

## Health Econometrics

Course title - Intitulé du cours	Health Econometrics
Level / Semester - Niveau /semestre	M2/2
Teacher - Enseignant responsable	Catarina Goulão
Lecture Hours - Volume Horaire CM	15h
TA Hours - Volume horaire TD	-
TP Hours - Volume horaire TP	-
Course Language - Langue du cours	English
TA and/or TP Language - Langue des TD et/ou TP	

### Teaching staff contacts - Coordonnées de l'équipe pédagogique :

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e-mails always with subject: "M2 EEE Health Econometrics"

### Course's Objectives - Objectifs du cours :

The main objective is to introduce students to some of the main policy challenges and economic problems of the health care sector. For each addressed topic, I will start by exposing the economic tools and frameworks of analysis that highlight the economic mechanisms. These will then be illustrated using the most leading research applications to health care, mainly in the context of developed countries.

### Prerequisites - Pré requis :

Knowledge of econometrics, microeconomics, public economics.

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

This is 15-hour course that spans the second semester (5 weeks). Lectures will take place twice a week.

### Grading system - Modalités d'évaluation :

Students will be evaluated on the basis of  
classes participation (10%),  
half-page weekly research idea (10%),  
and a written paper (80%).

**Classes participation (10%):** think, ask, comment 😊

#### **Half-page weekly research ideas (10%)**

Everyone gets full credit as long as ideas are submitted on time. This is brainstorming. The idea is to keep you thinking about health economics and discuss ideas together.

**By Friday 18h**, for five weeks, send me a ½ page with a research idea related to the last week of classes or health economics in general. Explain the idea and motivate why it is important; ideal data/experiment or identification strategy; what you could eventually do in practice (and realistic). This work will help you greatly for your written paper.

#### **Written paper (80%)**

There is not a specific content of the paper but you should get my former approval. It can be a referee report of a working paper, a literature review, a research proposal. The aim is that students apply their economic knowledge and analysis to a health economics question.

The paper will have a length of 5-10 pages, 11 fontsize, 1.5 interline space. Annexes and references, included. It will be evaluated according to the style and the contents:

Style (5/20 points)

Requirements compliance: overall length, title, sections, table of contents, references, etc. (2.5 points)

Quality of presentation: spelling, layout, graphs/figures/tables (if applicable) (2.5 points)

Contents (15/20 points)

Originality and ambition of the subject (3 points)

Literature review: context and objective; precision in presenting the economic dimension. (4 points)

Implementation and methods: presentation of the proposed methods, relevance and justification of the strategy adopted to address the objective. (4 points)

Critical appraisal, understanding of the topic, reasoning mistakes. (4 points)

**Bibliography/references - Bibliographie/références** : see session planning below

### **Session planning - Planification des séances :**

#### **1.Introduction [CM1-CM2].**

Overview on health. Specificities of the health care sector and market failures.

Different forms of health care financing and provision.

#### **2.Health and health behaviours [CM3-CM5].**

##### **2.1. Health**

**Clever use of plain data:**

Currie, J. and Schwandt, H., (2016). "Mortality Inequality: The Good News from a County-Level Approach", *Journal of Economic Perspectives* 30, 2, 29–52.

Currie, J., Schwandt, H., and, Thuilliez, J. (2020) "Pauvreté, Égalité, Mortalité: Mortality (In)Equality in France and the U.S.," *Journal of Population Economics*, 33, pages 197–231.

Baker, M., Currie, J. and Schwandt, H., (2019). "Mortality Inequality in Canada and the U.S.: Convergent or Divergent Trends, *Journal of Labor Economics*, 37 S2, S325–S353.

##### **2.2. Health channels 1- Into causality, transmission**

**Good and not so good uses of granulated data:**

Jeremy Ginsberg, Matthew H. Mohebbi, Rajan S. Patel, Lynnette Brammer, Mark S. Smolinski & Larry Brilliant (2009). "Detecting influenza epidemics using search engine query data". *Nature* vol 457.

David Lazer, Ryan Kennedy, Gary King, Alessandro Vespignani (2014) "The Parable of Google Flu: Traps in Big Data Analysis". *Science* vol 343

Jayson S. Jia , Xin Lu , Yun Yuan , Ge Xu , Jianmin Jia & Nicholas A. Christakis (2020). "Population flow drives spatio-temporal distribution of COVID-19 in China". *Nature* vol 582.

Theresa Kuchler, Dominic Russel, Johannes Stroebel (2022). "JUE Insight: The geographic spread of COVID-19 correlates with the structure of social networks as measured by Facebook". *Journal Urban Economics*, vol 127

Jérôme Adda (2016). "Economic Activity and the Spread of Viral Diseases: Evidence from High Frequency Data", *The Quarterly Journal of Economics*, Volume 131, Issue 2, May 2016, Pages 891–941, <https://doi.org/10.1093/qje/qjw005>

David Cutler and J. Travis Donahoe (2024). "Thick market externalities and the persistence of the opioid epidemics" NBER WP 32055.

##### **2.3. Health channels 2- Into causality, early life determinants**

Almond, D., Currie, J., Duque, V. "Childhood Circumstances and Adult Outcomes: Act II," *the Journal of Economic Literature*, Dec. 2018, 56 4, Dec. 2018, 1360–1446.

van den Berg, G., Lindeboom, M. and Portrait, F. (2006). "Economic Conditions Early in Life and Individual Mortality." *American Economic Review*, 96 (1): 290-302.

**Starting with differences in differences:**

van den Berg G., M. Lindeboom, and F. Portrait (2010). "Long-run longevity effects of a nutritional shock early in life: the Dutch potato famine in 1846-47". *Journal of Health Economics* Volume 29, Issue 5

#### Going further with instrumental variables:

Van den Berg, GC. Pinger, PR. Schoch J. (2016) "Instrumental variable estimation of the causal effect of hunger early in life on health later in life". *The Economic Journal* 126 (591), 465–506.

### 3. Health care [CM6-CM7].

#### Patient's behavior:

Finkelstein, A., Einav, L., Oostrom, T., Ostriker, A., Williams, H. (2020) "Screening and Selection: The Case of Mammograms" *American Economic Review*, 110 (12) 3836–3870

#### Physicians' prescriptions:

Cutler, David, Jonathan S. Skinner, Ariel Dora Stern, and David Wennberg. 2019. "Physician Beliefs and Patient Preferences: A New Look at Regional Variation in Health Care Spending." *American Economic Journal: Economic Policy*, 11 (1): 192-221.

### 4. Health Insurance, moral hazard and adverse selection [CM8, CM9]

Einav, L. and Finkelstein, A. (2018) "Moral Hazard in Health Insurance: What We Know and How We Know It" *Journal of the European Economic Association*, 2018 vol 16(4), pages 957-982.

#### Learning from huge Experiments:

Newhouse JP. "Free for all? Lessons from the RAND Health Insurance Experiment". Cambridge, MA: Harvard University Press, 1993. ISBN 0-674-31846-3. [Paperback edition, 1996: ISBN 0-674-31914-1.

Aron-Dine, Einav, Finkelstein (2013). The RAND Health Insurance Experiment, Three Decades Later. *Journal of Economic Perspectives*, 197–222.

Kowalski AE. (2023). "Reconciling Seemingly Contradictory Results from the Oregon Health Insurance Experiment and the Massachusetts Health Reform". *Rev Econ Stat*. 2023 May;105(3):646-664. doi: 10.1162/rest\_a\_01069. Epub 2023 May 9. PMID: 38817212; PMCID: PMC11137874.

#### Learning from quasi-experimental policy implementation

Taubman, S., Wright, B., Bernstein, M., Gruber, J., Newhouse, JP., Allen, H., Baicker, K. and Finkelstein, A. (2012) "The Oregon Health Insurance Experiment: Evidence from the First Year", *Quarterly Journal of Economics* 127 (3): 1057-1106.

Baicker, Katherine, Sarah L. Taubman, Heidi L. Allen, Mira Bernstein, Jonathan H. Gruber, Joseph P. Newhouse, Eric C. Schneider, Bill J. Wright, Alan M. Zaslavsky, and Amy N. Finkelstein. 2013. "The Oregon Experiment – Effects of Medicaid on Clinical Outcomes." *New England Journal of Medicine* 368: 1713–22.

Finkelstein, A., Hendren, N. and Luttmer, E. F.P. (2019) "The Value of Medicaid: Interpreting Results from the Oregon Health Insurance Experiment" *Journal of Political Economy* Vol. 127 No. 6

### 5. Drugs. Pricing of new drugs [CM10].

Kyle, M. (2019). "The Single Market in Pharmaceuticals", *Review of Industrial Organization*, 55(1):111–135.

Dubois, P. and Saethre, M. (2020) "On the Effect of Parallel Trade on Manufacturers' and Retailers' Profits in the Pharmaceutical Sector", *Econometrica*, vol. 88, n. 6, November 2020, pp. 2503–2545.

Thomas, Lacy Glenn, "Implicit Industrial Policy: The Triumph of Britain and the Failure of France in Global Pharmaceuticals," *Industrial and Corporate Change*, 1994, 3 (2), 451– 489.

Danzon, P.M. (2019) "Drug Pricing and Value in Oncology". In *Regulatory and Economic Aspects in Oncology, Recent Results in Cancer Research*, edited by Evelyn Walter, (2019), pp. 153-167

Danzon, P.M. (2018) "Differential Pricing of Pharmaceuticals: Theory, Evidence and Emerging Issues", *PharmacoEconomics*, 36 (12), pp. 1395-1405. 10.1007/s40273-018-0696-4

Danzon, P.M. (2018), “Affordability Challenges to Value-Based Pricing: Mass Diseases, Orphan Diseases, and Cures”, *Value in Health*, 21, pp. 252-257.

DiMasi, J.A., Grabowski, H. G., Hansen, R. W. (2016) “Innovation in the pharmaceutical industry: New estimates of R&D costs”, *Journal of Health Economics*, Volume 47, 2016, Pages 20–33,

### **Miscellany**

How to write nicely papers:

Alley, Michael. “The craft of Scientific writing”, Springer; 4th edition (Mars 21, 2018).

How to cite:

[http : //isites.harvard.edu/icb/icb.do?keyword = k70847&pageid = icb.page363223](http://isites.harvard.edu/icb/icb.do?keyword=k70847&pageid=icb.page363223)

**Distance learning – Enseignement à distance :**