Econ 372: Economics of Health Care Markets

Ian McCarthy

1/10/2023 - 4/24/2023

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Class Hours: MW 11:30-12:45 p.m.
Class Room: White Hall 103

Course Description

This course examines the industrial organization of health care markets in the U.S., including underlying theory, empirical findings, and related health care policy. We will focus specifically on insurance markets, informational asymmetries between physicians and patients, and hospital pricing.

Prerequisites: Economics 101 (Principles of Microeconomics). Some basic knowledge of calculus and derivatives is also required, but not necessarily the official Math 111 (Calculus I) course at Emory.

Learning Outcomes

The broad goal of the class is to understand the structure of health care markets in the U.S. The course is designed around three areas, reflecting the different interactions an individual would have when navigating the health care system (choosing an insurance plan, visiting a physician, and receiving hospital care). For each segment, we will develop the underlying theoretical model(s), cover recent empirical studies in the area, and discuss relevant health care policy. My specific goals are that, by the end of this course, you will be able to:

1. Explain the structure of the U.S. health care system, its main components, and its history;
2. Model adverse selection in health insurance, examine its effects on health insurance markets, and support your arguments with existing data;
3. Explain the physician agency problem, use a model of physician agency to examine financial incentives in health care, and summarize empirical evidence on the presence of physician agency; and
4. Describe hospital pricing, negotiation with insurers, and explain (qualitatively and quantitatively) the differences between charges and prices.
5. Analyze hospital data in a real-life setting and predict effects of real-life policies

There are more specific learning outcomes for each module described on the relevant module's page of our class website, accessible here.

Text, Software, and Class Materials

1. **Where to go:** The best place for information on the class is our class website, here. I use the website as an easier way for you to access course materials, including notes/slides, a detailed schedule, and assignments. I'll also use Canvas to distribute any papers or specific readings that aren't available publicly, as well as post information that I don't want public like virtual meeting passwords (if needed) and grades.
2. **Readings:** There are two optional textbooks for this class. One is an intermediate microeconomics textbook that will cover much of the basic economic theory, and another is a health economics textbook. We will supplement these textbooks with other readings listed below in the detailed schedule, as well as online. These textbooks are not required but may be useful for students looking for some supplemental resources.
    - R. Pindyck and D. Rubinfeld *Microeconomics* (Upper Saddle River, NJ: Prentice Hall, 2018).
    - Frank A Sloan and Chee-Ruey Hsieh *Health Economics*, vol. 1 (The MIT Press, 2012).
3. **Statistics Software:** Each assignment will generally include both a theoretical and empirical section. Most of the empirical work involves basic summary statistics. This can be done in just about any spreadsheet or statistics package. I'll use `R` for my work, but you are free to use whatever software you're most comfortable with. I encourage you to use `R` or `Python` simply because these are the most common programs used in applied data analysis right now, but you can certainly use Excel or Google Sheets if you'd prefer. This is **not** a statistics or econometrics class, so I do not expect you to have any statistics programming knowledge.
4. **Accessing Data:** For most empirical work, I will house all of the links to the data on our class website. For transparency, I will also point you to other GitHub repositories where available. If you're new to Git or GitHub and want to understand some of that better, take a look at Grant McDermott's notes on Data Science for Economists as well as Jenny Bryan's online reference book, Happy Git and GitHub with R. But again, knowledge of Git or GitHub is not part of this class.
5. **Turning things in:** All assignments should be submitted as PDF files in Canvas. Since we'll be using some math in all of our answers, I suggest that you try Overleaf, but you can also write your answers in Word and print to PDF. As an Emory student, everyone has access to an institutional Overleaf account, which provides you with all the nice features of the product. You can use this to easily write PDF documents in a language known as "LaTeX". For a brief introductory video and links to more info, please see the video here.

Course Policies

Various policies for this course are described below. Basically, let's all work to be good citizens and take seriously our various roles as a student, teacher, friend, colleague, human, etc.

Class meetings

All regular class meetings will take place in **White Hall, Room 103** on Mondays and Wednesdays from 11:30am to 12:45pm.

Office hours

My designated office hours will be on Monday and Wednesday from 1:30 to 2:30pm in R. Rollins, R432. I'm also available outside of these times. I just ask that you schedule an appointment in advance. Make an appointment with me here.

While we call these "office hours" they really should be "student hours". These are set times dedicated to all of you. This means that I will be available, waiting for you to come by with whatever questions you have. This is the easiest way to find me and usually the best chance for discussing class material and concerns.

Finally, for any questions that you don't think need a meeting, you can always reach out to me through email. I do my best to respond within 24 hours to all emails.

Academic integrity

The Emory University Honor Code is taken seriously and governs all work in this course. Details about the Honor Code are available here. By taking this course, you affirm that it is a violation of the code to cheat on exams, to plagiarize, to deviate from the instructions about collaboration on work that is submitted for grades, to give false information to a faculty member, and to undertake any other form of academic misconduct. You agree that the teacher is entitled to move you to another seat during examinations, without explanation. You also affirm that if you witness others violating the code you have a duty to report them to the honor council.

Accessibility services

If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us to discuss ways to ensure your full participation in the course. If you determine that accommodations are necessary, you may register with Accessibility Services at (404)727-9877 or via e-mail at accessibility@emory.edu. To register with OAS, students must self identify and initiate contact with the OAS office.

Class-wide announcements

I will post regular announcements to the class on **Canvas**, so please set up your notifications accordingly. I will also use Canvas to post all grades and any other information that needs to stay in the class. All other course materials will be available on our class website, here.

Lauren's Promise

Lauren McCluskey, a 21-year-old honors student athlete, was murdered on October 22, 2018 by a man she briefly dated on the University of Utah campus. We must all take action to ensure that this never happens again. If you are in immediate danger, call 911 or Emory police (404-727-6111). **I will listen and believe you if someone is threatening you.**

Any form of sexual harassment or violence will not be excused or tolerated at Emory. If you are experiencing sexual assault, domestic violence, or stalking, please report it to me or directly to Emory's Office of Respect (470-270-5360).

Assignments and Grading

Your final grade consists of three homework assignments, a mid-term exam, and a class project, along with a participation component. I describe each assignment below, with more additional detail provided on our class website.

Participation

"Participation" will be graded based on how many of the individual participation elements are submitted. Throughout the semester, I will post "check-in" questionnaires on Canvas. I anticipate 6 check-ins total for the semester. Each check-in will ask questions about what you've learned in a given module so far, areas where you are confused, things that we do in class that you think are working, and things that we do in class that you think are not working. Completion of the check-in will provide 1 participation point.

We will also have regular in-class exercises. You can think of these as practice problems that we work on collectively as a class. Completing these exercises is also worth 1 participation point.

At the end of the semester, I will tally your participation points, and your final participation grade will be out of 20 possible participation points. We'll have well over 20 total participation points available, so you have some margin for error here.

Homework assignments

There will be 3 homework assignments throughout the semester (one for each module). These assignments will consist of two parts: 1) short answer questions related to models covered in class or readings; and 2) empirical questions related to data I provide or that you are asked to collect. Preliminary due dates for these assignments are below, and details of the assignments are on our class website.

- Friday, 2/10
- Friday, 3/17
- Friday, 4/21

All assignments are due (as PDFs, submitted via Canvas) by 11:59pm on the due date. I'll do my best to have all homework assignments graded by Wednesday of the week after they are submitted.

Exam

There is one mid-term exam in this class and no final. The mid-term is scheduled for **Wednesday, March 22** and will cover all material from Modules 1 and 2. Please notify me immediately if you will need other accommodations or if you already know of an unavoidable scheduling conflict. In general, I expect everyone to take the exam at the scheduled time. Make-up exams are a privilege, not a right, and last minute accommodations will only be made when absolutely necessary.

Final project

Each of you will prepare a 2-page policy brief, split up into a few distinct stages. Details of the project are available on the class website, and your final policy brief is due on the last day of class (**April 24, 2023**).

The project is an important part of the class and reflects one of the core objectives — to analyze data in a real-life setting and apply those findings to a real-life policy situation. The project is intended to be a semester-long endeavor and should be the predominant focus throughout the second half of the course. This is why we don't have a final exam.

Due dates

This section is just to highlight the most important dates on which an assignment is due. Late assignments will receive an automatic 10% reduction in the grade for each day the assignment is turned in after the due date.

- **Friday, 2/10**: Homework 1
- **Friday, 3/17**: Homework 2
- **Wednesday, 3/22**: Mid-term exam
- **Friday, 4/21**: Homework 3
- **Monday, 4/24**: Final project

Grades

Each assignment will contribute to your final grade as described below.

Points	Assignment	Percent
20	Participation	5%
180	Homework (60 x 3)	45%
60	Mid-term exam	15%
140	Final project	35%

Your final percentage grade comes from your total points as a percent of all possible points available in the class (400). That percent then translates to a letter grade as follows:

Grade	Range	Grade	Range
A	93-100%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	63-66%
B-	80-82%	D-	60-62%
C+	77-79%	F	< 60%

Class Schedule

Below is a preliminary outline (subject to change) of specific topics and assignments throughout the semester.

Module 0: Kicking things off!

1/11: Introduction to the economics of health care

- Kenneth J. Arrow "Uncertainty and the Welfare Economics of Medical Care," *The American Economics Review* 53, no. 5 (1963), https://www.aeaweb.org/aer/top20/53.5.941-973.pdf.
- M Gaynor, K Ho, and R Town "The Industrial Organization of Health Care Markets," *Journal of Economic Literature* 47, no. 2 (2015): 235–284.

Module 1: Health insurance

1/18: Understanding risk

- Sections 5.1-5.2 of Pindyck and Rubinfeld *Microeconomics*.

1/23, 1/25: Demand for health insurance

- Sections 4.1-4.7 of Sloan and Hsieh *Health Economics*.

1/30, 2/1: Adverse Selection

- Section 17.1 of Pindyck and Rubinfeld *Microeconomics*.
- Sections 4.8-4.10 of Sloan and Hsieh *Health Economics*.

- Liran Einav and Amy Finkelstein "Selection in Insurance Markets: Theory and Empirics in Pictures," *The Journal of Economic Perspectives* 25, no. 1 (2011): 115–138.

2/6, 2/8: Health insurance and current policy

- Homework 1 due on **Friday, 2/10**

Module 2: Physician agency and treatment decisions

2/13, 2/15: Physician agency

- Section 17.4 of Pindyck and Rubinfeld *Microeconomics*.
- Thomas G McGuire "Physician Agency," *Handbook of Health Economics* 1 (2000): 461–536.

2/20, 2/22: Fee-for-service payments

- McGuire "Physician Agency."
- Medicaid pricing primer
- Medicare pricing primer

2/27, 3/1: Capitated payments

- Section 5.3 of Sloan and Hsieh *Health Economics*.
- Jonathan Gruber and Maria Owings "Physician Financial Incentives and Cesarean Section Delivery," *The RAND Journal of Economics* 27, no. 1 (1996): 99–123.
- Jeffrey Clemens and Joshua D Gottlieb "Do Physicians' Financial Incentives Affect Medical Treatment and Patient Health?" *American Economic Review* 104, no. 4 (2014): 1320–1349.

3/13, 3/15: Current issues in health care payments

- Section 17.2 of Sloan and Hsieh *Health Economics*.
- Homework 2 due **Friday, 3/17**

3/20, 3/22: Mid-term Review and Exam

Module 3: Hospital pricing and competition

3/27, 3/29: Pricing in two-price market

- Section 5.4 of Sloan and Hsieh *Health Economics*.

4/3, 4/5: Prices and bargaining

- Uwe E Reinhardt "The Pricing of US Hospital Services: Chaos Behind a Veil of Secrecy," *Health Affairs* 25, no. 1 (2006): 57–69.

4/10, 4/12: Hospital competition

- Gaynor, Ho, and Town "The Industrial Organization of Health Care Markets."
- M Gaynor, F Mostashari, and P Ginsburg *Making Health Care Markets Work: Competition Policy for Health Care*, Policy {Report} (Brookings Institute, 2017).

4/17, 4/19: Mergers, prices, and quality

- Gaynor, Ho, and Town "The Industrial Organization of Health Care Markets."
- Gaynor, Mostashari, and Ginsburg *Making Health Care Markets Work*.
- Homework 3 due **Friday, 4/21**

4/24: Final projects due