

# MAHNUM SHAHZAD

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## EDUCATION

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### HARVARD UNIVERSITY

Cambridge, MA

*Ph.D.* in Health Policy (Economics Track) Secondary in Data Science

September 2017 – Present

Dissertation; Essays on Regulation of the Pharmaceutical Industry

Committee: Richard G. Frank (Chair); Anita K. Wagner, Michael E. Chernew, David M. Cutler

### DARTMOUTH COLLEGE

Hanover, NH

*B.A.* in Economics (High Honors) and Mathematics

September 2012 – June 2015

*Magna cum Laude; Phi Beta Kappa, GPA: 3.87/4.0*

## HONORS AND GRANTS

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Harvard Dissertation Completion Fellowship (Sep 2022- May 2023)

Thomas O. Pyle Fellowship (Sep 2021- Sep 2022)

Harvard Medical School Fellowship in Health Policy and Insurance Research (Sep 2020- Sep 2021)

GSAS Merit Fellowship (Sep 2020 – Jan 2021) (declined)

Harvard Graduate School of Arts and Sciences Graduate Fellowship (Aug 2017- Aug 2019)

## PUBLICATIONS

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**Shahzad, Mahnum**, Zirui Song, Michael E. Chernew, and A. Mark Fendrick. "Changes in Use of Low-value Services During the COVID-19 Pandemic." *American Journal of Managed Care* (2022).

Frank, Richard G., **Mahnum Shahzad** and Ezekiel J. Emanuel. "Accelerated Approval of Cancer Drugs: No Economic Reward for Drug Makers That Conduct Confirmatory Trials." *Health Affairs* (2022).

Frank, Richard G., **Mahnum Shahzad**, Aaron S. Kesselheim, and William Feldman. "Biosimilar competition: Early learning." *Health Economics* (2022).

**Shahzad, Mahnum**, Huseyin Naci, and Anita K. Wagner. "Estimated Medicare Spending on Cancer Drug Indications with a Confirmed Lack of Clinical Benefit After US Food and Drug Administration Accelerated Approval." *JAMA Internal Medicine* (2021)

## WORK IN PROGRESS

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**Shahzad, Mahnum**, Huseyin Naci, and Anita K. Wagner. "Promoting timely completion of confirmatory trials following FDA accelerated drug approval: Evaluation of alternative policy options" (submitted)

**Shahzad, Mahnum**, Huseyin Naci, and Anita K. Wagner. "Association between pre-approval initiation and post-approval completion of confirmatory trials in the FDA accelerated approval pathway" (submitted)

**Shahzad, Mahnum**. "Impact of positive confirmatory trials on the volume of prescriptions for drugs approved using the accelerated approval pathway"

**Shahzad, Mahnum**. "Switching from originators to biosimilars: Early experience from commercially insured individuals from 2012-2021"

## REVIEWER EXPERIENCE

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Journal of American Medical Association; American Journal of Managed Care; Clinical Trials

## RESEARCH EXPERIENCE

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**DEPT. OF POPULATION MEDICINE, Harvard Medical School & Harvard Pilgrim Health Care Inst.** **Boston, MA**  
*Pre-doctoral Research Fellow* September 2020– Present

- Examined provider responses to confirmatory trial evidence in commercial claims databases
- Simulated the impact of alternative policy options aimed at reforming the FDA's accelerated approval pathway
- Produced metrics to identify areas with poor health care resource availability
- Collected and synthesized data on safety and efficacy information available for use of oral targeted anti-cancer medications in pediatric populations

**DEPT. OF HEALTH CARE POLICY, Harvard University** **Boston, MA**  
*Doctoral Researcher* September 2017– Present

- Synthesized research on FDA regulatory policies to identify gaps in current knowledge resulting in a research project focused on incentives and impacts of accelerated drug approval programs
- Collected and performed quality checks on data from regulatory sources and commercial databases (>20 million observations)
- Devised and executed an analytical plan to study switching behavior in the use of biosimilars

**HARVARD KENNEDY SCHOOL, Harvard University** **Cambridge, MA**  
*Graduate Research Assistant – with Profs. Rema Hanna and Ben Olken* October 2017 – April 2021

- Conducted extensive cleaning and preparation of data and coding algorithms in STATA for randomization of sample to different treatments in a randomized controlled trial
- Liaised with government and local survey firms for the implementation of a randomized controlled trial
- Designed surveys and research methodology for an independent study on mental health in the respondent population

**DEPT. OF HEALTH CARE POLICY, Harvard University** **Boston, MA**  
*Graduate Research Assistant -- with Profs. Richard Frank and Tom McGuire* September 2017– June 2020

- Analyzed data on biologic and biosimilar prices and penetration in the US market
- Created a structural model and accompanying empirical framework to study insurer entry decisions

**NATIONAL BUREAU OF ECONOMIC RESEARCH** **Cambridge, MA**  
*Research Assistant - with Prof. Heidi Williams (MIT)* July 2015 – July 2017

- Extensive cleaning and preparation of data and coding algorithms in STATA to study new uses for already approved drugs
- Created easy-to-read documentation for all analyses done for projects on patent examiners

## CONFERENCES AND INVITED TALKS

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2022: UCLA Fielding School of Public Health Seminar on Pharmaceutical Economics and Policy; Brookings Institution Schaeffer Initiative for Health Policy Seminar  
2021: Harvard MIT Center for Regulatory Science Doctoral Symposium  
2019: Harvard MIT Center for Regulatory Science Doctoral Symposium

## TEACHING EXPERIENCE

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**HARVARD KENNEDY SCHOOL, Harvard University** **Cambridge, MA**  
*Teaching Assistant, Economics of Health Care Policy* September 2019 – December 2020

**HARVARD T. H. CHAN SCHOOL OF PUBLIC HEALTH, Harvard University** **Boston MA**  
*Teaching Assistant, Health Economics with Applications to Global Health Policy* May 2020– August 2020

**HARVARD MEDICAL SCHOOL, Harvard University** **Boston MA**  
*Teaching Assistant, Principles and Practice of Drug Development* September 2019 – December 2019

## LEADERSHIP AND ACADEMIC SERVICE

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**LOWELL HOUSE, Harvard University**

**Cambridge, MA**

*Resident tutor; Interim Resident Dean*

September 2017 – June 2020; August 2021-present

- Formally advising and approving course selections and concentration declaration for sophomores
- Holding weekly office hours, organizing study-breaks and other community building events
- Creating intentional programming to allow for open dialogue about informed consent, gender, relationships, and sexual assault

**DEPARTMENT OF HEALTH CARE POLICY, Harvard Medical School**

**Cambridge, MA**

*Economics seminar lead*

September 2019 – June 2020

- Managed and led weekly economics seminar for students and faculty of the Department of Health Care Policy

## SKILLS

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**Languages:** Fluent in Urdu, and Hindi; Intermediate proficiency in Punjabi

**Computer Skills:** STATA, SAS, MATLAB, ArcGIS, Python, R, LaTeX, Excel