

General Education 1079

Why Is There No Cure for Health?

Fall Term, 2023
Harvard Hall 202

Course Website: <https://canvas.harvard.edu/courses/124386>

INSTRUCTOR

Professor David M. Cutler (he/him)

Otto Eckstein Professor of Applied Economics

Email: dcutler@harvard.edu | T:617-496-5216

Office: Littauer 226 (next to Science Center)

Twitter: @cutler_econ; Threads: @davidmcutler

Drop in hours: Tuesday, 10:30-11:30.

TEACHING FELLOWS

Gabriella Fleischman (she/her), head TF, gfleischman@g.harvard.edu

Sun Kim (she/her), sunkim1@g.harvard.edu

Ilana Salant (she/her), isalant@g.harvard.edu

Why is There No Cure for Health?

Around the world, billions of dollars are spent on health care treatments, public health initiatives, and pharmaceutical research and development. So why are we still not able to prevent preventable diseases, provide affordable healthcare for millions of people, and deliver cures for curable diseases? And what are the best ways to address these issues?

Because these questions are so large, we will focus our discussion around questions like: What steps should be taken to address epidemics? How should prescription drugs be produced and sold? How should the United States reform its health care system?

We will explore how social scientists address empirical questions, the types of data that are available, how those data are analyzed, and the confidence with which causal statements are made. By the end of the course, you will be able to dissect a large question – such as how to reform American healthcare – into its technological, social, economic, and moral components, and weigh potential solutions according to these guiding vectors.

COURSE DESIGN

General education. This course meets the General Education requirements in “Science, Technology, and Society”.

The course counts for economics department credit. If you wish to receive writing credit, you need to demonstrate facility with economics concepts in the problem sets and in your final assessment.

There are two learning objectives for the course. The first is to confront issues of important policy concern. We will do this in three areas, noted below. The second is for you to learn how to think about difficult empirical problems – problems where theory alone will not give a complete answer, and where the data are not fully conclusive. We expect you to struggle with these questions – even professionals do.

The class is divided into three units. In each unit, we will discuss substantive and methodological issues. The assignments will mirror this division. There will be problem sets that focus on the methods and tools used in each unit. In addition, students will complete an applied assignment at the end of each unit that involves coming up with an answer to the driving question of that unit.

Unit	Analytic Tools	Unit Question
Epidemics	Epidemiology Problem Set 1 assigned: September 12 Problem Set 1 due: September 19, 5pm	What Should We Do About Infectious Diseases? Analysis 1 due: September 29, 5pm
Pharmaceuticals	Economics: Supply and Demand Problem Set 2 assigned: October 12 Problem Set 2 due: October 19, 5pm	What Type of Startup Would You Design? Analysis 2 due: October 27, 5pm
Health systems	Causality Problem Set 3 assigned: November 7 Problem Set 3 due: November 14, 5pm	How Can We Fix Health Care in the U.S.? Analysis 3 due: November 29, 5pm

COURSE MEETINGS AND CLASS PARTICIPATION

Attendance is required. There will be a keyword given out in class each day, which will be used to measure your attendance. Do not to give the keyword to anyone not in class.

Please e-mail Professor Cutler or your TF if extenuating circumstances, such as illness or religious observance, require that you miss class. If you cannot make class in person, there will be a zoom available for each session. You can watch in real time or obtain the link for watching later.

Gen Ed courses are not eligible for course-wide simultaneous enrollment waivers. Students pursuing simultaneous enrollment in a Gen Ed course and a non-Gen Ed course must attend the Gen Ed course.

This course uses a “flipped” classroom. Thus, work is required in advance of each class. You will learn about the important concepts through readings and videos. During class, we will build on these concepts, with subgroups, class discussions, and other methods. In addition to the pre-class work, there are other readings and activities that can be done before or after class. We recognize that some students learn best by reading prior to material being presented in class and some learn best by reading after material is presented. Do what works best for you but know that **you will get more out of class if you do the additional readings and activities shortly before the class or just after.**

All readings are available to students without charge. Links are provided in the syllabus and on Canvas.

SECTIONS

Sections are held weekly and are mandatory. We will use an electronic sectioning tool to select section times. The first sections will be held the week of **September 11**. Meeting locations will be announced.

Your section leader will hold office hours every week. Students who have questions, are in need of assistance, or would like to discuss issues related to class should seek out their section leader.

ACCESSIBILITY

Accessibility Statement: Harvard University values inclusive excellence and providing equal educational opportunities for all students. Our goal is to remove barriers for disabled students related to inaccessible elements of instruction or design in this course. If reasonable accommodations are necessary to provide access, please contact the [Disability Access Office \(DAO\)](#). Accommodations do not alter fundamental requirements of the course and are not retroactive. Students should request accommodations as early as possible, since they may take time to implement. Students should notify DAO at any time during the semester if adjustments to their communicated accommodation plan are needed.

GRADING

Grades will be based on several criteria. The class can be taken pass/fail.

PARTICIPATE AND ENGAGE (15%)

Attend classes/sections and **participate** as appropriate

PRACTICE AND APPLY (20%)

Complete problem sets on “tools and methods” (one per unit, three total)

DEMONSTRATE SKILLS AND COMPETENCIES (65%)

Produce a unit project for each unit (three total) (45%)

Produce a final assessment (20%)

Final grades will be determined as follows: 95-100 = A; 90-94.9 = A-; 87-89.9 = B+; 84-86.9 = B; 80-83.9 = B-; 77-79.9 = C+; 74-76.9 = C; 70-73.9 = C-; 60-69.9 = D; <60 = F.

There is a brief quiz due before each class. The assignments will be graded pass/fail. If you have watched the videos and done the readings, you should have no difficulty passing. You are allowed to skip two days' assignments without penalty.

The problem sets will be analytical. This is a chance for you to become familiar with the technical issues in the course – epidemiology, economics, and so forth. The problem sets are likely to take some time. but remember they are largely to help you. Problem sets will be posted approximately one week before they are due. When appropriate, solutions will be posted after they are due. **As a result, late problem sets will not be accepted.**

The unit assignments will be applied projects. You will explore international relations, business strategy, and public policy. They are designed to take you out of your comfort zone. The best way to do the assignments is to dive in and put yourself in the indicated situation. At the end of each unit, some assignments will be presented to the whole class. **Late unit assignments will receive a 1/3 grade deduction for every 24-hour period.**

The final assessment will be applied. You will be asked to analyze a health topic of your choosing, but not one we have covered in class. You will make an argument about the nature of the health problem and design a solution for (part of) it. You will need to use data to support your argument. I will not prescribe the type of data you gather or how you analyze it. That is up to you. **Late assessments will receive a 1/3 grade deduction for every 24-hour period.**

If you have questions about an assignment, email your TF **at least 24 hours** before the assignment is due. Because we cannot guarantee that we can answer all questions posed just before the assignment is due, we will not answer questions asked within 24 hours of the assignment being due. **If you have questions about the grading of an assignment,** submit your question in writing to your TF.

If you believe your assignment was not graded correctly, send a written request for a regrade to the head TF, Gabriella Fleischman, gfleischman@g.harvard.edu, within **one week** of when the assignment is returned. All regrades are decided upon by Professor Cutler.

POLICY ON COLLABORATION, USE OF AI, CITATIONS, AND ACADEMIC INTEGRITY

Discussion and the exchange of ideas are essential to doing academic work. For assignments in this course, you are permitted to consult with your classmates as you work on problem sets. However, after discussions with peers, make sure that you can work through the problem yourself and ensure that any answers you submit for evaluation are the result of your own efforts. We will ask you to list the names of students with whom you have collaborated on problem sets so we can be sure no one has cheated.

With respect to generative AI programs such as ChatGPT, we will operate under the following rules. (1) You are allowed to use such programs at the early stage of research, for example to identify interesting themes or ideas. (2) However, you may **not** turn in the output of generative AI programs as your own work. Work under your name must be written by you. Violations of this policy will be considered academic misconduct and will be referred to the college as such.

It is essential to cite any books, articles, websites, lectures, etc. that have helped you with your work. The [Harvard Guide for Using Sources](#) contains useful information about sources and appropriate citation practices. Text generated using ChatGPT-3 should include a citation such as: “Chat-GPT-3. (YYYY, Month DD of query). “Text of your query.” Generated using OpenAI. <https://chat.openai.com/>”. Material generated using other tools should follow a similar convention. Please note that Generative AI programs are like Wikipedia – they are not an authoritative source.

You should be familiar with Harvard’s [Honor Code](#) and follow it in this class. Further information on expectations for academic integrity are available in the [Harvard College student handbook](#).

CLASS SCHEDULE

Intro	9/5	Tuesday	A Tour of the World's Health
Unit 1. Epidemics			
<p>In this unit, we consider the global problem of epidemics. We will focus on two in particular: COVID-19 and HIV/AIDS. Each is shaped by individual, proximal, and structural determinants of health, and disproportionately affects the most vulnerable members of society. The world is at a watershed moment in each. We will examine:</p> <p>(1) Etiology, health and non-health (economic) outcomes; prevention and treatment; social determinants of disease (individual, proximal, structural);</p> <p>(2) Epidemiologic burden and trends, global progress (basic science, drugs, social movement);</p> <p>(3) Global governance/goals (WHO, UNAIDS) and challenges (money, resistance, co-infections);</p> <p>(4) Global and national progress and failures.</p>			
Session 1.1	9/7	Thursday	Two Epidemics: COVID-19 and HIV
Session 1.2	9/12	Tuesday	Modeling Epidemics
Session 1.3	9/14	Thursday	COVID-19 (and other possible infections)
Session 1.4	9/19	Tuesday	HIV Successes and Challenges
Session 1.5	9/21	Thursday	HIV in the US
Session 1.6	9/26	Tuesday	Race and Health
Session 1.7	9/28	Thursday	Social Determinants of Health
Session 1.8	10/3	Tuesday	Presentations
	10/5	Thursday	Confidence Intervals
Unit 2. Pharmaceuticals			
<p>Pharmaceuticals are among the most beneficial medical technologies known. And yet, there is incredible antipathy towards pharmaceutical companies: people believe their prices are too high, they cater to the wealthy over lower and middle income people, and they put profits over patients. How should the world approach the issue of pharmaceutical company research, development, and pricing? In this unit, we will explore several aspects of pharmaceuticals:</p> <p>(1) The supply and demand for pharmaceuticals, and how they determine price and access;</p> <p>(2) Innovation in the pharmaceutical industry;</p> <p>(3) Proposed policies to increase access to pharmaceuticals in poor countries (compulsory licensing, graded pricing) and rich countries (insurance coverage, price negotiations).</p>			
Session 2.1	10/10	Tuesday	The Pharmaceutical Problem
Session 2.2	10/12	Thursday	The Economics of Pharmaceuticals
Session 2.3	10/17	Tuesday	Pricing, Regulation, and Innovation

Session 2.4	10/19	Thursday	Pharmaceutical Policy for Low and Middle Income Countries
Session 2.5	10/24	Tuesday	The New Pharma Industry
Session 2.6	10/26	Thursday	U.S. Policy Options for Pharma
Session 2.7	10/31	Tuesday	Presentations
	11/2	Thursday	Causality
Unit 3. The US Health Care System			
<p>The US has a difficult time agreeing about health care reform. The Affordable Care Act was universally panned until the Republicans tried to replace it, when it became more popular. Why is health reform so difficult in the US? What are the options for reform? In this unit, we will explore several factors:</p> <p>(1) The history of health reform in the US and other (rich) countries;</p> <p>(2) The issues that reform must address (costs, access, and quality);</p> <p>(3) The challenges that policy faces when it has only imperfect instruments to influence patients and providers;</p> <p>Along the way, we will also look in detail at how social scientists draw conclusions from data.</p>			
Session 3.1	11/7	Tuesday	Western Health Systems
Session 3.2	11/9	Thursday	The Affordable Care Act
Session 3.3	11/14	Tuesday	Quality of Medical Care in America
Session 3.4	11/16	Thursday	Consumerism
Session 3.5	11/21	Tuesday	Single Payer and Provider Payment Reform
No Class	11/23	Thursday	Thanksgiving
Session 3.6	11/28	Tuesday	Selection
Session 3.7	11/30	Tuesday	Presentations
	12/5	Thursday	Wrap up

DETAILED COURSE SCHEDULE

Intro	9/5	A Tour of the World's Health
--------------	-----	------------------------------

Learning Objectives

- Discuss the relationship between health and development (aka the 'Preston Curve')
- Identify the successes (China and India) and failures (sub-Saharan Africa, Russia, the US) in world health status
- Understand the importance of infectious disease in world health

Pre-Class Assignments

Fill out	The introduction form
Watch	The video on course mechanics
Watch	The pre-class videos
Take	The comprehension quiz
Look at	Gapminder.org

Before or After Class Assignments

Read	Cutler, David, et al., " The Determinants of Mortality ," J Econ Per, 2006, 20(3), 97-120 (focus on p. 106-111).
-------------	--

Unit 1. Epidemics

Session 1.1	9/7	Two Epidemics: COVID-19 and HIV
-------------	-----	---------------------------------

Learning Objectives

- Describe (at a high level) the basic science of COVID-19 and HIV/AIDS
- Describe when a disease becomes an epidemic or pandemic
- Understand the worldwide and regional prevalence of COVID-19 and HIV
- Situate COVID-19 and HIV relative to other infectious diseases

Pre-Class Assignments

Watch	Gates, Bill, " The Next Outbreak? We're Not Ready ," TED Talk, 2015.
	Iwasa, Janet, " Why It's So Hard to Cure HIV/AIDS ."
	Kurzgesagt, " The Coronavirus Explained and What You Should Do ."
Watch	The pre-class videos
Take	The comprehension quiz

Before or After Class Assignments

HIV	
Watch	Rosling, Hans, Insights on HIV, in Stunning Data Visuals , TED 2018.
Read	Avert, " Women and Girls, HIV and AIDS ," July 27, 2017.
COVID-19	
Read	Wu, Jin, et al., " How the Virus Got Out ," New York Times, March 22, 2020.
	Watkins, Derek, et al., " How The Virus Won ," New York Times, June 25, 2020.
	If you want more
Watch	20 Deadliest Pandemics in History .

Session 1.2	9/12	Modeling Epidemics
-------------	------	--------------------

Learning Objectives

- Understand the dynamics of an epidemic, including SIR models
- Discuss the difference between concentrated and generalized epidemics
- Highlight the high risk populations for HIV and COVID

Pre-Class Assignments	
Watch	The pre-class videos
Take	The comprehension quiz
Before or After Class Assignments	
Read	Avert, “ Sex Workers, HIV and AIDS ,” July 31, 2017.
	Coggon, D, Geoffrey Rose, and David JP Barker, “ Chapter 2: Quantifying Disease in Populations ,” in <i>Epidemiology for the Uninitiated</i> , 2017.
	(More advanced, if you are interested) Cassels, Susan, et al. Mathematical Models for HIV Transmission Dynamics: Tools for Social and Behavioral Science Research . J AIDS 2008; 47(Suppl 1): S34-S39.
	(More advanced, if you are interested) Covasim , and the explainer paper, Kerr, Cliff C., et al., “ Covasim: An Agent Based Model of Covid-19 Dynamics and Interventions ,” working paper.

Session 1.3	9/14	COVID-19 (and other possible infections)
-------------	------	--

Learning Objectives

- Differentiate the actions of countries with successful responses to COVID-19 versus countries with less successful responses
- Understand the mistakes of governments and international organizations in planning for COVID and containing it once it occurred
- Compare the experience of COVID with past influenza-type outbreaks

Pre-Class Assignments

Watch	The pre-class videos
Take	The comprehension quiz
Before or After Class Assignments	
COVID-19	
Read	Independent Panel for Pandemic Preparedness and Response. Covid-19: make it the last pandemic. Summary . May 2021. https://theindependentpanel.org/mainreport .
	Jetalina, Katelyn, “ 18 Months of the COVID-19 Pandemic: A Retrospective in 7 Charts ”, theconversation.com.
	Taylor, Adam, “ Researchers are Asking Why Some Countries were Better Prepared for COVID. One Surprising Answer: Trust ,” Washington Post, February 1, 2022.

	Kofman Aaron, et al. " Potential COVID-19 Endgame Scenarios: Eradication, Elimination, Cohabitation, or Conflagration ," JAMA. 2021;326(4):303–304.
Operation Warp Speed	
Read	How Have COVID-19 Vaccines Been Made Quickly and Safely? , Wellcome.org
What Comes Next?	
Read	" The Next Pandemic: When Could It Be? " Chathamhouse.org, February 2022.
	Shah, Mirai, " Containing the Spread of Mumps on College Campuses ," Royal Society of Open Research, January 2022.
	Council on Foreign Relations, " Improving Pandemic Preparedness: Lessons from COVID-19 ," Independent Task Force Report Number 78, 2020, Executive Summary, pages 2-12.

Session 1.4	9/19	HIV Successes and Challenges
--------------------	------	------------------------------

Learning Objectives

- Describe the world's response to HIV historically and currently, including the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)
- Understand trends in global pharmaceutical availability, pricing, and usage, including the role of international organizations in fostering those trends
- Describe the key features of HIV success stories in particular countries (Uganda, Thailand)
- Show how stigma adversely affects control of COVID-19 and HIV
- Discuss the epidemiological problems associated with changing infectious diseases
- Understand the key financial challenges facing the world (overall funds) and specific countries (middle income countries) in fighting infectious diseases

Pre-Class Assignments

Watch Innocence for Sale, [Part 1](#), [Part 2](#), [Part 3](#).

The pre-class videos

Take The comprehension quiz

Before or After Class Assignments

[Uganda](#) (for country profiles, see [here](#))

Read	Kron, Josh, " In Uganda, an AIDS Success Story Comes Undone ," New York Times, August 2, 2012, A5.
	Stoneburner, Rand L, and Daniel Low-Beer, " Population-level HIV Declines and Behavioral Risk Avoidance in Uganda ," Science, April 30, 2004, 304(5671), 714-718.
Thailand	
Read	Charumilind, Sarun, et al. HIV in Thailand: The 100% Condom Program. Harvard Medical School, Brigham and Women's Hospital 2011. Parts A (Links to an external site.) and B (Links to an external site.) .
Access to Medications	
Read	Dugger, Celia W., " Clinton Foundation Announces A Bargain on Generic AIDS Drugs ," New York Times, May 9, 2007, p. A9.
	Fauci, Anthony S. and Robert W. Eisinger, " PEPFAR – 15 Years and Counting the Lives Saved. " N Engl J Med 2018;378(4):314-316.

Denialism in South Africa	
Read	Specter, Michael, " The Denialists ," The New Yorker, March 12, 2007.
Russia	
Read	Beyrer, Chris, et al. The Expanding Epidemic of HIV-1 in the Russian Federation . PLoS Med 2017;14(11): e1002462.
The Coming Plague?	
Read	Garrett, Laurie, " The Next AIDS Pandemic ," Foreign Policy, July 26, 2017.

Session 1.5	9/21	HIV in the US
-------------	------	---------------

Learning Objectives

- Understand the intersection between social movements (disease activists) and science (FDA, NIH)
- Understand the lingering HIV epidemic: vulnerable people in poor areas
- Discuss the public health approach to HIV and how current efforts differ from that

Pre-Class Assignments

Watch	The pre-class videos
Take	The comprehension quiz
Read	Villarosa, Linda, " America's Hidden HIV Epidemic ," New York Times Magazine, June 6, 2017.

Before or After Class Assignments

HIV and Science

Read	Crimp, Douglas, “ Before Occupy: How AIDS Activists Seized Control of the FDA in 1988 ,” The Atlantic, December 6, 2011.
	World AIDS Day: how AIDS activists changed medical research , The Guardian, Dec. 1, 2013.

The Current Epidemic

Watch	Isolation and stigma sustain HIV in the South: ‘It’s like we’re on a deserted island’ June 16, 2018 PBS NewsHour William Brangham and Jason Kane.
Read	Frieden Thomas R., et al. “ Applying Public Health Principles to the HIV Epidemic — How Are We Doing? ” N Engl J Med 373;23 December 3, 2015.
Explore	Surviving and Thriving: AIDS, Politics, and Culture .

Watch (Optional, but strongly encouraged)

	And the Band Played On (Movie).
	How to Survive a Plague (Documentary).

Session 1.6

9/26

Race and Health

Learning Objectives

- Understand the impact of COVID-19 on people of different races and ethnicities
- Understand theories about why health differs so much across races and ethnicities, including unequal resource distribution and structural racism

Pre-Class Assignments

Watch	The pre-class videos
Watch	Williams, David R., “ How Racism Makes Us Sick ,” TedMed.
Watch	Alsan, Marcella, “ Racial Health Inequality in Medicine and Economics ,” YouTube (long: focus on medicine part)
Take	The comprehension quiz

Before or After Class Assignments

Read	Bailey, Zinzi D., et al., “ Structural Racism and Health Inequities in the USA: Evidence and Interventions ,” the Lancet, 2017; 389: 1453-1463.
------	---

	Gee, Gilbert C., and Chandra L. Ford, " Structural Racism and Health Inequities: Old Issues, New Directions ," <i>Du Bois Review: Social Science Research on Race</i> , 8(1), 2011, 115-132.
	Wezerek, Gus, " Racism's Hidden Toll ," <i>New York Times</i> , August 11, 2020.
	(Socioeconomic status) Adler, Nancy E., and Katherine Newman, " Socioeconomic Disparities In Health: Pathways And Policies ," <i>Health Affairs</i> , 2002, 21(2), 60-76.
	Lopez Leo, et al. " Racial and Ethnic Health Disparities Related to COVID-19 ." <i>JAMA</i> . 2021; 325(8):719–720.

Session 1.7	9/28	Social Determinants of Health
--------------------	------	-------------------------------

Learning Objectives

- Describe the link between social status and health and the theories that explain such a link
- Identify specific social factors that influence health (housing policy, education policy, tax policy, etc.)
- Discuss the tradeoff between social and health care spending in dealing with vulnerable populations

Pre-Class Assignments

Watch [Social Determinants of Health – an Introduction](#)

Watch The pre-class videos

Take The comprehension quiz

Before or After Class Assignments

Read Case, Anne, and Angus Deaton, "[Rising midlife morbidity and mortality, US whites](#)" *Proceedings of the National Academy of Sciences* Dec 2015, 112 (49) 15078-15083.

Chetty, Raj, et al., "[The Association Between Income and Life Expectancy in the United States, 2001-2014](#)," *JAMA*, 2016, 315(16): 1750-1766.

Marmot, Michael, et al., "[Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health](#)," *The Lancet*, 2008, 372(9650): 1661-1669.

Taylor, Lauren, et al., "[Leveraging the Social Determinants of Health: What Works?](#)" *PLoS One*, 2016; 11(8): e0160217.

Session 1.8	10/3	Presentations
-------------	------	---------------

	10/5	Confidence Intervals
--	------	----------------------

Learning Objectives

- Understand the distribution of estimates of a random variable
- Define confidence interval for an estimated value such as a mean

Pre-Class Assignments

Watch

The pre-class videos

Take

The comprehension quiz

Before or After Class Assignments

Read

Kenton, Will, "[Confidence Intervals](#)", Investopedia, 2020.

Unit 2: Pharmaceutical Policy

Session 2.1	10/10	The Pharmaceutical Problem and Confidence Intervals
--------------------	-------	---

Learning Objectives

- Understand the value of pharmaceuticals
- Understand the costs of pharmaceuticals from two perspectives: production and development; and reimbursement
- Be aware of trends in pharmaceutical costs over time

Pre-Class Assignments

Watch The pre-class videos

Take The comprehension quiz

Read script CBS News, "[The Cost of Cancer Drugs](#)," October 5, 2014

Before or After Class Assignments

Read Kremer, Michael, "[Pharmaceuticals and the Developing World](#)," J of Econ Per, 2002, 16(4): 67-90.

Example: Cancer

Read Bach, Peter B., et al. "[In cancer care, cost matters](#)," New York Times. October 15, 2012; A25.

Experts in Chronic Myeloid Leukemia, "[The price of drugs for chronic myeloid leukemia \(CML\) is a reflection of the unsustainable prices of cancer drugs: from the perspective of a large group of CML experts](#)," Blood, 2013, 121:4439-4442.

Session 2.2	10/12	Demand and Supply: The Economics of Pharmaceuticals
--------------------	-------	---

Learning Objectives

- Understand the demand and supply of (existing) pharmaceuticals
- Understand equilibrium price and quantity in pharmaceutical markets
- Compare and contrast regulation of pharmaceuticals in different countries

Pre-Class Assignments

Watch The pre-class videos

Explore Memorial Sloan Kettering Cancer Center, [Drug Abacus](#)

Take	The comprehension quiz
Before or After Class Assignments	
Watch	St. Louis Fed, Economic Lowdown Video Series, Episode 1 – Supply , Episode 2 – Demand , Episode 3 – Equilibrium (optional)
	Fixed v. Variable costs

Session 2.3	10/17	Pricing, Regulation, and Innovation
--------------------	-------	-------------------------------------

Learning Objectives

- Understand the dynamics of research and development, including the roles of pricing, patent policy, and market competition
- Contrast optimal pricing and regulation in a static (non-changing) and a dynamic market
- Discuss empirical evidence on the impact of pricing on innovation

Pre-Class Assignments

Watch	The pre-class videos
Read	Frakt, Austin, “ Why Preventing Cancer is Not the Priority in Drug Development ,” New York Times, Upshot, December 25, 2015.
Take	The comprehension quiz
Before or After Class Assignments	
Read	Scherer, F.M., “ The Link Between Gross Profitability and Pharmaceutical R&D Spending ,” Health Affairs, 2001, 20(5), 216-220.

Session 2.4	10/19	Policy Options for Low and Middle Income Countries
--------------------	-------	--

Learning Objectives

- Understand the challenges to adequate access to medications in low and middle income countries, with special emphasis on pricing and regulatory issues
- Identify issues of compulsory licensing and debate the pros and cons of this policy
- Understand the importance of ‘missing medications’ for people in these countries

Pre-Class Assignments

Watch	The pre-class videos
Watch	t Hoen, Ellen, Why You Can't Get the Lifesaving Drugs You Need , Ted, 2012.
Take	The comprehension quiz
Before or After Class Assignments	
Read	Wirtz, Veronika J., et al., " Essential Medicines for Universal Health Coverage ," the Lancet, 2017, 389(10067): 403-476. (skim)

Session 2.5	10/24	The New Pharma Industry
-------------	-------	-------------------------

Learning Objectives

- Understand changes in how R&D is occurring over time
- Discuss possible reforms to FDA processes
- Discuss possible changes to the payment for pharmaceuticals

Pre-Class Assignments

Watch	The pre-class videos
Take	The comprehension quiz
Before or After Class Assignments	
Read	Stern, Ariel D., et al., " How Economics Can Shape Precision Medicines ," Science, 2017, 355(6330):1131-1133.
Skim	MIT New Drug Development Paradigms Initiative, FoCUS: Financing and Reimbursement of Cures in the US , 2018.
Read	(If you are really interested and have some economics) Chandra Amitabh, et al., Characterizing the Drug Development Pipeline for Precision Medicines ," 2018.

Session 2.6	10/26	U.S. Policy Options for Pharma
-------------	-------	--------------------------------

Learning Objectives

- Evaluate areas of reform, including the benefits and costs of each: pricing policy; increasing competition; value-based payments; and reduced R&D costs
- Understand the arguments for and against government involvement in safety and efficacy

Pre-Class Assignments

Watch	The pre-class videos
Read	Conti, Rena M., and Meredith B. Rosenthal, " Pharmaceutical Policy Reform — Balancing Affordability with Incentives for Innovation ," N Engl J Med, 2016, 374:703-706
Take	The comprehension quiz

Before or After Class Assignments

Read	Bach, Peter B., " Indication Specific Pricing for Cancer Drugs ," JAMA, 2014,312(16): 1929-1930.
	Conti, Rena M., et al., " Pharmaceuticals and the Public Health ," JAMA, 2016; 316(2): 2083-2084.
	Rawlings, Michael D., " NICE Work – Providing Guidance to the British National Health Service ," N Engl J Med, 2004, 351(14), 1383-5.
	Van Nuys, Karen, et al., " Reining in Pharmaceutical Costs ," Brookings-Schaeffer Center, 2017.

Dig Deeper (Three Policy Proposals)

Read	Darrow, Jonathan J., and Aaron S. Kesselheim, " Promoting Competition to Address Pharmaceutical Prices ," Health Affairs Policy Options Paper, March 15, 2018.
	Pearson, Steven D., et al., Policy Strategies for Aligning Price And Value For Brand-Name Pharmaceuticals , Health Affairs Policy Options Paper, March 15, 2018.
	Duetzina, Stacie, et al., " Improving The Affordability Of Specialty Drugs By Addressing Patients' Out-Of-Pocket Spending ," Health Affairs Policy Options Paper, March 15, 2018.

Session 2.7	10/31	Presentations and discussion
-------------	-------	------------------------------

	11/2	Causality
--	------	-----------

Learning Objectives

- Understand a regression equation and whether a relationship is ‘statistically significant’
- Understand the difference between correlation and causation
- Be able to critique studies for statistical accuracy and whether the conclusions are appropriate

Pre-Class Assignments

Watch	The pre-class videos
Take	The comprehension quiz

Before or After Class Assignments

Estimating and Interpreting regressions

Skim	Penn State, Simple Linear Regression , especially sections 1.1-1.3 (don’t get caught up in the math!)
------	---

Correlation v. causality

Read	Lo, Nathan C., et al. “ Abstinence Funding Was Not Associated With Reductions in HIV Risk Behavior in Sub-Saharan Africa ,” Health Affairs, 35(5), May 2016.
Watch	Smeets, Ionica, The Danger of Mixing Up Correlation and Causality , Tedx

Unit 3: US Health Care Reform

Session 3.1	11/7	Western Health Systems
-------------	------	------------------------

Learning Objectives

- Compare health systems in terms of coverage, cost constraints, and quality
- Understand major differences between the US and other high income countries

Pre-Class Assignments

Watch	The pre-class videos
	University of Maryland, Health systems video .
	Kaiser Family Foundation, Health of the Healthcare System
	Which Country Has the Best Health Care System? Washington Post Video.
Take	The comprehension quiz

Before or After Class Assignments

Read	Cutler, David, “ Equality, Efficiency, and Market Fundamentals: The Dynamics of International Medical Care Reform ,” J Econ Lit, 2002, 40(3), 881-906.
	Fuchs, Victor, “ Major Trends in the U.S. Health Economy Since 1950 ,” N Eng J Med, 2012, 366, 973-977.
	Newhouse, Joseph P., “ Medical Care Costs: How Much Welfare Loss? ” J Econ Per, 1992, 6(3), 13-29.

Session 3.2	11/9	The Affordable Care Act
-------------	------	-------------------------

Learning Objectives

- Identify the major features of the Affordable Care Act (ACA), including those parts affecting coverage and costs
- Understand the major legal and political obstacles to the ACA
- Describe trends in public support for various components of the ACA and its proposed alternatives

Pre-Class Assignments

Watch	The pre-class videos
Complete	The pre-class assignment (choose insurance coverage!)

Before or After Class Assignments

Read	Cutler, David, “ Should Healthy People Have to Pay for Chronic Illnesses? ” Washington Post, March 17, 2017.
	Oberlander, Jonathan, “ Unfinished Journey — A Century of Health Care Reform in the United States ,” N Engl J Med, 2012, 367, 585-590.
	Reinhardt, Uwe, “ Is Health Care Special? ,” New York Times Economix Blog, August 6, 2010; “ Health Care, Uncertainty, and Morality ,” August 13, 2010.
Watch	Rebekah Gee on Health Care Policy , 2017.
	Kaiser Family Foundation, Health Reform Hits Main Street , 2010.

Session 3.3	11/14	Quality of Medical Care in America
-------------	-------	------------------------------------

Learning Objectives

- Understand the dimensions of quality (STEEP)
- Understand areas in which quality is low, including overuse of care, underuse of care, and misuse of care
- Understand the total amount of medical spending estimated to go to low quality care
- Identify the major proposals for addressing quality issues

Pre-Class Assignments

Watch	The pre-class videos
Read	Gawande, Atul, “ The Cost Conundrum ,” The New Yorker, June 1, 2009.
Take	The comprehension quiz

Before or After Class Assignments

Read	Berwick, Donald, “ A User’s Manual for the IOM’s ‘Quality Chasm’ Report ,” Health Affairs, 2002, 21(3), 80-90; or see the Video . Crossing the Quality Chasm , Coursera.
	Gawande, Atul, “ Overkill ,” The New Yorker, May 11, 2015
	Papanicolaos, Irene et al. “ Health Care Spending in the United States and Other High-Income Countries ,” JAMA, March 13, 2018 319(10):1024–39.
	(skim). Fisher, Elliott S., et al. “ The Implications of Regional Variations in Medicare Spending. Part 1: The Content, Quality, and Accessibility of Care ,” and “ Part 2: Health Outcomes and Satisfaction with Care ,” Annals of Internal Medicine, 138(4), 2003.

Session 3.4	11/16	Consumerism
-------------	-------	-------------

Learning Objectives

- Understand the major dimensions of consumerism, in choice of insurance plans and choice of medical care providers
- Summarize the evidence on consumer responses to choice settings, in particular whether such decisions are ‘rational’ or not

Pre-Class Assignments

Watch The pre-class videos

Kaiser Family Foundation, [Health insurance explained](#).

MoneyCoach, [Health Insurance 101: The Basics](#)

Take The comprehension quiz

Before or After Class Assignments

Read Huskamp, Haiden A., et al., “[The Effect of Incentive-Based Formularies on Prescription-Drug Utilization and Spending](#),” N Engl J Med, 2003; 349: 2224-2232.

Rosenthal, Meredith, “[What Works in Market-Oriented Health Policy](#),” N Engl J of Med, 2009, 360(21): 2157-2160.

(Optional; more advanced) Swartz, Katherine, [Cost Sharing: Effects on Spending and Outcomes](#), Robert Wood Johnson Foundation, 2010.

Session 3.5	11/21	Single Payer and Provider Payment Reform
-------------	-------	--

Learning Objectives

- Understand the arguments for and against single payer, including administrative cost savings, provider payments, and the role of the government in health care
- Understand the major types of provider reform, including financial incentives (salaried physicians, performance-based payment), professionalism, and tort reform
- Summarize the literature evaluating the impact of provider payment reform on the cost and quality of care

Pre-Class Assignments

Watch The pre-class videos

Take	The comprehension quiz
Before or After Class Assignments	
Accountable Care Organizations	
Read	McWilliams, J. Michael, et al., “ Early Performance of Accountable Care Organizations in Medicare ,” N Engl J Med, 2016; 374:2357-2366.
	Song, Zirui, Yunan Ji, Dana Safran, et al., “ Health Care Spending, Utilization, and Quality 8 Years into Global Payments ,” N Engl J Med, July 18, 2019; 381: 252-263.
Defensive medicine	
Read	Baicker, Katherine, et al., “ Malpractice Liability Costs and the Practice of Medicine in the Medicare Program ,” Health Affairs, 2007, 26(3): 841-852.
Professionalism	
Read	Pronovost, Peter J., et al., “ Preventing Bloodstream Infections: A Measurable National Success Story in Quality Improvement ,” Health Affairs, 2011, 30(4): 628-634; and Video. In the Interest of Patient Safety .

Session 3.6	11/28	Selection
-------------	-------	-----------

Learning Objectives

- Understand the costs and benefits of selection in insurance
- Describe the dynamics of markets when people differ in risk
- Discuss solutions to selection in insurance

Pre-Class Assignments

Watch	The pre-class videos
Read	Nickolas, Steven, “ Moral Hazard vs. Adverse Selection: What’s The Difference? ” Investopedia, April 13, 2019.
Take	The comprehension quiz
Before or After Class Assignments	
Read	Cunningham, Rob, “ Risk Adjustment in Health Insurance ”, Health Policy Brief, August 30, 2012.
	Cook, Robin, “ Decoding Health Insurance ,” New York Times, May 22, 2005.
	(Optional, if you have had Ec10) Einav, Liran, and Amy Finkelstein, “ Selection in Insurance Markets: Theory and Empirics in Pictures ,” J of Econ Per, 2011, 25(1): 115-38.

Session 3.7	11/30	Presentations and Discussion
--------------------	-------	------------------------------

	12/5	Wrap-up
--	------	---------