

Spring 2024 Economics 2465: Health Economics

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Office Hours: By Appointment

This is a course in the economics of health care. Topics will include health capital, global health, health insurance, productivity of medical spending, and medical care markets.

Meeting: Class is scheduled for Tuesday, Thursday, and Friday from 10:30 - 11:45 am. Class will generally meet twice per week, with a few exceptions. Check the meeting schedule carefully.

Class: Class notes will be posted by the morning of the class on the class website: <https://canvas.harvard.edu/courses/126961>.

Notes: You should download the notes and bring them to class.

Seminar: Students are encouraged to attend the weekly Health Economics seminar, Wed. 4:00 – 5:30. See <https://www.bu.edu/econ/research/seminars/health-economics-seminar-papers/> for schedule and location.

Grading: There will be a one-day at home final exam during final exam period (50%), a 2-3 page research proposal due on May 1, the last day of reading period (25%), and three problem sets (25%).

Reading: I have indicated the readings that should be read **before class** (**pre-class readings**) and those that can be read at your leisure (**supplemental readings**). I have also indicated **classic papers** that you should be familiar with. **Job market papers** are indicated in blue. The pre-class reading is generally a recent article on the topic of the day. We will discuss the methodology and findings of the article in class. I will cold call on students to discuss the pre-class readings. The supplemental readings are an important part of the class; I will indicate which ones you should pay particular attention to.

Accessible Education: 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.

Attendance and Participation: Students are expected to attend all lectures and sections. We will update this policy should changes in instruction arise during the semester.

The [Harvard College Honor Code](#): Members of the Harvard College community commit themselves to producing academic work of integrity – that is, work that adheres to the scholarly and intellectual standards of accurate attribution of sources, appropriate collection and use of data, and transparent acknowledgement of the contribution of others to their ideas, discoveries, interpretations, and conclusions. Cheating on exams or problem sets, plagiarizing or misrepresenting the ideas or language of someone else as one's own, falsifying data, or any other instance of academic dishonesty violates the standards of our community, as well as the standards of the wider world of learning and affairs. All individual assignments submitted for this course are expected to be your own, including your own research and writing. If you are working on a joint project (mentioned below), however, you are able to collaborate with your co-author and submit research and writing that you have both worked on.

Policy on Collaboration: As long as students adhere to the Honor Code, they are encouraged to exchange and discuss ideas, share sources, and consult one another and instructional staff.

Inclusion, Diversity, and Classroom Climate: Diverse backgrounds, embodiments, and experiences are essential to the critical thinking at the heart of university education. I strive to create a classroom experience where differences are respected, including age, cultural background, disability, ethnicity, family status, gender identity and expression, citizenship and immigration status, national origin, race, religion, sex, sexual orientation, socioeconomic status, and veteran status. Throughout the course I will aim to engage respectfully in the discussion of diverse worldviews and ideologies embedded in course materials, including those that are at odds with personal beliefs and values. I am committed to making this class an equitable learning environment. Please talk with me right away if you experience disrespect in this class, and we will work to address it in a constructive manner.

We are co-creators of our learning environment. It is our collective responsibility to develop a supportive learning environment for everyone. Listening with respect and an open mind, striving to understand others' views, and articulating your own point of view will help foster the creation of this environment. We engage our differences with the intent to build community, not to put down the other and distance ourselves from the other. Being mindful to not monopolize discussion and/or interrupt others will also help foster an open environment for debate and intellectual exchange.

Economics 2465 Class Schedule

Tue	January 23	1. Health over Time and Around the World
Thu	January 25	2. Health Capital
Fri	January 26	No class

Health Capital

Tue	January 30	3. Health Behaviors
Thu	February 1	4. SES and Health
Fri	February 2	No class

Tue	February 6	5. Race and health (with Marcella Alsan)
Thu	February 8	6. Deaths of despair
Fri	February 9	No class

Tue	February 13	7. Disease and Development: Macro Studies
Thu	February 15	8. Disease and Development: Micro Studies
Fri	February 16	No class

Health Systems

Tue	February 20	9. Overview of Health Systems
Thu	February 22	10. Health Reform in High Income Countries
Fri	February 23	No class

Tue	February 27	11. Optimal insurance I: The Demand Side
Thu	February 29	12. Optimal insurance II: The Supply Side
Fri	March 1	13. Insurance Coverage and Health

Tue	March 5	14. Demand and Moral Hazard
Thu	March 7	15. Supply-Side Responses to Payment
Fri	March 8	No class

Tue	March 12	SPRING BREAK
Thu	March 14	SPRING BREAK
Fri	March 15	SPRING BREAK

Tue	March 19	16. Disability insurance (with Nicole Maestas)
Thu	March 21	17. Insurance selection
Fri	March 22	No class

Productivity Analysis

Tue	March 26	18. Dimensions of Productivity and Productive Inefficiency
Thu	March 28	19. The Return to Doing More
Fri	March 29	No class
Tue	April 2	20. Theories for Uneven Productivity (with Amitabh Chandra)

Medical Care Markets

Thu	April 4	21. Overview of Medical Care Delivery
Fri	April 5	No class
Tue	April 9	22. Competition and Outcomes
Thu	April 11	23. Insurer-Provider Interactions
Fri	April 12	No class
Tue	April 16	24. Insurance competition
Thu	April 18	25. Antitrust policy in health care (with Leemore Dafny)
Fri	April 19	No class
Tue	April 23	26. Health care innovation

A Note on Readings

Readings in health economics are in several journals:

General interest journals: *American Economic Review*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Econometrica*.

Field journals: The major journal in the field is the *Journal of Health Economics*. There is also the *American Journal of Health Economics*.

Medical journals: Almost all medical journals publish health economics articles. The best are the *New England Journal of Medicine* and *JAMA*. Each will send you weekly summaries of what is in the journal if you wish. *Health Affairs* has a number of good articles on health care policy topics.

Reference books: There is no textbook in the field. The best collection is the *Handbook of Health Economics*. Volumes 1A and 1B were edited by Anthony Culyer and Joseph P. Newhouse and were published in 2000. Volume 2 was edited by Mark V. Pauly, Thomas G. McGuire and Pedro P. Barros and was published in 2011. You can find all the volumes here: <http://www.sciencedirect.com/science/handbooks/15740064>. For an undergraduate introduction, try Sherman Folland, Allen Goodman, and Miron Stano, *The Economics of Health and Health Care*. Any edition is fine.

Session 1: Health over Time and Around the World

Key points:

- The definition of health
- Health has improved enormously in recent centuries
- Health covaries positively with income, with interesting exceptions
- The debate about causality between health and income

Pre-class readings

Cutler, David, Angus Deaton, and Adriana Lleras-Muney, “[The Determinants of Mortality](#),” *Journal of Economic Perspectives*, 2006, 20(3), 97-120.

Fogel, Robert W., “[Economic Growth, Population Theory, and Physiology: The Bearing of Long-Term Processes on the Making of Economic Policy](#),” *American Economic Review*, 1994, 84(3), 369-395. (*classic paper*)

Supplemental readings

Bloom, David E., and David Canning, “[The Health and Wealth of Nations](#),” *Science*, 2000, 287(5456), 1207-1208.

Brainerd, Elizabeth, and David Cutler, “[Autopsy on an Empire: Understanding Mortality in Russia and the Former Soviet Union](#),” *Journal of Economic Perspectives*, 2005, 19(1), 107-130.

Costa, Dora, “[Health and the Economy in the United States, from 1750 to the Present](#),” *Journal of Economic Literature*, 2015, 53(3), 503–570.

Deaton, Angus, [The Great Escape: Health, Wealth, and the Origins of Inequality](#). Princeton, NJ: Princeton University Press, 2013, Part I, 59-164.

I. Health Capital

Session 2: Health Capital

Key points:

- Health as a consumption and investment good
- Value of survival is linear in flow utility (not marginal utility)
- Health improvements are worth a lot

Pre-class readings

Grossman, Michael, “[The Human Capital Model](#),” in *Handbook of Health Economics, Volume 1A*, (an update of the **classic paper**, Michael Grossman, “[On the Concept of Health Capital and the Demand for Health](#),” *Journal of Political Economy*, 1972, 80(2), 223-255.

Cutler, David, Allison B. Rosen, and Sandeep Vijan, “[Value of Medical Innovation in the United States: 1960-2000](#),” *New England Journal of Medicine*, 2006; 355(9), 920-927.

Hall, Robert E. and Charles I. Jones, “[The Value of Life and the Rise in Health Spending](#),” *Quarterly Journal of Economics*, 2007, 122 (1), 39-72.

Supplemental readings

Becker, Gary S., Tomas J. Philipson, and Rodrigo R. Soares, “[The Quantity and Quality of Life and the Evolution of World Inequality](#),” *American Economic Review*, 2005, 95(1), 277-291.

Murphy, Kevin M. and Robert H. Topel, “[The Value of Health and Longevity](#),” *Journal of Political Economy*, 2006, 114(5), 871-904.

Nordhaus, William, “[The Health of Nations: The Contribution of Improved Health to Living Standards](#),” in Kevin Murphy and Robert Topel, eds., *Measuring the Gains from Medical Research: An Economic Approach*. Chicago: University of Chicago Press, Spring 2003.

Session 3: Health Behaviors

Key points:

- Behaviors are a key ‘actual cause’ of death
- ‘Internalities’ are more important than externalities
- Models of behavior

Pre-class readings

Becker, Gary, and Kevin Murphy, "[A Theory of Rational Addiction](#)," *Journal of Political Economy*, 1988, 96(4), 675-700. (*classic paper*)

Cutler, David, Edward Glaeser, and Jesse Shapiro, "[Why Have Americans Become More Obese?](#)" *Journal of Economic Perspectives*, 2003, 17(3), 93-118.

Gruber, Jonathan and Botond Koszegi, "[Is Addiction 'Rational'? Theory and Evidence](#)," *Quarterly Journal of Economics*, 2001, 116(4), 1261-1303.

Oster, Emily, Ira Shoulson, and E. Ray Dorsey, "[Optimal Expectations and Limited Medical Testing: Evidence from Huntington Disease](#)," *American Economic Review*, 2013, 103(2): 804-830.

Supplemental readings

Models of Health Behaviors

Cawley, John, and Chris Ruhm, "[The Economics of Risky Health Behaviors](#)," *Handbook of Health Economics*, Volume 2.

Cutler, David M., Amber Jessup, Donald Kenkel, and Martha A. Starr, "[Valuing Regulations Affecting Addictive or Habitual Goods](#)," *Journal of Benefit-Cost Analysis*, 2015, 6(2), 247-280.

Bernheim, B. Douglas, and Antonio Rangel, "[Addiction and Cue-Triggered Decision Processes](#)," *American Economic Review*, 2004, 94(5), 1558-90.

Handel, Ben and Joshua Schwartzstein, "[Frictions or Mental Gaps: What's Behind the Information We \(Don't\) Use and When Do We Care?](#)" *Journal of Economic Perspectives*, 2018, 32(1): 155-178.

Laibson, David, "[Golden Eggs and Hyperbolic Discounting](#)," *Quarterly Journal of Economics*, 1997, 112(2), 443-477.

Smoking

Allcott, Hunt, and Charlie Rafkin, "[Optimal Regulation of E-cigarettes: Theory and Evidence](#)," *American Economic Journal: Economic Policy*, 2022, 14(4): 1-50.

Chaloupka, Frank and Kenneth E. Warner, "[The Economics of Smoking](#)," in Anthony J. Culyer and Joseph Newhouse, eds., *Handbook of Health Economics*, Amsterdam: North-Holland, 2000.

De Walque, Damien, "[Education, information, and smoking decisions: evidence from smoking histories, 1940-2000](#)," *Journal of Human Resources*, 2010, 45(3), 682-717.

Manning, Willard, Emmett Keeler, Joseph Newhouse, Elizabeth Sloss, and Jeffrey Wasserman, "[The Taxes of Sin: Do Smokers and Drinkers Pay Their Way?](#)" *JAMA*, 1989, 261(11), 1604-9.

Sexual Behavior

Dupas, Pascaline, "[Do Teenagers Respond to HIV Risk Information? Evidence from a Field Experiment in Kenya](#)," *American Economic Journal: Applied Economics*, 2011, 3(1), 1-34.

Oster, Emily, "[Sexually Transmitted Infections, Sexual Behavior, and HIV/AIDS Epidemic](#)," *Quarterly Journal of Economics*, 2005, 120(2), 467-515.

Thornton, Rebecca, "[The Demand for and Impact of Learning HIV Status: Evidence from a Field Experiment](#)," *American Economic Review*, 2008, 98(5), 1829-1863.

Drug Use

Cutler, David M., and Edward L. Glaeser, "[When Innovation Goes Wrong: Technological Regress and the Opioid Epidemic](#)," *Journal of Economic Perspectives*, 2021, 35 (4): 171-96.

Cutler, David M. and J. Travis Donahoe, "Thick Market Externalities and the Persistence of the Opioid Epidemic," mimeo, 2024.

Interventions

Asch, David A., et al., "[Effect of Financial Incentives to Physicians, Patients, or Both on Lipid Levels: A Randomized Clinical Trial](#)," *JAMA*, 2015; 314(18):1926-1935.

Volpp, Kevin, et al., "[A Randomized, Controlled Trial of Financial Incentives for Smoking Cessation](#)," *New England Journal of Medicine*, 2009, 360:699-709.

Volpp, Kevin, et al., "[Financial Incentive–Based Approaches for Weight Loss: A Randomized Trial](#)," *JAMA*. 2008; 300(22):2631-2637.

Technology and Behaviors

Sood, Neeraj, and Dana Goldman, "[HIV Breakthroughs and Risky Sexual Behavior](#)," *Quarterly Journal of Economics*, 2006, 121(3): 1063-1102.

Session 4: SES and Health

Key points:

- The 'gradient' in health
- Education is causally related to health
- The reason why is unclear, though may have to do with cognitive processing

Pre-class readings

Cutler, David and Adriana Lleras-Muney, "[Understanding Differences in Health Behavior by Education](#)," *Journal of Health Economics*, 2010, 29(1), 1-28.

Lleras-Muney, Adriana, "[The Relationship between Education and Adult Mortality in the U.S.](#)," *Review of Economic Studies*, 2005, 72(1), 189-221.

Supplemental readings

Case, Anne, Darren Lubotsky, and Christina Paxson, "[Economic Status and Health in Childhood: The Origins of the Gradient](#)," *American Economic Review*, 2002, 92(5), 1308-1334.

Heckman, James J., John Eric Humphries, and Greg Veramendi, “[Education, Health and Wages](#),” *Journal of Political Economy*, 2018, 126(S1): S197-S246.

Currie, Janet, and Enrico Moretti, “[Mother's Education and the Intergenerational Transmission of Human Capital: Evidence from College Openings](#),” *Quarterly Journal of Economics*, 2003, 118(4), 1495-1532.

Goldman, Dana, and James Smith, “[Can patient self-management help explain the SES health gradient?](#)” *Proceedings of the National Academy of Science*, 2002, 99(16), 10929-34.

Rossin-Slater, Maya, Molly Schnell, Hannes Schwandt, Sam Trejo, Lindsey Uniat, “[Local exposure to school shootings and youth antidepressant use](#),” *Proceedings of the National Academy of Sciences*, 2020, 117(38), 23484-23489.

Connolly, Kevin, “[How Does Access to College Affect Long-Term Life Outcomes? Evidence from U.S. Openings of Two-Year Public Colleges](#),” mimeo, 2021. (job market paper)

Udalova, Victoria, Vinayak Bhatia, and Maria Polyakova. “[Association of Family Income With Morbidity and Mortality Among US Lower-Income Children and Adolescents](#),” *JAMA*. 2022, 328(24):2422–2430.

Session 5: Race and Health

Key points:

- Understanding differences in health by race
- The impact of structural racism

Pre-class readings

Alsan, Marcella, Owen Garrick, and Grant Graziani, 2019. “[Does Diversity Matter for Health? Experimental Evidence from Oakland](#),” *American Economic Review*, 2019, 109(12), 4071-4111.

Alsan, Marcella, Marianne Wanamaker, “[Tuskegee and the Health of Black Men](#),” *Quarterly Journal of Economics*, 2018, 133(1), 407-455.

Supplemental readings

Alsan, Marcella, Amitabh Chandra, and Kosali Simon, “[The Great Unequalizer: Initial Health Effects of COVID-19 in the United States](#),” *Journal of Economic Perspectives*, 2021, 35(3): 25-46.

Alsan, Marcella, and Sarah Eichmeyer, “[Experimental Evidence on the Effectiveness of Non-Experts for Improving Vaccine Demand](#),” *AEJ: Economic Policy*, forthcoming.

Bailey, Zinzi D., Justin M. Feldman, and Mary T. Bassett, "[How Structural Racism Works - Racist Policies as a Root Cause of U.S. Racial Health Inequities](#)," *N Engl J Med.*, February 25, 2021, 384(8): 768-773.

Benitez, Joseph, Charles Courtemanche, and Aaron Yelowitz, 2020. "[Racial and Ethnic Disparities in COVID-19: Evidence from Six Large Cities](#)," *Journal of Economics, Race, and Policy*, 2020, 3(4), 243-261.

Bor, Jacob, Atheendar S. Venkataramani, David R. Williams, Alexander C. Tsai. "[Police killings and their spillover effects on the mental health of black Americans: a population-based, quasi-experimental study](#)," *Lancet*. 2018, 392(10144), 302-310.

Chandra, Amitabh, Michael Frakes, and Anup Malani, "[Challenges To Reducing Discrimination And Health Inequity Through Existing Civil Rights Laws](#)," *Health Affairs*, 2017, 36(6), 1041-1047.

Cook, Lisa D., Trevon D. Logan, John M. Parman, "[Racial Segregation and Southern Lynching](#)," *Social Science History*, 2018, 42(4), 635-675.

Gaskin, Darrell J, Eric T. Roberts, Kitty S. Chan, Rachel McCleary, Christine Buttorff, Benjo A. Delarmente, "[No Man is an Island - The impact of neighborhood disadvantage on mortality](#)," *International Journal of Environmental Research and Public Health*. 2019, 16(7), 1-18.

Institute of Medicine 2003. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: The National Academies Press, [Chapter 1](#) (Introduction and Literature Review); optional – entire volume.

Pierson, Emma, David Cutler, Jure Leskovec, Sendhil Mullainathan, and Ziad Obermeyer, "[An algorithmic approach to reducing unexplained pain disparities in underserved populations](#)," *Nature Medicine*, 2021, 27, 136–140.

Schwandt, Hannes, Janet Currie, Marlies Bär, et al., "[Inequality in mortality between Black and White Americans by age, place, and cause and in comparison to Europe, 1990 to 2018](#)," *Proceedings of the National Academy of Sciences* Oct 2021, 118 (40) e2104684118.

Williams, David R., and Pamela Braboy Jackson, "[Social Sources of Racial Disparities In Health](#)," *Health Affairs*, 2005 24(2), 325-334.

Session 6: Deaths of Despair

Key points:

- Trends in deaths of despair
- Economic change or technical regress

Pre-class readings

Case, Anne, and Angus Deaton, “[Mortality and Morbidity in the 21st Century](#),” *Brookings Papers on Economic Activity*, 2018, 397-476.

Ruhm, Christopher J., “[Drivers of the fatal drug epidemic](#),” *Journal of Health Economics*, 2019, 64: 25-42.

Supplemental readings

Opioids

Abby E. Alpert, William N. Evans, Ethan M.J. Lieber, David Powell, “[Origins of the Opioid Crisis and Its Enduring Impacts](#),” *Quarterly Journal of Economics*, 2022, 137(2), 1139-1179.

Alpert, Abby, David Powell, and Rosalie Liccardo Pacula. 2018. “[Supply-Side Drug Policy in the Presence of Substitutes: Evidence from the Introduction of Abuse-Deterrent Opioids](#),” *American Economic Journal: Economic Policy*, 10 (4): 1-35.

Evans, William, Ethan Lieber, and Patrick Power, “[How the Reformulation of OxyContin Ignited the Heroin Epidemic](#),” *The Review of Economics and Statistics*, 2019, 101(1): 1-15.

Meara, Ellen, et al., “[State Legal Restrictions and Prescription Opioid Use Among Disabled Adults](#),” *New England Journal of Medicine*, 2016, 375:44-53.

Timothy J. Moore & William W. Olney & Benjamin Hansen, “[Importing the Opioid Crisis? International Trade and Fentanyl Overdoses](#),” NBER Working Papers 31885, 2023.

Session 7: Disease and Development: Macro Studies

Key points:

- The channels by which disease and development might be linked
- The empirical impact of disease on development is difficult to determine

Pre-class readings

Acemoglu, Daron, and Simon Johnson, “[Disease and Development: The Effect of Life Expectancy on Economic Growth](#),” *Journal of Political Economy*, 2007, 115(6), 925-985. [Also read the debate on the paper: Bloom, David, David Canning, and Gunther Fink, “[Disease and Development Revisited](#),” *Journal of Political Economy*, 2014, 122(6), 1355-1366; Acemoglu,

Daron, and Simon Johnson. “[Disease and Development: A Reply to Bloom, Canning, and Fink.](#)” *Journal of Political Economy* 2014, 122(6), 1367–1375.]

Alsan, Marcella. “[The Effect of the TseTse Fly on African Development.](#)” *American Economic Review*, 105(1), 2015, 382-410. (job market paper)

Ashraf, Quamrul H., Ashley Lester, and David N. Weil, “[When Does Improving Health Raise GDP?](#)” *NBER Macroeconomics Annual*, 2009.

Supplemental readings

Gallup, John Luke and Jeffrey D. Sachs, “[The Economic Burden of Malaria.](#)” Supplement to *The American Journal of Tropical Medicine & Hygiene*, 2001, 64(1-2 Supplement), 85-96.

Jack, William, and Maureen Lewis, “[Health Investments and Economic Growth: Macroeconomic Evidence with Microeconomic Foundations.](#)” chapter 1 in Michael Spence and Maureen Lewis, *Health and Growth*, World Bank, Commission on Growth and Development, available online.

Jamison, Dean T., et al., “[Global Health 2035: A World Converging Within a Generation.](#)” *The Lancet*, 2013, 382(9908), 1898-1955.

Pritchett, Lant and Lawrence Summers, “[Wealthier is Healthier.](#)” *Journal of Human Resources*, 1996, 31, 841-868.

Sachs, Jeffrey, and Pia Malaney, “[The Economic and Social Burden of Malaria.](#)” *Nature*, 2002, 415(6872), 680-685.

Session 8: Disease and Development: Micro Studies

Key points:

- There is a clear relation between disease and development in micro studies
- The impact is an order of magnitude smaller than macro studies suggest

Pre-class readings

Read as a group

Miguel, Edward and Michael Kremer, “[Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities.](#)” *Econometrica*, 2004, 72(1), 159-217.

Baird, Sarah, Joan Hamory Hicks, Michael Kremer, and Edward Miguel, “[Worms at Work: Long-run Impacts of Child Health Gains.](#)” *Quarterly Journal of Economics*, 2016, 131(4), 1637-1680;

Hamory, Joan, Edward Miguel, Michael Walker, Michael Kremer, and Sarah Baird. "[Twenty-year economic impacts of deworming](#)." *Proc Natl Acad Sci U S A*. 2021 Apr 6;118(14):e2023185118.

**For some of the controversy about the experiment, see Aiken, Alexander M., Calum Davey, James R. Hargreaves, and Richard J. Hayes. "[Re-analysis of health and educational impacts of a school-based deworming programme in western Kenya: a pure replication](#)." *International journal of epidemiology*, 2015, 44(5): 1572-1580; Calum Davey, Alexander M Aiken, Richard J Hayes, James R Hargreaves, "[Re-analysis of health and educational impacts of a school-based deworming programme in western Kenya: a statistical replication of a cluster quasi-randomized stepped-wedge trial](#)," *International Journal of Epidemiology*, 2015, 44(5): 1581–1592; and the authors' reply: Joan Hamory Hicks, Michael Kremer, Edward Miguel, "[Commentary: Deworming externalities and schooling impacts in Kenya: a comment on Aiken et al. \(2015\) and Davey et al. \(2015\)](#)," *International Journal of Epidemiology*, 2015, 44(5): 1593–1596.

Also read

Weil, David N., "[Accounting for The Effect of Health on Economic Growth](#)," *Quarterly Journal of Economics*, 2007, 122(3), 1265-1306.

Supplemental readings

Bleakley, Hoyt, 2010. "[Health, Human Capital and Development](#)," *Annual Review of Economics*, Vol 2. 283-310.

Mani, Anandi, Sendhil Mullainathan, Eldar Shafir E, Jiaying Zhao. "[Poverty impedes cognitive function](#)." *Science*. 2013 Aug 30;341(6149):976-80.

Kremer, Michael, and Rachel Glennerster, [Improving Health in Developing Countries: Evidence from Randomized Evaluations](#), *Handbook of Health Economics, Volume 2*.

Hookworm

Bleakley, Hoyt, "[Disease and Development: Evidence from Hookworm Eradication in the American South](#)," *Quarterly Journal of Economics*, 2007, 122(1), 73-117.

Malaria

Bleakley, Hoyt, "[Malaria Eradication in the Americas: A Retrospective Analysis of Childhood Exposure](#)," *American Economic Journal: Applied Economics*, 2010, 2(2), 1-45.

Cutler, David M., Winnie Fung, Michael Kremer, Monica Singhal, and Tom Vogl, "[Early-life Malaria Exposure and Adult Outcomes: Evidence from Malaria Eradication in India](#)," *American Economic Journal: Applied Economics*, 2010, 2(2), 72-94.

Lucas, Adrienne, "[Malaria Eradication and Educational Attainment: Evidence from Paraguay and Sri Lanka](#)," *American Economic Journal: Applied Economics*, 2010, 2(2), 46-71.

Malnutrition

Field, Erica, Omar Robles and Maximo Torero, “[Iodine deficiency and schooling attainment in Tanzania](#),” *American Economic Journal: Applied Economics*, 2009, 1(4), 140–69.

Schofield, Heather, “[The Economic Costs of Low Caloric Intake: Evidence from India](#),” mimeo, 2014. (job market paper)

Clean Water

Cutler, David, and Grant Miller, “[The role of public health improvements in health advances: the twentieth-century United States](#),” *Demography*, 2005 42(1), 1-22.

Alsan, Marcella, and Claudia Goldin, “[Watersheds in Infant Mortality: The Role of Effective Water and Sewerage Infrastructure, 1880 to 1915](#),” *Journal of Political Economy*, 2019, 27(2), 586-638.

Kremer, Michael, Jessica Leino, Edward Miguel, and Alix Peterson Zwane, “[Spring Cleaning: Rural Water Impacts, Valuation, and Property Rights Institutions](#),” *Quarterly Journal of Economics*, 2011, 126(1), 145-205.

Early Life Health, Schooling, and Productivity

Almond, Doug, “[Is the 1918 Influenza Pandemic Over? Long-Term Effects of In Utero Exposure in the Post-1940 US Population](#),” *Journal of Political Economy*, 2006, 114(4), 672-712.

Almond, Doug, Lena Edlund, and Mårten Palme, “[Chernobyl’s Subclinical Legacy: Prenatal Exposure to Radioactive Fallout and School Outcomes in Sweden](#),” *Quarterly Journal of Economics*, 2009, 124(4), 1729-1772.

Currie, Janet, “[Inequality at Birth: Some Causes and Consequences](#),” *American Economic Review*, 2011, 101(3): 1-22.

Maccini, Sharon and Dean Yang, “[Under the Weather: Health, Schooling and Socioeconomic Consequences of Early Life Rainfall](#),” *American Economic Review*, 2009, 99(3), 1006-1026.

II: Health Systems

Session 9: Overview of Health Systems

Key points:

- The basics of a health system
- Supply versus demand-side restrictions
- Problems of supply: Provider competence and attendance

Pre-class readings

Chaudhury, Nazmul, et al., “[Missing in Action: Teacher and Health Worker Absence in Developing Countries](#),” *Journal of Economic Perspectives*, 2006, 20(1), 91-116.

Supplemental readings

Rawlins, Michael D., “[NICE Work – Providing Guidance to the British National Health Service](#),” *New England Journal of Medicine*, 2004, 351(14), 1383-5.

Developing Countries (esp. China and India)

Blumenthal, David and William Hsiao, “[Privatization and Its Discontents: The Evolving Chinese Health System](#),” *New England Journal of Medicine*, 2005, 353(11), 1165-1170.

Filmer, Deon and Lant Pritchett, “[The Impact of Public Spending on Health: Does Money Matter?](#)” *Social Science and Medicine*, 1999, 49(10), 1309-1323.

Das, Jishnu and Jeffrey Hammer, “[Money for nothing: The dire straits of medical practice in Delhi, India](#),” *Journal of Development Economics*, 2007, 83(1), 1-36.

Conditional Cash Transfers

Gertler, Paul, “[Do Conditional Cash Transfers Improve Child Health? Evidence from PROGRESA’s Control Randomized Experiment](#),” *American Economic Review*, 2004, 94(1), 336-341.

The Impact of More Docs in Developing Countries

Okeke, Edward N. 2023. “[When a Doctor Falls from the Sky: The Impact of Easing Doctor Supply Constraints on Mortality](#),” *American Economic Review*, 2023, 113 (3): 585-627.

Insurance Programs in Developing Countries

Gruber, Jonathan, Mengyun Lin, and Junjian Yi, “[The largest insurance program in history: Saving one million lives per year in China](#),” *Journal of Public Economics*, 2023, 226:104999.

Session 10: Health Reform in Europe and the United States

Key points:

- Policy changes in rich countries
- The Affordable Care Act

Pre-class readings

Cutler, David M., “[Equality, Efficiency, and Market Fundamentals: The Dynamics of International Medical Care Reform](#),” *Journal of Economic Literature*, 2002, 40(3), 881-906.

Supplemental readings

Chandra, Amitabh, Jonathan Gruber, and Robin McKnight, “[The Importance of the Individual Mandate – Evidence from Massachusetts](#),” *NEJM*, 2011, 364: 293-295.

Kolstad, Jonathan, and Amanda Kowalski, “[Mandate-Based Health Reform and the Labor Market: Evidence from the Massachusetts Health Insurance Reform](#),” *Journal of Health Economics*, 2016, 47, 81-106.

Newhouse, Joseph P., “[Medical Care Costs: How Much Welfare Loss?](#)” *Journal of Economic Perspectives*, 1992, 6(3), 13-29.

Evaluation of the ACA

Fang, Hanming, and Dirk Krueger, “[The Affordable Care Act After a Decade: Its Impact on the Labor Market and the Macro Economy](#),” *Annual Review of Economics*, 2022, 14(1).

Handel, Benjamin and Jonathan T. Kolstad, “[The Affordable Care Act After a Decade: Industrial Organization of the Insurance Exchanges](#),” *Annual Review of Economics*, 2022, 14, 287-312.

Session 11: Optimal Health Insurance I: The Demand Side

Key points:

- Optimal demand-side insurance
- Is current insurance optimal?

Pre-class readings

Gross, Tal, Timothy J. Layton, and Daniel Prinz. 2022. “[The Liquidity Sensitivity of Healthcare Consumption: Evidence from Social Security Payments](#),” *American Economic Review: Insights*, 2022, 4 (2): 175-90.

Hendren, Nathan, "[Measuring Ex Ante Welfare in Insurance Markets](#)," *Review of Economic Studies*, 2021, 88(3), 1193-1223.

Classic papers

Arrow, Kenneth. "[Uncertainty and the Welfare Economics of Medical Care](#)," *American Economic Review*, 1963, 53(5), 941-973.

Pauly, Mark, "[The Economics of Moral Hazard: Comment](#)," *American Economic Review*, 1968, 58(3), 531-537.

Supplemental readings

Lockwood, Lee, "[Health Insurance and Consumption Risk](#)," mimeo, September 2022.

Ericson, Keith M. and Justin R. Sydnor. "[Liquidity Constraints and the Value of Insurance](#)," NBER Working Paper No. 24993, 2018.

McGuire, Tom, "[Demand for Health Insurance](#)," in *Handbook of Health Economics, Volume 2*.

Session 12: Optimal Health Insurance II: The Supply Side

Key points:

- Supply-side cost sharing
- Managed care
- Prior authorization

Pre-class readings

Gawande, Atul, "[The Cost Conundrum](#)," *The New Yorker*, June 1, 2009.

Supplemental readings

Theory

Acquatella, Angie, "[Optimal Contracting for Low Value Care](#)," mimeo, 2020. (job market paper)

McGuire, Tom, "[Physician Agency](#)," in Anthony J. Culyer and Joseph P. Newhouse, eds., *Handbook of Health Economics*, Amsterdam: North-Holland, 2000.

Prior Authorization

Brot-Goldberg, Zarek, Samantha Burn, Timothy J. Layton, and Boris Vabson, "[Rationing Medicine Through Bureaucracy: Authorization Restrictions in Medicare](#)," NBER Working Paper No. 30878, 2023.

League, Riley, "[Administrative Burden and Consolidation in Health Care: Evidence from Medicare Contractor Transitions](#)," mimeo, 2023. (job market paper)

Dunn, Abe, Josh Gottlieb, Adam Shapiro, Daniel Sonnenstuhl, and Pietro Tebaldi, “[A Denial a Day Keeps the Doctor Away](#),” *Quarterly Journal of Economics*, forthcoming.

Shi, Maggie, “[The Costs and Benefits of Monitoring Providers: Evidence from Medicare Audits](#),” forthcoming, *Quarterly Journal of Economics*. (job market paper)

Session 13: Health Insurance and Health

Key Points:

- Insurance coverage and health
- Public insurance expansions

Pre-class readings

Card, David, Carlos Dobkin, and Nicole Maestas, “[Does Medicare Save Lives?](#)” *Quarterly Journal of Economics*, 2009, 124(2), 597–636.

Finkelstein, Amy, et al., “[The Oregon Health Insurance Experiment: Evidence from the First Year](#),” *Quarterly Journal of Economics*, 2012, 127(3), 1057-1106.

Goldin, Jacob, Ithai Z. Lurie, and Janet McCubbin, “[Health Insurance and Mortality: Experimental Evidence from Taxpayer Outreach](#),” *Quarterly Journal of Economics*, 2021, 136(1), 1-49.

Miller, Sarah, Sean Altekruuse, Norman Johnson, and Laura R. Wherry, “[Medicaid and Mortality: New Evidence from Linked Survey and Administrative Data](#),” *Quarterly Journal of Economics*, 2021, 136(3), 1783-1829.

Supplemental readings

Medicare and health

Afendulis, Christopher C., Yulei He, Alan Zaslavsky, and Michael E. Chernew, “[The Impact of Medicare Part D on Hospitalization Rates](#),” *Health Services Research*, 2011, 46(4), 1022-1038.

McWilliams, J. Michael, Alan M. Zaslavsky, Ellen Meara, and John Z. Ayanian, “[Impact of Medicare Coverage on Basic Clinical Services for Previously Uninsured Adults](#),” *JAMA*, August 13, 2003, 290(6), pp. 757-764.

Weathers, Robert R., II, and Michelle Stegman, “[The effect of expanding access to health insurance on the health and mortality of Social Security Disability Insurance beneficiaries](#),” *Journal of Health Economics*, 2012, 31(6), 863-875.

Myerson, Rebecca Mary, Reginald Tucker-Seeley, Dana Goldman, and Darius N. Lakdawalla, [“Does Medicare Coverage Improve Cancer Detection and Mortality Outcomes?”](#) *Journal of Policy Analysis and Management*, Summer 2020, 39(3), 577-604.

Medicaid and health

Goodman-Bacon, Andrew, [“Public Insurance and Mortality: Evidence from Medicaid Implementation,”](#) *Journal of Political Economy*, 2018, 126(1): 216-262. **(job market paper)**

Currie, Janet, and Jonathan Gruber, [“Saving Babies: The Efficacy and Cost of Recent Expansions of Medicaid Eligibility for Pregnant Women,”](#) *Journal of Political Economy*, 1996, 104(6), 1263-1296.

Duggan, Mark, Atul Gupta, and Emilie Jackson, [“The Impact of the Affordable Care Act: Evidence from California's Hospital Sector.”](#) *American Economic Journal: Economic Policy*, 2022, 14 (1): 111-51.

Finkelstein, Amy, Nathan Hendren, and Erzo Luttmer, [“The Value of Medicaid: Interpreting Results from the Oregon Health Insurance Experiment,”](#) *Journal of Political Economy*, 2019, 127(6), 2836-2874.

More on Oregon

Baicker, Katherine, et al., [“The Oregon Experiment – Effects of Medicaid on Clinical Outcomes,”](#) *New England Journal of Medicine*, 2013, 368(18), 1713-1722.

Taubman, Sarah, et al., [“Medicaid Increases Emergency Department Use: Evidence from Oregon's Health Insurance Experiment,”](#) *Science*, January 2, 2014.

Health Insurance and Income

Brown, David W. and Kowalski, Amanda E. and Lurie, Ithai, [“Medicaid as an Investment in Children: What is the Long-Term Impact on Tax Receipts?”](#) *Review of Economic Studies*, 2020, 87(2), Pages 792–821.

Miller, Sarah, and Wherry, Laura R. [“The Long-Term Health Effects of Early Life Medicaid Coverage,”](#) *Journal of Human Resources*, 2019, 54(3), 785-824.

Health Plans and Health

Abaluck, Jason, Mauricio M. Caceres Bravo, Peter Hull, and Amanda Starc, [“Mortality Effects and Choice Across Private Health Insurance Plans,”](#) *Quarterly Journal of Economics*, 2021, 136(3), 1557-1610.

Geruso, Michael, Tim Layton, and Jacob Wallace, [“Are All Managed Care Plans Created Equal? Evidence from Random Plan Assignment in Medicaid,”](#) *AEJ: Applied*, forthcoming, 2023.

Other outcomes

Jacome, Elisa, [“Mental Health and Criminal Involvement: Evidence from Losing Medicaid Eligibility,”](#) mimeo, 2021. **(job market paper)**

Impact on Labor Markets

Hackmann, Martin, Joerg Heining, Roman Klimke, Maria Polyakova, and Holger Siebert, "[General Equilibrium Effects of Insurance Expansions: Evidence from Long-Term Care Labor Markets](#)," mimeo, 2021.

Shen, Karen, "[Who Benefits from Public Financing of Home Care for Low-Income Seniors?](#)", mimeo, 2021. (**job market paper**)

Session 14: Demand and Moral Hazard

Key Points:

- Empirical estimates of moral hazard
- Is it really moral hazard?

Pre-class readings

Feldstein, Martin, "[The Welfare Loss of Excess Health Insurance](#)," *Journal of Political Economy*, 81(2), part I, March-April 1973, 251-280. (*classic paper*)

Manning, Willard et al., "[Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment](#)," *American Economic Review*, 1987, 77(3), 251-277. (*classic paper*)

Baicker, Katherine, Sendhil Mullainathan, and Joshua Schwartzstein, "[Behavioral Hazard in Health Insurance](#)," *Quarterly Journal of Economics*, 2015, 130(4), 1623-1667.

Brot-Goldberg, Zarak C., Amitabh Chandra, Benjamin Handel, and Jonathan Kolstad, "[What Does a Deductible Do? The Impact of Cost Sharing on Health Care Prices, Quantities, and Spending Dynamics](#)" *Quarterly Journal of Economics*, 2017, 132(3), 1261-1318.

Supplemental readings

Demand response to price: Cost Sharing, Utilization, and Health

Chandra, Amitabh, Jonathan Gruber, and Robin McKnight, "[Patient Cost-Sharing and Hospitalization Offsets in the Elderly](#)," *American Economic Review*, 2010, 100(1), 1-24.

Chandra, Amitabh, Evan Flack, and Ziad Obermeyer, "[The Health Cost of Cost-Sharing](#)," NBER Working Paper No. 28439, 2021.

Handel, Benjamin R. and Jonathan T. Kolstad, "[Health Insurance for 'Humans': Information Frictions, Plan Choice, and Consumer Welfare](#)," *American Economic Review*, August 2015, 105(8):2449-500.

Kaestner, Robert, and Anthony T. LoSasso, "[Does Seeing the Doctor More Often Keep You Out of the Hospital?](#)" *Journal of Health Economics*, January 2015, 39:259-72.

Lieber, Ethan M.J. “[Does It Pay to Know Prices in Health Care?](#)” *American Economic Journal: Economic Policy*, 2017, 9(1):154–179. (job market paper)

Prager, Elena, “[Consumer Responsiveness to Simple Health Care Prices: Evidence From Tiered Hospital Networks](#),” *American Economic Journal: Applied Economics*, 2020, 12 (4): 196-223. (job market paper)

Robinson, James C., and Timothy T. Brown, “[Increases in Consumer Cost Sharing Redirect Patient Volumes and Reduce Hospital Prices For Orthopedic Surgery](#),” *Health Affairs*, 2013, 32(8), 1392-1397.

Shigeoka, Hitoshi, “[The Effect of Patient Cost Sharing on Utilization, Health, and Risk Protection](#),” *American Economic Review*, July 2014, 104(7):2152-84.

Is it really moral hazard?

Gladwell, Malcolm, “[The Moral Hazard Myth](#),” *The New Yorker*, August 29, 2005.

Alpert, Abby, “[The anticipatory effects of Medicare Part D on drug utilization](#),” *Journal of Health Economics*, 2016 49(Sep), 28-45. (job market paper)

Direct to Consumer Advertising

Shapiro, Bradley, “[Positive spillovers and free riding in advertising of prescription pharmaceuticals: The case of antidepressants](#),” *Journal of Political Economy*, 2018, 126(1), 381-437. (job market paper)

Shapiro, Bradley, “[Promoting Wellness or Waste? Evidence from Antidepressant Advertising](#),” *American Economic Journal: Microeconomics*, 14(2), 2022, 439-77.

Sinkinson, Michael and Amanda Starc, “[Ask Your Doctor? Direct-to-Consumer Advertising of Pharmaceuticals](#),” *Review of Economic Studies*, 2019, 86(2): 836–881.

Session 15: Supply-Side Responses to Payment

Key Points:

- Response to supply prices
- Payment rate changes, health care utilization, and health
- (Prior authorization)

Pre-class readings

Clemens, Jeffrey, and Joshua Gottlieb, “[Do Physicians’ Financial Incentives Affect Treatment Patterns and Patient Health?](#)” *American Economic Review*, 2014; 104(4): 1320–1349.

Jacobson, Mireille, Craig C. Earle, Mary Price, and Joe Newhouse, “[How Medicare’s Payment Cuts for Cancer Chemotherapy Drugs Changed Patterns of Treatment](#),” *Health Affairs*, 2010, 29(7): 1391-1399.

Song, Zirui, et al., "[Changes in Health Care Spending and Quality 4 Years into Global Payment](#)," *New England Journal of Medicine*, 2014; 371:1704-1714

Supplemental readings

Impact of Prices on Physician Behavior

Dafny, Leemore, "[How Do Hospitals Respond to Price Changes?](#)" *American Economic Review* 2005, 95: 1525-1547.

Ji, Yunan, "[Can Competitive Bidding Work in Health Care? Evidence from Medicare Durable Medical Equipment](#)," mimeo, 2021. (job market paper)

Bundled Payments / Accountable Care Organizations

Barnett, Michael L., et al., "[Two-Year Evaluation of Mandatory Bundled Payments for Joint Replacement](#)," *New England Journal of Medicine*, January 2, 2019.

Einav, Liran, Amy Finkelstein, Yunan Ji, Neale Mahoney, "[Voluntary Regulation: Evidence from Medicare Payment Reform](#)," *Quarterly Journal of Economics*, 2022, 137(1) 565–618.

Song, Zirui, et al., "[The 'Alternative Quality Contract,' based on a global budget, lowered medical spending and improved quality](#)," *Health Affairs*, 2012, 31(8), 1885-94.

McWilliams, J. Michael, Bruce E. Landon, and Michael E. Chernew, "[Changes in health care spending and quality for Medicare beneficiaries associated with a commercial ACO contract](#)," *JAMA*, 2013, 310(8), 829-836.

Physician Responses to Information

Cutler, David, Robert S. Huckman, and Mary Beth Landrum, "[The Role of Information in Medical Markets: An Analysis of Publicly Reported Outcomes in Cardiac Surgery](#)," *American Economic Review*, 2004, 94(2), 342-346.

Dranove, David, "[Health Care Markets, Regulators, and Certifiers](#)," in *Handbook of Health Economics, Volume 2*, esp. section 5.

Dranove, David, Dan Kessler, Mark McClellan, and Mark Satterthwaite, "[Is More Information Better? The Effects of 'Report Cards' on Health Care Providers](#)," *Journal of Political Economy*, 2003, 111(3), 555-88.

Kolstad, Jonathan, "[Information and Quality When Motivation is Intrinsic: Evidence from Surgeon Report Cards](#)," *American Economic Review*, 2013, 103(7), 2875-2910.

Schnell, Molly, "[Physician Behavior in the Presence of a Secondary Market: The Case of Prescription Opioids](#)," mimeo, 2017. (job market paper)

Physician responses to malpractice

Avraham, Ronen, and Max Schanzenbach, "[The Impact of Tort Reform on Intensity of Treatment: Evidence from Heart Patients](#)," *Journal of Health Economics*, 2015, 39:273-88.

Baicker, Katherine, Elliott S. Fisher, and Amitabh Chandra, "[Malpractice Liability Costs and the Practice of Medicine in the Medicare Program](#)," *Health Affairs* 2007, 26(3), 841-852.

Carroll, Caitlin, David Cutler, and Bapu Jena, “[How Do Physicians Respond to Malpractice Allegations? Evidence from Florida Emergency Departments?](#),” NBER Working Paper No. 28330, January 2021.

Kessler, Daniel, and Mark McClellan, “[Do Doctors Practice Defensive Medicine?](#)” *Quarterly Journal of Economics*, 1996, 111(2), 353-390.

Physician Responses to Detailing

Grennan, Matthew, Kyle Myers, Ashley Swanson, and Aaron Chatterji, “[No Free Lunch? Welfare Analysis of Firms Selling Through Expert Intermediaries](#),” forthcoming, *Review of Economic Studies*.

Session 16: Disability Insurance (joint with Nicole Maestas)

Key points:

- Rapid increase in disability insurance (DI) program participation over time; but recently, caseload decline
- DI provides valuable social insurance but discourages work
 - Economic conditions affect DI claiming
 - Insurance-incentive tradeoff, moral hazard
- DI trend not strongly related to trends in population health
 - Incidence of severe health problems did not fuel historic rise
 - But pain treatment has been a major problem, and there are signs of trouble ahead
- DI participants account for a significant share of Medicare and Medicaid spending

Pre-class readings

Maestas, Nicole, Kathleen Mullen, and Alexander Strand, “[Does Disability Insurance Receipt Discourage Work? Using Examiner Assignment to Estimate Causal Effects of SSDI Receipt](#),” *American Economic Review* 2013, 103(5): 1797-1829.

Supplemental readings

How SSDI and SSI Work and How They Can Be Made Better

Maestas, Nicole, “[Identifying Work Capacity and Promoting Work: A Strategy for Modernizing the SSDI Program](#),” *The ANNALS of the American Academy of Political and Social Science*, 2019, 686:93-120.

Daly, Mary C. and Mark Duggan, “[When One Size Does Not Fit All: Modernizing the Supplemental Security Income Program](#),” *The ANNALS of the American Academy of Political and Social Science*, 2019, 686:229-249.

Disability Insurance and Labor Supply

Autor, David and Mark Duggan, “[The Rise in Disability Reciprocity and the Decline in Unemployment](#),” *Quarterly Journal of Economics*, 2003, 118(1), 157-206.

Maestas, Nicole, Kathleen Mullen, and Alexander Strand, “[The Effect of Economic Conditions on the Disability Insurance Program: Evidence from the Great Recession](#),” *Journal of Public Economics*, 2021, 199, 104410.

Optimal Social Insurance Programs

Chetty, Raj, “[A General Formula for the Optimal Level of Social Insurance](#),” *Journal of Public Economics*, 2006, 90(10-11), 1879-1901.

Low, Hamish, and Luigi Pistaferri. “[Disability insurance and the dynamics of the incentive insurance trade-off](#),” *American Economic Review* 105.10 (2015): 2986-3029.

Deshpande, Manasi, and Lee Lockwood, “[Beyond Health: Non-Health Risk and the Value of Disability Insurance](#),” *Econometrica*, Vol. 90, No. 4 (July, 2022), 1781–1810.

Deshpande, Manasi, Tal Gross, and Yalun Su, “[Disability and distress: The effect of disability programs on financial outcomes](#),” *AEJ: Applied Economics*, 13 (2), 2021, 151-78.

Deshpande, Manasi, Michael Mueller-Smith, “[Does Welfare Prevent Crime? the Criminal Justice Outcomes of Youth Removed from SSI](#),” *Quarterly Journal of Economics*, 137(4), 2263–2307.

Long-run Effects

Hawkins, Amelia, Christopher A. Hollrah, Sarah Miller, Laura R. Wherry, Gloria Aldana, and Mitchell D Wong, “[The Long-Term Effects of Income for At-Risk Infants: Evidence from Supplemental Security Income](#),” NBER Working Paper Number 31746, 2023.

On Why In Kind Benefits May Be Optimal

Lieber, Ethan M. J., and Lee M. Lockwood, “[Targeting with In-Kind Transfers: Evidence from Medicaid Home Care](#),” *American Economic Review*, 2019, 109(4), 1461-1485.

Session 17: Insurance Selection

Key points:

- Perfect and imperfect information in insurance are each problematic
- The right model of insurance choice is difficult
- Market design is a major issue

Pre-class readings

Einav, Liran, Amy Finkelstein, and Mark Cullen, “[Estimating Welfare in Insurance Markets Using Variation in Prices](#),” *Quarterly Journal of Economics*, 2010, 125(3), 877-921. [See also Einav, Liran, and Amy Finkelstein, “[Selection in Insurance Markets: Theory and Empirics in Pictures](#),” *Journal of Economic Perspectives*, 2011, 25(1), 115-138.]

Hackmann, Martin B. Jonathan T. Kolstad, and Amanda E. Kowalski, “[Adverse Selection and an Individual Mandate](#),” *American Economic Review*, March 2015, 105(3):1030-66.

Hendren, Nathaniel, "[Private Information and Insurance Rejections](#)," *Econometrica*, 2013, 81(5): 1713-1762. **(job market paper)**

Marone, Victoria, and Adrienne Sabety, "[When Should There be Vertical Choice in Health Insurance Markets?](#)" *American Economic Review*, 2022, 112 (1): 304-42. **(job market paper)**

Classic papers

Akerlof, George A., "[The Market for 'Lemons': Quality Uncertainty and the Market Mechanism](#)," *Quarterly Journal of Economics*, 1970, 84(3), 488-500.

Rothschild, Michael and Joseph E. Stiglitz, "[Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information](#)," *Quarterly Journal of Economics*, 1976, 90(4), 629-650.

Supplemental readings

Breyer, Friedrich, M. Kate Bundorf, and Mark Pauly, "[Health Care Spending Risk, Health Insurance, and Payment to Health Plans](#)," in *Handbook of Health Economics, Volume 2*.

Cutler, David, Amy Finkelstein, and Kathleen McGarry, "[Preference Heterogeneity and Insurance Markets](#)," *American Economic Review*, 2008, 98(2), 157-62.

Cutler, David, and Sarah Reber, "[Paying for Health Insurance: The Tradeoff between Competition and Adverse Selection](#)," *Quarterly Journal of Economics*, 1998, 113(2), 433-466.

Einav, Liran, Amy Finkelstein, and Neale Mahoney, "[The IO of Selection Markets](#)," *Handbook of Industrial Organization, Volume 5*, 2021, Chapter 14.

Finkelstein, Amy and Kathleen McGarry, "[Multiple dimensions of private information: evidence from the long-term care insurance market](#)," *American Economic Review* 2006, 96(4), 938-958.

Geruso, Michael, Timothy Layton, and Daniel Prinz, "[Screening in Contract Design: Evidence from the ACA Health Insurance Exchanges](#)," *American Economic Journal: Economic Policy*, 2019, 11(2): 64-107.

Handel, Ben, "[Adverse Selection and Inertia in Health Insurance Markets: When Nudging Hurts](#)," *American Economic Review*, 2013, 103(7): 2643-2682.

Handel, Ben, Igal Hendel, and Michael D. Whinston, "[Equilibria in Health Exchanges: Adverse Selection vs. Reclassification Risk](#)," *Econometrica*, 2015, 83(4), 2015, 1261-1313

Shepard, Mark, "[Hospital Network Competition and Adverse Selection: Evidence from the Massachusetts Health Insurance Exchange](#)," *American Economic Review*, 112(2), 2022, 578-615. **(job market paper)**

Risk Adjustment

Van de ven, Wynand P.M.M., and Randall Ellis, "[Risk Adjustment in Competitive Health Plan Markets](#)," in Anthony J. Culyer and Joseph P. Newhouse, eds., *Handbook of Health Economics*, Amsterdam: North-Holland, 2000.

Mahoney, Neale, and E. Glen Weyl, "[Imperfect Competition in Selection Markets](#)," *Review of Economics and Statistics*, 2017, 99(4), 637-651.

III. Productivity

Session 18: Dimensions of Productivity and Productive Inefficiency

Key points:

- Defining health care productivity
- Healthcare productivity is low

Pre-class readings

Bloom, Nicholas, et al., "[Management Practices across Firms and Countries](#)," *Academy of Management*, 2012, 26(1), 12-33.

Finkelstein, Amy, Annetta Zhou, Sarah Taubman, and Joseph Doyle. 2020. "[Health Care Hotspotting – A Randomized, Controlled Trial](#)." *The New England Journal of Medicine*, 2020, 382(2), 152-62.

Einav, Liran, Amy Finkelstein, Sendhil Mullainathan, and Ziad Obermeyer, "[Predictive modeling of U.S. health care spending in late life](#)," *Science*, 2018, 360(6936): 1462-1465.

Supplemental readings

Administrative costs

Cutler, David, and Dan Ly, "[The \(Paper\) Work of Medicine](#)," *Journal of Economic Perspectives*, 25(2), 3-25.

Workforce policy

Aiken, Linda, et al., "[Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction](#)," *JAMA*, 2002, 288(16), 1987-1993.

Chan, David, "[Teamwork and Moral Hazard: Evidence from the Emergency Department](#)," *Journal of Political Economy*, 2016, 124(3): 734-770. **(job market paper)**

Propper, Carol, and John Van Reenen, "[Can Pay Regulation Kill? Panel Data Evidence on the Effect of Labor Markets on Hospital Performance](#)," *Journal of Political Economy*, 2010, 118(2): 222-273.

Hygiene

Wellsjo, Alex Steiny, "[Simple Actions, Complex Habits: Lessons from Hospital Hand Hygiene](#)," mimeo 2021. **(job market paper)**

Session 19: The Return to Doing More

Key points:

- The aggregate returns to medical spending have been large
- Cross-section spending differences are often not associated with improved outcomes

Pre-class readings

Chandra, Amitabh and Douglas Staiger, “[Productivity Spillovers in Health Care: Evidence from the Treatment of Heart Attacks](#),” *Journal of Political Economy*, 2007, 115(1), 103-140.

Cutler, David, Kaushik Ghosh, Kassandra Messer, Trivellore Raghunathan, Allison Rosen, and Susan Stewart, “[A Satellite Account for Health in the United States](#),” *American Economic Review*, 2022, 112(2), 494-523.

Finkelstein, Amy, Matthew Gentzkow, and Heidi Williams, “[Sources of Geographic Variation in Health Care: Evidence from Patient Migration](#),” *Quarterly Journal of Economics*, 2016, 131(4), 1681-1726.

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*, 2003, 138(4), 273-287 and 288-298.

Mullainathan, Sendhil and Ziad Obermeyer, “[Diagnosing Physician Error: A Machine Learning Approach to Low-Value Health Care](#),” *Quarterly Journal of Economics*, 2022, 137(2): 679–727.

Supplemental readings

Time Series Returns to Spending

Cutler, David, *Your Money or Your Life*, Oxford: Oxford University Press, 2004, chapter 3-5.

Cutler, David, “[Are We Finally Winning the War on Cancer?](#)” *Journal of Economic Perspectives*, 2008, 22(4), 3-26.

Cutler, David, and Robert Huckman, “[Technological Development and Medical Productivity: The Diffusion of Angioplasty in New York State](#),” *Journal of Health Economics*, 2003, 22(2), 187-217.

Lichtenberg, Frank, “[The Impact of New Drugs on U.S. Longevity and Medical Expenditure, 1990-2003](#),” *American Economic Review*, 2007, 97(2), 438-443.

Cross-sectional Returns to Spending

Almond, Douglas, Joseph J. Doyle Jr., Amanda E. Kowalski, and Heidi Williams, “[Estimating Marginal Returns to Medical Care: Evidence from At-Risk Newborns](#),” *Quarterly Journal of Economics*, 2010, 125(2), 591-634.

Chan, David C., Matthew Gentzkow, and Chuan Yu, “[Selection with Variation in Diagnostic Skill: Evidence from Radiologists](#),” *Quarterly Journal of Economics*, 2022, 137(2), 729-783.

Chandra, Amitabh, and Doug Staiger, “[Identifying Sources of Inefficiency in Healthcare and Education](#),” *Quarterly Journal of Economics*, 2020, 135(2): 785-843.

Chandra, Amitabh, Any Finkelstein, Adam Sacarny, and Chad Syverson, “[Healthcare Exceptionalism? Productivity and Allocation in the U.S. Healthcare Sector](#),” *American Economic Review*, 2016, 106(8), 2110-2144.

Doyle, Joseph J., Jr., “[Returns to Local-Area Health Care Spending: Using Health Shocks to Patients Far from Home](#),” *American Economic Journal: Applied Economics*, 2011, 3(3), 221-243.

McClellan, Mark, Barbara J. McNeil, and Joseph P. Newhouse. “[Does More Intensive Treatment of Acute Myocardial Infarction in the Elderly Reduce Mortality? Analysis using Instrumental Variables](#),” *JAMA* 1994, 272(11), 859-859.

Skinner, Jonathan, and Doug Staiger, “[Technology Diffusion and Productivity Growth in Health Care](#),” *The Review of Economics and Statistics*, 2015, 97(5): 951–964

More on Regional Variations in Spending

Cooper, Zack, Stuart V. Craig, Martin Gaynor, and John Van Reenan, “[The Price Ain’t Right? Hospital Prices and Health Spending on the Privately Insured](#),” *Quarterly Journal of Economics*, 2019, 134(1), 51-107.

Cooper, Zack, Joseph Doyle, John Graves, and Jonathan Gruber, “[Do Higher-Priced Hospitals Deliver Higher-Quality Care?](#)” mimeo, 2022.

Diagnostic ability

Currie, Janet and Bentley MacLeod. “[Diagnosing Expertise: Human Capital, Decision Making, and Performance among Physicians](#),” *Journal of Labor Economics*, 2017, 35(1): 18977.

Doyle, Joseph, Todd Wagner, and Steven Ewer, “[Returns to physician human capital: Evidence from patients randomized to physician teams](#),” *Journal of Health Economics*, 2010, 29(6), 866-882.

Marquandt, Kelli, “[Mis\(sed\) Diagnosis: Physician Decision Making and ADHD](#),” mimeo, 2021. (job market paper)

Session 20: Theories of Uneven Productivity (joint with Amitabh Chandra)

Key points:

- Theories for uneven productivity: flat of the curve medicine, increasing returns, behavioral biases

Pre-class readings

Chandra, Amitabh, and Jonathan Skinner, “[Technology Growth and Expenditure Growth in Health Care](#),” *Journal of Economic Literature*, 2012, 50(3): 645-80.

Cutler, David, Jon Skinner, Ariel Stern, and David Wennberg, “[Physician Beliefs and Patient Preferences: A New Look at Regional Variation in Health Care Spending](#),” *American Economic Journal: Economic Policy*, 2019, 11(1): 192-221.

Supplemental readings

Chandra, Amitabh, David Cutler, and Zirui Song, “[Who Ordered That?](#)” in *Handbook of Health Economics, Volume 2*.

Garber, Alan, and Jonathan Skinner, “[Is American Health Care Uniquely Inefficient?](#)” *Journal of Economic Perspectives*, 2008, 22(4), 27-50.

Skinner, Jonathan, “[Causes and Consequences of Regional Variations in Health Care](#),” in *Handbook of Health Economics, Volume 2*.

IV. Medical Care Markets

Session 21: Overview of Medical Care Delivery

Key points:

- Medical care is very concentrated
- Both horizontal and vertical integration are common

Supplemental readings

Summary

Handel, Benjamin and Kate Ho, “[Industrial Organization of Health Care Markets](#),” *Handbook of Industrial Organization*, Volume 5, 2021, Chapter 16. [Paper relevant for entire unit]

Not-for-profit versus for-profit institutions

Baicker, Katherine and Douglas Staiger, “[Fiscal Shenanigans, Targeted Federal Health Care Funds, and Patient Mortality](#),” *Quarterly Journal of Economics*, 2005, 120(1), 345-386.

Duggan, Mark, “[Hospital Ownership and Public Medical Spending](#),” *Quarterly Journal of Economics*, 2000, 115(4), 1343-1373.

Horwitz, Jill, “[Making Profits and Providing Care: Comparing Nonprofit, For-Profit, and Government Hospitals](#),” *Health Affairs*, 2005, 23(3), 790-801.

Sloan, Frank, “[Not-for-Profit Ownership and Hospital Behavior](#),” in Anthony J. Culyer and Joseph P. Newhouse, eds., *Handbook of Health Economics*, Amsterdam: North-Holland, 2000.

Pharmaceuticals

Duggan, Mark and Fiona Scott-Morton, “[The Effect of Medicare Part D on Pharmaceutical Prices and Utilization](#),” *American Economic Review*, 2010, 100(1): 590–607.

Scott-Morton, Fiona, and Margaret Kyle, “[Markets for Pharmaceutical Products](#),” in *Handbook of Health Economics*, Volume 2.

Lakdawalla, Darius, and Wesley Yin, “[Insurers’ Negotiating Leverage and the External Effects of Medicare Part D](#),” *Review of Economics and Statistics*, 2015, 97(2), 314-331.

Private Equity

Gupta, Atul, Sabrina T Howell, Constantine Yannelis, and Abhinav Gupta, “[Does Private Equity Investment in Healthcare Benefit Patients? Evidence from Nursing Homes](#),” *Review of Financial Studies*, 2023.

Session 22: Competition and Outcomes

Key points:

- Consolidation has costs and benefits

Pre-class readings

Gaynor, Martin, Rodrigo Moreno-Serra, and Carol Propper, “[Death by Market Power: Reform, Competition, and Patient Outcomes in the National Health Service](#),” *American Economic Journal: Economic Policy*, 2013, 5(4), 134-166.

Supplemental readings

Competition

Cutler, David, and Fiona Scott-Morton, “[Hospitals, Market Share, and Competition](#),” *JAMA*, 2013, 310(18), 1964-1970.

Dafny, Leemore, “[Hospital Industry Consolidation – Still More to Come?](#)” *New England Journal of Medicine*, 2013, December 11.

Grennan, Matthew. “[Price Discrimination and Bargaining: Empirical Evidence from Medical Devices](#),” *The American Economic Review*, 2013, 103(1), 145-177. (job market paper)

Kessler, Daniel and Mark McClellan, “[Is Hospital Competition Socially Wasteful?](#)” *Quarterly Journal of Economics*, 2000, 115(2), 577-615.

Scheffler, Richard M., Daniel R. Arnold, and Christopher M. Whaley, “[Consolidation Trends In California’s Health Care System: Impacts On ACA Premiums And Outpatient Visit Prices](#),” *Health Affairs*, 2018, 37(9):1409-1416.

Entry

Cutler, David, Robert S. Huckman, and Jonathan T. Kolstad, “[Input Constraints and the Efficiency of Entry: Lessons from Cardiac Surgery](#),” *AEJ: Economic Policy*, 2010, 2(1), 51-76.

Clark, Jonathan R. and Robert Huckman, “[Broadening Focus: Spillovers, Complementarities and Specialization in the Hospital Industry](#),” *Management Science*, 2012, 58(4), 708–722.

Gaynor, Martin, Carol Propper, and Stephan Seiler, “[Free to Choose? Reform, Choice, and Consideration Sets in the English National Health Service](#),” *American Economic Review*, 2016, 106 (11): 3521-57.

Collusion

Cuddy, Emily, “[Competition and Collusion in the US Generic Drug Market](#),” mimeo, 2021. (job market paper)

Vertical integration

Brot-Goldberg, Zarek and Mathijs de Vaan, “[Intermediation and Vertical Integration in the Market for Surgeons](#),” mimeo, 2018. (job market paper)

Session 23: Insurer-Provider Interactions

Key points:

- Equilibria with bilateral oligopoly
- Network formation is a Pareto inefficient equilibrium

Pre-class readings

Clemens, Jeffrey, and Joshua Gottlieb, “[In the Shadow of a Giant: Medicare’s Influence on Private Payment Systems](#),” *Journal of Political Economy*, 2017, 125(1), 1-39.

Ho, Kate, “[Insurer-Provider Networks in the Medical Care Market](#),” *American Economic Review*, 2009, 99(1): 393-430.

Ho, Kate, and Robin Lee, “[Equilibrium Provider Networks: Bargaining and Exclusion in Health Care Markets](#),” *American Economic Review*, 2019, 109(2), pages 473-522. [To understand the estimates, you need to also read Ho and Lee, “[Insurer Competition in Health Care Markets](#),” *Econometrica*, 2017, 85(2), 379-417.]

Supplemental readings

Gowrisankaran, Gautam, Aviv Nevo, and Robert Town, “[Mergers When Prices Are Negotiated: Evidence from the Hospital Industry](#),” *American Economic Review*, 2015, 105(1): 172-203.

Session 24: Insurer competition

Key points:

- The insurance industry is relatively low profit, but not that competitive
- People do not make the best choices in insurance, and this influences equilibria

Pre-class readings

Brot-Goldberg, Zarek, Timothy Layton, Boris Vabson, and Adelina Yanyue Wang, “[The Behavioral Foundations of Default Effects: Theory and Evidence from Medicare Part D](#),” *American Economic Review*, 2023, 113(10): 2718-2758.

Dafny, Leemore, Mark Duggan, and Subramaniam Ramanarayanan, “[Paying a Premium on Your Premium? Consolidation in the U.S. Health Insurance Industry](#),” *American Economic Review*, 2012, 102(2), 1161-1185.

Dickstein, Michael J., Kate Ho, and Nathaniel Mark, “[Market Segmentation and Competition in Health Insurance](#),” *Journal of Political Economy*, 2024, 132(1), 96-148.

Starc, Amanda, "[Insurer Pricing and Consumer Welfare: Evidence from Medigap](#)," *Rand Journal of Economics*, 2014, 45(1): 198-220. (job market paper)

Supplemental readings

Theory

Ericson, Keith, and Amanda Starc, "[How Product Standardization Affects Choice: Evidence from the Massachusetts Health Insurance Exchange](#)," *Journal of Health Economics*, 2016, 50, 71-85.

Frank, Richard, and Richard Zeckhauser, "[Health Insurance Exchanges – Making the Markets Work](#)," *New England Journal of Medicine*, 2009, 361(12), 1135-1137.

Bordalo, Pedro, Nicola Gennaioli, and Andrei Shleifer, "[Memory, Attention, and Choice](#)," *Quarterly Journal of Economics*, 2020, 135(3): 1399–1442.

How competitive is insurance?

Cabral, Marika, Michael Geros, Neale Mahoney, "[Do Larger Health Insurance Subsidies Benefit Patients or Producers? Evidence from Medicare Advantage](#)," *American Economic Review*, 2018, 108(8): 2048-2087.

Curto, Vilsa, Liran Einav, Jonathan Levin, and Jay Bhattacharya, "[Can Health Insurance Competition Work? Evidence from Medicare Advantage](#)," *Journal of Political Economy*, 2021, 129(2), 570-606.

Duggan, Mark, Amanda Starc, and Boris Vabson, "[Who Benefits when the Government Pays More? Pass-Through in the Medicare Advantage Program](#)," *Journal of Public Economics*, 2016, 141, 50-67.

Dafny, Leemore, "[Are Health Insurance Markets Competitive?](#)" *American Economic Review*, 2010, 100(4), 1399-1431.

Tilipman, Nicholas, "[Employer Incentives and Distortions in Health Insurance Design: Implications for Welfare and Costs](#)," *American Economic Review*, 2022, 112 (3): 998-1037. (job market paper)

How People Make Choice Decisions

Abaluck, Jason T., and Jonathan Gruber, "[Choice Inconsistencies among the Elderly: Evidence from Plan Choice in the Medicare Part D Program](#)," *American Economic Review*, 101(4): 1180-1210.

Barseghyan, Levon, Francesca Molinari, Ted O'Donoghue, and Joshua C. Teitelbaum, "[The Nature of Risk Preferences: Evidence from Insurance Choices](#)," *American Economic Review*, 2013, 103(6), 2499-2529.

Ericson, Keith, and Amanda Starc, "[Pricing Regulation and Imperfect Competition on the Massachusetts Health Insurance Exchange](#)," *Review of Economics and Statistics*, 2015, 97(3), 667-682.

Ericson, Keith, and Amanda Starc, “[Heuristics and Heterogeneity in Health Insurance Exchanges: Evidence from the Massachusetts Connector](#),” *American Economic Review*, 2012, 102(3): 493-97.

Handel, Ben, and Jonathan Kolstad, “[Health Insurance for Humans: Information Frictions, Plan Choice, and Consumer Welfare](#),” *American Economic Review*, 2015, 105(8), 2449-2500.

Heiss, Florian, Adam Leive, Daniel McFadden, and Joachim Winter, “[Plan Selection in Medicare Part D: Evidence from Administrative Data](#),” *Journal of Health Economics*, 2013, 32(6), 1325–1344.

Bhargava, Saurabh, George Loewenstein, and Justin Sydnor, “[Choose to Lose: Health Plan Choices from a Menu with Dominated Options](#),” *Quarterly Journal of Economics*, 2017, 132(3): 1319-1372.

McFadden, Daniel, “[CHOICE – What Can Go Wrong?](#)” NBER Working Paper No. 31165, 2023.

Pakes, Ariel, Jack Porter, Mark Shepard, and Sophie Calder-Wang, “[Unobserved Heterogeneity, State Dependence, and Health Plan Choices](#),” NBER Working Paper No. 29025, July 2021.

Dynamics

Ericson, Keith, “[Consumer Inertia and Firm Pricing in the Medicare Part D Prescription Drug Insurance Exchange](#),” *AEJ: Economic Policy*, 2014, 6(1): 38-64. (**job market paper**)

Session 25: Antitrust Analysis (joint with Leemore Dafny)

Key points:

- How antitrust enforcers evaluate proposed mergers (with hospital sector as example)
- How economic research has impacted these evaluations in the healthcare sector
- The scope of antitrust law (specifically, its limits)

Pre-class readings

Dafny, Leemore S., Katherine Ho, and Robin S. Lee, “[The Price Effects of Cross-Market Mergers: Theory and Evidence from the Hospital Industry](#),” *Rand Journal of Economics*, 2019, 50(2), 286-325.

Supplemental readings

Capps, Cory, David Dranove, and Mark Satterthwaite, “[Competition and market power in option demand markets](#),” *Rand Journal of Economics*, 2003, 34(4): 737–763.

Dafny, Leemore, “[Estimation and Identification of Merger Effects: An Application to Hospital Mergers](#),” *Journal of Law & Economics*, August 2009, 52(3): 523-550.

Dafny, Leemore, and Thomas Lee, "[The Good Merger](#)," *New England Journal of Medicine*, 2015; 372:2077-2079.

Dafny, Leemore. "[Hospital Industry Consolidation — Still More to Come?](#)" *New England Journal of Medicine*; 370: 198-199. January 16, 2014.

Farrell, Joseph, et al., "[Economics at the FTC: Hospital Mergers, Authorized Generic Drugs, and Consumer Credit Markets](#)," *Review of Industrial Organization*, 2011, 37, (read pp. 271-282).

Wollmann, Thomas G., "[How To Get Away with Merger: Stealth Consolidation and Its Real Effects on US Healthcare](#)," NBER Working Paper No. 27274, May 2020.

Session 26: Health Care Innovation

Key points:

- Insurance has dynamic as well as static effects
- The importance of intellectual property for investment

Pre-class readings

Budish, Eric, Benjamin N. Roin, and Heidi Williams, "[Do Firms Underinvest in Long-Term Research? Evidence from Cancer Clinical Trials](#)," *American Economic Review*, 2015, 105(7): 2044-85.

Finkelstein, Amy, "[The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare](#)," *Quarterly Journal of Economics*, 2007, 122(1), 1-37.

Williams, Heidi, "[Intellectual Property Rights and Innovation: Evidence from the Human Genome](#)," *Journal of Political Economy*, 2013, 121(1), 1-27. **(job market paper)**

Supplemental readings

Agha, Leila, Soomi Kim, and Danielle Li. "[Insurance Design and Pharmaceutical Innovation](#)," *American Economic Review: Insights*, 2022, 4(2): 191-208.

Lakdawalla, Darius N. 2018. "[Economics of the Pharmaceutical Industry](#)," *Journal of Economic Literature*, 56 (2): 397-449.

Rogers, Parker, "[Regulating the Innovators: Approval Costs and Innovation in Medical Technologies](#)," mimeo, 2023. **(job market paper)**

Sampat, Bhaven, and Heidi L. Williams, "[How Do Patents Affect Follow-On Innovation? Evidence from the Human Genome](#)," *American Economic Review*, 2019, 109 (1): 203-36.

Stern, Ariel Dora. "[Innovation Under Regulatory Uncertainty: Evidence from Medical Technology](#)," *Journal of Public Economics*, 2017, 145, 181–200. **(job market paper)**

Politics of Decision Making

Carpenter, Daniel, “[Groups, the Media, Agency Waiting Costs, and FDA Drug Approval](#),” *American Journal of Political Science*, 2002, 46(3), 490-505.

Chan, David C., and Michael J Dickstein, “[Industry Input in Policy Making: Evidence from Medicare](#),” *Quarterly Journal of Economics*, 2019, 134(3), 1299-1342.

Innovation for Pandemic Disease

Ahuja, Amrita, Susan Athey, Arthur Baker, et al., “[Preparing for a Pandemic: Accelerating Vaccine Availability](#),” *AEA Papers and Proceedings*, May 2021, 111, 331-335.

Castillo, Camilo, Amrita Ahuja, Susan Athey, et al., “[Market design to accelerate COVID-19 vaccine supply](#),” *Science*, Feb 25, 2021, 371 (6534), 1107-1109.

Kremer, Michael, Jonathan D. Levin, and Christopher M. Snyder, “[Designing Advance Market Commitments for New Vaccines](#),” *Management Science*, 2022, 68(7), 4786-4814.

Wiecek, Witold, Amrita Ahuja, et al., “[Testing Fractional Doses of COVID-19 Vaccines](#)” *Proc Natl Acad Sci*, 2022 Feb 22;119(8):e2116932119.

Innovation and Inequality

Cutler, David M, Ellen Meara, and Seth Richards-Shubik. 2012. “[Induced Innovation and Social Inequality: Evidence from Infant Medical Care](#).” *Journal of Human Resources*, 2012, 47 (2): 456-492.

Hamilton, Barton, Andres Hincapie, Emma C. Kalish, and Nicholas W. Papageorge, “[Innovation and Health Disparities During an Epidemic: The Case of HIV](#),” NBER Working Paper No. 28864, May 2021.

Lleras-Muney, Adriana, and Frank R. Lichtenberg, “[Are the More Educated More Likely to Use New Drugs?](#)” *Annales d'Économie et de Statistique*, no. 79/80, 2005, pp. 671–96.