

Health Economics

Course title – Intitulé du cours	Health Economics
Level / Semester – Niveau /semestre	MRes
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	Angie Acquatella
Other teacher(s) – Autre(s) enseignant(s)	
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Other teacher(s) – Autre(s) enseignant(s)	
Lecture Hours – Volume Horaire CM	
TA Hours – Volume horaire TD	15 hours
TP Hours – Volume horaire TP	
Course Language – Langue du cours	English
TA and/or TP Language – Langue des TD et/ou TP	English

Teaching staff contacts – Coordonnées de l'équipe pédagogique :

Angie Acquatella [CG]: Office T.372. email : angie.acquatella@tse-fr.eu

Course Objectives – Objectifs du cours :

This is one of the courses in the Public economics field at TSE. The basic issues of Public Economics are seen in the M2/ETE course.

This course is designed for second-year (Mres) graduate students interested in Health Economics. The course will cover foundational frameworks in the health economics, provide an overview of the most important themes in the literature that have developed over the past 20 years, and highlight topic areas and open questions that are on the research “frontier”. The goal of the course is to familiarize students with the core frictions in the market for medical services and with empirical work in health economics.

The students will expected to read the assigned articles prior to lecture and come prepared to discuss the material in class. The course will involve a fair amount of work for the students, with the goal of equipping students with the skills and understanding to undertake independent research in health economics. Students who enroll in the course should be prepared to dedicate the time and energy in order to get the most out of the course.

Prerequisites – Pré requis : M2/MRES Public Economics

Practical information about the sessions – Modalités pratiques de gestion du cours :

Grading system – Modalités d'évaluation :

The grade of the course will consist of a combination of participation in class (preparing the required readings), weekly “micro refresher” assignments, and a choice of:

- (1) Replication exercise of a paper from the reading list.
- (2) Proposal of a research project with a research question, empirical strategy, and contribution section which positions the project relative to the literature.
- (3) Referee report of a working paper related to the topics that we discussed in class.

Students will write a short paper (5-10 pages) and do an oral presentation (20 min + 10 min discussion) of the task that they chose (replication exercise, research proposal, referee report).

Micro refresher assignments will involve one or two questions about a model from one of the papers we will review in class. These assignments are intended to guide students through reading the canonical papers in health economics and help them focus on the components of the paper/model that have been most influential for the rest of the literature.

Bibliography/references – Bibliographie/références : The list of references are included within each lecture topic for organizational purposes. This list is preliminary and subject to change/updating.

Session planning – Planification des séances : The following lecture plan is intended to be a superset of the material that will be covered. The course is structured to cover the main topics that any health economist should be familiar with. The time spent on each topic will depend on student interest.

Introduction:

Lecture 1: Health over Time and Around the World

- Health has improved enormously in recent centuries
- Health covaries positively with income, with interesting exceptions

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: (optional)

- 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.

Part 1: Health Capital

Lecture 2: Health Capital

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

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.)

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: (optional)

- 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.
- 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.
- 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.

Lecture 3: Health Behaviors

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

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: (optional)

Models of Health Behaviors

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

- 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.

Obesity

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

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.

Implications for Insurance Design

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

Lecture 4: Socioeconomic Status and Health

- The gradient of health and wealth
- Education is causally related to health
- The reasons are unclear, but evidence in support of cognitive processing

Finkelstein, A., Erzo F. P. Luttmer, and Matthew J. Notowidigdo, 2013. "What Good Is Wealth Without Health? The Effect Of Health On The Marginal Utility Of Consumption," *Journal of the European Economic Association*, European Economic Association, vol. 11, pages 221-258, 01.

Case, Anne, and Angus Deaton, "Mortality and Morbidity in the 21st Century," *Brookings Papers on Economic Activity*, 2018.

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: (optional)

- 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.

Part 2: Health Systems

Lecture 5: Overview of Health Systems and Health Reforms

- Basics of a health system
- Medical care markets
- Supply versus demand side restrictions
- Problems of supply: entry, productivity, and attendance

Cutler, David, Robert S. Huckman, and Jonathan T. Kolstad, "Input Constraints and the Efficiency of Entry: Lessons from Cardiac Surgery," *American Economic Journal: Economic Policy*, 2010, 2(1), 51-76.

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.

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.

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*, forthcoming, 2019. [To understand the estimates, you need to also read Ho and Lee, "Insurer Competition in Health Care Markets," *Econometrica*, 2017, 85(2), 379-417.]

Part 3: Health Insurance

Lectures 6 and 7: Optimal Health Insurance – Demand Side

- The balance between risk spreading and moral hazard
- Selection versus moral hazard
- Altruistic providers and cost-sharing

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.

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.

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

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

Supplemental readings: (optional)

- 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.
- Lieber, Ethan M.J. "Does It Pay to Know Prices in Health Care?" *American Economic Journal: Economic Policy*, 2017, 9(1):154–179.
- Ericson, Keith M. and Justin R. Sydnor. 2018. "Liquidity Constraints and the Value of Insurance," NBER Working Paper No. 24993.
- Gawande, Atul, "The Cost Conundrum," *The New Yorker*, June 1, 2009.
- McGuire, Tom, "Demand for Health Insurance," in *Handbook of Health Economics, Volume 2*.

Lectures 7: Optimal Health Insurance –Supply Side

- Altruistic providers and cost-sharing
- Productive efficiency

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

Ellis RP, McGuire TG. "Provider behavior under prospective reimbursement. Cost sharing and supply." *Journal of Health Economics*. 1986 Jun;5(2):129-51.

Clemens, Jeffrey, and Joshua Gottlieb, "Do Physicians' Financial Incentives Affect Treatment Patterns and Patient Health?" *American Economic Review*, 2014; 104(4): 1320–1349.

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

Supplemental readings: (optional)

- 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.

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.

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

Lecture 8: Empirical estimates of Moral Hazard and Welfare Analysis of Health Insurance

- Demand elasticities and relationship to moral hazard
- Willingness to pay measures for welfare analysis
- Implications of demand elasticities for health insurance design

Einav, Liran and Amy Finkelstein. 2018. "Moral Hazard in Health Insurance: What We Know and How We Know It," *Journal of the European Economic Association*, Volume 16, Issue 4 pp. 957–982.

Finkelstein, Amy, Nathaniel Hendren, and Erzo F. P. Luttmer, 2019. "The Value of Medicaid: Interpreting Results from the Oregon Health Insurance Experiment," *Journal of Political Economy*, vol 127(6), pages 2836-2874.

Einav, Liran, Amy Finkelstein, Stephen P. Ryan, Paul Schrimpf, and Mark R. Cullen. 2013. "Selection on Moral Hazard in Health Insurance." *American Economic Review*, 103 (1): 178-219.

Hendren, Nathaniel. 2021. "Measuring Ex Ante Welfare in Insurance Markets." *The Review of Economic Studies*, Volume 88, Issue 3, May, pp. 1193–1223.

Part 5: Health Care Innovation and Productivity

Lecture 9: Innovation in Health Care

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

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.

Lecture 10: Productivity

- The aggregate returns to health spending have been large
- Cross-section spending differences are often not associated with improved outcomes
- Health care productivity is low
- Theories for uneven productivity: flat of the curve medicine, increasing returns, general inefficiency

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

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.

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.

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

Supplemental readings: (optional)

Theory

- 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*.

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.
- Chandra, Amitabh, and Doug Staiger, “Sources of Inefficiency in Healthcare and Education,” *American Economic Review: Papers & Proceedings* 2016, 106(5): 1–5.
- 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.
- 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.
- 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, Zach, 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.
- Cutler, David, Jon Skinner, Ariel Stern, and David Wennberg, “Physician Beliefs and Patient Preferences: A New Look at Regional Variation in Health Care Spending,” forthcoming, *American Economic Journal: Economic Policy*, 2019.
- 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.

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.
- Proper, 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.

Distance learning – Enseignement à distance :

Distance learning can be provided when necessary by implementing:

- *Interactive virtual classrooms*
- *Recorded lectures (videos)*
- *MCQ tests and other online exercises / assignments*
- *Remote (online) tutorials (classes)*
- *Chatrooms*

En cas de nécessité, un enseignement à distance sera assuré en mobilisant:

- *Classe en ligne interactive*
- *Vidéo enregistrée de la présentation du matériel pédagogique*
- *QCM et exercices en ligne*
- *TP/TD à distance*
- *Forum...*