

**General Education 1079**  
**Why Is There No Cure for Health?**  
Fall Term, 2020

**Course Website:** <https://canvas.harvard.edu/courses/74884>

**INSTRUCTOR**

**Professor David M. Cutler (he/him/his)**

Otto Eckstein Professor of Applied Economics

Email: [dcutler@harvard.edu](mailto:dcutler@harvard.edu) | T:617-496-5216

Office: Littauer 226 (next to Science Center)

Twitter: @cutler\_econ

Feel free to e-mail me as that is often quicker than scheduling a meeting.

*To schedule an appointment, please contact:*

Clare Dingwell, Faculty Assistant

Email: [dingwell@fas.harvard.edu](mailto:dingwell@fas.harvard.edu) | T:617-496-9126

**TEACHING FELLOWS**

**Saumya Chatrath (she/her/hers), Head Teaching Fellow**, Email: [schatrath@g.harvard.edu](mailto:schatrath@g.harvard.edu)

**Travis Donahoe (he/him/his)**, email: [jtdonahoe@g.harvard.edu](mailto:jtdonahoe@g.harvard.edu)

**Lyndon James (he/him/his)**, email: [Lyj519@mail.harvard.edu](mailto:Lyj519@mail.harvard.edu)

**Ljubica (LJ) Ristovska (she/her/hers)**, email: [ristovska@g.harvard.edu](mailto:ristovska@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”. For students in the classes of 2021 and 2022, this course fulfils the requirement in Empirical and Mathematical Reasoning.

**The course counts for economics department credit.** If you wish to receive writing credit, you need to write the term paper and demonstrate facility with economics concepts.

**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
<b>Epidemics</b>	<b>Epidemiology</b> Problem Set 1 assigned: September 9 Problem Set 1 due: September 18, 12pm ET	<b>What Should We Do About COVID?</b> Analysis 1 due: September 27, 12pm ET
<b>Pharmaceuticals</b>	<b>Economics: Supply and demand</b> Problem Set 2 assigned: October 7 Problem Set 2 due: October 16, 12pm ET	<b>What type of startup would you design?</b> Analysis 2 due: October 22, 12pm ET
<b>Health systems</b>	<b>Regression analysis; causality v. correlation</b> Problem Set 3 assigned: November 4 Problem Set 3 due: November 11	<b>How can we fix health care in the U.S.?</b> Analysis 3 due: November 27

## COURSE MEETINGS AND CLASS PARTICIPATION

**Class will meet two times per week.** Check the schedule carefully, as the exact days vary from week to week.

**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 breakout rooms, 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 lecture 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 reading shortly before the class or just after.**

**We will be meeting via zoom.** For everyone’s benefit, I would like to use the following rules:

*Join the class in a quiet place.*

*Be on time and stay until the end.*

*Turn on your video. Mute your microphone unless you are speaking.* If you need to have your video off for some reason, please check with your teaching fellow first.

*Close browser tabs not required for participating in class.*

**I will arrive to the zoom meeting early and stay after.** I will log on generally by 11:45 and stay until at least 1:30.

### SECTIONS

**Sections are held weekly, are 1 hour, and are mandatory.** We will use an electronic sectioning tool to select section times. The first sections will be held the week of **September 7.**

**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.

### POLICY ON COLLABORATION

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. In addition, you must cite any books, articles, websites, lectures, etc. that have helped you with your work using appropriate citation practices. Similarly, you must list the names of students with whom you have collaborated on problem sets.

You should be familiar with Harvard’s [Honor Code](#) and follow it in this class.

## GRADING

**Grades will be based on several criteria.** Final grades will be on a curve, with approximately 1/3 of students receiving an A or A-.

### **PARTICIPATE AND ENGAGE** (15%)

- **Attend** all lectures and **participate** as appropriate
- **Attend/engage** in section every week

### **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%)
- **Write** a final term paper or take the final exam (20%)

**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 – their contribution to the overall grade is modest. 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.

**You can choose to take a final exam or write a term paper.** The final exam will be a mix of analytics and interpretation and will cover the entire semester. The term paper will ask you to analyze a health topic of your choosing, to make an argument, and to use data to support the argument. The key is the last part: I want you to use data to support an argument you want to make about health policy. I will not prescribe the type of data you gather or how you analyze it. That is up to you.

**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 questions posed just before the assignment is due in a timely fashion, 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 Saumya Chatrath, [schatrath@g.harvard.edu](mailto:schatrath@g.harvard.edu).

**If you need academic adjustments or accommodations,** speak with Professor Cutler or your teaching fellow. If you have a letter from the Accessible Education Office (AEO, <http://www.fas.harvard.edu/~aeo/>), forward that to Professor Cutler. All discussions will remain confidential, although AEO may be consulted to discuss appropriate implementation.

## CLASS SCHEDULE

Intro	9/2	Wednesday	A Tour of the World's Health
<b>Unit 1. Epidemics</b>			
<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	9/4	Friday	Two Epidemics: COVID-19 and HIV
No Class	9/7	Monday	<i>Labor Day</i>
Session 1.2	9/9	Wednesday	Modeling Epidemics
No Class	9/11	Friday	
Session 1.3	9/14	Monday	COVID-19 Successes and Failures
No Class	9/16	Wednesday	
Session 1.4	9/18	Friday	Race and COVID-19
Session 1.5	9/21	Monday	HIV Successes
Session 1.6	9/23	Wednesday	HIV in the US
No Class	9/25	Friday	
No Class	9/28	Monday	<i>Yom Kippur</i>
Session 1.7	9/30	Wednesday	Pandemic Challenges + Presentations
Session 1.8	10/2	Friday	Presentations + Confidence intervals
<b>Unit 2. Pharmaceuticals</b>			
<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	10/5	Monday	The Pharmaceutical Problem
Session 2.2	10/7	Wednesday	Demand and Supply: The Economics of Pharmaceuticals
No Class	10/9	Friday	

No Class	10/12	Monday	<i>Columbus Day / Indigenous Peoples' Day</i>
Session 2.3	10/14	Wednesday	Pricing, Regulation, and Innovation
Session 2.4	10/16	Friday	Policy Options for Low and Middle Income Countries
Session 2.5	10/19	Monday	The New Pharma Industry
No Class	10/21	Wednesday	
Session 2.6	10/23	Friday	U.S. Policy Options for Pharma
Session 2.7	10/26	Monday	Relationships Between Variables
Session 2.8	10/28	Wednesday	Presentations
No Class	10/30	Friday	
<b>Unit 3. The US Health Care System</b>			
<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> <ol style="list-style-type: none"> <li>(1) The history of health reform in the US and other (rich) countries;</li> <li>(2) The issues that reform must address (costs, access, and quality);</li> <li>(3) The challenges that policy faces when it has only imperfect instruments to influence patients and providers;</li> <li>(4) Social determinants of health.</li> </ol> <p>Along the way, we will also look in detail at how social scientists draw conclusions from data.</p>			
Session 3.1	11/2	Monday	Western Health Systems
Session 3.2	11/4	Wednesday	The Affordable Care Act
No Class	11/6	Friday	
Session 3.3	11/9	Monday	Quality of Medical Care in America
Session 3.4	11/11	Wednesday	Social Determinants of Health
No Class	11/13	Friday	
Session 3.5	11/16	Monday	Consumerism
Session 3.6	11/18	Wednesday	Selection
No Class	11/20	Friday	
Session 3.7	11/23	Monday	Provider Payment Reform
No Class	11/25	Wednesday	<i>Thanksgiving</i>
No Class	11/27	Friday	<i>Thanksgiving</i>
Session 3.8	11/30	Monday	Presentations
Session 3.9	12/2	Wednesday	Wrap up

## DETAILED COURSE SCHEDULE

<b>Intro</b>	9/2	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

<b>Fill out</b>	The introduction <a href="#">form</a>
<b>Watch</b>	The video on course mechanics
<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension <a href="#">quiz</a>
<b>Look at</b>	<a href="http://Gapminder.org">Gapminder.org</a>

### Before or After Class Assignments

<b>Read</b>	Cutler, David, et al., " <a href="#">The Determinants of Mortality</a> ," J Econ Per, 2006, 20(3), 97-120 (focus on p. 106-111).
-------------	--

## Unit 1. Epidemics

<b>Session 1.1</b>	9/4	Two Epidemics: COVID-19 and HIV
--------------------	-----	---------------------------------

Learning Objectives	
<ul style="list-style-type: none"> <li>Describe (at a high level) the basic science of COVID-19 and HIV/AIDS</li> <li>Describe when a disease becomes an epidemic or pandemic</li> <li>Understand the worldwide and regional prevalence of COVID-19 and HIV</li> <li>Situate COVID-19 and HIV relative to other infectious diseases</li> </ul>	
Pre-Class Assignments	
<b>Watch</b>	Gates, Bill, <a href="#">“The Next Outbreak? We’re Not Ready,”</a> TED Talk, 2015.
	Iwasa, Janet, <a href="#">“Why it’s so Hard to Cure HIV/AIDS.”</a>
	Kurzgesagt, <a href="#">“The Coronavirus Explained and What You Should Do.”</a>
<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension quiz
Before or After Class Assignments	
<b>HIV</b>	
<b>Watch</b>	Rosling, Hans, <a href="#">Insights on HIV, in Stunning Data Visuals</a> , TED 2018.
<b>Read</b>	Avert, <a href="#">“Women and Girls, HIV and AIDS,”</a> July 27, 2017.
<b>COVID-19</b>	
<b>Read</b>	Wu, Jin, et al., <a href="#">“How the Virus Got Out,”</a> <i>New York Times</i> , March 22, 2020.
	Watkins, Derek, et al., <a href="#">“How The Virus Won,”</a> <i>New York Times</i> , June 25, 2020.
	<a href="#">If you want more</a>
<b>Watch</b>	<a href="#">20 Deadliest Pandemics in History.</a>

<b>Session 1.2</b>	9/9	Modeling Epidemics
--------------------	-----	--------------------

Learning Objectives	
<ul style="list-style-type: none"> <li>Understand the dynamics of an epidemic, including SIR models</li> <li>Discuss the difference between concentrated and generalized epidemics</li> <li>Highlight the high risk populations for HIV and COVID</li> </ul>	
Pre-Class Assignments	
<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension quiz
<b>Explore</b>	The SIR model simulation
Before or After Class Assignments	
<b>Read</b>	Avert, <a href="#">“Sex Workers, HIV and AIDS,”</a> July 31, 2017.



	Coggon, D, Geoffrey Rose, and David JP Barker, " <a href="#">Chapter 2: Quantifying Disease in Populations</a> ," in <i>Epidemiology for the Uninitiated</i> , 2017.
	<b>(More advanced, if you are interested)</b> Cassels, Susan, et al. <a href="#">Mathematical Models for HIV Transmission Dynamics: Tools for Social and Behavioral Science Research</a> . <i>J AIDS</i> 2008; 47(Suppl 1): S34-S39.
	<b>(More advanced, if you are interested)</b> <a href="#">Covasim</a> , and the explainer paper, Kerr, Cliff C., et al., " <a href="#">Covasim: An Agent Based Model of Covid-19 Dynamics and Interventions</a> ," working paper.

<b>Session 1.3</b>	9/14	COVID-19 Successes and Failures
--------------------	------	---------------------------------

### 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

<b>Fill out</b>	Read the Unit 1 Assignment and fill out the <a href="#">Unit 1 Assignment Choice</a>
<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension quiz

### Before or After Class Assignments

#### The United States

<b>Read</b>	Lipton, Eric, et al., " <a href="#">The C.D.C. Waited 'Its Entire Existence for This Moment,' What Went Wrong?</a> " <i>New York Times</i> , June 15, 2020.
	Yong, Ed, " <a href="#">How The Pandemic Defeated America</a> ," <i>The Atlantic</i> , September 2020.
	Wasser, Miriam, " <a href="#">State Report On Holyoke Soldiers' Home Finds 'Utterly Baffling' Management Missteps Exacerbated COVID Outbreak</a> ," <i>WBUR</i> , June 25, 2020
	Leonhardt, David, " <a href="#">The Unique US Failure to Control the Virus</a> ," <i>New York Times</i> , August 6, 2020.

#### South Korea

<b>Read</b>	Thompson, Derek, " <a href="#">What's Behind South Korea's COVID-19 Exceptionalism</a> ," <i>The Atlantic</i> , May 6, 2020.
	Tong-Hyung, Kim, " <a href="#">COVID-19 Resurgence Threatens South Korea's Success Story</a> ," <i>The Diplomat</i> , June 12, 2020.

#### China

<b>Read</b>	Mendis, Patrick, and Joey Wang, " <a href="#">The Three Mistakes the Chinese Government has Made in Its Mishandling of the Coronavirus Crisis</a> ," <i>South China Morning Post</i> , February 19, 2020.
-------------	---

#### World Health Organization

<b>Read</b>	Daalder, Ivo, " <a href="#">Commentary: WHO failed in the Coronavirus Response? A Look at the Timeline</a> ," <i>Chicago Tribune</i> , April 23, 2020.
-------------	--

Session 1.4	9/18	Race and COVID-19
-------------	------	-------------------

Learning Objectives	
<ul style="list-style-type: none"> <li>Understand the impact of COVID-19 on people of different races and ethnicities</li> <li>Understand theories about why health differs so much across races and ethnicities, including unequal resource distribution and structural racism</li> </ul>	
Pre-Class Assignments	
Watch	<a href="#">Social Determinants of Health – an Introduction</a>
Watch	The pre-class videos
Watch	Williams, David R., “ <a href="#">How Racism Makes Us Sick</a> ,” TedMed.
Take	The comprehension quiz
Before or After Class Assignments	
Read	Bailey, Zinzi D., et al., “ <a href="#">Structural Racism and Health Inequities in the USA: Evidence and Interventions</a> ,” <i>the Lancet</i> , 2017; 389: 1453-1463.
	Gee, Gilbert C., and Chandra L. Ford, “ <a href="#">Structural Racism and Health Inequities: Old Issues, New Directions</a> ,” <i>Du Bois Review: Social Science Research on Race</i> , 8(1), 2011, 115-132.
	Wezerek, Gus, “ <a href="#">Racism’s Hidden Toll</a> ,” <i>New York Times</i> , August 11, 2020.
	(Socioeconomic status) Adler, Nancy E., and Katherine Newman, “ <a href="#">Socioeconomic Disparities In Health: Pathways And Policies</a> ,” <i>Health Affairs</i> , 2002, 21(2), 60-76.

Session 1.5	9/21	HIV Successes
-------------	------	---------------

Learning Objectives	
<ul style="list-style-type: none"> <li>Describe the world’s response to HIV historically and currently, including the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)</li> <li>Understand trends in global pharmaceutical availability, pricing, and usage, including the role of international organizations in fostering those trends</li> <li>Describe the key features of HIV success stories in particular countries (Uganda, Thailand)</li> </ul>	
Pre-Class Assignments	
Watch	Innocence for Sale, <a href="#">Part 1</a> , <a href="#">Part 2</a> , <a href="#">Part 3</a> .
	The pre-class videos
Take	The comprehension quiz

Before or After Class Assignments	
<b>Uganda (country profile)</b>	
Read	Kron, Josh, " <a href="#">In Uganda, an AIDS Success Story Comes Undone</a> ," <i>New York Times</i> , August 2, 2012, A5.
	Stoneburner, Rand L, and Daniel Low-Beer, " <a href="#">Population-level HIV Declines and Behavioral Risk Avoidance in Uganda</a> ," <i>Science</i> , April 30, 2004, 304(5671), 714-718.
<b>Thailand</b>	
<b>Access to Medications</b>	
Read	Dugger, Celia W., " <a href="#">Clinton Foundation Announces A Bargain on Generic AIDS Drugs</a> ," <i>New York Times</i> , May 9, 2007, p. A9.
	Fauci, Anthony S. and Robert W. Eisinger, " <a href="#">PEPFAR – 15 Years and Counting the Lives Saved</a> ." <i>N Engl J Med</i> 2018;378(4):314-316.

Session 1.6	9/23	HIV in the US
-------------	------	---------------

Learning Objectives	
<ul style="list-style-type: none"> <li>• Understand the intersection between social movements (disease activists) and science (FDA, NIH)</li> <li>• Understand the lingering HIV epidemic: vulnerable people in poor areas</li> <li>• Discuss the public health approach to HIV and how current efforts differ from that</li> </ul>	
Pre-Class Assignments	
Watch	The pre-class videos
Take	The comprehension quiz
Read	Villarosa, Linda, " <a href="#">America's Hidden HIV Epidemic</a> ," <i>New York Times Magazine</i> , June 6, 2017.
Before or After Class Assignments	
<b>HIV and Science</b>	
Read	Crimp, Douglas, " <a href="#">Before Occupy: How AIDS Activists Seized Control of the FDA in 1988</a> ," <i>The Atlantic</i> , December 6, 2011.
	<a href="#">World AIDS Day: how AIDS activists changed medical research</a> , <i>The Guardian</i> , Dec. 1, 2013.
<b>The Current Epidemic</b>	
Watch	<a href="#">Isolation and stigma sustain HIV in the South: 'It's like we're on a deserted island'</a> June 16, 2018   <i>PBS NewsHour</i> William Brangham and Jason Kane.
Read	Frieden Thomas R., et al. " <a href="#">Applying Public Health Principles to the HIV Epidemic — How Are We Doing?</a> " <i>N Engl J Med</i> 373;23 December 3, 2015.
Explore	<a href="#">Surviving and Thriving: AIDS, Politics, and Culture</a> .
<b>Watch (Optional, but strongly encouraged)</b>	
	<a href="#">And the Band Played On</a> (Movie).
	<a href="#">How to Survive a Plague</a> (Documentary).

Session 1.7	9/30	Pandemic Challenges and Presentations 1
-------------	------	---

### Learning Objectives

- 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	The pre-class videos
Take	The comprehension quiz

### Before or After Class Assignments

#### Denialism in South Africa

Read	Specter, Michael, " <a href="#">The Denialists</a> ," The New Yorker, March 12, 2007.
------	---

#### Russia

Read	Beyrer, Chris, et al. <a href="#">The Expanding Epidemic of HIV-1 in the Russian Federation</a> . PLoS Med 2017;14(11): e1002462.
------	---

#### Scientific and Technical Challenges: TB Co-infection, drug resistance, scale up, resources

Read	Beyrer, Chris and Anton Pozniak, <a href="#">HIV Drug Resistance – An Emerging Threat to Epidemic Control</a> . N Engl J Med 2017;377(17):1605-1607.
------	--

	Ellman, Tom, " <a href="#">Demedicalizing AIDS Prevention and Treatment in Africa</a> ," N Engl J Med , 2015, 372: 303-305.
--	---

	Garrett, Laurie, " <a href="#">The Next AIDS Pandemic</a> ," Foreign Policy, July 26, 2017.
--	---

	Havlir, Diane, and Chris Beyrer, " <a href="#">The Beginning of the End of AIDS?</a> " N Engl J Med, 2012, 367: 685-687.
--	--

Session 1.8	10/2	Presentations 2 and 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, " <a href="#">Confidence Intervals</a> ", Investopedia, 2020.
------	---

## Unit 2: Pharmaceutical Policy

<b>Session 2.1</b>	10/5	The Pharmaceutical Problem
--------------------	------	----------------------------

Learning Objectives	
<ul style="list-style-type: none"> <li>Understand the value of pharmaceuticals</li> <li>Understand the costs of pharmaceuticals from two perspectives: production and development; and reimbursement</li> <li>Be aware of trends in pharmaceutical costs over time</li> </ul>	
Pre-Class Assignments	
<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension quiz
<b>Watch</b>	CBS News, " <a href="#">The Cost of Cancer Drugs</a> ," October 5, 2014.
Before or After Class Assignments	
<b>Read</b>	Kremer, Michael, " <a href="#">Pharmaceuticals and the Developing World</a> ," J of Econ Per, 2002, 16(4): 67-90.
<b>Example: Cancer</b>	
<b>Read</b>	Bach, Peter B., et al. " <a href="#">In cancer care, cost matters</a> ," New York Times. October 15, 2012; A25. Experts in Chronic Myeloid Leukemia, " <a href="#">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</a> ," Blood, 2013, 121:4439-4442.

<b>Session 2.2</b>	10/7	Demand and Supply: The Economics of Pharmaceuticals
--------------------	------	---

Learning Objectives	
<ul style="list-style-type: none"> <li>Understand the demand and supply of (existing) pharmaceuticals</li> <li>Understand equilibrium price and quantity in pharmaceutical markets</li> <li>Compare and contrast regulation of pharmaceuticals in different countries</li> </ul>	
Pre-Class Assignments	
<b>Watch</b>	The pre-class videos
<b>Explore</b>	Memorial Sloan Kettering Cancer Center, <a href="#">Drug Abacus</a>
<b>Take</b>	The comprehension quiz
Before or After Class Assignments	
<b>Watch</b>	St. Louis Fed, Economic Lowdown Video Series, <a href="#">Episode 1 – Supply</a> , <a href="#">Episode 2 – Demand</a> , <a href="#">Episode 3 – Equilibrium (optional)</a> , <a href="#">Fixed v. Variable costs</a>

<b>Session 2.3</b>	10/14	Pricing, Regulation, and Innovation
--------------------	-------	-------------------------------------

<b>Learning Objectives</b>	
	<ul style="list-style-type: none"> <li>• Understand the dynamics of research and development, including the roles of pricing, patent policy, and market competition</li> <li>• Contrast optimal pricing and regulation in a static (non-changing) and a dynamic market</li> <li>• Discuss empirical evidence on the impact of pricing on innovation</li> </ul>
<b>Pre-Class Assignments</b>	
<b>Watch</b>	The pre-class videos
<b>Read</b>	Frakt, Austin, " <a href="#">Why Preventing Cancer is Not the Priority in Drug Development</a> ," New York Times, Upshot, December 25, 2015.
<b>Take</b>	The comprehension quiz
<b>Before or After Class Assignments</b>	
<b>Read</b>	Scherer, F.M., " <a href="#">The Link Between Gross Profitability and Pharmaceutical R&amp;D Spending</a> ," Health Affairs, 2001, 20(5), 216-220.

<b>Session 2.4</b>	10/16	Policy Options for Low and Middle Income Countries
--------------------	-------	--

<b>Learning Objectives</b>	
	<ul style="list-style-type: none"> <li>• Understand the challenges to adequate access to medications in low and middle income countries, with special emphasis on pricing and regulatory issues</li> <li>• Identify issues of compulsory licensing and debate the pros and cons of this policy</li> <li>• Understand the importance of 'missing medications' for people in these countries</li> </ul>
<b>Pre-Class Assignments</b>	
<b>Watch</b>	The pre-class videos
<b>Watch</b>	't Hoen, Ellen, <a href="#">Why You Can't Get the Lifesaving Drugs You Need</a> , Ted, 2012.
<b>Take</b>	The comprehension quiz
<b>Before or After Class Assignments</b>	
<b>Read</b>	Wirtz, Veronika J., et al., " <a href="#">Essential Medicines for Universal Health Coverage</a> ," the Lancet, 2017, 389(10067): 403-476. (skim)

<b>Session 2.5</b>	10/19	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

<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension quiz

### Before or After Class Assignments

<b>Read</b>	Stern, Ariel D., et al., " <a href="#">How Economics Can Shape Precision Medicines</a> ," Science, 2017, 355(6330):1131-1133.
<b>Skim</b>	MIT New Drug Development Paradigms Initiative, <a href="#">FoCUS: Financing and Reimbursement of Cures in the US</a> , 2018.
<b>Read</b>	(If you are really interested and have some economics) Chandra Amitabh, et al., <a href="#">Characterizing the Drug Development Pipeline for Precision Medicines</a> ," 2018.

<b>Session 2.6</b>	10/23	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

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

### Before or After Class Assignments

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

### Dig Deeper (Three Policy Proposals)

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

<b>Session 2.7</b>	10/26	Relationships Between Variables
--------------------	-------	---------------------------------

<b>Learning Objectives</b>	
	<ul style="list-style-type: none"> <li>• Understand a regression equation and whether a relationship is 'statistically significant'</li> <li>• Understand the difference between correlation and causation</li> <li>• Be able to critique studies for statistical accuracy and whether the conclusions are appropriate</li> </ul>
<b>Pre-Class Assignments</b>	
<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension quiz
<b>Before or After Class Assignments</b>	
<i>Estimating and Interpreting regressions</i>	
<b>Skim</b>	Penn State, <a href="#">Simple Linear Regression</a> , especially sections 1.1-1.3 (don't get caught up in the math!)
<i>Correlation v. causality</i>	
<b>Read</b>	Lo, Nathan C., et al. " <a href="#">Abstinence Funding Was Not Associated With Reductions in HIV Risk Behavior in Sub-Saharan Africa</a> ," Health Affairs, 35(5), May 2016.
<b>Watch</b>	Smeets, Ionica, <a href="#">The Danger of Mixing Up Correlation and Causality</a> , Tedx

<b>Session 2.8</b>	10/28	Presentations and discussion
--------------------	-------	------------------------------



## Unit 3: US Health Care Reform

<b>Session 3.1</b>	11/2	Western Health Systems
--------------------	------	------------------------

Learning Objectives	
<ul style="list-style-type: none"> <li>Compare health systems in terms of coverage, cost constraints, and quality</li> <li>Understand major differences between the US and other high income countries</li> </ul>	
Pre-Class Assignments	
<b>Watch</b>	The pre-class videos University of Maryland, <a href="#">Health systems video</a> . Kaiser Family Foundation, <a href="#">Health of the Healthcare System</a>
<b>Take</b>	The comprehension quiz
Before or After Class Assignments	
<b>Read</b>	Cutler, David, " <a href="#">Equality, Efficiency, and Market Fundamentals: The Dynamics of International Medical Care Reform</a> ," J Econ Lit, 2002, 40(3), 881-906. Fuchs, Victor, " <a href="#">Major Trends in the U.S. Health Economy Since 1950</a> ," N Eng J Med, 2012, 366, 973-977. Newhouse, Joseph P., " <a href="#">Medical Care Costs: How Much Welfare Loss?</a> " J Econ Per, 1992, 6(3), 13-29.

<b>Session 3.2</b>	11/4	The Affordable Care Act
--------------------	------	-------------------------

Learning Objectives	
<ul style="list-style-type: none"> <li>Identify the major features of the Affordable Care Act (ACA), including those parts affecting coverage and costs</li> <li>Understand the major legal and political obstacles to the ACA</li> <li>Describe trends in public support for various components of the ACA and its proposed alternatives</li> </ul>	
Pre-Class Assignments	
<b>Watch</b>	The pre-class videos
<b>Complete</b>	The pre-class assignment (choose insurance coverage!)
Before or After Class Assignments	
<b>Read</b>	Cutler, David, " <a href="#">Should Healthy People Have to Pay for Chronic Illnesses?</a> " Washington Post, March 17, 2017. Oberlander, Jonathan, " <a href="#">Unfinished Journey — A Century of Health Care Reform in the United States</a> ," N Engl J Med, 2012, 367, 585-590.

	Reinhardt, Uwe, " <a href="#">Is Health Care Special?</a> ", <i>New York Times Economix Blog</i> , August 6, 2010; " <a href="#">Health Care, Uncertainty, and Morality</a> ," August 13, 2010.
Watch	<a href="#">Rebekah Gee on Health Care Policy</a> , 2017.
	Kaiser Family Foundation, <a href="#">Health Reform Hits Main Street</a> , 2010.

Session 3.3	11/9	Quality of Medical Care in America
-------------	------	------------------------------------

Learning Objectives	
	<ul style="list-style-type: none"> <li>• Understand the dimensions of quality (STEEP)</li> <li>• Understand areas in which quality is low, including overuse of care, underuse of care, and misuse of care</li> <li>• Understand the total amount of medical spending estimated to go to low quality care</li> <li>• Identify the major proposals for addressing quality issues</li> </ul>
Pre-Class Assignments	
Watch	The pre-class videos
Read	Gawande, Atul, " <a href="#">The Cost Conundrum</a> ," <i>The New Yorker</i> , June 1, 2009.
Take	The comprehension quiz
Before or After Class Assignments	
Read	Berwick, Donald, " <a href="#">A User's Manual for the IOM's 'Quality Chasm' Report</a> ," <i>Health Affairs</i> , 2002, 21(3), 80-90; or see the <b>Video</b> . <a href="#">Crossing the Quality Chasm</a> , Coursera.
	Gawande, Atul, " <a href="#">Overkill</a> ," <i>The New Yorker</i> , May 11, 2015
	Papanicolas, Irene et al. " <a href="#">Health Care Spending in the United States and Other High-Income Countries</a> ," <i>JAMA</i> , March 13, 2018 319(10):1024–39.
	(skim). Fisher, Elliott S., et al. " <a href="#">The Implications of Regional Variations in Medicare Spending. Part 1: The Content, Quality, and Accessibility of Care</a> ," and " <a href="#">Part 2: Health Outcomes and Satisfaction with Care</a> ," <i>Annals of Internal Medicine</i> , 138(4), 2003.

Session 3.4	11/11	Social Determinants of Health
-------------	-------	-------------------------------

Learning Objectives	
	<ul style="list-style-type: none"> <li>• Describe the link between social status and health and the theories that explain such a link</li> <li>• Identify specific social factors that influence health (housing policy, education policy, tax policy, etc.)</li> <li>• Discuss the tradeoff between social and health care spending in dealing with vulnerable populations</li> </ul>
Pre-Class Assignments	

<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension quiz
<b>Before or After Class Assignments</b>	
<b>Read</b>	Case, Anne, and Angus Deaton, " <a href="#">Rising midlife morbidity and mortality, US whites</a> " Proceedings of the National Academy of Sciences Dec 2015, 112 (49) 15078-15083.
	Chetty, Raj, et al., " <a href="#">The Association Between Income and Life Expectancy in the United States, 2001-2014</a> ," JAMA, 2016, 315(16): 1750-1766.
	Marmot, Michael, et al., " <a href="#">Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health</a> ," The Lancet, 2008, 372(9650): 1661-1669.
	Taylor, Lauren, et al., " <a href="#">Leveraging the Social Determinants of Health: What Works?</a> " PLoS One, 2016; 11(8): e0160217.

<b>Session 3.5</b>	11/16	Consumerism
--------------------	-------	-------------

<b>Learning Objectives</b>	
	<ul style="list-style-type: none"> <li>Understand the major dimensions of consumerism, in choice of insurance plans and choice of medical care providers</li> <li>Summarize the evidence on consumer responses to choice settings, in particular whether such decisions are 'rational' or not</li> </ul>
<b>Pre-Class Assignments</b>	
<b>Watch</b>	The pre-class videos
	Kaiser Family Foundation, <a href="#">Health insurance explained</a> .
	MoneyCoach, <a href="#">Health Insurance 101: The Basics</a>
<b>Take</b>	The comprehension quiz
<b>Before or After Class Assignments</b>	
<b>Read</b>	Huskamp, Haiden A., et al., " <a href="#">The Effect of Incentive-Based Formularies on Prescription-Drug Utilization and Spending</a> ," N Engl J Med, 2003; 349: 2224-2232.
	Rosenthal, Meredith, " <a href="#">What Works in Market-Oriented Health Policy</a> ," N Engl J of Med, 2009, 360(21): 2157-2160.
	(Optional; more advanced) Swartz, Katherine, <a href="#">Cost Sharing: Effects on Spending and Outcomes</a> , Robert Wood Johnson Foundation, 2010.

Session 3.6	11/18	Selection
-------------	-------	-----------

Learning Objectives	
<ul style="list-style-type: none"> <li>• Understand the costs and benefits of selection in insurance</li> <li>• Describe the dynamics of markets when people differ in risk</li> <li>• Discuss solutions to selection in insurance</li> </ul>	
Pre-Class Assignments	
<b>Watch</b>	The pre-class videos
<b>Read</b>	Nickolas, Steven, " <a href="#">Moral Hazard vs. Adverse Selection: What's The Difference?</a> " Investopedia, April 13, 2019.
<b>Take</b>	The comprehension quiz
Before or After Class Assignments	
<b>Read</b>	Cunningham, Rob, " <a href="#">Risk Adjustment in Health Insurance</a> ", Health Policy Brief, August 30, 2012.
	Cook, Robin, " <a href="#">Decoding Health Insurance</a> ," New York Times, May 22, 2005.
	<i>(Optional, if you have had Ec10)</i> Einav, Liran, and Amy Finkelstein, " <a href="#">Selection in Insurance Markets: Theory and Empirics in Pictures</a> ," J of Econ Per, 2011, 25(1): 115-38.

Session 3.7	11/23	Provider Payment Reform
-------------	-------	-------------------------

Learning Objectives	
<ul style="list-style-type: none"> <li>• Understand the major types of provider reform, including financial incentives (salaried physicians, performance-based payment), professionalism, and tort reform</li> <li>• Summarize the literature evaluating the impact of provider payment reform on the cost and quality of care</li> </ul>	
Pre-Class Assignments	
<b>Watch</b>	The pre-class videos
<b>Take</b>	The comprehension quiz
Before or After Class Assignments	
<i>Accountable Care Organizations</i>	
<b>Read</b>	McWilliams, J. Michael, et al., " <a href="#">Early Performance of Accountable Care Organizations in Medicare</a> ," N Engl J Med, 2016; 374:2357-2366.
	Song, Zirui, Yunan Ji, Dana Safran, et al., " <a href="#">Health Care Spending, Utilization, and Quality 8 Years into Global Payments</a> ," N Engl J Med, July 18, 2019; 381: 252-263.
<i>Defensive medicine</i>	
<b>Read</b>	Baicker, Katherine, et al., " <a href="#">Malpractice Liability Costs and the Practice of Medicine in the Medicare Program</a> ," Health Affairs, 2007, 26(3): 841-852.

### Professionalism

<b>Read</b>	Pronovost, Peter J., et al., " <a href="#">Preventing Bloodstream Infections: A Measurable National Success Story in Quality Improvement</a> ," Health Affairs, 2011, 30(4): 628-634; and <b>Video</b> . <a href="#">In the Interest of Patient Safety</a> .
-------------	--

<b>Session 3.8</b>	11/30	Presentations and Discussion
--------------------	-------	------------------------------

### Before or After Class Assignments

<b>Read</b>	Antos, Joe, James Capretta, and Gail Wilensky, " <a href="#">Replacing the Affordable Care Act and Other Suggested Reforms</a> ," JAMA, 2016; 315(13): 1325-1325.
	Cutler, David, " <a href="#">How Congress Could Pass a Bipartisan Health Bill That People Actually Like</a> ", Washington Post, June 30, 2017.
	Obama, Barack, " <a href="#">United States Health Care Reform: Progress and Next Steps</a> ," JAMA, 2016, 316(5): 525-532.
	Physicians for a National Health Plan, " <a href="#">Beyond the Affordable Care Act: A Physicians' Proposal for Single-Payer Health Care Reform</a> ," 2016.
	Oberlander, Jonathan, " <a href="#">The Republican War on Obamacare – What Has It Achieved?</a> " N Engl J Med, 2018, 379, 703-705.

<b>Session 3.9</b>	12/2	Wrap-up
--------------------	------	---------

### Pre-Class Assignments

<b>Fill out</b>	The class survey
-----------------	------------------