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Education

Harvard Business School, Harvard Graduate School of Arts and Sciences	Boston, MA
PhD Health Policy (Management)	2026 (expected)
<i>Dissertation title: "Prescription Drugs: Innovation, Payment, and Prescribing"</i>	
University of Oxford	Oxford, United Kingdom
MPhil Economics, Marshall Scholarship (2018)	2020
<i>Thesis title: "Contracting Pay-for-Performance in the NHS"</i>	
Massachusetts Institute of Technology	Cambridge, MA
BS Economics	2018

References

Leemore Dafny (Chair) ldafny@hbs.edu	Amitabh Chandra achandra@hbs.edu
Leila Agha aqua@hcp.med.harvard.edu	Mark Shepard mark_shepard@hks.harvard.edu

Research interests

Fields: Health economics, health policy, innovation economics,
Topics: Pharmaceutical industry, antitrust and competition policy

Job Market Paper

“Policy Incentives and Pharmaceutical Innovation,” with Edward Kong
[Link to latest draft](#)
Abstract: Pharmaceutical firms’ incentives to develop new drugs stem from expected profitability. We explore how market exclusivity, a policy that shapes these expectations, influences pharmaceutical innovation. First, we estimate the effects of extending market exclusivity for antibiotics, a drug class where private returns to development historically had not internalized the high social value of new innovation. Using a difference-in-differences approach, we find that a policy that approximately doubled the market exclusivity period for certain antibiotics increased innovative activity. Patent filings for antibiotics increased by 47%, and we find suggestive evidence that preclinical studies and phase 3 trial initiations also increased under the policy. Building on these empirical findings, we estimate a structural model of firms’ drug development decisions to predict how market exclusivity extensions of varying lengths would affect innovation in antibiotics and other therapeutic areas. Our counterfactual results highlight how both market size as well as interactions between market and patent exclusivities affect innovation across therapeutic areas.

Publications

- San Soucie, C, ND Beaulieu, JD Buxbaum, D Cutler, JK Leyenaar, SC McBride, **O Zhao**, and AT Chien. A National Analysis of General Pediatric Inpatient Unit Closures and Openings, 2011–2018. Hospital Pediatrics 14, no. 11 (November 2024): 899–908. doi: 10.1542/hpeds.2024-007754
- **Zhao O** and AD Sinaiko. Effects of a Real-Time Information-Based Intervention on Physician Prescribing Behavior. Academy of Management Proceedings. 2024.
- Sinaiko AD, CE Sloan, MJ Soto, **O Zhao**, C Lin, FR Goss. Clinician Response to Patient Medication Prices Displayed in the Electronic Health Record. JAMA Internal Medicine. 2023;183(10):1172-75. doi:10.1001/jamainternmed.2023.3307
- Vogel M, **O Zhao**, WB Feldman, A Chandra, AS Kesselheim, BN Rome. Cost of Exempting Sole Orphan Drugs From Medicare Negotiation. JAMA Internal Medicine. 2024;184(1):63-69. doi:10.1001/jamainternmed.2023.6293

Papers Under Review

- **Zhao O**, C San Soucie, DA Rauch, CL Cifra, L Lee, N Beaulieu, D Cutler, and AT Chien. National Trends in Market Competition for Hospital-Based Pediatric Services: 2011-2018

Working Papers and Work in Progress

- Kong E and **O Zhao**. Market Incentives and the Drug Development Pipeline: Evidence from Antibiotics. SSRN Working Paper. 2023. doi:10.2139/ssrn.4676384
- “How Patient Assistance Programs Can Benefit Pharmaceutical Manufacturers and Employers: The Case of Copay Maximizers,” *with Leemore Dafny*
- “The Doctor Will See Your Cost-Sharing Now: Price Transparency for Prescription Drugs,” *with Anna D. Sinaiko*

Presentations

Boston University Technology & Policy Research Initiative Seminar	2025
NBER Productivity Seminar	2023, 2025
Cato Health Policy Workshop	2025
Southeastern Health Economics Study Group Conference	2025
American Society of Health Economists (ASHE) Annual Conference	2025, 2024, 2023
Boston University Technology & Policy Research Initiative IP Day	2024
Academy of Management Annual Meeting	2024
<i>Health Care Management Division Best Paper Award: “Effects of a Real-Time Information-Based Intervention on Physician Prescribing Behavior”</i>	
Pediatric Academic Societies Annual Meeting	2024
Informs Healthcare Conference	2023
AcademyHealth Annual Research Meeting	2023

Professional Service

- Reviewer: *Journal of Health Economics*

Teaching

Transforming Health Care Delivery <i>MBA, Harvard Business School, Ariel Stern</i> (no rating available)	2024
U.S. Healthcare Industry and Regulatory Policy <i>Masters, Harvard Kennedy School, Leemore Dafny</i> (average rating 4.7/5.0, Distinction in Student Teaching)	2023, 2022
Research in Global Health and Health Policy <i>Undergraduate, Harvard College, David Cutler</i> (average rating 4.8/5.0)	2023
Essentials of the Profession (Health Policy module – section co-leader) <i>MD, Harvard Medical School</i> (no rating available)	2023, 2025
Analytic Frameworks for Public Policy <i>Masters, Harvard Kennedy School, Richard Zeckhauser</i> (average rating 4.8/5.0)	2022, 2021

Other research experience

Harvard Business School <i>Research Assistant to Leemore Dafny</i>	Boston, MA Sep 2020 – Dec 2022
Harvard Kennedy School <i>Research Assistant to Mark Shepard</i>	Cambridge, MA May 2021 – Dec 2022
Institute for Fiscal Studies <i>Summer Fellow/Visiting Researcher</i>	London, UK May 2019 – Aug 2020

Other activities

MIT Presidential Committee on Distinguished Fellowships	2021-present
HBS Wyss Awards for Excellence in Mentoring Selection Committee	2022-2025
Health Policy & Management Student Seminar Organizer	2022-2023
HBS Program for Research in Markets & Organizations (PRIMO) Advisor	2023
Health Policy PhD Peer Mentor	2021-2022