homework Assignment # 3 due before the start of class.

Objectives:

- Understand the use of randomized experiments in health economics
- Recognize the welfare losses associated with moral hazard

Videos:


Readings:

- Read Lecture 5 Flipped
- Textbook, Chapter 2 (Chapter 11 optional)

Module 5 Discussion Board: Watch the Podcast: Should Congress End the Tax Exclusion for Employer-Sponsored Health Insurance?
Also at: Youtube link

Watch at least two of the speakers on the podcast. If your last name begins with A, C, E,G,I,K,M,O,Q,S,U,W,Y – write a discussion post in favor of ending the tax exclusion.

If your last name begins with B, D, F,H,J,L,N,P,R,T,V,X,Z – write an initial discussion post in favor of maintaining the tax exclusion. Then respond to one of your group members (ideally someone who has taken the opposite position).
Rubric (out of 5 points)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
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</thead>
<tbody>
<tr>
<td>Summarizes speakers</td>
<td>one</td>
<td>two</td>
</tr>
<tr>
<td>Advances an argument</td>
<td>basic</td>
<td>Addresses moral hazard</td>
</tr>
<tr>
<td>Responds to a colleague</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>

Complete Homework assignment 4 - (10% of final grade maximum 150 words, due before class on March 4, Bullet point style is fine.)

Is the impact of user fees in developing countries consistent with the results of the RAND experiment? Does any induced moral hazard associated with removal of user fees increase welfare or reduce it?

Rubric (out of 10 points)

<table>
<thead>
<tr>
<th>RUBRIC</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total points possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistency with RAND</td>
<td>Basic finding</td>
<td>More connections to RAND</td>
<td>More connections to RAND</td>
<td>More connections to RAND</td>
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<tr>
<td>Welfare effects</td>
<td>Restates paper</td>
<td>One welfare effect</td>
<td>Two welfare effects</td>
<td>Ties to C3 framework</td>
<td>4</td>
</tr>
<tr>
<td>Overall</td>
<td>Coherent</td>
<td>Sophisticated argument</td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Session 6: March 4, 2024

Cost-effectiveness Analysis Economic Evaluation of Health Interventions

Deliverables:

- Assignment 4 due before the start of class
● Module 5 Discussion Board due before the start of class

Objectives:
● Understand the basic methods of economic evaluation of health interventions
● Recognize the difference between cost-saving and cost-effective
● Be able to discuss the problems of cost-effectiveness analysis

Videos:

Readings:
● NO FLIPPED LECTURE THIS WEEK
● STUDENTS WITH LAST NAME ENDING A-L: PLEASE READ AND BE PREPARED TO PRESENT AND DISCUSS
    ▪ Be prepared to answer:
      ● What is the question under study?
      ● Where are the data from?
      ● What key assumptions are made?
      ● Do you agree with the assumptions?
      ● What is missing?
● STUDENTS WITH LAST NAME ENDING M-Z: PLEASE READ AND BE PREPARED TO PRESENT AND DISCUSS

Be prepared to answer:
- What is the question under study?
- Where are the data from?
- What key assumptions are made?
- Do you agree with the assumptions?
- What is missing?

Assignment 5: You can answer each question separately. (10% of grade)


Read the two papers on the cost-effectiveness of Aduhelm. Respond briefly to the following questions:

A. Navigate to the “CEA Registry” website. This registry provides evidence of the cost-effectiveness of various treatments.
   a. Search for a condition you are familiar with or interested in using the CEA database.
   b. Use the “ratios” button on the website.
   c. Type in a condition name: you can try “stroke” or a condition you are interested in.
      i. 1) What is the condition and QALY weight?
      ii. 2) Now, assess the choices of QALY weights assigned in the Aduhelm studies.
         Do these weights make sense to you in comparison with the one you identified?
         Why or why not?

B. Consider the discount rates used in these studies.
   a. What would happen to the maximum drug price to meet the threshold if a higher discount rate were used in the analysis?
   b. Suggest a change in assumptions around life expectancy that would reduce the price needed to meet the threshold (hint: Look at Table 2).
   c. Suggest a change that would increase the maximum price threshold.

C. Select two features of the Whittington model (not described above). Summarize the modeling choices made and explain how they affect the assessment of the CE of Aduhelm.

D. Suppose you worked for a drug company developing Alzheimer’s medications. Suggest one feature that might be missing from the model that would increase the maximum pricing threshold.
Session 7: March 11, 2024

Agency – How Should Health Professionals Be Paid?

Deliverables:

- Assignment 5 due before the start of class

Objectives:

- Understand the problem of agency and its application to health care
- Recognize the different ways of compensating health care providers and the incentives these generate

Videos:


Readings:

- Read Lecture 7 Flipped.
- Textbook, Chapter 5, read section 5.4; skim other sections


FINAL EXAM posted online by 12:00pm on March 14 (THURSDAY)

● Students will have 2 hours to complete the final exam in one sitting during the exam window. FINAL EXAM due back by 11:00pm on March 17 (SUNDAY)

Academic Integrity

Academic integrity is a vital component of Wagner and NYU. All students enrolled in this class are required to read and abide by Wagner’s Academic Code. All Wagner students have already read and signed the Wagner Academic Oath. Plagiarism of any form will not be tolerated and students in this class are expected to report violations to me. If any student in this class is unsure about what is expected of you and how to abide by the academic code, you should consult with me.

Henry and Lucy Moses Center for Students with Disabilities at NYU

Academic accommodations are available for students with disabilities. Please visit the Moses Center for Students with Disabilities (CSD) website and click on the Reasonable Accommodations and How to Register tab or call or email CSD at (212-998-4980 or mosescsd@nyu.edu) for information. Students who are requesting academic accommodations are strongly advised to reach out to the Moses Center as early as possible in the semester for assistance.

NYU’s Calendar Policy on Religious Holidays

NYU’s Calendar Policy on Religious Holidays states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. Please notify me in advance of religious holidays that might coincide with exams to schedule mutually acceptable alternatives.