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Nationality: USA

**Education**

**Harvard Business School, Harvard Graduate School of Arts and Sciences**  
PhD Health Policy (Management)

Boston, MA  
2026 (expected)

*Dissertation title: "Prescription Drugs: Innovation, Payment, and Prescribing"*

**University of Oxford**

MPhil Economics, Marshall Scholarship (2018)

Oxford, United Kingdom  
2020

*Thesis title: "Contracting Pay-for-Performance in the NHS"*

**Massachusetts Institute of Technology**

BS Economics

Cambridge, MA  
2018

**References**

Leemore Dafny (Chair)  
[ldafny@hbs.edu](mailto:ldafny@hbs.edu)

Amitabh Chandra  
[achandra@hbs.edu](mailto:achandra@hbs.edu)

Leila Agha  
[agha@hcp.med.harvard.edu](mailto:agha@hcp.med.harvard.edu)

Mark Shepard  
[mark\\_shepard@hks.harvard.edu](mailto: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

*Abstract:* Pharmaceutical firms' incentives to develop new drugs stem from expected profitability. We explore how policies that shape these expectations influence 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 that leverages implementation of legislation that approximately doubled the market exclusivity period for certain antibiotics, we find that the policy increased innovative activity across at multiple stages of drug development, from patenting to pre-clinical activity to phase 3 clinical trials. Building on these empirical findings, we calibrate a structural model of firms' drug development decisions to generalize our findings beyond antibiotics. We simulate counterfactual policies (exclusivity extensions and price subsidies or reductions), highlighting how differences in total revenue and the timing of revenue streams shape policy effectiveness across therapeutic classes.

### **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**

- Kong E and **O Zhao**. Market Incentives and the Drug Development Pipeline: Evidence from Antibiotics. SSRN Working Paper. 2023. doi:10.2139/ssrn.4676384

### **Presentations**

Southeastern Health Economics Study Group Conference (upcoming)	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
NBER Productivity Seminar	2023
Informa 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> <i>(average rating 4.8/5.0)</i>	2023
Essentials of the Profession (Health Policy module – section co-leader) <i>MD, Harvard Medical School</i> <i>(no rating available)</i>	2023, 2025
Analytic Frameworks for Public Policy <i>Masters, Harvard Kennedy School, Richard Zeckhauser</i> <i>(average rating 4.8/5.0)</i>	2022, 2021

### **Other research experience**

<b>Harvard Business School</b> <i>Research Assistant to Leemore Dafny</i>	Boston, MA Sep 2020 – Dec 2022
<b>Harvard Kennedy School</b> <i>Research Assistant to Mark Shepard</i>	Cambridge, MA May 2021 – Dec 2022
<b>Institute for Fiscal Studies</b> <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