# QUEENS' UNIVERSITY
# Department of Economics

# ECON 243
# Economics of Healthcare
# Winter 2019

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**OBJECTIVES**

This course provides an understanding of contemporary healthcare systems and the related health policy debates through an economic analysis of the health care institutions, organizations and markets. The analytical framework will be developed over the first nine weeks of the course. After a 2-week introduction, components of a healthcare system (insurance, physicians and other individual providers, hospitals, pharmaceuticals and long-term care) will be covered in about 7 weeks. Weeks 10-12 are allocated to the analysis of various healthcare systems. The course covers the Canadian provincial healthcare systems and the several European mixed systems (France, Germany, Holland, Sweden and UK) as well as Australia's, all with universal coverage. Obamacare will also be studied in section 8 on alternative systems.

**DESCRIPTION**

The course covers the economic analysis of healthcare. The demand and supply components are separately analyzed and then assembled as healthcare system. Real-life healthcare provision emerges under mixed and regulated systems. Institutional and organizational aspects of the health care systems are examined with an eye to policy-making. Since healthcare is largely a private good, economic analysis would then prescribe private provision on efficiency grounds. However, unlike most other goods and services, its provision is regulated everywhere, mostly on equity grounds but, since healthcare insurance markets exhibit informational problems potentially causing market failures, the case for public intervention may be strengthened. Somewhat similar to mixed systems Canada exhibits a mixed system, with private but not-for-profit yet heavily regulated hospitals and private but contracted physicians.
The course includes a description of different health care systems and of the structural and organizational arrangements within each system. Moreover, parts of the Canadian system requiring urgent fixes will be analyzed. For instance, budgetary devolution through regionalized administrations, hospital reorganizations and de-hospitalization, private clinics, primary care reorganization and evolving physician payment systems, clogged long-term care, emergency room overcrowding, technology transfer, spatial access to care, and pharmacare are amongst topics to be covered.

**NB** 1. Attendance is a must as lectures cover material beyond readings and exams will include questions derived from class discussions. 2. A course in microeconomics is a prerequisite. 3. Queen's University Academic Integrity Guide must be read.

### Queen's University academic integrity guide

Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility (see www.academicintegrity.org). These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities). Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1), on the Arts and Science website (see http://www.queensu.ca/calendars/artsci/pg4.html), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.
Student code of conduct: http://www.queensu.ca/secretariat/senate/policies/code2008.pdf

Other Arts and Science web sites you may wish to bookmark include the Academic Integrity policy, appropriate forms, and instructor guidelines: 1. **Educational Resources** http://www.queensu.ca/artsci/integrity/instructor/education.html 2. Regulation 1: http://www.queensu.ca/calendars/artsci/pg4.html 3. **Forms:** Investigation notice: http://www.queensu.ca/artsci/integrity/instructor/investigation_letter.pdf Finding Form: http://www.queensu.ca/artsci/integrity/instructor/findingform.pdf 4. **Instructor Guidelines**: http://www.queensu.ca/artsci/integrity/instructor/guidelines.html

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## COURSE OUTLINE

## Course plan

| Week | Part | Topic covered | Tests |
|---|---|---|---|
| **01** | **Intro** | 01. Introduction to healthcare systems | |
| **02** | **Demand** | 02. Demand for health and healthcare | |
| **03** | | 03. Demand for healthcare insurance | |
| **04** | | 04. MD as patient's agent | |
| **05** | **Supply** | 05. Primary care | **Q1** |
| **06** | | 06. Hospitals | |
| **07** | | 07. Pharmaceuticals and Pharmacare | **Q2** |
| **08** | | 08. Long-term care | |
| **09** | | 09.a. Speaker: Catherine Donnelly on LTC<br>b. Cost-benefit evaluation in healthcare | **Midterm test** |
| **10** | **Systems** | 10.a. Speaker:<br>b. Healthcare systems | |
| **11** | | 11. Healthcare systems | **Q3** |
| **12** | | 12. Student forum on healthcare systems | |

## Readings

The course is based on **lecture notes (available in OnQ) and required articles** denoted by *.
Recommended books (There are good treatments of some topics in the textbooks below.)
F.A. Sloan & C.-R. Hsieh, Health Economics, MIT Press 2012 (SH)
F.A. Sloan & H. Kasper (eds.), Incentives and Choice in Health Care (e-book), MIT Press 2008 (SK)
J.E. Hurley, Health Economics, McGraw-Hill Ryerson, 2010

## Introduction to healthcare

Benedetti, P. & W. MacPhail [2018], "Chiropractors at a crossroads: The fight for evidence-based treatment and a profession's reputation", The Globe and Mail, November 5, https://www.theglobeandmail.com/canada/article-chiropractors-at-a-crossroads-the-fight-for-evidence-based-treatment/

Caulfield, T. [2018], "In 2018 we need less nonsense and more science", The Globe and Mail, January 5, https://www.theglobeandmail.com/opinion/in-2018-we-need-less-nonsense-and-more-science/article37514167/

Caulfield, T. [2019], "In an era of misinformation, alternative medicine needs to be regulated", The Globe and Mail, January 5, `https://www.theglobeandmail.com/opinion/article-in-an-era-of-misinformation-alternative-medicine-needs-to-be/

Picard, A. [2018], "Homeopathy leaves us deluded by diluted remedies", https://www.theglobeandmail.com/opinion/article-homeopathy-leaves-us-deluded-by-diluted-remedies/

Pruden, J.G. [2018], "Has Tim Caulfield become the Canadian nemesis of pseudoscience?", The Globe & Mail, December 31, https://www.theglobeandmail.com/life/article-has-tim-caulfield-become-the-canadian-nemesis-of-pseudoscience/

* The Economist [2016], "Pretend medicine - The quack-up", May 21 (Chilling but true: "… alternative therapies including chelation, a treatment in which patients ingest or are injected with chemicals that remove heavy metals from their bodies. FDA had approved it for lead and mercury poisoning, but some doctors suggested it could cure autism.")

## Part A: Introduction to healthcare systems

* Blomqvist, A. & C. Busby [2015], "Rethinking Canada's Unbalanced Mix of Public and Private Healthcare: Insights from Abroad", Commentary 420, CD Howe Institute, http://www.cdhowe.org/pdf/Commentary_420.pdf (1st dollar coverage in some areas and none in others!)

* The Economist [2009], "Universal health insurance is a common good", http://www.economist.com/blogs/democracyinamerica/2009/10/universal_health_insurance_is (See White [2009].)

* Picard, A. [2017], "Poor health-care ranking a sign our system needs fixing", The Globe and Mail, July 17, https://www.theglobeandmail.com/opinion/poor-health-care-ranking-a-sign-our-system-needs-fixing/article35709352/

* Stabile, M. & S. Thomson [2013], "The changing role of government in financing healthcare: An international perspective", NBER, WP 19439 (Read pp. 9-14.) http://www.nber.org/papers/w19439

## Part B: Demand side

### 1. Demand for health and healthcare

#### a. The health stock model of the individual

* Grossman, M. & D. Dench [2018], "Health and the Wage: Cause, Effect, Both, or Neither? New Evidence on an Old Question", NBER WP No. 25264 (Read pp. 1-10, 24-25.) http://www.nber.org/papers/w25264

The Economist [2017], "A tissue of truths – Printed human body parts could soon be available for transplant", January 28 (No longer a need for consent to donate?)

* The Economist [2017], "No guts, no glory – Enhanced understanding of the microbiome is helping medicine", November 9 (You may become what you eat!)

#### b. Public health and negative inputs: Sedentary lifestyle, substance abuse and malnutrition

* Cawley, J. et al. [2018], "The impact of the Philadelphia beverage tax on purchases and consumption by adults and children", NBER WP 25052 (Read pp. 1-4, 23-28.) http://www.nber.org/papers/w25052

* Greve, J. et al. [2015], "Fetal malnutrition and academic success: Evidence from Muslim immigrants in Denmark", NBER WP 21545, (Read pp. 3-9, 16-22.) http://www.nber.org/papers/w21545

Griffith, R. et al. [2017], "The importance of product reformulation versus consumer choice in improving diet quality", Economica 84, 34-53 (Read pp. 36-38, 48-50. Also read The Economist [2017], "Nudge comes to shove – Policymakers around the world are embracing behavioural science – An experimental, iterative, data-driven approach is gaining ground", May 18)

#### c. Public health and positive inputs: Prevention

* Ibuka, Y. et al. [2018], "An analysis of peer effects on vaccination behavior using a model of privately provided public goods", CESifo Working Paper Series 6933 https://ideas.repec.org/p/ces/ceswps/_6933.html (Read pp. 1-5, 27-29.)

Koijen, R. & S. van Nieuwerburgh [2018], "Financing the War on Cancer", NBER WP No. 24730, http://www.nber.org/papers/w24730

The Economist [2016], "Antibiotic resistance – The grim prospect", May 21

The Economist [2016], "Vaccination – A jab in time", March 26

The Economist [2016], "Cancer – A run a day keeps the tumor at bay", February 27

The Economist [2013], "Pre-empting pandemics – An ounce of prevention", April 20

### 2. Demand for healthcare insurance

#### a. Healthcare insurance demand

* Brot-Goldberg, Z.C. et al. [2015], "What does a deductible do? The impact of cost-sharing on health care prices, quantities, and spending dynamics", NBER WP 21632, http://www.nber.org/papers/w21632 (Read pp. 2-8, 50-52.)

* CBC News – Technology & Science [2007], "Complications higher for obese women after hip

surgery", February 28, http://www.cbc.ca/news/technology/complications-higher-for-obese-women-after-hip-surgery-1.681314 (Moral hazard and system inefficiency?)

* Einav, L. [2018], "Moral hazard in health insurance: What we know and how we know it", J. European Economic Association 16(4), 957-982 (Read pp. 957-963, 978-980.)
* The Economist [1995], "Economics focus: An insurer's worst nightmare", July 29 (Maybe the whole healthcare insurance lecture in one page.)
* The Economist [1997], "Coughing up", October 23 (Against ex post moral hazard?)
* The Economist [2017], "The gene is out of the bottle – Genetic testing threatens the insurance industry", August 3
* Gowrisankaran, G. et al. [2018], "Reclassification risk in the small group health insurance market", NBER WP No. 24663, http://www.nber.org/papers/w24663 (Read pp. 2-8, 40-41.)

The Economist [2017], "Taken for a ride – Second-degree moral hazard", March 2

The Economist [2017], "Counsel of protection – The coming revolution in insurance", March 9

### b. Single-payer and multi-payer health insurance systems

* Duijmelinck, D.M.I.D. & W.P.M.M. van de Ven [2014], "Choice of insurer for basic health insurance restricted by supplementary insurance", European J. Health Economics 15, 737–746
* van Winssen, K.P.M. et al. [2018], "Can premium differentiation counteract adverse selection in the Dutch supplementary health insurance? A simulation study", European J. Health Economics 19, 757-768 (Related to Duijmelinck & van de Ven [2014] above. Read pp. 757-758, 764-766.)

White, J. [2009], "Gap and parallel insurance in healthcare systems with mandatory contributions to a single funding pool for core medical and hospital benefits for all citizens in any given geographic area", J. Health Politics, Policy and Law 34(4), 543-583 (Read pp. 547-556.)

Withagen-Koster, A.A. [2018], "Examining unpriced risk heterogeneity in the Dutch health Insurance market", European J. Health Economics 19, 1351-1363

## 3. Physician as patient's agent

* Chernew, M. et al. [2018], "Are healthcare services shoppable? Evidence from the consumption of lower-limb MRI scans", NBER WP 24869, http://www.nber.org/papers/w24869 (Read pp. 2-9, 19-21.)
* Cohen, M.M. et al. [1992], "Small-area variations: What are they and what do they mean?" CMAJ 146(4), 467-470 (See Finkelstein et al. below for further and recent evidence.)

Finkelstein, A. et al. [2016], "Sources of Geographic Variation in Health Care: Evidence from Patient Migration." Quarterly J. Economics 131(4), 1681-1726

* Fischer, K.E. [2018], "The impact of physician-level drug budgets on prescribing behavior", European J. Health Economics 19, 213-222 (Read pp. 213-216, 2018 and 220.)

Jacobson, M. et al. [2017], "Physician agency and patient survival", J. Economic Behavior & Organization 134, 27-47

* Keser, C. & C. Schnitzler [2014], "Money talks – Paying physicians for performance", CEGE DP 173, October, http://wwwuser.gwdg.de/~cege/Diskussionspapiere/DP173 (Read sections Intro., The Experiment and Conclusion. B(e) function!)

Kolstad, J.T. [2013], "Information and quality when motivation is intrinsic: Evidence from

surgeon report cards", NBER WP 18804, http://www.nber.org/papers/w18804 (Intrinsic motivation?)

## Part C: Supply side

### 4. Physicians and nurses

#### a. Motivation and incentives: Physician as payer's agent

* Blomqvist, Å. & C. Busby [2012], "How to pay family doctors: Why "pay per patient" is better than fee for service", Commentary 365, CD Howe Institute, http://www.cdhowe.org/pdf/Commentary_365.pdf (NB Pay-per-patient should work?)
* Bodenheimer, T., B. Lo & L. Casalino [1999], "Primary care physicians should be coordinators, not gatekeepers", JAMA 281(21), 2045-2049 (Still gatekeepers in Canada. Will they coordinate secondary care?)

Gravelle, H. et al. [2018], "Spatial competition and quality: Evidence from the English family doctor market", University of York, Centre for Health Economics Research Paper 151, http://eprints.whiterose.ac.uk/132899/ (Read pp. 1-6, 23.)

* Johnson, E.M. & M.M. Rehavi [2013], "Physicians treating physicians: Information and incentives in childbirth", NBER WP 19242, http://www.nber.org/papers/w19242 (Read pp. 1-4, 16-21, 27-29. Is this supplier-induced demand?)

Sarma, S. et al. [2018], "Family physician remuneration schemes and specialist referrals: Quasi-experimental evidence from Ontario, Canada", Health Economics 27, 1533-1549 (Read pp. 1533-1535, 1546-1547.)

* Yong, J. et al. [2018], "Do rural incentives payments affect entries and exits of general practitioners?", Social Science & Medicine 214, 197-205 (Read pp. 197-198, 204.)

#### b. Physician practice organization and its role in a healthcare system

Agha, L. et al. [2018], "Team formation and performance: Evidence from healthcare referral networks", NBER Working Paper No. 24338, http://www.nber.org/papers/w24338

Baker, L.C. et al. [2017], "Does multispecialty practice enhance physician market power?", NBER Working Paper 23871, http://www.nber.org/papers/w23871 (Read pp. 1-4, 21-24. Any benefits to one-stop shopping?)

* McMichael, B.J. [2018], "Beyond Physicians: The Effect of Licensing and Liability Laws on the Supply of Nurse Practitioners and Physician Assistants", J. Empirical Legal Studies 15(4), 732-771 (Read pp. 732-734, 768.)

Pedersen, A.E. et al. [2011], "The British Columbia Patient Navigation Model: A Critical Analysis", Oncology Nursing Forum 38(2), 200-206

* Picard, A. [2018], "The feminization of medicine: does it matter?", https://www.theglobeandmail.com/opinion/the-feminization-of-medicine-does-it-matter/article37773047/
* Rebitzer, J.B. & M.E. Votruba [2011], "Organizational economics and physician practices", NBER WP 17535, http://www.nber.org/papers/w17535 (Read pp. 6-26.)

Schurtz, I. et al. [2018], "Physician workload and treatment choice: the case of primary care", CEPR DP No. 13157 (Read pp. 1, 4-6, 29-30.) https://cepr.org/active/publications/discussion_papers/dp.php?dpno=13157 or econ.biu.ac.il/files/economics/seminars/workload_sept2018.pdf

* Stange, K. [2014], "How does provider supply and regulation influence health care markets?

Evidence from nurse practitioners and physician assistants", J. Health Economics 33, 1-27 (Read pp. 1-5, 15-17. See McMichael above for an update.)

### c. Regulation of the medical profession

Beck, K. [2013], "Approaches to regulating self-referral in Canada", Health Law in Canada 34(2), 34-41 http://www.fasken.com/files/Publication/4a8e91f2-c399-4262-8a42-9b3bea6a886b/Presentation/PublicationAttachment/1508b9df-3674-4e69-800b-a3eef8183c2c/HLIC_342_final.pdf

* Chatterji, P. et al. [2018], "Medical malpractice reforms and the location decisions of new physicians", NBER WP 24401, http://www.nber.org/papers/w24401 (Read pp. 1-7, 15-16.)

* Frakes, M. & J. Gruber [2018], "Defensive medicine: Evidence from military immunity", NBER WP No. 24846, http://www.nber.org/papers/w24846 (Read pp. 1-12, 47-48.)

Frakes, M. & A.B. Jena [2014], "Does medical malpractice law improve healthcare quality", NBER WP 19841, www.nber.org/papers/w19841, (NB It doesn't? Or does it: See Liu [2018] below. Read pp. 2-6, 35-38.)

Frakes, M.D. et al. [2017], "The effect of malpractice law on physician supply: Evidence from negligence-standard reforms", NBER Working Paper 23446, http://www.nber.org/papers/w23446

Jena, A.B. et al. [2011], "Malpractice risk according to physician specialty", New England J. Medicine 365, 629-36 (NB Which MDs are sued?)

Liu, J. & D.A. Hyman [2018], "Targeting bad doctors: Lessons from Indiana, 1975-2015", https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2994529 (The medical malpractice ("med mal") system acts through *ex post* private litigation; the licensing system acts through *ex ante* permission to practice (i.e., licensure), coupled with *ex post* disciplinary action against physicians that engage in "bad" behavior.)

Milne, V. et al. [2014], "Is Canada's medical malpractice system working?", http://healthydebate.ca/2014/11/topic/cmpa-medical-malpractice

Reyes, J.W. [2010], "The effect of malpractice liability on the specialty of obstetrics and gynecology", NBER WP 15841, http://www.nber.org/papers/w15841 (Directly related to Frakes and Jena, Milne et al. above, and Taylor below.)

Taylor, P. [2013], "Patients' odds of winning medical malpractice suits in Canada aren't good, says new book", http://www.theglobeandmail.com/life/health-and-fitness/health-navigator/patients-odds-of-winning-medical-malpractice-suits-in-canada-arent-good-says-new-book/article10812604/

## 5. Hospital

### a. Hospitals as multi-product firms

* Blomqvist, A. & C. Busby [2013], "Paying Hospital-Based Doctors: Fee for Whose Service?", CDHowe Institute, Commentary no. 392 (Read pp. 4-16.) https://www.cdhowe.org/sites/default/files/attachments/.../Commentary_392_0.pdf

* Carey, K. et al. [2014], "Economies of Scale and Scope: The case of Specialty Hospitals", Contemporary Economic Policy 33(1), 104-117 (Read pp. 104-105, 113-116)

* Clark, J.R. & R. Huckman [2011], "Broadening focus: Spillovers, complementarities and specialization in the hospital industry", NBER WP 16937 (Read pp. 3-11, 26-28)

http://www.nber.org/papers/w16937
Deneffe, D. & R.T. Masson [2002], "What do not-for-profit hospitals maximize?", J. Health Economics 20, 461-492
Gaynor, M. et al. [2005], "The Volume-Outcome Effect, Scale Economies, and Learning-by-Doing", American Economic Review 95(2), Papers and Proceedings (Read pp. 243-247) (Is it "practice makes perfect" or "selective referral"? See Gowrisankaran below!)
Geruso, M. & T. Layton [2015], "Upcoding: Evidence from Medicare on squishy risk adjustment", NBER WP 21222, http://www.nber.org/papers/w21222
Guccio, C. et al. [2013], "Readmission and Hospital Quality under Prospective Payment System", http://www.siecon.org/online/wp-content/uploads/2013/09/Guccio-Lisi-Pigniataro.pdf (NB Prospective payment is insufficient to lower readmissions!)
Jürges, H. & J. Köberlein [2013], "First Do No Harm. Then Do Not Cheat: DRG Upcoding in German Neonatology", CESIFO WP 4341 (Read pp. 2-9, 19-28) http://www.cesifo-group.de/ifoHome/publications/working-papers/CESifoWP/CESifoWPdetails?wp_num=4341
* Mesman, R. [2015], "Why do high-volume hospitals achieve better outcomes? A systematic review about intermediate factors in volume–outcome relationships", Health Policy 119, 1055-1067 (Skip tables. This is related to Gaynor [2005] & Carey [2014].)
* Roberts, R.R. et al. [1999], "Distribution of Variable vs. Fixed Costs of Hospital Care", JAMA 281(7), 644-649 (NB Watch for the complexity of costs!)
* The Economist [2017], "A prescription for the future - How hospitals could be rebuilt, better than before", April 8
Widmer, P.K. [2018], "Choice of reserve capacity by hospitals: a problem for prospective Payment", European J. Health Economics 19, 663-673 (Public hospitals would have higher reserve capacity to serve all uncertain demand. Read pp. 663-664, 672.)

### b. Hospital interactions: Horizontal and vertical

* Carey, K. [2015], "Measuring the hospital length of stay/readmission cost trade-off under a bundled payment mechanism", Health Economics 24, 790-802 (NB A DRG payment per episode doesn't internalize readmission cost to insurer. (Read pp. 790-791.)
Gobillon , L. & C. Milcent [2017], "Competition and Hospital Quality: Evidence from a French Natural Experiment", IZA DP No. 10476, https://www.parisschoolofeconomics.eu/.../gobillon_milcent_2017_competition.pdf (Pro-competitive reforms of 2004-2008 that introduced DRG-payment into the French hospital sector with public (university or non-teaching), non-profit or for-profit hospitals. Local competition surely increased. Non-profit hospitals, with no incentive for competition before the reform, enjoyed larger declines in mortality in places where there is greater competition than in less competitive markets.)
Gupta, A. [2017], "Impacts of performance pay for hospitals: The Readmissions Reduction Program", Becker Friedman Institute for Research in Economics, Health Economics Series No. 2017-07, www.web.stanford.edu/~atulg/Gupta_JMP.pdf (Large federal program which penalizes hospitals with high rates of repeat hospitalizations ("readmissions"). Readmissions and thirty-day mortality drop due to two mechanisms, improvement in treatment quality (which produces most of improvement) and changes in admitting behavior driven by penalties, it causes a substantial decrease in readmissions which suggests evidence of harm to affected patients).
Kverndokk, S. & H.O. Melberg [2016], "Using Fees to Reduce Bed-Blocking: A Game between

Hospitals and Care Providers", CESIFO WP No. 6146, https://www.med.uio.no/helsam/forskning/nettverk/hero/publikasjoner/skriftserie/2016/2016-2.pdf

Levaggi, L. & R. Levaggi [2017], "Oligopolistic competition for the provision of hospital care", www.siepweb.it/siep/images/.../1494929366Levaggi_Levaggi_WP_SIEP_723.pdf (Public hospitals are perceived differently by patients. In our Salop circle with the public hospital at the centre and private providers along the circle, mixed markets may outperform both the benchmark (one public hospital at the centre) and private competition (N private providers competing along the circle).

Makowsky, M.D. & E. Klein [2014], "Identifying the Relationship between Length of Hospital Stay and the Probability of Readmission", Johns Hopkins Univ., http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2463856 (U-shaped relationship between length of stay and probability of readmission.)

* The Economist [2013], "Schumpeter – A Hospital Case", May 28 (Lessons for Canada: You can still look after all your people even with private delivery.)

* Verzulli, R. [2018], "Autonomy and performance in the public sector: the experience of English NHS hospitals", European J. Health Economics 19, 607-626 (Not much of a difference autonomy makes! Read pp. 607-609, 616-617.)

### c. Hospital waits

* Bishai, D.M. & H.C. Lang [2000], "The willingness to pay for wait reduction: The disutility of queues for cataract surgery in Canada, Denmark and Spain", J. Health Economics 19, (NB Canadians want to wait! Others don't? Read pp. 220, 228-229.)

* CIHI [2017], "Wait Times for Priority Procedures in Canada, 2017", https://secure.cihi.ca/free_products/wait-times-report-2017_en.pdf (Enjoy charts!)

Cullis, J.G. & P.R. Jones [1985], "National health service waiting lists: A discussion of competing explanations and a policy proposal", J. Health Economics 4, 119-135

Gaynor, M. et al. [2012], "Free to choose? Reform and demand response in the English National Health Service", NBER WP 18574 (Read, if interested, 2-3, 8-11, 24-28.) http://www.nber.org/papers/w18574

* O'Hara, NN. Et al. [2016], "Are patients willing to pay for total shoulder arthroplasty? Evidence from a discrete choice experiment", Canadian J. Surgery 59(2), 107-112 (Consistent with Bishai [2000] above. Read pp. 108, 111.)

Street, A. & S. Duckett [1996], "Are waiting lists inevitable?", Health Policy 36, 1-15 (NB Where it is inevitable one can still improve: Basically, wait management.)

### d. Emergency department in a hospital

* Bruni, M.L. et al. [2016], "Does the extension of primary care practice opening hours reduce The use of emergency services?", J. Health Economics 50, 144–155 (Read pp. 144-146, 153-154.)

Freeman, M. et al. [2017], "Gatekeeping under congestion: An empirical study of referral errors in the emergency department", INSEAD Working Paper Series 2017/59/TOM, http://ssrn.com/abstract=3036999
(While ED physicians make more gatekeeping errors when congestion increases, the change in the rates of false positives (avoidable hospitalization) and false negatives (wrongful discharge) differ substantially: When congestion increases, physicians lower

threshold for admission which surges avoidable hospitalizations and creates 'false demand" for hospital beds.)

* Gruber, J. et al. [2018], "Saving lives by tying hands: The unexpected effects of constraining healthcare providers", NBER WP No. 24445, http://www.nber.org/papers/w24445 (Read pp. 2-8, 29-30.)

Moineddin, R. et al. [2011], "Modeling factors influencing the demand for emergency department services in Ontario: a comparison of methods", BMC Emergency Medicine 11(13), http://www.biomedcentral.com/1471-227X/11/13 (Read pp. 2-4, 10-13.)

* Taylor, P. [2017], "User fees can't fix complex issue of emergency room wait times", The Globe and Mail, https://www.theglobeandmail.com/life/health-and-fitness/health/user-fees-cant-fix-complex-issue-of-er-wait-times/article35640614/

* Weinick, R.M. et al. [2010], "Many emergency department visits could be managed at urgent care centers and retail clinics", Health Affairs 29(9), 1630-1636

## 6. Pharma

### a. Pharmaceuticals

Brennan, T.J. et al. [2012], "Prizes or patents for technology procurement: An assessment and analytical framework", Resources for the Future RFF DP 11-21-REV (Read pp. 1-4, 9-19, 25-27.), http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-11-21-REV.pdf

González, P. et al. [2015], "Private versus Social Incentives for Pharmaceutical Innovation", J. Health Economics 50, 286–297

Kremer, M. & C.M. Snyder [2018], "Preventives versus treatments redux: Tighter bounds on distortions in innovation incentives with an application to the global demand for HIV pharmaceuticals", NBER WP No. 24206, http://www.nber.org/papers/w24206 (Pharmaceutical companies would produce and market the more lucrative of preventive and curative drugs. This is a suboptimal outcome.)

* Krieger, J.L. et al. [2018], "Developing novel drugs", NBER WP 24595 (Read pp. 1-7, 38.) http://www.nber.org/papers/w24595

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# Part D: Healthcare Systems

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## 10. Canadian and US systems

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## EVALUATION

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|---|---|
| 3 OnQ quizzes (weeks 5, 7, and 11 on 6pm Friday - 6pm Saturday) | 30% |
| 1 midterm test (9th week in class) | 20% |
| Final exam | 50% |