

# Econ 372: Economics of Health Care Markets

Ian McCarthy

1/25/2021 - 5/12/2021

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Office Hours: Th 2:30-4:30 p.m.

Office: *online*

Web: [mccarthy-spring21-econ372.netlify.app/](https://mccarthy-spring21-econ372.netlify.app/)

Class Hours: TuTh 8:00-9:15 a.m.

Class Room: *online*

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## 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 study 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 - first choosing an insurance plan, then visiting a physician, and ultimately receiving hospital care. Our discussion of hospital care is further divided into issues of hospital objective functions, measuring hospital quality, and hospital competition. 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
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, [mccarthy-spring21-econ372.netlify.app](https://mccarthy-spring21-econ372.netlify.app). 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 and grades.
2. **Readings:** There are two recommended 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.
  - R. Pindyck and D. Rubinfeld *Microeconomics* (Upper Saddle River, NJ: Prentice Hall, 2018).
  - Frank A Sloan and Chee-Ruey Hsieh *Health Economics*, MIT Press Books, 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 all assignments and in-class activities, 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. **Logistics:** For day-to-day communication, grades, and other private information (such as Zoom meeting links), I'll use *Canvas*. I'll post all other materials to our class website.
6. **Lectures and Notes:** Any pre-recorded videos will be made available on our class website prior to any given class. I may also annotate those slides during each class, for which I'll use *OneNote*. Everyone has access to this as an Emory student, so I will set up a classroom notebook which will serve as a single resource for all class notes. You can also take your own notes as part of the app, which should help with keeping things organized. This will also be integrated directly into Canvas.
7. **Turning things in:** All assignments should be submitted as PDF files on Canvas. Since we'll be using some math in all of our answers, I ask that all assignments be completed through [Overleaf](#). 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 (virtual) meetings

All regular class meetings will take place virtually this semester on *Zoom* during our regularly schedule class times (TuTh, 8:00am to 9:15am). I'll use the same *Zoom* meeting room for all meetings, the details of which are available on our *Canvas* site. As you all know, it can be difficult to get everyone engaged in a virtual environment. To help with this, I expect everyone to keep their cameras and microphones on as much as possible.

All class sessions will be recorded for students in the class to refer back to the information, and for enrolled students who are unable to attend live. Lectures and other classroom presentations through video conferencing and other materials posted on Canvas are for the sole purpose of educating the students enrolled in the course. The release of such information (including but not limited to directly sharing, screen capturing, or recording content) is strictly prohibited, unless the instructor states otherwise. Doing so without the permission of the instructor will be considered an Honor Code violation and may also be a violation of other state and federal laws, such as the Copyright Act.

Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image.

Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.

### Office hours

My designated office hours will be on Thursdays from 2:30 to 4:30pm. 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 visit (virtually) with whatever questions you have. This is the easiest way to find me and usually the best chance for discussing class material and concerns. I'll hold my designated office hours on Zoom, with meeting and password info on Canvas.

I'm also available outside of those designated times. I just ask that you schedule an appointment in advance. [Make an appointment with me here](#), and then use our office hours Zoom info.

Finally, you can also always reach out to me through email. I almost always respond within 24 hours (often much sooner).

### Academic integrity

The Emory University Honor Code is taken seriously and governs all work in this course. Details about the Honor Code are available at [Emory Honor Code](#). 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](mailto: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 on *Canvas* accordingly. I will also use *Canvas* to post all grades and any other information that needs to stay in the class (like our *Zoom* meeting link for virtual class times and our gather.town password for office hours). All other course materials will be available on our class website, [mccarthy-spring21-econ271.netlify.app](https://mccarthy-spring21-econ271.netlify.app).

### **Lauren's Promise**

**I will listen and believe you if someone is threatening you.**

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).

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**

Each week, there are two formal "participation" elements. First, we will have weekly in-class quizzes. There will be one quiz per week, sometimes on Monday and sometimes on Wednesday. The quizzes will be very short and very easy. The goal of the quiz is really just to see who is attending and who is engaged. Second, by the end of each week, I want to hear about what you learned and what questions you still have. This provides you a chance to organize your thoughts and better engage with the course content, and it provides me immediate feedback about how the material and examples are landing in class. "Participation" in each week will be graded based on how many of the weekly participation elements are submitted, specifically:

- **2 points:** Submission of a weekly check-in and completion of in-class "quiz"
- **1 point:** Submission of the check-in or completion of the quiz, but not both
- **0 points:** No submission of a check-in and no completion of the quiz

I'm essentially grading these on a pass/fail basis. For the weekly check-ins, you are **not** graded on the quality of your writing, your citations, your specific word count, etc. Just put in the effort and you'll get full credit.

## 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](#).

- Thursday, 2/25
- Tuesday, 3/23
- Tuesday, 4/27

## Exam

There is one mid-term exam in this class and no final. The mid-term is scheduled for **Tuesday, March 30** 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 analyze data and prepare a report on a practical health economics problem. This semester, the project concerns hospital pricing and mergers. Details of the project are available on the [class website](#), and your final report is due on the date our final exam (**Monday, May 12, 2021**). In general, the final project requires that you analyze real-world hospital data and research an economic issue related to those data.

The project is an important part of the class and reflects one of the core objectives — to analyze data in a real-life hospital 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. These dates are repeated within the description of each assignment above. Note that you can always turn assignments in prior to the official due date. Late assignments will receive an automatic 10% reduction in the grade for each day the assignment is turned in after the due date.

- **Thursday, 2/25:** Homework 1
- **Tuesday, 3/23:** Homework 2
- **Tuesday, 3/30:** Mid-term exam
- **Tuesday, 4/27:** Homework 3
- **Monday, 5/12:** 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 of specific topics and assignments throughout the semester. Based on our collective interests, discussions, and timing, these topics may change somewhat.

### Module 0: Kicking things off!

1/26, 1/28: *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).
- 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

2/2: *Understanding risk*

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

2/4, 2/9: *Demand for health insurance*

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

2/11, 2/16: *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.

2/18, 2/23: *Health insurance and current policy*

## **Module 2: Physician agency and treatment decisions**

2/25, 3/2: *Physician agency*

- Section 17.4 of Pindyck and Rubinfeld *Microeconomics*.
- Thomas G McGuire “Physician Agency,” *Handbook of Health Economics* 1 (2000): 461–536.
- Homework 1 due on **Thursday, 2/25**

3/4, 3/9: *Fee-for-service payments*

- McGuire “Physician Agency.”

3/11, 3/18: *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.
- Note that we do not have class on 3/16 as this is a designated rest day.

3/23, 3/25: *Current issues in health care payments*

- Section 17.2 of Sloan and Hsieh *Health Economics*.
- Homework 2 due **Tuesday, 3/23**

3/30: *Mid-term Exam*

## **Module 3: Hospital pricing and competition**

4/1, 4/6: *Pricing in two-price market*

- [Medicaid pricing primer](#)
- [Medicare pricing primer](#)
- Section 5.4 of Sloan and Hsieh *Health Economics*.

4/8, 4/13: *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.

4/15, 4/20, 4/22: *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).

4/27, 4/29: *Mergers and prices*

- Gaynor, Ho, and Town “The Industrial Organization of Health Care Markets.”
- Gaynor, Mostashari, and Ginsburg *Making Health Care Markets Work*.

- Homework 3 due **Tuesday, 4/27**