**Advanced Health Economics & Policy Analysis II**

**HAD 6750**

**Winter 2023**

**Instructor**: Alex Hoagland, Ph.D.

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**Class time and location**: Wednesdays, 3pm-5pm. HS 740.

**Office hours:** Book appointments at [calendly.com/Hoagland-office-hours/had5744-2022f](https://www.calendly.com/Hoagland-office-hours/had5744-2022f)

* In-person: Fridays, 1:00-3:00pm
* Zoom: Tuesdays and Wednesdays, 10:00am-10:30am (or by appointment) <https://utoronto.zoom.us/my/hoaglandzoomroom>

**Course Description:** This is a seminar course focusing the tools of microeconomic theory in modeling individual and provider behavior using examples drawn from the health literature. The course introduces students to problems of unconstrained and constrained optimization in a discrete time framework. Additional topics considered include non-negativity constraints, questions concerning planning over multiple periods and the issues of uncertainty and unanticipated health shocks. Students are expected to develop their own theoretical model with testable predictions, which in most cases will serve as the basis for the theoretical chapter of their dissertation. Students must have completed Advanced Health Economics and Policy Analysis (HAD5760H) and have familiarity with intermediate calculus.

**Evaluation Criteria**

* Presentation: 1 presentation, worth 30% of the final grade
* Referee Report: 1 referee report, worth 20% of the final grade
* Paper Proposal: worth 50% of the final grade.

Presentation: Each of you will prepare one presentation, based on one of the research papers indicated on the reading list (there are approximately three choices per topic). **The topics you choose for the presentation and referee report should be different.** Your presentation should convey (1) the motivation behind the paper, (2) its central contribution, (3) a walk-through of the model, (4) a summary of any empirical analyses or additional findings, and (5) your own thoughts on the paper’s strengths and weaknesses. The emphasis of the presentation should be on your exposition and critical analysis of the economic modeling component of each paper. Each presentation should be roughly 20 minutes long (think 12 slides maximum). **Presentations will be given on the day the topic is covered in class.**

Referee Report: In addition to the presentation, each of you will prepare one referee report, based on one of the research papers indicated on the reading list (there are approximately three choices per topic). **The topics you choose for the presentation and referee report should be different.** Your referee report should be modeled after the templates included in the GitHub repo, and should include: (1) a brief summary of the paper; (2) major concerns you have, including any potential flaws or drawbacks you see in the modeling choices; and (3) minor concerns you have, including ideas for extensions and future research. You should focus on the theory as much as possible, although ideas for extensions and future research can include empirical research. Your referee report should be no more than 3 pages long. **Reports are due one week after the topic has been covered in class.**

Paper Proposal: Finally, students will prepare a brief research proposal that is either purely theoretical or uses theory to ground empirical techniques. Your proposal should (1) pose an academic research question, (2) conduct a thorough literature review, (3) present a stylized model (note: you do not have to solve your model or incorporate all complexity), and (4) if applicable, carefully describe the ideal data and empirical strategy you would use for empirically testing your model. This proposal could become a part of your thesis or a publishable paper, so be sure to select something you are interested in and discuss it in advance with me and/or your advisors. There is no fixed length requirement, but think on the order of 10-15 double-spaced pages. **Proposals are due on the last day of class.**

**Course website:** This course has a GitHub repository that contains all relevant materials; you can access the repo at <https://github.com/alex-hoagland/HAD6750_2023W>. Materials will be updated and added throughout the semester.

**Optional textbook: This course is fully self-contained in the papers we will be discussing.** However, an optional useful resource is:

* Health Economics, Jay Battacharya, Timothy Hyde, and Peter Tu, 1st Edition, Palgrave Macmillan, 2013.

**Course Schedule**

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| **Session #** | **Date** | **Lecture / Readings**  *Recommended readings in italics* |
| 1 | Jan. 11 | **What is Economics?**   * **Grossman (1972).** “On the concept of capital and the demand for health” * **Jacobson (2000).** “The family as producer of health — an extended Grossman model” |
| 2 | Jan. 18 | **Moral Hazard in Health Care**   * **Zeckhauser (1970).** “Medical insurance: A study of the tradeoff between risk spreading and appropriate incentives” * **Ma & Riordan (2002).** “Health insurance, moral hazard, and managed care” * **Cutler & Zeckhauser (2000).** “The anatomy of health insurance” (chapter 3 only) |
| 3 | Jan. 25 | **Adverse Selection**   * **Rothschild & Stiglitz (1976).** “Equilibrium in competitive insurance markets: an essay on the economics of imperfect information” * **Einav & Finkelstein (2011).** “Selection in insurance markets: Theory and empirics in pictures” * **Geruso, Layton, McCormick, & Shepard (2019).** “The Two Margin Problem in Insurance Markets” |
| 4 | Feb. 1 | **Models of Provider Payment**   * **Ellis & McGuire (1986).** “Provider behavior under prospective reimbursement” * **Ellis & McGuire (1990).** “Optimal payment systems for health services” * **Ma & Mak (2019).** “Incentives in healthcare payment systems” |
| 5 | Feb. 8 | **Patient-Physician Interactions**   * **Dranove (1988).** “Demand Inducement and the physician/patient relationship” * **Chandra and Staiger (2006).** “Productivity spillovers in health care: Evidence from the treatment of heart attacks” * **Liu & Ma (2013).** “Health insurance, treatment plan, and delegation to altruistic physician” |
| 6 | Feb. 15 | **Health Systems** |
| N/A | Feb. 22 | No class – Winter Reading Week |
| N/A | Feb. 27 | Deadline to Drop Course |
| 7 | Mar. 1 | **Health Equity and Discrimination** |
| 8 | Mar. 8 | **Behavior under Uncertainty** |
| 9 | Mar. 15 | **Behavioral Health Econ I** |
| 10 | Mar. 22 | **Behavioral Health Econ II** |
| 11 | Mar. 29 | **Innovation in Health Markets** |
| 12 | Apr. 5 | **Quality Competition in Health Care** |
| 13 | Apr. 12 | **Presentations** |

References

\* indicates required reading

\*\* indicates student presentation/referee report options

**Lecture 1: What is health economics?**

\* Grossman, M. (1972). On the concept of health capital and the demand for health. *Journal of Political Economy, 80*(2), 223–255.

\* Jacobson, L. (2000). The family as producer of health—An extended Grossman model. *Journal of Health Economics, 19*(5), 611–637.

Kaestner, R. (2013). The Grossman model after 40 years: A reply to Peter Zweifel. *The European Journal of Health Economics, 14*(2), 357–360.

Laporte, A. (2015). Should the Grossman model of investment in health capital retain its iconic status. Canadian Centre for Health Economics, University of Toronto.

Laporte, A., & Ferguson, B. S. (2007). Investment in health when health is stochastic. *Journal of Population Economics, 20*(2), 423–444.

Lleras-Muney, A. (2005). The relationship between education and adult mortality in the United States. *The Review of Economic Studies, 72*(1), 189–221.

Zweifel, P. (2012). The Grossman model after 40 years. *The European Journal of Health Economics, 13*(6), 677–682.

**Lecture 2: Moral Hazard**

Afoakwah, C., Byrnes, J., Scuffham, P., & Nghiem, S. (2022). Testing for selection bias and moral hazard in private health insurance: Evidence from a mixed public‐private health system. *Health Economics*.

Alessie, R. J. M., Angelini, V., Mierau, J. O., & Viluma, L. (2020). Moral hazard and selection for voluntary deductibles. *Health Economics, 29*(10), 1251–1269.

Arrow, K. J. (1963). Uncertainty and the welfare economics of medical care. *American Economic Review.*

\*\* Baicker, K., Mullainathan, S., & Schwartzstein, J. (2015). Behavioral Hazard in Health Insurance. *The Quarterly Journal of Economics, 130(*4), 1623–1667.

Blomqvist, Å. (1997). Optimal non-linear health insurance. *Journal of Health Economics, 16*(3), 303–321.

Brot-Goldberg, Z. C., Chandra, A., Handel, B. R., & Kolstad, J. T. (2019). What Does a Deductible Do? The Impact of Cost-Sharing on Health Care Prices, Quantities, and Spending Dynamics. *The Quarterly Journal of Economics.*

\*\* Campo, C. S. D. (2021). Dynamic Moral Hazard in Nonlinear Health Insurance Contracts. *Working Paper*. .

\* Cutler, D. M., & Zeckhauser, R. J. (2000). “Chapter 11: The anatomy of health insurance.” In *Handbook of Health Economics* (Vol. 1, pp. 563–643). Elsevier.

Ehrlich, I., & Becker, G. S. (1972). Market Insurance, Self-Insurance, and Self-Protection. *The American Economic Review.*

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

\*\* Einav, L., Finkelstein, A., Ryan, S. P., Schrimpf, P., & Cullen, M. R. (2013). Selection on moral hazard in health insurance. *American Economic Review, 103*(1), 178–219.

\* Ma, C. A., & Riordan, M. H. (2002). Health Insurance, Moral Hazard, and Managed Care. *Journal of Economics & Management Strategy, 11*(1), 81–107.

\* Zeckhauser, R. (1970). Medical insurance: A case study of the tradeoff between risk spreading and appropriate incentives. *Journal of Economic Theory, 2*(1), 10–26.

**Lecture 3: Adverse Selection**

\*\* Azevedo, E. M., & Gottlieb, D. (2017). Perfect competition in markets with adverse selection. *Econometrica, 85*(1), 67–105.

Boyer, M., De Donder, P., Fluet, C., Leroux, M.-L., & Michaud, P.-C. (2017). Long-term care insurance: Knowledge barriers, risk perception and adverse selection. *Working Paper.*

Capatina, E. (2020). Selection in employer sponsored health insurance. *Journal of Health Economics, 71*.

De La Mata, D., Machado, M. P., Olivella, P., & Valdés, M. N. (2022). Asymmetric information with multiple risks: The case of the Chilean private health insurance market.

\* Einav, L., & Finkelstein, A. (2011). Selection in Insurance Markets: Theory and Empirics in Pictures. *Journal of Economic Perspectives, 25*(1), 115–138.

Einav, L., Finkelstein, A., & Mahoney, N. (2021). “The IO of selection markets”. In *Handbook of Industrial Organization* (Vol. 5, pp. 389–426). Elsevier.

\*\* Fang, H., & Wu, Z. (2018). Multidimensional private information, market structure, and insurance markets. *The RAND Journal of Economics, 49*(3), 751–787.

\* Geruso, M., Layton, T. J., McCormack, G., & Shepard, M. (2019). The two-margin problem in insurance markets. *The Review of Economics and Statistics*.

Geruso, M., Layton, T., & Prinz, D. (2019). Screening in Contract Design: Evidence from the ACA Health Insurance Exchanges. *American Economic Journal: Economic Policy, 11*(2), 64–107.

\*\* Kantarevic, J., & Kralj, B. (2016). Physician payment contracts in the presence of moral hazard and adverse selection: The theory and its application in Ontario. *Health Economics, 25*(10), 1326–1340.

Panhans, M. (2019). Adverse selection in ACA exchange markets: Evidence from Colorado. American Economic Journal: Applied Economics, 11(2), 1–36.

\* Rothschild, M., & Stiglitz, J. (1976). Equilibrium in competitive insurance markets: An essay on the economics of imperfect information. *Quarterly Journal of Economics*.

**Lecture 4: Provider Payment**

\*\* Brekke, K. R., Holmås, T. H., Monstad, K., & Straume, O. R. (2019). Competition and physician behaviour: Does the competitive environment affect the propensity to issue sickness certificates? *Journal of Health Economics*, *66*, 117–135.

\*\* Einav, L., Finkelstein, A., Kluender, R., & Schrimpf, P. (2016). Beyond Statistics: The Economic Content of Risk Scores. *Working Paper.*

\* Ellis, R. P., & McGuire, T. G. (1986). Provider behavior under prospective reimbursement. *Journal of Health Economics*, *5*(2), 129–151.

\* Ellis, R. P., & McGuire, T. G. (1990). Optimal payment systems for health services. *Journal of Health Economics*, *9*(4), 375–396.

Ho, K., & Pakes, A. (2014). Physician Payment Reform and Hospital Referrals. *American Economic Review*, *104*(5), 200–205.

\* Ma, C. A., & Mak, H. Y. (2019). Incentives in Healthcare Payment Systems. In C. A. Ma & H. Y. Mak, *Oxford Research Encyclopedia of Economics and Finance*. Oxford University Press.

Ma, C. A., & McGuire, T. G. (1997). Optimal health insurance and provider payment. *The American Economic Review*

Pines, J. M., Vats, S., Zocchi, M. S., & Black, B. (2019). Maryland’s experiment with capitated payments for rural hospitals: Large reductions in hospital-based care. *Health Affairs*, *38*(4), 594–603.

\*\* Zhang, X., & Sweetman, A. (2018). Blended capitation and incentives: Fee codes inside and outside the capitated basket. *Journal of Health Economics*, *60*, 16–29.

**Lecture 5: Patient-Physician Interactions**

Alexander, D. (2020). How do doctors respond to incentives? Unintended consequences of paying doctors to reduce costs. *Journal of Political Economy*, *128*(11), 4046–4096. <https://doi.org/10.1086/710334>

Almond, D., Jr, J. J. D., Kowalski, A. E., & Williams, H. (2010). Estimating marginal returns to medical care: Evidence from at-risk newborns. *The Quarterly Journal of Economics*.

\*\* Chan, D. C. (2016). Teamwork and moral hazard: Evidence from the emergency department. *Journal of Political Economy*, *124*(3), 734–770.

\* Chandra, A., & Staiger, D. O. (2007). Productivity spillovers in health care: Evidence from the treatment of heart attacks. *Journal of Political Economy*, *115*(1), 103–140.

Choné, P., & Ma, C. A. (2011). Optimal Health Care Contract under Physician Agency. *Annals of Economics and Statistics*, *101/102*, 229.

Clemens, J., & Gottlieb, J. D. (2014). Do physicians’ financial incentives affect medical treatment and patient health? *American Economic Review*, *104*(4), 1320–1349.

\*\* Dickstein, M. J. (2022). Eﬃcient provision of experience goods: Evidence from antidepressant choice. *Working Paper.*

\*\* Dickstein, M. J. (*in press*). Physician vs. Patient incentives in prescription drug choice. *American Economic Journal: Economic Policy*

\* Dranove, D. (1988). Demand inducement and the physician/patient relationship. *Economic Inquiry*, *26*(2), 281–298.

Dranove, D., Kessler, D., McClellan, M., & Satterthwaite, M. (2003). Is more information better? The effects of “report cards” on health care providers. *Journal of Political Economy*, 34.

Jack, W. (2005). Purchasing health care services from providers with unknown altruism. *Journal of Health Economics*, *24*(1), 73–93.

Johnson, E. M. (2014). Physician-Induced Demand. In *Encyclopedia of Health Economics* (pp. 77–82). Elsevier. <https://doi.org/10.1016/B978-0-12-375678-7.00805-1>

Johnson, E. M., & Rehavi, M. M. (2016). Physicians treating physicians: Information and incentives in childbirth. *American Economic Journal: Economic Policy, 8*(1), 115-41.

\*\* Kolstad, J. T. (2013). Information and quality when motivation is intrinsic: Evidence from surgeon report cards. *American Economic Review, 103*(7), 2875-2910.

\* Liu, T., & Ma, C. A. (2013). Health insurance, treatment plan, and delegation to altruistic physician. *Journal of Economic Behavior & Organization*, *85*, 79–96.

**Lecture 6: Health Systems**

**Lecture 7: Health Equity**

**Lecture 8: Behavior Under Uncertainty**

**Lecture 9: Behavioral Health Economics**

**Lecture 10: BHE 2**

**Lecture 11: Innovation**

**Lecture 12: Quality Competition**