

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

Date Prepared: November 11, 2024
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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:

2018-2023	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

2025	American Society of Health Economists	Program Chair for Prescription Drug Area, Annual Conference (Nashville, TN)
2022	American Society of Health Economists	Program Chair for Prescription Drug Area, Annual Conference (Austin, TX)

Professional Societies:

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

Grant Review Activities:

2023	Ad-hoc reviewer	NSF
2021	Ad-hoc reviewer	UNC Chapel Hill, Idea Grant

Editorial Activities:

Referee

AEJ: Economic Policy
American Economic Review
American Economic Review: Insights
American Journal of Health Economics
Arthritis & Rheumatology
Econometrica
Economic Journal
European Journal of Health Economics
Health Affairs
Health Economics
Health Policy Open
International Review of Law & Economics
Journal of the American Medical Association
Journal of Economics and Management Strategy
Journal of European Economic Association
Journal of Health Economics
Journal of Industrial Economics
Journal of Law and Economics
Journal of Political Economy
JPE: Microeconomics
Journal of Public Economics
Journal of the Royal Statistical Society
Management Science
Quantitative Marketing and Economics
Quarterly Journal of Economics
RAND Journal of Economics
Review of Economics and Statistics
Review of Industrial Organization
Southern Economic Journal

Honors and Prizes:

2015	Certificate of Distinction in Teaching	Harvard University
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Report of Funded and Unfunded Projects

Current

2024	How does interchangeability affect biosimilar adoption? NIHCM Foundation Research Grant Role: Co-PI (with Pragya Kakani)
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- \$27,888
Pharmacists can only substitute a biosimilar for its original biologic if it is deemed “interchangeable” by the FDA. This study evaluates how interchangeability affects biosimilar adoption, whether the effects are different for new versus existing patients, and the role played by state substitution policies in mediating these effects.
- 2023-2025 What Does a List Price Do? The Impact of Posted Drug Prices on Spending and Access
Arnold Ventures
Role: PI
\$222,511
This project aims to study how list prices of prescription drugs affect net prices and out-of-pocket costs of patients.
- 2022-2025 Consolidation in Prescription Drug Markets: Impact on Prices and Access
Center for Equitable Growth
Role: PI
\$75,000
This project aims to assemble a comprehensive dataset that combines several novel data sources to provide an exhaustive analysis of how consolidation affects market outcomes of on-patent branded drugs involved in the deal—either as acquired products or products owned by the acquiring or target company.
- Past*
- 2020 Market Structure and Innovation: a Structural Approach
University of North Carolina at Chapel Hill Idea Grant
Role: Co-PI (with Andrés Hincapié)
\$15,700
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.

Projects Submitted for Funding

2024 Prescription Drug Benefit Design and Its Implications for Patient Access, Health Outcomes, and Equity: A Comprehensive Analysis of Diabetes Care.
National Institute of Aging K01 PA-24-176
Role: PI
\$602,505 direct costs requested
Leveraging quasi-experimental variation from yearly changes in formulary coverage, this project will systematically characterize the impact of formulary coverage restrictions on Medicare patient utilization of diabetes medications, with a specific focus on the impact of vulnerable populations.

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)
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
2021-	Ishan Phadke, UNC Chapel Hill PhD Program in Economics, Dissertation Committee co-chair
2023-	Michael Nguyen-Mason, Harvard University Health Policy Program, Economics Track, Dissertation Committee Member
2023-	Yibo Sun, Harvard University Economics Program, Dissertation Committee Member

2024- Connie Xu, Harvard University Health Policy Program, Economics Track, Dissertation Committee Member

Report of Regional, National and International Invited Teaching and Presentations

No presentations below were sponsored by 3rd parties/outside entities

Local Invited Presentations:

2024 “Competition in the US Pharmaceutical Market”
Cornerstone, Boston

2024 “Demand Inertia and the Hidden Impact of Pharmacy Benefit Managers”
Boston College

2024 “Mergers that Matter: The Impact of M&A Activity in Prescription Drug Markets”
Charles River Associates, Boston

2023 “Mergers that Matter: The Impact of M&A Activity in Prescription Drug Markets”
RAND Corporation, Boston

2023 “Stocking Under the Influence: Spillovers from Commercial Drug Coverage to Medicare Utilization”
Boston Conference on Markets and Competition (Harvard Business School)

2021 “Consolidation in Prescription Drug Markets: Impact on Pricing and Access”
UNC Gillings School of Public Health, The Health Economics Workshop

2020 “Biosimilar Entry & the Pricing of Biologic Drugs: 10 Years of the BPCI Act”
UNC School of Medicine, UNC Cancer Outcomes Breakfast

2019 “Regulation and Firm Strategy in the Pharmaceutical Market”
Kenan-Flagler, Business of Healthcare Research Convocation

2019 “The ACA Medicaid Rebate Rule Change: Impact on Pricing and Innovation”
UNC Gillings School of Public Health, The Health Economics Workshop

2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Strategy Unity, Harvard Business School

Regional

2023 “Mergers that Matter: The Impact of M&A Activity in Prescription Drug Markets”
University of Massachusetts, Amherst

2021 “Consolidation in Prescription Drug Markets: Impact on Pricing and Access”
Southeastern Health Economics Study Group (hosted virtually by Johns Hopkins University)

2021 “Profiting from Most-Favored Customer Procurement Rules: Evidence from Medicaid”
Triangle Applied Microeconomics Conference, Duke University

2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Wake Forest University, North Carolina Health Economics Colloquium

National

2024 “Stocking Under the Influence: Spillovers from Commercial Drug Coverage to Medicare Utilization”
Johns Hopkins Bloomberg School of Public Health

2024 “Stocking Under the Influence: Spillovers from Commercial Drug Coverage to Medicare Utilization”

Indiana University, Kelley School of Business

2024 “What Does a List Price Do? The Real Effects of Fake Drug Prices”
ASHEcon

2024 “Mergers That Matter: the Impact of M&A Activity in Prescription Drug Markets”
Hal White Antitrust Conference, Washington DC

2024 “Benefit Design And Biosimilar Coverage In Medicare Part D: Evidence And
Implications From Recent Reforms”
Cato Institute, Washington DC

2024 “Stocking Under the Influence: Spillovers from Commercial Drug Coverage to Medicare
Utilization”
International Industrial Organization Conference, Boston

2024 “Stocking Under the Influence: Spillovers from Commercial Drug Coverage to Medicare
Utilization”
Brookings Institution, Washington DC

2023 “Stocking Under the Influence: Spillovers from Commercial Drug Coverage to Medicare
Utilization”
Weill Cornell Medicine

2023 “Demand Inertia and the Hidden Impact of Pharmacy Benefit Managers”
NYU Stern IO Day

2023 “Profiting from Most-Favored Customer Procurement Rules: Evidence from Medicaid”
American Society of Health Economists Annual Conference, St. Louis

2023 “Demand Inertia and the Hidden Impact of Pharmacy Benefit Managers”
American Society of Health Economists Annual Conference, St. Louis

2023 “Mergers That Matter: the Impact of M&A Activity in Prescription Drug Markets”
Bates White Life Sciences Symposium, Washington DC

2023 “Demand Inertia and the Hidden Impact of Pharmacy Benefit Managers”
Institute for Mathematical and Statistical Innovation Workshop on Technological
Innovation in Health Care Delivery, Chicago

2023 “Mergers That Matter: the Impact of M&A Activity in Prescription Drug Markets”
International Industrial Organization Conference, Washington DC

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”
Allied Social Science Associations Annual Meeting (American Society of Health
Economists sponsored session), virtual

2022 “Biosimilar Entry and the Pricing of Biologic Drugs”
ISMS Marketing Science Conference, virtual

2021 “Consolidation in Prescription Drug Markets: Impact on Pricing and Access”
Southern Economic Association Meetings, virtual

2021 “Consolidation in Drug Markets: Impact on Pricing and Access”
American Society of Health Economists Annual Conference, virtual

2021 “Profiting from Most-Favored Customer Procurement Rules: Evidence from Medicaid”
International Industrial Organization Annual Conference, virtual

2020 “Consolidation in Drug Markets: Impact on Pricing and Access”
Southern Economic Association Meetings, virtual

2020 “Drug spending and actuarial risk in oncology APMs”

- 5th Advisory Council Meeting on Oncology Alternative Payment Models (Tapestry Networks), virtual
- 2020 “The ACA Medicaid Rebate Rule Change: Impact on Pricing and Innovation”
Allied Social Science Associations Annual Meeting (Health Economics Research Network sponsored session), San Diego
- 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
American Society of Health Economists Annual Conference, Washington DC
- 2019 “The ACA Medicaid Rebate Rule Change: Impact on Pricing and Innovation”
Southern Economic Association Meetings, Fort Lauderdale
- 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
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”
Schaeffer Center, University of Southern California
- 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
International Industrial Organization Annual Conference, Boston
- 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Business of Healthcare Conference, Kellogg School of Management
- 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Department of Economics, Cornell University
- 2019 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Allied Social Science Associations Annual Meeting (International Health Economics Association sponsored session), Atlanta
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Department of Economics, University of North Carolina at Chapel Hill
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Department of Economics, University of Arizona
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Business, Economic and Public Policy Unit, Wharton
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Department of Economics, Yale University
- 2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Department of Economics, George Washington University
- 2017 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Marketing Unit, Haas School of Business
- 2017 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Bates-White Life Sciences Symposium, Washington DC

2017 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Applications of Economics Workshop, University of Chicago

International

2024 “Benefit Design And Biosimilar Coverage In Medicare Part D: Evidence And Implications From Recent Reforms”
American-European Health Economics Study Group, University of Catania

2023 “Mergers That Matter: the Impact of M&A Activity in Prescription Drug Markets”
University of Bologna

2023 “Mergers That Matter: the Impact of M&A Activity in Prescription Drug Markets”
CEPR Conference in Health Economics (Toulouse, France)

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”
Department of Economics, Singapore Management University

2020 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Department of Economics, McGill University

2020 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
Econometric Society’s World Congress

2018 “Reference Pricing as a Deterrent to Entry: Evidence from the European Pharmaceutical Market”
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”
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 AS. "Medicaid Expenditures and Estimated Rebates on Line Extension Drugs, 2010–2018." *Journal of General Internal Medicine* 37, no. 14 (2022): 3769-3771.
4. Feng J, Hwang TJ, **Maini L**. Profiting from Most-Favored-Customer Procurement Rules: Evidence from Medicaid. *American Economic Journal: Microeconomics*, 2023, 15(2): 345–383
5. Pammolli F, **Maini L**. Reference Pricing as a deterrent to Entry: Evidence from the European Pharmaceutical Market. *American Economic Journal: Economic Policy* 2023, 15(2): 166–197
6. **Maini L**, Klimek JP, Johnson DC, Holmes GM, DeWalt DA. Impact of including drug spending in oncology alternative payment models. *The American journal of managed care*. 2023, 29(11): 579-84.

7. Feng J, **Maini L**. “Demand Inertia and the Hidden Impact of Pharmacy Benefit Managers.” Forthcoming, *Management Science*, 2024.
8. Feng K, Russo M, **Maini L**, Kesselheim AS, Rome BN. “Patient Out-of-Pocket Costs for Biologic Drugs After Biosimilar Competition.” In *JAMA Health Forum* 5, no. 3 pp. e235429-e235429. American Medical Association, 2024.
9. Bertuzzi, L, **Maini L**. “Benefit Design And Biosimilar Coverage In Medicare Part D: Evidence And Implications From Recent Reforms.” *Health Affairs* 43, no. 5 (2024): 717-724.
10. Kakani P, Kyle MA, Chandra A, **Maini L**. “Medicare Part D Protected-Class Policy Is Associated With Lower Drug Rebates” *Health Affairs* 43, no. 10 (2024) 1420-1427.

Proceedings of meetings or other non-peer reviewed scholarship

11. Feng J, **Maini L**. Where is the Good Stuff? Drug Quality Measures and Economic Research. 2016. NBER. [White Paper].
12. **Maini L**. “Pharmaceuticals,” in the *Elgar Encyclopedia on the Economics of Competition, Regulation and Antitrust*, Michael D. Noel (Editor). Cheltenham, UK: Edward Elgar Publishing (2024).
13. **Maini L**. “La regolamentazione dei prezzi dei farmaci: lezioni da recenti avanzamenti empirici,” in *Il Prezzo dei Farmaci*, Fabio Pammolli (Editore). Bologna, IT. Società editrice il Mulino (2024).
14. **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
15. Dean EB, Feng J, **Maini L**. Stocking Under the Influence: Spillover Effects of Commercial Coverage on Medicare Utilization. 2023 [Working Paper] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4578352
16. Feng J, Hwang TH, Liu Y, Maini L. Mergers That Matter: The Impact of M&A Activity in Prescription Drug Markets. 2023 [Working Paper] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4523015

Thesis:

Maini L. Price Regulation in the 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.

My research covers three broad areas. One line of research focuses primarily on describing the intricate dynamics of US prescription drug spending and pricing, with an eye towards understanding how they are shaped by policy. Through comprehensive analyses of spending trends, pricing practices of protected-class drugs, and the impact of policy changes on Medicaid rebates for line-extension drugs, my work attempts to unravel the multifaceted factors influencing shifts in the pharmaceutical market. The implications of this research body extend to policy debates, informing strategies for more effective price negotiation and potential mechanisms to enhance the affordability of prescription drugs.

In a second line of research, I study the strategic reaction of firms to drug price regulation. 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.

Finally, in a third line of research, I study how competition and market structure affect US drug prices. My work in this area includes a study on the role of intermediaries called Pharmacy Benefit Managers (PBMs), which finds that PBMs can leverage formulary restrictions to lower prices by pitting manufacturers of substitutable drugs to compete for coverage. In other papers, I examine how drug prices and formulary placements change following shifts in the competitive landscape, such as a merger or the entry of a biosimilar competitor. These papers illuminate the intricate dynamics affecting drug prices and coverage and equip policymakers and researchers with frameworks to understand and navigate these complexities effectively.