

**The Faculty of Medicine of Harvard University  
Curriculum Vitae**

**Date Prepared:** March 8, 2023  
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**Education:**

05/2018	PhD	Economics	Harvard University
03/2015	MA	Economics	Harvard University
06/2011	BA/BS	Economics/Mathematics	University of Chicago

**Faculty Academic Appointments:**

2022-	Assistant Professor	Health Care Policy	Harvard Medical School
2018-2022	Assistant Professor	Economics	University of North Carolina at Chapel Hill

**Other Professional Positions:**

2018-	Research Fellow	Cecil G. Sheps Center for Health Services Research
2013-2015	Research Assistant	Harvard University
2011-2012	Research Assistant	National Bureau of Economic Research
2010-2011	Research Assistant	University of Chicago

**Committee Service:**

**National**

2022	American Society of Health Economists	Program Chair for Prescription Drug Area, Annual Conference
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**Professional Societies:**

2019-	American Society of Health Economists
2019-	American Economic Association

**Grant Review Activities:**

2021	Ad-hoc reviewer	UNC Chapel Hill, Idea Grant
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Governments regulate markets where innovation plays a big role through a host of policies meant to foster and protect both competition and innovation (e.g. antitrust regulation and patent law). How these policies interact with the structure of the market, however, remains ambiguous in the economic literature, suggesting incomplete understanding of their effect. This project aims to explore how competition affects the R&D portfolio choices of pharmaceutical companies in terms of magnitude (how different from previous drugs a new treatment should be) and direction (what therapeutic area it should focus on).

- 2019      The Impact of Consolidation on Prescription Drug Pricing and Access  
 NIHCM Foundation Research Grant  
 Role: Co-PI (with Josh Feng)  
 \$60,000  
 Over the past two decades, both the pharmaceutical and pharmacy benefit management industries have seen significant consolidation. This project will study how this M&A activity affects two key drivers of patient welfare: drug prices and drug access.
- 2016      Reference Pricing and Access to Pharmaceuticals: A Structural Approach  
 Health Economics Dissertation Fellowship, Becker Friedman Institute  
 Role: PI  
 \$25,000  
 To study the impact of reference pricing on strategic launch delays of novel pharmaceutical products across member countries of the European Union
- 2016      How does market size affect innovation in the pharmaceutical market? Quality upgrading vs. horizontal differentiation  
 Pre-Doctoral Fellowship on the Value of Medical Research , NBER-IFS  
 Role: Co-PI (with Josh Feng)  
 \$10,000  
 This project aims to estimate the value of medical research by assessing the quality of its final output: new molecular entities (NMEs). We plan to collect and organize information on drug safety and efficacy contained on FDA labels and use it to understand how changes in market size driven by the expansion of insurance have affected not only the amount, but also the quality of innovation.

**Report of Local Teaching and Training**

**Teaching of Students in Courses:**

Fall 2018	Industrial Organization	University of North Carolina at Chapel Hill
Spring 2020		
Fall 2021		
AY 2020-2021	Industrial Organization Workshop	University of North Carolina at Chapel Hill
Spring 2021	The Economics of Health Care Markets and	University of North Carolina at Chapel Hill
Spring 2022	Policy	
Spring 2021	Health Economics: Markets and Supply-	University of North Carolina at Chapel Hill
Spring 2022	Side Actors	

**Mentored Trainees and Faculty:**

2019-2022	Yunjuan Liu, UNC Chapel Hill PhD Program in Economics, Dissertation Committee co-chair (Analysis Group)
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- 2019-2022 Jacob Klimek, UNC Chapel Hill PhD Program in Economics, Dissertation Committee member (Analysis Group)
- 2020-2022 Andrew DeJong, UNC Chapel Hill PhD Program in Economics, Dissertation Committee co-chair (Deloitte)
- 2020- Karishma D’Souza, UNC Gillings School of Public Health PhD Program in Health Policy and Management, Dissertation Committee Member

**Report of Regional, National and International Invited Teaching and Presentations**

*No presentations below were sponsored by 3<sup>rd</sup> parties/outside entities*

**Local Invited Presentations:**

- 2021 “Consolidation in Prescription Drug Markets: Impact on Pricing and Access”/Workshop presentation  
UNC Gillings School of Public Health, The Health Economics Workshop
- 2020 “Biosimilar Entry & the Pricing of Biologic Drugs: 10 Years of the BPCI Act”/ Invited presentation  
UNC School of Medicine, UNC Cancer Outcomes Breakfast
- 2019 “Regulation and Firm Strategy in the Pharmaceutical Market”/ Conference presentation  
Kenan-Flagler, Business of Healthcare Research Convocation
- 2019 “The ACA Medicaid Rebate Rule Change: Impact on Pricing and Innovation”/ Workshop presentation  
UNC Gillings School of Public Health, The Health Economics Workshop
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
Strategy Unity, Harvard Business School

**Regional**

- 2021 “Consolidation in Prescription Drug Markets: Impact on Pricing and Access”/ selected oral abstract  
Southeastern Health Economics Study Group (hosted virtually by Johns Hopkins University)
- 2021 “Profiting from Most-Favored Customer Procurement Rules: Evidence from Medicaid”/ selected oral abstract  
Triangle Applied Microeconomics Conference, Duke University
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / selected oral abstract  
Wake Forest University, North Carolina Health Economics Colloquium

**National**

- 2022 “Mergers That Matter: the Impact of M&A Activity in Prescription Drug Markets”  
Stanford University
- 2022 “Mergers That Matter: the Impact of M&A Activity in Prescription Drug Markets”  
Georgetown McDonough, Strategy Unit
- 2022 “Mergers That Matter: the Impact of M&A Activity in Prescription Drug Markets”  
FDA Economic Brownbag
- 2022 “Consolidation in Prescription Drug Markets: Impact on Pricing and Access”/ selected oral abstract

Allied Social Science Associations Annual Meeting (American Society of Health Economists sponsored session)  
 2022 “Biosimilar Entry and the Pricing of Biologic Drugs”  
 ISMS Marketing Science Conference  
 2021 “Consolidation in Prescription Drug Markets: Impact on Pricing and Access”/ selected oral abstract  
 Southern Economic Association Meetings  
 2021 “Consolidation in Drug Markets: Impact on Pricing and Access”/ selected oral abstract  
 American Society of Health Economists Annual Conference  
 2021 “Profiting from Most-Favored Customer Procurement Rules: Evidence from Medicaid”/ selected oral abstract  
 International Industrial Organization Annual Conference  
 2020 “Consolidation in Drug Markets: Impact on Pricing and Access”/ selected oral abstract  
 Southern Economic Association Meetings  
 2020 “Drug spending and actuarial risk in oncology APMs”/ invited presentation  
 5<sup>th</sup> Advisory Council Meeting on Oncology Alternative Payment Models (Tapestry Networks)  
 2020 “The ACA Medicaid Rebate Rule Change: Impact on Pricing and Innovation”/ selected oral abstract  
 Allied Social Science Associations Annual Meeting (Health Economics Research Network sponsored session)  
 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”/ selected oral abstract  
 American Society of Health Economists Annual Conference  
 2019 “The ACA Medicaid Rebate Rule Change: Impact on Pricing and Innovation”/ selected oral abstract  
 Southern Economic Association Meetings  
 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Seminar on Pharmaceutical Economics and Policy, UCLA School of Public Health  
 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Schaeffer Center, University of Southern California  
 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”/ selected oral abstract  
 International Industrial Organization Annual Conference  
 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Conference presentation  
 Business of Healthcare Conference, Kellogg School of Management  
 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Department of Economics, Cornell University  
 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / selected oral abstract  
 Allied Social Science Associations Annual Meeting (International Health Economics Association sponsored session)  
 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Department of Economics, University of North Carolina at Chapel Hill  
 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation

- 2018 Department of Economics, University of Arizona  
 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Business, Economic and Public Policy Unit, Wharton
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Department of Economics, Yale University
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Department of Economics, George Washington University
- 2017 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Marketing Unit, Haas School of Business
- 2017 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Conference presentation  
 Bates-White Life Sciences Symposium
- 2017 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Conference presentation  
 Applications of Economics Workshop, University of Chicago

### **International**

- 2022 “Reference Pricing in Europe and Beyond”  
 TSE Workshop on Innovation, Regulation, and Organization in Healthcare (Paris, France)
- 2021 “Consolidation in Prescription Drug Markets: Impact on Pricing and Access”/ invited presentation  
 Department of Economics, Singapore Management University
- 2020 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Department of Economics, McGill University
- 2020 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / selected oral abstract  
 Econometric Society’s World Congress
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Invited presentation  
 Department of Economics, Einaudi Institute for Economics and Finance (Rome, Italy)
- 2017 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market” / Conference presentation  
 EIEF Doctoral Workshop on Applied Microeconomics, Einaudi Institute for Economics and Finance (Rome, Italy)

### **Report of Scholarship**

#### **Peer-Reviewed Scholarship in print or other media:**

1. Murray A, Berndt ER, Cutler D, Kleinrock M, **Maini L**. Has the Era of Slow Growth for Prescription Drug Spending Ended? Health Affairs. 2016; 1595-1603.
2. Hwang TJ, Dusetzina S, Feng J, **Maini L**, Kesselheim A. Price Increases of Protected-Class Drugs in Medicare Part D, Relative to Inflation. 2012-2017. Journal of the American Medical Association. 2019; 332(3):267-269.

3. Hwang TJ, Feng J, **Maini L**, Kesselheim A. Medicaid Expenditures and Estimated Rebates on Line Extension Drugs, 2018-2018. *Journal of General Internal Medicine*. 2022; <https://doi.org/10.1007/s11606-022-07435-2>.
4. Feng J, **Maini L**, Hwang TJ. Profiting from Most-Favored-Customer Procurement Rules: Evidence from Medicaid. *American Economic Journal: Economic Policy*, forthcoming
5. Pammolli F, **Maini L**. Reference Pricing as a deterrent to Entry: Evidence from the European Pharmaceutical Market. *American Economic Journal: Microeconomics*, forthcoming

#### **Proceedings of meetings or other non-peer reviewed scholarship**

6. Feng J, **Maini L**. Where is the Good Stuff? Drug Quality Measures and Economic Research. 2016. NBER. [White Paper].
7. **Maini L**, Feng J, Hwang T, Klimek J. Biosimilar Entry and the Pricing of Biologic Drugs. 2022. [Working Paper] [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3760213](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3760213)
8. Feng J, **Maini L**. Demand Inertia and the Hidden Impact of Pharmacy Benefit Managers. 2022. [Working Paper] [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3316430](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3316430)

#### **Thesis:**

**Maini L**. Price Regulation in Pharmaceutical Market. Harvard University. Department of Economics. 2018.

#### **Narrative Report**

My research focuses on regulation and competition in pharmaceutical markets. Prescription drug prices are a constantly debated topic in the policy arena. To design policies that maximize investment in new life-saving technologies without compromising patient access, we must understand how drug manufacturers compete with one another and how regulation affects their behavior.

In one line of research, I study the empirical implications of regulation that references drug prices across markets. In one study, I show that drug manufacturers exploit the best-price clause imposed by the Medicaid Drug Rebate Program—which grants Medicaid the largest discount given to any commercial payer—to set higher prices for private payers. In another study, I show how similar policies lead to widespread access disparities across European countries, as drug manufacturers voluntarily delay launching in lower-income countries to avoid costly references that could lower their margins in higher-income countries.

In a second line of research, I study how market structure affects US drug prices. My work in this area includes a study on the role of intermediaries called Pharmacy Benefit Managers (PBMs) and one on the impact of M&A activity that involves patent-protected branded drugs.