**Economics of Healthcare and Pharmaceuticals**

**Course Syllabus**

**Professor Frank R. Lichtenberg**

**Summer 2017**

1. **Introduction**

How is health care different from other types of consumer services and goods?

Warm-up exercise: Investment and pricing decisions in health care: Merck Gardasil case

* What price should Merck set for its new vaccine (Gardasil)?
* Should a firm develop a vaccine or a drug?
* Readings:
  + [Merck: Pricing Gardasil](https://cb.hbsp.harvard.edu/cbmp/pl/61682844/61682852/52554befaef9b0cd3a183dbd10602ae8)
  + [HPV Sharply Reduced in Teenage Girls Following Vaccine, Study Says](https://www.nytimes.com/2016/02/22/health/vaccine-has-sharply-reduced-hpv-in-teenage-girls-study-says.html)
  + Michael Kremer, [Why Are Drugs More Profitable Than Vaccines?](http://www.nber.org/papers/w9833)

1. **Health insurance**

* Why do people have health insurance?
* Why don’t people have health insurance?
* How much health insurance should people have?
* What are the benefits and costs of health insurance?
* How does secondary insurance coverage (e.g., Medigap) affect primary insurers?
* Do insurance companies tend to earn higher profits on some customers than they do on others?
* How is health insurance different from other kinds of insurance (e.g. property & life insurance)?
* How is the market for prescription drug coverage different from the market for hospitalization coverage?
* Why might the private health insurance market fail to provide an adequate amount of health insurance?
* Empirical evidence about the impact of health insurance on the use of medical care
* Health insurance benefit design
  + Choice among health plans: Does it make people better off?
  + Tiered copayments

Readings:

## David M. Cutler, Richard J. Zeckhauser, [The Anatomy of Health Insurance](http://www.nber.org/papers/w7176)

* Mark V. Pauly & Yuhui Zeng, [Adverse Selection and the Challenges to Stand-alone Prescription Drug Insurance](http://www.nber.org/papers/w9919.pdf)
* [RAND Health Insurance Study](https://en.wikipedia.org/wiki/RAND_Health_Insurance_Experiment)
* [Oregon Study Shows Benefits, and Price, for Newly Insured](http://www.nytimes.com/2012/06/23/health/oregon-study-reveals-benefits-and-costs-of-insuring-the-uninsured.html?pagewanted=all)
* Frank Lichtenberg & Shawn Sun, The Impact of Medicare Part D on Prescription Drug Use by the Elderly

1. **Measuring and valuing health and the cost-effectiveness of health care**

* Longevity/mortality: the “quantity” of life-years
  + Alternative indicators: crude and age-adjusted death rates, life expectancy, premature mortality (years of potential life lost), 5-year cancer survival rates
  + Life tables: period vs. cohort
    - [United States Life Tables, 2010](http://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_07.pdf)
    - [Life Tables for the United States Social Security Area 1900-2100](https://www.ssa.gov/oact/NOTES/as120/LOT.html)
  + Cancer survival rates: National Cancer Institute: [Cancer Query Systems](http://seer.cancer.gov/canques/index.html)
* The “price” (value) of life-years: How much should we pay to save a “statistical life”?
  + Three alternative approaches
    - Human capital approach
    - “Full income” approach
    - Compensating differentials approach

Readings

* WSJ, Why the Government Puts a Dollar Value on Life
* W. Kip Viscusi & Ted Gayer, Safety at Any Price?
* Viscusi, review of studies of value of life in many countries
* Simon et al, Valuing Mortality Reductions in India: A Study of Compensating Wage Differentials
* The “quality” of life-years
  + Readings:
    - [Health Outcomes in Economic Evaluation: the QALY and Utilities](https://www.researchgate.net/profile/Shehzad_Ali/publication/47635944_Health_outcomes_in_economic_evaluation_the_QALY_and_utilities/links/0a85e53c3da7c284bc000000.pdf)
    - [The Burden of Disease Approach for Measuring Population Health](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0ahUKEwjayae2u-bLAhXJbBoKHUqFAwQQFggwMAI&url=http://www.springer.com/cda/content/do...c1.pdf?SGWID%3D0-0-45-1166140-p174127775%20&usg=AFQjCNHRWjmspTdrxqC6DIKY07LN2VNT2A&cad=rja)
  + Is average quality of life likely to be improved by advances in medicine?
* Comparative effectiveness, cost effectiveness, and health technology assessment
  + [Cost-Effectiveness Analysis Registry](https://research.tufts-nemc.org/cear4/SearchingtheCEARegistry/SearchtheCEARegistry.aspx)
  + Cost-utility analyses published from 1976 to 2001, with ratios converted to 2002 US dollars
  + [The clinical effectiveness and cost-effectiveness of new drug treatments for rheumatoid arthritis: etanercept and infliximab](https://www.nice.org.uk/guidance/ta130/documents/adalimumab-etanercept-and-infliximab-for-the-treatment-of-rheumatoid-arthritis-final-appraisal-determination3), Report commissioned by: NHS R&D HTA Programme, on behalf of the National Institute for Clinical Excellence.
  + Two types of evidence: Randomized clinical trials vs. “real-world” evidence
  + Frank Lichtenberg, How cost-effective are new cancer drugs in the U.S.?
  + Frank Lichtenberg, Can HTA help control drug costs?
  + Frank Lichtenberg, Did CMS’ Functional Equivalence Decision result in equitable payments?

1. **Physician behavior**

* Alternative ways of paying doctors and other providers: retrospective payment, prospective payment, and value-based payment
* Incentive contracting (pay for performance): a mathematical example
* Incentives in HMOs: a case study
* Physician response to fee changes
* Do doctors practice defensive medicine? (How cost-effective has medical malpractice reform been in the US?)

**Readings:**

* [Performance Pay for MGOA Physicians](https://cb.hbsp.harvard.edu/cbmp/pl/61682844/61682860/7915d4b960509cd4214907df752292c6)
* Abelson R (2016), [Cornerstone: The Rise and Fall of a Health Care Experiment](http://www.nytimes.com/2016/12/23/business/cornerstone-the-rise-and-fall-of-a-health-care-experiment.html), *New York Times*, December 23.
* Gaynor M, Rebitzer J, Taylor L (2004). [Physician Incentives in HMOs](http://www.nber.org/papers/w8522). *Journal of Political Economy* August.
* Goodnough A, Pear R (2017), [After Obama, Some Health Reforms May Prove Lasting](http://www.nytimes.com/2017/01/02/us/politics/obama-health-care-affordable-care-act.html), *New York Times*, January 2.
* [Doctors Who Profit From Radiation Prescribe It More Often, Study Finds](http://www.nytimes.com/2013/08/19/us/doctors-who-profit-from-radiation-prescribe-it-more-often-study-finds.html)
* [Medicare gave eye doctors millions to remove cataracts that didn't exist;](http://www.washingtonexaminer.com/medicare-gave-eye-doctors-millions-to-remove-cataracts-that-didnt-exist/article/2557977) [Department of Health and Human Services inspector general report](http://oig.hhs.gov/oei/reports/oei-04-12-00281.pdf)
* [New York City Ties Doctors’ Income to Quality of Care](http://www.nytimes.com/2013/01/12/nyregion/new-york-city-hospitals-to-tie-doctors-performance-pay-to-quality-measures.html)
* [Physician Volume & Intensity Response](https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/ActuarialStudies/downloads/physicianresponse.pdf)
* [Malpractice Suits Capped At $750,000 In Texas Vote](http://www.nytimes.com/2003/09/15/us/malpractice-suits-capped-at-750000-in-texas-vote.html)

1. **Patient behavior**

* Role of patient’s time in demand for medical services
  + [CVS Minute Clinics](https://www.cvs.com/minuteclinic/)
* Medication adherence
  + Gisela Hostenkamp & Frank Lichtenberg, Listen to your doctor, or else!: Medication under-use and overuse and the longevity of Danish diabetes patients
  + [CVS Health: Promoting Drug Adherence](https://cb.hbsp.harvard.edu/cbmp/pl/61682844/61682856/ed79a28638d3c06c7dcb4a67013544bd)

1. **Other important issues**

* The role of information in health care
  + Information about the quality of providers: are health care report cards valuable?
  + Information about patient medical conditions: upcoding and fraud
  + Information about patient genetic characteristics
    - Precision medicine and pharmacogenomics
  + Information about prices of medical goods and services
    - Herper M (2012). [Inside The Secret World of Drug Company Rebates](http://onforb.es/1yu08HG), *Forbes*, May 10.
* The role of the government in biomedical innovation
  + The patent system: benefits and risks
  + Roles of the government and private sectors in pharmaceutical innovation
  + FDA policies regarding orphan drugs and biosimilars